



INTERNATIONAL ENERGY AGENCY



VOLUME FOUR

**SUPPLEMENT TO
VOLUMES I, II & III**

INTERNATIONAL ENERGY AGENCY



VOLUME FOUR

SUPPLEMENT TO VOLUMES I, II & III

CRAIG S. BAMBERGER

Volumes I, II and III of *The History of the IEA: The First 20 Years* can be consulted free of charge as pdf. files on the IEA website: www.iea.org

Volume IV, the *Supplement to Volumes I, II and III*, is designed to be used in conjunction with the first three volumes, adding new information to them and updating their existing sections and chapters through the end of 2003.

INTERNATIONAL ENERGY AGENCY

9, rue de la Fédération,
75739 Paris Cedex 15, France

The International Energy Agency (IEA) is an autonomous body which was established in November 1974 within the framework of the Organisation for Economic Co-operation and Development (OECD) to implement an international energy programme.

It carries out a comprehensive programme of energy co-operation among twenty-six* of the OECD's thirty member countries. The basic aims of the IEA are:

- to maintain and improve systems for coping with oil supply disruptions;
- to promote rational energy policies in a global context through co-operative relations with non-member countries, industry and international organisations;
- to operate a permanent information system on the international oil market;
- to improve the world's energy supply and demand structure by developing alternative energy sources and increasing the efficiency of energy use;
- to assist in the integration of environmental and energy policies.

* *IEA member countries: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, the Republic of Korea, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States. The European Commission also takes part in the work of the IEA.*

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

Pursuant to Article 1 of the Convention signed in Paris on 14th December 1960, and which came into force on 30th September 1961, the Organisation for Economic Co-operation and Development (OECD) shall promote policies designed:

- to achieve the highest sustainable economic growth and employment and a rising standard of living in member countries, while maintaining financial stability, and thus to contribute to the development of the world economy;
- to contribute to sound economic expansion in member as well as non-member countries in the process of economic development; and
- to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.

The original member countries of the OECD are Austria, Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The following countries became members subsequently through accession at the dates indicated hereafter: Japan (28th April 1964), Finland (28th January 1969), Australia (7th June 1971), New Zealand (29th May 1973), Mexico (18th May 1994), the Czech Republic (21st December 1995), Hungary (7th May 1996), Poland (22nd November 1996), the Republic of Korea (12th December 1996) and the Slovak Republic (28th September 2000). The Commission of the European Communities takes part in the work of the OECD (Article 13 of the OECD Convention).

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BIOGRAPHY

Craig S. Bamberger was the IEA's Legal Counsel from 1992 through 2001. He earned his law degree at Harvard and has had extensive legal and energy experience both in the private practice of law and as a senior official of the US Department of Energy. While serving as IEA Legal Counsel he also was the principal legal advisor to the negotiation of the Energy Charter Treaty. His publications include contributions to Walde (ed.), *The Energy Charter Treaty: An East-West Gateway for Investment and Trade* (Kluwer Law International 1996) and Roggenkamp et al. (ed.), *Energy Law in Europe* (Oxford U. Press 2001).

FOREWORD

In 1994, the International Energy Agency (IEA) published Richard Scott's *History of the International Energy Agency: The First Twenty Years*. Ten years later, in commemoration of the IEA's thirtieth anniversary, it is especially appropriate to welcome this supplementary history of the Agency written by Craig S. Bamberger, the IEA's Legal Counsel from 1992 to 2001. This work serves as a useful complement to Mr. Scott's original writings, building on his framework and providing an updated record of the institutional development of the IEA, its policies and programmes. Readers will also see evidence of governments' changing views on the role of international organisations and gain insights into the evolution of energy policy.

The IEA was established in November 1974 within the framework of the Organisation for Economic Co-operation and Development (OECD) to ensure the energy security of industrialised countries in the wake of the OPEC oil embargo and energy crisis of 1973. During the past thirty years, much has changed. The IEA has grown from 15 to 26 Member countries. Energy security concerns have broadened beyond oil to include electricity, natural gas and other fuels and are now shared by many developing countries outside of the OECD. There is a growing recognition of the need to achieve a balance among energy security, economic growth and environmental protection. The IEA has adapted and adjusted to address these new challenges. Mr. Bamberger's work documents the IEA's response to the developments of the past decade and should prove a valuable resource for IEA Member country governments, IEA Secretariat staff, scholars and individuals interested in international organisations and energy policy.

While Mr. Bamberger produced this work under contract with the IEA and was given assistance by the Secretariat, he has drafted this supplement independently and not as a representative of the Agency. I would like to acknowledge the considerable effort required to complete this book and note the efforts of Mr. Bamberger, Ms. Nancy Turck, current Legal Counsel of the IEA and her staff, the IEA's Public Information Office and other members of the IEA Secretariat, both present and past, who contributed to its completion.

Claude Mandil
Executive Director

ACKNOWLEDGEMENTS

The author owes thanks to a number of present or former members of the IEA Secretariat who contributed to the preparation of this *Supplement*.

Special thanks go to the author's successor as IEA Legal Counsel, Nancy Turck, and her staff, who made extraordinary efforts to provide the needed large quantities of documents, intervened with other Secretariat staff to obtain written contributions and answers to numerous questions, typed and formatted the text, assembled the supporting appendices, and generally managed production of the book. Without the generous help of Nancy Turck and Gina Dark, Manuela Caruso, Victoria Ryan and Kristen Hecht of her staff, it would not have been possible for the author to compose the text for this book from his distant location in a suburb of Washington, D.C.

Even before the author began to write, he benefited from suggested outlines drafted by former IEA Deputy Executive Director John P. Ferriter (of the entire book) and (for the areas within their expertise) by former IEA Directors Olivier Appert and Tatsuo Masuda. While drafting, he received very useful inputs from present or former IEA Office Heads Jean-Yves Garnier, Phil Harrington, Hanns-Joachim Neef and Klaus Rehaag. The Agency's Administrative Officer, Beth Hunter, and Ane Nielsen in her office, patiently answered many questions and provided essential financial data. During a working visit to the IEA, Einar Einarsson and Angela Gazar ironed out computer problems. Those who read and made helpful suggestions about the text included IEA Executive Director Claude Mandil, Deputy Executive Director William C. Ramsay, Richard Scott, and past or present IEA Secretariat members Olivier Appert, Carmen Difulio, Marianne Haug, Kristine Kuolt and, of course, Nancy Turck. Other IEA staff who gave valuable assistance included Jun Arima, Xavier Chen, Yvonne Corcoran, Gordon Duffus, Benoît Lebot, Cedric Philibert, Mieke Reece, Karen Treanton and Fridtjof Unander. Last but not least, many thanks to the author's former secretary, Shirley Wittner, for preparing the index.

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INTRODUCTION TO THE SUPPLEMENT

Richard Scott's three-volume work, *The History of the International Energy Agency: The First 20 Years*, is probably the most comprehensive and best told history to have been written about a modern-day international organisation. The author of this *Supplement*, having been privileged to serve as Mr. Scott's successor as IEA Legal Counsel, is among the many who have benefited immensely from that invaluable resource.

This *Supplement* does not purport to be a sequel to *The History*, which eloquently tells the story of the Agency's origins and of its evolution through 1994 (and in some respects beyond then). The *Supplement* seeks to relate as thoroughly as possible the subsequent events in the Agency's history, but it does so within the framework of Mr. Scott's book, providing the new information in the specific sections of the particular volume of the book to which the subsequent events pertain. Under this approach, only the affected sections are discussed in the *Supplement*, and some chapters or sections of *The History* receive no or only minor updating. Those readers who are lawyers will recognise this methodology as similar to that of a supplement to a legal treatise, which enables a researcher to learn about recent developments by going directly from a section of a volume of the principal work to the same section of the same volume of the supplement.

The "treatise supplement" approach seems especially apt for Volume I of *The History*, subtitled "Origins and Structure", which, after providing an historical perspective, addresses mainly institutional and legal issues. In the case, however, of Chapter VII of Volume I, on "Programmes of Work, Budgets and Finance", the new developments have been so significant and the changes in IEA practice so extensive, that it seemed advisable to depart to some extent from section-by-section composition. In that chapter of the *Supplement to Volume I*, therefore, Sections A through C are replaced with a single chronological presentation. It is indicative of how large the budget, finance and programme of work issues loomed during the period under review, that this is the longest single discussion in the *Supplement*.

The subtitle of Volume II of *The History*, "Major Policies and Actions", conveys the sense of how that volume differs from the first one (Volume III is comprised of copies of principal documents). Noteworthy in the *Supplement to Volume II* is the length of the presentation on "Energy and Environment" in Section IV.E.; like the discussion of budget, finance and programme of work issues, this

reflects the importance played by environmental (and later, sustainable development) issues in the Agency's work and deliberations over the period from 1994 to the present.

To assist the reader in navigating the *Supplement to Volume II*, attention needs to be drawn to several of its aspects:

- Chapter III, "IEA Oil Security: The Core of Energy Security", begins with a chronological presentation on this general subject, before moving on to specific sections under this heading. Some historical background information has been included to make the IEA developments more comprehensible to the reader, but it should be remembered that, as Richard Scott said in his Introduction to Volume II (at page 17), "the broader elements of background and context, as well as the policy view of individual Members as expressed in the IEA, fall outside the intended scope of this work."
- Volume II of *The History* contains discrete discussions, in Sections III.C. through E., of the 1979-1981 oil supply disruption, the Co-ordinated Emergency Response Measures (CERM) and the 1990-1991 Gulf Crisis. In order to remain consistent with this format, the three oil emergency contingency response plans adopted by the Agency's Governing Board since 1994 have been discussed in the *Supplement* in new Sections III.G. through I. This is the only instance in which section designations have been added in the *Supplement*.
- The IEA's *World Energy Outlook*, first published in 1994, has since *The History* was written become an increasingly important work-product of the Agency, deserving of attention in its own right as well as for what it has to say about other energy topics. The *WEO* is discussed in the *Supplement* at the inception of Chapter IV, "Long-Term Energy Policies: Reducing Members' Dependence on Imported Oil".
- The IEA has become known as the world's foremost source not only of oil market statistics, but of energy statistics generally, and in Sections VI.A., "Oil Market Information Policies", and Section VI.D., "Dissemination of Oil Market Information", the author of the *Supplement* has taken the liberty of reporting on the Agency's statistical activities with regard to all forms of energy.

Some subject matter recurs throughout the *Supplement*. In certain cases this has resulted in repetition, while in others, cross-referencing has been employed. An effort has been made to strike a balance between these two techniques.

Within the *Supplement*, references are made both to sections of Mr. Scott's text and to sections of this *Supplement* itself. To make the distinction clear, references to the Scott text are specifically to *The History*.

SUPPLEMENT TO VOLUME ONE



CHAPTER III, THE I.E.P. AGREEMENT OF 1974

Section III.B., Legal Effect of the I.E.P. Agreement in the National Law of Members

More current information on the matters covered by the two summary documents, "Draft Summary of Energy Emergency Legislation of IEA Countries" [IEA/SEQ(89)25 (1st Revision)] and "Member Countries' Legislation, Administrative Procedures and Policy Attitudes Concerning the Use of Stocks in Supply Disruptions" [IEA/SEQ(89)26 (2nd Revision)], now can be found in the IEA's publication, *Oil Supply Security: The Emergency Response Potential of IEA Countries in 2000*. It is expected that this publication will be updated and reissued periodically at intervals of several years.

Section III.C., IEA Participating Countries, States, Signatory States and Governments

Nine countries now have acceded to the I.E.P. Agreement. The most recent accedents are Hungary, the Czech Republic and the Republic of Korea. The Membership List at Appendix I of Volume I has been updated to reflect these accessions.

Section III.D., Provisional Application

In the cases of accession by Hungary, the Czech Republic and the Republic of Korea, there was no provisional application.

Section III.E., Consents to be Bound

In the cases of accession by Hungary, the Czech Republic and the Republic of Korea, there were no arrangements for provisional application or time limits.

Section III.F., Absence of Reservations; Acceptance of Declarations

Neither the Government of Hungary nor the Government of the Czech Republic made a declaration in the proceedings for its membership. A statement was made on behalf of the Republic of Korea on the occasion of the Governing Board's 2001 invitation to Korea to accede to the I.E.P. Agreement. In it, Korea observed that in the second half of 2000 its oil stocks consistently had met the I.E.P. Agreement's 90-day net import requirement despite periodic drawdown of government stocks; indicated its

plans to sustain and improve upon Korea's stock position; and gave undertakings with respect to future stock levels. It also requested the Governing Board to resume deliberations on the question of updating the "oil consumption voting weights", as provided for in Article 62.6 of the I.E.P. Agreement [See Section IV.B.5.(i) below].

In response, the Governing Board noted the statement on behalf of the Republic of Korea and agreed to resume at an early date its consideration of the question of updating oil consumption voting weights [IEA/GB/C(2001)2, Item 3 and Annex 1].

The Korean statement was not in the nature of a reservation.

Section III.H., Accession

Three additional States have now acceded to the I.E.P. Agreement: Hungary, the Czech Republic and the Republic of Korea.

Section III.K., Amendments

The voting rules now have been amended nine times to reflect the changes required for the admission of new Members. The current voting weights of the Participating Countries, following the accession of Korea in 2002, are as shown in the table in Section V.A.13.(b) below.

Section III.M., Interpretation

The Governing Board, in adopting a revised Emergency Management Manual in 1994 [IEA/GB(94)54, Item 5(a)(i)], formally embraced its previously tacit interpretation of the Executive Director's power to decline to make a "finding" that would trigger activation of the I.E.P. Emergency Sharing System [See IEA/GB(94)40/ANN1, Section 1.2.2], which is one of the examples of Governing Board action or acquiescence containing tacit interpretation of the I.E.P. Agreement that are set out in this section of Volume I of *The History*.

More recent examples of Governing Board action or acquiescence concerning tacit interpretations of the I.E.P. Agreement may be found in the application of the following powers:

- the Governing Board's power to control its emergency response agenda in case of events that have the potential to trigger the Emergency Sharing System: in its 1995 Decision on Emergency Response Policies, the Governing Board interpreted the Agreement's ESS provisions as allowing it, "in the event of an oil supply disruption which reaches the threshold for a

Secretariat finding that can activate IEP emergency measures," to proceed in a step-by-step process in which adequate opportunity first would be allowed for the co-ordination and implementation of stock draw, demand restraint and other emergency measures to be fully effective. The Board also agreed that the Secretariat, in reporting whether a disruption reaches the threshold for a finding that can activate I.E.P. emergency measures, or whether a resumption of sufficient supply can be anticipated, "should include full consideration of any stock draw, demand restraint and complementary measures that may be provided for in the overall Governing Board decision that is contemplated by the 1984 CERM decision"; this implies that ESS measures might be delayed, pending the outcome of CERM measures, and that consideration might be given to whether the CERM measures sufficiently mitigate the basis for selective or general ESS activation [IEA/GB(95)11, Item 4(d)(ii), (iii)].

- the Governing Board's power to decide, by vote of all the Member countries, on the use of Agency resources in support of "special activities" carried out under Article 65 of the I.E.P. Agreement by some but less than all IEA Participating Countries: in 2000 the Governing Board endorsed in principle (but subject to certain conditions that ultimately were not met) a proposal to establish the "Climate Technology Initiative" (CTI) within the IEA as a special activity. This would have been achieved through a two-part decision of the Governing Board: the first part, a decision in which only those IEA countries electing to carry out the special activity could participate, to create the special activity; and the second part, a decision in which all Members could participate, addressing the role of the Secretariat and the handling of the CTI's programme of work and budget [IEA/GB/C(2000)27, Item 8; IEA/GB(2000)27, paragraph 9].
- the Governing Board's power to decide on the application, to the IEA's scale of contributions, of amendments made by the OECD Council to the principles and rules governing scales of contributions of the OECD, which are referred to in Article 64.1 of the I.E.P. Agreement: in 2001, the Board decided to apply a recent OECD Council amendment to those rules and principles, and to do so in the manner that the OECD Secretariat was proposing for Part II organisations [IEA/GB/C(2001)1, Item 8(a)(iii); IEA/GB(2001)8, paragraph 12].

Section III.N., General Review of the I.E.P.

Over time, the process by which the Agency prepared itself to deal with "sub-crisis" (or "sub-trigger") situations evolved into a policy preference for using co-ordinated stock draw and related measures such as demand restraint,

surge production and fuel switching, rather than activating the Emergency Sharing System, even in cases where a supply loss might exceed the levels that could trigger the ESS. This policy preference achieved official recognition in the Governing Board's February 1995 Decision on Emergency Response Policies, wherein the Board agreed that [IEA/GB(95)11, Item 4(d)(iii)]:

in the event of an oil supply disruption which reaches the threshold for a Secretariat finding that can activate IEP emergency measures, the Governing Board, as a matter of policy, would normally first give consideration, consistent with the IEP, to a step-by-step process involving adequate opportunity for the co-ordination and implementation of stock draw, demand restraint and other emergency measures to be fully effective, in a manner compatible with the timely and effective preparation and activation of oil sharing should that prove necessary;...

CHAPTER IV, IEA RELATIONSHIPS

Section IV.A., Membership in the IEA

Section IV.A.2., Membership by Accession

There now have been three additional membership exercises: with Hungary (1997), the Czech Republic (2001) and the Republic of Korea (2002). All three of these membership negotiations were commenced prior to the candidate countries' having joined the OECD; negotiations proceeded in parallel with the candidates' negotiations with the OECD.

Section IV.A.2.(j), Participation in Governing Board Meetings

The representatives of Hungary, the Czech Republic and the Republic of Korea were accorded the right of participation in all of the Agency's subsidiary bodies, as from the date of the Governing Board's invitations to them to accede to the I.E.P. Agreement.

Section IV.A.2.(n), Scale of Contributions Amendment

Hungary's assessed contribution to the Agency's 1997 Budget, although calculated in accordance with the principles and rules incorporated by Article 64.1 of the I.E.P. Agreement, was enacted as a supplemental appropriation, without amendment of the IEA's scale of contributions for that year [IEA/GB/C(97)4, Item 10].

The Czech Republic's accession was effective early in 2001 and, thanks to that country's acceptance of an assessed contribution obligation for the full year, it was not necessary to amend the 2001 scale of contributions [IEA/GB/C(2001)2, Item 8(b)].

In the case of Korea's accession, two scales of contribution were enacted at the same Governing Board meeting, one for the part of 2002 that preceded the accession and the other for the part of the year subsequent to the accession [IEA/GB/C(2002)1, Item 9(a)].

Section IV.A.2.(o), Accession to the OECD Council Decision

It was not necessary to ask the Czech Republic and the Republic of Korea to accede to the 1974 OECD Council Decision Establishing an International Energy Agency of the Organisation as part of their IEA membership process, because they already had done so as part of their respective accessions to the

OECD Convention. (Arguably, Hungary's OECD accession instrument likewise effected its accession to the OECD Council Decision, but because of doubts expressed by OECD Legal Counsel, Hungary was asked for, and provided, a separate instrument acceding to the Council Decision).

Section IV.A.3., Exceptional Situation of Norway

Norway has continued to participate in the IEA's contingency planning to deal with oil supply disruptions, and in the Agency's emergency response training activities. Norway joined with the other IEA countries in the Agency's "Y2K Response Plans" [IEA/GB/C(99)6, Item 5] and in its post-September 11, 2001 "Contingency Response Plan" [See Section 4.B.2. below].

A Norwegian has served as Chairman of the Governing Board (Ambassador A. Walther). Other Norwegians have chaired the Committee on non-Member Countries (Mr. P. Pedersen) and served as Vice Chair of the Committee on Budget and Expenditure (Ms. T. Fjeldstad). Ms. Marit Engebretsen currently is chairing the Standing Group on the Oil Market.

Section IV.A.6., Policy Considerations and Recent Developments

In April of 1994 the Governing Board authorised the Executive Director to carry on discussions with the Czech Republic, Hungary, the Republic of Korea, Mexico, Poland and the Slovak Republic with respect to possible membership in the Agency [IEA/GB(94)25, Item 8]. Three of these countries have since become IEA Members: the Czech Republic (2001), Hungary (1997) and Korea (2002).

In 1999 the Governing Board took note of Mexico's decision not to become a Member of the IEA [IEA/GB/C(99)2, Item 5(b)]. Mexico sought instead a special status in the IEA, involving closer affiliation short of membership but, thus far, mutually satisfactory terms for such a relationship have not been identified. Membership discussions with Poland and the Slovak Republic continue.

At their 1995 meeting, IEA Ministers observed that growing economic interdependence makes IEA relations with non-Member countries in all parts of the world of "essential importance." They welcomed, in particular, closer co-operation with the Russian Federation, and underscored the need for close co-operation between the Agency and the Energy Charter Conference, in which are represented the Contracting Parties to the Energy Charter Treaty, including most of the Members of the IEA. In looking forward to increased co-operation with candidates for IEA membership, they also "asked the Secretariat to

examine possible new forms of co-operation with other non-Member countries and organisations" [IEA/GB(95)30/ANN].

At the Agency's 1997 meeting at Ministerial Level, Ministers requested that "relations with countries of major importance for energy markets, especially China, India and Russia, be strengthened within the limits of the available resources" [IEA/GB/C(97)3/ANN, paragraph 13]. At their 1999 meeting, Ministers supported "widening and deepening" the Agency's relations with major non-Member countries, "in some cases by bringing them into IEA Membership" [IEA/GB/C(99)3/ANN1].

In February of 2003 the Governing Board, noting Russian interest in IEA membership, agreed that such membership should be addressed when Russia has been accepted as a Member of the OECD, and asked the Secretariat to begin discussions with Russian counterparts on the establishment of an IEA/Russia "Co-ordination Committee" that would focus on the implementation of reforms in Russia's energy sector to meet the IEA Shared Goals [IEA/GB/C(2003)2, Item 4].

Meeting at Ministerial Level in April 2003, the Governing Board warmly welcomed the participation of the Russian Energy Minister in the meeting, and promised to engage Russia and other key countries more actively in their dialogue on energy policy. They directed the Secretariat to reinforce a world-view in its work [IEA/GB/C(2003)4, Item (iii) and Annex 1].

The IEA has entered into special policy co-operation agreements with three countries that are considered especially important players in energy markets. In 1994 it signed a "Joint Declaration of Co-operation" with the Russian Federation [See IEA/GB(94)31 and IEA/GB(94)29, Item 7]; in furtherance of the co-operation, the IEA and Russia's Ministry of Energy in March 2003 signed "Joint Measures for Co-operation during 2003-2005" [Files of the IEA Office of Legal Counsel]. In 1996 the Agency and the State Planning Commission of the People's Republic of China (later renamed the State Development and Planning Commission) entered into a "Memorandum of Policy Understandings in the Field of Energy" [See IEA/GB(96)43 and IEA/GB/C(96)4, Item 6]; in 2001 the Agency also agreed, with the approval of the Commission, a "Framework for Energy Technology Co-operation" with China's Ministry of Science and Technology. In 1998, India and the IEA executed a "Declaration of Co-operation" [Copy in files of IEA Office of Legal Counsel]. None of these agreements is in a legally binding form.

Section IV.B., Obligations of Members

Section IV.B.2., Binding Decisions of the Governing Board

The IEA Governing Board has continued to apply the binding decision power in its contingency planning for potential oil supply disruptions.

Although believing that preparations for the date roll-over on 1 January 2000 would minimise any residual risk to the energy sector due to Y2K-related computer problems, the IEA Member countries put in place "Y2K Response Plans" at their meeting in December 1999. The Conclusions of the meeting recorded that the Governing Board had "adopted" the "Response Plans", specifically referring to Document IEA/GB(99)57/REV1/ATT1 [IEA/GB/C(99)6, Item 5(a)]. The introductory portion of that document stated that the document "sets out the IEA's plans for initial responses to supply disruptions that could result from Y2K problems early in the first days of January 2000, including a possible collective response to a serious disruption, having world-wide consequences" [Section 1(a)]. Section 3 empowered the IEA Executive Director, following wide-ranging consultations with the Members, to determine when a qualifying loss of supply had occurred and, based thereon, to fix the initial level of collective response, up to a maximum of 2 million barrels, and activate the Response Plans. The Executive Director would convene a meeting of the Governing Board in the first week of January to confirm the Executive Director's actions, review the situation and decide on a strategy extending beyond the initial response. Meanwhile, Section 4(b) provided, in legally binding language, that "each Member country shall achieve its response obligations," as set out in Annex 1, "through oil stock drawdown, oil demand restraint, fuel switching or oil production measures."

In the aftermath of the tragic events of September 11, 2001, the IEA Governing Board quickly agreed, in an informal manner [See Section V.A.15. below], an "IEA Contingency Response Plan." The prefatory portion of the "Response Plan" stated that the IEA Member countries "have agreed" the plan thereafter set out, in light of the fact that "[i]n a volatile oil market, any supply disruption or widespread perception that there is a serious risk of a supply disruption would impose an unacceptable burden on economies already struggling to regain growth." Under the Plan, IEA Member countries "will take collective action to make oil available to the market," should post-September 11 developments result in a supply disruption or the kind of "widespread perception" alluded to in the preface [Section 1]. The Executive Director would make the "initial assessment" that activation was warranted and notify Members of the planned date and time for activation, thereby initiating a

period of consultations on the need for activation [Section 2]; the initial response would be a volume of oil equivalent to 2 million barrels of oil per day for a period of 14 days, "shared among the IEA Member countries as specified" in an Annex [Section 3]. Unusually, Section 4 allowed any Member country government, prior to the date and time specified for activation, to elect not to participate in the Response Plan. Reflecting the legally binding nature of the commitment for Members which failed to notify of such an election, Section 6 required that promptly after activation, each Member country inform the Secretariat of the "specific measures it is taking to implement its response obligation."

In October 2002 the Governing Board terminated the 2001 Response Plan and replaced it with a new, "IEA Initial Contingency Response Plan" [IEA/GB/C(2002)3, Item 5(d); a copy of the confidential Response Plan is held in the files of the IEA Office of Legal Counsel]. This Plan is intended to provide a standing procedure to enable a quick response to a supply disruption. Like the previous plan, the new one affirms that should the conditions for activation exist, "IEA Member countries will take collective action to make additional oil available to the market" [Section 2]. As under the 2001 plan, the Executive Director would make the "initial assessment" that activation was warranted and notify Member country governments of the planned date and time for activation [Section 3]. If, following "broad and wide-ranging consultation" with Member countries, there was no "adverse reaction from Member countries... which calls into question the need for, or the effectiveness of" activation of the Response Plan, the Executive Director would dispatch to Members a Notice of Activation of the Response Plan with the indicated contribution level from each Member country. Thus, a two-stage process of "initial assessment" and "notice of activation" would replace the "opt-out" clause contained in the 2001 Response Plan.

The 2002 Response Plan is aimed at facilitating a prompt "first reaction" to a supply disruption. The plan provides that a meeting of the Governing Board will be convened within a matter of days following the Initial Assessment to evaluate the situation and to "decide on the need for action, should an activation decision not already have been taken, or decide on continuation of any action taken or adoption of any further actions that may be required." Similar to the 2001 Plan, a Member country may draw its emergency reserves below the 90-day level "to the extent necessary to implement the **Initial Response Plan.**"

The Y2K and 2001 contingency response plans were not activated, and as of this writing, the new IEA Initial Contingency Response Plan has not been activated, although all of the procedures necessary for agreeing upon a

response to an oil supply emergency were in place. These plans are discussed in more detail in Sections III.G. through I. of the *Supplement to Volume II*. These successive ameliorations of the IEA's emergency response mechanisms demonstrate the ability of the Agency to adapt to new constraints and evolving situations.

Section IV.B.5., Flexibility and Waiver of Rights Under the I.E.P. Agreement

There have continued to be tacit or explicit waivers of rights under the I.E.P. Agreement. Notable recent examples include the following:

- The IEA's contingency response plans, respectively adopted in advance of the Y2K phenomenon, following the events of September 11, 2001, and in October 2002, all have waived the obligation, under Article 2 of the I.E.P. Agreement, to maintain emergency oil reserves equivalent to 90 days of net imports, to the extent that a Member country has needed to use those reserves to meet its obligations under the response plans [See IEA/GB(99)57/REV1/ATT1, Section 5(b); 2001 Contingency Response Plan, Section 7; 2002 Initial Contingency Response Plan, Section 9]. (The Y2K Plan stipulated that any IEA country drawing its stocks below the 90-day level must endeavour to restore its oil reserves to the 90-day level within three months after the deactivation of the collective response plans, and in any event by no later than 1 July 2000).
- In order to adopt a biennial budget process which, like that in the OECD, involves a decision to require consensus in order to change the IEA Budget for the second year of a biennium, it was necessary for all of the IEA Member countries to waive their treaty rights, under Article 64.3 of the I.E.P. Agreement, to adopt the IEA's annual budget by majority vote [See IEA/BC(2001)6].

Section IV.B.5.(i), Voting

Article 62 of the I.E.P. Agreement contains two separate provisions concerning the recalculation of voting rights. Article 62.5 empowers the Governing Board, acting by unanimity, to increase, decrease and redistribute all IEA voting weights (and to amend the voting requirements set out in paragraphs 3 and 4 of that Article), upon the occasion of any country's accession to or withdrawal from the I.E.P. Agreement. Article 62.6 directs the Governing Board to review annually the number and distribution of voting weights and, acting by unanimity, to increase, decrease or redistribute them, "because a change in any Participating Country's share in total oil consumption has occurred or for

any other reason." Article 62.7 stipulates that any change in the voting rules set out in paragraphs 2-5 of Article 62 "shall be based on the concepts underlying those paragraphs and paragraph 6."

In the early 1990s, an IEA Member country drew the Governing Board's attention to the Article 62.5 provision, and proposed that it be complied with on the occasion of the next accession to the I.E.P. Agreement. In 1996, in anticipation of a Governing Board decision on Hungary's candidacy, the Secretariat conducted a study of alternative methodologies for adjusting periodically the "oil consumption" voting weights component of the overall voting weights to reflect changes in the Member countries' respective oil consumption. The Secretariat presented its recommendations at the October 1996 meeting of the Governing Board [IEA/GB(96)41]. The Secretariat proposed that calculations of the oil consumption voting weights under Article 62 be based on the most recent suitable oil consumption data rather than on 1973 data. It recommended the use of rolling 3-calendar year base periods for these calculations in order to minimise year-to-year fluctuations in the Member countries' voting weight entitlements.

Because the Governing Board was expected, at its next meeting, to issue an invitation to Hungary to accede to the I.E.P. Agreement and to amend the voting weights provisions to reflect Hungary's IEA membership, the Secretariat proposed that the first use of the new methodology be made, under Article 62.5, on the occasion of that Governing Board decision [IEA/GB/C(96)42]. As the Agency had data for Hungary for 1992-1994 that the Secretariat considered suitable in quality for calculating Hungary's oil consumption, the Secretariat proposed to use those years as the basis for the calculation of oil consumption voting weights. It noted, however, that in the future it would be necessary to retain flexibility as to the choice of the exact 3-year base period for each oil consumption calculation because of differences in the quality and timely availability of data from various candidate countries.

At its October 1996 meeting the Governing Board decided against applying the new methodology on the occasion of Hungary's accession [IEA/GB/C(96)4, Item 5]. Some Members expressed interest in exploring whether a means could be found, without amending the I.E.P. Agreement, to assign voting weights based on the results of Member countries' good energy practices, such as savings achieved through energy efficiency. The Secretariat consequently was asked to work with the Members, with input from experts, to explore this issue [IEA/GB/C(96)4, Item 4]. The Executive Director indicated that, while Members' "oil consumption" voting weights for the time

being would continue to be calculated on the basis of the 1973 data underlying the numbers fixed in 1974, the Secretariat would pursue its efforts to develop an indicator of good energy practices generally, or of energy efficiency specifically [IEA/GB/C(97)2, Item 8(b)].

The Secretariat then convened an Ad Hoc Task Force, in which Delegations' Energy Advisors were invited to participate, to consider the technical practicability of using various indicators. It focused specifically on the proposal of one Delegation that the simple correlation between energy consumption and per capita or aggregate economic activity (as measured by GDP) be used as an indicator of energy efficiency, with "efficiency" voting weights being derived therefrom and added to the "general" and "oil consumption" voting weights.

The Report of the Ad Hoc Task Force on the Calculation of IEA Voting Weights [IEA/GB(97)17], which was considered at the Governing Board's April 1997 meeting, concluded that while acceptably reliable data exist to permit calculation of energy supply or consumption per capita or based on aggregate economic activity (as measured by GDP) during each year, these calculations would not give a meaningful indication of good energy practices generally, or of energy efficiency specifically. There were several reasons for this conclusion: (1) exchange rates can distort any efficiency ratio based on GDP, whereas per capita energy use calculations are heavily influenced by per capita wealth; (2) such calculations really reflect more the way people in a country live – the "structures," such as typical housing, or travel distances – than the efficiency with which they do so; (3) a calculation for any particular year gives little indication of improvements over time; and (4) such calculations may fail to reward and can actually penalise some other good energy practices, such as energy diversification. The Task Force's Report noted that the development of a meaningful indicator is a difficult task that would take considerable time and effort on the part of governments and of the Secretariat.

The issue next came before the Governing Board at its June 1999 meeting, as the Board was considering the issuance of an invitation to the Czech Republic to accede to the I.E.P. Agreement. The Secretariat advised the Board that, while efforts were continuing to develop indicators of good energy practices generally, or specifically of energy efficiency, "there exists today no meaningful criterion or indicator that could be used to assign voting weights to all IEA Member countries" on such a basis [IEA/GB(99)34, paragraph 10]. The Governing Board agreed that the question of revising the Agency's voting

weights should be separated from the next invitation to accede to the I.E.P. Agreement, the "oil consumption" voting weights' aspects of which would be based on the 1973 data [IEA/GB/C(99)4, Item 5(b)].

The issue arose again in 2001 on the occasion of the Governing Board's invitation to the Republic of Korea to accede to the I.E.P. Agreement. Because Korea had experienced significant economic growth since 1973, the choice between 1973 data and recent data in the calculation of its "oil consumption" voting weights stood to make a substantial difference in that country's IEA voting weights. In response to Korea's request to the Governing Board, the Board agreed to resume its consideration of this subject in accordance with Article 62.6 of the I.E.P. Agreement [IEA/GB/C(2001)12, Item 3].

Section IV.C., The IEA as an Autonomous Agency of the OECD

Section IV.C.2., Programme Autonomy of the IEA

The OECD Council did not renew the mandate of the OECD Committee for Energy Policy when that mandate expired in 1995.

Section IV.C.3., Financial Autonomy of the IEA

Notwithstanding the IEA's legal autonomy in financial and other matters, the fact that the IEA's Budget forms a part of the OECD's Budget [Article 10 of the 1974 Council Decision Establishing an International Energy Agency of the Organisation, C(74)203(Final)] imposes practical limitations on the exercise of the IEA's autonomy. An example is found in the developments described as follows in Document IEA/GB(2002)5, at paragraph 5:

In reviewing the allocation of year 2000 publications revenue amongst OECD Part I and Part II programmes (cf. EXD/CB(2001)24), and seeking to balance the OECD Part I accounts, the OECD Budget Committee found it necessary to overturn the original allocation and to transfer 1.4 million French francs from a previously undisclosed IEA reserve account to maintain IEA publications revenue at the level of the estimate included in the 2000 budget. Revenue collected in the year 2000 was much lower than anticipated for the whole of the OECD, due to serious problems with the OECD's fulfilment contractor based in Germany. The existence of the Reserve account itself became visible to the IEA only at the time of publication of the 1999 Financial Statements of the Organisation. It was apparently set up by OECD management in the early 1990s with excess data

sales revenue from the IEA (cf. IEA/BC(2001)4/REV2). The IEA Secretariat was not consulted about the decision of the OECD Budget Committee.

Section IV.C.4., Autonomy in Personnel Questions

The first two IEA Executive Directors were each elected for an unlimited term, thereby serving at the pleasure of the Governing Board. As discussed in Section VI.E.4. below, the Governing Board, without involvement of the OECD, in 1992 limited the Executive Director's term to four years, once renewable. The third IEA Executive Director, Mr. Robert Priddle, was elected for two four-year terms. The current IEA Executive Director, Mr. Claude Mandil, likewise has been appointed for a four-year term.

The IEA's policy of hiring staff on a fixed term basis has been discussed periodically in the Governing Board, without ever being seriously questioned. In 1998 the Executive Director reported to the Governing Board on changes in employment policy that were then under discussion in the OECD, noting the policy of the IEA to depart from OECD employment practice when good reason exists to do so. There was general support within the Board for continuing the IEA's employment approach [IEA/GB/C (98)2, Item 6].

Notwithstanding the IEA's legal autonomy in personnel and other matters, the fact that the IEA Secretariat forms a part of the OECD Secretariat [See Chapter II, Section 5 of Volume I of *The History*] and largely depends on the OECD for the operation of its personnel system, at times imposes practical limitations on the exercise of the IEA's autonomy. An example can be found in an amendment that the OECD Council enacted to Rule 17/7 et seq. of the OECD Staff Rules in September 1999, providing that, subject to certain limits, an OECD staff member who has served for at least six consecutive years and whose appointment is not renewed for reasons unrelated to discipline or unsatisfactory service, shall be entitled to an indemnity for loss of employment, the amount of which shall be one month's emoluments for each year of service. The Council's action impacted the IEA because, despite the IEA's general policy to maintain limited, fixed-term staff tenure, the Agency already had a number of employees with over six years' service, and because of the need, in a few cases, to retain selected skills. No means to fund the new liability accompanied the Council's action, however. This forced difficult staff extension policies on the IEA Secretariat, compounding an already troublesome budgetary situation, and leading to efforts to establish a new reserve to fund the costs of staff indemnities [See Section VII.A. below].

Section IV.D., Competence in External Relations

Section IV.D.1., General Purposes and Powers

The IEA has entered into policy co-operation agreements with three countries considered especially important in the energy sphere: China, India and the Russian Federation [See Section IV.A.6. above].

A recent development in the Agency's involvement in the so-called "Producer-Consumer Dialogue", the early years of which are described in Section VII.E. of Volume II of *The History*, is the Governing Board's October 2002 decision approving the participation of the IEA Secretariat on the Executive Board of the Permanent Secretariat for the "International Energy Forum" in which the Ministerial Level activities of the "Dialogue" have been conducted [IEA/GB/C(2002)3, Item 5(b)]. The IEA and OPEC Secretariats each participate as non-voting members of the Executive Board. The initiative to establish a Permanent Secretariat came from the Crown Prince of Saudi Arabia at the Seventh International Energy Forum (IEF) held in Riyadh in 2000. The Eighth IEF held in Osaka in 2002 endorsed the creation of such a Secretariat, and agreed in principle with a mission and general framework for the Secretariat, the aim of which is to "co-ordinate the activities of the IEF, maintain the informality of the dialogue and facilitate the channels of communication between oil and gas producers and consumers" [See IEA/GB(2002)28/ANN3]. At their April 2003 meeting, IEA Ministers looked forward to the Ninth IEF, to be held in Amsterdam in 2004, and pledged their active support for greater co-operation between consumers and producers [IEA/GB/C(2003)4, Item (iii) and Annex 1].

An important aspect of the work in which the new Permanent Secretariat will participate is the "Oil Data Transparency Initiative" (formerly known as the "Joint Oil Data Initiative," which in turn was preceded by the "Joint Oil Data Exercise"). The Initiative had its origins in IEA Member country concerns, in 2000, about the unusually high volatility of oil prices, which both producer and consumer country representatives attributed to a lack of transparency in the oil market. To address this problem the IEA launched a collaborative process, aimed at systematic improvement of oil market statistics, with five other international organisations – OPEC, the European Community's Eurostat, APEC (Asia-Pacific Economic Cooperation), OLADE (the Latin American Energy Organization) and the United Nations (Statistics Division) – that subsequently drew in participants from national governments and oil companies. The Initiative proved so successful that the sponsoring

organisations decided to make it permanent, and to put the new Permanent Secretariat in the role of its co-ordinator. Accordingly, the IEA Governing Board at its June 2002 meeting "asked Member states to agree in principle to make [the Initiative] a permanent reporting commitment" and "to commit to make their best efforts to meet the required standards in their monthly submissions" [IEA/GB/C(2002)2, Item 3(b)].

Section IV.D.2., Committee on Non-Member Countries (NMC)

The interim Decision of the Governing Board on non-Member country participation in IEA activities was reviewed at the December 1994 meeting of the Governing Board, which [IEA/GB(95)1, Item 6(a)]:

- (i) noted the Note by the Secretariat, "Review of Guidelines for non-Member Country Relations" [IEA/GB(94)43/REV1];
- (ii) amended the Note as reflected in Document IEA/GB(95)2/ANN;
- (iii) adopted the amended guidelines for co-operation with non-Member countries, and endorsed the comments thereon, contained in the Note, as amended;
- (iv) approved the procedures for accession to the Agreement on an International Energy Program, the criteria for membership in the Agency, and the proposals for relations with applicants for membership in the Agency, set out in the Note, as amended;
- (v) noted that the ability of an applicant for membership in the Agency to meet the emergency response requirements under the IEP Agreement should be reviewed in the Standing Group on Emergency Questions.

The amendment to the earlier Secretariat Note, which the Governing Board instructed the Secretariat to make, was the preparation of the following preamble setting out the rationale for contacts with non-Member countries:

The IEA has intensified contacts with non-Member countries to assist them in developing energy strategies and adopting energy policies that will contribute to their development and enhance global energy security. There are several reasons for this:

- Non-Member countries are playing and will play an increasingly important role in global energy demand, as energy demand growth there continues to outpace that in IEA countries.

- Consequently, non-Member regions will also be of greater significance in terms of global energy-related environmental problems.
- In a number of key areas, energy supplies increasingly come from non-Member countries, and Member countries' energy logistical systems are more tied to them.
- A growing number of non-Member countries are reaching a stage of transition or development that is drawing them closer to the OECD world and prompting collaboration between them and the IEA.

Indeed, the IEA's objectives regarding non-Member countries are conducted within the policy framework of the IEA Shared Goals, in particular, number 9, which states that "Co-operation among all energy market participants helps to improve information and understanding, and encourage the development of efficient, environmentally acceptable and flexible energy systems and markets worldwide. These are needed to help promote the investment, trade and confidence necessary to achieve global energy security and environmental objectives." [Paragraph 1].

Following this preambular statement, the Secretariat's Note reviewed and commented on a number of the specific policy guidelines adopted in 1992. With respect to the passage quoted in Volume I of *The History*, providing conditionally that for an experimental period the Standing Groups and Committees should decide on the level, frequency and subjects for NMC participation in their respective meetings, the Note commented that the approved guideline should remain as it was, except that participation by active candidates for IEA membership would be treated separately [paragraph 3.A.].

The rule requiring prior approval of the Executive Director and Governing Board Chairman for invitations to NMCs to participate in Agency conferences, workshops, and the like, would be relaxed. This was because there had been a rapid increase in IEA events, with a growing proportion of those events specifically designed to address energy issues in NMC regions. Henceforward, the Governing Board Chairman's prior consent would not be sought except in the case of potential attendee countries "with which the Agency has not previously had any contact." The Executive Director,

however, would report to the Governing Board on NMC participation [paragraph 3.B.].

The conduct of energy reviews of NMCs would continue, with priority to be given to those countries that were active candidates for IEA membership, and to the Russian Federation [paragraph 3.C.]. The guideline that NMCs would not participate directly in the IEA's emergency response systems was left standing, but the Agency would make available its expertise in emergency response strategies to selected NMCs and/or regional organisations. Where appropriate the IEA would explore ways to co-operate with the NMCs on related activities. In addition, NMC participation in emergency preparedness and response workshops would continue to be explored on a selective basis. Priority in these regards would be given to active candidates for IEA membership [paragraph 3.D.]. The existing procedure for NMC participation in Implementing Agreements would be retained, but the Committee on non-Member Countries, in consultation with the Committee on Energy Research and Technology, would be requested to provide advice on participation by NMCs that had not previously participated in any IEA Implementing Agreement [paragraph 3.E.]. The existing guidelines for intensified statistical exchange, and against NMC trainees within the Secretariat as a general rule, would be unchanged [paragraphs 3.F., G.].

Next, the Secretariat's 1995 Note addressed the procedures and criteria for IEA membership, and relations with active candidates for such membership. The Note endorsed the established procedures and criteria, while observing that IEA membership negotiations could be conducted with candidates for OECD membership, in parallel with the OECD negotiations [paragraphs 4-11]. It proposed the following "elaboration of specific criteria" [paragraph 12]:

- Acceptance of the IEA Goals and Objectives. Although this is essentially a political commitment, acceptance of the spirit of these goals and objectives is an important criterion. There are numerous general Governing Board decisions which represent important political commitments agreed to by IEA Members, such as the "Shared Goals" and much of the Long-Term Co-operation Programme. These decisions are provided to prospective Members during the documentation and information phase of the Membership procedure.
- Participation in the Emergency Sharing System (ESS). Prospective Members should be committed to meeting the obligations of the ESS. Important components of this criterion are the ability to meet the 90 day oil stock requirement and the

ability to provide the appropriate data on a timely basis for IEA reporting requirements during emergency and non-emergency conditions. Energy data collection and dissemination have been an important part of the country review process with non-Member countries.

The 90 day stock requirement may be the most difficult for some of the applicants because of the large costs involved. There may need to be some flexibility permitted in the timing required to reach the 90 day level; nevertheless, a clear timetable should be set at the time of accession.

- Membership in other organisations. Prospective Members should be willing to leave organisations whose objectives are opposed to those of the Agency (e.g., G-77 and OPEC).

The Note proposed a two-phase approach to IEA relations with candidates for membership in the Agency:

17. In the first phase, applicants would have formally requested that the membership process begin and the Governing Board would have authorised the Executive Director to begin negotiations. The Governing Board's authorisation would signify that the country is a serious applicant for IEA membership, and has begun or will shortly begin parallel negotiations with the OECD for membership therein. These countries would then begin the documentation, information and discussion phase of the membership process. These applicants would be issued a standing invitation to attend meetings of IEA Standing Groups and Committees or sub-groups and sub-committees, except the Governing Board and Budget Committee, provided that the Chairmen of the organs do not reserve particular meetings or agenda items for session or discussion between Member countries only. (The Standing Groups and Committees may wish to discuss the criteria under which Chairmen would restrict attendance or participation by such NMC attendees.) The invitation to attend IEA meetings will be accorded on a temporary basis, and shall be subject to withdrawal should the Governing Board conclude that the applicant is not likely to accede at the target date of accession.

18. Secondly, applicants would become formal "observers" once they have formally requested accession and where the Governing Board has approved their request for membership and extended an invitation to accede to the Agency. These countries would then immediately be eligible to attend the Governing Board and could continue attending all other IEA activities except the Budget Committee. These countries would be "observers" until the remaining formalities of accession were completed.

(As noted in Section IV.A.2.(j) above, commencing with the invitation to Hungary to accede to the I.E.P. Agreement, countries that have been so invited have been invited to participate in the meetings of all Standing Groups and Committees, including those of the Committee on Budget and Expenditure).

At its April 1995 meeting the Governing Board authorised the Executive Director to apply "flexibly" the practice, described in paragraph 17 of the above-quoted passage, of inviting candidates for IEA membership to meetings of Standing Groups and Committees [IEA/GB(95)18, Item 6]. The intent was to avoid situations in which an applicant for IEA membership might indefinitely enjoy the benefits of membership without completing the accession process. To this end, the candidate countries initially would be invited to only one "set" of IEA Standing Group and Committee meetings; this set of initial meetings was held in the autumn of 1995.

The Governing Board revisited the issue of invitations to candidate countries at its February 1996 meeting. A Secretariat Note for that meeting [IEA/GB(96)7] said that the initial experience in applying the Board's guidance had been favourable from the standpoints of both the Agency and the candidate countries, but proposed the following supplementary guidelines for attendance at IEA meetings:

- Invitations to attend specified Standing Group and Committee meetings can be issued by the respective Chairman when the Chairmen, in consultation with delegates, believe it would benefit the work of the Standing Group or Committee;
- Each invitation should be limited in its scope rather than blanket in nature; it should identify the particular meeting or meetings to which the invitation applies, and avoid creating an expectation that future invitations will be forthcoming;

- In meetings attended by NMC participants, Chairmen have the right to reserve particular agenda items for discussion among Member countries only.

There would be no change in the existing guidelines for participation in IEA activities by countries that are not active candidates for IEA membership. The Governing Board accepted the Secretariat's proposals [IEA/GB(96)13, Item 7].

Participation by NMC entities in IEA Implementing Agreements has increased over the past decade. At this writing, the designees of eleven OECD non-Member countries are Contracting Parties in such Agreements: Algeria, Brazil, China, Croatia, Egypt, Israel, Lithuania, the Russian Federation, South Africa, Ukraine and Venezuela. Three OECD Member countries that are not IEA Members also participate: Iceland, Mexico and Poland [IEA/GB(2003)6/REV2]. Decisions of the Governing Board, commencing in 1996, have fostered such NMC participation.

In December of 1996, the Governing Board adopted proposals of the Committee on Research and Technology for amendments to the "Guiding Principles for Co-operation in the Field of Energy Research and Development" (hereinafter "Guiding Principles"), altering the basis for NMC participation in IEA Implementing Agreements [See IEA/GB/C(96)5, Item 6]. The CERT's proposals [IEA/GB(96)51] were to eliminate the distinctive adjectival reference to non-Member country Implementing Agreement participants as "Associate" Contracting Parties to those Agreements, and to enlarge the rights that NMCs or their designated participants could enjoy under the Agreements. Specifically, they revoked the restrictions that prevented NMC participants in Implementing Agreements from voting on adoption of new Tasks and Annual Programmes of Work under those Agreements, as well as the provisions that excluded them from voting on certain structural and policy questions (the admission of new Contracting Parties or Task participants, and the determination of intellectual property questions). In addition, NMC participants would be allowed to act as Operating Agent for an Implementing Agreement if the Agreement's Executive Committee chose them to play that role. The amendments retained, however, the stipulation that an NMC participant in an Implementing Agreement could not block an otherwise unanimous decision by Member country participants in a case where unanimity was required by the Implementing Agreement's participants, and also retained the prohibition against persons from NMC countries serving as Executive Committee Chairmen. The amendments also modified the Governing Board approval process for participation by non-Member countries in IEA Implementing Agreements, to eliminate the need for repetitive Governing Board approval of a particular country's participation in different Implementing Agreements.

An innovation made by the amendments was the creation of a new class of participants in Implementing Agreements to be known as "Sponsors". Article VIII of the amended "Guiding Principles" would allow, in exceptional cases, and subject to approval by the CERT, participation by entities of OECD Member countries that were not designated by the governments of those countries to become Contracting Parties to the Implementing Agreement. Such participation would be as Sponsors, in accordance with equitable terms and conditions adopted unanimously by the Contracting Parties.

At its April 2003 meeting the Governing Board accepted recommendations of the Secretariat for replacement of the "Guiding Principles" with a "Framework for International Energy Technology Co-operation" that, unlike the "Guiding Principles", is binding on Member countries and is intended to be binding on all Implementing Agreement participants, although it may take some time to accomplish this by making the necessary amendments to pre-existing Implementing Agreements [See IEA/GB/C(2003)3, Item 8, and IEA/GB(2003)6/REV2]. The new "Framework" makes major changes in the provisions governing participation by NMCs or their designees in Implementing Agreements as Contracting Parties, and in those concerning NMC entities' Implementing Agreement participation as Sponsors. The aim of the changes is to broaden Implementing Agreement participation by OECD non-Member countries and by the private sector.

With respect to NMC participation as Contracting Parties, the "Framework" eliminates the remaining restrictions on NMCs or their designees mentioned above, specifically, the NMCs' previous inability to block otherwise unanimous decisions by Member country participants, and the prohibition on their representatives serving as Executive Committee Chairmen. The "Framework" does, however, stipulate that OECD non-Member country participants shall have no greater rights or benefits than OECD country participants. The "Framework" also delegates to the CERT the authority previously retained by the Governing Board to approve first-time participation in Implementing Agreements by OECD non-Member countries.

As concerns Sponsors, the "Framework" expands eligibility beyond the OECD universe, allowing Implementing Agreement participation in that capacity by entities of NMC countries without need for designation by those countries' governments, with the CERT retaining its approval authority for such participation.

Section IV.D.3., Situation of the European Communities (European Union)

On 21 February 1994 the European Commission issued a new "Decision relating to a proceeding under Article 85 of the EEC Treaty", extending through

2003 the exemption that its 1983 decision conferred upon the concerted practices that inhere in the Agency's emergency response mechanisms. The original 1983 decision was expressly inapplicable to concerted practices that are not necessary to carry out the I.E.P. Agreement's Emergency Sharing System and, at times when the ESS is not in operation, to industry consultations with the IEA other than those provided for in Articles 19.6-7 and 53.3 of the I.E.P. Agreement, to certain data submissions, and to test exercises other than those of the ESS or of the IEA's emergency data system. By the time of the 1994 Commission Decision, however, the IEA's emergency response policy had evolved toward greater emphasis on co-ordinated oil stock drawdowns accompanied by related measures such as demand restraint, fuel switching and surge production, as distinct from oil sharing [See for example the discussion in Chapter III of Volume II of *The History*]. This was reflected in the 1994 Decision's recognition of the "Co-ordinated Emergency Response Measures" (CERM) put in place by the IEA Governing Board in 1984, under which IEA Member countries agreed to give early consideration, during an energy crisis, to the co-ordinated use of their oil stocks and to additional demand restraint measures.

Until 1998, however, limitations in the legal protections accorded under the United States Energy Policy and Conservation Act of 1975 (EPCA), the statute that provides an antitrust defence for oil companies participating in the IEA's emergency response system, had the effect of making the advice and other assistance of the oil industry generally unavailable to the IEA in the emergency preparedness and response context, except with regard to the ESS. Those limitations were lifted by the U.S. Congress' passage, the President's 1 June 1998 signature and the subsequent administrative implementation of amendments to the EPCA extending the antitrust defence to emergency response measures (specifically including but not limited to CERM measures) that might be adopted by the IEA Governing Board for the co-ordinated drawdown of oil stocks held or controlled by governments, and to complementary actions taken by governments during an existing or impending international oil supply disruption.

These U.S. developments made it relevant to ascertain whether co-ordinated stock draw posed any legal risk to participating oil companies under European Community law. In 1998 the European Commission responded to an inquiry by the IEA Legal Counsel with respect to the scope of coverage of the 1994 exemption, stating that the protections afforded by European Community law under the Commission's exemption would extend to oil company participation in IEA-sponsored co-ordinated stock draw activity. (The Commission's response also noted that in their opinion an earlier, 1976 clearance letter,

known as the "Schlieder letter", had been superseded by the 1983 and 1994 exemptions [Letter dated 7 October 1998 from Acting Director, Directorate-General IV - Competition, in the files of the IEA Office of Legal Counsel]).

In 1996 the provision concerning European Community participation in Implementing Agreements or other Agency projects and programmes, contained in the Governing Board's "Guiding Principles" [Annex II to the Long Term Co-operation Programme, IEA/GB(76)5, Item 2], was amended to read, "The European Communities or their designees may take part as 'Participants' in any programmes or projects under the present decision." Under the "Framework for International Energy Technology Co-operation", which replaced the "Guiding Principles" in April 2003 (See the discussion in Section IV.D.2.above), the European Communities are listed among the eligible Contracting Parties to Implementing Agreements, and are authorised to designate public or private entities which can become Contracting Parties [IEA/GB(2003)6/REV2/ANN1, Section 3.2]. The European Commission (or other EC institution) now participates in twenty Implementing Agreements on a variety of subjects.

Section IV.D.4., Capacity to Enter into International Agreements

The IEA has entered into legally non-binding policy co-operation agreements with three countries. These are described in Section IV.A.6. above.

It is noted in Volume I that consideration had been given to whether the IEA should become a Contracting Party to an IEA Implementing Agreement. The question also has arisen whether the IEA should become the Operating Agent for an Implementing Agreement (a function that can be performed by a non-Contracting Party as well as by a Contracting Party). This question was raised in the year 2000 with respect to the Climate Technology Initiative (CTI), a project to foster international co-operation in the development and diffusion of climate-friendly technologies and practices that was launched at the First Session of the Conference of the Parties (COP-1) to the United Nations Framework Convention on Climate Change (UNFCCC) in Berlin in 1995. The CTI had been hosted by the IEA until December 2002; in June 2002 the Governing Board determined not to continue to host the CTI Secretariat and encouraged the participating IEA Member countries to reorganise as an Implementing Agreement [IEA/GB/C(2002)2]. The Implementing Agreement for Climate Technology Initiative was approved by the Governing Board and was formed with effect from 15 July 2003 [IEA/GB(2003)22].

CHAPTER V, INTERNAL STRUCTURE OF THE IEA

Section V.A., The Governing Board

Section V.A.3., Meetings at Ministerial and Official Levels

Other particularly significant actions by the Governing Board meeting at Ministerial Level include the following:

- **1997 Decision on the "IEA Statement on the Energy Dimension of Climate Change"** endorsing the Statement, which describes the main energy aspects of the climate change issue; agreeing possible energy responses to climate change, consistent with the IEA "Shared Goals"; recognising the need for actions to reduce greenhouse gas emissions; and reaffirming basic principles concerning the energy dimension of climate change, to inform negotiations at the Third Session of the Conference of the Parties (COP-3) to the UN Framework Convention on Climate Change (UNFCCC) at Kyoto, Japan, in December of 1997 [IEA/GB/C(97)3/ANN].
- **1999 Decision on Cleaner Energy**, restating commitments made in the 1997 Kyoto Protocol; calling on IEA Member countries to demonstrate leadership both in domestic measures and in the "flexible measures" of the Protocol; and recognising the importance of controlling greenhouse gas emissions beyond the 2008-to-2012 fulfilment period set by the Protocol and of developing appropriate long-term policies and measures to that end [IEA/GB/C(99)3/ANN1].

Other significant actions by the Governing Board meeting at Official Level include the following:

- **1994 Decision on the IEA Budget Preparation Process**, adopting a new schedule and new procedures for action on the annual Budget [IEA/GB(94)37, Item 4].
- **1994 Action Amending the Guidelines for Areas of Co-operation with non-Member Countries**, and also approving arrangements with candidates for membership in the Agency [IEA/GB(95)1, Item 6].
- **1995 Decision on Emergency Response Policies**, providing for the flexible, case-specific tailoring of the IEA's range of emergency response measures [IEA/GB(95)11, Item 4].

- **1996 Decision Endorsing a "Medium-Term Strategy" of the IEA**, setting out the Agency's objectives over a four-year period [IEA/GB/C(96)5, Item 2].
- **1997 Decision on Emergency Reserves**, urging compliance with emergency reserve commitments, and specifically encouraging the build of government/agency stocks and, where necessary, the strengthening of government powers over all emergency stocks [IEA/GB/C(97)5, Item 9].
- **1999 Decision Adopting the "IEA Y2K Response Plans"**, contingency plans put in place in case of significant oil supply disruptions on the advent of the second millennium [IEA/GB/C(99)6].
- **2000 Decision on Compliance with I.E.P. Stockholding Commitments**, authorising official admonitions to Member countries not meeting their 90-day net import emergency reserve commitments; encouraging Member countries to build and hold reserves in excess of 90 days; and asking the Standing Group on Emergency Questions to reappraise the significance of the overall decline in IEA stocks and, where the experience of particular countries warrants it, to make recommendations on a further shift from reliance on industry stocks to government/agency stocks [IEA/GB/C(2000)3, Item 8].
- **2000 Action on World Oil Situation**, reaffirming IEA Member countries' commitments to take co-ordinated action in the event of a significant oil supply disruption; calling upon oil companies and refiners to consider intensified and reconfigured refinery operations and to make more heating oil available to the global market to help relieve regional product imbalances; and deciding, on an exceptional basis, that IEA Member countries would provide the Secretariat with more disaggregated data concerning heating oil and other petroleum products [IEA/GB/C(2000)4, Item 1].
- **2001 Action on Sustainable Development**, issuing a statement on this subject, for the Ninth Session of the UN Commission on Sustainable Development [IEA/GB/C(2001)1, Item 4].
- **October 2002 Decision Adopting a revised IEA Initial Contingency Response Plan** in case of supply disruptions that could result from geopolitical discord, terrorist attacks or the like, and terminating a 2001 Plan that had been agreed informally, outside of a formal meeting of the Governing Board, in reaction to the events of September 11, 2001 [IEA/GB/C(2002)3, Item 5(d)].

The practice of consulting the Governing Board on security clearances of IEA staff holding sensitive positions in the Secretariat was discontinued in 1997 when the Governing Board adopted new "Security Principles and Procedures" [IEA/GB/C(97)4, Item 12] and, based thereon, the Executive Director promulgated Security Regulations for the Agency [See Section VIII.B.1. below].

Section V.A.4., Informal Meetings

As noted in Volume I of *The History*, an Informal Ministerial Meeting was scheduled to be held at Interlaken, Switzerland, in March 1994. That meeting in fact was held, and was reported on by the Executive Director at the April 1994 meeting of the Governing Board at Official Level [IEA/GB/C(94)25, Item 4].

In December 1995 the Governing Board accepted the invitation of the Government of Denmark to host a Special Ministerial Level Informal Meeting of the IEA in mid-1996, on issues that were thought likely to arise during the Third Meeting of the Conference of Parties (COP-3) to the United Nations Framework Convention on Climate Change (UNFCCC), which subsequently was held in Kyoto, Japan, in December of 1997 [IEA/GB(95)59, Item 3(a)]. The Informal Meeting took place at Aarhus, Denmark, in June 1996; the Secretariat reported the results to the Governing Board meeting at Official Level later that month, and the Board asked the Secretariat to reflect, in the Agency's 1997 Programme of Work, the guidance provided by the Ministers [IEA/GB(96)37, Item 3].

On 19 September 1996 the Agency convened an Informal Meeting of Governing Board, Standing Group and Committee Chairmen and Vice Chairmen to consider a draft Medium-Term (four-year) Strategy for the Agency. This was followed, on 17 October 1996, by an Informal Meeting of the Governing Board at Official Level to discuss the Secretariat's draft "Medium-Term Strategy: 1997-2000" [IEA/GB(96)40]. These meetings set the stage for the subsequent adoption of a "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49/ANN1] at the Governing Board's December meeting at Official Level [IEA/GB(96)49, Item 2]. (See Chapter VII below for a discussion of the "Medium-Term Strategy").

In June 1998 the Governing Board met informally at Official Level, one day ahead of its regularly scheduled formal meeting, to discuss the subject of "Energy and Climate Change". The Executive Director reported the results to the Board's formal meeting the following day [IEA/GB/C(98)2, Item 7(a)]. (For a discussion of the context in which this meeting occurred, and the results to which it led, see Section IV.E. of the *Supplement to Volume II*).

An April 2000 Informal Meeting of the Governing Board at Official Level addressed a range of topics including "IEA Work in non-Member Countries", "Development of Clean Energy Technologies in non-Member Countries", "Functioning of the Oil Market", and "Climate Change and Sustainable Development", while also having exchanges on the Agency's prospective 2001 Ministerial Level Governing Board Meeting.

An Informal Meeting was convened in October 2002 as part of the process of choosing a new Executive Director of the Agency [See Section VI.E.2. below].

Section V.A.5., Place and Frequency of Meetings

The Governing Board has continued to meet formally at Ministerial Level every two years. Such meetings were held in 1995, 1997, 1999, 2001 and 2003.

It held the following number of formal meetings at Official Level during the period 1994 through 2003: 1994 - eight, two of which had as their exclusive agendas matters pertaining to the transition between Executive Directors; 1995 - six, one of which concerned exclusively a proposal to relocate the IEA to a new headquarters facility; 1996 - five, one of which focused on narrow financial issues; 1997 - four; 1998 - four; 1999 - five; 2000 - four; 2001 - four; 2002 - five, one of which again dealt exclusively with a transition between Executive Directors; and 2003 - five, one of which concerned principally the appointment of a new Executive Director.

Section V.A.6., Convening Meetings

The "IEA Y2K Response Plans" [IEA/GB(99)57/REV1], which the Governing Board adopted in December 1999 [IEA/GB/C(99)6, Item 5], provided that in the event of any significant energy supply disruption resulting from Y2K problems, the Executive Director would convene a special meeting of the Governing Board in the first week of 2000 to review the initial IEA response and decide on a longer-term response strategy; in case of disruptions in the supply of gas, electricity or other sources of energy besides oil, as a result of Y2K problems, that meeting also would have considered an appropriate collective IEA Member country response.

The Agency's 2001 "Initial Contingency Response Plan," which was agreed informally between meetings of the Governing Board in response to the events of September 11, 2001 [See Section V.A.15. below], provided for the convening of a Governing Board meeting only in case of major difficulty in carrying out the Plan. The Plan allowed any Member country (prior to the date and time specified in the Executive Director's activation notification) to declare to the

other Member countries, its decision not to participate in the Plan. If, in the judgment of the Executive Director, such declarations were quantitatively significant with respect to the overall proposed 2 million barrel response level, the Executive Director was to suspend activation and convene a meeting of the Governing Board within a matter of days.

The 2002 "Initial Contingency Response Plan" [a copy is held in the files of the IEA Office of Legal Counsel] provides that when the Executive Director makes an Initial Assessment that activation of the Response Plan is warranted, he may proceed to its activation in the absence of adverse reaction from Member countries which calls into question the need for, or effectiveness of, activation of the Plan. It provides that a meeting of the Governing Board will be convened within a matter of days following the Executive Director's Initial Assessment in order to evaluate the situation and decide on the need for action, should an activation decision not already have been taken, or to decide on the continuation of any action or the adoption of any further actions that may be warranted.

Section V.A.9., Closed and Open Meetings

The Governing Board's meetings continue to be held in private, with only very limited, authorised observers in attendance. The Agency's revised Security Rules and Regulations [See Section VIII.B. below] contain no specific provision concerning who may be present at meetings, but they effectively confine attendance by setting out criteria for eligibility for access to classified information; additionally, the Agency's practice of limited attendance is well engrained, and enforced by the Secretariat's management.

Section V.A.10., Observers

Marginal changes have occurred in the practices described in this section of *The History*, with respect to observers from active candidates for IEA membership and from other non-Member countries. They are described in Sections IV.A.2.(j) and particularly IV.D.2. above.

Section V.A.11., Officers and Elections

On occasion, confidential "straw polls" have been employed, on an indicative, non-binding basis, in connection with the election of officers, with the aim of encouraging withdrawal by candidates whose prospects for election seem unpromising. (A similar approach has been used to ascertain the relative standing of nominees for the Agency's Executive Director position).

Section V.A.13., Voting and Consensus

Section V.A. 13.(a), Unanimity

Recent new commitment decisions of the IEA Governing Board have included those adopting the Agency's Y2K, post-September 11, 2001, and 2002 contingency plans [See Section V.A.3. above]. Unanimity was required for these decisions, but, as no formal vote was taken, the record of each of these decisions is silent as to the basis for adoption.

Section V.A. 13.(b), Majority

Article 62.3 of the I.E.P. Agreement provides:

Majority shall require 60 per cent of the total combined voting weights and 50 per cent of the general voting weights *cast*. [Emphasis supplied]

Arguably, there is an ambiguity whether "cast" refers to both the 60 per cent and the 50 per cent requirement, or only to the 50 per cent requirement. Since Article 76 of the I.E.P. Agreement provides that the English, French and German texts of the Agreement are equally authentic, it is appropriate to examine the French and German texts to resolve any ambiguity in the English text. The French text appears to fail to eliminate the ambiguity; however, the German text seems to do so, making clear that the word "cast" refers only to the 50 per cent requirement, so that an absolute 60 per cent of all IEA Members' total combined voting weights is necessary to an Article 62.3 majority. The IEA's Legal Counsel from time to time has advised Members of this distinction [for example, in Notes circulated to Delegations in February 1999, in anticipation of a possible vote on the election of officers, in November 2000, in anticipation of a possible vote on adoption of the 2001 Budget, and in December 2003, in anticipation of the election of the Chairman of the Governing Board].

The current voting weights of the Participating Countries, following the accession of Korea in 2002, are as shown in the table below.

Article 62.2

When majority or special majority is required, the Participating Countries shall have the following voting weights:

	General voting weights	Oil consumption voting weights	Combined voting weights
Australia	3	1	4
Austria	3	1	4
Belgium	3	1	4
Canada	3	4	7
Czech Republic	3	1	4
Denmark	3	1	4
Finland	3	1	4
France	3	6	9
Germany	3	8	11
Greece	3	0	3
Hungary	3	1	4
Ireland	3	0	3
Italy	3	5	8
Japan	3	14	17
Korea (Republic of)	3	1	4
Luxembourg	3	0	3
The Netherlands	3	1	4
New Zealand	3	0	3
Portugal	3	0	3
Spain	3	2	5
Sweden	3	2	5
Switzerland	3	1	4
Turkey	3	1	4
United Kingdom	3	5	8
United States	3	43	46
Totals	75	100	175
With Norway	3	0	3
Totals with Norway	78	100	178

On the subject of recalculation of the "oil consumption" voting weights (OVW), see the discussion above under Section IV.B.5.(i).

Following the admission of Korea as a Member of the IEA, the associated amendments to the I.E.P. Agreement (and to the Governing Board's 1975 Decision on Norway's participation in the Agency, IEA/GB(75)15, Annex IV) result in there being 75 general voting weights and 175 combined voting weights (or 78 and 178 respectively for votes in which Norway is entitled to

participate). The IEA's basic "majority" vote requires 105 CVWs (107 when Norway may vote) and, assuming that all Members vote, the support of thirteen of the Agency's 25 (or 26, Norway included) Members. The IEA Members who also are members of the EC, with 78 CVWs and 15 general voting weights, therefore can block, but (due to insufficient CVWs) not enact, without the support of other Members. The admission of IEA Members the Czech Republic and Hungary into the EC would not be expected to change this situation, but further enlargement of both the EC and the IEA could do so, as could changes in the method of calculating IEA voting weights [See Section IV.B.5.(i) above].

Section V.A. 13.(c), First Special Majority

In the absence of a Norwegian decision to participate in the work of the Agency under Chapters I through IV of the I.E.P. Agreement and the adoption by the Governing Board of arrangements to implement that participation, Norway is not eligible to vote on matters with respect to which the First and Special Majorities are relevant [IEA/GB(75)15, Annex IV, paragraph 5]. As amended to date, Article 62.4(a) of the I.E.P. Agreement requires, for a decision thereunder, 60 per cent of the total 175 combined voting weights (105 CVWs) and the support of 19 Members (57 general voting weights). The IEA Members who also are members of the EC, with 15 Members and 78 CVWs, therefore still lack the power to block, by Special Majority, activation of the I.E.P. Emergency Sharing System. They do, on the other hand, have sufficient voting power to prevent other Members from carrying a First Special Majority vote to block activation or to take the other decisions enumerated in Article 62.4(a).

Section V.A. 13.(d), Second Special Majority

A Second Special Majority now requires the support of 22 Member countries (66 general voting weights), so that four Member countries can block a vote to prevent activation of the selective trigger, or to take the other decisions set out in Article 64.4(b) of the I.E.P. Agreement.

The Secretariat's Notes to the Governing Board recommending that invitations to accede to the I.E.P. Agreement be issued to the Czech Republic and the Republic of Korea have each pointed out that, to give continuing effect to the IEA founders' intentions, the current "N-3" concepts would again have to be re-examined, and possibly increased to "N-4", if there should be further "substantial" increases in IEA membership [IEA/GB(99)44/ANN2, footnote 3; IEA/GB(2001)12/ANN3, footnote 3]. Whether membership increases are "substantial" is of course a matter of judgment; to date, no Member has expressed a wish to depart from the "N-3" formulation.

Section V.A.15., Written Procedure

In 1997 the Governing Board enacted a new authorisation for use of a written procedure which, unlike the previous authorisations, is unlimited as to subject matter and, when used to accept voluntary contributions, any limits on the value of such voluntary contributions or grants eligible for processing under it [IEA/GB(C(97)2, Item 8(a)]. The new authorisation provides that:

if, in the opinion of the Executive Director, a decision of the Governing Board on any matter is needed in advance of the next scheduled meeting of the Board and a discussion by the Board is not necessary:

- A. the Executive Director may circulate to all IEA Member countries his proposal on that matter; and
- B. the proposal made by the Executive Director shall be regarded as accepted by the Governing Board, and such acceptance shall be recorded in the Conclusions of a subsequent meeting of the Board, unless, within 21 days following circulation of the proposal, a Member country transmits to the Executive Director a written request that the decision be delayed until the next meeting of the Board.

This decision did not revoke any previous ongoing authorisation to employ a written procedure, but the previous authorisations have fallen into desuetude. The 1997 authorisation has become the usual basis for Governing Board decisions by written procedure, which have concerned mainly the acceptance of voluntary contributions, approval of revisions to the Member countries' scale of contributions and sometimes the approval of the IEA's Annual Report. It has not, however, become the exclusive basis for decisions outside of Governing Board meetings, as ad hoc procedures for such decisions exceptionally have been devised; in addition, the Standing Groups and Committees have been left free to choose their own informal procedures for reaching decisions on their recommendations to the Governing Board, or on those few matters that the Governing Board has delegated them the responsibility to decide.

Examples of recent ad hoc procedures for decisions outside of Governing Board meetings are the following:

- In preparation for the Agency's 1999 meeting at Ministerial Level, Members were invited to submit to the Secretariat their comments on a draft Communiqué, following which the Secretariat would circulate a

revised version of the Communiqué; if disagreement remained, an "open-ended" drafting group would be convened to reach consensus [IEA/GB/C(99)2, Item 4(c)].

- Believing that the actions taken in response to the terrorist attacks of September 11, 2001, could cause sharp price spikes, panic buying and the fear of a supply disruption in the already-constrained world oil market, IEA Member countries moved promptly to put in place, through an informal process, an "IEA Contingency Response Plan." The process commenced 21 September with the Executive Director's circulation of a draft Plan, and a request for Members' comments. On 26 September, noting widespread but not unanimous support for the previous draft, the Executive Director provided a revised draft Plan, to which he asked the Member countries' agreement. After another round of discussions, the Executive Director on 28 September informed IEA Delegations that there appeared to be a broad consensus on the second draft, and stated his belief that "the second draft of the Response Plan should be considered as adopted by the Governing Board." The letter advised that "[i]f any Member finds itself unable to accept the Response Plan on this basis", it should "notify me by noon Tuesday, 2 October, copying to all Members, whereupon after consulting the Chairman of the Governing Board, I would convene a meeting of the Governing Board at the earliest occasion." On 2 October the Executive Director informed the Member countries that no Member had registered such an objection, and concluded that "[t]he Plan is accordingly adopted and becomes available for use, if required." [Correspondence in files of IEA Office of Legal Counsel]. Subsequently, the Governing Board's Conclusions gave formal recognition to the fact that the Board had decided to adopt the Response Plan [See IEA/GB/C(2001)4/REV1, Item 8(b) and IEA/GB/C(2002)3, Item 5(d)(iii)(a)].
- In preparation for the Johannesburg Summit on Sustainable Development scheduled to begin in August of 2002, the Governing Board finalised by written procedure an IEA brochure on sustainable development. (See Section IV.E. of the *Supplement to Volume II*).

Section V.A.16., Effect of Actions: Decisions, Recommendations, Declarations, Conclusions and Others

Section V.A. 16.(a), Political Commitments

An important example of political commitments with significant policy implications was the Governing Board's February 1995 Decision on

Emergency Response Policies [IEA/GB(95)1, Item 4], which is described in Section III.D. of Volume II of *The History*. A key part of that decision was its provision that [IEA/GB(95)11, Item 4(d)(iii)]:

in the event of an oil supply disruption which reaches the threshold for a Secretariat finding that can activate IEP emergency measures, the Governing Board, as a matter of policy, would normally first give consideration, consistent with the IEP, to a step-by-step process involving adequate opportunity for the co-ordination and implementation of stock draw, demand restraint and other emergency measures to be fully effective, in a manner compatible with the timely and effective preparation and activation of oil sharing should that prove necessary;

At the February 1995 Governing Board meeting, the IEA Legal Counsel gave his opinion, in response to questions from Delegations, that the proposed decision was consistent with the International Energy Program, did not contain exceptions to that Program, would leave the Governing Board free to take decisions on a case-by-case basis, and would not change the existing procedures for decision making as concerns Norway's participation in the Agency's emergency measures. His opinion stated that it was clear from the language of the paragraph quoted above that it represented a political commitment, not a legal commitment, citing in particular the following aspects of the paragraph's wording:

- the paragraph's express statement that the commitment to "normally first give consideration..." is one being made "as a matter of policy" is a strong indication of an intent not to be legally bound;
- the Board's agreement that it "normally" would "give first consideration..." is not an absolute commitment;
- the commitment is one to "give...consideration," without prejudice to the decisions taken as a result of that consideration;
- the commitment to "normally give first consideration" is subject to the condition that such consideration be "consistent with the IEP";

- the step-by-step process to be considered is subject to the condition of compatibility "with the timely and effective preparation and activation of oil sharing".

Although this was the language of political commitment rather than the language of legal commitment, the opinion concluded that:

[T]hat fact ought not be viewed as diminishing the seriousness or the significance of the undertaking. Rather, paragraph (d)(iii) of the Decision stands as a point of reference for Governing Board deliberations in a time of emergency, creating a reasonable expectation that IEA Members will exercise their IEP rights individually, and their IEP powers collectively, in accordance with the Decision.

[Copy of Legal Counsel's Remarks transmitted to IEA Delegations' Energy Advisors by letter dated 14 March 1995, in files of IEA Office of Legal Counsel].

Section V.A. 16.(b), Legal Commitments

Examples of more recent energy policy decisions of the Governing Board that may be considered legally binding under the I.E.P. Agreement include:

- The contingency response plans described in Section IV.B.2. above: the "Y2K Response Plans" providing that upon activation, "each Member country shall achieve its response obligations..."; the post-September 11, 2001 "IEA Contingency Response Plan" providing that upon activation, collective action to make oil available to the market would be taken, to be shared among the Members in a specified manner; and the 2002 "IEA Initial Contingency Response Plan" similarly providing for collective, shared action, upon activation.
- In October 2000, the Governing Board decided that, on an exceptional basis, Member countries would provide the Secretariat with additional disaggregated data on heating oil and other petroleum products, in accordance with instructions to be provided by the Secretariat [IEA/GB/C(2000)4, Item 1(b)].

In the sectors of finance, administration, housekeeping and procedure the Governing Board has continued to make legal commitments. Significant ones have included a decision to adopt a Biennial Programme of Work and Budget [IEA/GB/C(2002)1, Item 9(c)] and a series of decisions on the handling of appropriations connected with new Member accessions [See for example IEA/GB/C(2001)5, Item 5(b)(v)].

While IEA security procedures are mainly an internal administrative matter, their effectiveness requires that IEA Member countries handle IEA classified documents in a manner consistent with the Agency's practices. Accordingly, the Governing Board recognised what arguably is a legal obligation on the part of Member countries when it agreed that the Members "will take the necessary measures to ensure the security of [IEA] classified information" [IEA/GB/C(97)4/ANN1, paragraph 5].

Section V.A.16.(c), Recommendations

There are important recommendations of the Governing Board in the area of emergency preparedness and response. In 1997 the Governing Board "encouraged" the build of "government/agency" stocks and "where necessary" the strengthening of government powers to ensure the rapid use of all emergency stocks, including compulsory industry stocks [IEA/GB/C(97)5, Item 9(e)]. The Board followed this decision by asking the Standing Group on Emergency Questions, in 2000, to reappraise the significance of the overall decline in IEA stocks and, "where the experience of particular Member countries warrants it, to make recommendations on a further shift from reliance on industry stocks to government/agency stocks." The 2000 decision also "encouraged" Member countries to build and hold reserves exceeding 90 days of net imports [IEA/GB/C(2000)3, Items 8(c), (e)].

Section V.A.17., Creation of Other Organs

Section V.A.17.(a), Committee on Budget and Expenditure (BC)

The "Open-ended Group" has ceased to be utilised, in part because experience has shown that the Agency's Member countries do not wish to leave the work of the Committee on Budget and Expenditure to a limited group of Participating Countries.

Section V.A.17.(d), Industry Advisory Board (IAB)

The current version of the Emergency Management Manual, in which the mandate of the Industry Advisory Board can be found, is that adopted by the Governing Board in 1994 [See IEA/GB(94)54, Item 5, adopting the revised Emergency Management Manual contained in the Annex to IEA/GB(94)40]. The most recent edition of the Emergency Management Manual is Annex 1 to IEA/SEQ(2002)2.

The Industry Working Party, although never formally dissolved, has no tangible or practical existence.

Section V.A. 17.(e), Coal Industry Advisory Board (CIAB)

The CIAB's charter was revised by the Governing Board in 1995 to allow membership by a wider group of IEA non-Member countries that were increasingly important players in the coal market, specifically including South Africa (China later gained membership), and to transfer the appointing power with respect to non-Member country representatives from the CIAB to the Governing Board [IEA/GB(95)38, Item 10(a) and the Annex]. In 1997-1998 the Secretariat, with the support of the Governing Board, undertook a restructuring of the CIAB, downsizing and substantially recomprising its membership in favour of active participants and modifying the roles of its constituent bodies [IEA/GB/C(97)4, Item 6; IEA/GB/C(97)5, Item 7; IEA/GB/C(98)1, Item 4; IEA/GB/C(98)2, Item 11 and IEA/GB(98)15; IEA/GB/C(98)3 and IEA/GB(98)24].

At its December 2002 meeting the Governing Board confirmed its support for the CIAB as a source of advice, particularly in relation to the continued use of coal as a secure source of supply and on measures to mitigate the environmental impacts of coal's use. It also endorsed participation by Member government representatives in discussions with the CIAB [IEA/GB/C(2002)4, Item 6(c)], which the Secretariat had proposed as a step toward "a renewed and enhanced relationship between the IEA Member countries and its coal industry advisors" [IEA/GB(2002)3].

At its April 2003 meeting the Governing Board substantially rewrote the CIAB's charter [IEA/GB/C(2003)3, Item 10]. A Secretariat Note [IEA/GB(2003)3] explained the reasons for the new charter as follows:

Some key aspects of the [1979 Governing Board decision, as revised] are now of historic interest only, including the reference to the Principles for IEA Action on Coal, which no longer reflect IEA Member country views on coal. Some requirements are no longer observed, such as a requirement to meet twice a year. More importantly, the rigid structure of elections, and the requirement for a large executive committee, has created administrative difficulties over the years. Procedural issues, and duplicated discussions between the executive and the plenary meetings, have distracted attention from issues of substance. [Paragraph 4].

While the new charter keeps the right to nominate members in national governments, it provides that if a government fails to make a nomination within one month of being advised of a vacancy, the IEA Executive Director may recommend a nomination to fill the vacancy. The charter resolves outstanding questions about the discretion of the CIAB to publish or otherwise disseminate

its views by formalising what has been the normal practice in recent years, a requirement that the CIAB and the Executive Director both must agree upon such publication or dissemination.

Section V.A.18., Special Activities

In 2000 the Governing Board considered a proposal to organise as a "special activity," in the sense of I.E.P Agreement Article 65.1, the "Climate Technology Initiative" (CTI). The CTI was launched by many of the IEA Member countries and the European Commission at the 1995 First Session of the Conference of the Parties (COP-1) to the United Nations Framework Convention on Climate Change (UNFCCC), its mission being to promote the objectives of the Framework Convention by fostering international co-operation for accelerated development and diffusion of climate-friendly technologies and practices. Beginning in 1996, the IEA hosted the CTI on a temporary basis, with CTI activities being part of the IEA's Programme of Work, funded largely by voluntary contributions. Not all IEA Member countries participated in the CTI, however, and in 2000 the CTI's Chairman put forth a proposal to establish the CTI as a special activity. The proposal, as set out in a Secretariat Note [IEA/GB(2000)27], was as follows:

7. If constituted as a special activity within the IEA, the CTI would be autonomous, just as the IEA is autonomous within the OECD. A budget would be established unanimously by the participating CTI members (those countries committed to providing a portion of the budget) in advance of each fiscal year and contributions would be established based upon a "core" appropriation to be financed through assessed contributions. Voluntary contributions could supplement the core appropriation.
8. A decision to constitute the CTI as a special activity would be similar to a Governing Board decision creating an Implementing Agreement as a special activity. However, in this instance it would be the IEA Secretariat which would act essentially as the "operating agent" for the special activity, rather than an outside party. The IEA will need to be satisfied that the CTI members will fully reimburse it for all costs it incurs as a result of the special activity. IEA Member countries clearly would not be prepared to absorb, within the regular IEA budget, shortfalls in CTI collections.
9. If the Governing Board, following a clear recommendation of the CTI Board of Management, reaches agreement for locating the CTI within the IEA, these arrangements will be formalised in

a decision of the Governing Board. That decision (the only legally binding one to be taken) would be in two parts.

- (a) First would be a Governing Board decision to create a special activity and establish the relationship of the participating countries on a basis agreed among themselves; IEP Art. 65.1 specifies that IEA Member countries that do not wish to take part in special activities "shall abstain from taking part in such decisions and shall not be bound by them". The fact that this decision would be taken in the Governing Board, pursuant to the IEP Agreement, is expected to obviate legal problems that otherwise could be created for some Member countries by agreeing to arrive at a formal agreement outside of the IEP Agreement.
- (b) The second part of the decision would establish the links between the CTI and the IEA. These would include the role of the IEA Secretariat in supporting the CTI, and the handling of the CTI's programme of work and budget.

The Governing Board endorsed in principle this institutional proposal, but only "subject to the adequacy of Member country participation and resources" [IEA/GB/C(2000)5, Item 8], and in time the Board concluded that the levels of firm Member country commitment and dedicated financial resources were not sufficient to warrant going forward with creation of the CTI as an IEA "special activity" that would be dependent on support by the IEA Secretariat. In June 2002 the Board, on the basis of a Secretariat Note recounting the background of the CTI [IEA/GB(2002)21], provided guidance, in principle, that the CTI should be reorganised as an Implementing Agreement [IEA/GB/C(2002)2, Item 6]. A CTI Implementing Agreement was approved by the Board by written procedure in July 2003 [IEA/GB/C(2003)5, Item 6(c)].

Legal points that are of special interest with respect to the CTI are discussed in Sections III.M. and IV.D.4. above. For more information on CTI, see Sections IV.E. and V.B. of the *Supplement to Volume II*.

Section V.A.19., Conclusions and Minutes

Section V.A. 19.(a), Governing Board Meetings at Official Level

At the Governing Board's April 1996 meeting several Delegations proposed the publication of short summary records of the Board's meetings. As a basis for evaluating those proposals, the Governing Board Chairman asked the Secretariat to prepare a paper describing the practices of other organisations. The Secretariat's Note for the Board's June 1996 meeting [IEA/GB(96)23]

described the practices of the OECD Council, other international organisations, and the IEA's Standing Groups and Committees, and set forth "pros" and "cons" of a summary record.

The Governing Board agreed that no change in the Board's documentation practices should be made if it would result in an added workload or in "bureaucratization", consume time of the Board in approving the record of a previous meeting, or inhibit the expression of opinion. Some Members felt, however, that it would be possible, without risking such an effect, to record additional information that discloses the thrust of discussions.

The Board therefore decided to experiment with a limited departure from the Agency's existing recordkeeping practices. The Secretariat was tasked to prepare, separately from the Conclusions of that meeting, summaries of the discussion under two of the items on the agenda for that meeting [See Annexes 1 and 2 to IEA/GB(96)37]. Summaries likewise would be prepared for selected agenda items of the Governing Board's October 1996 meeting [See IEA/GB/C(96)4]. These summaries were to be as short as possible, while indicating the elements of discussion. They would not report the positions taken by individual Members, but they might contain statements of the Board's Chairman or of individual Members that reflect the substance of the Board's deliberations.

At its December 1996 meeting the Governing Board reviewed the results of the experiment and decided to continue with the selective recording of its decisions, in the general form of the Conclusions of its October meeting. It agreed to reconsider this decision in the future, if it appeared that this approach was not contributing to the functioning of the Board. The Board also instituted another departure from its historical practice, by deciding that the approval of the Conclusions of each Governing Board meeting should be an item on the agenda of the succeeding Governing Board meeting, which had not theretofore been the Board's practice [IEA/GB/C(96)5, Item 10].

Section V.A.19.(b), Ministerial Level Meetings

Not all Ministerial Level Meetings have been electronically recorded. An electronic recording of the Agency's 2003 Ministerial Meeting does exist, but no transcript of the Meeting has been prepared.

Section V.B., The Standing Groups

Section V.B.1., Function and Competence

The revised Emergency Management Manual, which the Governing Board adopted in 1994, eliminated the SEQ Emergency Group and vested that

entity's delegation of authority from the Governing Board in the SEQ itself [See Section 3.2.10 (Step 10) of the Annex to IEA/GB(94)54 or of the Annex to IEA/SEQ(2002)2].

In 1995 the Governing Board authorised the Standing Group on Long Term Co-operation to approve publication of the series of IEA policy reviews known as "Energy Policies of IEA Countries", provided that the objection to publication by a single IEA Member country would suffice to bring the matter before the Governing Board [IEA/GB(95)18, Item 4].

In 2001 the Governing Board delegated to the Committee on Energy Research and Technology the authority to approve extensions of IEA Implementing Agreements [IEA/GB/C(2001)1, Item 8], and in 2003 it empowered that Committee to decide on first-time participation in IEA Implementing Agreements by the designees of OECD non-Member countries [IEA/GB/C(2003)3, Item 8]. As noted in Section V.C.1. of Volume I of *The History*, the Board already had delegated to the CERT the power to approve the participation of "Sponsors" in Implementing Agreements.

The delegation of powers by the Governing Board to the Agency's subsidiary bodies remains uncommon.

Section V.B.2., Procedures

In 1997 or early 1998 the Standing Group on Long Term Co-operation renamed the Sub-Group on Energy Conservation the "Working Party on Energy Efficiency". On the delegation of authority to the SLT, see Section V.B.1. above.

Section V.C., The Committees

Section V.C.1., Function and Competence

The Governing Board, at its February 1997 meeting, approved a Mission Statement for the Committee on Energy Research and Technology (the CERT), to supplement the CERT's basic mandate by establishing objectives for a "Medium-Term Strategic Plan for Energy Research and Development", which the CERT would create for Governing Board approval, and whose implementation the CERT eventually would oversee [IEA/GB/C(97)1, Item 8]. The CERT's Strategic Plan [IEA/GB(2002)20] was presented to the June 2002 meeting of the Governing Board, which noted the continuing significance of the objectives contained therein [IEA/GB/C(2002)2, Item 5].

Section V.C.2., Procedures

Working Parties functioning under the Committee on Energy Research and Technology are discussed in Volume II of *The History* at Section V.A.

CHAPTER VI, THE SECRETARIAT

The IEA Secretariat still has 140 authorised classified posts, plus two unclassified posts (the Executive Director and Deputy Executive Director). They are supplemented by project staff, so that the total number of staff on the Agency's premises tends to average about 160 persons.

Until 1996 the Secretariat was located within the complex of buildings in which the OECD's headquarters was housed in western Paris. In that year the IEA Secretariat moved into premises within the Australian Embassy building near the Eiffel Tower, at 9, rue de la Fédération in the 15th arrondissement of Paris, where it now has its offices. These premises are physically separate from the Australian Embassy's offices and residences, and benefit from the OECD's legal immunities. The IEA has engaged its own security contractor, but calls upon the OECD for security assistance for high-level functions, and also liaises with the Australian Embassy's security service. [The IEA's relocation is discussed further in Section VII.A. below].

Section VI.A., Powers of the Governing Board

The Governing Board now has exercised the Executive Director appointment power on five occasions, including one reappointment of a serving Executive Director [See Section VI.E.2 below].

In 1998 the Executive Director reported to the Governing Board on changes in employment policy then under discussion in the OECD, noting that it was the policy of the IEA to depart from OECD employment practice when good reason exists to do so. There was general support within the Board for continuing the IEA's employment approach, which is one of fixed-term contracts and limited tenure of staff [IEA/GB/C(98)2, Item 6].

Section VI.B., Establishment of the Secretariat

The authorised manning of the Secretariat has not been increased from the 140 person figure given in Volume I of *The History*; the main supplement to permanent positions has been project staff. Recent Budget decisions have continued the Governing Board's previous authorisations regarding recruitment of project staff [See for example IEA/GB/C(2003)6, Item 5(a)(vii)].

The Governing Board's decisions adopting the annual Programme of Work and Budget historically have empowered the Executive Director to reorganise the Secretariat [See for example IEA/GB(75)99, Item 2(e), so providing with

respect to financial year 1976]. In its decision adopting the 1997 Programme of Work and Budget of the Agency, the Governing Board took note of revisions to the Organisation of the Agency that were set forth in Annex 3 to Document IEA/GB(96)38/REV1, "reflecting shifts to better allocate Secretariat resources in accordance with the Executive Director's authority to modify it as required within the number and level of permanent posts provided, but without changing the Agency's Standing Group and Committee reporting structure." The Board invited the Executive Director to "further modify the said Organisation to meet changing priorities and needs, as required within the number of permanent posts provided" [IEA/GB/C(96)5, Item 3(o)].

In Appendix II to this *Supplement to Volume I*, Appendix V to Volume I has been revised to reflect the current organisation of the Secretariat. Recent changes include the transfer of the former Energy Conservation & Efficiency Division, now called the Energy Efficiency Policy Analysis Division, from the Long Term Co-operation and Policy Analysis Directorate to the Energy Efficiency, Technology and R&D Directorate, and dissolution of the Economics, Statistics and Information Systems Office. The Energy Statistics Division and the former Information Systems Division, now renamed the Information Systems and Building Management Division to reflect enlarged responsibilities undertaken when the IEA moved to its present premises in 1996, are now part of the Office of the Executive Director. The Economic Analysis Office has become a division of the Directorate for Long Term Co-operation and Policy Analysis.

In December 1996 the Governing Board, in order to achieve budgetary savings, decided to freeze for three years the financing of the grade A6 position, Senior Advisor for Energy Economics [IEA/GB/C(96)5, Item 3(m)]. This position has not since been filled. Similarly, when William C. Ramsay, who had been serving as Director of the non-Member Countries Directorate, was appointed Deputy Executive Director effective 1 July 1999, the Executive Director decided for budgetary reasons to leave the NMC Director position unfilled. It remains vacant today, with Mr. Ramsay continuing to supervise the work of that Directorate.

Section VI.C., Relation to the OECD

Guidelines from the OECD's Office of Human Resource Management now provide that a representative from that Office may participate in recruitment panels. In practice, this function often is performed by the IEA's Administrative Unit.

Section VI.D., Combined Energy Staff

Section VI.D.2., Services to the OECD

The OECD Council did not renew the mandate of the OECD Committee for Energy Policy when that mandate expired in 1995.

The successor to Mrs. Helga Steeg as IEA Executive Director, Mr. Robert Priddle, was appointed to the position of Co-ordinator of Energy Policies for the OECD at the time of his original 1994 appointment as Executive Director. With the expiration of the mandate of the Committee for Energy Policy in 1995, there no longer was a need for the formal designation of an OECD Co-ordinator of Energy Policies, and no such appointment was made when Mr. Priddle was appointed to a second term in 1998 or when he was succeeded as IEA Executive Director by Mr. Claude Mandil in 2003.

In 1994 the IEA and OECD Secretariats engaged in a joint "Scoping Study on Energy and Environmental Technologies to Respond to Global Climate Concerns". Upon completion of the study, the Governing Board expressed satisfaction with the results, agreed that a high-level IEA/OECD Experts Meeting should be held in autumn 1994 to develop advice on priorities and strategies to enhance the development of new technology to respond to climate change concerns, and asked the IEA Standing Groups and Committees to consider further work based on the study's suggestions, taking into account the possibility of joint work with the OECD [IEA/GB(94)37, Item 8(b)].

The Secretariat then prepared a Concept Paper for a proposed "High-Level Meeting on Technology Scoping Study" [See the Annex to IEA/GB(94)45], which the Governing Board endorsed at its November 1994 meeting. The Board agreed to seek the participation in the High-Level Meeting of key decision-makers and advisors from governments and industry in Member countries, in order to progress the national consideration of efforts to collaborate on the development of technologies to respond to climate change concerns [IEA/GB(94)54, Item 7]. The Secretariat reported the outcome of the High-Level meeting to the Governing Board at its December 1994 meeting [IEA/GB(95)1, Item 7]. At the Governing Board's February 1995 meeting, the Secretariat reported on the outcome of the OECD/IEA Forum on Technology Co-operation to Respond to Global Climate Concerns [IEA/GB(95)11, Item 8].

In June 1995 the Governing Board, while questioning the value of permanent new institutions in this field, authorised the Secretariat to participate actively in the OECD Environment Policy Committee's proposed pilot meeting of a Climate Change, Energy and Environment Forum [IEA/GB(95)38, Item 4(d)]. At

its October 1995 meeting the Board authorised the Secretariat to continue to participate, "on a basis of equality with the OECD Secretariat", in the OECD Forum on Climate Change [IEA/GB(95)48, Item 5(d)].

The Executive Director reported to the October 1997 meeting of the Governing Board on the OECD's High Level Advisory Group on the future of the OECD Nuclear Energy Agency. The Governing Board asked the Secretariat to follow closely the work of the High Level Advisory Group, and the Chairman of the Governing Board invited the Standing Group on Long Term Co-operation to hold a discussion of the role of nuclear energy, preparatory to a possible subsequent discussion of this subject in the Governing Board [IEA/GB/C(97)4, Item 7]. At the same meeting, the Board noted the Secretariat's Note on "OECD Regulatory Review" [IEA/GB/C(97)4, Item 9].

At its December 1997 meeting the Governing Board heard a report by the Head of the High Level Advisory Group on the Future of the OECD Nuclear Energy Agency, generally supporting many of the Advisory Group's proposals "while stressing that the IEA was the appropriate forum in which to discuss nuclear energy policy, in its overall energy policy context." The Chairman of the Governing Board noted the need to respect the different nuclear energy policy views held by the IEA's Member countries. He stated the Agency's willingness to co-operate on nuclear matters, provided that this does not imply unnecessary bureaucratization or the creation of new bodies [IEA/GB/C(97)5, Item 3]. Also at that meeting, the Governing Board had before it a Secretariat Note [IEA/GB(97)87] describing the Report on Sustainable Development by the OECD High Level Advisory Group on the Environment, and it heard a report by the OECD Secretary-General's Advisor on Interdisciplinary Issues. The Executive Director emphasised the need for the IEA and OECD Secretariats to work together with respect to sustainable development issues [IEA/GB/C(97)5, Item 6].

Two agenda items at the Governing Board's October 1999 meeting pertained to the OECD's "horizontal programmes". The Secretariat reported on future IEA co-operation on the OECD Regulatory Reform Project [IEA/GB(99)52]. The Chairman of the Standing Group on Long Term Co-operation expressed the SLT's views that adequate resources would have to be made available by the OECD, and that the IEA would have to maintain control of the electricity chapter, if this work was to go forward [IEA/GB/C(99)5, Item 8(a)]. And in response to the Secretariat's Note on IEA participation in the OECD's work on sustainable development [IEA/GB(99)51], the Governing Board invited the Executive Director to be guided by the discussion in directing the work of the Agency in this area and to bring forward, as appropriate, proposals for further

consideration by the Board. The Executive Director drew Delegations' attention to the need for energy officials' involvement in the work of the United Nations Commission on Sustainable Development [IEA/GB(99)5, Item 8(b)]. The SLT was asked to review both subjects and report thereon at the Board's December 1999 meeting. That report was made orally [IEA/GB/C(99)6, Item 8].

At the Governing Board's October 2000 meeting, a report was made by the Director-General of the Nuclear Energy Agency with respect to the nuclear and sustainable development work of the NEA [IEA/GB/C(2000)5, Item 11].

Section VI.E., The Executive Director

Section VI.E.1., Functions

The following are additional functions that have been specifically assigned to or performed by the Executive Director:

- Entering into policy co-operation agreements, on behalf of the IEA, with States that are not Members of the Agency [IEA/GB(94)37, Item 7; IEA/GB(96)4, Item 6; IEA/GB/C(97)2, Item 7].
- Negotiating a possible relocation of the Agency [IEA/GB(95)18, Item 9]; negotiating with the Australian Government a lease of premises [IEA/GB(95)39, Item 2, noting the "intention of the Executive Director" to conclude a lease, subject to authorisation by the Governing Board of the required financing arrangements]; and making arrangements to renovate the leased premises, financing the renovation with a loan from the OECD [IEA/GB(95)40/REV1, Item 4, again noting the intention of the Executive Director in that regard, while authorising the carrying out of the lease and loan transactions after the end of the current fiscal year].
- Applying "flexibly," in light of particular circumstances, the Governing Board's decision to invite applicants for IEA membership to attend meetings of the Agency's Standing Groups and Committees [IEA/GB(95)18, Item 6].
- In 1996, managing that year's Budget in a "restrictive manner"; maintaining flexibility over expenditure; seeking, where possible and advantageous, to renegotiate contracts entailing commitments in that year; and preparing, for the next meeting of the Governing Board, a report on planned and possible measures to respond to budget contingencies [IEA/GB(96)13, Item 3(a)(vi)].
- Fixing the date of the 1997 Ministerial Level Governing Board Meeting, based on the preferences to be expressed to him by Member countries [IEA/GB(97)1, Item 5(c)].

- Promulgating new Security Regulations for the Agency [IEA/GB/C(97)4, Item 12 and Annex 1, Paragraph 6].
- For the 1999 meeting of the Governing Board at Ministerial Level, preparing on his own responsibility a "challenging paper" [IEA/GB/C(98)3, Item 6; IEA/GB/C(99)1, Item 4(b)] and issuing invitations for participation in a Business Roundtable [IEA/GB/C(98)4, Item 5(a)].
- Presenting to the Governing Board a biennial Programme of Work and Budget [IEA/GB/C(2002)1, Item 9(c)].
- For the Agency's energy emergency contingency plans discussed in Section IV.B.2. above, performing various functions, including determining when there exist conditions sufficient to warrant activation of a collective Member country response, notifying the Member countries of the details of activation, conducting consultations and convening meetings.

Section VI.E.2., Appointment

By a letter dated 5 September 1994 addressed to the Chairman of the Governing Board, Mrs. Helga Steeg announced her intention to step down as Executive Director on 30 September. At a special September 1994 meeting, the Governing Board accepted, effective 30 September, Mrs. Steeg's resignation; it agreed that the Deputy Executive Director, Mr. John P. Ferriter, would take over the Executive Director's functions on an "Acting basis" [IEA/GB(94)52, Item 2]. Following that meeting a restricted meeting of Heads of Delegation was held to commence deliberations on the appointment of a successor to Mrs. Steeg. Six candidates soon were nominated by Member countries, and in the course of several informal meetings, "straw polls" helped narrow the field to two leading candidates. Some Delegations, however, were reluctant to make a choice before the parallel process of selecting a new Secretary-General of the OECD had reached a conclusion. Further informal discussions succeeded in preparing the ground for a formal decision.

At a special meeting in November 1994, the Governing Board appointed Mr. Robert Priddle of the United Kingdom to serve as Executive Director for a term of four years, to run from the date on which Mr. Priddle took up his duties. Mr. Priddle's appointment, like Mrs. Steeg's, was made with the "concurrence" of the Secretary-General. The specific date on which Mr. Priddle would take up his duties was to be decided between him and the Chairman of the Governing Board, and until then Mr. Ferriter was to continue to carry out the Executive Director's functions on an "Acting basis" [IEA/GB(94)60, Item 3]. Mr. Priddle took up his duties on 1 December 1994.

In October 1998 the Governing Board appointed Mr. Priddle to serve for a second term of four years, to run from the expiration of his first four-year term; this reappointment also was made with the "concurrence" of the OECD Secretary-General [IEA/GB/C(98)3, Item 3]. In December of 2001 Mr. Priddle informed the Governing Board that he had no intention to seek a change in the Board's policy of limiting Executive Directors to two four-year terms, and accordingly recommended that the Governing Board Chairman undertake a consultative process aimed at choosing his successor. By the time of the Governing Board's February 2002 meeting five candidates had been nominated by their respective governments. As of the Board's April 2002 meeting, however, an informal ranking of the various candidates by Delegations had not succeeded in narrowing the field, in part because some countries had stated no preference. The Chairman of the Governing Board reported to the Board's June meeting that there clearly was a need for more time in order for a consensus to emerge on the candidate to succeed Mr. Priddle as Executive Director. He stated that the Heads of Delegation had agreed to submit by the end of June an informal ranking of candidates in order of preference, on the basis of which he would make recommendations as to subsequent steps toward the objective of reaching a decision on the election of a new Executive Director in October [IEA/GB/C(2002)2, Item 10(a)]. The Governing Board extended Mr. Priddle's term as Executive Director by one month, until the end of 2002.

When an Informal Meeting of the Governing Board in October failed to break the impasse, the Board, at its subsequent Formal Meeting that same month, decided to solicit nominations for new candidates for the position of Executive Director, all such nominations to be submitted to the Chairman of the Governing Board by 31 December 2002. The Board asked its Chairman and three Vice Chairmen to act as an informal search committee to identify one or more additional candidates. It agreed that if, as of 1 January 2003, a new Executive Director had not been appointed or, having been appointed, was not ready to take up his position, the Deputy Executive Director, Mr. William C. Ramsay, would assume the Executive Director's functions on an "Acting basis" [IEA/GB/C(2002)3, Item 4; IEA/GB/C(2002)4, Item 2].

A single new candidate then emerged around whom a consensus formed and, at a Special Meeting held on 17 January 2003, the Governing Board appointed Mr. Claude Mandil of France to serve as Executive Director for a term of four years, to run from the date on which he should take up his duties, which date was fixed as 1 February 2003 unless it should be otherwise decided between Mr. Mandil and the Chairman of the Governing Board. Mr. Mandil's appointment, like those of Mrs. Steeg and Mr. Priddle, was made with the

"concurrence" of the OECD Secretary-General. The Deputy Executive Director, Mr. William C. Ramsay, would continue to carry out the Executive Director's functions on an "Acting basis" until Mr. Mandil assumed his position [IEA/GB/C(2003)1, Item 6]. Mr. Mandil took up the Executive Director's post on 1 February 2003.

Section VI.E.4., Term of Office

Following the resignation of Mrs. Helga Steeg as Executive Director at the end of September 1994, one Delegation raised, at the Governing Board's October 1994 meeting, a suggestion that a term of office be fixed for the Agency's future Executive Directors, following the practice of other international organisations. The Board tentatively concluded, subject to consideration in Member country capitals, that this should be a term of four years, once renewable. At its November 1994 meeting the Governing Board, before taking up the subject of the appointment of a new Executive Director, formally agreed that the Executive Director of the Agency should be appointed for a four-year term, once renewable. It then appointed Mr. Robert Priddle as Executive Director for a term of four years [IEA/GB(94)60, Items 2, 3]. In October 1998 the Board reappointed Mr. Priddle for an additional four-year term [IEA/GB(98)3, Item 3]. The current Executive Director, Mr. Claude Mandil, also was appointed for a four-year term [IEA/GB/C(2003)1, Item 6(a)].

Of course, it remains within the discretion of the Governing Board to revise its four-year term policy, or the limitation to two four-year terms, if at any time it should wish to do so.

See Section VI.D.2. above with respect to appointment of the IEA Executive Director as OECD Co-ordinator of Energy Policies.

Section VI.E.5., Conditions of Service

The compensation package for Mr. Priddle, upon his appointment as Executive Director in 1994, was similar to that for Mrs. Steeg, and identical procedures were followed, with one exception. The procedural departure from past practice was that copies of the Confidential Annex to the Governing Board's Conclusions were distributed to all IEA Delegations.

Essentially the same compensation package was adopted for Mr. Priddle's successor, Mr. Claude Mandil, but the procedural form reverted to that followed for Mrs. Steeg's appointment, i.e., non-distribution of the Confidential Annex [IEA/GB/C(2003)1, Item 6(iii)].

Section VI.F., The Deputy Executive Director

Section VI.F.1., Functions

The previous Deputy Executive Director, Mr. John P. Ferriter, took over the functions of the Executive Director on an "Acting basis" upon the departure of Executive Director Helga Steeg in September 1994, until the arrival of Mrs. Steeg's successor Mr. Robert Priddle in December 1994 [IEA/GB(94)52, Item 2]. Similarly, the current Deputy Executive Director, Mr. William C. Ramsay, took over those functions on an "Acting basis" in the interim between the departure of Mr. Priddle at the end of 2002 and the arrival of Mr. Priddle's successor, Mr. Claude Mandil, in February of 2003 [IEA/GB/C(2002)3, Item 4].

Section VI.F.2., Appointment

As in the cases of the first two Deputy Executive Directors, the Governing Board left to the Executive Director, decisions on the appointment of the third Deputy Executive Director, Mr. William C. Ramsay of the United States, his term of office and other conditions of service. Mr. Priddle advised the Governing Board Heads of Delegation, at their luncheon on the day of a Governing Board meeting, of his intention to name Mr. Ramsay to the Deputy Executive Director position.

Section VI.F.3., Term of Office

The Agency's third Deputy Executive Director, Mr. William C. Ramsay, initially was appointed for a term of three years running from 1 July 1999. His second appointment was for a term of two years, until 30 June 2004 and his third appointment is until 30 September 2008.

Section VI.G., Staff Policies and Conditions of Service

The Governing Board has indicated continuing support for the IEA's fixed-term and limited duration employment approach [See Section VI.A. above]. Exceptions from the policy of limited duration of service have been made in a few cases, principally involving support positions, where continuity of service has been considered especially important. Staff appointments continue to be limited to nationals of OECD Member countries. There have been three instances of secondment of industry personnel to the Secretariat, subject to contractual protections directing their loyalty to the IEA.

OECD Instruction 107/1, quoted in Volume I of *The History*, has since been amended to read as follows: "Unless the Council decides otherwise, a person shall be appointed as an official only if he is a national of a Member of the Organisation and is less than sixty-five years old."

CHAPTER VII, PROGRAMMES OF WORK, BUDGETS AND FINANCE

The past decade has seen significant changes in the content and style of the Agency's Programme of Work (POW) and Budget, and in the procedures for its formation. The IEA has been subjected heavily to the pressures that national governments, themselves under fiscal stress, have exerted for budgetary retrenchment by international organisations, and to the associated demands for greater transparency and prioritisation. One of the most recent developments has been the decision by the IEA Governing Board in April 2002 to follow the lead of the OECD in embracing a biennial Budget process [IEA/GB/C (2002)1, Item 9(c)]. As a result of these changes, some of the information in Sections A through C of this Chapter of Volume I of *The History* describing the format of and the procedures for preparing the IEA's POW and Budget no longer is reflective of Agency practice.

A full telling of the story, however, requires reaching back at least to the Governing Board's meeting of May 1992. At that meeting the Board considered a Note by the Secretariat on "Participation by non-Member Countries in the Activities of the IEA" [IEA/GB(92)18, later reissued with amendments as IEA/GB(92)18/FINAL], which the Board had requested at an Informal Meeting held in March 1992 [See IEA/GB(92)17, Item 3(b)]. Noting the growing importance of new areas of work – not only as pertains to non-Member countries but also with respect to issues concerning energy and the environment – the Executive Director suggested that the Secretariat prepare a strategic paper as part of the run-up to the Agency's 1993 Ministerial Level Governing Board Meeting, the substance of which also could be reflected in the 1993 POW.

The Secretariat's Note [IEA/GB(92)27], which benefited from written inputs from Member countries, was entitled, "Policy Review: The IEA in a Changing World", and subtitled, "A Medium-Term Strategy for the IEA". The Note observed that the future direction of IEA work stood to be influenced by several important developments: the trend toward deregulation and liberalisation of energy markets; the enhanced influence of environmental policies on energy production, transportation, processing and consumption; the economic restructuring in formerly Communist countries; strong incremental energy demand in non-OECD Asia and elsewhere in the developing world; and the ongoing shift in the world energy balance, with a growing non-OECD country

share of energy consumption. The Note proposed that the Agency's responsible Standing Groups and Committees explore the implications for the POW, and noted that, as it was unlikely the Member countries would soon lift the "zero real growth" budget constraint that existed even then, voluntary contributions might become increasingly necessary. (The terms "zero real growth" and "zero volume growth" have been used interchangeably to refer to a budget appropriation level that maintains unaltered the pre-existing level of staff and other resources available to the Agency and, in consequence, the magnitude of POW activities achievable). The Governing Board assigned to the respective Standing Groups and Committees the tasks associated with them in the Note, and "requested the Secretariat to take account of [the] Note, and of the comments thereon by Delegations, in the draft 1993 Programme of Work and Budget and in preparation for the 1993 meeting of the Governing Board at Ministerial Level" [IEA/GB(92)36, Item 3(b), (c)].

In the Communiqué for their June 1993 Meeting, IEA Ministers confirmed their adherence to the Agency's "Shared Goals", asked the Agency to conduct a thorough analysis of the energy policy implications flowing from the IEA's *World Energy Outlook*, addressed emergency preparedness and the diversification of energy sources, noted the enlarged importance of relations with non-Member countries, and recognised the need for greater efforts in regard to energy and the environment [IEA/GB(93)43, Attachment].

As discussed in Volume I of *The History* [See Section V.A.13.], the 1994 IEA Budget, although approved without a formal vote, was adopted by the requisite majority rather than by the traditional consensus. This reflected the wish of a minority of Members that the Agency's budget be set close to the rate of inflation in host country France, which would have meant a budget below the zero volume growth level supported by a majority of the Committee on Budget and Expenditure. The Chairman of that Committee, reporting "general praise" that the Secretariat again managed to present a zero volume growth Budget even while integrating a new emphasis on energy and the environment that had come forward from the 1993 Ministerial Meeting, nonetheless predicted increasing difficulty in arriving at a consensus budgetary envelope. He also reported the views of a substantial number of Delegations that there was a need, which initially surfaced during the 1992 policy review, to rethink the entire process of POW/Budget preparation and monitoring [Speaking Notes for 13 December 1993 Meeting of the Governing Board, in the files of the IEA Office of Legal Counsel]. The Governing Board, in response, "indicated its intention, during 1994, to look into the Budget preparation of the Agency" [IEA/GB(93)65, Item 2(f)(xviii)].

As also pointed out in Volume I of *The History* [See Section VI.D.1.], the 1994 Budget was the first to be adopted without provision for a Part I contribution from the OECD, the entirety of the IEA's appropriations being funded pursuant to the Agency's Part II Budget. This factor would need to be taken into account in comparing subsequent budget levels with those before 1994.

The Secretariat's Note for consideration at the April 1994 meeting of the Governing Board held in Kyoto, Japan, on the occasion of the Agency's Twentieth Anniversary, reviewed both the Budget and the POW preparation processes [IEA/GB(94)15]. The stated objective of the review was to improve the operation and transparency of POW/Budget procedures, while taking care to maintain the IEA's flexibility to respond rapidly and efficiently to emerging needs and priorities. Among the questions raised by the Note were whether there should be earlier, more detailed consideration of the POW in Standing Groups and Committees; whether there should be more frequent identification of medium-term objectives; whether Standing Groups and Committees should be provided "budget envelopes"; whether the IEA should adopt a biennial POW and/or Budget; and whether more should be done to integrate the POW and Budget processes. The Note offered a possible revised calendar for POW consideration, the new features of which were: (1) discussion in the Governing Board or the Standing Group/Committee Chairmen's Group, during the month of June, of the main directions of the POW and of resource implications; (2) circulation of a draft POW and Budget to the Member countries in mid-July; and (3) consideration of the draft POW and Budget in the Standing Groups and Committees during the month of September. (As noted in Section VII.B.3. of Volume I of *The History*, Section 64.3 of the I.E.P. Agreement requires that the proposed Annual Budget of the Agency be distributed by 1 October of the preceding year). The Governing Board endorsed the new calendar "in principle" [IEA/GB(94)25, Item 5].

After receiving comments from Member countries, the Secretariat presented to the June 1994 meeting of the Governing Board a Note [IEA/GB(94)28] setting out a proposed decision on the IEA POW/Budget preparation process, which was adopted by the Board [IEA/GB(94)37, Item 4]. In its decision, the Board:

- (b) reaffirmed its objectives, in reviewing the current procedures for preparation and approval of the Agency's Programme of Work (POW) and Budget, to:
 - (i) improve the operation and transparency of POW and Budget procedures;

- (ii) develop greater integration between POW activities and budget resources;
 - (iii) promote more informed decision making and efficient use of resources;
- (c) recognised that new procedures must:
 - (i) avoid micromanagement and unnecessary administrative burden;
 - (ii) maintain the Agency's flexibility to respond rapidly and efficiently to emerging needs and priorities;
- (d) adopted for the 1995 POW and Budget cycle, the "Schedule for Preparation and Approval of the IEA's Programme of Work and Budget" set out in Annex I;
- (e) requested the Secretariat to provide to Standing Groups and Committees in order to assist them in their discussions of the draft POW and its resource implications:
 - (i) expected completion dates, where possible, of proposed POW activities, e.g., studies, conferences, etc.;
 - (ii) indications of the approximate level of financial resources foreseen for each Office of the Agency;
- (f) agreed that if any significant modification was required in the POW because of changed circumstances during the POW cycle, the Secretariat would consult at the earliest time practicable with the Governing Board and, as appropriate, with the interested Standing Groups and Committees;
- (g) decided to continue the present practice of preparing and adopting the Budget on an annual basis;
- (h) deferred a decision on whether the IEA should prepare its POW on a biennial basis, pending further analysis of the pros and cons of such an approach and of the OECD's experience with its biennial POW;
- (i) agreed to discuss and adopt every four years a "Medium-Term Strategy", using a procedure similar to that employed in

preparing the 1992 Policy Review: the IEA in a Changing World [IEA/GB(92)27], with the next strategy review to take place in 1996;

- (j) decided to review and assess the results of these changes at a meeting during 1995.

The Schedule set out in Annex I refined the previously agreed calendar in the following respects: (1) when the Standing Groups and Committees began their consideration of the POW in the spring, they should discuss resource implications; (2) the June discussion of main directions of the POW and of resource implications would occur in the Governing Board (not in the Chairmen's Group), and the respective Chairmen would report thereto on discussions in the Standing Groups and Committees; (3) Standing Group/Committee consideration of the draft POW and resource implications could take place during July, August and September, and if no meetings were scheduled, Chairmen should canvass their delegates; and (4) the mid-October referral to the Committee on Budget and Expenditure would include "guidance for its consideration of the resources required."

The Agency's 1995 POW and Budget, which the Governing Board adopted in December 1994 [IEA/GB(95)1, Item 3], was formulated pursuant to the newly reformed methodology; it included a "zero volume growth" Budget appropriation.

In April 1995 the Secretariat raised with the Governing Board the possibility of relocating the IEA away from OECD headquarters, to larger premises at the Australian Embassy building in Paris. The motivating factor was the inability of the OECD to accommodate the IEA's needs for space, a situation that was expected to be exacerbated by potential new IEA memberships. The Secretariat's Note [IEA/GB(95)15] advised, however, that "any move must result in a net financial benefit, if it is to be justified." It was later estimated that, setting the costs to the Agency at its OECD headquarters site against those that would be incurred at the Australian Embassy building, yearly operating cost savings of over five million French francs could be experienced [IEA/GB(95)39, paragraph 11].

Following consideration of the details in the Governing Board [IEA/GB(95)38, Item 9; IEA/GB(95)41, Item 3], the Board authorised the Secretariat to proceed with a lease [IEA/GB(95)41, Item 4]. The lease payments would be financed out of the Agency's annual Budget, while the installation costs would be financed with a treasury loan from the OECD to be repaid over four years [IEA/GB(95)42/REV1, paragraph 11]. The IEA moved into its new offices in 1996.

In December 1995 the adoption of the Agency's Budget for 1996 fell hostage to the failure of the U.S. Congress to process in a timely manner the annual appropriations for the U.S. Executive Branch; an aggravating factor was the absence of agreement on a 1996 Budget for the OECD. The Secretariat had proposed and the Committee on Budget and Expenditure had endorsed a Budget that the Executive Director characterised as a five per cent real reduction from the level of the previous year's Budget [Records of Governing Board Meeting of 12 December 1995 in files of the IEA Office of Legal Counsel].

With the Governing Board reluctant to act by majority vote, it took the only possible consensus decision, which was to enact an appropriation for just the first quarter of the 1996 financial year [IEA/GB(95)59, Item 2].

The Board did, in addition, enact a supplemental appropriation of up to 2 million French francs, out of revenues from sales of publications, statistical tapes and diskettes, that were in excess of the 6 million francs initially estimated for such sales in the 1995 Budget. The Board carried this appropriation forward to the 1996 Budget to cover costs of IEA publications and related activities [IEA/GB(95)59, Item 2(b)]. This was not the first time the Governing Board had appropriated surplus revenues. In 1990 it had appropriated surplus revenues to the POW activity on European Economies in Transition [IEA/GB(90)46, Item 3(b)(iii)]. In 1991, 1992 and 1993 it had appropriated surplus revenues for use in the production of IEA publications [IEA/GB(91)79, Item 7(b); IEA/GB(92)53, Item 6(b); IEA/GB(93)65, Item 2(d)]. It was, however, the first time the Governing Board had enacted such a supplemental appropriation and also provided that it should be carried forward to the Budget for the next financial year.

By the time of the Governing Board's February 1996 meeting the fiscal clouds still had not lifted, and another quarterly appropriation became necessary. In enacting it, the Board instructed the Executive Director:

- A. to manage the Budget throughout the financial year in a restrictive manner, taking account of the current financing uncertainties and existing budget constraints and the possibility of reduced financial resources into the second half of 1996 and beyond;
- B. to take all reasonable steps to maintain flexibility over expenditure in the remainder of 1996, recognising that this necessarily involves impairing the fulfilment of the Programme of Work;

- C. to seek, where possible and advantageous, to renegotiate contracts which entail commitments in Financial Year 1996, but not to act in violation of contractual commitments;
- D. to prepare, for consideration at the next meeting of the Governing Board, after consideration by the Committee on Budget and Expenditure, a report on planned and possible measures to respond to budget contingencies, to assist in further decision making on the 1996 Budget and in preparation of the medium-term review;...

The decision also included an admonition to Members, some variation of which would be repeated regularly thereafter in the Governing Board's annual budgetary decisions, to "consider how voluntary contributions might be used to dampen any precipitous reduction in Agency resources" [IEA/GB(96)13, Item 3(a)(vi), (viii)].

It was not until June 1996 that the Governing Board enacted an appropriation for the full 1996 financial year, which appropriation was in the amount originally sought by the Secretariat [IEA/GB(96)37, Item 5]. A Secretariat Note [IEA/GB(96)24] enumerated the actions that had been taken to cope with the appropriations uncertainties – deferred recruitments, cuts in travel budgets, reduced printing of documents, delays in procurement, postage restrictions, etc. – which had adversely affected the carrying out of the Programme of Work. It further noted that the discovery of asbestos in the leased Australian Embassy building premises had resulted in costs that, while they in due course would be reimbursed by the Australian Government, constituted a short-term cash outflow.

The June meeting of the Governing Board also commenced the Medium-Term Strategy review that had been scheduled to begin in 1996. It did so on the basis of a Secretariat Note [IEA/GB(96)25] that reflected discussions in the Agency's preceding Informal Ministerial Meeting on Energy and Environment. The Board agreed a process for conduct of the review, held an initial discussion of key changes in the energy market, gave first indications of its attitude toward major issues, and invited the Secretariat to table a proposed strategy document [IEA/GB(96)37, Item 6], which would be taken up at the Board's December 1996 meeting.

The Secretariat's draft POW and Budget for 1997 [IEA/GB(96)38/REV1] proposed a zero real growth Budget. A substantial minority of the Agency's Members, however, said that financial stringency precluded financing the full Budget request, and their representatives on the Committee on Budget and

Expenditure asked the Secretariat to put forward options for reduction of the proposed Budget. The Secretariat did so in a Note [IEA/GB(96)57], providing illustrations of how the reductions might be implemented. While the United States by no means was alone in seeking budgetary reductions, it is important to note that 1997 marked the first year of its announced intention to reduce by ten per cent, over three years, its contributions to those international organisations in which it was a member.

The appropriation enacted for the 1997 IEA Budget by the Governing Board at its December 1996 meeting was at a level five per cent below the zero real growth appropriation requested by the Secretariat [See IEA/GB(96)57, paragraph 4, option 4]. As part of its decision, the Governing Board:

- (f) recognized the conflicting considerations that bear upon decisions on the 1997 Budget of the Agency:
 - (i) the importance of the Agency and the value of its work;
 - (ii) the unrelenting budgetary stringency that Member country governments continue to experience;
 - (iii) the serious efforts already made by the Executive Director to restrain expenditure and reduce costs, through relocation of the Agency and through other means;
 - (iv) the difficulties that the Executive Director would face in effecting large budget reductions in a short period of time;
 - (v) the difficulty that Member country governments have in making firm financial commitments beyond the next financial year;
 - (vi) the need of the Agency for a stable and predictable level of budget resources over a medium term;... [IEA/GB/C(96)5, Item 3].

Additionally, the decision noted the need to adjust this appropriation further downward in connection with a deferral of the 1997 salary increase, then pending within the OECD. In February the Executive Director informed the Governing Board that this adjustment had been made, and described the implications for the 1997 POW [IEA/GB(97)5].

The Board once again enacted, and carried forward to the next financial year for use in producing IEA publications and related activities, a supplemental appropriation of revenue from the sale of publications and related items that was in excess of the initial estimate for such sales contained in the 1996 Budget. In this instance, the appropriation was of all amounts in excess of the initial estimate, leaving it for that amount to be ascertained subsequently [IEA/GB(96)5, Item 3(c)].

The December 1996 Governing Board meeting also considered the Secretariat's draft "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49/ANN1, subsequently reissued as amended under the designation IEA/GB(96)49/REV1/ANN1], which had been prepared on the basis of oral and written comments from Delegations, discussion at the Board's October meeting, and discussion at an Informal Meeting of Standing Group and Committee Chairmen and Vice Chairmen in September. The new strategy document observed that since the Board's 1992 review there had been increasing interdependence of the world's economies and energy sectors, a continuation of the trend toward liberalisation and deregulation, heightened concerns about energy and environment issues, and clearer understanding of the way strong economic growth in non-OECD Asia and elsewhere in the developing world was altering the distribution of global energy demand. It concluded that the considerations cited in the 1992 policy review as guides for the Agency generally remained valid, and discussed the Agency's objectives under headings including "Emergency Prevention and Response", "Diversification of Energy Sources", "Energy, Environment and Related Issues", and "Relations with non-Member Countries". Under the heading, "Institutional Issues", the final version of the strategy document stated:

Resources

IEA resources will be maintained at a level sufficient to carry out its core functions. Nevertheless, continuing budget difficulties in Member countries makes it uncertain that even zero volume growth - which has characterised the Agency's budget over the last 10 years (except for 1992 when Finland and France became Members) - can be maintained. Savings will be achieved, e.g. as a result of the relocation, and actions will be undertaken to obtain further savings. New Members will require, and will bring, additional resources. Furthermore, some Member governments are prepared to provide additional funds to the agency in the form of voluntary contributions. These funds will be used to broaden and deepen existing Programme of Work activities in a manner that does not distort the overall Programme.

Priority Setting and Resource Allocation

Since the 1992 Policy Review, the cross-cutting and multi-dimensional nature of many of the IEA's activities has increased substantially. Each Agency Standing Group and Committee has developed procedures to provide its views on Agency work priorities early in the process of formulating the Programme of Work. The overall responsibility for guidance on priorities ultimately resides with the Governing Board. In view of the likely expansion of horizontal work and continued budget constraint, a further strengthening of Governing Board guidance, and co-ordination among the Standing Groups and Committees and the Secretariat, will be required, particularly in setting priorities in the Programme of Work that are consistent with budget realities.

To assist the Governing Board, the Secretariat will seek to develop cost-effective mechanisms for:

- improving the information available to Members on the relationship between Programme of Work activities and budget resources;
- improving reporting on achievements against Programme objectives.

This effort will involve:

- assessing the costs and benefits of attributing financial costs (not just man-months) to activities in the Programme of Work;
- developing alternative forms of presentation of the Budget, to enable the Governing Board to focus on the key questions arising;
- submittal of a Performance Report to the Governing Board as part of the process of reviewing the Medium-Term Strategy and defining the annual Programme of Work.

In its decision endorsing the "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49, Item 2], the Board "asked the Secretariat to take the appropriate steps, in a prioritised manner and as resources permit, to implement this strategy through the Agency's annual Programme of Work and Budget" [paragraph (b)].

Meanwhile, the OECD's Board of Auditors, having performed an operational audit of the IEA for 1995, reported in December 1996 [IEA/BC(96)7/ANN2], recommending, inter alia, that the IEA's POW should, as far as possible, include the costs of conducting the various POW activities [See Section VII.K. below].

For the February 1997 meeting of the Governing Board, the Secretariat put forth a Note setting out possible "Elements of a Medium-Term Financial Plan: 1997-2000" [IEA/GB(97)3]. The Note contemplated possible optional multiyear resource levels, alternative funding methods, and a programme budgeting approach that would include a four-year financial plan. The Governing Board generally welcomed this approach toward improved financial planning and management, and asked the Committee on Budget and Expenditure to review the Plan [IEA/GB/C(97)1, Item 7(a)].

The Agency's 1998 POW and Budget [IEA/GB(97)49] represented a marked departure from previous practice. In place of the "Core" - "Other" distinction, or the "New" - "Continuing" distinction that had succeeded it, the POW presentation employed, consistent with recent changes in OECD practice, a breakdown of the POW into separate "programmes", underneath which were the various "activities" that those programmes comprised, with the direct costs of implementation (staff, travel and conferences) being allocated to each programme. It was designed to pursue generally the broad lines of the "Medium-Term Strategy", to retain the previous year's balance of emphasis among the Agency's energy security, energy and environment and non-Member country activities, and to carry out the Governing Board's instructions, quoted above, to "take the appropriate steps, in a prioritised manner and as resources permit, to implement this Strategy through the Agency's annual Programme of Work and Budget."

The Secretariat in July circulated a "preliminary" POW [IEA/GB(97)36] that reflected discussions earlier in the year in the Standing Groups and Committees, and which itself became the subject of extensive comments from Delegations over the course of the summer. In September the substance and form of the POW and Budget were discussed at a meeting of the Chairmen and Vice Chairmen of the Agency's Standing Groups and Committees. Based on these discussions, the Secretariat distributed its proposed POW and Budget, Document IEA/GB(97)48, for consideration at the Board's October meeting. An introductory note by the Executive Director explained that, in response to indications from Members that there should be further reductions in expenditures, the draft 1998 Budget called for an appropriation below the level of the previous year's appropriation, there being a consequent reduction in the

level of staff resources for the coming year [paragraph 4]. The Executive Director informed the Governing Board that, should there be a cut in the requested level of funding, it would be implemented by eliminating relatively low priority items from the POW, and such changes would be reflected in a new version of the POW and Budget, rather than by making amendments to Document IEA/GB(97)48. The Board, in the traditional manner, approved the directions of work contained in the POW and referred the POW and Budget to the Committee on Budget and Expenditure for consideration of the resources required to carry out the POW [IEA/GB/C(97)4, Item 4].

The Secretariat's Note to the December 1997 Governing Board [IEA/GB(97)49], prepared following discussion in the Committee on Budget and Expenditure, set out four 1998 Budget appropriation options, ranging down regressively from zero volume growth to lower levels of budgetary appropriation. Seeing the choice as essentially a political one, the Committee on Budget and Expenditure made no recommendation. The amount actually appropriated fell between the two lowest level options. Even with an additional one million franc appropriation out of which the Agency was to finance one of its periodic Emergency Response Exercises, the overall appropriation was below the level appropriated for 1997.

The Governing Board did, as it had in the previous year, appropriate and authorise carrying forward to the 1998 financial year all surplus revenues in excess of the initial estimate of 6 million French francs contained in the 1997 Budget. Now the permissible use of such funds in 1998 was much broader, however: the appropriation was available "to finance the operation of the Agency", rather than being limited to expenditure in the IEA's publications programme and related activities [IEA/GB(97)5, Item 4].

The Governing Board's decision also asked the Secretariat and the Committee on Budget and Expenditure to address several matters mentioned in the Committee's Report on the 1998 Budget. These were:

- a procedure for establishing annual financial planning targets early in the year (i.e. integrating "top down" strategic planning with the current "bottom up" POW prioritisation process);
- integration of a medium term financial plan with the existing 1997-2000 strategic plan for the Agency;
- review of current mechanisms for providing managerial efficiency incentives to the Secretariat (e.g. carrying forward publications revenue); and

- the outcomes of the consultancy study undertaken by Coopers and Lybrand relating to financial management improvement in the Agency and the Secretariat's initiatives in responding to it (e.g. the newly instituted financial information system). [IEA/GB(97)49, Annex 4, paragraph 5].

The results of this review were presented at the June 1998 meeting of the Governing Board. The agenda for that meeting [IEA/GB/A(98)2] contained separate items on "Review of the IEA's Medium-Term Strategy" and "Establishment of a Medium-Term Financial Plan". The Secretariat's Note on the former subject [IEA/GB(98)8] posed the options of completely rewriting or merely updating the existing "Medium-Term Strategy"; in either case, it said, the new document would contain a financial dimension, derived from the Board's consideration of a "Medium-Term Financial Plan". The Governing Board decided that the "Medium-Term Strategy" should simply be updated to reflect significant developments and rolled forward for another two years without major rewriting – but with the incorporation of a "Financial Planning Framework". The Secretariat was asked to prepare such a document for the Board's October meeting, following review in the Committee on Budget and Expenditure [IEA/GB/C(98)2, Item 4].

The Note for consideration on the second subject [IEA/GB(98)9] was a joint presentation by the Secretariat and the Committee on Budget and Expenditure, and the Committee's Chairman introduced it at the October Governing Board meeting. The Note observed that in order to be effective, a "Medium-Term Financial Plan" (MTFP) needed to have the following attributes:

- be of sufficient duration to provide a necessary management planning horizon;
- be capable of extension, i.e., to later years as a rolling-forward plan;
- cover both the revenue and expenditure sides of the budget planning process;
- be suitable for integration with the POW prioritisation/planning process;
- be flexible enough to accommodate periodic (e.g., annual) monitoring and review requirements; and
- be capable of being supported by current and expected financial and management data held or obtainable by the Agency.

In light of limitations on Member country governments' ability to make forward-funding commitments, the MTFP would only be indicative, rather than binding. All sources of financing and all expenditures of the Agency would be included. The establishment of one or more budget scenarios setting out "core" appropriations was recognised to be "central" to the MTFP, but as there was disagreement among the Members with respect to medium-term funding of the Agency (a majority tending to favour zero nominal growth or "ZNG" – meaning a budget appropriation at a specified pre-existing monetary level – with others favouring either a slightly higher or a slightly lower baseline), the Note set out three scenarios, including ZNG in core appropriations relative to the 1998 appropriated amount, a second scenario combining a nominal 1999 reduction with ZNG for the rest of the MTFP period, and a third scenario combining 1999 ZNG with nominal growth for the rest of the MTFP period. Under the MTFP the Governing Board would be expected, at its first meeting each year, to give indicative guidance on funding expectations for the following year, and prioritisation and costing would proceed through the spring in Standing Groups and Committees so that, by July, a first draft comprehensive POW could be submitted to the Governing Board members for written comments. The Secretariat recently had improved transparency by providing more financial information about voluntary contributions; this should be continued and enlarged. With respect to publications revenues, the Note cited the "general principle" that surplus revenue should be returned to the members of international organisations, but it recognised that circumstances could justify supplementary appropriations, and recommended that in conducting his MTFP planning, the Executive Director be guided by the following considerations:

- The annual core budget appropriation, by itself, is not expected to represent the totality of revenues available to the Agency;
- There is support for taking into account circumstances which may require supplemental appropriations (of publications and other revenues), recognising that actual decisions continue to be made on an annual basis; and
- An expectation that any decisions required to be taken in respect of supplemental appropriations will be consistent with efficiency and contribute to the objectives of the Agency.

The Governing Board "endorsed the recommendations of the Committee... relating to financial planning and management improvements", and invited the Executive Director to incorporate a MTFP, based on the recommendations, into

his proposal for a "Medium-Term Strategy" extending to 2002, for consideration at the Board's October 1998 meeting [IEA/GB/C(98)2, Item 5].

A Secretariat Note for the October Governing Board meeting [IEA/GB(98)20] showed, by bold print, the changes that were proposed to be made in the approved "Medium-Term Strategy", while rolling it over to the period 1999-2002. The MTFP component of the Strategy consisted of the three scenarios postulated in Document IEA/GB(98)9. It concluded:

58. Budget difficulties in Member countries have resulted in a reduction in the IEA's core appropriations of 5.7 per cent (in nominal terms) and 8.5 per cent (in real terms) over the budget years 1997 and 1998...
60. Pursuant to the MTFP, the Secretariat will develop Programme of Work and Budget proposals for 1999 to reflect Scenarios 1 and 2, and for 2000, 2001 and 2002 to reflect Scenarios 1, 2 and 3. In drawing up the Scenarios the Secretariat will be guided by the need to maintain the generally accepted balance among the three broad areas of the Agency's work, namely, energy security in the sense of safeguarding source [sic] and effective markets, energy and the environment, and relations with non-Member countries...

The Governing Board did not reach final agreement on the new "Medium-Term Strategy" at its October 1998 meeting [See IEA/GB/C(98)3, Item 4] but, following discussion in the Standing Group on Long Term Co-operation, written comments from Delegations, and resolution of a last outstanding issue with respect to nuclear policy, it did so at its February 1999 meeting [IEA/GB/C(99)1, Item 5].

In preparing the 1999 POW, the Secretariat surveyed Member country priorities in the Standing Groups and Committees and endeavoured to respond to discussions in the Governing Board and in the other bodies. The Secretariat's Note proposing to the December Governing Board a POW and Budget for 1999 [IEA/GB(98)29] was built around three Scenarios. As called for in the "Medium-Term Strategy", Scenarios 1 and 2 of the MTFP were included; but in light of discussion at the October Governing Board a third, "middle path" Scenario also was included. The Governing Board's appropriation was at the low end of the Scenario range. The Board did, in addition, enact a separate appropriation of one million francs, to be used to finance the IEA's 1999 Ministerial Level Meeting and the Commemoration of

the Agency's Twenty-Fifth Anniversary, this being considered to be financed out of publications revenues, the estimate of which in the 1999 Budget was raised by a corresponding amount. Also, as it had done the previous year, the Board appropriated and authorised carrying forward to the 1999 financial year, all surplus 1998 publications revenue in excess of the estimate therefor in the 1998 Budget, such funds to be available to finance the operation of the Agency [IEA/GB/C(98)4, Item 4(e),(f),(g)].

The handling of revenues from publications and related sources had, however, become an increasing source of controversy. In his Report to the Board, the Chairman of the Committee on Budget and Expenditure said:

The Committee considered the issue of accounting for revenue from publications at length at its 2 November meeting. There was a body of opinion that the current approach (of maintaining the estimate at or around 6.0 million francs) was not sustainable given the marked differences between this figure and recent years' revenue trends and those projected over the period ahead. Nevertheless, the practical effects of seeking to address this in the context of the 1999 Programme of Work and Budget process were equally well understood. Accordingly, it was agreed that the Committee would consider this issue as part of its work agenda for the 1999 spring session, with a view to a proposal being put to the Governing Board before the summer. [IEA/GB(98)29/CORR/REV1, Annex 4, paragraph 6].

Of course, the estimates of revenue were just that, "estimates", and were subject to variation not only on the basis of the IEA's relative success or lack thereof in selling its products, but also on the basis of even less controllable factors such as the success of the OECD or other sales agents in the marketing or fulfilment of IEA products, or chanciness as to the financial year in which a large cheque (such as for the Agency's venerable monthly *Oil Market Report*) might be received. Of late, revenues had been exceeding the yearly estimates, but the growth trend was soon to halt temporarily, thanks partly to problems in the OECD's publications fulfilment system and – until the IEA took over direct responsibility for responding to sales requests – discontinuation of the IEA's contractual relations with its private sector marketing agent.

It also merits explaining that the entry of a revenue estimate in the annual Budget means that the IEA does not expect to need to assess its Member countries for that amount of revenue; that amount is, in effect, being returned to the Members. The actual revenue for the particular year likely will turn out

to be either more or less than the exact amount estimated, by at least some margin. If it is more, the question arises what to do with the surplus. If it is less, the Member countries are legally obliged to make up, in accordance with their respective shares established by the scale of contributions, the difference between their appropriation for the year and the actual amount of revenues; however, the political difficulties of enforcing this obligation may mean that, as a practical matter, the Agency must tighten its belt to adjust to reduced resources.

The partial or complete elimination from the Budget of an estimate of revenues from publications and other sources without correspondingly reducing the level of appropriated funds for the year in question would mean that, although there would be no net change in the actual cost to any Member country (because each country would receive its share of the revenues), the assessed contributions of the Member countries nonetheless would have to rise to the extent of the eliminated revenues. This prospect was viewed differently by different Members, depending on whether they were more concerned about the level of the Agency's yearly "core" Budget appropriation or about the level of their assessed contributions.

At the February 1999 meeting of the Governing Board the Secretariat, as contemplated by Document IEA/GB(98)9 on the "Medium-Term Financial Plan", the recommendations in which had been endorsed at the June 1998 Governing Board meeting, sought the Board's indicative guidance on funding expectations for the year ahead [See IEA/GB(99)6]. Half of the IEA Delegations responded, favouring maintaining overall IEA year 2000 financial resources at or above the 1999 level [IEA/GB(99)1, Item 6].

The Committee on Budget and Expenditure reported to the June 1999 meeting of the Governing Board on its deliberations with respect to "The Internalisation of Publications Revenues" [IEA/GB(99)37]. As a method of forecasting publications revenue receipts for a given year, the Committee favoured using the last known actual revenue figure, minus 10 per cent. It reported that an overwhelming majority of the Committee agreed that some portion of publication revenues should be retained by the Agency as an incentive; under the new estimation procedure, it thought the surpluses would be significantly smaller than in previous years. It recommended employing the above forecast method for the 2000 revenue forecast, and following this procedure:

- b. The Governing Board approves the IEA budget envelope in December and considers the disposition of any additional publications revenue over and above the amount appropriated

as core resources. Should the need arise at the closing of 1999 accounts when the final publications revenue figure for the previous year is known, the issue may be reviewed at the February Governing Board.

- c. If publications revenue in the previous year exceeds the estimate, the Secretariat will inform the Governing Board in February of the amount of the additional revenue. The Governing Board may allocate all, some, or none of the surplus to programme priorities, returning any remaining balance to Members.

Although the Governing Board did not take a formal decision on these recommendations, it did agree generally with them. Most Delegations felt that the goal was greater budget transparency, not a reduction in budgetary resources [IEA/GB/C(99)4, Item 6].

At the October 1999 Governing Board meeting, under the agenda item for the 2000 POW and Budget, most Delegations that spoke to the subject favoured a zero volume growth rather than a zero nominal growth Budget. It was agreed that priority setting ought to begin in December, with broad programmatic priorities being considered in the Governing Board and priorities among specific activities being taken up in the Standing Groups and Committees [IEA/GB/C(99)5, Item 4].

Building on previous years' improvements in process and content, the Secretariat's Note to the December 1999 Governing Board on the Agency's 2000 POW and Budget [IEA/GB(99)56] benefited from earlier use of a prioritisation questionnaire. It also displayed the evolution of IEA activities over three years and employed the publications revenue forecasting methodology recommended in Document IEA/GB(99)37. The Secretariat proposed a zero volume growth budget; its Note listed the incremental activities that the Secretariat would propose to undertake if 1999 publications revenue exceeded the estimate for that year and the Board chose to allocate part or all of the surplus to those activities. Underlining and mark-through techniques were employed to show the areas in which the POW would be affected by reductions below the requested amount.

The Chairman of the Committee on Budget and Expenditure reported the Committee's conclusion that the level of resources associated with a zero volume growth Budget, as proposed by the Secretariat, would be adequate to carry out the 2000 POW. Reliance on surplus revenue and voluntary contributions, she said, was not a viable means to assure Budget stability. As concerned the appropriation of surplus revenue from 1999, she could offer no

conclusion, as some Members were prepared to leave their shares of the surplus with the Agency, but others would prefer that their shares be returned to them [Records of Governing Board Meeting of 10 December 1999 in files of IEA Office of Legal Counsel].

The Governing Board enacted the zero volume growth appropriation sought by the Secretariat. The amount appropriated effectively incorporated 90 per cent of estimated publications revenue for 2000 into the core Budget appropriation for that year, thereby resolving the question of how to provide for surplus publications revenue [IEA/GB/C(99)6/CORR1, Item 4(d)].

With respect to the 1999 surplus revenue, the Board:

- (i) noted that, in this transitional year in the budgetary handling of publications revenue, an excess of publications revenue, over budget estimate, was expected to arise in 1999;
- (ii) noted that such excess was at the disposition of Member countries;
- (iii) noted the intention of one or more Member countries to set their proportionate shares (based on the Agency's 1999 Scale of Contributions) of such excess against their assessed contributions;
- (iv) but further noted the intention of other Member countries to make their shares of such excess available to the Agency in 2000 in support of the core budget;
- (v) authorised the Executive Director to enter in the 1999 Budget at the closing of accounts, and the carrying forward to the 2000 Budget, an additional amount up to FRF 4,300,000 from the Member countries' proportionate shares of the surplus income over and above the initial estimate of FRF 7,000,000 included in the 1999 Budget [IEA/GB(98)29; IEA/GB/C(98)4, Item 4(e), (f)] from sales of publications, statistical tapes and diskettes and from subscriptions to the monthly Oil Market Report; provided, however, that the shares of those Member countries which shall have notified the Executive Director of their wish to have their proportionate shares credited to their respective accounts shall be so credited, and not entered in the Budget;
- (vi) and further noted that this decision implies no variation in the allocation of assessed contributions between Member countries,

as set out in the Agency's 1999 Scale of Contributions [IEA/GB(99)19/REV1];... [IEA/GB/C(99)6/CORR1, Item 4(e)].

Twenty Member countries chose to leave their respective shares of the surplus revenue with the Agency; this amounted to about 59 per cent of the surplus [IEA/GB(2002)5, paragraph 4].

Subsequent developments within the OECD, as reported in Document IEA/GB(2002)5, at paragraph 5, affected the manner in which these IEA decisions were implemented:

In reviewing the allocation of year 2000 publications revenue amongst OECD Part I and Part II programmes (cf. EXD/CB(2001)24), and seeking to balance the OECD Part I accounts, the OECD Budget Committee found it necessary to overturn the original allocation and to transfer 1.4 million French francs from a previously undisclosed IEA reserve account to maintain IEA publications revenue at the level of the estimate included in the 2000 budget. Revenue collected in the year 2000 was much lower than anticipated for the whole of the OECD, due to serious problems with the OECD's fulfilment contractor based in Germany. The existence of the Reserve account itself became visible to the IEA only at the time of publication of the 1999 Financial Statements of the Organisation. It was apparently set up by OECD management in the early 1990s with excess data sales revenue from the IEA (cf. IEA/BC(2001)4/REV2). The IEA Secretariat was not consulted about the decision of the OECD Budget Committee.

In December 1999, Delegations were asked, via a priority-setting questionnaire, to give their views on the existing balance among areas of work in the Agency's POW. At the Governing Board's February 2000 meeting, indicative guidance with respect to the next year's funding was sought, but only a minority of Member countries were prepared to provide it [IEA/GB/C(2000)1, Item 7]. Subsequently, Standing Groups and Committees met through the spring to discuss preliminary programme proposals for the year 2001. In July 2000 the Secretariat issued an early draft POW [IEA/GB(2000)23], which reflected the discussions and itself became the subject of comments from some Delegations over the summer and up to end-September. More consultations with Member country Delegations enabled the Secretariat to put before the October Governing Board a new draft POW and Budget [IEA/GB(2000)28]. Following that meeting, the document was referred to the Committee on Budget and Expenditure in the usual manner, for its review [IEA/GB/C(2000)5, Item 9].

For 2001, the Secretariat proposed a zero volume growth Budget. It recognised, however, that some Delegations favoured a lower, some even a zero nominal growth, appropriation level; the fact that the previous year's appropriation had been uniquely affected by the transition in the manner of accounting for publications revenues had complicated the task of judging what the appropriate point of departure was. Consequently, the Secretariat's Note [IEA/GB(2000)38] showed, through line mark-outs, how a lower Budget appropriation might affect the POW. In the event, the Governing Board enacted an appropriation that was below the zero volume growth level, but substantially above the zero nominal growth level [IEA/GB/C(2000)6, Item 6(d)].

Financial indications for 2002 funding were not sought from IEA Members at the Governing Board's February 2001 meeting, but the agenda for the Board's April meeting [IEA/GB/A(2001)12] carried an item on "Priority Setting and Financial Expectations". After the Deputy Executive Director had reported on the results of the Secretariat's prioritisation consultations, Delegations were invited to give their indications of Budget funding for 2001; however, no Delegation gave any indication of its financial expectations for the next financial year [IEA/GB/C(2001)2, Item 6(b)].

By now, the kinds of early prioritisation and reiterative drafting practices described above had become engrained in the IEA's POW and Budget process. At the December 2001 meeting of the Governing Board the Secretariat again sought a zero volume growth budget, as adjusted to reflect the costs connected with the recent accession to the I.E.P. Agreement of the Czech Republic and the impending accession of the Republic of Korea (whose accession was to become effective 28 March 2002) and to cover the cost of an Emergency Response Exercise scheduled for early 2002 [See IEA/GB(2001)31]. As requested by some Member countries, the Secretariat's documentation also demonstrated the effects, on the POW, of a zero nominal growth Budget, should one be enacted. The Committee on Budget and Expenditure made recommendations for a general appropriations approach to account for new memberships in the Agency, and specifically recommended that the full amount of the Czech Republic's 2002 assessed contribution be added to the 2002 Budget and that the pro rata share of the estimated recurring costs of a new IEA Member country be added when Korea's accession was confirmed [IEA/GB(2001)44, paragraph 27].

The decision of the Governing Board was to enact a 2002 appropriation between the zero volume growth and zero nominal growth levels. Included in the appropriated amount were funds to cover the estimated recurring costs of two new Member countries (determined in accordance with the recommendations of the Committee on Budget and Expenditure) and to cover

the Emergency Response Exercise. The Board also adopted a general approach for handling appropriations when new Member countries accede [See Section VII.G.2. below], and decided, in light of the pattern of past Emergency Response Exercises occurring on alternate years with Ministerial Level Meetings, and of the close approximation of the costs involved in the two kinds of events, permanently to integrate a sum into the Budget to be used alternately for the two events [IEA/GB/C(2001)5, Item 5].

At its April 2002 meeting the Governing Board voted to adopt a Biennial POW and Budget. At the time in 1994 when the OECD adopted a biennial POW process, the Governing Board had decided to remain on an annual cycle for both the POW and the Budget until such time as the two processes could be undertaken jointly on a biennial basis. In June 2001, the OECD Council adopted a biennial budget process, beginning with the 2003-2004 cycle. The IEA's adoption of a Biennial POW and Budget was considered by the Committee on Budget and Expenditure on three occasions between May 2001 and March 2002, and the Committee now was ready to make a favourable recommendation to the Governing Board [IEA/GB(2002)6]. The Governing Board accordingly:

- (iii) decided to implement a biennial Programme of Work and Budget process as of the 2003-2004 biennium and agreed:
 - A. to request the Executive Director to present, by 1st October 2002 for the biennium 2003-2004, and by 1st October of every second year thereafter for each subsequent biennium, a proposed Programme of Work for the biennium and a Budget and a proposed provisional Budget for the first and second years of the biennium respectively;
 - B. to adopt the second year's provisional Budget at the same time it adopts the Programme of Work for the biennium and the first year's Budget;
 - C. to request the Executive Director to present the provisional second year Budget of the biennium as well as any modifications required in the Programme of Work for the second year of the biennium to the Governing Board by 1st October of the first Budget year of the biennium;
 - D. that the proposed modifications to the Programme of Work for the second year of the biennium which meet with the approval of the Governing Board will be adopted with effect from 1st January of that year;

- E. that the provisional Budget for the second year of the biennium will be adopted as the second year Budget with effect from 1st January of that year unless, prior to that time, the Governing Board decides otherwise by unanimity;
- F. to review the biennial process after two cycles and decide on any adjustments that it considers appropriate;
- (iv) endorsed the adjustments to the Programme of Work and Budget cycle as set out in IEA/GB(2002)6, Annex 1;
- (v) agreed that under the revised process, reporting on the closing of accounts and the call-up of contributions remain on an annual basis, and that contribution scales will be adjusted as necessary on an annual basis, as at present; [IEA/GB/C(2002)1, Item 9(c)].

Annex 1 to Document IEA/GB(2002)6 was as follows:

Proposed Calendar for Biennial Programme of Work and Budget Process

	n (e.g. 2002)	n+1 (e.g. 2003)	n+2 (e.g. 2004)
January	Executive Director surveys Members on Agency-wide priorities for the biennium n+1/n+2	Priority-setting surveys done at Committee & Standing Group level to determine if need for adjustments to POW in n+2	Executive Director surveys Members on Agency-wide priorities for the biennium n+3/n+4
February	Governing Board holds initial discussion on budget envelope expectations for biennium n+1/n+2	Governing Board holds initial discussion on budget envelope expectations for biennium n+3/n+4	
March	Governing Board reviews results of priority-setting exercise and provides guidance to Secretariat for PWB preparation for biennium n+1/n+2	Committees & Standing Groups review results of priority-setting exercise and provide guidance to Secretariat for POW adjustments for n+2	Governing Board reviews results of priority-setting exercise and provides guidance to Secretariat for PWB preparation for biennium n+3/n+4
April			

March	Committees & Standing Groups provide input to Secretariat on activity priorities		
April (continued)			
June	Executive Director submits budget envelope proposal for biennium n+1/n+2, and Governing Board decides on envelope for the biennium n+1/n+2		Executive Director submits budget envelope proposal for biennium n+3/n+4, and Governing Board decides on envelope for the biennium n+3/n+4
July	Executive Director issues first draft POW for biennium n+1/n+2	Executive Director submits in draft any necessary modifications to POW for n+2	Executive Director issues first draft POW for biennium n+3/n+4
1st October	Executive Director submits POW for the biennium n+1/n+2, and a biennial budget, divided into two annual budgets, for the years n+1 and n+2	Executive Director may submit formal proposal for PWB adjustments for n+2 Executive Director presents provisionally -adopted budget for n+2	Executive Director submits POW for the biennium n+3/n+4, and a biennial budget, divided into two annual budgets, for the years n+3 and n+4
December	Governing Board decision on PWB for the biennium n+1/n+2; adoption of the Budget for year n+1 and adoption of provisional Budget for year n+2	Formal adoption of provisional Budget for year n+2 unless the Governing Board decides otherwise	Governing Board decision on PWB for the biennium n+3/n+4; adoption of the Budget for year n+3 and adoption of provisional Budget for year n+4

The above calendar does not include the continuation of regular reporting on programme implementation carried out in Committees and Standing Groups or regular reporting on use of budgets presented to the Committee on Budget and Expenditure.

It will be noted that paragraph (iii)E. of the Governing Board's decision quoted above departs from the normal rule of IEA majority voting on an annual Budget, in that it would permit changes in an approved second year provisional Budget

only by unanimity of the Members. This decision entailed a tacit waiver by the IEA Member countries of their right, under Article 64.3 of the I.E.P. Agreement, to a majority vote on the Agency's annual Budget [See the discussion under Section IV.B.5. above].

At the same meeting, the Governing Board dealt with surplus publications revenues from 2001, in excess of the estimate contained in the 2001 Budget. It authorised the Executive Director to carry forward the 2001 publications surplus to the 2002 Budget, subject, however, to individual notifications by Member countries that they wished to claim their respective shares of the surplus. The Secretariat's Note on this subject [IEA/GB(2002)5], in accordance with the 1999 recommendation of the Committee on Budget and Expenditure that any appropriation of surplus funds be allocated to programme priorities [See IEA/GB/C(99)4, Item 6], listed the priority activities to which the surplus funds would be allocated; among them was a proposal that 300,000 Euros be deposited in a reserve dedicated to meeting the costs of staff indemnities for contract non-renewal. (As discussed in Section IV.C.4. above, a 1999 OECD Council amendment to the OECD Staff Rules provided for a substantial loss of employment indemnity to be paid to staff members who have served for six consecutive years and whose appointment is not renewed for reasons unrelated to discipline or unsatisfactory service).

Rather than make decisions on specific allocations, however, the Governing Board invited the Committee on Budget and Expenditure to review the application of the surplus funds [IEA/GB/C(2002)1, Item 9(b)]. One country specified that it was leaving a portion of its surplus share for use in creating a reserve for staff indemnities. Two countries notified the Secretariat of their wish to recover their respective shares of the surplus, while sixteen other countries either decided, or indicated an inclination, to leave all or part of their shares with the IEA.

The Governing Board reverted to this matter at its next meeting in June 2002, following consideration in the Committee on Budget and Expenditure. All but three Member countries had agreed to leave all of their shares of the 2001 revenue surplus with the Agency, and one of the remaining three Member countries would leave a portion of its share; altogether, 79 per cent of the surplus revenue was left with the IEA. The Secretariat's Note [IEA/GB(2002)23] reported the priorities for the use of the available funds that had been agreed within the Committee on Budget and Expenditure. These included the proposed reserve fund for the payment of indemnities for unrenewed IEA staff, funding for an expanded publications sales effort, and thirteen additional activities, listed in order of priority. The Governing Board

accepted the recommendations, appropriating the available surplus funds. On the issue of the establishment of a reserve to meet costs of loss of employment indemnities, it:

- a) approved the creation of a restricted reserve for the sole purpose of accumulating funds to pay for loss of employment indemnities due to eligible staff;
- b) authorised the deposit in this reserve of an amount of 300,000 Euros from 2001 surplus publications revenue;
- c) authorised the Executive Director of the IEA to deposit additional amounts into this reserve either at the time of the contract decision creating the eligibility for the indemnity, or, as soon thereafter as sufficient funds can be made available, within a ceiling of the amount of the indemnity;
- d) authorised the Executive Director of the IEA to withdraw amounts from the reserve to pay the loss of employment indemnities as they arise;
- e) instructed the Executive Director to provide a review of the functioning of the reserve on an annual basis to the Committee on Budget and Expenditure;
- f) agreed to review the functioning of the reserve after two years of existence and instructed the Committee on Budget and Expenditure to submit a report at this time; and
- g) agreed to review this issue at such time as the OECD Budget Committee would propose other means to meet these loss of employment indemnity obligations for other parts of the OECD;... [IEA/GB/C(2002)2, Item 8iv)].

On 1 October 2002 the Secretariat distributed its draft POW and Budget for the biennium of 2003-2004 [IEA/GB(2002)36]. The POW proposals at Annex I of the document were premised on a zero real growth Budget. As of that time, the Secretariat's Note explained, it was not yet clear how the second year of the biennium would be established and implemented; among the issues to be resolved was what adjustment factors would be used, including the ultimate treatment of any recommendation for a salary increase. Moreover, although the Governing Board nominally undertook, when it adopted the new biennial procedures in April, to agree on a 2003-2004 Budget envelope by June 2002, no such decision had been made during the past summer, for either the IEA or the OECD. Resources available pursuant to

voluntary contributions, to the extent known, were set out in detail in the Note, along with information on the evolution of voluntary contributions. Thanks to the IEA's success in doing its own marketing of the monthly *Oil Market Report* and its other publications – the Agency having terminated its arrangements with a private marketing and fulfilment contractor and reduced its reliance on the OECD – publications revenues were forecast to reach a new high in 2002, and the Secretariat therefore proposed a new formula for fixing the estimate of future year publications revenue, based on a rolling three year average of receipts. The Governing Board, in the usual manner but without the financial guidance contemplated by its June 1994 decision on the budget preparation process, referred the POW and Budget to the Committee on Budget and Expenditure for its consideration of the resources required to carry out the 2003 and 2004 Budgets.

The Committee on Budget and Expenditure concluded that the proposed zero real growth 2003 Budget and the provisional 2004 Budget were adequate and reasonable, the former having been adjusted to take into account year 2003 salary adjustment figures. The Committee recommended the adoption of a three year rolling average formula for fixing estimated revenues from publications and related sources, using data from the last three years for which results were known [IEA/GB(2002)45, paragraphs 26-29].

The Secretariat's Note for the December 2002 Governing Board Meeting on the 2003-2004 POW and Budget of the IEA [IEA/GB(2002)45] proposed a zero real growth Budget for 2003, and based its proposed provisional 2004 Budget on the two per cent adjustment factor for the second year of the biennium that was being assumed by the OECD Council in its deliberations, with a stated intent to modify the adjustment figure if the OECD should do so. The OECD's salary adjustment for 2003 was not yet final, so that the IEA's 2003 budgetary reflection of that factor necessarily was tentative and might need to be modified. As requested by some Delegations at the October Governing Board meeting, the Note contained indications of the impact on the POW of a zero nominal growth Budget, should the Governing Board enact one; the portrayal of the effects included a line strike-out showing what activities might be affected.

The appropriation enacted by the Governing Board was between the zero nominal and zero real growth levels, but closer to the former than to the latter; it was an amount 1.8 per cent above the IEA's 2002 Budget, the same percentage increase from 2002 as that enacted for the OECD by the OECD Council. The provisional Budget for 2004 was set at a level equal to the 2003 appropriation plus two per cent. The Executive Director was instructed to modify these amounts "if final decisions taken by the OECD Council on the

implementation of the 2003 salary adjustment differ in any respect from the assumptions underlying the Secretariat's 2003 ZRG Budget for the adjustment factor underlying the 2004 provisional Budget requested." The Board approved the proposal for a change in the formula for fixing estimated publications revenues [IEA/GB/C(2002)4, Item 7(iv)-(vii)].

At the Governing Board's February 2003 meeting, the Secretariat tabled a Note [IEA/GB(2003)4] reporting that, although there had been "no change in the cost adjustment assumptions underlying the budget decision by the OECD Council", the Council had "applied them differently." That is, "the OECD Council chose an increase of 1.8% for 2004 even though the underlying cost adjustments assumed for 2004 remain at +2.0% for both salaries and other costs." It concluded that "[s]ince the Council's decisions on the 2003 and 2004 Budgets do not modify the cost assumptions used by the IEA Secretariat in preparation of the Agency's 2003 and 2004 Budgets, no automatic adjustment to the Budget envelopes adopted by the Governing Board is required." It was, nonetheless, up to the Governing Board to decide whether this matter warranted any action. The Governing Board, however, decided to seek the advice of the Committee on Budget and Expenditure [IEA/GB/C(2003)2, Item 5(b)], which subsequently concluded that no action was necessary in relation to the provisional Budget allocation for 2004.

The February Governing Board also addressed the disposition of surplus publications revenue for 2002. All IEA Member countries save the United States were prepared to leave the entirety of their shares of the surplus with the Secretariat, and the U.S. was prepared to leave a portion of its share. The Committee on Budget and Expenditure had arrived at a list of twenty-seven prioritised activities on which the greatest part of the surplus would be used. There was, in addition, a proposal to deposit a portion of the surplus in the loss of employment indemnity reserve that had been established in June 2002, but the Committee on Budget and Expenditure was of the view that that proposal needed further technical evaluation [See IEA/GB(2003)3].

The Governing Board enacted a supplemental appropriation of over 2.3 million Euros in support of the prioritised activities; it also authorised a supplemental appropriation of 225,000 Euros for the loss of employment indemnity reserve, but it stipulated that this amount was frozen until such time in 2003 as a final decision on its use could be taken. The Governing Board further noted the intervention of the United States that it would contribute 75,000 Euros from its share of 2002 surplus revenue to the reserve, raising that fund to 300,000 Euros. The Board instructed the Committee on Budget and Expenditure to carry out a review of the proposal to replenish the reserve fund and report back to the Board at its earliest opportunity [IEA/GB/C(2003)2, Item 5(a)].

The Committee on Budget and Expenditure met in March to discuss the loss of employment indemnity and the operation of the reserve fund. It recommended that the Governing Board authorise the deposit of the frozen appropriation of 300,000 Euros in the loss of employment indemnity fund [IEA/GB(2003)12]. The Governing Board accepted this recommendation at its February 2003 meeting, authorising the unfreezing of 300,000 Euros and the deposit of that amount in the loss of employment indemnity fund [IEA/GB/C(2003)3, Item 9(a)].

The Secretariat's Note to the October 2003 meeting of the Governing Board [IEA/GB(2003)26] reminded the Member countries that the provisional second year Budget of the first biennium was subject to adoption by the Governing Board unless the Governing Board, acting by unanimity, decided otherwise. The most significant unresolved budget issue was a decision that the OECD Council would have to take before the end of 2003 on what salary increase to accord Secretariat staff in 2004 and when such an adjustment would be effective. If the salary increase or the cost of living increase exceeded the factors built into the IEA Budget, the Secretariat would identify for the December meeting of the Governing Board the potential adverse effects, and the Governing Board could decide to adjust the 2004 Budget appropriation, but only if it was able to do so by an unanimous decision.

The POW, on the other hand, was more detailed than that presented in December 2002, reflecting the inputs of the Agency's Standing Groups and Committees, which prepared the details of their activities anticipated for 2004.

Applying the Governing Board's December 2002 decision to adopt a rolling three year basis for fixing estimated publications revenues, the Secretariat's Note proposed a thirty per cent increase from the previous year's publications revenue target, which would lead to the second consecutive decrease in IEA Member countries' assessed contributions. The Note observed that following the departure of the CTI programme from the Secretariat at the end of 2003, the overall volume of IEA voluntary contributions was decreasing. Set out in the Note were data on the Agency's publications revenues and voluntary contributions during 1998-2003.

In its decision, the Governing Board approved the directions of work in the POW, "subject to a review of programmes and activities in the context of a final decision on the 2003 Budget envelope". Noting the uncertainty prevailing with regard to a salary adjustment for 2004 and the Executive Director's intention to propose that the previously agreed provisional 2004 Budget be definitively adopted (notwithstanding the salary adjustment uncertainty), it referred the document to the Committee on Budget and Expenditure. [IEA/GB/C(2003)5, Item 5].

The Secretariat's Note for the December 2003 Governing Board meeting proposing the 2004 POW and Budget of the Agency [IEA/GB(2003)33] reported that the potential OECD salary adjustment could have an impact of close to 200,000 Euros on the IEA's Budget. It confirmed the Executive Director's intention not to reopen the budget envelope for 2004, and indicated that the Agency would have to absorb the impact of the additional salary costs, which necessarily would have consequences for the 2004 POW. While some efficiencies could be achieved, delays in retirement and opportunistic staffing gaps would offset much of the increased staff costs. A summary table outlined minor adjustments that were being made in the distribution of staff time across programmes to accommodate slight changes in emphasis that had arisen during 2003, and other small modifications were made among programmes within given offices, but the result was budget neutral for all offices, and without any effect on the overall budget envelope.

Based on final publications revenue data for 2002, the Secretariat proposed a 30 per cent increase in the 2003 revenue target, which would lead to the second consecutive decrease in Member countries' assessed contributions. Information on publications revenue, and on voluntary contributions from 1998 through 2003, was provided in tabular form.

The Governing Board adopted the decision proposed by the Secretariat, approving finally the previously-agreed provisional 2004 Budget. Noting the impact of an expected salary adjustment decision to be made by the OECD Council for 2004, it instructed the Executive Director to adjust line item appropriations, within the parameters of the total amount appropriated, to reflect the impact of the ultimate salary adjustment. [IEA/GB/C(2003)6, Item 5(a)(iv)].

A related Note [IEA/GB(2003)34] addressed the disposition of 2003 surplus publications revenue. While the exact amount of the surplus was not yet known, preliminary indications pointed to a surplus of about 700,000 Euros. In response to Member countries' wishes for an earlier resolution of the use of surplus funds than in the previous year, priorities for the use of the surplus already had emerged from the Standing Groups and Committees and been considered in the Committee on Budget and Expenditure. Although the Budget Committee was in broad agreement that the top priority for use of the surplus revenues was the loss of employment indemnity fund, the Committee felt that the fund should be supported by all of the Member countries in accordance with their respective shares indicated by the annual scale of contributions, and some delegates did not have final instructions on the disposition of their governments' respective portions of the surplus. Other priority uses were

recommended by the Committee, in a total amount which allowed for the possibility that the actual surplus would prove larger than presently expected.

The Governing Board's decision authorised an additional 2004 appropriation not to exceed 873,000 Euros, subject to Member countries' final indications on leaving part or all of their shares of the surplus with the Agency. The Board decided that 200,000 Euros would be deposited in the loss of employment indemnity fund only if all Members could agree to leave their proportionate shares for that purpose. The rest of the appropriated surplus would be used for projects contained in the Budget Committee's list of priorities. [IEA/GB/C(2003)6, Item 5(b)].

In another Note for the December 2003 meeting [IEA/GB(2003)30], the Secretariat portrayed in detail how the Agency's specific POW activities fulfilled the specific mandates flowing from the Communiqué of the April 2003 IEA Ministerial Meeting.

In the light of this history, it is possible to identify aspects of Section A. (Introductory Summary), Section B. (Programmes of Work) and Section C. (Budgets) of Chapter VII of Volume I of *The History* that no longer are reflective of current practice.

It no longer is correct to say that the Agency's annual POW and Budget always has been enacted prior to the start of the relevant financial year (See the discussion above of the 1996 Budget experience). Of course, the annual POW and Budget now is presented within the framework of the Governing Board's April 2002 decision, quoted above, to implement a biennial POW and Budget process as of the 2003-2004 biennium.

The "Core" - "Other" characterisation of programmes, and the subsequent usage of a "New" - "Continuing" breakdown, both have been replaced by a distinction between "Programmes" (thirty, in the 2003/2004 POW) and "Activities" falling within those Programmes, and information on staff months has been supplemented with three years (2002, 2003 and 2004 in the 2003/2004 POW) of cost activity for each Programme. The cost information is broken down into Staff (Officials/Others), Travel, Infrastructure Provision, Facilities Operation, Activity Support and Database Management System.

The POW preparation process now commences as early as thirteen months before the financial year, with indications of broad programmatic priorities being sought from the Governing Board. Prioritisation of specific activities and the examination of resource implications start early in the year preceding the financial year within Standing Groups and Committees, and continue throughout the spring, aided by comprehensive, detailed questionnaires. By

July, a preliminary POW and Budget is ready for circulation to Delegations, and becomes the subject of extensive comments over the rest of the summer.

The process of prioritisation has continued through and even beyond enactment of the annual appropriation. In recent years the Governing Board has been shown the consequences of different appropriations decisions by identifying, in the POW, activities that would be eliminated or curtailed if certain levels of budgetary resources were unavailable, or by showing how additional levels of resources could be employed. At the Board's first regularly scheduled meeting in a financial year, it now addresses how any surplus revenues from the year before might be used, and that decision has lately involved specific allocations to a list of projects. One conclusion from these experiences is that, by and large, the IEA's Member countries are satisfied with the existing balance among its programmes for energy security (broadly defined), energy and the environment and relations with non-Member countries; most adjustments as a result of the prioritisation exercises have been at the margin.

The "packaging" of the POW and Budget, in terms of how the Governing Board's decision on its adoption refers to certain documents or annexes, has varied somewhat over the past decade, in part because it often has been necessary to revise the POW in accordance with reduced budgetary prospects, and the particular documentary way that this has been accomplished has changed from time to time. The inclusion of an explanatory note within the POW and Budget document has become a common feature, and the Report of the Committee on Budget and Expenditure is sometimes external to that document or (as in the 2003 POW and Budget document) summarised rather than quoted.

The Secretariat submitted to the December 2002 Governing Board meeting a proposed 2003-2004 POW and Budget [IEA/GB(2002)45] that was a revision of the version circulated for the Board's October meeting [IEA/GB(2002)36], and the Governing Board's December 2002 decision approved the 2003-2004 POW contained in Annex 1 thereto and the 2002 Budget contained in Annex 2 thereto [IEA/GB/C(2002)4, Item 7(iii), (iv)]. As noted earlier, questions remained about how the POW and Budget would be adjusted for the second year of a biennium. The Secretariat's Note to the October 2003 meeting of the Governing Board [IEA/GB(2003)26] explained how those issues were proposed to be resolved.

Clearly, the IEA has gone far to achieve the Governing Board's objectives of budgetary transparency, prioritisation, and integration of the POW and Budget. The area of POW and Budget integration has been one of some disappointment, however, as Member countries have not been prepared to give the kind of reliable indication of future year resources that is needed to

engage in financial planning beyond the current year. Members of the Committee on Budget and Expenditure have agreed informally that, given IEA Member countries' difficulty in committing to any predictable and stable budget level over time, they would have just as much difficulty committing to any meaningful strategy and related financial plan that extended beyond the realm of the annual (and now biennial) POW and Budget cycle.

Set out below is a table showing the budgetary resources (exclusive of voluntary contributions) available to the Agency over the period 1994 through 2004. It will be seen that: (1) the total resources available to the Agency (exclusive of voluntary contributions) in 2004 are only about one million Euros larger than that for 1994; (2) the "core" appropriation (exclusive of surplus publications revenues) for 2004 is about the same as that for 1994; (3) the total publications revenue component of the Budget for 2004 is more than three and a half times that for 1994; and (4) the assessed contribution of Member countries in 2004 is about a million two hundred thousand Euros below that for 1994.

International Energy Agency - Total Budget Level, 1994-2003 (in millions of euros)

Year	Assessed Contribution	Publications Estimate	"Core" Appropriation	Publications Surplus Carried Forward	Total Resources
1994	20.06	0.81	20.82	0.00	20.82
1995	20.44	0.91	21.36	0.23	21.59
1996	19.53	0.91	20.44	0.29	20.73
1997	18.96	0.91	19.88	0.63	20.50
1998	18.37	0.91	19.28	0.96	20.25 ¹
1999	17.49	0.91	18.40	0.79	19.19 ²
2000	17.52	1.68	19.19	0.30	19.50
2001	18.39	1.42	19.71	0.00	19.80
2002	19.02	1.28	20.30	0.71	21.01 ³
2003	18.96	1.71	20.66	1.26	21.92 ⁴
2004	18.85	2.22	21.07	0.70	21.77

1 Excludes .15 for Emergency Response Exercise

2 Excludes .15 for IEA's 25th Anniversary

3 Excludes .30 for Loss of Employment Indemnity Reserve

4 Excludes .30 for Loss of Employment Indemnity Reserve

For information on the total budgetary resources available to the Agency, inclusive of voluntary contributions, see the table included near the end of Section VII.H.2. below.

Section VII.E., Committee on Budget and Expenditure (BC)

It is apparent from the foregoing history of the Agency's POW and Budget experience since 1992 that the Committee on Budget and Expenditure has, during this period, played a more active role in the resolution of issues than it had in the period covered by Volume I of *The History*. This is evidenced, for example, by the fact that the Committee met eight times in 2001, four times in 2002 and five times in 2003.

In recent years the Committee has sometimes had to function as a "clearinghouse" for issues needing ultimately to be resolved at the Governing Board level. It, has, for example, been called upon to resolve prioritisation matters such as prioritising proposed uses of surplus publications revenue. The Committee lately has indicated a wish to adhere more closely to its core functions of reviewing budget proposals and advising on financial administration.

Section VII.F., Members' Financing Obligation

In 2003 voluntary contributions and grants for specified programme activities amounted to about 1.74 million Euros representing 7.35 per cent of Agency resources. (See the table near the end of Section VII.H.2. below).

Section VII.G., Scale of Contributions

Section VII.G.1., Calculation

In April 1999 the OECD Council amended the "principles and rules" Annex to its 1963 Resolution on Determination of the Scale of Contributions to introduce the following provision:

Until a new Member country accedes to the Organisation, no country shall pay more than 25% nor less than 0.10% of the total Budget of the Organisation. When a new Member country accedes to the Organisation, the scale of contributions, i.e. the share of all prior Member countries, will be adjusted proportionately. The maximum and the minimum contributions for all Member countries shall be modified accordingly but shall not be adjusted below a floor of 24.250% and 0.097% respectively;... [C/M(99)9/PROV].

The OECD Secretariat took the view that this amendment should apply to all Part II organisations, as well as to Part I, and that the adjustment for both Part

I and Part II should occur at such time as a new Member joined the OECD itself (not, for example, when a new Member joined the IEA). In the case of the IEA, however, the Governing Board has plenary power over the financing of the Agency; moreover, Article 10(a) of the 1974 Council Decision Establishing an International Energy Agency of the Organisation [C(74)203(Final)] provides that each Participating Country's share in financing its Budget "shall be fixed by the Governing Board". The Board's decision in this regard is final; it does not need to be transmitted to the OECD Council.

A complicating factor was the provision of Article 64.1 of the I.E.P. Agreement, quoted in Volume I of *The History*, that the IEA scale is to be elaborated according to the principles and rules "set out in" the Annex to the 1963 Council Resolution, which could have been read as incorporating into the treaty the principles and rules as they stood on 10 December 1963, when the Council first adopted its Resolution. Under that interpretation, any change in the applicable "principles and rules" would have to be made through a treaty amendment, which must be unanimously agreed and would be subject to the Members' respective domestic constitutional procedures.

On two previous occasions the OECD Council had amended the Annex to the 1963 Resolution: in 1987, to impose an absolute .75 per cent limit on the annual change for any country, and in 1991, to raise a calculation factor, which takes the form of per capita exclusion, from US\$100 to US\$450. While there is no record of Governing Board consideration of the applicability of these decisions to the IEA, in practice they have been applied to it. The latest amendment was viewed as politically more sensitive than the previous ones, however, and if the amendment was to apply to the IEA, there was a question whether it should apply when a new Member joined the IEA rather than when a new Member joined the OECD.

The IEA Secretariat briefed the issues to the Governing Board at its June 1999 meeting, at a time when the Agency was looking forward to the accession of the Czech Republic to the I.E.P. Agreement [See IEA/GB(99)34]. It advised that the issues would arise when, following the Czech Republic's accession, a scale of contributions was adopted reflecting the Czech Government's share in the financing of the Agency. The Governing Board declined at that time, however, to decide whether, or if so how, to apply the Council's amendment [IEA/GB/C(99)4, Item 5(b)].

A more detailed discussion of the issues then was held in the Committee on Budget and Expenditure, on the basis of a Secretariat Note [IEA/BC(2001)1]. The subject was brought back before the Governing Board in February 2001, following the Czech Republic's accession to the I.E.P. Agreement, and the accession of the Slovak Republic to the OECD Convention. The Secretariat's

Note [IEA/GB(2001)8] presented alternative approaches for the Board's consideration, but stated that both the Secretariat and the Committee on Budget and Expenditure recommended following the "Slovak/OECD" approach proposed by the OECD Secretariat, partly for the sake of consistency with other Part II organisations, but also because the Council's April 1999 decision had been "a delicate political compromise, and the OECD Secretariat advises us that the manner in which that compromise is proposed to be implemented in the Organisation's Part II organisations reflects the intent behind that compromise" [Paragraph 12(b)]. The Governing Board accepted this recommendation [IEA/GB/C(2001)1, Item 8(a)(iii)].

The IEA's 2003 scale of contributions was as follows [IEA/GB/C(2003)3, Item 11(c)]:

Country	Scale of Contribution
Australia	1.804
Austria	0.963
Belgium	1.211
Canada	3.306
Czech Republic	0.248
Denmark	0.777
Finland	0.606
France	6.634
Germany	9.841
Greece	0.567
Hungary	0.188
Ireland	0.415
Italy	5.386
Japan	24.040
Korea	2.008
Luxembourg	0.100
The Netherlands	1.951
New Zealand	0.241
Norway	0.815
Portugal	0.515
Spain	2.881
Sweden	1.126
Switzerland	1.511
Turkey	0.734
United Kingdom	7.157
United States	24.975
Total	100.00%

Section VII.G.2., Membership Changes

As noted in Volume I of *The History*, in 1992 the Governing Board decided to increase the Agency's resources by the amount of the assessed contributions of Finland and France, the Agency's newest Members. The subsequent accession exercises were those concerning Hungary (completed 1997), the Czech Republic (2001) and the Republic of Korea (2002).

In December 1996, while taking action on the Agency's 1997 Budget, the Governing Board "recalled its earlier decision to supplement the Agency's resources by the amounts contributed by two new Members, and in like manner agreed that, upon the assessment of a contribution of Hungary with respect to the 1997 Financial Year, an additional appropriation would be enacted in the amount of that contribution" [IEA/GB/C(96)5, Item 2(i)]. At its October 1997 meeting the Governing Board noted that Hungary's accession to the I.E.P. Agreement had become effective, agreed to fix Hungary's contribution to the Agency's 1997 Budget at 137,730 francs, and enacted a supplemental appropriation to the 1997 Budget in that amount [IEA/GB/C(97)4, Item 10].

At the February 2001 Governing Board, the Czech Republic's accession having become effective earlier that month, the Board considered a Note [IEA/GB(2001)9] proposing that an amount equal to the Czech Republic's assessed contribution be enacted as a supplementary appropriation for 2001. The Board, however, accepted the offer of a review by the Committee on Budget and Expenditure of the incremental costs to the Agency associated with the accession of the Czech Republic, with a view to its making a recommendation on the enactment of a supplementary appropriation at the next meeting of the Governing Board [IEA/GB/C(2001)1, Item 8(b)].

In October 2001, in its decision referring the draft 2002 Budget to the Committee on Budget and Expenditure, the Governing Board "agreed that upon the assessment of a contribution by a new Member, an amount might, where justified, be added to the existing budgetary envelope" [IEA/GB/C(2001)4/REV1, Item 7(b)]. In acting on the 2002 Budget in December 2001, the Governing Board specified that the enacted appropriation of 20,300,000 Euros included an amount of 137,400 for new Member countries (91,450 for the Republic of Korea and 46,000 for the Czech Republic). It also decided [IEA/GB/C(2001)5, Item 5(b)(iv), (v)] that, when the accession of a new Member country to the Agency is anticipated:

- A. the Agency's budget for the financial year in which the accession is expected to occur shall be increased to cover the estimated annual recurring costs of a new Member to the Agency, subject to a ceiling of that Member's assessed contribution for that year;
- B. if a new Member's assessed contribution exceeds the estimated annual incremental recurring costs to the Agency, the additional funds should be applied to a reduction in the contribution of individual members or, on the basis of proposals put forward by the Secretariat during the Programme of Work and planning cycle, the Governing Board may allocate some or all of the additional funds to strengthening the work of the Agency;

Section VII.G.3., Procedure

The scales of contribution for 1994 [IEA/GB(94)25, Item 6(b)], 1997 [IEA/GB/C(97)2, Item 10(c)], 1998 [IEA/GB/C(98)2, Item 12(b)(iv)], 2000 [IEA/GB/C(2000)3, Item 9(b)(iv)], and 2001 [IEA/GB/C(2001)2, Item 8(b)] were approved by written procedure. Those for 1995 [IEA/GB(95)11, Item 10(c)], 1996 [IEA/GB(96)13, Item 3(b)], 1999 [IEA/GB(99)19/REV1, Item 7] and 2003 [IEA/GB/C(2003)3, Item 11(c)] were approved at meetings of the Governing Board. In 2002 the Governing Board initially approved a scale of contributions by written procedure, but at a meeting that followed the completion of Korea's I.E.P. Agreement accession process, it adopted a revised scale [IEA/GB/C(2002)1, Item 9(a)].

Section VII.H., Voluntary Contributions and Grants

Section VII.H.1., Authority

The OECD's Director of Legal Affairs has affirmed informally his concurrence with his predecessor's view that Article 10(c) of the 1974 Decision of the Council Establishing an International Energy Agency of the Organisation authorises the IEA to enter, in its Budget, appropriations in the amounts of voluntary contributions or grants, without submitting those appropriations to the OECD Council for adoption under Article 10(b) of the Council Decision.

It should be noted that in its internal recordkeeping, the OECD draws a distinction between voluntary contributions and grants, considering voluntary contributions to be from OECD Member countries and grants to be from OECD non-Member countries. In its own practice the IEA makes no such distinction, using the two terms interchangeably.

Section VII.H.2., Description of Contributions

The unrelenting budgetary stringency experienced by the Agency in recent years has increased reliance upon voluntary contributions for the financing of the Agency. Official recognition of this reliance in a Governing Board decision appeared for the first time in February 1996 when the Board, having twice failed to agree on a Budget for the entire 1996 Financial Year, enacted an appropriation for the second quarter of 1996. In its decision doing so the Board "urged Members to consider how voluntary contributions might be used to dampen any precipitous reduction in Agency resources" [IEA/GB(96)13, Item 3(a)(viii)]. This exhortation has been reiterated in each of the Governing Board's decisions on subsequent year Budgets [See for example IEA/GB/C(2003)6, Item 5(a)(v)].

Also contributing to the increased use of voluntary contributions in the Agency's financing has been the world's growing concern over issues concerning the environment. Although this has been reflected in the IEA's allocation of resources to environmental issues, some of the Agency's Member country governments have been willing to contribute funds over and above their assessed contributions in order to maximise the Agency's efforts in this area.

Annual changes in the importance of voluntary contributions can be measured by various criteria other than the number or value of grants whose acceptance was recorded in the Governing Board Conclusions of a given financial year, such as value of the grants accepted during the year (grants accepted by written procedure at the end of one year may be recorded in Governing Board Conclusions for the first meeting of the subsequent year), the total grant amount appropriated for the financial year, the net amount actually received by the Agency pursuant to grants, the total resources available to the Agency due to grants, the commitment or expenditure of funds appropriated for grants, or the percentage that grant funds represent of the Agency's overall appropriations. It nonetheless gives a striking impression of the increased importance of grants to compare the number and value of grants recorded during 1993 – two, for 23,934 Euros, with the number and value of grants recorded during 2003 – thirty-five for 1,739,870 Euros.

A Secretariat Note to the Committee on Budget and Expenditure concerning voluntary contributions to the IEA in 2002 [IEA/BC(2003)3] indicates that 40 new contributions with a total value of 2,295,351 Euros were accepted by the Governing Board during that year, most of them from Member countries but others from the private sector. The Programme of Work items receiving the

largest amount of voluntary contributions were those concerning Renewable Energy (523,419 Euros) and the Climate Technology Initiative (394,840 Euros) [See Section V.A.18. above]. The Secretariat office enjoying the greatest increase in its resources was the Office of Energy, Efficiency, Technology and R&D, slightly more than half of whose contributions were for work on Renewable Energy.

The following table shows on a year by year basis, from 1994 through 2003, the voluntary contributions received by the Agency and the per cent that they represented of the overall resources available to the Agency:

International Energy Agency Voluntary Contributions Received, 1994-2003 According to the OECD's Official Records

(in millions of euros)

Year	Voluntary Contributions Received	Total Resources Inclusive of Voluntary Contributions	% of Total Resources
1994	.36	21.18	1.71 %
1995	.11	21.70	.51 %
1996	.58	21.31	2.74 %
1997	.63	21.13	3.01 %
1998	.89	21.14 ⁵	4.24 %
1999	1.51	20.70 ⁶	7.30 %
2000	2.52	22.02	11.45 %
2001	2.35	22.06	10.61 %
2002	2.29	23.30 ⁷	9.85 %
2003	1.74	23.66 ⁸	7.35 %

As unused voluntary contributions were carried forward from year to year, the contributed funds available for expenditure during any given year did not necessarily correspond with the amounts received during that year. The following table shows the actual expenditure of grant funds during 1994-2003:

5 Excludes .15 for Emergency Response Exercise

6 Excludes .15 for IEA's 25th Anniversary Celebration

7 Excludes .30 for Loss of Employment Indemnity Reserve

8 Excludes .30 for Loss of Employment Indemnity Reserve

International Energy Agency Expenditure of Voluntary Contributions, 1994-2003

(in millions of euros)

Year	Expenditure
1994	151,817
1995	234,617
1996	332,539
1997	571,005
1998	656,173
1999	1,215,981
2000	1,095,782
2001	2,027,114
2002	2,318,263
2003	2,082,879

The amount of unused voluntary contribution funds carried forward from 2003 to 2004 was 2,294,685 Euros.

Section VII.H.4., Procedures

Proposed voluntary contributions are reviewed by the IEA Legal Office for consistency with a number of principles. A fundamental principle – one not required as a matter of law (since the Programme of Work could be amended to add a new work item) but adopted as a matter of policy – is that such contributions will be used only to broaden or deepen an existing Programme of Work item, not for work that is outside of the Agency's current Programme of Work. In addition to assuring that the integrity of the Secretariat's work is not impaired by the terms of a grant, the IEA upholds certain OECD positions with respect to voluntary contributions and grants, such as preserving the immunity of the Organisation's financial records from outside audit. The documentary basis for voluntary contributions varies enormously from grant to grant; some donors need no documentation whatever, while at the other extreme there are donors who require lengthy, detailed contracts. Where necessary, the IEA Secretariat negotiates the terms of a proposed grant with the donor. In the vast majority of cases such negotiations are successful, but there have been instances in which an offered contribution was not proposed to the Governing Board for acceptance.

In 2001 the Secretariat distributed to Member Delegations the following statement of the principles it applies when considering proposed voluntary contributions:

The Legal Office reviews all voluntary contribution offers, while co-ordinating financial issues with the Administrative Office, and bringing outstanding issues to the Executive Director for decision. This Note advises on key guidelines we apply in reviewing all proposed contributions:

- Grants must be for activities within the scope of the approved Programme of Work. (This is a general policy of the IEA; it is not a legal requirement.)
- We are not service contractors; the contribution must be in the nature of a grant, rather than a procurement of our services. (The Governing Board does have authority to accept payment for services, e.g. in Art. 10(c) of the 1974 OECD Council decision establishing the IEA within the OECD, Document C(74)203(Final), but the Secretariat appears never to have asked the Board to do so.)
- The terms of the grant must not infringe the independence of the Agency. For example:
 - The donor may not have control over the work to be financed with the contribution;
 - The donor may not specify who the Agency will hire or contract with to perform the work for which the contribution is given. (This is to be distinguished from cases where individuals are seconded from governments or companies, and their cost then funded through voluntary contributions.)
 - The donor may not withhold payment based on its disapproval of the quality of the Agency's work or of the policy content of its work-product.)
- The Agency must retain the copyright to its work-product. (Depending on the circumstances, donors can be licensed to make use of the product.)
- The OECD's immunity must be respected. This means:
 - Domestic court jurisdiction over potential disputes is unacceptable.
 - There can be no audit of the OECD's accounts by an outside agency.

Following review by the Legal Office and a decision by the Executive Director that a grant should be accepted, the grant is proposed to the Governing Board, for acceptance at its next meeting or for approval by written procedure. Previous written procedure authorisations effectively have been displaced by the written procedure adopted in 1997 [IEA/GB/C(97)2, Item 8(a)], discussed above in Section V.A.15. The new authorisation does not contain a value limitation on contributions that may be processed under the written procedure, but it is available only if, in the opinion of the Executive Director, "a decision of the Governing Board is needed in advance of the next scheduled meeting of the Board and discussion by the Board is not necessary." It often is necessary to act on a grant before the Governing Board reconvenes, either because the Secretariat needs to start committing the funds or due to internal appropriations or other regulations of the donor.

As early as December 1995 the increasing number of grants led the Secretariat to depart from its earlier practice of proposing each grant to the Governing Board in a separate Note, and to institute a practice of proposing them for adoption en bloc, with each Delegation of course having an opportunity to single out a particular proposed grant for individual consideration.

Occasionally, a Member country requests more information about a prospective donor or about the terms of a proposed contribution. A proposed grant never has been rejected in the Governing Board, but in at least one instance it was necessary to withdraw a proposal for further negotiations with the donor.

Section VII.I., Financial Regulations

As stated above in the introductory section of Chapter VII, the past decade has seen significant changes in the content and style of the Agency's Programme of Work and Budget, and in the procedures for its formation. At the end of that section is a summary discussion of relevant changes.

Another now-routine action taken in essentially the same terms each year is one first employed in 1995 under exceptional circumstances. In December 1995, when the Governing Board was unable to agree on a Budget for the full 1995 Financial Year, it enacted an appropriation for the first quarter of 1996. Since Article 10(b) of the 1974 OECD Council Decision on the Establishment of the Agency required submittal of that Budget "proposal" to the Council, and the Budget on which the Governing Board had acted [IEA/GB(95)50/AttachmentB] was for a full year, the Board's decision "requested the Executive Director to adjust the amounts set out in [that Budget] consistently with this

appropriation" [IEA/GB(95)59, Item 2(e)(iv)]. When the Governing Board in December 1996 acted on the Agency's 1997 Budget, it enacted an appropriation below the level proposed in the draft Budget; moreover, the Executive Director informed it of advice from the OECD Secretariat that the 1997 OECD staff salary increase was likely to be deferred, which in turn would affect the IEA Budget. Accordingly, the Governing Board "requested the Executive Director to adjust the amounts set out in [the Budget] consistently with this appropriation and with the deferral of the 1997 OECD salary increase" [IEA/GB/C(96)5, Item 3(g)]. Similar language has survived into the Governing Board's December 2002 decision on the Agency's 2003 Budget [IEA/GB/C(2002)4, Item 7(vi)].

Section VII.J., Expenditure for Special Activities

Consideration was given in 2000 to funding the "Climate Technology Initiative" (CTI) as a "special activity" under Article 65.1. The CTI's story is told in Section V.A.18. above, and in other sections referenced there. As indicated by Section III.M. above, the CTI experience brought into the open an interconnection between the direct financing of special activities as contemplated under the I.E.P. Agreement article on that subject, and the general financing of the Agency, in situations such as those of the CTI where the special activity would be dependent on services of the Agency's Secretariat.

Section VII.K., Audits

The OECD's Board of Auditors performed an operational audit of the IEA for 1995, reporting thereon in December 1996. Noting that the Agency has clear objectives, which are regularly reviewed and updated, the Board suggested that the IEA "establish a medium-term (four-year) plan setting forth its strategy for attaining those objectives, as well as the resources to be appropriated thereto." It also made proposals to strengthen the interrelationships between the Budget and the Programme of Work, such as by having the latter highlight the cost of proposed activities [IEA/GB/C(97)8, Annexes 1 and 2]. The IEA Governing Board, at its April 1997 meeting, approved the Report of the Auditors as it concerned the IEA and asked the Executive Director to inform the Committee on Budget and Expenditure of progress toward implementation of the Auditors' recommendations. The Chairman of the Governing Board, in proposing adoption of the Auditors' Report, noted that reforms such as those recommended already were under way in the Agency [IEA/GB/C(97)2, Item 8(c), and Records of Governing Board Meeting of 17 April 1997 in files of IEA Office of Legal Counsel]. The context in which this Report was made is set out in Section VII.A. above.

CHAPTER VIII, GENERAL PRINCIPLES OF THE AGENCY

Section VIII.A., Operational Efficiency

On changes in the Governing Board's practices with respect to the use of formal minutes and to formal review of the Conclusions of the Board's prior meetings, see Section V.A.19.(a) above.

Section VIII.B., Security

The most recent IEA Secretariat collection of fresh disaggregated oil company data took place in a 1995 data collection test. Those data were used in a 1998 Agency training exercise, for which the U.S. authorities issued an "approval letter" [Letter from U.S. Department of Energy held in files of IEA Office of Legal Counsel]. There has been no further activation of Questionnaires A and B.

In 1997 the Governing Board revoked the 1977 "Security Principles and Procedures" and adopted new ones in their place [IEA/GB/C(97)4, Item 12 and Annex 1]. A Secretariat Note [IEA/GB(97)44] explained that, over time, the 1977 security rules had become increasingly outdated and unrealistic. For example, many of their provisions referred to specific physical features of the IEA's former premises located at OECD Headquarters (the Secretariat relocated to premises within the Australian Embassy building in 1996), or to services provided there that, even before the Agency's relocation, had ceased to be as described in the rules; with the relocation, these provisions became virtually meaningless. As another example, under the rules, security investigations and periodically updated clearances by national governments were preconditions for Secretariat staff access to certain categories of classified information, but in practice not all IEA Member governments had been willing to undertake such investigations during or after the recruitment process, and individuals recruited from the private sector were less likely already to possess governmental security clearances. The rules also failed to reflect the increased use of electronic modes of communication and information storage.

Coincidentally, relevant changes recently had been made in OECD classification/declassification practices [See C(97)64/FINAL, adopted by the OECD Council on 11 July 1997], aimed at reducing the amount and the level of

classification of information within the OECD, as well as at improving declassification practices. The OECD's changes, which were inapplicable to the IEA, were based on the premise that information should be unclassified unless and until an active decision was made to classify it. Among the specific changes effected in OECD security practice were that the "Restricted" category of classification was abolished and replaced by a category of "For Official Use"; and the classification category of "Confidential" was to be used only exceptionally – e.g., for ongoing international negotiations, discussions of relations with non-Member countries, or material that was market-sensitive or otherwise commercially sensitive.

While the IEA always has had its own security rules, independent of the OECD, establishing additional, higher categories of classification (viz. HIGHLY CONFIDENTIAL and SECRET) for the most sensitive information available to the Secretariat, it had sought to align its 1977 rules with those of the OECD with regard to relatively less sensitive information. The proposed new security rules, like their predecessors, would follow generally the OECD's scheme for classifying the IEA's relatively less sensitive information, while establishing an additional, higher level of classification for that information which, because of the IEA's special role, requires the highest practicable level of protection.

The IEA's 1977 "Security Principles and Procedures" were so detailed that they left the Executive Director little flexibility, necessitating Governing Board approval of practically any change that might have been thought desirable. The Governing Board's 1997 decision instead established a basic policy framework for information security, and recognised the obligation of the Member countries to ensure the security of IEA classified information [See Section V.A.16.(b) above], but left to the Executive Director the detailed implementation of security policy within the Secretariat.

The new Principles and Procedures retain the objective of "safeguard[ing] against unauthorised disclosure of sensitive information", but balance against this the goal of "minimising unnecessary restrictions on the disclosure of information" [Annex 1, paragraph 2]. To the latter end, they provide [Annex 1, paragraph 2]:

All information that could be released generally to the press or the public without prejudice to the interests of the IEA, the OECD, or a Member country government of either, shall be unclassified. This includes all information that, by application of these Principles and Procedures, is not required to be classified, and any information that has been declassified.

Paragraph 6 of the Principles and Procedures authorised the Executive Director to issue Security Regulations in implementation. It directed that such Regulations be provided to all IEA Secretariat staff, all applicants selected for positions on that staff, all IEA Member country governments, and all IEA Reporting Companies (as defined in the Agency's Emergency Management Manual). The Security Regulations that the Executive Director intended to promulgate were enclosed with the Secretariat's Note as Annex 2.

Section VIII.B.1., Brief Description of the IEA Security System

The 1997 Security Principles and Procedures provide that all information that requires protection against unauthorised disclosure in the interest of ensuring the confidentiality of information provided by IEA Member country governments, oil companies, or other sources, or the unauthorised disclosure of which could otherwise prejudice the interests of the IEA, the OECD, or a Member country government of either, shall be classified in one of the following three categories:

- (a) FOR OFFICIAL USE: All information that should not be communicated other than for official purposes shall, subject to paragraph 6 below [authorising the Executive Director to make such exceptions as he considers necessary for the effective functioning of the Agency], be classified "FOR OFFICIAL USE";
- (b) CONFIDENTIAL: All information, the unauthorised disclosure of which could seriously prejudice the interests of the IEA, the OECD, or any Member country government of either, shall be classified "CONFIDENTIAL";
- (c) CONFIDENTIAL - SPECIAL HANDLING: The following "CONFIDENTIAL" information shall, in addition, be classified "SPECIAL HANDLING":
 - (i) commercial information pertaining to particular oil or other companies, or that could be identified as such;
 - (ii) any other information determined by the Executive Director or by the Governing Board to require special handling.

It is the third category, "CONFIDENTIAL - SPECIAL HANDLING", which departs from the OECD's classification scheme by recognising the need for a higher level of protection for a limited amount of information; this classification replaces the Agency's previous "HIGHLY CONFIDENTIAL" and "SECRET" classifications.

On 27 October 1997 the Executive Director issued, in implementation of the Security Principles and Procedures, the Security Regulations that had been annexed to the Secretariat's Note for the October Governing Board meeting. As under the 1977 rules, "Each Secretariat staff member who has knowledge of custody of classified information....is responsible for maintaining its security....", and supervisors are responsible for ensuring compliance within their offices [Section 1.3].

Both documentary and electronic material are subject to the classification rules. Guidance on classification of documents begins with the statement that "[a]ll information that could be released generally to the press or the public shall be unclassified" [Section 2.1(a)]. Moreover, it is not necessary that "FOR OFFICIAL USE" information be classified by Secretariat staff until they transmit that information outside their offices, and material concerning personnel matters, although to be marked "STAFF CONFIDENTIAL", is not governed by the Security Regulations [Section 2.2(a)].

There are special provisions governing the handling of information that is in electronic form [Sections 2.6, 3.2, 4.3]. Thus "FOR OFFICIAL USE" information may be stored in directories with Agency-wide access, whereas "CONFIDENTIAL" information is to be limited to the office level or more restrictively within offices, and "CONFIDENTIAL - SPECIAL HANDLING" information must be kept in special user accounts with special passwords. Hard-copy "CONFIDENTIAL" material must be kept in locked cupboards or within locked offices during non-duty hours; "CONFIDENTIAL - SPECIAL HANDLING" material is subject to more stringent requirements both during and after duty hours, including storage, during non-duty hours, in receptacles at least equivalent to fireproof safes with approved three-way combination locks [Section 3.1].

Secretariat staff are accorded broad discretion on the distribution of "FOR OFFICIAL USE" material [Section 4.1(a)]. "CONFIDENTIAL" access of Secretariat staff is subject to "need to know" rules, and the transmittal of "CONFIDENTIAL" information other than to Member country or Secretariat recipients requires special authorisation [Section 4.1(b)]. Rigorous rules attend the dissemination of "CONFIDENTIAL - SPECIAL HANDLING" information; for example, it may not be transmitted by electronic mail and requires high level approval to remove from IEA premises; governments to which it is transmitted are to be asked to assign appropriate classifications; and "if such information pertains to specific oil or other companies, or could be identified as such, no [removal] authorisation may be given, and the

document or communication may not be removed or transmitted from IEA premises, for five years from the date of its receipt by the Secretariat, without the express consent of the company that originated the information" [Section 4.1(c)]. When disclosure outside the Agency is authorised, "CONFIDENTIAL - SPECIAL HANDLING" information may be electronically transmitted only by a private key encryption technique approved by the Executive Director or his Deputy [Section 4.4].

In addition to their use of a different, higher classification category, the IEA's Security Regulations differ from the OECD's security rules in their declassification and downgrading provisions. While the OECD rules make the OECD Council and its subsidiary bodies responsible for declassifying information, the IEA rules retain the historical IEA practice of allowing declassification by the Secretariat, under guidelines that differ depending on the classification level; however, the 1997 IEA rules preserve the pre-existing IEA safeguard that classified information furnished by a government may not be declassified or downgraded without the permission of the originator [Section 2.4(b)]. See also the discussion in Section VIII.B.3 below.

The new IEA security rules represent a distinct liberalisation from the old ones, and among the examples is the elimination of detailed rules on escorting visitors within IEA premises, made feasible by the use of surveillance cameras and of controlled access systems for parts of the Agency's premises. The new rules also omit the detailed requirements of the old ones as concerns staff background questionnaires, governmental investigations, Governing Board consultations on individual clearances, and periodic clearance updates; they do, however, continue to oblige management to make security judgments about individual staff members who will have access to "CONFIDENTIAL - SPECIAL HANDLING" information, and they allow the Agency as a discretionary matter to request from individuals, information on their backgrounds, and to ask Member governments to conduct some kind of security investigation. [Sections 5.3, 5.4, 5.6].

Section VIII.B.3., Policy of Openness

The IEA's Security Regulations provide that classified material originated in the Agency should be periodically reviewed and downgraded or declassified as conditions warrant [Section 2.4(a)]. But the IEA has not adopted a policy on the systematic declassification of its classified documents. In addition to concern over political sensitivities, it would be necessary to assure that any declassification process gave ample protection to information collected from industry under assurances and possibly legal requirements of confidentiality,

and to classified information from governments. Such a review process would likely prove extremely time-consuming. As the Secretariat stated in Document IEA/GB(97)44:

The new OECD rules provide for automatic downgrading or declassification of classified information after three years and for public access to archives after ten years (reduced from thirty), subject, in each case, to Member country objection. It is believed, however, that the period of sensitivity of some IEA classified information could be much longer. In the IEA context, automatic declassification or public access (even when subject to Member country objection) would seem to involve security risks that could be minimised only by devoting substantial staff resources to declassification review, which cannot be afforded in the current budgetary environment. [Paragraph 10(b)].

Thus declassification of IEA documents, while practiced liberally, is handled case-by-case.

Section VIII.C., Languages

In the three most recent cases of accession to the I.E.P. Agreement, by Hungary, the Czech Republic and the Republic of Korea, all three language texts (English, French and German) of amendments to the Agreement were adopted at the same time.

APPENDICES TO SUPPLEMENT I

APPENDIX I, MEMBERSHIP

International Energy Agency

(Updates Volume I, Appendix I to 31 December 2003)

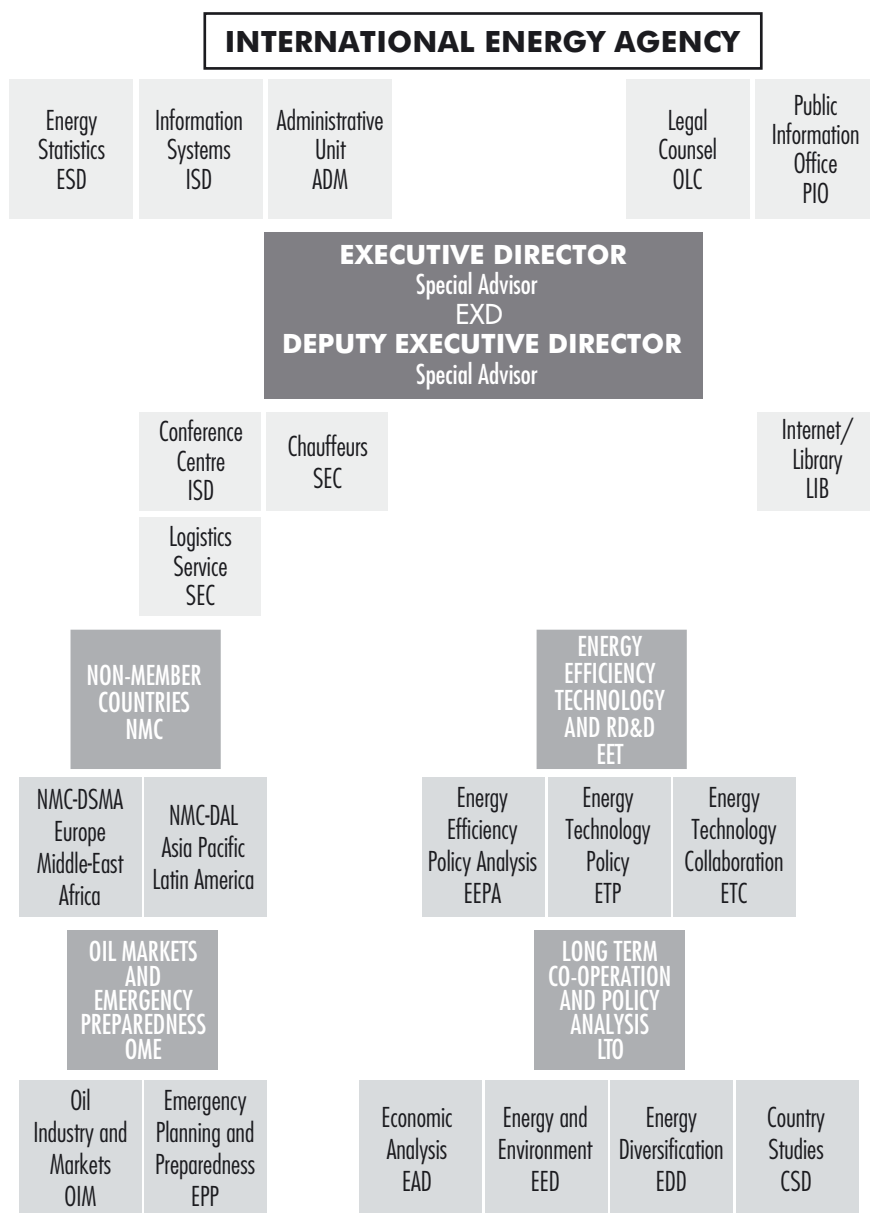
Participating Country	Signature or Accession	Date of Deposit of Consent to be Bound	Date of Entry into Force
Australia	17 May 1979	17 May 1979	27 May 1979
Austria	18 Nov. 1974	30 June 1976	10 Jul. 1976
Belgium	18 Nov. 1974	29 July 1976	08 Aug. 1976
Canada	18 Nov. 1974	17 Dec. 1975	19 Jan. 1976
Czech Republic	27 Jan. 2001	27 Jan. 2001	5 Feb. 2001
Denmark	18 Nov. 1974	19 Jun. 1975	19 Jan. 1976
Finland	22 Dec. 1991	22 Dec. 1991	01. Jan. 1992
France	28 Jul. 1992	28 Jul. 1992	07 Aug. 1992
Germany	18 Nov. 1974	20 Oct. 1975	19 Jan. 1976
Greece	25 Sep. 1976*	15 Jul. 1977	25 Jul. 1977
Hungary	15 May 1997	23 May 1997	02 Jun. 1997
Ireland	18 Nov. 1974	28 Jul. 1975	19. Jan. 1976
Italy	18 Nov. 1974	03 Feb. 1978	13 Feb. 1978
Japan	18 Nov. 1974	30 Apr. 1975	19 Jan. 1976
Korea	20 Apr. 2001	19 Mar. 2002	28 Mar. 2002
Luxembourg	18 Nov. 1974	24 Apr. 1975	19 Jan. 1976
The Netherlands	18 Nov. 1974	30 Mar. 1976	09 Apr. 1976
New Zealand	21 Mar. 1975*	29 Dec. 1976	08 Jan. 1977
Portugal	09 May 1980*	29 June 1981	09 Jul. 1981
Spain	18 Nov. 1974	17 Nov. 1975	19 Jan. 1976
Sweden	18 Nov. 1974	18 Dec. 1975	19 Jan. 1976
Switzerland	18 Nov. 1974	08 Dec. 1975	19 Jan. 1976
Turkey	18 Nov. 1974	24 Apr. 1981	04 May 1981
United Kingdom	18 Nov. 1974	30 Oct. 1975	19 Jan. 1976
United States	18 Nov. 1974	09 Jan. 1976	19 Jan. 1976

Norway participates in the Agency under a special Agreement. The European Communities (European Union) co-operate with the IEA on the basis of Protocol No. 1 to the OECD Convention which provides for the Commission to “take part in the work” of the Organisation.

* Provisional accession.

APPENDIX II, ORGANISATION OF THE SECRETARIAT

(Updates Volume I, Appendix V to 31 December 2003)



APPENDIX III, AGREEMENT ON AN INTERNATIONAL ENERGY PROGRAM

I.E.P. AGREEMENT

Explanatory Note:

Set out below is the text of the IEP Agreement of 18 November 1974, as amended to 31 December 2003, with particular reference to amendments to Article 62.

Subsequent to signature by the original Member countries indicated at the end of the Agreement, the following Member countries acceded to the I.E.P Agreement: Australia, Czech Republic, Finland, France, Greece, Hungary, Korea, New Zealand and Portugal.

Norway participates in the Agency as a Member under a special agreement.

The Commission of the European Communities also takes part in the work of the Agency pursuant to the Supplementary Protocol No. 1 to the OECD Convention.

AGREEMENT on an INTERNATIONAL ENERGY PROGRAM (As amended)

THE GOVERNMENTS OF THE REPUBLIC OF AUSTRIA, THE KINGDOM OF BELGIUM, CANADA, THE KINGDOM OF DENMARK, THE FEDERAL REPUBLIC OF GERMANY, IRELAND, THE ITALIAN REPUBLIC, JAPAN, THE GRAND DUCHY OF LUXEMBOURG, THE KINGDOM OF THE NETHERLANDS, SPAIN, THE KINGDOM OF SWEDEN, THE SWISS CONFEDERATION, THE REPUBLIC OF TURKEY, THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND, AND THE UNITED STATES OF AMERICA,

DESIRING to promote secure oil supplies on reasonable and equitable terms,

DETERMINED to take common effective measures to meet oil supply emergencies by developing an emergency self-sufficiency in oil supplies, restraining demand and allocating available oil among their countries on an equitable basis,

DESIRING to promote co-operative relations with oil producing countries and with other oil consuming countries, including those of the developing world, through a purposeful dialogue, as well as through other forms of co-operation, to further the opportunities for a better understanding between consumer and producer countries,

MINDFUL of the interests of other oil consuming countries, including those of the developing world,

DESIRING to play a more active role in relation to the oil industry by establishing a comprehensive international information system and a permanent framework for consultation with oil companies,

DETERMINED to reduce their dependence on imported oil by undertaking long-term co-operative efforts on conservation of energy, on accelerated development of alternative sources of energy, on research and development in the energy field and on uranium enrichment,

CONVINCED that these objectives can only be reached through continued co-operative efforts within effective organs,

EXPRESSING the intention that such organs be created within the framework of the Organisation for Economic Co-operation and Development,

RECOGNISING that other Member countries of the Organisation for Economic Co-operation and Development may desire to join in their efforts,

CONSIDERING the special responsibility of governments for energy supply,

CONCLUDE that it is necessary to establish an International Energy Program to be implemented through an International Energy Agency, and to that end,

HAVE AGREED as follows:

Article 1

1. The Participating Countries shall implement the International Energy Program as provided for in this Agreement through the International Energy Agency, described in Chapter IX, hereinafter referred to as the "Agency".
2. The term "Participating Countries" means States to which this Agreement applies provisionally and States for which the Agreement has entered into and remains in force.
3. The term "group" means the Participating Countries as a group.

Chapter I

EMERGENCY SELF-SUFFICIENCY

Article 2

1. The Participating Countries shall establish a common emergency self-sufficiency in oil supplies. To this end, each Participating Country shall maintain emergency reserves sufficient to sustain consumption for at least 60 days with no net oil imports. Both consumption and net oil imports shall be reckoned at the average daily level of the previous calendar year.
2. The Governing Board shall, acting by special majority, not later than 1st July, 1975, decide the date from which the emergency reserve commitment of each Participating Country shall, for the purpose of calculating its supply right referred to in Article 7, be deemed to be raised to a level of 90 days. Each Participating Country shall increase its actual level of emergency reserves to 90 days and shall endeavour to do so by the date so decided.
3. The term “emergency reserve commitment” means the emergency reserves equivalent to 60 days of net oil imports as set out in paragraph 1 and, from the date to be decided according to paragraph 2, to 90 days of net oil imports as set out in paragraph 2.

Article 3

1. The emergency reserve commitment set out in Article 2 may be satisfied by:
 - oil stocks,
 - fuel switching capacity,
 - stand-by oil production,in accordance with the provisions of the Annex which forms an integral part of this Agreement.
2. The Governing Board shall, acting by majority, not later than 1st July, 1975, decide the extent to which the emergency reserve commitment may be satisfied by the elements mentioned in paragraph 1.

Article 4

1. The Standing Group on Emergency Questions shall, on a continuing basis, review the effectiveness of the measures taken by each Participating Country to meet its emergency reserve commitment.

2. The Standing Group on Emergency Questions shall report to the Management Committee, which shall make proposals, as appropriate, to the Governing Board. The Governing Board may, acting by majority, adopt recommendations to Participating Countries.

Chapter II

DEMAND RESTRAINT

Article 5

1. Each Participating Country shall at all times have ready a program of contingent oil demand restraint measures enabling it to reduce its rate of final consumption in accordance with Chapter IV.
2. The Standing Group on Emergency Questions shall, on a continuing basis, review and assess:
 - each Participating Country's program of demand restraint measures,
 - the effectiveness of measures actually taken by each Participating Country.
3. The Standing Group on Emergency Questions shall report to the Management Committee, which shall make proposals, as appropriate, to the Governing Board. The Governing Board may, acting by majority, adopt recommendations to Participating Countries.

Chapter III

ALLOCATION

Article 6

1. Each Participating Country shall take the necessary measures in order that allocation of oil will be carried out pursuant to this Chapter and Chapter IV.
2. The Standing Group on Emergency Questions shall, on a continuing basis, review and assess:
 - each Participating Country's measures in order that allocation of oil will be carried out pursuant to this Chapter and Chapter IV,
 - the effectiveness of measures actually taken by each Participating Country.
3. The Standing Group on Emergency Questions shall report to the Management Committee, which shall make proposals, as appropriate, to the Governing Board. The Governing Board may, acting by majority, adopt recommendations to Participating Countries.
4. The Governing Board shall, acting by majority, decide promptly on the practical procedures for the allocation of oil and on the procedures and modalities for the participation of oil companies therein within the framework of this Agreement.

Article 7

1. When allocation of oil is carried out pursuant to Article 13, 14, or 15, each Participating Country shall have a supply right equal to its permissible consumption less its emergency reserve drawdown obligation.
2. A Participating Country whose supply right exceeds the sum of its normal domestic production and actual net imports available during an emergency shall have an allocation right which entitles it to additional net imports equal to that excess.
3. A Participating Country in which the sum of normal domestic production and actual net imports available during an emergency exceeds its supply right shall have an allocation obligation which requires it to supply, directly or indirectly, the quantity of oil equal to that excess to other Participating Countries. This would not preclude any Participating Country from maintaining exports of oil to non-participating countries.

4. The term “permissible consumption” means the average daily rate of final consumption allowed when emergency demand restraint at the applicable level has been activated; possible further voluntary demand restraint by any Participating Country shall not affect its allocation right or obligation.
5. The term “emergency reserve drawdown obligation” means the emergency reserve commitment of any Participating Country divided by the total emergency reserve commitment of the group and multiplied by the group supply shortfall.
6. The term “group supply shortfall” means the shortfall for the group as measured by the aggregate permissible consumption for the group minus the daily rate of oil supplies available to the group during an emergency.
7. The term “oil supplies available to the group” means
 - all crude oil available to the group,
 - all petroleum products imported from outside the group, and
 - all finished products and refinery feedstocks which are produced in association with natural gas and crude oil and are available to the group.
8. The term “final consumption” means total domestic consumption of all finished petroleum products.

Article 8

1. When allocation of oil to a Participating Country is carried out pursuant to Article 17, that Participating Country shall
 - sustain from its final consumption the reduction in its oil supplies up to a level equal to 7 per cent of its final consumption during the base period,
 - have an allocation right equal to the reduction in its oil supplies which results in a reduction of its final consumption over and above that level.
2. The obligation to allocate this amount of oil is shared among the other Participating Countries on the basis of their final consumption during the base period.
3. The Participating Countries may meet their allocation obligations by any measures of their own choosing, including demand restraint measures or use of emergency reserves.

Article 9

1. For purposes of satisfying allocation rights and allocation obligations, the following elements will be included:

- all crude oil,
 - all petroleum products,
 - all refinery feedstocks, and
 - all finished products produced in association with natural gas and crude oil.
2. To calculate a Participating Country's allocation right, petroleum products normally imported by that Participating Country, whether from other Participating Countries or from non-participating countries, shall be expressed in crude oil equivalent and treated as though they were imports of crude oil to that Participating Country.
 3. Insofar as possible, normal channels of supply will be maintained as well as the normal supply proportions between crude oil and products and among different categories of crude oil and products.
 4. When allocation takes place, an objective of the Program shall be that available crude oil and products shall, insofar as possible, be shared within the refining and distributing industries as well as between refining and distributing companies in accordance with historical supply patterns.

Article 10

1. The objectives of the Program shall include ensuring fair treatment for all Participating Countries and basing the price for allocated oil on the price conditions prevailing for comparable commercial transactions.
2. Questions relating to the price of oil allocated during an emergency shall be examined by the Standing Group on Emergency Questions.

Article 11

1. It is not an objective of the Program to seek to increase, in an emergency, the share of world oil supply that the group had under normal market conditions. Historical oil trade patterns should be preserved as far as is reasonable, and due account should be taken of the position of individual non-participating countries.
2. In order to maintain the principles set out in paragraph I, the Management Committee shall make proposals, as appropriate, to the Governing Board, which, acting by majority, shall decide on such proposals.

Chapter IV

ACTIVATION

Article 12

Whenever the group as a whole or any Participating Country sustains or can reasonably be expected to sustain a reduction in its oil supplies, the emergency measures, which are the mandatory demand restraint referred to in Chapter II and the allocation of available oil referred to in Chapter III, shall be activated in accordance with this Chapter.

Article 13

Whenever the group sustains or can reasonably be expected to sustain a reduction in the daily rate of its oil supplies at least equal to 7 per cent of the average daily rate of its final consumption during the base period, each Participating Country shall implement demand restraint measures sufficient to reduce its final consumption by an amount equal to 7 per cent of its final consumption during the base period, and allocation of available oil among the Participating Countries shall take place in accordance with Articles 7, 9, 10 and 11.

Article 14

Whenever the group sustains or can reasonably be expected to sustain a reduction in the daily rate of its oil supplies at least equal to 12 per cent of the average daily rate of its final consumption during the base period, each Participating Country shall implement demand restraint measures sufficient to reduce its final consumption by an amount equal to 10 per cent of its final consumption during the base period, and allocation of available oil among the Participating Countries shall take place in accordance with Articles 7, 9, 10 and 11.

Article 15

When cumulative daily emergency reserve drawdown obligations as defined in Article 7 have reached 50 per cent of emergency reserve commitments and a decision has been taken in accordance with Article 20, each Participating Country shall take the measures so decided, and allocation of available oil among the Participating Countries shall take place in accordance with Articles 7, 9, 10 and 11.

Article 16

When demand restraint is activated in accordance with this Chapter, a Participating Country may substitute for demand restraint measures use of emergency reserves held in excess of its emergency reserve commitment as provided in the Program.

Article 17

1. Whenever any Participating Country sustains or can reasonably be expected to sustain a reduction in the daily rate of its oil supplies which results in a reduction of the daily rate of its final consumption by an amount exceeding 7 per cent of the average daily rate of its final consumption during the base period, allocation of available oil to that Participating Country shall take place in accordance with Articles 8 to 11.
2. Allocation of available oil shall also take place when the conditions in paragraph 1 are fulfilled in a major region of a Participating Country whose oil market is incompletely integrated. In this case, the allocation obligation of other Participating Countries shall be reduced by the theoretical allocation obligation of any other major region or regions of the Participating Country concerned.

Article 18

1. The term "base period" means the most recent four quarters with a delay of one-quarter necessary to collect information. While emergency measures are applied with regard to the group or to a Participating Country, the base period shall remain fixed.
2. The Standing Group on Emergency Questions shall examine the base period set out in paragraph 1, taking into account in particular such factors as growth, seasonal variations in consumption and cyclical changes and shall, not later than 1st April, 1975, report to the Management Committee. The Management Committee shall make proposals, as appropriate, to the Governing Board, which, acting by majority, shall decide on these proposals not later than 1st July, 1975.

Article 19

1. The Secretariat shall make a finding when a reduction of oil supplies as mentioned in Article 13, 14 or 17 has occurred or can reasonably be expected to occur, and shall establish the amount of the reduction or expected reduction for each Participating Country and for the group. The Secretariat shall keep the Management Committee informed of its

deliberations, and shall immediately report its finding to the members of the Committee and inform the Participating Countries thereof. The report shall include information on the nature of the reduction.

2. Within 48 hours of the Secretariat's reporting a finding, the Committee shall meet to review the accuracy of the data compiled and the information provided. The Committee shall report to the Governing Board within a further 48 hours. The report shall set out the views expressed by the members of the Committee, including any views regarding the handling of the emergency.
3. Within 48 hours of receiving the Management Committee's report, the Governing Board shall meet to review the finding of the Secretariat in the light of that report. The activation of emergency measures shall be considered confirmed and Participating Countries shall implement such measures within 15 days of such confirmation unless the Governing Board, acting by special majority, decides within a further 48 hours not to activate the emergency measures, to activate them only in part or to fix another time limit for their implementation.
4. If, according to the finding of the Secretariat, the conditions of more than one of the Articles 14, 13 and 17 are fulfilled, any decision not to activate emergency measures shall be taken separately for each Article and in the above order. If the conditions in Article 17 are fulfilled with regard to more than one Participating Country any decision not to activate allocation shall be taken separately with respect to each Country.
5. Decisions pursuant to paragraphs 3 and 4 may at any time be reversed by the Governing Board, acting by majority.
6. In making its finding under this Article, the Secretariat shall consult with oil companies to obtain their views regarding the situation and the appropriateness of the measures to be taken.
7. An international advisory board from the oil industry shall be convened, not later than the activation of emergency measures, to assist the Agency in ensuring the effective operation of such measures.

Article 20

1. The Secretariat shall make a finding when cumulative daily emergency reserve drawdown obligations have reached or can reasonably be expected to reach 50 per cent of emergency reserve commitments. The Secretariat

- shall immediately report its finding to the members of the Management Committee and inform the Participating Countries thereof. The report shall include information on the oil situation.
2. Within 72 hours of the Secretariat's reporting such a finding, the Management Committee shall meet to review the data compiled and the information provided. On the basis of available information the Committee shall report to the Governing Board within a further 48 hours proposing measures required for meeting the necessities of the situation, including the increase in the level of mandatory demand restraint that may be necessary. The report shall set out the views expressed by the members of the Committee.
 3. The Governing Board shall meet within 48 hours of receiving the Committee's report and proposal. The Governing Board shall review the finding of the Secretariat and the report of the Management Committee and shall within a further 48 hours, acting by special majority, decide on the measures required for meeting the necessities of the situation, including the increase in the level of mandatory demand restraint that may be necessary.

Article 21

1. Any Participating Country may request the Secretariat to make a finding under Article 19 or 20.
2. If, within 72 hours of such request, the Secretariat does not make such a finding, the Participating Country may request the Management Committee to meet and consider the situation in accordance with the provisions of this Agreement.
3. The Management Committee shall meet within 48 hours of such request in order to consider the situation. It shall, at the request of any Participating Country, report to the Governing Board within a further 48 hours. The report shall set out the views expressed by the members of the Committee and by the Secretariat, including any views regarding the handling of the situation.
4. The Governing Board shall meet within 48 hours of receiving the Management Committee's report. If it finds, acting by majority, that the conditions set out in Article 13, 14, 15 or 17 are fulfilled, emergency measures shall be activated accordingly.

Article 22

The Governing Board may at any time decide by unanimity to activate any appropriate emergency measures not provided for in this Agreement if the situation so requires.

DEACTIVATION*Article 23*

1. The Secretariat shall make a finding when a reduction of supplies as mentioned in Article 13, 14 or 17 has decreased or can reasonably be expected to decrease below the level referred to in the relevant Article. The Secretariat shall keep the Management Committee informed of its deliberations and shall immediately report its finding to the members of the Committee and inform the Participating Countries thereof.
2. Within 72 hours of the Secretariat's reporting a finding, the Management Committee shall meet to review the data compiled and the information provided. It shall report to the Governing Board within a further 48 hours. The report shall set out the views expressed by the members of the Committee, including any views regarding the handling of the emergency.
3. Within 48 hours of receiving the Committee's report, the Governing Board shall meet to review the finding of the Secretariat in the light of the report from the Management Committee. The deactivation of emergency measures or the applicable reduction of the demand restraint level shall be considered confirmed unless the Governing Board, acting by special majority, decides within a further 48 hours to maintain the emergency measures or to deactivate them only in part.
4. In making its finding under this Article, the Secretariat shall consult with the international advisory board, mentioned in Article 19, paragraph 7, to obtain its views regarding the situation and the appropriateness of the measures to be taken.
5. Any Participating Country may request the Secretariat to make a finding under this Article.

Article 24

When emergency measures are in force, and the Secretariat has not made a finding under Article 23, the Governing Board, acting by special majority, may at any time decide to deactivate the measures either wholly or in part.

Chapter V

INFORMATION SYSTEM ON THE INTERNATIONAL OIL MARKET

Article 25

1. The Participating Countries shall establish an Information System consisting of two sections:
 - a General Section on the situation in the international oil market and activities of oil companies,
 - a Special Section designed to ensure the efficient operation of the measures described in Chapters I to IV.
2. The System shall be operated on a permanent basis, both under normal conditions and during emergencies, and in a manner which ensures the confidentiality of the information made available.
3. The Secretariat shall be responsible for the operation of the Information System and shall make the information compiled available to the Participating Countries.

Article 26

The term “oil companies” means international companies, national companies, non-integrated companies and other entities which play a significant role in the international oil industry.

GENERAL SECTION

Article 27

1. Under the General Section of the Information System, the Participating Countries shall, on a regular basis, make available to the Secretariat information on the precise data identified in accordance with Article 29 on the following subjects relating to oil companies operating within their respective jurisdictions:
 - (a) Corporate structure;
 - (b) Financial structure, including balance sheets, profit and loss accounts, and taxes paid;
 - (c) Capital investments realised;
 - (d) Terms of arrangements for access to major sources of crude oil;

- (e) Current rates of production and anticipated changes therein;
 - (f) Allocations of available crude supplies to affiliates and other customers (criteria and realisations);
 - (g) Stocks;
 - (h) Cost of crude oil and oil products;
 - (i) Prices, including transfer prices to affiliates;
 - (j) Other subjects, as decided by the Governing Board, acting by unanimity.
2. Each Participating Country shall take appropriate measures to ensure that all oil companies operating within its jurisdiction make such information available to it as is necessary to fulfil its obligations under paragraph 1, taking into account such relevant information as is already available to the public or to Governments.
 3. Each Participating Country shall provide information on a non-proprietary basis and on a company and/or country basis as appropriate, and in such a manner and degree as will not prejudice competition or conflict with the legal requirements of any Participating Country relating to competition.
 4. No Participating Country shall be entitled to obtain, through the General Section, any information on the activities of a company operating within its jurisdiction which could not be obtained by it from that company by application of its laws or through its institutions and customs if that company were operating solely within its jurisdiction.

Article 28

Information provided on a “non-proprietary basis” means information which does not constitute or relate to patents, trademarks, scientific or manufacturing processes or developments, individual sales, tax returns, customer lists or geological and geophysical information, including maps.

Article 29

1. Within 60 days of the first day of the provisional application of this Agreement, and as appropriate thereafter, the Standing Group on the Oil Market shall submit a report to the Management Committee identifying the precise data within the list of subjects in Article 27, paragraph 1, which are required for the efficient operation of the General Section, and specifying the procedures for obtaining such data on a regular basis.
2. The Management Committee shall review the report and make proposals to the Governing Board which, within 30 days of the submission of the report

to the Management Committee, and acting by majority, shall take the decisions necessary for the establishment and efficient operation of the General Section.

Article 30

In preparing its reports under Article 29, the Standing Group on the Oil Market shall

- consult with oil companies to ensure that the System is compatible with industry operations;
- identify specific problems and issues which are of concern to Participating Countries;
- identify specific data which are useful and necessary to resolve such problems and issues;
- work out precise standards for the harmonization of the required information in order to ensure comparability of the data;
- work out procedures to ensure the confidentiality of the information.

Article 31

1. The Standing Group on the Oil Market shall on a continuing basis review the operation of the General Section.
2. In the event of changes in the conditions of the international oil market, the Standing Group on the Oil Market shall report to the Management Committee. The Committee shall make proposals on appropriate changes to the Governing Board which, acting by majority, shall decide on such proposals.

SPECIAL SECTION

Article 32

1. Under the Special Section of the Information System, the Participating Countries shall make available to the Secretariat all information which is necessary to ensure the efficient operation of emergency measures.
2. Each Participating Country shall take appropriate measures to ensure that all oil companies operating within its jurisdiction make such information available to it as is necessary to enable it to fulfil its obligations under paragraph 1 and under Article 33.
3. The Secretariat shall, on the basis of this information and other information available, continuously survey the supply of oil to and the consumption of oil within the group and each Participating Country.

Article 33

Under the Special Section, the Participating Countries shall, on a regular basis, make available to the Secretariat information on the precise data identified in accordance with Article 34 on the following subjects:

- (a) Oil consumption and supply;
- (b) Demand restraint measures;
- (c) Levels of emergency reserves;
- (d) Availability and utilisation of transportation facilities;
- (e) Current and projected levels of international supply and demand;
- (f) Other subjects, as decided by the Governing Board, acting in unanimity.

Article 34

1. Within 30 days of the first day of the provisional application of this Agreement, the Standing Group on Emergency Questions shall submit a report to the Management Committee identifying the precise data within the list of subjects in Article 33 which are required under the Special Section to ensure the efficient operation of emergency measures and specifying the procedures for obtaining such data on a regular basis, including accelerated procedures in times of emergency.
2. The Management Committee shall review the report and make proposals to the Governing Board which, within 30 days of the submission of the report to the Management Committee, and acting by majority, shall take the decisions necessary for the establishment and efficient operation of the Special Section.

Article 35

In preparing its report under Article 34, the Standing Group on Emergency Questions shall:

- consult with oil companies to ensure that the System is compatible with industry operations;
- work out precise standards for the harmonization of the required information in order to ensure comparability of the data;
- work out procedures to ensure the confidentiality of the information.

Article 36

The Standing Group on Emergency Questions shall on a continuing basis review the operation of the Special Section and shall, as appropriate, report to the Management Committee. The Committee shall make proposals on appropriate changes to the Governing Board, which, acting by majority, shall decide on such proposals.

Chapter VI

FRAMEWORK FOR CONSULTATION WITH OIL COMPANIES

Article 37

1. The Participating Countries shall establish within the Agency a permanent framework for consultation within which one or more Participating Countries may, in an appropriate manner, consult with and request information from individual oil companies on all important aspects of the oil industry, and within which the Participating Countries may share among themselves on a co-operative basis the results of such consultations.
2. The framework for consultation shall be established under the auspices of the Standing Group on the Oil Market.
3. Within 60 days of the first day of the provisional application of this Agreement, and as appropriate thereafter, the Standing Group on the Oil Market, after consultation with oil companies, shall submit a report to the Management Committee on the procedures for such consultations. The Management Committee shall review the report and make proposals to the Governing Board, which, within 30 days of the submission of the report to the Management Committee, and acting by majority, shall decide on such procedures.

Article 38

1. The Standing Group on the Oil Market shall present a report to the Management Committee on consultations held with any oil company within 30 days thereof.
2. The Management Committee shall consider the report and may make proposals on appropriate co-operative action to the Governing Board, which shall decide on such proposals.

Article 39

1. The Standing Group on the Oil Market shall, on a continuing basis, evaluate the results of the consultations with and the information collected from oil companies.
2. On the basis of these evaluations, the Standing Group may examine and assess the international oil situation and the position of the oil industry and shall report to the Management Committee.

3. The Management Committee shall review such reports and make proposals on appropriate co-operative action to the Governing Board, which shall decide on such proposals.

Article 40

The Standing Group on the Oil Market shall submit annually a general report to the Management Committee on the functioning of the framework for consultation with oil companies.

Chapter VII

LONG TERM CO-OPERATION ON ENERGY

Article 41

1. The Participating Countries are determined to reduce over the longer term their dependence on imported oil for meeting their total energy requirements.
2. To this end, the Participating Countries will undertake national programs and promote the adoption of co-operative programs, including, as appropriate, the sharing of means and efforts, while concerning national policies, in the areas set out in Article 42.

Article 42

1. The Standing Group on Long Term Co-operation shall examine and report to the Management Committee on co-operative action. The following areas shall in particular be considered:
 - (a) Conservation of energy, including co-operative programs on
 - exchange of national experiences and information on energy conservation;
 - ways and means for reducing the growth of energy consumption through conservation.
 - (b) Development of alternative sources of energy such as domestic oil, coal, natural gas, nuclear energy and hydro-electric power, including co-operative programs on
 - exchange of information on such matters as resources, supply and demand, price and taxation;
 - ways and means for reducing the growth of consumption of imported oil through the development of alternative sources of energy;
 - concrete projects, including jointly financed projects;
 - criteria, quality objectives and standards for environmental protection.
 - (c) Energy research and development, including as a matter of priority co-operative programs on
 - coal technology;
 - solar energy;
 - radioactive waste management;
 - controlled thermonuclear fusion;

- production of hydrogen from water;
- nuclear safety;
- waste heat utilisation;
- conservation of energy;
- municipal and industrial waste utilisation for energy conservation;
- overall energy system analysis and general studies.

(d) Uranium enrichment, including co-operative programs

- to monitor developments in natural and enriched uranium supply;
- to facilitate development of natural uranium resources and enrichment services;
- to encourage such consultations as may be required to deal with international issues that may arise in relation to the expansion of enriched uranium supply;
- to arrange for the requisite collection, analysis and dissemination of data related to the planning of enrichment services.

2. In examining the areas of co-operative action, the Standing Group shall take due account of ongoing activities elsewhere.
3. Programs developed under paragraph 1 may be jointly financed. Such joint financing may take place in accordance with Article 64, paragraph 2.

Article 43

1. The Management Committee shall review the reports of the Standing Group and make appropriate proposals to the Governing Board, which shall decide on these proposals not later than 1st July, 1975.
2. The Governing Board shall take into account possibilities for co-operation within a broader framework.

Chapter VIII

RELATIONS WITH PRODUCER COUNTRIES AND WITH OTHER CONSUMER COUNTRIES

Article 44

The Participating Countries will endeavour to promote co-operative relations with oil producing countries and with other oil consuming countries, including developing countries. They will keep under review developments in the energy field with a view to identifying opportunities for and promoting a purposeful dialogue, as well as other forms of co-operation, with producer countries and with other consumer countries.

Article 45

To achieve the objectives set out in Article 44, the Participating Countries will give full consideration to the needs and interests of other oil consuming countries, particularly those of the developing countries.

Article 46

The Participating Countries will, in the context of the Program, exchange views on their relations with oil producing countries. To this end, the Participating Countries should inform each other of co-operative action on their part with producer countries which is relevant to the objectives of the Program.

Article 47

The Participating Countries will, in the context of the Program

- seek, in the light of their continuous review of developments in the international energy situation and its effect on the world economy, opportunities and means of encouraging stable international trade in oil and of promoting secure oil supplies on reasonable and equitable terms for each Participating Country;
- consider, in the light of work going on in other international organisations, other possible fields of co-operation including the prospects for co-operation in accelerated industrialisation and socio-economic development in the principal producing areas and the implications of this for international trade and investment;
- keep under review the prospects for co-operation with oil producing countries on energy questions of mutual interest, such as conservation

of energy, the development of alternative sources, and research and development.

Article 48

1. The Standing Group on Relations with Producer and other Consumer Countries will examine and report to the Management Committee on the matters described in this Chapter.
2. The Management Committee may make proposals on appropriate co-operative action regarding these matters to the Governing Board, which shall decide on such proposals.

Chapter IX

INSTITUTIONAL AND GENERAL PROVISIONS

Article 49

1. The Agency shall have the following organs:
 - a Governing Board
 - a Management Committee
 - Standing Groups on
 - Emergency Questions
 - The Oil Market
 - Long Term Co-operation
 - Relations with Producer and Other Consumer Countries.
2. The Governing Board or the Management Committee may, acting by majority, establish any other organ necessary for the implementation of the Program.
3. The Agency shall have a Secretariat to assist the organs mentioned in paragraphs 1 and 2.

GOVERNING BOARD

Article 50

1. The Governing Board shall be composed of one or more ministers or their delegates from each Participating Country.
2. The Governing Board, acting by majority, shall adopt its own rules of procedure. Unless otherwise decided in the rules of procedure, these rules shall also apply to the Management Committee and the Standing Groups.
3. The Governing Board, acting by majority, shall elect its Chairman and Vice-Chairmen.

Article 51

1. The Governing Board shall adopt decisions and make recommendations which are necessary for the proper functioning of the Program.
2. The Governing Board shall review periodically and take appropriate action concerning developments in the international energy situation, including problems relating to the oil supplies of any Participating

Country or Countries, and the economic and monetary implications of these developments. In its activities concerning the economic and monetary implications of developments in the international energy situation, the Governing Board shall take into account the competence and activities of international institutions responsible for overall economic and monetary questions.

3. The Governing Board, acting by majority, may delegate any of its functions to any other organ of the Agency.

Article 52

1. Subject to Article 61, paragraph 2, and Article 65, decisions adopted pursuant to this Agreement by the Governing Board or by any other organ by delegation from the Board shall be binding on the Participating Countries.
2. Recommendations shall not be binding.

MANAGEMENT COMMITTEE

Article 53

1. The Management Committee shall be composed of one or more senior representatives of the Government of each Participating Country.
2. The Management Committee shall carry out the functions assigned to it in this Agreement and any other function delegated to it by the Governing Board.
3. The Management Committee may examine and make proposals to the Governing Board, as appropriate, on any matter within the scope of this Agreement.
4. The Management Committee shall be convened upon the request of any Participating Country.
5. The Management Committee, acting by majority, shall elect its Chairman and Vice-Chairmen.

STANDING GROUPS

Article 54

1. Each Standing Group shall be composed of one or more representatives of the Government of each Participating Country.

2. The Management Committee, acting by majority, shall elect the Chairmen and Vice-Chairmen of the Standing Groups.

Article 55

1. The Standing Group on Emergency Questions shall carry out the functions assigned to it in Chapters I to V and the Annex and any other function delegated to it by the Governing Board.
2. The Standing Group may review and report to the Management Committee on any matter within the scope of Chapters I to V and the Annex.
3. The Standing Group may consult with oil companies on any matter within its competence.

Article 56

1. The Standing Group on the Oil Market shall carry out the functions assigned to it in Chapters V and VI and any other function delegated to it by the Governing Board.
2. The Standing Group may review and report to the Management Committee on any matter within the scope of Chapters V and VI.
3. The Standing Group may consult with oil companies on any matter within its competence.

Article 57

1. The Standing Group on Long Term Co-operation shall carry out the functions assigned to it in Chapter VII and any other function delegated to it by the Governing Board.
2. The Standing Group may review and report to the Management Committee on any matter within the scope of Chapter VII.

Article 58

1. The Standing Group on Relations with Producer and other Consumer Countries shall carry out the functions assigned to it in Chapter VIII and any other function delegated to it by the Governing Board.
2. The Standing Group may review and report to the Management Committee on any matter within the scope of Chapter VIII.
3. The Standing Group may consult with oil companies on any matter within its competence.

SECRETARIAT

Article 59

1. The Secretariat shall be composed of an Executive Director and such staff as is necessary.
2. The Executive Director shall be appointed by the Governing Board.
3. In the performance of their duties under this Agreement the Executive Director and the staff shall be responsible to and report to the organs of the Agency.
4. The Governing Board, acting by majority, shall take all decisions necessary for the establishment and the functioning of the Secretariat.

Article 60

The Secretariat shall carry out the functions assigned to it in this Agreement and any other function assigned to it by the Governing Board.

VOTING

Article 61

1. The Governing Board shall adopt decisions and recommendations for which no express voting provision is made in this Agreement, as follows:
 - (a) by majority:
 - decisions on the management of the Program, including decisions applying provisions of this Agreement which already impose specific obligations on Participating Countries
 - decisions on procedural questions
 - recommendations
 - (b) by unanimity:
 - all other decisions, including in particular decisions which impose on Participating Countries new obligations not already specified in this Agreement.
2. Decisions mentioned in paragraph 1 (b) may provide:
 - (a) that they shall not be binding on one or more Participating Countries;
 - (b) that they shall be binding only under certain conditions.

Article 62

1. Unanimity shall require all of the votes of the Participating Countries present and voting. Countries abstaining shall be considered as not voting.
2. When majority or special majority is required, the Participating Countries shall have the following voting weights:

	General Voting Weights	Oil Consumption Voting Weights	Combined Voting Weights
Australia	3	1	4
Austria	3	1	4
Belgium	3	1	4
Canada	3	4	7
Czech Republic	3	1	4
Denmark	3	1	4
Finland	3	1	4
France	3	6	9
Germany	3	8	11
Greece	3	0	3
Hungary	3	1	4
Ireland	3	0	3
Italy	3	5	8
Japan	3	14	17
Korea (Republic of)	3	1	4
Luxembourg	3	0	3
The Netherlands	3	1	4
New Zealand	3	0	3
Portugal	3	0	3
Spain	3	2	5
Sweden	3	2	5
Switzerland	3	1	4
Turkey	3	1	4
United Kingdom	3	5	8
United States	3	43	46
Totals	75	100	175

3. Majority shall require 60 per cent of the total combined voting weights and 50 per cent of the general voting weights cast.

4. Special majority shall require:

(a) 60 per cent of the total combined voting weights and 57 general voting weights for:

- the decision under Article 2, paragraph 2, relating to the increase in the emergency reserve commitment;
- decisions under Article 19, paragraph 3, not to activate the emergency measures referred to in Articles 13 and 14;
- decisions under Article 20, paragraph 3, on the measures required for meeting the necessities of the situation;
- decisions under Article 23, paragraph 3, to maintain the emergency measures referred to in Articles 13 and 14;
- decisions under Article 24 to deactivate the emergency measures referred to in Articles 13 and 14.

(b) 66 general voting weights for:

- decisions under Article 19, paragraph 3, not to activate the emergency measures referred to in Article 17;
- decisions under Article 23, paragraph 3, to maintain the emergency measures referred to in Article 17;
- decisions under Article 24 to deactivate the emergency measures referred to in Article 17.

5. The Governing Board, acting by unanimity, shall decide on the necessary increase, decrease, and redistribution of the voting weights referred to in paragraph 2, as well as on amendment of the voting requirements set out in paragraphs 3 and 4 in the event that

- a Country accedes to this Agreement in accordance with Article 71, or
- a Country withdraws from this Agreement in accordance with Article 68, paragraph 2, or Article 69, paragraph 2.

6. The Governing Board shall review annually the number and distribution of voting weights specified in paragraph 2, and, on the basis of such review, acting by unanimity, shall decide whether such voting weights should be increased or decreased, or redistributed, or both, because a change in any

Participating Country's share in total oil consumption has occurred or for any other reason.

7. Any change in paragraph 2, 3 or 4 shall be based on the concepts underlying those paragraphs and paragraph 6.

RELATIONS WITH OTHER ENTITIES

Article 63

In order to achieve the objectives of the Program, the Agency may establish appropriate relations with non-participating countries, international organisations, whether governmental or non-governmental, other entities and individuals.

FINANCIAL ARRANGEMENTS

Article 64

1. The expenses of the Secretariat and all other common expenses shall be shared among all Participating Countries according to a scale of contributions elaborated according to the principles and rules set out in the Annex to the "OECD Resolution of the Council on Determination of the Scale of Contributions by Member Countries to the Budget of the Organisation" of 10th December, 1963. After the first year of application of this Agreement, the Governing Board shall review this scale of contributions and, acting by unanimity, shall decide upon any appropriate changes in accordance with Article 73.
2. Special expenses incurred in connection with special activities carried out pursuant to Article 65 shall be shared by the Participating Countries taking part in such special activities in such proportions as shall be determined by unanimous agreement between them.
3. The Executive Director shall, in accordance with the financial regulations adopted by the Governing Board and not later than 1st October of each year, submit to the Governing Board a draft budget including personnel requirements. The Governing Board, acting by majority, shall adopt the budget.
4. The Governing Board, acting by majority, shall take all other necessary decisions regarding the financial administration of the Agency.
5. The financial year shall begin on 1st January and end on 31st December of each year. At the end of each financial year, revenues and expenditures shall be submitted to audit.

SPECIAL ACTIVITIES

Article 65

1. Any two or more Participating Countries may decide to carry out within the scope of this Agreement special activities, other than activities which are required to be carried out by all Participating Countries under Chapters I to V. Participating Countries which do not wish to take part in such special activities shall abstain from taking part in such decisions and shall not be bound by them. Participating Countries carrying out such activities shall keep the Governing Board informed thereof.
2. For the implementation of such special activities, the Participating Countries concerned may agree upon voting procedures other than those provided for in Articles 61 and 62.

IMPLEMENTATION OF THE AGREEMENT

Article 66

Each Participating Country shall take the necessary measures, including any necessary legislative measures, to implement this Agreement and decisions taken by the Governing Board.

Chapter X

FINAL PROVISIONS

Article 67

1. Each Signatory State shall, not later than 1st May, 1975, notify the Government of Belgium that, having complied with its constitutional procedures, it consents to be bound by this Agreement.
2. On the tenth day following the day on which at least six States holding at least 60 per cent of the combined voting weights mentioned in Article 62 have deposited a notification of consent to be bound or an instrument of accession, this Agreement shall enter into force for such States.
3. For each Signatory State which deposits its notification thereafter, this Agreement shall enter into force on the tenth day following the day of deposit.
4. The Governing Board, acting by majority, may upon request from any Signatory State decide to extend, with respect to that State, the time limit for notification beyond 1st May, 1975.

Article 68

1. Notwithstanding the provisions of Article 67, this Agreement shall be applied provisionally by all Signatory States, to the extent possible not inconsistent with their legislation, as from 18th November, 1974 following the first meeting of the Governing Board.
2. Provisional application of the Agreement shall continue until:
 - the Agreement enters into force for the State concerned in accordance with Article 67, or
 - 60 days after the Government of Belgium receives notification that the State concerned will not consent to be bound by the Agreement, or
 - the time limit for notification of consent by the State concerned referred to in Article 67 expires.

Article 69

1. This Agreement shall remain in force for a period of ten years from the date of its entry into force and shall continue in force thereafter unless and until the Governing Board, acting by majority, decides on its termination.

2. Any Participating Country may terminate the application of this Agreement for its part upon twelve months' written notice to the Government of Belgium to that effect, given not less than three years after the first day of the provisional application of this Agreement.

Article 70

1. Any State may, at the time of signature, notification of consent to be bound in accordance with Article 67, accession or at any later date, declare by notification addressed to the Government of Belgium that this Agreement shall apply to all or any of the territories for whose international relations it is responsible, or to any territories within its frontiers for whose oil supplies it is legally responsible.
2. Any declaration made pursuant to paragraph 1 may, in respect of any territory mentioned in such declaration, be withdrawn in accordance with the provisions of Article 69, paragraph 2.

Article 71

1. This Agreement shall be open for accession by any Member of the Organisation for Economic Co-operation and Development which is able and willing to meet the requirements of the Program. The Governing Board, acting by majority, shall decide on any request for accession.
2. This Agreement shall enter into force for any State whose request for accession has been granted on the tenth day following the deposit of its instrument of accession with the Government of Belgium, or on the date of entry into force of the Agreement pursuant to Article 67, paragraph 2, whichever is the later.
3. Accession may take place on a provisional basis under the conditions set out in Article 68, subject to such time limits as the Governing Board, acting by majority, may fix for an acceding State to deposit its notification of consent to be bound.

Article 72

1. This Agreement shall be open for accession by the European Communities.
2. This Agreement shall not in any way impede the further implementation of the treaties establishing the European Communities.

Article 73

This Agreement may at any time be amended by the Governing Board, acting by unanimity. Such amendment shall come into force in a manner determined by the Governing Board, acting by unanimity and making provision for Participating Countries to comply with their respective constitutional procedures.

Article 74

This Agreement shall be subject to a general review after 1st May, 1980.

Article 75

The Government of Belgium shall notify all Participating Countries of the deposit of each notification of consent to be bound in accordance with Article 67, and of each instrument of accession, of the entry into force of this Agreement or any amendment thereto, of any denunciation thereof, and of any other declaration or notification received.

Article 76

The original of this Agreement, of which the English, French and German texts are equally authentic, shall be deposited with the Government of Belgium, and a certified copy thereof shall be furnished to each other Participating Country by the Government of Belgium.

Annex (to the IEP)

EMERGENCY RESERVES

Article 1

1. Total oil stocks are measured according to the OECD and EEC definitions, revised as follows:
 - A. Stocks included:
 - crude oil, major products and unfinished oils held
 - in refinery tanks
 - in bulk terminals
 - in pipeline tankage
 - in barges
 - in intercoastal tankers
 - in oil tankers in port
 - in inland ship bunkers
 - in storage tank bottoms
 - in working stocks
 - by large consumers as required by law or otherwise controlled by Governments.
 - B. Stocks excluded:
 - (a) crude oil not yet produced
 - (b) crude oil, major products and unfinished oils held
 - in pipelines
 - in rail tank cars
 - in truck tank cars
 - in seagoing ships' bunkers
 - in service stations and retail stores
 - by other consumers
 - in tankers at sea
 - as military stocks.
2. That portion of oil stocks which can be credited toward each Participating Country's emergency reserve commitment is its total oil stocks under the above definition minus those stocks which can be technically determined as being absolutely unavailable in even the most severe emergency. The

Standing Group on Emergency Questions shall examine this concept and report on criteria for the measurement of absolutely unavailable stocks.

3. Until a decision has been taken on this matter, each Participating Country shall subtract 10 per cent from its total stocks in measuring its emergency reserves.
4. The Standing Group on Emergency Questions shall examine and report to the Management Committee on:
 - (a) the modalities of including naphtha for uses other than motor and aviation gasoline in the consumption against which stocks are measured,
 - (b) the possibility of creating common rules for the treatment of marine bunkers in an emergency, and of including marine bunkers in the consumption against which stocks are measured,
 - (c) the possibility of creating common rules concerning demand restraint for aviation bunkers,
 - (d) the possibility of crediting towards emergency reserve commitments some portion of oil at sea at the time of activation of emergency measures,
 - (e) the possibility of increasing supplies available in an emergency through savings in the distribution system.

Article 2

1. Fuel switching capacity is defined as normal oil consumption that may be replaced by other fuels in an emergency, provided that this capacity is subject to government control in an emergency, can be brought into operation within one month, and that secure supplies of the alternative fuel are available for use.
2. The supply of alternative fuel shall be expressed in terms of oil equivalent.
3. Stocks of an alternative fuel reserved for fuel switching purposes may be credited towards emergency reserve commitments insofar as they can be used during the period of self-sufficiency.
4. Stand-by production of an alternative fuel reserved for fuel switching purposes will be credited towards emergency reserve commitments on the same basis as stand-by oil production, subject to the provisions of Article 4 of this Annex.

5. The Standing Group on Emergency Questions shall examine and report to the Management Committee on:
- (a) the appropriateness of the time limit of one month mentioned in paragraph 1,
 - (b) the basis of accounting for the fuel switching capacity based on stocks of an alternative fuel, subject to the provisions of paragraph 3.

Article 3

A Participating Country may credit towards its emergency reserve commitment oil stocks in another country provided that the Government of that other country has an agreement with the Government of the Participating Country that it shall impose no impediment to the transfer of those stocks in an emergency to the Participating Country.

Article 4

1. Stand-by oil production is defined as a Participating Country's potential oil production in excess of normal oil production within its jurisdiction
- which is subject to government control, and
 - which can be brought into use during an emergency within the period of self-sufficiency.
2. The Standing Group on Emergency Questions shall examine and report to the Management Committee on:
- (a) the concept of and methods of measurement of stand-by oil production as referred to in paragraph 1,
 - (b) the appropriateness of “the period of self-sufficiency” as a time limit,
 - (c) the question of whether a given quantity of stand-by oil production is of greater value for purposes of emergency self-sufficiency than the same quantity of oil stocks, the amount of a possible credit for stand-by production and the method of its calculation.

Article 5

Stand-by oil production available to a Participating Country within the jurisdiction of another country may be credited towards its emergency reserve commitment on the same basis as stand-by oil production within its own jurisdiction, subject to the provisions of Article 4 of this Annex provided that the Government of that other country has an agreement with the Government

of the Participating Country that it shall impose no impediment to the supply of oil from that stand-by capacity to the Participating Country in an emergency.

Article 6

The Standing Group on Emergency Questions shall examine and report to the Management Committee on the possibility of crediting towards a Participating Country's emergency reserve commitment mentioned in Article 2, paragraph 2, of the Agreement, long term investments which have the effect of reducing the Participating Countries' dependence on imported oil.

Article 7

1. The Standing Group on Emergency Questions shall examine and report to the Management Committee regarding the reference period set out in Article 2, paragraph 1, of the Agreement, in particular taking into account such factors as growth, seasonal variations in consumption and cyclical changes.
2. A decision by the Governing Board to change the definition of the reference period mentioned in paragraph 1 shall be taken by unanimity.

Article 8

The Standing Group on Emergency Questions shall examine and report to the Management Committee on all elements of Chapters I to IV of the Agreement to eliminate possible mathematical and statistical anomalies.

Article 9

The reports from the Standing Group on Emergency Questions on the matters mentioned in this Annex shall be submitted to the Management Committee by 1st April, 1975. The Management Committee shall make proposals, as appropriate, to the Governing Board, which, acting by majority, not later than 1st July, 1975, shall decide on these proposals, except as provided for in Article 7, paragraph 2, of this Annex.

SUPPLEMENT TO VOLUME TWO



CHAPTER III, IEA OIL SECURITY: THE CORE OF ENERGY SECURITY

The May 1995 Ministerial Level Meeting of the IEA Governing Board emphasised the pre-eminence of energy security among the Agency's priorities. Ministers cautioned that rising oil imports and heightened dependence on supplies from a few large oil producers in the decade to come could increase vulnerability to oil supply disruptions. They reaffirmed the importance of the Agency's emergency response systems, including the Emergency Sharing System, and underscored the significance of the Governing Board's February 1995 Decision on Emergency Response Policies [discussed in Section II.D. of Volume II of *The History*] in assuring that the relevant response policies accord with market realities. [IEA/GB(95)30/ANN].

In June of 1996 the IEA held a Conference on Long-Term Security Issues, the purpose of which was to provide an opportunity for senior energy officials and oil industry executives from IEA Reporting Companies to discuss emergency response issues [IEA/GB(96)8]. Among the "messages" from this Conference were that oil security is a global problem, stocks are the surest means of rapid response, and demand restraint is important as a light-handed measure and in a prolonged disruption. The Chairman of the Governing Board, who also chaired the Conference, reported to the Board's June meeting on areas of concurrence between the Agency and industry. There was agreement on the IEA's important role in collecting and disseminating oil market information, on the contributions to energy security from other areas of IEA work such as energy savings and environmental protection, on the need for co-operation with oil producing countries, and on the importance of maintaining oil stocks at least at the level of the I.E.P. Agreement's 90-day obligation. Industry was sceptical about oil sharing, but common ground could be found in the proposition that sharing was a last resort. On the other hand, the oil companies should not be overburdened in normal circumstances, although the workability of the emergency response system must be checked from time to time. [Records of June 1996 Governing Board meeting, in files of IEA Office of Legal Counsel].

The IEA's objectives with respect to oil supply security featured prominently in the "Medium-Term Strategy: 1997-2000", which the Governing Board adopted in December 1996 [IEA/GB(96)49/REV1/ANN1] and subsequently "rolled forward" in updated form for the period 1999-2002 [IEA/GB(99)5/ANN1]. The original Strategy document quoted from the 2002 *World Energy Outlook*:

OECD oil import dependence is set to rise. In 2010, around 60 per cent of OECD oil consumption could be met by imports compared with 50 per cent at present. The importance of OPEC in world oil supply is also likely to increase. The call on OPEC is projected to [rise to] over half of world oil requirements.... On the demand side, oil is becoming increasingly a fuel for transportation and certain other special uses which are characterised by extremely low price responsiveness over a period of a few years. Thus, any small change in supplies will require an increasingly large price response in order for demand to be reduced accordingly over a short period of time. The supply side in the oil markets... is in general extremely unresponsive to prices....

The public's energy security concerns had waned since the 1990-1991 Gulf Crisis, given an abundant supply of oil from diverse sources and the absence of a flash point to trigger a disruption. But it was thought that in the 2000-2010 time frame, rising global oil consumption, increasing dependence on oil supplies from the Middle East, and declining stock levels and IEA country share in the global market could again bring energy security concerns to the public fore.

Against that background, the Governing Board set the following objectives for the Agency in the "Medium-Term Strategy":

- While a perception exists that disruptions are less likely today and would be less severe and shorter in duration than previous ones, it is not possible to predict the nature of a future crisis. Furthermore, the expected outlook for the world oil market and the lessons of recent history mean that there is no room for complacency. The IEA, therefore, should:
 - continue its efforts to provide for flexible and credible response to any emergency by keeping its emergency mechanisms fully up to date, including improvement of emergency response procedures to reflect the February 1995 Governing Board Decision on Emergency Response Policies;
 - seek to improve its assessment of the risk of future disruptions (without expecting to be able to forecast their precise nature);
 - ensure that national political and economic authorities and industry are aware of the dangers of complacency.

- Oil supply and demand forecasting is notoriously difficult. Rapid technological development and innovation, huge capital requirements and uncertain investment regimes compound the difficulties. Yet, it is an essential task for the Agency. The IEA should strengthen its capabilities for oil supply and demand forecasting.
- Oil stocks are a key means of rapid response to supply disruptions, as was demonstrated in the IEA's response to the Gulf Crisis. Especially in view of the trend towards lower industry stocks, the importance of government controlled stocks is vital. In order that global impact of the IEA stock draw can be maintained as the IEA share in world consumption falls, the level of stock cover of existing and future IEA Member countries should be maintained or increased.
- The substantial increase in the share of non-Member countries in world oil demand is expected to lead to a proportional decline in IEA emergency stocks as a percentage of global consumption. The implications of this trend warrant close attention. In particular, the IEA should study non-Member countries' emergency response capabilities, advising them, as appropriate, on how to develop programmes to respond to oil disruptions, particularly by the holding of emergency stocks, and pursue means to co-operate with non-Member countries, both producers and consumers, in any future crisis.
- Oil supply diversification is an effective means to mitigate the adverse effects of a significant supply disruption. Therefore, the IEA, in close co-operation with the Energy Charter Conference and Secretariat and other energy-related organisations, should continue to promote more open investment and trade regimes to facilitate the availability of new supplies.
- The growing concentration of oil in the "captive" sector of transportation will exacerbate the economic consequences of a disruption. In light of this fact, the IEA should intensify activities to enhance energy security in the transport sector.
- Accelerated efficiency gains in energy production and use will promote energy security. Priority should be given to market forces in effecting efficiency gains. However, innovative approaches are required by governments, in co-operation with industry, to realise the opportunities for energy efficiency improvements.

- New efforts should be made by the Agency and by national Administrations of Member countries to secure revitalised and enhanced co-operation of the oil industry, particularly by broadening the discussion with the industry beyond the mechanics of the emergency response system.
- Evolution in the nature and functioning of the oil market, and the consequent changes in the Agency's mechanisms for responding to oil disruptions, require further scrutiny of some organisational aspects of the Agency's approach to emergency preparedness.

In May of 1997 the IEA Executive Director paid an official visit to Saudi Arabia to conduct high level discussions. The Saudis, reflecting their wish to be seen as a stable supplier of oil to the international market, cited the scale-up of Saudi oil production during the 1990-1991 Gulf War, and expressed readiness to provide sustained production of up to ten million barrels per day if necessary.

The Communiqué from the Meeting of the IEA Governing Board at Ministerial Level later that month reaffirmed that energy security remained the most important criterion guiding IEA activities. Oil security continued to be a serious concern, particularly given the prospect of rising oil import dependence, the role of oil in accounting for 40 per cent of IEA country energy consumption, and the increasing concentration of oil reserves in the Middle East. Rising oil demand outside of the IEA Member countries underscored the need for closer co-operation with IEA non-Member countries. [IEA/GB/C(97)3/ANN].

In October 1997 world oil prices reached their highest level since February of that year. That proved a high water mark, however, as prices began a sharp decline induced by a combination of factors that included mild weather, the Asian financial crisis, increased Iraqi exports under the UN's "oil-for-food" programme, high and growing inventories, expanding non-Iraqi OPEC and non-OPEC oil production and low-price sentiment in oil futures markets. A price slide in 1998-1999 would suffice to bring crude oil to \$10 a barrel, the lowest level since the 1970s in price-adjusted terms.

OPEC sought to mitigate these effects by cutting production in collaboration with non-OPEC Member producers. When Norway, an IEA Member country, decided in March of 1998 to reduce its oil production in the context of collective oil producer action, the Agency's Executive Director issued a statement expressing surprise, calling the decision "regrettable", and pointing out Norway's commitment to the Agency's Shared Goal that declares, "In

formulating energy policies, the establishment of free and open markets is a fundamental point of departure...." [IEA/PRESS(98)2].

Concern grew about the potential impacts of sustained lower oil prices. The impacts of lower oil prices, in particular in relation to the implications for security of supply, were the subject of an IEA seminar held in May of 1998. The implications of the oil price drop then were discussed by the Governing Board at its June 1998 meeting. For that meeting, the Secretariat prepared several informational or analytical Notes [IEA/GB(98)10; IEA/GB(98)11; IEA/GB(98)11/ANN1], including one incorporating ideas from the recent seminar. The Secretariat's judgment was that oil markets might remain oversupplied for some time to come. At the meeting, Delegations voiced concern that sustained low oil prices could provoke political instability in producing countries and, ultimately, greater dependence on Middle East production, as low oil prices deterred investment in higher cost production elsewhere and in alternative energy sources. On the other hand, no one could define a "correct" price for oil; IEA countries were agreed that markets must be left free to determine the price. Collusive action by producers could not be endorsed, although any individual producer was entitled to vary its level of production in response to market signals. [IEA/GB/C(98)2, Item 8].

When the Governing Board, in February 1999, reviewed and updated the Medium-Term Strategy, adopting it in modified form for the period 1999-2002 [IEA/GB/C(99)1, Item 5], the then latest *World Energy Outlook* revealed a worsening of IEA Member countries' import dependence: the projection was that in 2020, around 75 per cent of OECD oil consumption could be met by imports, compared with a current 55 per cent. The call on OPEC was expected to rise to over half of world oil requirements. Moreover, oil was increasingly becoming a fuel for transportation and certain other special uses, characterised by extremely low price responsiveness over a period of years, so that any small change in supplies would require an increasingly large price response in order for demand to be reduced accordingly over a short time period.

The Governing Board, nonetheless, found it unnecessary to make significant changes in the objectives it had set for itself in the oil security area. One notable addition to the list of tasks to which the Agency had subscribed was to assess the implications, for energy security, of low oil prices [IEA/GB(99)5/ANN1, paragraph 15]. Ironically, a seminar which the IEA hosted to discuss those implications was held on 24 March 1999, just a day after OPEC unveiled sharp new production cuts aimed at halting the headlong descent of oil prices [See IEA/PRESS(99)2].

The Board's May 1999 Meeting at Ministerial Level observed that while the threat of a deliberate disruption of oil supplies had faded, other oil supply threats persisted, from natural disaster, technological breakdown and political turmoil. Ministers cautioned that sustained low oil prices could induce unwarranted complacency about energy security, slowing development of and investment in new, more efficient and cleaner energy technologies, including those based on renewable energy sources. [IEA/GB/C(99)3/ANN1].

The Ministers' reference to technological breakdown reflected concerns over the possible failure of computer programmes or hardware at the millennium because of the date-sensitivity of lines of code used therein. The IEA's steps to adopt, in December 1999, a contingency plan against such risks, are discussed in Section III.G. below.

In 2000, after three years of market turbulence, the OPEC countries, supported by Mexico, Norway and Oman, sustained the production discipline needed to limit global oil supply, pushing prices higher. Production ceilings would succeed in driving Brent and West Texas Intermediate oil prices up above \$30 a barrel, peaking near \$40 in September, thereby contributing to a global economic recession. The higher oil prices prompted protests against taxation of oil products in OECD countries and increased discussion of possible intervention in the market to ameliorate oil prices. Under pressure from their domestic consumers, backed by a successful campaign by oil producer countries to draw attention to the high proportion of tax in final prices of transport fuels to the consumer, several European governments made tax or other concessions to secure domestic political peace.

Following the IEA Governing Board's February 2000 meeting, at which the tightened oil market was discussed, the Agency released a statement attributing to the Board "concern that the tightening supply situation could feed inflation and slow economic growth, thereby giving rise to problems particularly for developing countries." Industry oil stocks were lower at the end of 1999 than at any time in the past decade, yet demand was constantly growing; restoring stocks by the end of 2000 to even the very low levels of 1999 would require an early and substantial increase in production. The IEA Governing Board was, however, "reassured by growing signs that producers are aware of the implications of the tightening oil market." [IEA/PRESS(00)2].

When OPEC in late March lifted its production ceiling by 1.45 million barrels per day, the IEA Executive Director welcomed the action, and while the increase would not be sufficient to meet the increased demand foreseen for later in the year, he expressed understanding of OPEC's fear that a large and sudden increase in production might trigger a price collapse. [IEA/PRESS(00)5]. OPEC made further increases in its oil supply targets, but

with low oil inventories, just-in-time industry supply systems, and backwardation in the futures markets (inducing stock draw), prices continued to rise into the autumn.

In the autumn the United States released 30 million barrels from its Strategic Petroleum Reserve, attributing this action to the physical needs of the heating oil market in the Northeast U.S. The European Commission was reported to have discussed with the EU countries the release of some of their strategic stocks, and to have proposed to them the creation of an EU-wide oil stockpile for price intervention purposes.

The Governing Board held a meeting on 4 October 2000 to discuss the state of the oil market, concluding that while sufficient crude oil was available to meet current demand, the low level of stocks and regional imbalances in product stocks, especially heating oil, created high volatility in the short term. High prices, if sustained, could jeopardise global economic growth. In a press release following the meeting [IEA/PRESS(00)14], the Agency took note of these considerations, but also of recent decisions by producer countries to increase oil production and by the U.S. Government to sell oil from its Strategic Petroleum Reserve, and of the declared readiness of Saudi Arabia to increase production to satisfy market needs.

During October 2000 the IEA and OECD Secretariats collaborated on a paper analysing the economic implications of sustained high oil prices [IEA/GB(2000)24], to be submitted both to the IEA Governing Board, at its 26 October meeting, and to the OECD Executive Committee in Special Session. OECD industry stocks were low, and price volatility had risen to levels that create uncertainty about long-term prices, discouraging capital investment to expand production capacity. This gave rise to security concerns because OECD Member country emergency stocks and spare production capacity were low, and a disturbed political situation existed in the Middle East.

The IEA Executive Director put to the February 2001 meeting of the Governing Board a Note entitled, "Implications of New Oil Market Interventions" [IEA/GB(2001)5]. In it, he offered a provocative view of the ongoing dialogue between producer and consumer countries with respect to market transparency:

Recent difficulties have led consumers and producers to better dialogue in an attempt to identify common interests and areas of co-operation. The Riyadh Forum endorsed an important area of practical co-operation: greater transparency in the oil market. Robust efforts are already underway in this connection. Increased transparency in the market should benefit both sides, by lessening speculative

incentives and price volatility; but it could be argued that these efforts might simply help OPEC manipulate the market more effectively. Certainly that is the barely tacit intention behind the proposal for a Riyadh secretariat. [Paragraph 14].

In March 2001 the IEA held a "Millennium Conference on Oil Security Strategy" [See IEA/SEQ/SOM/A(2001)/REV1], at which were highlighted the challenge from oil price volatility, the importance of OPEC spare production capacity, the threat of terrorism, the issue of natural gas supply security, and the increased need for co-operation with IEA non-Member countries. A "Chairman's Summary" indicated that IEA co-operation with non-Member countries needed to go beyond experience-sharing to active co-operation on stockholding issues and co-ordination of emergency responses. The trend toward co-operation with oil producing countries was to be welcomed, and increasing dependence on natural gas called for better definition of the role of new participants in liberalised markets in securing gas supply.

The Agency's May 2001 Ministerial Level Meeting, in sharp contrast to its 1999 Ministerial Meeting, was held at a time of higher and volatile oil prices, continuing increases in global oil demand, localised supply problems for some kinds of energy, concern about long-term security of supply and increasing attention to the environmental impact from energy use. The experience of the last two years had underscored that a secure supply of affordable energy was not a foregone conclusion. [IEA/GB/C(2001)3/ANN1].

Following the events of September 11, 2001, the IEA Governing Board quickly put in place an oil emergency contingency plan. This is discussed in Section III.H. below. Oil prices plunged, hitting a low point in November, then increased gradually before starting a more rapid ascent in March of 2002, spurred by new OPEC and non-OPEC production cuts and signs of an incipient economic recovery.

The Agency's 2002 *World Energy Outlook* projected a situation of steadily rising world energy use through 2030, in the absence of new government policies and measures, with fossil fuels meeting more than 90 per cent of the increase. Global oil demand would rise by about 1.6 per cent per year, from 75 million barrels per day in 2000 to 120 million barrels, almost three quarters of the increased demand coming from the transport sector. Rising marginal costs in high-cost producing areas having relatively modest resources, such as North America and the North Sea, were expected to lead to a decline in those areas' production. More oil reserves would have to be identified to meet demand, and much of the growth would be met by increased production in the Middle East

and the former Soviet Union, with a projected 60 per cent of the increased supply coming from OPEC producers, especially those in the Middle East. Over 80 per cent of new refining capacity would be built outside of the OECD, much of it in Asia. The situation portrayed raised serious concerns about the security of energy supplies.

In October 2002 the IEA Governing Board terminated the contingency response plan it had adopted following the events of September 11, 2000, and replaced it with a new contingency plan. These developments are discussed in Section III.I. below.

The Governing Board's April 2003 Meeting at Ministerial Level took place against the backdrop of low commercial oil inventories, an ongoing war in Iraq and reduced oil supply from Nigeria and Venezuela. In their Communiqué, IEA Ministers stated that the "Three E's" – Energy Security, Environmental Protection and Economic Growth – remain robust as the Agency's guiding principles for energy policy. While strongly reaffirming their readiness to combat any disruption of oil supplies, including through the judicious use of emergency oil stocks, demand restraint and other appropriate response measures, they also welcomed the benefit of reinforced dialogue between producers and consumers of oil, as well as between the IEA and OPEC Secretariats. They expressed appreciation for OPEC Ministers' commitment to keep world oil markets well supplied, and called for attention to the correlation between oil market volatility and low industry stocks, and the importance of maintaining adequate stocks to anticipate seasonal needs and promote oil market stability. [IEA/GB/C(2003)4/ANN1].

References to the IEA Emergency Management Manual (EMM) occur throughout this chapter of *The History*. The most recent edition of the current version of the EMM, adopted in 1994 [See IEA/GB(94)54, Item 5, adopting the revised Emergency Management Manual contained in the Annex to IEA/GB(94)40], is Document IEA/SEQ(2002)2.

Section III.B., Oil Sharing: The Emergency Sharing System

Section III.B.1., Oil Stock Building

In April of 1995 the IEA for the first time published *Oil Supply Security: The Emergency Response Potential of IEA Countries*. It showed that while most IEA Member countries had oil stocks well above the I.E.P. Agreement's 90-day requirement, considerable efforts would be required to ensure a margin of stocks above that level. This presaged a period in which the Agency's focus

would have to be more on assuring oil stock "compliance", than on stock "building" by IEA Member countries.

IEA Ministers, at their May 1995 meeting, reaffirmed their commitment to maintenance and improvement of the Agency's oil emergency response systems, and urged all IEA Member countries fully to meet their emergency reserve obligations [IEA/GB(95)30/ANN].

In June 1995 the Governing Board, concerned that the emergency reserves of six IEA Member countries were shy of the 90-day I.E.P. commitment, noted that compliance with that commitment was of particular importance in view of the impending IEA membership of several countries. (In April of 1994 the Board had authorised the Executive Director to carry on membership discussions with the Czech Republic, Hungary, the Republic of Korea, Mexico, Poland and the Slovak Republic [IEA/GB(94)25, Item 8]). It urged the non-complying Member countries to provide the Standing Group on Emergency Questions with timetables for compliance, and asked the SEQ Chairman to report back to the Governing Board [IEA/GB(95)38, Item 7].

In a Note to the October 1995 Governing Board meeting [IEA/GB(95)46], the Chairman of the Standing Group on Emergency Questions reported the SEQ's concern over the downward trend of IEA stocks over the past decade, which had removed a large part of total stocks in excess of the 90-day commitment. At the meeting the Board reviewed the SEQ Chairman's report, addressed the stock situations of individual Member countries, and asked the deficit countries to provide, before the end of 1995, "definite timetables ensuring compliance with IEA emergency reserve obligations by mid-1996" [IEA/GB(95)48, Item 7].

Again at the Governing Board's December 1996 meeting, the SEQ Chairman voiced that body's concern over the level of stocks in IEA countries, which recently had fallen to their lowest level since 1980 in days of imports. This situation was seen as aggravated by a reduction in OPEC spare capacity as compared with that at the time of the 1990-1991 Gulf Crisis, with most of the capacity centred in the Middle East. Even more worrisome was a projection that by 2010, IEA emergency reserves would decline from the current 127 days to around 118 days. [Remarks of SEQ Chairman in records of December 1996 Governing Board meeting maintained in IEA Office of Legal Counsel].

The Communiqué from the May 1997 Meeting of the Governing Board at Ministerial Level [IEA/GB/C(97)3/ANN] expressed concern over IEA Member countries' increasing oil import dependence, the 40 per cent share of oil in

their energy consumption, and the increasing concentration of oil reserves in the Middle East. Ministers furthermore noted that:

strategic and operational stock coverage in IEA net importing countries has been declining over the past decade. In addition, the potential for further fuel switching has diminished, with increased use of gas and other fuels in power generation and other sectors resulting in concentration of oil use in the transportation sector. Finally, spare crude oil production capacity in non-IEA countries is now lower than before the Gulf Crisis or during the 1980s, and there continues to be uncertainty over the extent to which such capacity would be available in an emergency.

Ministers therefore cautioned that there was no room for complacency and stressed, *inter alia*, the need to "maintain – and in Member countries with weak stock positions, improve – the level of IEA emergency stocks." In addition, recognising that rising oil demand outside of the IEA countries underscores a need for closer co-operation with IEA non-Member countries, they proposed to share with non-Members the IEA's experience and expertise in the areas of stockholding and co-ordination of emergency response measures.

In 1997 the Executive Director took the unusual step of criticising two IEA Member countries for their sales of oil from strategic stockpiles.

The U.S. Government had sold oil from its Strategic Petroleum Reserve for budgetary reasons, commencing in 1996. The Executive Director expressed "regret" in June 1997, when a Committee of the U.S. House of Representatives voted to direct the sale of additional oil from the SPR. [IEA/PRESS(97)15]. In October 1997, when the full U.S. Congress enacted legislation requiring a sale from the SPR of some \$207.5 million worth of crude oil, the Executive Director again spoke out, saying that the sale would continue a "very disturbing trend" of Agency Member states' selling off strategic reserves to balance their budgets. He pointed out that another sale by the U.S. would send the wrong signal to other Member states, and to countries that were candidates for IEA membership, and voiced the hope that the U.S. would find ways to restore and extend its strategic oil reserves. [IEA/PRESS (97)27].

In a July 1997 press release [IEA/PRESS(97)17] headed "IEA Condemns German Sale of Strategic Oil Reserves", the Executive Director also expressed "deep regret" over the German Government's decision to sell off Federal Crude Oil Reserves worth 400 million Deutschemarks, which was being done as part

of a plan to centralise all stockholding obligations in the German stockholding agency EBV; he noted press reports that further sales were planned. The Executive Director warned that recent sales of strategic oil reserves by the United States, together with the German action, added up to a "disturbing trend". If IEA Member countries were to continue selling off oil reserves in order to balance their budgets, they eventually would undermine the Agency's highly successful energy security programme.

A Secretariat Note for the Governing Board's December 1997 meeting [IEA/GB(97)52] again manifested the SEQ's concern over the "deteriorating potential of the IEA to use oil stocks as a primary mechanism of emergency response":

Stocks in IEA net importing countries have declined steadily since the 1986 peak of 157 days of stocks in terms of net imports. This decline has accelerated over the past few years, bringing IEA emergency stocks on July 1, 1997 to only 124 days of net imports, which is close to the lowest level since 1980.... During the first half of the 1980s, the tendency towards lower industry stocks was offset by increases in government-held stocks. In recent years, however, there was no overall increase in government stocks and the decline in industry stocks has accelerated, reflecting rationalization, cost-cutting and increased reliance on short-haul crudes, particularly in the US, and perceived higher overall supply reliability since the Gulf Crisis. Moreover, several countries have tended not to meet their IEA stock commitments or to do so by a narrow margin.

The SEQ found the decline in government/agency stocks particularly disturbing, given industry's need for operating stocks, and uncertainties as to the ability of some Member countries actually to compel the drawdown of industry stocks, rather than merely reducing mandatory stock obligations.

In response, the Governing Board went beyond urging compliance with the 90-day emergency reserve requirement, to encourage specifically "the build of government/agency stocks and, where necessary, the strengthening of government powers to ensure the rapid use of all emergency stocks, including compulsory industry stocks" [IEA/GB/C(97)5, Item 9(e)].

In June of the next year the Governing Board welcomed "positive developments" with respect to government/agency stocks in some Member countries. At the same time, it "expressed concern that since mid-1997, stock levels have declined further in four of the six countries previously not meeting

the 90-day emergency reserve commitment", and the Governing Board Chairman signalled an intention to ask the Board's permission to bring its emergency reserve concerns to the attention of the political authorities of non-complying Member countries [IEA/GB/C(98)2, Item 9(a)].

At the Governing Board's October 1998 meeting, it was agreed that, as improvements in the stock situations of some of the deficit countries recently had occurred, the Board would not at that time authorise its Chairman to take its concerns to the political authorities of the non-compliant countries [IEA/GB/C(98)3, Item 7(a)]. By the time of its April 1999 meeting, however, the Governing Board was prepared to authorise one such intervention. Reviewing a Secretariat Note on compliance status [IEA/GB(99)18], the Board made specific recommendations to individual non-complying Member countries, including recommendations to hold stocks abroad if necessary, and to modify domestic legislation in order to conform it with I.E.P. Agreement stockholding obligations. Moreover, the Governing Board Chairman would write to the Government of one Member country to express the Board's concerns with that country's non-compliant status [IEA/GB/C(99)2, Item 6(b)].

The Communiqué from the Agency's May 1999 Ministerial Level Meeting recognised the critical role in the evolution of energy markets in the new century that would be played by developing countries, whose rapid economic growth was increasing their energy consumption. Ministers asked the Agency to continue sharing as widely as possible its experience in energy policy and security with key Asian and other non-Member countries [IEA/GB/C(99)3/ANN1].

In October 1999, the Governing Board again made specific recommendations to individual non-complying Member countries, including recommendations to modify domestic legislation and to implement bilateral stockholding agreements with other Member countries [IEA/GB/C(99)5, Item 7(d)].

The Governing Board shared the Secretariat's disquiet about the decline in the level of oil stocks worldwide, and it said so in a public statement issued following the Board's February 2000 meeting [IEA/GB/C(2000)1/ANN1].

A Secretariat Note for the Agency's June 2000 Governing Board Meeting [IEA/GB(2000)19] described an unimpeded decline in the magnitude of the IEA Member countries' emergency reserves:

IEA stocks have been on a steady downward trend since they reached a peak close to 160 days of net imports in the mid 1980s.

During the subsequent period, the decline has been inexorable, though gradual. It accelerated sharply in 1999. The net import coverage of stocks held by IEA net importing countries fell to 112 days on the 1st of January 2000 and 111 days on the 1st of April. This compares with 121 days one year ago..., and takes stock levels below those of 1980, when the 90 day commitment first came fully into force...

Eight countries did not meet their IEA stockholding requirements as of 1 April 2000, and while the majority of these Member countries had indicated that their stocks should soon return to the legally required levels, "reassurances have in some cases been given in the past without achievement of subsequent improvement." The Secretariat concluded that:

This experience exposes clear deficiencies in reliance on imperfectly controlled industry stocks for emergency response. On the other hand, the stability of Government or agency stocks has been convincingly demonstrated.

At its June 2000 meeting the Board accordingly [IEA/GB/C(2000)3, Item 8]:

- (b) expressed concern that the downward trend in IEA emergency reserves since the mid-1980s accelerated in 1999 and the first quarter of 2000, reflecting strong market pressures to reduce industry stocks, and that eight IEA countries had failed to meet their emergency reserve commitments on 1 April 2000;
- (c) reaffirmed the obligation of all Member countries to meet their IEA emergency reserve commitments at all times and encouraged Member countries to build and hold reserves exceeding 90 days of net imports;
- (d) requested the Secretariat, in consultations with Delegations of the Governments concerned, to prepare letters for the signature of the Chairman of the Governing Board to the Governments of Belgium, Greece, Italy, Luxembourg, Portugal and Spain, asking them to provide firm plans for meeting their IEA stockholding requirements by a specific date;
- (e) asked the Standing Group on Emergency Questions to reappraise the significance of the overall decline in IEA stocks and, where the experience of particular Member countries

warrants it, to make recommendations on a further shift from reliance on industry stocks to government/agency stocks;

- (f) decided that the long-term stock trends and, if sufficient improvement is not seen, the issue of compliance with IEP emergency reserve commitments, should be brought to the attention of IEA Ministers meeting in 2001.

In February 2001 the IEA for the second time published *Oil Supply Security*, this time with the subtitle, *The Emergency Response Potential of IEA Countries in 2000*. While the publication indicated that IEA Member countries collectively held oil stocks well above their 90-day commitment, it also observed that IEA stocks as a proportion of imports had fallen steeply since the 1980s. Moreover, rapidly growing demand over the next two decades, coupled with a foreseeable reduction of supply from non-OPEC producers, would result in greater IEA Member country dependency on supplies from a small number of countries.

The Secretariat's Note for the October 2001 Governing Board meeting [IEA/GB(2000)31] reported that the Governing Board Chairman (or, in the case of the Chairman's home country, a Vice Chairman) had sent letters to the noncompliant Member countries, and described an unimproved situation in Agency emergency reserve levels, which it attributed to falling industry stocks, lately reflecting a sharp backwardation of oil prices. "Today's experience", the Note said, "illustrates the danger of relying completely on imperfectly-controlled industry stocks for meeting the IEA stock commitment." Nonetheless, because this was a time of international tension and the oil market was "more vulnerable to a supply shock than it has been for many years", the Secretariat sought the Board's judgment whether this was an appropriate time to apply further pressure on IEA Members that were in default of their 90-day stock obligations.

The Governing Board's decision was to ask non-compliant IEA Member countries to meet the 90-day emergency reserve commitment by 1 May 2001. It requested the Secretariat to prepare proposals for further specific steps that the Board might take with respect to the deficit countries [IEA/GB/C(2000)5, Item 12]. The SEQ explored the available options at a series of meetings from the autumn of 2000 to the spring of 2001. At its March meeting it considered a list of specific proposals developed by the Secretariat [IEA/SEQ(2001)5], among them:

- requirement that non-complying countries submit stock data for the previous and current months in addition to regular MOS [Monthly Oil Statistics] reports;
- monthly monitoring by the Secretariat of progress with compliance measures;
- notifications to the Ministerial Meetings on non-complying Member countries; ...

A Secretariat Note for the April 2001 Governing Board meeting [IEA/GB (2001)15] reported that the SEQ generally endorsed these three measures, but that the other options had proved controversial.

At its April meeting the Governing Board decided that IEA Ministers, at their May meeting, should be notified of Member countries that fail to meet the 90-day emergency reserve obligation, and expressed its determination to consider further measures to encourage better stock compliance, if necessary [IEA/GB/C(2001)2, Item 5].

The May 2001 Governing Board Meeting at Ministerial Level noted with concern that "the level of assurance" relative to global oil security needs was declining. Ministers remarked that, as the balance of demand shifted away from OECD economies, "all countries should develop appropriate mechanisms for effective response to supply disruptions." They reaffirmed the importance of building and holding adequate stocks [IEA/GB/C(2001)3/ANN1].

The Governing Board again reviewed IEA Member country compliance with the 90-day Emergency Reserve requirement in February 2003, welcoming an improvement in compliance but noting the need for year-round compliance. Moreover, the Board decided to notify the Agency's next Ministerial Level Meeting, scheduled for April, of countries not meeting their 90-day obligations [IEA/GB/C(2003)2, Item 3(b)], and this step actually was taken [See IEA/SEQ/M(2003)2, Item 4].

The Communiqué from the April 2003 Ministerial Meeting stated that growing oil demand in IEA Member countries and in non-Member countries, particularly in transport, requires greater effort by importing countries to build and hold appropriate emergency stocks [IEA/GB/C(2003)4/ANN1].

The table below shows how IEA Member country Emergency Reserves have declined since reaching a peak of 193 days of net imports in 1986.

Development of Stocks in IEA Countries on 1 July Each Year in the Period 1995-2003

As of 1 July	Days of Net Imports
1995	173
1996	170
1997	168
1998	174
1999	166
2000	147
2001	154
2002	153
2003	156

Note: Korea included from 1 July 2000, although its accession to the I.E.P. Agreement occurred in 2002.

The IEA Member countries have agreed to waive the I.E.P. Article 2 90-day Emergency Reserve commitment in the context of contingency response plans that the Governing Board has put in place to deal with potential oil supply disruptions [See Sections III.G. through III.I below]. These plans, respectively adopted in advance of the Y2K phenomenon, following the events of September 11, 2001, and in October 2002, have waived the 90-day obligation to the extent that a Member country has needed to use those reserves to meet its obligations under the response plans [See IEA/GB(99)57/REV1/ATT1; 2001 Contingency Response Plan; 2002 Contingency Response Plan]. The Y2K Plan stipulated that any IEA Member country drawing its stocks below the 90-day level must endeavour to restore its oil reserves to the 90-day level within three months after the deactivation of the collective response plans, and in any event by no later than 1 July 2000.

Two issues bearing upon individual Member countries' compliance with the 90-day commitment, which arose in recent years, concern Spain's importation of petroleum coke and Italy's "unavailable" stocks.

At the May 1998 meeting of the SEQ the Spanish Delegation introduced a proposal that imports of petroleum coke into IEA Member countries be excluded from historical oil imports, for the purposes of calculating those Member countries' Emergency Reserve obligations. Spain reported that increased imports of petroleum coke, a waste product, were making it difficult for Spain to meet its 90-day requirement. Spain contended that such increases have resulted from developments that are beneficial to energy security, specifically that augmented use of natural gas has led to surplus fuel

oil, from which coke has been produced at low cost, thereby enhancing the coke's substitutability for coal. The IEA Legal Counsel advised that the Governing Board has authority, under Article 51.1 of the I.E.P. Agreement, to exclude petroleum coke from the calculation under Articles 2.1-2.2, and that, alternatively, the Board could achieve the same result by interpreting the Agreement as already excluding petroleum coke [Opinion of IEA Legal Counsel dated 1 September 1998, in files of Office of Legal Counsel].

A technical Working Group formed by the SEQ in March 1999 examined Spain's argument, advising that petroleum coke was gaining acceptance in world fuel markets and that "the market continues to grow as consumers looking for low cost energy choose to add petroleum coke to their fuel mix" [IEA/SEQ(2000)10/REV1]. When the SEQ considered the issues at its September 2000 meeting, a majority of Delegations opposed changing the Agency's emergency reserve criteria to exclude petroleum coke. A Note to the December 2000 Governing Board meeting [IEA/GB(2000)41] recounted the arguments against such an amendment, inter alia, that petroleum coke is a product derived from crude oil and used as an energy source, whose exclusion would be an undesirable precedent, which would lead to a further decline in already low total IEA stock coverage. The Governing Board accepted the SEQ's recommendation, deciding that the method of making the IEA emergency reserve calculation should remain unchanged [IEA/GB/C(2000)6, Item 11].

The "unavailable stocks" issue was raised by Italy pursuant to Section 4.1 of the Agency's Emergency Management Manual, which allows a Member country to present evidence that its unavailable stocks are only 5 per cent (rather than 10 per cent, the presumptive level established in the I.E.P. Agreement), which would have the effect of increasing the size of that country's Emergency Reserves, and sets out a procedure for adjudicating the claim. Under that procedure, if the Secretariat, on the basis of technical considerations, makes a positive finding in response to the proponent country's evidence, the SEQ, acting by unanimity, is empowered to approve the claim, and the claim is allowed unless the Governing Board votes by (weighted) majority to reverse the SEQ; if the Secretariat's finding is negative or the SEQ does not approve the claim, the proponent may take its claim to the Governing Board, which can approve it by a (weighted) majority vote. In 1999 Italy, in support of its request for a reduction in its unavailable stocks to the 5 per cent level, presented evidence that in Italy, the volume of oil in oil tanks that was below the suction line of those tanks was between 2.5 and 4 per cent depending on tank size, and that there is technical capability to recover up to 99 per cent of products stored.

An expert consultant was retained by the IEA, and his report [See IEA/SEQ(2000)12] was discussed at a March 2000 meeting of the SEQ, which decided to establish a Working Group to examine the issues and make recommendations. In support of the Working Group, the Secretariat prepared a background paper [IEA/SEQ(2000)41/ANN2] reviewing the history of and rationale behind the 1976 decision of the Governing Board to confirm the 10 per cent deduction for unavailable stocks that had been provisionally defined in the I.E.P. Agreement. The Secretariat's paper identified four main issues for consideration by the Working Group: (1) whether the 10 per cent deduction should be applied strictly in terms of technically unavailable stocks, or in broader terms of stocks unavailable for various operating reasons; (2) if the latter, whether the deduction should be reduced to 5 per cent; (3) whether any reduction should be only for Italy or for all IEA Member countries; and (4) whether government and special agency stocks should receive special treatment. The Secretariat concluded that tank bottoms may be assumed to account for less than 5 per cent of total industry stocks across IEA Member countries and that even in an emergency, minimum operating requirements for the IEA group of countries are far above the 10 per cent deduction.

The Working Group considered the first two questions to be essentially political in nature, a majority of its members favouring the broader test of operating stocks and opposing any change in the existing 10 per cent deduction for unavailable stocks. The arguments for this position were that the 10 per cent deduction was a political compromise, and that maintenance of that deduction would prevent further erosion of the IEA's stock position and provide a positive signal to countries that were candidates for IEA membership concerning the Agency's commitment to ensure adequate stock draw capacity. The Secretariat briefed the issues to the June 2001 meeting of the SEQ [IEA/SEQ(2001)7], where the discussion revealed the absence of a consensus in support of the Italian Government's position [IEA/SEQ/M(2001)2, Item 6]. At the November 2001 meeting of the SEQ, Italy's Delegate announced that the Italian Government did not wish to pursue this issue in the Governing Board [IEA/SEQ/M(2001)3, Item 6].

Section III.B.2., Demand Restraint

A Secretariat Note for the October 2003 meeting of the IEA Governing Board [IEA/GB(2003)24] enumerated various potentially effective non-fiscal measures available to governments during an oil supply crisis, and described the advance planning necessary in order to put them into place rapidly in case of emergency. The Note advised that a combination of such measures could save up to fifteen per cent of daily fuel consumption, achieving a strong dampening effect on a major global supply disruption. [See paragraphs 47-52].

Section III.B.5., Operations

Section III.B.5.(a), Operation of the Sharing System

More current information on the matters covered by the two summary documents, "Draft Summary of Energy Emergency Legislation of IEA Countries" [IEA/SEQ(89)25 (1st Revision)] and "Member Countries' Legislation, Administrative Procedures and Policy Attitudes Concerning the Use of Stocks in Supply Disruptions" [IEA/SEQ(89)26 (2nd Revision)], now can be found in the IEA's publication, *Oil Supply Security: The Emergency Response Potential of IEA Countries in 2000*. It is expected that this publication will be updated and reissued periodically at intervals of several years.

Section III.B.7., Co-operation with the Oil Industry

Section III.B.7.(c), U.S. Antitrust Defence and EU Competition Exemption

Section III.D. of Volume I of *The History* discusses how the IEA's oil emergency response policy shifted, over time, from an emphasis on oil sharing to a more flexible, market-oriented approach that emphasises the co-ordinated drawdown of emergency stocks. Until quite late in that evolutionary process, however, the Agency paradoxically found its ability to draw on the advice and assistance of the oil industry with respect to co-ordinated stock draw handicapped by legal restrictions. Companies operating in the United States were unable to benefit from the antitrust defence accorded by the Energy Policy and Conservation Act of 1975 (EPCA) unless their participation was in the context of the IEA's Emergency Sharing System. The U.S. Administration, with the active support of the IEA Secretariat, sought reform of the antitrust defence to extend it to "CERM-like" measures, but for some time, enactment of the needed legislation was obstructed by controversy surrounding other, extraneous proposed amendments to the EPCA. Finally, in 1998, the limitations in the antitrust defence were lifted by the enactment of legislation and its subsequent administrative implementation through revision of the governing Voluntary Agreement and Plan of Action. Thanks to those changes, the antitrust defence can be made available for industry's advice and assistance to the IEA with respect to the co-ordinated drawdown of oil stocks held or controlled by governments and to complementary actions taken by governments during an existing or impending international oil supply disruption.

Having achieved extended protection under U.S. law for the IEA's more market-oriented response policy, the IEA Secretariat sought assurance from the European Commission that the protections from liability under the EU rules

of competition afforded under the Commission's 1994 Decision (extending the exemption it originally granted in 1983) would extend to oil company participation in IEA-sponsored co-ordinated stock draw activity. The Commission's October 1998 response confirmed such applicability. (The Commission's response also noted that the earlier "light negative clearance letter" from Mr. Schlieder had been superseded by the 1983 and 1994 exemptions). [Letter dated 7 October 1998 from Acting Director, Directorate-General IV - Competition, in the files of the IEA Office of Legal Counsel].

Section III.D., CERM: Co-ordinated Emergency Response Measures

The CERM conference and simulation test that this section of Volume I of *The History* reports were being planned for 1995 were not held.

A long-standing issue in the CERM context has been whether, and how, adjustments might be made in IEA Member countries' Emergency Reserves and allocation rights and obligations in the case where the Agency's Emergency Sharing System is activated following a co-ordinated stock drawdown. IEA Ministers' December 1979 mandate for the development of "flexible stock policy" [IEA/GB(80)2, Item 4(c)(iii)] ushered in a period of intensive consultations on stocks questions, which might be viewed as having culminated in the Governing Board's CERM decision. It was an underlying principle, as the Secretariat said in a 1982 Note [IEA/GB(82)2], "that for purposes of subsequent emergency allocation, the impact of a minor supply shortfall should not fall disproportionately on one or more countries but should be distributed among all IEA countries"; however, "techniques for doing so [i.e., making adjustments to assure the desired results] have not yet been developed." In that Note and a subsequent one [IEA/SEQ(82)43] the Secretariat advanced alternative proposals for dealing with the problem, but it proved impossible to arrive at agreement. The Governing Board's 1984 Decision on Stocks and Supply Disruptions provided that in any CERM Decision, the Governing Board would "clarify the relationship between the stock draw and other action decided upon and the rights and obligations of all Member countries under the I.E.P., including the 90-day stockholding obligation" [IEA/GB(84)27, Annex 1, paragraph 10].

In adopting its February 1995 Decision on Emergency Response Policies [See Section II.D. of Volume II of *The History*], the Governing Board requested the Standing Group on Emergency Questions to examine and report to it on, among other things, "issues arising in case of a transition from initial use of stock draw and demand restraint to full use of IEP measures" [IEA/GB(95)11, Item 4(e)(iv)]. Difficult discussions in the SEQ ensued [See, for example,

IEA/SEQ/M(95)2, Item 4; IEA/SEQ/M(95)3, Item 5; IEA/SEQ/M(96)1, Item 6]. Ultimately, the views of IEA Delegations to the SEQ converged on several points of agreement, as reflected in Document IEA/SEQ(2001)23/REV2. Under proposed policy guidelines the Governing Board, when it made a decision on a CERM-type response measure, would agree to the establishment of Base Period Final Consumption (reflecting "normal" supplies), and if the ESS subsequently were activated, this BPFC would be used without adjustment for the implementation of I.E.P. emergency response measures. The SEQ could make proposals on the adjustment of measures if the evidence warranted, and any Member country should have a right to present to the Executive Director a claim for appropriate remedial measures if it considered that a co-ordinated drawdown decision resulted in anomalous burden sharing. Following Governing Board adoption of the Agency's 2002 Initial Contingency Response Plan (See Section III.I. below), it was determined that no further Governing Board action was required on the issue of transitioning from the CERM to the ESS [IEA/SEQ/M(2003)2, Item 14].

Section III.F., Continuing Emergency Response Readiness

Section III.F.1., Systems Tests

In October and November of 1995 the IEA conducted an Emergency Data Reporting Test, involving exercise of the Questionnaire A and B reporting system, utilising new QuA and QuB reporting instructions and new communications methods [See IEA/GB(95)56]. The Chairman of the Standing Group on Emergency Questions reported to the February 1996 Governing Board meeting that the test met its objectives, including the necessity to rebuild the collective memory of participants, which had diminished with high staff turnover in companies and administrations. He expressed concern, however, over a fall in the number of participating Reporting Companies (particularly North American companies), as a result of which, the share of non-Reporting Company oil supplies had increased to 46 per cent from 39 per cent during the 1990-1992 Gulf Crisis. [Remarks in file of February 1996 Governing Board meeting maintained by the IEA Office of Legal Counsel].

Section III.D. of Volume I of *The History* shows how the IEA's response policy with respect to serious oil supply disruptions underwent a shift in emphasis away from oil sharing and toward an initial response of co-ordinated stock draw, an approach actually implemented, on a pre-emptive basis, in the 1990-1991 Gulf Crisis discussed in Section III.E. of Volume I of *The History*. This prioritisation of stock draw, along with related measures, was given formal recognition in the Governing Board's 22 February 1995 Decision, also

discussed in Section III.D. of Volume I of *The History*. These developments coincided with an era of tightened budgets in industry and in government to engender reluctance to conduct another Allocation Systems Test (AST), or to call for the submission of Questionnaires A and B in the context of a systems test. At the same time, there was a recognised need for periodic training of government and ISAG personnel in Emergency Sharing Systems procedures. Further complications were the limitations in the scope of the U.S. antitrust defence discussed in Section III.B.7.(c) above, and periodic lapses in the statute conveying that defence, the Energy Policy and Conservation Act of 1975, including a lapse that occurred from September 1997 until June 1998.

These considerations led the Agency to develop a new form of training exercise, which became known as the "Emergency Response Training and Disruption Simulation Exercise" (ERE). The first ERE, conducted in November 1998, was designed by the Secretariat, with the benefit of discussions in the Standing Group on Emergency Questions and the Industry Advisory Board. It involved a progressive three-stage scenario that allowed the practice of both CERM and ESS procedures by participants who included the Secretariat, IEA governments and several governments that were candidates for IEA membership, IEA Reporting Companies and the Industry Supply Advisory Group. The ERE began with an ISAG training session, enabling the ISAG to assume an "operational" role for the oil supply disruption simulation that followed, which was based on a disruption, by the Secretariat, of data from Questionnaires A and B that had been prepared in the course of the Agency's 1995 data submission test. The three-stage scenario began at a sub-trigger level and ran up to a hypothesised disruption above the 7 per cent level necessary to trigger the ESS; a supplemental real-time "surprise scenario" was used to complement this systematic approach. [Paragraph 9].

According to the SEQ's Appraisal Report [IEA/GB(99)17/ANN1]:

Overall, ERE 98 was considered to be a success, especially in relation to a much reduced input of resources compared with the Allocation Systems Test 7 (AST-7). Major improvements in information and transmission, as well as Voluntary Offer procedures, resulted in more rapid matching and implementation of offers. More generally, training programmes and test practice ensured that the International Energy Program (IEP) and CERM procedures should be available for quick response in case of need. Implementation of these procedures is underpinned by availability of staff in administrations and companies with experience from previous more extensive exercises. [Paragraph 6].

The Appraisal Report identified the following as the most important lessons from the ERE:

Although there was a divergence of opinion as to the value of the ERE format in comparison to that of ASTs, and some companies and administrations considered that important aspects of IEA response procedures had not been adequately tested, the new format was widely endorsed. The need for improvements to communication and computer systems, preparation in advance of the exercise, the development of plausible scenarios, and the need for the continued development of presentation materials were all cited. With respect to the scenarios, however, there was understanding for the Secretariat viewpoint that these should avoid describing situations which could be misunderstood and cited out of context to the detriment of the IEA. In addition, it was suggested that in some areas the Secretariat could give firmer and more detailed guidance, and that comments from its experts on the possible market impact of decisions made by the SEQ would add value to such exercises. [Paragraph 13].

The SEQ's follow-up work to ERE 98 included a Disruption Simulation Exercise held in September 1999, which was designed and prepared by a small steering group comprised of members of the Secretariat, the SEQ and the IAB. Participants from outside the SEQ included IAB members and oil market experts from the International Petroleum Exchange and the New York Mercantile Exchange. This was essentially a discussion event, featuring a professional discussion facilitator, built around hypothetical market disruption scenarios in a "real-time" setting. Among the conclusions reached at the exercise were that, in case of a significant supply disruption, the IEA must be able to make an immediate clear and authoritative statement, and to act swiftly with stock draw and other measures. [See IEA/GB(99)55].

A second Emergency Response Training and Disruption Simulation Exercise (ERE 2) was held in March of 2002. This time, the design group included representatives from IEA Administrations and the Industry Advisory Board, as well as the Secretariat, and they took into account the experiences in ERE 98 and the Disruption Simulation Exercise, as well as the circumstances of the oil market. There were over 90 participants in ERE 2, including two countries that were candidates for IEA membership, IEA Reporting Company representatives and three commercial oil market traders. Additionally, representatives of the Peoples Republic of China attended as observers. Preceded by a half day of training (compared with a full day in ERE 98), ERE 2 consisted of three half day disruption simulation exercises under hypothetical scenarios, followed by a discussion session. The scenarios were presented in the format of a televised

news announcement. Small team discussions were used to stimulate interaction, and the teams were asked to address specific questions aimed at opening up discussion about the role and capability of the IEA to respond to crises in a climate of uncertainty.

The overall evaluation of the exercise was that it was a considerable success. With respect to real-world emergencies, participants in ERE 2 saw a need for advanced planning and updated decision-making procedures; suggestions included guidelines for official communications, establishment of flexible and adaptable contingency plans, and streamlined procedures for activating consultation and decision processes. A common criticism was that the training period was not long enough, and space and language problems were associated with use of small discussion groups. [See IEA/SEQ(2002)17].

As of this writing, preparations were under way for a Third Emergency Response Training and Disruption Simulation Exercise (ERE 3), scheduled to be held in the latter half of 2004.

Section III.F.2., Country Reviews

The IEA conducted another emergency response review cycle during the latter half of the 1990s, and the results of those reviews were published in *Oil Supply Security: The Emergency Response Potential of IEA Countries in 2000* (2001). A new review cycle was commenced in 2001. In the most recent cycle, particular attention has been given to Member country reactions to recommendations made during the preceding cycle. Detailed replies to individual questions are being sought where relevant changes have occurred in legislation or policies. The scope of the subjects reviewed remains generally as indicated by the Outline shown in Volume II of *The History*, although some of the sub-topics have changed. [See IEA/SEQ(2001)11/REV1].

In addition to its emergency response reviews of IEA Member countries, the Agency also has performed such reviews of countries that were candidates for membership in the IEA. It reviewed the emergency response readiness of the Czech Republic, Hungary and the Republic of Korea before those countries had joined the IEA, and more recently it conducted reviews of Poland and the Slovak Republic.

Section III.G., The Y2K Response Plans

As the year 2000 approached, there was worldwide concern over the "year 2000 millennium bug" – i.e., the possible failure of computer programmes, or of the hardware on which those programmes run, because of the date-

sensitivity of lines of code used therein. Although national governments, industries and individual companies were conducting their own planning, this was an unprecedented and somewhat unpredictable situation, and the IEA Secretariat undertook its own research and analysis to assure that all of the potential problems were being fully explored and planned for, presenting to the February 1998 meeting of the Governing Board, examples of the kinds of problems that could arise in the oil, gas and electricity industries [See IEA/GB(98)3].

The IEA thereafter established a website devoted exclusively to the Y2K issue and conducted regional awareness-raising seminars on the issue in Caracas, Singapore, Abu Dhabi, Moscow and Prague. In June of 1999 the Secretariat reported its findings to the Governing Board and identified areas of possible future work [See IEA/GB(99)36]. A particular focus was on the interdependence of different energy sectors, and on the potential that problems in one geographical area could ripple into other areas. The Secretariat saw a need for increased sharing of information globally, and for the development of contingency plans that encompassed interconnectivities among and within sectors. A Y2K disruption simulation was conducted in September 1999.

There was a consensus among the IEA Member countries that in light of the extensive preparations made by industry and governments, a significant disruption to oil supplies was unlikely at the rollover to the new millennium. Nevertheless, at its October 1999 meeting the Governing Board agreed that the Agency should be ready for collective action, should that become necessary. The Board's Chairman summarised the view of the Board that it was not sufficient to rely uniquely on national plans, a core function of the IEA being to prepare for energy emergency contingencies. The Board therefore tasked the Standing Group on Emergency Questions to prepare proposals for collective action, for consideration at the Board's December meeting [IEA/GB/C (99)5, Item 7(c)].

In November the IEA welcomed reports that Saudi Arabia, Mexico and Venezuela intended to make good any oil supplies that might be lost due to computer problems at the New Year. The Executive Director characterised this action by the producers as "statesmanlike" [IEA/PRESS(99)25].

The SEQ submitted its proposals for IEA Y2K Response Plans under cover of a Secretariat Note, Document IEA/GB(99)57. A report to the December Governing Board by the SEQ Chairman in Appendix 1 to that Note advised that, to accommodate the concerns of SEQ Delegations that were reluctant to

prepare response plans before the nature and characteristics of a disruption were known, the use of a "reference case", set at the 2 million barrel per day level, was being proposed. The SEQ also had discussed whether the IEA's contingency plan should extend to potential Y2K problems in the supply of gas, electricity or other energy sources:

The predominant view was that the initial IEA response to a Y2K disruption should follow traditional lines, using the existing and tested mechanisms and procedures, consistent with the Governing Board's past decisions. This would imply an initial response intended to compensate a loss of oil supply while any problems arising out of Y2K-related incidents in energy sources other than oil are assessed in parallel.... The procedures and proposals themselves are not dissimilar to those employed with regard to the Gulf Crisis Contingency Plan. [Paragraph 3].

The SEQ made the assumption that the Governing Board would establish contingent arrangements to meet in the first week of January 2000, if necessary. Thus, while the prevailing expectation was that any gas supply disruption would be compensated by the use of built-in gas reserves, and that any electricity grid failure would be remedied relatively quickly, a clearer picture would have emerged by the time the Governing Board met in January, and the Board at that time also could decide whether the oil market needed incremental volumes of oil [Paragraph 4].

The SEQ's proposals, as amended, were adopted by the Governing Board as the IEA's "Y2K Response Plans" at the Board's 10 December 1999 meeting [IEA/GB/C(99)6, Item 5(a); IEA/GB(99)57/REV1/ATT1]. As stated in the introduction to the "Response Plans", the intent was to "set... out the IEA's plans for initial responses to supply disruptions that could result from Y2K problems early in the first days of 2000, including a possible collective response to a serious disruption, having world-wide consequences" [Section 1(a)]. Section 3 empowered the IEA Executive Director, following wide-ranging consultations with the Members, to determine when a qualifying loss of supply had occurred and, based thereon, to fix the initial level of collective response, up to a maximum of 2 million barrels, and activate the Response Plans. The Executive Director would convene a meeting of the Governing Board in the first week of January to confirm the Executive Director's actions, review the situation and decide on a strategy extending beyond the initial response. Meanwhile, Section 4(b) provided, in legally binding language, that "each Member country shall achieve its response obligations," as set in Annex 1, "through oil stock drawdown, oil demand restraint, fuel switching or oil

production measures." The obligation under Article 2 of the I.E.P. Agreement to maintain emergency oil reserves equivalent to 90 days of net imports would be waived for any Member country that found it necessary to draw its reserves below that level, "to the extent necessary to mitigate the consequences" of a supply disruption; notification of the extenuating circumstances would be given promptly, and "[a]ny country benefiting from such a waiver shall rebuild its oil Emergency Reserves to the 90-day level by not later than 1 April 2000" [Section 5(b), (c)].

Annexed to the adopted "Response Plans" were two documents: the first, an indication of Member countries' respective shares of the "reference case" drawdown figure of 2 million barrels; and the second, a table, remaining to be filled in, showing the manner in which each country would discharge its obligation under the "Plans" (whether by stock draw, demand restraint, fuel switching or surge production). All IEA Member countries were included in the Annexes; however, it was not certain as of the time of adoption that all IEA Member countries would participate in a collective response, and the Secretariat explained at the Board's December meeting that in case of a Member country's decision not to participate, a blank space would be left next to that country's name in the Annexes [Records of 10 December 1999 meeting of Governing Board, in files of the IEA Office of Legal Counsel].

Following adoption of the "Response Plans" the IEA issued a public statement [Copy held in files of the IEA Office of Legal Counsel], which read in part:

The Member governments of the International Energy Agency expressed confidence today that preparations for the date roll-over on 1 January 2000 will minimise any residual risk to the energy sector due to Y2K-related computer problems....

The IEA's collective expectation is that any Y2K problems will be of minor consequence and can be managed by the same companies that normally assure the security of world energy supplies....

Members hold substantial oil stocks amounting to over three billion barrels and are prepared to mobilise them in a timely manner.

Measures have been planned by Member countries to deal with residual problems that may arise from the Y2K "bug." The IEA will respond collectively in the unlikely event that Member countries' national responses need to be complemented.

In the actual rollover to the year 2000 the Secretariat went on high alert, maintaining a crisis centre around the clock and staying in touch on a real-time basis with a wide network of contacts in government and industry in Member and non-Member countries.

The February 2000 meeting of the Governing Board reviewed the Agency's Y2K response activities [See IEA/GB/C(2000)1, Item 3]. A Secretariat Note [IEA/GB(2000)1] pointed out that "networking" – the establishment of contacts with industry bodies, companies, government agencies and other international organisations – had played a valuable role in the Agency's preparations. It identified, as matters to be followed-up, concerns about the supply security of natural gas and other energy sources, the use of information technology in crisis situations, and the desirability of strengthening ties with candidates for IEA membership that had co-operated with the Agency in its Y2K preparations.

Section III.H., The Post-September 11, 2001, Contingency Response Plan

In the aftermath of the events of September 11, 2001, the IEA Governing Board quickly agreed, in an informal manner, an "IEA Contingency Response Plan." The informal process commenced 21 September with the Executive Director's circulation of a draft Plan, and a request for Members' comments. On 26 September, noting widespread but not unanimous support for the draft, the Executive Director provided a revised draft Plan, to which he asked the Member countries' agreement; his letter leaked to the press [See *Platt's*, 29 September 2001], causing speculation about a forthcoming IEA decision to draw down oil stocks and leading to acknowledgement by the Secretariat that the IEA was engaged in contingency planning. After another round of discussions, the Executive Director on 28 September informed IEA Delegations that there appeared to be a broad consensus on the second draft, and stated his belief that "the second draft of the Response Plan should be considered as adopted by the Governing Board." The letter advised that "[i]f any Member finds itself unable to accept the Response Plan on this basis", it should "notify me by noon Tuesday, 2 October, copying to all Members, whereupon after consulting the Chairman of the Governing Board, I would convene a meeting of the Governing Board at the earliest occasion." On 2 October the Executive Director informed the Member countries that no Member country had registered such an objection, and concluded that "[t]he Plan is accordingly adopted and becomes available for use, if required." [Correspondence in files of IEA Office of Legal Counsel].

The prefatory portion of the "Response Plan" stated that the IEA Member countries "have agreed" the plan thereafter set out, in light of the fact that "[i]n a volatile oil market, any supply disruption or widespread perception that there is a serious risk of a supply disruption would impose an unacceptable burden on economies already struggling to regain growth." Under the Plan, IEA Member countries "will take collective action to make oil available to the market," should post-September 11 developments result in a supply disruption or the kind of "widespread perception" alluded to in the preface [Section 1]. The Executive Director would make the "initial assessment" that activation was warranted and notify Members of the planned date and time for activation, thereby initiating a period of consultations on the need for activation [Section 2]; the initial response would be a volume of oil equivalent to 2 million barrels of oil per day for a period of 14 days, shared among the IEA Member countries as specified in an Annex [Section 3]. Unusually, Section 4 allowed any Member country government, prior to the date and time specified for activation, to elect not to participate in the Response Plan. This "opt-out" clause was inserted into the revised draft circulated on 26 September, in order to overcome doubts expressed by some Members, centring on the circumstances that might constitute justification for the Plan's implementation and the process of consultation following the Executive Director's determination that action was necessary. Reflecting the legally binding nature of the commitment for Members which failed to notify of such an election, Section 6 required that, promptly after activation, each Member country inform the Secretariat of the "specific measures it is taking to implement its response obligation". Section 7 allowed any IEA Member country to draw its stocks below the 90-day level specified in Article 2 of the I.E.P. Agreement "to the extent necessary to implement the Response Plan."

A Secretariat Note, Document IEA/SEQ(2003)20, describes in detail the Agency's post-September 11 emergency response activities.

Section III.I., The 2002 Initial Contingency Response Plan

At the October meeting of the Governing Board, the Standing Group on Emergency Questions was asked to report to the Board any recommendations that it might have on criteria or modalities with respect to the "Response Plan" [IEA/GB/C(2001)4/REV1, Item 8(b)]. By the time the SEQ met in November 2001, its Chairman was able to note that the oil market had changed since the time the Plan was adopted, and the likelihood of its implementation seemed remote. A Secretariat Note to the October 2002 meeting of the Governing Board [IEA/GB(2002)30] recounted this SEQ meeting and subsequent events, as follows:

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- 4 At its meeting on 20 November, the SEQ reviewed the Response Plan. The Chairman of the SEQ summarised the following points as lessons learned during the process of implementation of the Response Plan:
- A response plan must be both fast and unanimous in order to respond to challenges in the future. The IEA can demonstrate, with a quickly adopted response plan, its solidarity and capability to respond to any sort of emergency;
 - The consultation process needs to be improved. For example, the Governing Board consultation could be conducted in parallel with industry and SEQ consultation to provide appropriate advice from an expert point of view to the Governing Board members for their decision; and
 - An "opt out" clause should be avoided in a response plan so as to increase the solidarity of the response.
- 5 At its March, 2002, Emergency Response and Training Exercise, the SEQ underscored in its conclusions and recommendations the need for flexible and rapidly applicable response procedures so that the IEA can ensure that it plays an effective role in assisting the oil market at the outset of a crisis....
- 6 Therefore, the Secretariat, in consultation with the Chairman and Vice Chairs of the SEQ, prepared a revised draft of the Response Plan, now called the IEA Initial Contingency Response Plan. Important changes in this plan included the elimination of the "opt out" paragraph. Instead, a two-step approach for consultation and implementation was introduced. The Initial Contingency Response Plan was reviewed at the SEQ meeting on 26 June 2002. Most Member countries agreed that the Initial Contingency Response Plan was an improvement over the existing Response Plan.
- 7 Given the increasing tensions within the Middle East, Mr. Priddle, Executive Director of the IEA sent the proposed Initial Contingency Response Plan to Governing Board members for comment and approval. The Secretariat, in co-ordination with the Member countries and the SEQ Chairman and Vice Chairs, amended the July draft to address specific legal/technical issues raised by a few Member countries.

At the October 2002 meeting the Governing Board agreed to "terminate with immediate effect" the Contingency Response Plan that had been adopted in the wake of the events of September 11, 2001, and to "adopt with immediate effect the revised IEA Initial Contingency Response Plan, dated October, 2002" [IEA/GB/C(2002)3, Item 5(d)(iii)]. [A copy of this confidential Response Plan is held in the files of the IEA Office of Legal Counsel]. This Plan is intended to provide a standing procedure to enable a quick response to a supply disruption. Like the previous plan, the new one affirms that should the conditions for activation exist, "IEA Member countries will take collective action to make additional oil available to the market" [Section 2]. As under the 2001 plan, the Executive Director would make the "initial assessment" that activation was warranted and notify Member country governments of the planned date and time for activation [Section 3]. If, following "broad and wide-ranging consultation" with Member countries, there was no "adverse reaction from Member countries... which calls into question the need for, or the effectiveness of" activation of the Response Plan, the Executive Director would dispatch to Members a Notice of Activation of the Response Plan with the indicated contribution level from each Member country. Thus, a two-stage process of "initial assessment" and "notice of activation" would replace the "opt-out" clause contained in the 2001 Response Plan.

The 2002 Response Plan is aimed at facilitating a prompt "first reaction" to a supply disruption. The plan provides that a meeting of the Governing Board will be convened within a matter of days following the Initial Assessment to evaluate the situation and to "decide on the need for action, should an activation decision not already have been taken, or decide on continuation of any action taken or adoption of any further actions that may be required." Similar to the 2001 Plan, a Member country may draw its emergency reserves below the 90-day level "to the extent necessary to implement the Initial Response Plan."

Upon the commencement of the military action in Iraq in March 2003, the IEA Executive Director made the "Initial Assessment" contemplated by the Initial Response Plan, that activation of the Plan might be warranted, and so notified Member countries. The IEA Secretariat carefully and continuously monitored the situation and shared its assessments with Member countries, the oil industry and strategic non-Member countries. Due to the provision of adequate oil supplies by producing countries, however, no "Notice of Activation" of the Response Plan was ever issued.

CHAPTER IV, LONG-TERM ENERGY POLICIES: REDUCING MEMBERS' DEPENDENCE ON IMPORTED OIL

The IEA's *World Energy Outlook (WEO)*, first published in 1994, is a major asset to the Agency in performing its role of informing discussion of energy matters. Since 1998, the Agency's practice has been for the the *WEO* in even years to focus on projections of energy demand/supply and CO₂ emissions. These projections provide a quantitative basis for energy policy analysis both within and outside of the IEA countries. In alternate years, the *WEO* focuses on a specific subject, such as *Looking at Energy Subsidies: Getting the Prices Right* (1999), *Assessing Today's Supplies to Fuel Tomorrow's Growth* (2001) and *Investments in the Energy Sector* (2003).

The 2002 *World Energy Outlook*, containing projections through 2030, continues a process of extending the outlook timeframe and expanding the analysis provided. Its core projections are derived from a Reference Scenario that takes into account only those government policies and measures that had been adopted by mid-2002, while an Alternative Policy Scenario (first instituted in the 2000 *WEO*) assesses the impact of a range of new energy and environmental policies under consideration in OECD countries, as well as that of faster deployment of new energy technologies. The future depicted in this *WEO* is one in which energy use continues to grow inexorably, fossil fuels continue to dominate the energy mix and developing countries fast approach OECD countries as the largest consumers of commercial energy. These developments raise serious concerns about the security of energy supplies, investment in energy infrastructure, the threat of environmental damage caused by energy production and use and the unequal access of the world's population to modern energy, problems that cannot be abated unless governments take strenuous action in many areas of energy use and supply.

World energy use is projected to increase steadily through 2030 in the Reference Scenario. Fossil fuels will remain the primary sources of energy, meeting more than 90 per cent of the increase in demand. Transport demand, almost entirely for oil, is expected to grow the most rapidly of all end-use sectors, at 2.1 per cent per annum, surpassing industry in the 2020s as the largest final-use sector. Global primary energy demand is seen increasing by about 1.6 per cent per year, an increase equal to two thirds of current demand, with more than 60 per cent of the increase occurring in

developing countries, especially in Asia, due to their rapid economic and population growth, industrialisation and urbanisation. These countries' share of world demand will increase from 30 to 43 per cent, with the OECD share dwindling from 58 to 47 per cent.

The world's energy resources are adequate to meet the projected growth in energy demand, but the geographical sources of incremental energy supplies will shift over the next three decades, with almost all of the supply increase taking place in non-OECD countries, compared to just 60 per cent of the increase from 1971 to 2000.

Section IV.A., The Long-Term Co-operation Programme (LTCP)

In April 2003 the IEA Governing Board annulled the Guiding Principles for Co-operation in the Field of Energy Research and Development, and replaced them with a new "Framework for International Energy Technology Co-operation" [IEA/GB/C(2003)3, Item 8]. This is discussed in Section V.C.2. below.

Section IV.B., Energy Conservation and Efficiency

The positive results of IEA energy efficiency and conservation described at the end of this section of Volume I of *The History* have continued in more recent years. In IEA countries, energy intensity, expressed as total primary energy supply divided by GDP, fell by 8 per cent in 2000 from the 1990 figure. From 1973 through 2001 the change was 33 per cent, and the annual rate of decline between 1995 and 2000 was 1.1 per cent as compared with 0.7 per cent between 1989 and 1994. As in earlier periods, structural change in IEA economies, including a progressive move away from energy-intensive industry towards the services sector, is a major driver of this result. [See *Energy Policies of IEA Countries* (2002), page 45 and Table A2].

The Communiqué from the May 1995 Ministerial Level Meeting of the IEA Governing Board reported Ministers' recognition of the key role that cost-effective energy efficiency and conservation could play in increasing competitiveness, reducing pollution, enhancing energy security and promoting sustainable growth. Ministers endorsed support for technological development and the removal of barriers to deployment in the marketplace, and supported expanded co-operation with key non-Member countries to encourage sustainable development with energy policy and investment regimes suitable for commercial ventures [IEA/GB(95)30/ANN].

In the "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49/REV1/ANN1], which the Governing Board adopted in December 1996 [IEA/GB/C(96)5, Item 2], the IEA noted the increasing importance of energy efficiency in the context of Member countries' commitments to reduce CO₂ emissions, and recognised the need to deepen understanding of energy sectoral use and the scope for effective energy efficiency policies. It set these objectives for itself:

- Comparing among Member countries, energy efficiency at the macro level with the overall energy use trends;
- Better understanding behavioural feedback associated with increased efficiency and its impact on energy use;
- Analysing past policies and their effects on energy use, and assisting countries in the design of their new policies;
- Fostering energy efficiency information dissemination and experience among IEA Member and non-Member Countries.

The May 1997 Governing Board Meeting at Ministerial Level, which discussed possible energy responses to climate change, agreed that it was essential that developed countries co-operate on improving energy efficiency worldwide. Ministers saw a clear potential for cost-effective reductions in energy demand and CO₂ emissions, but its extent varied from sector to sector and country to country [IEA/GB/C(97)3/ANN].

When the Governing Board, in February 1999, reviewed the Medium-Term Strategy, modified it and extended it to the period 1999-2002 [IEA/GB/C(99)1, Item 5], it added a new task: "Assessing price distortions (subsidies and cross subsidies) which prevent appropriate price signals from ensuring an efficient use of energy" [IEA/GB(99)5/ANN1, paragraph 37].

On 4 October 2000 the Governing Board held a meeting to discuss the current state of the oil market. Following that meeting the Agency released a public statement noting the tightness of the supply-demand situation, the existence of unusual volatility in oil prices, and the risk that global economic growth could be jeopardised. The statement said that, in the interest of greater long-term stability in the oil market, the Governing Board, *inter alia*, "affirmed its intention to give new impetus to longer-term policies to reduce oil demand, improve energy efficiency, diversify supplies and accelerate the deployment of new energy technologies" [IEA/GB/C(2000)4/ANN1]. This echoed the theme of an invitation to the Agency by the President of the European Union Council of Ministers in Charge of Energy, on behalf of the EU's Ministers of Economy and Finance, to "lead a concerted effort to give

new impetus to policies relating to energy efficiency and energy diversification" [IEA/GB(2000)25/ANN1].

As a basis for discussion in the Governing Board, the IEA Secretariat prepared in-depth analyses of both subjects [IEA/GB(2000)25/ANN3 and ANN4, and IEA/GB(2000)35]. On the subject of energy efficiency, the Secretariat pointed out that total final energy consumption per unit of GDP had fallen sharply since the first oil shock, with energy efficiency benefiting from higher fuel prices, technological progress and energy efficiency programmes. Oil consumption in the transport sector was of increasing importance within a context of growing oil import dependency, and there were technologies that could have significant ameliorative impacts by 2010, while other technologies will take longer. Potential was seen for further improvements in residential and commercial sector space heating, and in electrical appliances through improved labeling and standards. On the supply side, electricity generation could be increased through enhancements in turbine characteristics, the use of combined cycle gas turbines and integrated gasification combined cycle turbines, and cell technology; combined heat and power systems might also offer opportunities.

The Governing Board welcomed these analyses, asked the Executive Director to bring forward specific, costed proposals for action, and requested the Standing Group on Long Term Co-operation and the Committee on Energy Research and Technology to make further recommendations. It expressed a wish to work collaboratively with the European Community, noting that the European Commission had been invited to bring proposals forward to the European Council in the first half of 2001 [IEA/GB/C(2000)5, Item 5].

A Secretariat Note for the December 2000 meeting of the Governing Board [IEA/GB(2000)37 and IEA/GB(2000)37/CORR1] put forward and provided cost information for several activities in energy efficiency and diversification that could be undertaken, in addition to those described in Document IEA/GB(2000)35 that already were encompassed by the draft 2001 IEA Programme of Work, which was proposed for adoption at the December meeting. The additional activities included promoting energy efficiency in buildings and in the transportation sector, and the accelerated deployment of renewables. The Note stressed that policies should, so far as possible, "simulate market-based decisions to increase energy efficiency and diversification through energy prices and taxes, reinforced by other Government policies, such as financial incentives, information, and regulation."

There was broad support among IEA Delegations for performance of the proposed work, but there was not a consensus on whether the activities

should be funded by new voluntary contributions or absorbed within the Agency's "core" Budget. Resolving this would require further consideration, following discussion of the issues in the Standing Groups and Committees [IEA/GB/C(2000)6, Item 5].

At their May 2001 meeting, IEA Ministers, recognising that each country will choose that mix of fuels it considers most appropriate, stated its intention that "renewable energy should play an increasing role", and accepted "the European Union's invitation to collaborate in a concerted effort to give new impetus to both the diversity and the efficiency of all forms of energy" [IEA/GB/C(2001)3/ANN1]. While the conduct of this special collaboration was hindered by funding limitations, additional activities in both areas were partly supported by voluntary contributions, and co-operation with the EU was intensified in certain areas, such as on market growth effects of renewables on industry, science and government policy.

In the Communiqué issued following the April 2003 Meeting of the Agency's Governing Board at Ministerial Level, Ministers committed themselves to achieving greater energy efficiency, both through national programmes and through international technology collaboration. To do so, they would increase incentives to efficiency in market and consumer behaviour, in particular in the transport sector and for buildings and equipment. They also would seek to reduce energy intensity through R&D, technological innovation and international collaboration. Ministers recognised the importance of working together, and with the private sector, to accelerate research and development in fuel efficiency and competitive alternative fuel sources and carriers in their economies and worldwide. They noted, in particular, their "intent to further develop the technologies for a hydrogen future" [IEA/GB/C(2003)4/ANN1]. An interesting feature of this Ministerial Meeting was a "Technology Fair" organised by the Secretariat in the same premises with the Ministerial meeting room, where presentations were made by all of the IEA's R&D Implementing Agreements on their main technology achievements.

A Secretariat Note for the Governing Board's October 2003 meeting [IEA/GB(2003)24] surveyed comprehensively the major near- and long-term opportunities to reduce petroleum use and achieve emissions reductions. Very large reductions in transport sector CO₂ emissions may require the use of a transport fuel such as electricity or hydrogen that emits almost no CO₂ emissions either in use or in production. Without measures to encourage further development and deployment of those technologies, however, the Note expressed doubt that the market would take them up. While biofuel has less

potential to displace petroleum, it faces fewer cost, technology and infrastructure barriers, and could progress more rapidly if substantial cost savings were achieved, particularly for cellulosic ethanol. The Note concluded:

While industry will be a key agent for technological change, governments cannot be passive. The high costs of developing and introducing technologies for the three near zero energy carriers discussed (hydrogen and renewably derived biofuels), the market's failure to introduce low-cost energy efficient vehicle technologies (or, more precisely, failure to prevent these technologies from being used for purposes other than fuel economy improvement), and the continued strong growth in private transport activity, all require government action and support, to help lower costs and speed a transition to sustainable transport systems around the IEA. [Paragraph 57].

A Secretariat Note for the December 2003 meeting of the Governing Board [IEA/GB(2003)31] reported on a forthcoming IEA publication, *From Oil Crisis to Climate Challenge: 30 Years of Energy Use in IEA Countries*. This study draws on a newly developed Agency database containing detailed information on energy use and on activities that drive energy demand, to develop disaggregated indicators that contribute to understanding how different factors have affected energy use and CO₂ emission trends in individual countries and groups of countries. One of the most important findings is that the rate of energy savings in IEA Member countries has slowed since 1990, as has the decline in CO₂ emissions relative to GDP, showing that "the changes caused by the oil price shocks in the 1970s and the resulting energy policies did considerably more to control growth in energy demand and reduce CO₂ emissions than the energy efficiency and climate policies implemented in the 1990s" [Paragraph 3].

The Secretariat's former Energy Conservation & Efficiency Division, now called the Energy Efficiency Policy Analysis Division, recently was transferred from the Long Term Co-operation and Policy Analysis Directorate to the Energy Efficiency, Technology and R&D Directorate. The Division's work programme continues to be reviewed by the Standing Group on Long Term Co-operation.

The Working Party with oversight responsibility in the energy efficiency area is the Working Party on Energy Efficiency (EEWP). This Working Party, which reports to the Standing Group on Long Term Co-operation, had its origin as the SLT's Sub-Group on Energy Conservation (See Section V.C.1. of Volume I of *The History*), its name having been changed in 1998. The EEWP serves as a

forum for the exchange of information on energy efficiency policy developments among Member countries. Moreover, that information feeds into the Agency's *Energy Efficiency Update*, which the Secretariat continuously maintains on the IEA's website. Collaborative efforts of the EEWP and the Secretariat have produced a succession of workshops and seminars on a variety of topics, and in recent years, numerous reports and publications.

Among the Agency's successful energy efficiency projects was the Standby Power Initiative (also known as the "Leaking Electricity" or "1-Watt" Initiative), aimed at reducing energy consumption in appliances and other devices when they are not in an active or "on" mode. The effect of this project, which was the subject of the IEA's 2001 publication *Things That Go Blip in the Night: standby power and how to limit it*, has been to persuade an increasing number of IEA Member countries to take action to limit standby power consumption. More importantly, by focusing appliance and equipment manufacturers on this problem, the initiative has led to many manufacturers voluntarily setting standby power targets and redesigning equipment to meet those targets.

The Agency has since 1993 been working on a series of energy indicators for use in analysing energy use and CO₂ emissions. These studies have provided important insights on how trends in energy use have evolved within countries and on why the structure and levels of energy use vary among countries. They also improve the basis for meaningful comparisons of energy and emission developments across countries, as well as for the measurement of progress in emissions reductions and efficiency improvements within a single country over time. Detailed indicator analyses have been prepared for 14 Member countries, along with two broader works, *Indicators of Energy Use and Efficiency* (1997) and *The Link Between Energy and Human Activity* (1997). The energy indicator framework has now been institutionalised as a key tool for understanding energy end-use in Member countries, and from 2003 the indicator database will be maintained as an integral part of the IEA statistical collection and updated annually.

Other work of importance has been done on such subjects as energy efficiency measurement and evaluation, auditing, and economic/engineering analysis; specific energy technologies and policy instruments; energy performance standards and energy performance labeling. Recently, the IEA published *Cool Appliances: policy strategies for energy efficient homes* (2003), which highlights the large and highly cost-effective scope for additional energy and greenhouse gas savings that would be available if countries adopted the concept of least life-cycle cost as a policy target for energy-using equipment in the residential sector.

Section IV.D., Alternatives to Oil: Energy Diversity

Energy diversification has been successful in moving energy consumption away from oil since the International Energy Agency was created in 1974. It remains critical to the success of energy policy. There is now concern, however, that the share of imported oil in OECD primary energy supply has not fallen over the last ten years, and that it may even increase in the future.

As noted in Section IV.B. above, the Governing Board in October 2000 responded favourably to an invitation from the European Union to lead a concerted effort to give new impetus to policies relating to energy efficiency and energy diversification. On the subject of diversification, the Secretariat's Notes for that meeting [IEA/GB(2000)25/ANN3 and IEA/GB(2000)35] pointed out that oil's share in OECD total primary energy supply remains high, and oil demand continues to rise in absolute terms, while the geographical diversity of oil supplies in OECD countries is declining. Although the energy intensity of OECD countries has fallen sharply since the first oil shock, the rate of decline has levelled off in recent years. Meanwhile, the total primary energy supply of non-OECD countries, particularly their demand for oil, has risen steadily. The Secretariat posed options for possible further work on diversification, beyond the Secretariat's current activities concerning data collection, policy analysis and seminars to promote collective discussion of issues.

The Governing Board asked the Executive Director to bring forward specific proposals for action, with indications of their budgetary implications, and invited the Standing Group on Long Term Co-operation and the Committee on Energy Research and Technology to make further recommendations. It expressed a wish to work collaboratively with the European Community, noting that the European Commission had been invited to bring proposals forward to the European Council in the first half of 2001 [IEA/GB/C(2000)5, Item 5].

A Secretariat Note for the December 2000 meeting of the Governing Board [IEA/GB(2000)37] put forward and provided cost information for several activities in energy efficiency and diversification that could be undertaken, in addition to those in Document IEA/GB(2000)35 that already were encompassed by the draft 2001 IEA Programme of Work proposed for adoption at the December meeting. The additional activities included identifying the GDP costs of different kinds of causes of reduced OECD oil dependence (prices; government policy actions and regulations; technology) and analysing the implications of market reform and environmental pressures. The Note stressed that policies should, so far as possible, "stimulate market-

based decisions to increase energy efficiency and diversification through energy prices and taxes, reinforced by other Government policies, such as financial incentives, information, and regulation."

There was broad support for performance of the proposed work among IEA Delegations, but there was not a consensus on whether the activities should be absorbed within the Agency's "core" Budget or funded by new voluntary contributions. Resolving this would require further consideration, following discussion of the issues in the Standing Groups and Committees [IEA/GB/C(2000)6, Item 5].

IEA Ministers, at their May 2001 meeting, supported the continuing diversification of their energy systems – both by energy type and by source. They noted that national circumstances and policies would determine the mix of fuels necessary to contribute to their collective energy security and their economic growth, and to address the challenge of achieving sustainable development. Recognising that each country will choose that mix of fuels it considers most appropriate, they stated their intention that "renewable energy should play an increasing role", and accepted "the European Union's invitation to collaborate in a concerted effort to give new impetus to both the diversity and the efficiency of all forms of energy" [IEA/GB/C(2001)3/ANN1]. The conduct of this collaboration was hindered by funding limitations, but additional activities in both areas were partly supported by voluntary contributions. Co-operation with the EU was intensified in certain areas, for example with respect to market growth effects of renewables on industry, science and government policy.

Again at their April 2003 meeting, Ministers recognised that diversity by energy type, source and route remained essential to improving energy security. Each country has chosen its own mix of fuels among oil, gas, coal, nuclear and renewables based on energy resource endowments and national policies. The Ministers called for the continuing development of policies and programmes, consistent with national priorities, to promote diversification, including increased support for energy research, development, demonstration and deployment. They remained particularly interested in accelerating the commercial availability of cleaner technologies with low pollution and carbon emission [IEA/GB/C(2003)4/ANN1].

Section IV.D.2., Coal Production, Trade and Use

The IEA's "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49/REV1/ANN1] stated that, according to the Agency's then latest *World Energy Outlook*, the share of solid fuels in the primary fuel mix was projected to remain stable. In

the OECD countries, coal had become largely a fuel for power generation. The high coal-intensity of some fast growing countries such as China and India was leading to rapid growth in coal demand in the world outside of the OECD areas, which could consume more than one half of world solid fuel by 2010.

The Strategy document recognised the contribution that coal makes to IEA Member countries' security, but also remarked that coal use increasingly was constrained by environmental considerations. It said that the IEA's coal objectives should be to:

- Support accelerated development and introduction of clean coal technologies, particularly in China and India and other developing countries;
- Encourage reductions in coal sector subsidies, and a broader rationalisation of the industry.

This section of the Strategy was left essentially unchanged when the Governing Board, in February 1996, updated it and "rolled it forward" to cover the period 1999-2002 [IEA/GB(99)5/ANN1].

The IEA's 2002 *World Energy Outlook* projected that over the next three decades the consumption of coal would grow, albeit more slowly than that of oil and gas, with China and India together accounting for two thirds of the increase. In all regions, coal use is foreseen to become increasingly concentrated in power generation, where it will remain the dominant fuel. Rising gas prices, and the deployment of advanced technologies, can enhance coal's attractiveness. Increases in coal production are likely to be concentrated in places where extraction, processing and transportation costs are lowest – South Africa, Australia, China, India, Indonesia, North America and Latin America. It is noted that CO₂ capture and sequestration is a prerequisite to an expanded role for coal.

Section IV.D.3., Natural Gas

At the IEA's June 1993 Ministerial Meeting, note was taken of the increasing portion of natural gas that was sourced outside of the IEA countries, and subject to delivery via inflexible delivery systems. The IEA was charged to analyse the probable trends in gas supply, demand and transmission capacity and the emerging regional issues. [IEA/GB(93)43, Attachment, paragraph 10]. The IEA therefore launched a comprehensive review of gas security examining all aspects of the issue, short- and long-term, across all regions of the OECD.

The IEA's study, published in 1995 as *The IEA Natural Gas Security Study*, started from the premise that natural gas demand would rise substantially over the coming 15 years. Gas was viewed as a favourable fuel for power generation because: recent technological improvements had raised conversion efficiencies; low capital cost, short lead-times and the ability to add capacity in relatively small increments had decreased overall costs of gas plants, which were attractive in competitive and deregulated electricity markets; and natural gas results in relatively low emissions of CO₂ and pollutants such as SO₂. The study, however, pointed out that whether the required volumes could be brought on-stream in time to meet demand depended on the movement in energy prices and on whether cost reductions could be achieved through new technology. Moreover, supplies increasingly would have to be sourced more distantly from consumption areas.

This did not necessarily indicate a security problem, provided that security measures were maintained and strengthened. The evidence from markets where competition had been introduced did not suggest incompatibility with secure gas supplies, and flexible and market-responsive pricing could help move gas rapidly to where it was needed in an emergency. While market mechanisms should where possible be the basis for security decisions, governments ought to: set a framework in which risks can be managed and costs reduced, in particular through an international framework for investment and trade and facilitating interconnection and exchanges among neighbouring countries; determine acceptable security levels, especially where small customers and safety are concerned; and provide a legal basis for dealing with emergency situations.

There were marked regional differences. In North America, where the supply system is diversified, political disruption is less relevant than the ability of the system to withstand stress due to severe weather conditions. OECD Europe, on the other hand, is dependent on deliveries over long distances from outside the region, especially from Russia and Algeria, although gas companies have spare import capacity from other suppliers, reserve production capacity, seasonal storage, and an ability to cut supplies to customers with fuel switching capability. Japan, meanwhile, is almost entirely dependent on imported LNG.

In the Communiqué from the IEA's May 1995 Meeting of the Governing Board at Ministerial Level, Ministers:

Endorsed the major findings of the IEA *Gas Security Study*, that the nature of security issues differs from those in oil supply, and that gas

security is best viewed in terms of risk management, which is primarily a matter for companies and their customers, to be managed through contractual relations; but also acknowledged the significant international dimension to gas security (including the need for a secure framework for investment and trade) and the need for periodic monitoring, by the Government concerned. [IEA/GB(95)30/ANN].

The IEA's "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49/REV1/ANN1] noted the findings of the Agency's then latest *World Energy Outlook* that rising gas demand was driven primarily by the power generation sector – technological improvements in the design, operation and efficiency of combined cycle gas turbines having moved the economics of power generation in favour of natural gas. A major share of new electricity generating capacity was being based on gas.

The Strategy reported the conclusion of the IEA's *Natural Gas Security Study* that the projected growth in gas demand does not of itself constitute a security problem, provided that security measures are maintained and strengthened. Supplies were potentially available to meet forecast demand into the early twenty-first century, although international co-operation and a stable framework for investment and trade were needed to encourage the necessary long-term commitments.

The IEA's objectives in the gas security context were seen as follows:

- Monitoring gas security risks and keeping informed of Members' security measures in the context of overall energy security;
- Analysing the developments in LNG trade and their implications;
- Contributing further to the policy debate on the roles of markets and governments, and the implications of competitive market developments, particularly on the development of long-term supply;
- Encouraging international co-operation and a stable, open framework for investment and trade in gas;
- Developing close co-operative relations with the Energy Charter Conference and Secretariat, and with the European Commission, on European gas security issues.

No substantial changes were made to the natural gas discussion when the "Medium-Term Strategy" was updated to cover the period 1999-2002 [IEA/GB(99)5/ANN1].

In the interim, recognition of the increasing importance of natural gas in the world's energy picture had led the IEA to create, in 1997, a new publication series, *Natural Gas Information*. This series would include data previously set out in the Agency's publication, *Oil and Gas Information*, supplemented with worldwide data, analysis, forecasts, and price and storage information.

IEA Ministers, at their May 1999 Meeting, noting the challenge involved in designing policies fully compatible with free markets to achieve goals that may not be achieved by markets alone, such as energy security and environmental sustainability, **instructed** the Secretariat to work with the energy industry to find long-term solutions to these challenges" [IEA/GB/C(99)3/ANN1, paragraph 10]. This mandate had special resonance in the natural gas area, where the increasing role of the private sector requires more attention by governments to the development of the gas industry.

The Communiqué from the 2001 Ministerial Level Meeting of the IEA's Governing Board [IEA/GB/C(2001)3/ANN1] voiced concern that rapidly expanding gas demand was being met by ever more distant supplies, often crossing multiple territorial borders.

In its 2002 *World Energy Outlook*, the Agency projected that through 2030 demand for natural gas, which often is preferred to coal and oil for its relatively benign environmental effects, would rise more strongly than that for any other fossil fuel. Primary gas consumption is expected to double, the share of gas in world energy demand growing from 23 to 28 per cent. Over 60 per cent of the increase in gas supplies will be absorbed by new power stations, most of which will use combined-cycle gas turbine technology, a form of generation favoured for its high energy-conversion efficiency and low capital cost. The production of natural gas is projected to increase in every region other than Europe, but with the costs of production and transportation rising as low cost resources close to markets are depleted and supply chains lengthen. The biggest growth markets for natural gas will become much more dependent on imports, with Europe seeing the biggest increase in imports. Cross-border gas pipeline projects will multiply, and trade in liquefied natural gas will surge.

Responding to the mandate from IEA Ministers at their 1999 Meeting, the Secretariat initiated a process to reinforce the Agency's links with the gas industry. A brainstorming meeting with gas industry representatives to

exchange views and develop a format for future discussions was held in February 2002. It led to the establishment of an objective to conduct annual High Level Meetings with participation from IEA Member governments and the gas industry at "management board level", such meetings to be prepared by preceding workshops. The first High Level Meeting was held in October 2002; the topic for discussion was "Security of Gas Supply", covering the two main aspects, "Investment Performance" and "Supply Availability". [IEA/GB(2002)2].

The Secretariat reported to the December meeting of the Governing Board on the results of the first High Level Meeting with the Gas Industry [IEA/GB(2002)43]. The Secretariat's Note described the issues on which industry representatives held common views, those on which differences existed, and open issues. Addressing the challenges for policy makers, the Note suggested, in light of the evolution that has occurred from unified monopolistic gas markets to competitive and unbundled ones, that policy makers need to create the framework for security of supply by defining the objectives for gas security, setting standards, taking steps to encourage cross-border trade, and using market instruments such as investment incentives to overcome eventual bottlenecks, while leaving to market players the decisions about how to provide the level of security required. The Governing Board agreed to continue to reinforce links with the gas industry. [IEA/GB/C(2002)4, Item 6(b)].

At their April 2003 Meeting, IEA Ministers noted:

the increasing reliance on natural gas in the energy mix as well as the growing dependence in many countries on natural gas imports, and have considered its implication for overall energy security. Notwithstanding the regionally discrete nature of gas markets, national level production and distribution problems can nonetheless affect global energy markets. We call on the Secretariat to continue its assessment of these vulnerabilities, and to identify policy options and strategies, including securing diverse gas sources and routes as well as technology development, to contribute to a greater security of gas supply. The collaboration of government and industry is essential to this effort [IEA/GB/C(2003)4/ANN1].

The natural gas industry experienced significant market reform during the period under review. This subject is discussed in Section IV.G. below.

Section IV.D.4., Nuclear Energy

The IEA's "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49/REV1/ANN1] noted the expectation, expressed in the Agency's then latest *World Energy Outlook*, of a continued slowdown in the worldwide rate of growth of nuclear generated power, more than 80 per cent of which was concentrated in IEA countries. The following objectives were set for the IEA:

- IEA should maintain its competence to set nuclear questions in a total energy context, ensuring that it complements, and does not overlap, the work of the Nuclear Energy Agency and the International Atomic Energy Agency.
- IEA should contribute to the evaluation of the opportunities for phasing out undesirable nuclear plants and the implications of doing so (e.g. in the Ukraine, Bulgaria, Armenia).

At its December 1997 meeting the IEA Governing Board heard a report by the Head of the OECD's High Level Advisory Group on the Future of the Nuclear Energy Agency. The report of the Advisory Group, which was aimed at identifying the main impacts of nuclear energy in a sustainable development perspective, argued that inclusion of the nuclear energy option in the basket of tools with which to address climate change is consistent with the precautionary principle and sustainable development objectives. A Secretariat Note [IEA/GB(97)39] described as follows the substantive input that the Secretariat provided to the Advisory Group:

- There is no question about the importance of nuclear as a source of energy. There is a need to keep the nuclear option open (i.e., to ensure that nuclear capability is sustained so that nuclear remains a policy option for future power generation investment).
- This reflects the Shared Goals which state that "nuclear power has a contribution to make to energy diversity, and therefore to energy security" and that "a number of IEA members wish to retain and improve the nuclear option for the future, at the highest available safety standards, because nuclear energy does not emit CO₂."
- However, a fundamental distinction must be made between "facts" and "policy". Providing the international community with the "assured facts" to educate the public is critical in order to take forward the issue of lack of public acceptance of nuclear

in many countries. Only then, can there be an objective and sound policy debate about whether (or not) nuclear has a place in the energy mix.

- The first issue for review is therefore the provision of facts for a wider public. This has been the NEA's remit and the question is whether it has been successful, and if not, why not. Recommendations for the future must flow from a careful analysis of this issue.
- The second issue - which it is important to keep separate - is the handling of the policy debate. A debate on nuclear energy should be handled not in isolation, but in terms of nuclear's contribution to the total energy supply picture. Nuclear energy is part of the wider issue of electricity power generation which, in turn, relates to the overall energy mix.
- There is scope for reviewing the effectiveness of the institutional arrangements for the two exercises - promoting the facts, and engaging the policy debate - however, the respective roles of the NEA and IEA appear appropriate in the light of the above and there is no case for a significant change.

The Governing Board generally supported many of the Advisory Group's proposals, while "stressing that the IEA was the appropriate forum in which to discuss nuclear energy policy, in its overall energy policy context." The Chairman of the Governing Board noted the need to respect the different nuclear energy policy views held by the IEA's Member countries. He stated the Agency's willingness to co-operate on nuclear matters, provided that this does not imply unnecessary bureaucratisation or the creation of new bodies [IEA/GB/C(97)5, Item 3].

When the Governing Board in February 1999 updated the "Medium-Term Strategy" to cover the period 1999-2002 [IEA/GB/C(99)1, Item 5], the nuclear discussion in the Strategy proved contentious. The Board did not accept a proposal to amend the first objective so that it would refer to the Agency's competence to set nuclear questions in "an energy and environmental" context, nor did it agree to replace the second objective to read, "The IEA should contribute to the analysis of the implications for nuclear power and for other energy sources of the reform of the electricity sector and the implementation of the Kyoto Protocol." Instead, it replaced both of the above-quoted objectives with the following:

The IEA should maintain its competence to address nuclear energy issues, consistent with the IEA Shared Goals. The Agency should ensure that it complements, and does not overlap, the work of the Nuclear Energy Agency and the International Atomic Energy Agency.

In 2001 the IEA published *Nuclear Power in the OECD*, reviewing the status and prospects for nuclear power generation in OECD countries. It had been impossible to arrive at a consensus on the text of this publication within the Standing Group on Long Term Co-operation, but there was no objection to its release, with the understanding that its Foreword would reflect the differences that exist among IEA Member countries over nuclear policy [See IEA/SLT/M(2000)5, Item 8.1]. The book acknowledged that the future of nuclear power was uncertain (the only OECD countries where new plant orders were planned were Korea, Japan and possibly Finland – whose parliament, in 2002, did vote in favour of installing a new nuclear plant). It discussed the economic, environmental and energy security aspects of nuclear power, and set out a number of issues for government action, among them, a stress on the need to evaluate on an even basis the full, unsubsidised costs of all forms of power generation, recognising the effects of environmental and other externalities and employing clearly defined and accepted public costs, risks and benefits.

The 2002 *World Energy Outlook* of the IEA echoed the view that the prospects for nuclear power are particularly uncertain. It noted that some governments have expressed renewed interest in the nuclear option as a means to reduce emissions and improve security of supply, but nonetheless projected that over the next three decades the role of nuclear power would decline markedly, because few new reactors would be built and some would be retired. Nuclear production is expected to peak at the end of this decade, then decline gradually, its share of world primary demand and of total electricity generation falling to five per cent and nine per cent respectively, with the biggest declines coming in North America and Europe.

Section IV.D.5., Hydroelectricity and Other Renewables

The IEA's "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49/REV1/ANN1] reported the findings of the Agency's then most recent *World Energy Outlook* that biomass, by far the most important renewable energy source in world energy supply, the bulk of which is consumed in non-OECD countries, is the fourth largest energy source in the world and could be the largest individual energy source in the rest of the world outside of the OECD areas. Over the period through 2010, the world share of hydroelectric power was forecast to increase slightly, while

wind, wave, solar and geothermal power, despite registering collectively the highest growth rate among all fuel types, were projected to account for only around one per cent of total primary energy demand.

The Strategy document observed that while IEA Member countries' stated goals called for a significant role for renewables, financial and competitive constraints were such that present policies appeared not to be consistent with such an outcome. It established these objectives for the IEA:

- The IEA should continue to encourage the development and promotion of renewables, especially by expanding its already considerable collaborative R&D Implementing Agreement activities, as a means to diversify energy supplies and reduce greenhouse gas emissions.
- Efforts to promote transfer of renewable energy technologies to developing countries should be intensified.

The updated version of the Strategy, covering the years 1999-2002, altered the first of the two above-quoted objectives to read as follows:

For environmental and energy security reasons, the IEA should continue to encourage the development and deployment of renewables, especially by expanding its R&D collaboration agreements and by encouraging market stimulation incentives for renewables.

In the interim, the May 1997 Meeting of the IEA Governing Board at Ministerial Level stated in its Communiqué that longer term R&D, undertaken co-operatively between governments and between industry and government, was needed to develop and demonstrate cleaner and more efficient energy technologies, including renewable energy technologies. It noted that market introduction measures may also enhance the application of these emerging technologies [IEA/GB/C(97)3/ANN].

The May 1999 Ministerial Meeting, while not mentioning renewables specifically in its Communiqué, nonetheless underlined the vital role of long-term R&D in controlling greenhouse gas emissions beyond the 2008-to-2012 fulfilment period set by the Kyoto Protocol, pointed out that it is vital to promote the use of less carbon-intensive energy technologies and sources, and affirmed the importance of co-operative efforts under IEA Implementing Agreements in developing and deploying a new generation of sustainable energy technologies [IEA/GB/C(99)3/ANN1].

At the Okinawa G8 Heads of State Summit in July 2000, the final Communiqué included a paragraph on renewable energy [paragraph 66], inviting all "stakeholders" to join in a Task Force to prepare concrete recommendations on increasing the use of renewable energy, for consideration at the next Heads of State Summit, scheduled to be held in Genoa in July of 2001. The IEA Secretariat reported to the October 2000 meeting of the Agency's Governing Board that the Executive Director had accepted an invitation to participate in the Task Force [IEA/GB(2000)26], and the Board noted this report with approval. [IEA/GB/C(2000)5, Item 7].

Upon the initiative of the Working Party on Renewable Energy Technologies, and with the support of Member countries, a Renewable Energy Unit had been established earlier that year within the Secretariat's Directorate of Energy Efficiency, Technology and R&D, to develop a strategy to accelerate renewable market uptake. The strategy embraced took its point of departure in market positioning (the value is more important than the barriers) and the need to attract increased investment flows by adding confidence and by using effects of scale (learning investments) to accelerate the expansion. The Renewable Energy Unit participated actively in the work of the G8 Renewable Energy Task Force, contributing to the analysis necessary for recommendations to the next G8 Summit. In 2002-2003, the IEA Unit also played an active role in a "Type 2" project, agreed upon at the 2002 Johannesburg World Summit on Sustainable Development (See Section IV.E. below), on acceleration of market uptake for renewables in the Mediterranean region.

The Communiqué from the May 2001 IEA Ministerial Meeting contained a commitment by the Ministers to support the development and transfer of energy technologies. Moreover, Ministers expressed their intention that renewable energy should play an increasing role [IEA/GB/C(2001)3/ANN1].

After difficulties in the closing stages of the work of the G8 Renewable Energy Task Force, the final report of that exercise was submitted as a "Co-Chairmen's Report" to the Heads of State. The Chairmen observed that their report, which represented the majority opinion but did not have the unanimous support of the Task Force, if implemented, could provide renewable energy services to the equivalent of a billion people within ten years. At the Genoa Summit, the final Communiqué included the following statement:

We recognise the importance of renewable energy for sustainable development, diversification of energy supply, and preservation of the environment. We will ensure that renewable energy sources are adequately considered in our national plans and encourage others to

do so as well. We encourage continuing research and investment in renewable energy technology, throughout the world. Renewable energy can contribute to poverty reduction. We will help developing countries strengthen institutional capacity and market-oriented national strategies that can attract private sector investment in renewable energy and other clean technologies. We call on MDBs and national development assistance agencies to adopt an innovative approach and to develop market-based financing mechanisms for renewable energy. We urge the Global Environment Facility (GEF) to continue supporting environmental protection on a global scale and fostering good practices to promote efficient energy use and the development of renewable energy sources in the developing world, and stress the need to commit adequate resources to its third replenishment. [IEA/GB(2001)35, Annex 2].

Based on the experience of contributing to the work of the G8 Renewable Task Force, and drawing on information generated by the IEA Implementing Agreements concerned with renewables, the IEA Secretariat took to the October 2001 meeting of the Agency's Governing Board a possible collective IEA initiative to increase the role of renewables [IEA/GB(2001)35]. The Board reacted to the initiative with some scepticism, but encouraged further analytical work on how to accelerate deployment of renewables [See IEA/GB/C(2001)4/REV1, Item 6].

The Agency's 2002 edition of *Energy Policies of IEA Countries* reported that over the past five years, renewable energy had shown considerable progress in technology, cost competitiveness and market penetration. Most IEA countries had, by then, set clear targets for the penetration of renewables; they were employing a combination of policy instruments, ranging from direct financial support, portfolio targets and tradable renewables certificates to mechanisms that directly value the contribution of renewables in the market place [Page 15].

The IEA's 2002 *World Energy Outlook* forecast that renewable energy will play a growing role in the world's primary energy mix. While hydropower's share of electricity generation will fall, and its proportion of global primary energy merely will remain steady, non-hydro renewables will grow faster than any other primary energy source during the next thirty years, at a rate of 3.3 per cent a year. OECD countries, many of which have adopted strong measures to promote renewables-based power projects, will account for most of the growth, with wind power and biomass growing the most rapidly. Even so, non-

hydro renewables will make only a small dent in global energy demand, because they start from a very low base. The *WEO* drew attention to the fact that, because biomass will continue to dominate energy demand in China and other developing countries for the foreseeable future, the development of more efficient biomass technologies is vital for alleviating poverty in rural areas.

In the Communiqué from the April 2003 Ministerial Level Meeting of the IEA Governing Board, Ministers acknowledged the importance of, and their commitment to, implementing the agreements reached at the Johannesburg World Summit on Sustainable Development (discussed in Section IV.E. below), and said, "We particularly commit ourselves to enhance the role of renewables and other lower carbon-emitting sources of energy in the energy mix..." [IEA/GB/C(2003)4/ANN1].

The debate over renewables at the Johannesburg Summit revealed definitional confusion. When addressing diverse subjects such as traditional biomass (including combustible renewables and waste) accounting in 2000 for some eleven per cent of world primary energy supply, hydro energy (2.3 per cent), and "new" or "other" renewables (including wind, solar and geothermal) accounting for only 0.5 per cent, differences emerged as to what should be considered renewable energy and which basic statistics should be counted. In November 2002 the IEA Secretariat prepared a Fact Sheet, "Renewables in Global Energy Supply", presenting a consistent overview of renewables in IEA Member and non-Member countries. This summary work helped lay the groundwork for a new IEA annual statistical series, *Renewables Information*, which was launched in 2002 (See Section VI.D. below.)

Section IV.D.6., Electricity

The IEA's "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49/REV1/ANN1] quoted excerpts from the Agency's then latest *World Energy Outlook* indicating that electricity and heat were the fastest growing element of final consumption, and were forecast to continue to substitute for coal and oil in the static sectors over the outlook period through 2010. Rapid growth was expected in the non-OECD countries, and those countries' abilities to finance the required large additions to electricity generation capacity was one of the major uncertainties.

The rapidly growing demand for electricity was thought to pose increasingly complex policy issues related to trade, competition, regulation, investment and security of supply. To date the IEA had concentrated its electricity work on data collection, analysis and dissemination. The Strategy document announced the following objectives for the Agency:

- The IEA should become more involved in the electricity policy debate on issues affecting electricity development, e.g. regulatory reforms, environmental protection and energy efficiency.
- The energy security implications of the growth of electricity consumption and trade should be assessed, as should be the development of long-term supply options.

The Agency's 2002 *World Energy Outlook* forecast that through 2030 electricity demand will double, growing by 2.4 per cent per year – faster than any other end-use source of energy. Electricity's share of total final energy consumption is projected to rise from 18 per cent in 2000 to 22 per cent in 2030. The biggest increase will be in the developing world, and within sectors, in the residential sector.

The *Outlook* pointed out, however, that the huge difference in per capita electricity consumption between the OECD and the developing countries will hardly change over the projection period. In the absence of major new government initiatives, some 1.4 billion people, or 18 per cent of the world's population, still will lack electricity in 2030. The "pattern of electricity deprivation" will change, because 95 per cent of the increase in population in the next three decades will occur in urban areas.

When the Governing Board updated the "Medium-Term Strategy", for the period 1999-2002 [IEA/GB(99)5/ANN1], it took note of "the development of cost effective small scale plants such as renewables and combined heat and power (CHP)," which added further complexity to policy issues related to trade, competition, regulation, investment and security of supply. The revised Strategy document replaced the first of the above-quoted electricity objectives with this new one: "The IEA should develop the analytical capacity in regard to electricity policy measures, e.g., regulatory reforms, environmental protection and energy efficiency" [IEA/GB(99)5/ANN1, paragraph 25].

In the Communiqué issued following the April 2003 Meeting of the IEA Governing Board at Ministerial Level, Ministers recognised that substantial new investment will be required to overcome the problem of lack of access to electricity for more than a quarter of the world's population [IEA/GB/C(2003)4/ANN1]. Electricity investment requirements are discussed further in Section IV.D.7. below.

A Note for the December 2003 meeting of the Governing Board [IEA/GB(2003)32] drew attention to two recent IEA publications, *Power Generation Investment in Electricity Markets* and *The Power to Choose: Demand*

Response in Liberalised Electricity Markets. Power Generation Investment, observing that most markets are just beginning to approach their first major investment cycle as surplus capacity is absorbed, explores the long-term implications of liberalised electricity markets. It argues that, while occasional high electricity prices are needed to stimulate investment in peaking capacity, they can engender government intervention to limit prices that undermines the incentive to invest. For investment to thrive, therefore, there needs to be a carefully defined role for governments, which includes monitoring the level of investment and maintaining the ability to respond effectively to threats of market manipulation. In *The Power to Choose*, the theme is the importance to well-functioning electricity markets of price-responsive demand, which now is lacking. The study shows how pricing, policy and technology actions can achieve greater demand response.

For a discussion of market reform developments that affected the electricity industry over the past decade, see Section IV.G. below.

Section IV.D.7., Energy Trade and Investment

Set out below is an updated version of the table at page 198 of Volume II of *The History*, giving a more current picture of OECD trade in energy.

OECD Trade in Energy for 2002 (estimated)

Million tonnes of oil equivalent (Mtoe)

OECD Total		
2002 Estimated		(Mtoe)
Total Net Imports		1458.6
Coal	Exports	207.6
	Imports	317.8
	Net Imports	110.2
Oil	Exports	800.6
	Imports	1997.7
	Bunkers	88.6
	Net Imports	1108.4
Gas	Exports	216.1
	Imports	454.7
	Net Imports	238.6
Electricity	Exports	28.9
	Imports	29.9
	Net Imports	0.9

A key finding of the IEA's 2002 *World Energy Outlook* was that energy trade will expand rapidly over the next thirty years; in particular, the major oil- and gas-consuming regions will see their imports grow substantially. A consequence is likely to be intensified concern about the world's vulnerability to energy supply disruptions, as production increasingly is concentrated in a small number of producing countries. Greater attention will need to be given to maintaining the security of international sea lanes and pipelines, and to diversification of fuels as well as of the geographic sources of those fuels.

The *WEO* also found that meeting the projected demand will require massive investment at every link in the energy supply chain. Most of the investment will be needed in developing countries, and it is unlikely to materialise without a huge increase in capital flows from industrialised countries. Mobilising this investment in a timely manner will require the lowering of regulatory and market barriers and the creation of an attractive investment climate.

In 2003, the IEA introduced a new publication, the *World Energy Investment Outlook (WEIO)*, the latest volume in the *WEO* series. The fruit of an extensive collaboration with other international organisations, the private sector and individual experts, the *WEIO* quantifies energy investment needs in detail, by fuel sector and by region, and identifies the obstacles to mobilising capital on the required scale.

The *WEIO* concludes, based on the Reference Scenario of the 2002 *WEO*, that the total required investment to expand supply capacity or replace exhausted or obsolete supply facilities worldwide through the year 2030 is \$16 trillion, a larger amount in real terms than capital needs experienced over the preceding thirty years, but still amounting to only about one per cent of global GDP. The requirements do not fall evenly over sectors and regions, however.

Among sectors, electricity dominates the investment picture: power generation, transmission and distribution will absorb about 60 per cent of total energy investment (70 per cent including investment in the fuel chain to meet power station fuel requirements), more than half of which will go into transmission and distribution. The bulk of the upstream oil and gas sector investment (each amounting to about 19 per cent of global energy investment) will be needed simply to maintain production capacity at current levels.

Energy investment needs will be greatest, and will increase most rapidly, in the developing and transition economies, where nearly 70 per cent of the increase in world primary energy demand and almost all the growth in energy production will occur through 2030. Almost half of total energy investment will take place in developing countries (China alone will need 14 per cent), and 10

per cent in the transition economies. The OECD countries will account for the remaining 41 per cent, of which more than half will go to North America.

Financial resources at a global level are considered sufficient for the projected energy investment, but conditions need to be right to attract the capital, more of which will have to come from private and foreign sources than in the past. The biggest challenge is to finance the investments required in developing and transition countries. The OECD countries do not face the same financing problems, but liberalisation and deregulation are creating new uncertainties, and prospects in the short term have been damaged by the difficulties experienced by merchant power companies.

Introducing the *WEIO*, the IEA noted that the projected rate of investment still would leave 1.4 billion people without access to electricity in 2030, only 200 million fewer than now. Boosting global electricity investment by just seven per cent would be sufficient to bring a minimal level of supply to these marginalised people, but that would mean raising another \$665 billion in the poorest regions, which already are struggling to raise capital [IEA/PRESS(03)23].

Section IV.E., Energy and Environment

The IEA Secretariat has from the outset played an active role in the implementation of the United Nations Framework Convention on Climate Change (UNFCCC), which was agreed at the United Nations Conference on Environment and Development, held at Rio de Janeiro, Brazil, in 1992. One important element of this role has been the Annex I Expert Group⁹, which oversees development of analytical papers for the purpose of providing useful and timely input to the climate change negotiations. The Secretariat of the Annex I Expert Group is jointly held by the IEA Energy and Environment Division and the OECD Environment Directorate.

At its April 1995 meeting the Governing Board heard an oral report by the Secretariat on the outcome of the First Session of the Conference of the Parties to the Framework Convention (COP-1) and agreed that the Board, at its June 1995 meeting, should hold a full discussion of the role to be played by the IEA Secretariat in the follow-up to COP-1 [IEA/GB(95)18, Item 5].

⁹ The Annex I parties are those listed in Annex I to the UNFCCC, as amended at the Third Session of the Conference of the Parties in December 1997: Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, the Czech Republic, Denmark, the European Community, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, The Netherlands, New Zealand, Norway, Poland, Portugal, Romania, the Russian Federation, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom and the United States; Korea and Mexico received observer status when they joined the OECD.

Meanwhile, environmental issues loomed large at the Agency's May 1995 Meeting of the Governing Board at Ministerial Level. In their Communiqué [IEA/GB(95)30/ANN], IEA Ministers declared that the convergence of energy and environmental goals is critical to the achievement of sustainable economic development. IEA Governments that were Parties to the UNFCCC affirmed their intention to fulfil their commitments under the Convention. Noting the issuance at COP-1 of the Berlin Mandate aimed, among other things, at the elaboration of policies and measures for action beyond the year 2000, they noted the conclusion of the IEA's *World Energy Outlook* that, without changes to present policies, OECD and world CO₂ emissions would be higher in 2000 than they were in 1990 and would worsen to 2010.

They "urged the IEA Secretariat to continue to play an active role in support of Member countries' implementation of Convention commitments in the energy sector", and:

- [E]ncouraged the application of instruments such as economic incentives, the internalisation of environmental costs in energy prices, and information dissemination to the extent necessary and practicable.
- Encouraged the development of voluntary agreements with industry, as instruments with the potential to make significant contributions to increased energy efficiency and reduced emissions while positioning industrial partners to be more competitive....
- Welcomed the joint implementation decision adopted in Berlin and encouraged the IEA Secretariat to play an active role in analysing the prospects for activities implemented jointly under the Convention during the pilot phase....
- Endorsed the Climate Technology Initiative put forward by Member countries at the Berlin meeting in April 1995 and agreed to take concrete steps to implement it....

(As discussed in Section V.B. below, the Climate Technology Initiative had been launched at COP-1 by many of the IEA Member countries and by the European Commission, to promote the objectives of the Framework Convention by fostering international co-operation for accelerated development and diffusion of climate-friendly technologies and practices).

The Secretariat's Note for the June 1995 Governing Board meeting [IEA/GB(95)31] listed the extensive work on energy and the environment that already was under way within the Secretariat, and argued that the IEA should

play an active role in the Climate Convention "to bring the energy perspective to the table through balanced analysis and concrete assessment of cost-effective policy and technology response options in the energy sector." It suggested that priority emphasis be placed on "technology collaboration and on flexible, innovative policies and measures such as voluntary approaches, joint implementation, common approaches to energy efficiency improvements, and the like," and stressed that "[t]echnology responses are especially critical". The Governing Board agreed that the Secretariat should analyse the principal energy-related alternatives and develop options for consideration by the Governing Board at Official Level in advance of the Agency's anticipated 1997 Ministerial Level Meeting.

One issue raised by the Secretariat's Note was whether the Secretariat should take part in a new "Climate Change, Energy and Environment Forum" that the OECD Environment Directorate had proposed establishing, in order to provide a venue for senior government officials and experts from OECD countries to discuss national strategies and actions in support of the UNFCCC. At the June meeting of the Standing Group on Long Term Co-operation, concern was voiced that this risked duplication of existing bodies, but there was a guarded readiness to participate in the pilot meeting [IEA/GB/RD(95)2]. The Governing Board, while "questioning the value of permanent new bureaucratic institutions in this area," authorised the Secretariat to participate actively in the pilot meeting of the proposed new Forum [IEA/GB(95)38, Item 4]. At its October 1995 meeting the Governing Board heard a report on the pilot meeting and authorised the Secretariat to continue to participate, "on a basis of equality with the OECD Secretariat", in what was now called the "OECD Forum on Climate Change" [IEA/GB(95)48, Item 5(d)].

The Secretariat also presented to the October 1995 Governing Board meeting a Note [IEA/GB(95)44] describing work under way in the analysis and assessment phase of the Berlin Mandate negotiations and in preparation for COP-2, scheduled for October 1996. It reported that the FCCC Secretariat had requested the IEA and other intergovernmental organisations to provide annotated lists of material with relevant analytical results or project descriptions, and detailed other IEA Secretariat contributions to the UNFCCC process.

During the meeting, the Australian Delegation tabled a proposal [IEA/GB/RD(95)] for a study to help IEA Member countries evaluate the consequences for their economies, and in particular their energy sectors, of possible outcomes under the Berlin Mandate. The study would analyse indicative quantified greenhouse gas limitation and reduction objectives

within specified time frames, based on indicative outcomes such as emissions stabilisation or reductions of five or ten per cent. In response, the Governing Board agreed to form an ad hoc working group to redefine the project suggested by Australia, within the available resources [IEA/GB(95)48, Item 5(c)].

The ad hoc working group reported to the December 1995 meeting of the Governing Board [IEA/GB(95)52] that modelling of the economic consequences of quantified emission objectives was not possible in the time available and with the resources available, if at all. Instead, the group proposed a seminar to gather the results of available model runs relevant to the issue, and the Board approved a seminar along the lines proposed [IEA/GB(95)59, Item 3(b)]. The Governing Board also received a Secretariat report on the status of UNFCCC negotiations [IEA/GB(95)54], and accepted the Danish Government's offer to host a special Informal Meeting of the Governing Board at Ministerial Level in mid-1996, in the lead-up to COP-3, scheduled to be held in Kyoto, Japan, in 1997 [IEA/GB(95)48, Item 3(a)]. This would be the Agency's second special Ministerial Meeting devoted exclusively to energy and environment issues, the first having been held at Interlaken, Switzerland, in 1994.

In addition, the Board asked the Secretariat to prepare for its consideration, possible options to strengthen the Climate Technology Initiative. At its February 1996 meeting the Board noted the significant efforts under way in some IEA countries to support the CTI and encouraged more active IEA country participation [IEA/GB(96)13, Item 4(a)]. Beginning in 1996, the IEA hosted the CTI on a temporary basis, with CTI activities being part of the IEA's Programme of Work, funded largely by voluntary contributions.

The Informal Meeting of the Governing Board at Ministerial Level took place at Aarhus, Denmark, in June 1996. At the meeting, Ministers emphasised the importance of technology development and deployment in contributing to international efforts to limit greenhouse gas emissions. The Secretariat reported the results to the Governing Board meeting at Official Level later that month and the Board asked the Secretariat to reflect, in the Agency's 1997 Programme of Work, the guidance provided by the Ministers [IEA/GB(96)37, Item 3].

In December of 1996 the Governing Board adopted the "Medium-Term Strategy: 1997-2000" [IEA/GB(96)5, Item 2], which contained a section on "Global Climate Change" [IEA/GB(96)49/REV1/ANN1, Section IV.A.]. The Strategy document quoted the then most recent IEA *World Energy Outlook* to the effect that, by 2010, world carbon emissions could be between 36 and

49 per cent above their 1990 level, with the majority of the increase coming from non-OECD countries. Energy-related CO₂ emissions were projected to rise substantially, absent further policy intervention. These objectives were set for the IEA:

- The IEA, as one of eight "partner organisations" in the FCCC process, already plays a lead role in bringing the energy perspective to the climate debate; this role has proven to be useful and constructive for Member countries and other Parties to the Convention and should be continued as further emission limitation objectives are considered.
- The IEA should continue to tailor its input to the evolution of the FCCC process, giving primary emphasis to concrete analytical contributions that inform the debate, and help ensure cognizance of energy sector realities, and of the effects of environmental actions on the economy, with respect to action taken under the FCCC.
- In doing so, the Agency should maintain the influential position it has established with both the energy and environmental sectors, working closely with the OECD, the Intergovernmental Panel on Climate Change, the FCCC Secretariat and other relevant organisations, avoiding duplication of effort and ensuring the best "value added" from IEA work. In addition, the Agency should enhance its efforts to work with industry and others in the energy arena to further engage them in the policy debate on energy and climate issues.
- In the context of the global environmental debate, the IEA should play a greater role in encouraging non-Member countries, especially major countries such as China, India and Russia, to reduce the environmental impacts of energy production and use, including greenhouse gas emissions, acting always on the basis of its role in relation to energy security in the broad sense, and not so as to be viewed as an "environmental agency." Nevertheless, the environmental dimension of IEA co-operation with non-Member countries should be enhanced, e.g. by implementing the Climate Technology Initiative put forward by Members at COP-1 in April 1995; by helping to develop further the initiative on Activities Implemented Jointly (AIJ) under the FCCC; by including energy/environment activities in programmes of co-operation with NMCs; and by expanding the energy-related environmental aspect of non-Member country reviews.

During 1996 the Standing Group on Long Term Co-operation perfected a document known as the "International Energy Agency Statement on The Energy Dimension of Climate Change" [IEA/GB(97)1/ANN2]. The IEA Statement was provided to the Secretariat of the UNFCCC by several IEA Member country Delegations in the run-up to COP-3 and was issued by the UN as a principal piece of the documentation for the debate on the Kyoto Protocol. The Statement described the global context and continued trends in CO₂ emissions from the dynamic perspective of energy-related services, and offered insights on key parameters to reduce energy-related greenhouse gas emissions in a cost-effective, practical manner. It pointed out that energy intensity varies widely across regions and between energy services, and that infrastructure limits the near-term flexibility of energy systems, while technological improvements likewise are constrained in the near-term. It argued that actions to reduce energy emissions need to take full benefit of capital stock turnover, considering the nature of the energy systems in each sector or country. Under the heading of "Cost-Effective and Viable Energy Responses to Climate Change", the Statement contended that no single response option is uniquely viable, emphasised the importance of reflecting costs in energy pricing, identified climate-friendly technologies (such as co-generation) that can be used in transport or electricity generation, recognised the need for longer-term R&D, and noted the merits of voluntary agreements, audits, labels and standards, efficiency standards, tradable permits, and joint implementation. It concluded with recognition of the need for co-operation among IEA countries and between IEA and non-IEA countries, as well as among different Ministries within individual countries.

The Statement was formally approved by the Governing Board at the Board's February 1997 meeting [IEA/GB/C(97)1, Item 4], and it featured prominently in the Communiqué issued at the close of the IEA Governing Board Meeting at Ministerial Level held in May 1997 [IEA/GB/C(97)3/ANN]. At that meeting:

Ministers committed themselves to seek a positive outcome at COP-3, including post-2000 emissions limitation and reduction objectives that are equitable, realistic and achievable within energy sector constraints, and to implement any agreement reached at Kyoto in a timely and effective manner. They agreed that the IEA should continue to play an active role in assisting national governments in the implementation of the energy-related process of analysis, monitoring and review after COP-3 and by promoting technology development and deployment [Paragraph 8].

They also stressed that, because emissions limitation and reduction objectives will have critical implications for energy producers, consumers and energy markets generally, "energy policy makers need

to play a significant role in meeting the challenge posed by the climate change problem and in defining the elements of an agreement at COP-3" [Paragraph 4].

In the interim, the April 1997 meeting of the Governing Board discussed a Secretariat Note on the Climate Technology Initiative [IEA/GB(97)13], agreeing that the CTI could play a significant role in helping to implement technology related activities in the UNFCCC context, and again encouraging greater IEA Member country participation [IEA/GB/C(97)12, Item 5]. Another decision with similar content was taken at the Board's December 1997 meeting [IEA/GB/C(97)4, Item 6(b)].

A Secretariat Note for the October 1997 meeting of the Governing Board [IEA/GB(97)37] described the extensive IEA Secretariat involvement in the UNFCCC process, and contributions planned for COP-3. The most visible aspect of IEA participation in COP-3 would be a keynote address by the Executive Director, the text of which would be circulated to IEA Member country Delegations in advance of the event [IEA/GB/C(97)4, Item 6(a)].

At COP-3, the Secretariat also would launch a new publication, *CO₂ Emissions from Fuel Combustion*, containing estimates of such emissions for more than 140 countries and regions. These were calculated using IEA's energy balances and the default methods and emission factors from the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories. This became a regular IEA publication series, whose numbers have been widely quoted in UNFCCC deliberations, as well as used in other IEA publications such as the *World Energy Outlook* and *Energy Policies of IEA Countries*.

The December 1997 Governing Board meeting heard an oral report by the OECD Secretary-General's Advisor on Interdisciplinary Issues with respect to a Report on Sustainable Development by the OECD High Level Advisory Group on the Environment. The IEA Secretariat prepared a Note [IEA/GB(97)57] describing this Report, whose thrust was to integrate the concept of sustainable development into the mainstream economic, trade and other work of the OECD and its affiliate organisations. The IEA Executive Director emphasised the need for the IEA and OECD Secretariats to work together on this matter, consistent with their responsibilities to their respective governing bodies [IEA/GB/C(97)57, Item 6].

The Third Session of the Conference of the Parties to the UNFCCC (COP-3) adopted the "Kyoto Protocol" in December 1997. The Secretariat promptly reported the results to the Governing Board's December meeting

[IEA/GB/RD(97)E1], but a more in-depth discussion took place at the Board's February 1998 meeting, where the Secretariat spelled out its proposed follow-up activities [IEA/GB(98)5], which would be directed at influencing the outcome of COP-4, now set for November 1998 in Buenos Aires, Argentina. The Secretariat proposed a five-part approach: (1) helping Member countries and others understand the Protocol; (2) exploring the new "flexibility" mechanisms created in the Protocol (including emissions trading, joint implementation and the "Clean Development Mechanism"); (3) identifying the opportunities for (and constraints on) cost-effective actions in the energy sector; (4) designing policies and measures; and (5) engaging non-Annex I countries. The Governing Board generally endorsed the main lines of this work programme, and encouraged concentration on work of near-term value, prioritisation and avoidance of duplication with work being done by other organisations [IEA/GB/C(98)1, Item 9].

On 2 June 1998 the Governing Board held an Informal Meeting on Energy and Climate Change. The Executive Director reported the results of that meeting at the Board's formal meeting the following day, whereupon the Governing Board endorsed a proposal by its Chairman that, in connection with the Board's next Ministerial Level Meeting, the Secretariat prepare a "Challenging Paper", for issuance on the responsibility of the Executive Director, setting forth a long-term vision with respect to the energy issues involved in implementation of the Kyoto Protocol. The same meeting received a report by the Secretariat [IEA/GB/RD(98)B1] on workshops which it had conducted on the Clean Development Mechanism in Brazil, China and India.

Despite the high expectations that existed for the CTI, and a general perception that the programme was performing well, there was a recognised need for additional human and financial resources in order to achieve concrete results. Accordingly, the IEA Executive Director sought guidance from the October 1998 meeting of the Agency's Governing Board on the continued commitment of Agency resources to the CTI, which the IEA was hosting despite the fact that not all IEA Member countries were CTI participants. Delegations were requested to advise the CTI Chairman and the Secretariat of their positions. The subject would then be discussed at a meeting of the Committee on Energy Research and Technology [IEA/GB/C(98)3, Item 8].

In February 1999 the Governing Board reviewed the "Medium-Term Strategy" that it had adopted for the four year period 1997-2000, modified it and "rolled it forward" for another four year period, 1999-2002 [IEA/GB/C(99)1, Item 5]. The section on "Global Climate Change" [IEA/GB(99)5/ANN1, Section IV.B.]

took into account the 1997 Kyoto Protocol, and quoted from the IEA's 1997 Ministerial Communiqué. It said that the IEA now projected that the world's CO₂ emissions would grow by some 70 per cent between 1995 and 2020 unless new policies were put into place to curb energy use and greenhouse gas emissions; major new policies would be required if the Kyoto goals were to be met. The revised Strategy maintained most of the previous objectives that had been set for the IEA, but added these new ones:

- The IEA should assist its Member countries with analysis of policy options that would help them to meet their Kyoto commitments.
- The IEA should continue to support the elaboration of new mechanisms under the Kyoto Protocol. These will include emissions trading and "joint implementation" among Annex I countries, as well as the Clean Development Mechanism, which entails work with non-Annex I countries.

The IEA Governing Board again met at Ministerial Level in May 1999. The Executive Director's "Challenging Paper" had taken shape over the year leading up to that meeting, benefiting from discussions in the Standing Group on Long Term Co-operation, the Committee on Energy Research and Technology, and the Governing Board meeting at Official Level [See IEA/GB(99)1]. This paper, "Energy and Climate Change: The Challenge" [IEA/GB(99)27], endeavoured to lay out unequivocally the challenges in respect of climate change and suggest a way forward.

The paper first described the energy, international and greenhouse gas context, then analysed the economics of climate change and implications for the energy sector, and constraints and opportunities. After setting out the characteristics of effective workable policies, it turned to the areas for Ministerial action and the implications for IEA programmes. The paper proclaimed that no single "silver bullet" exists – a combination of actions will be required to mitigate the threat of climate change, and each country will make different policy choices; however, it was equally clear that the impetus to act can best be created collectively, and Energy Ministers needed to do so if they were to introduce economic realism into the climate debate. The recommended areas for action by Energy Ministers included those to: welcome the Kyoto Protocol and the Buenos Aires Action Plan; commit to a stable long-term policy framework embracing both market reforms and removal of environmentally harmful energy subsidies; promote energy efficiency and renewable energy; assert the value of the Kyoto "flexibility

mechanisms"; re-emphasise the role of long-term R&D; fully engage the private sector; reconsider the issue of nuclear energy; promote public awareness; commit to a strong dialogue with developing countries; and encourage the consideration of action at a global level in energy services areas which operate on a global basis, and of standard penalties for non-compliance with the Kyoto commitments.

The IEA, the paper contended, was the appropriate forum in which the relevant energy issues should be debated. The Agency should analyse the impacts of actions to mitigate climate change, bring together representatives of government and the private sector in the search for cost-effective solutions, promote technology co-operation within its Member countries and with developing countries, help non-Member countries improve their capacity to take appropriate climate change actions, and engage fully other multilateral organisations in dealing with energy and environment issues.

The Ministerial Communiqué [IEA/GB/C(99)3/ANN1] observed that "Concern about how the production and use of energy can harm the environment – and the global climate – has risen to the top of the energy agenda in many countries." At the same time, shifting economic patterns now resulted in almost half of the world's energy being consumed outside of the OECD. [Paragraph 1]. Ministers "**restated** the commitments made in the 1997 Kyoto Protocol, including the promise to achieve demonstrable progress by the year 2005", and noted the role, depending on national circumstances, for voluntary commitments by industry, environmental standards, regulations and economic instruments – e.g., energy taxes and incentives [Paragraph 6]. Along with domestic measures, the so-called "flexible measures" in the Protocol would be needed. It would be important, the Ministers said, to control greenhouse gas emissions beyond the 2008-to-2012 fulfilment period set by the Protocol, and long-term technology research and development was vital to that end.

In October 1999 the Secretariat drew to the attention of the Governing Board the growing volume of work with an energy component that was being generated within the OECD under the "Sustainable Development" banner, and reported on the IEA Secretariat's contribution to that work [IEA/GB(99)51]. In the course of the discussion the Executive Director urged the involvement of energy officials from Member countries in the work of the United Nations Commission on Sustainable Development [IEA/GB/C(99)5, Item 8].

The Fifth Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP-5) was held in Bonn in late

October and early November of 1999. The Secretariat again was an active participant, and the Executive Director was invited to address the high level segment of the Conference. [See IEA/GB(99)58].

At their June 2000 meeting, IEA Member countries were receptive to the possibility of an IEA statement on sustainable development, to be agreed by the Governing Board at Official Level in advance of the Ninth Meeting of the UN Commission on Sustainable Development in April of 2001 [IEA/GB/C(2000)3, Item 4]. The Secretariat tabled a Note at the Board's December 2000 meeting [IEA/GB(2000)40] suggesting how such a statement might be framed and what its key messages might be. Delegations, while broadly supportive of the proposal, asked the Secretariat to consider carefully how to define "sustainable development", and to highlight the government role in its promotion [IEA/GB/C(2000)6, Item 9].

A review and evaluation of the CTI programme's activities in early 2000 indicated that while the CTI had continued to perform well, its performance could be enhanced. A proposal was developed by the CTI's Board of Management in collaboration with the IEA Secretariat, and put to the October 2000 meeting of the Agency's Governing Board, to organise the CTI as a "special activity" of the IEA, in the sense of Article 65.1 of the I.E.P. Agreement. (The specifics of this proposal are detailed in Section V.A.18. of the *Supplement to Volume 1*). The Governing Board endorsed in principle this proposal, but only "subject to the adequacy of Member country participation and resources" [IEA/GB/C(2000)5, Item 8].

At its May 2001 meeting at Ministerial Level, the IEA Governing Board discussed, among other subjects, "Meeting the Challenge of Sustainable Development", but the Communiqué issued at the end of its meeting did not dwell on the subject, or on climate change. Assuring the world's access to affordable energy occupied a more prominent place in the Communiqué. Ministers nonetheless recognised the need to modify longer-term trends in greenhouse gas emissions, and the importance in that context of new and flexible responses. They further said that while climate change remained their most pressing global environmental challenge, localised and regional problems associated with the production and use of fuels also were important:

New technology developments as well as new policy instruments, such as emissions trading, joint implementation, and clean development mechanisms, can promote a cleaner environment, while simultaneously increasing energy efficiency and enhancing security. We commit ourselves to develop and use the most effective possible means to achieve sustainable development, as expressed in the IEA statement on sustainable development.

The Sixth Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP-6) commenced at The Hague in November 2000, but due to lack of agreement on key issues concerning implementation of the Kyoto Protocol, the Session was suspended. The Session was completed in Bonn in July 2001. The Secretariat reported to the Governing Board, at its October 2001 meeting, on the outcome of COP-6 [IEA/GB(2001)32]. Substantial progress had been made on the "flexibility mechanisms" (including emissions trading, Joint Implementation and the Clean Development Mechanism), developing country assistance, compliance and the issue of "sinks". The Seventh Session (COP-7), set for Marrakech, Morocco, in November of 2001, was expected to provide missing detail. The United States had chosen not to join in the Bonn agreement, however, and the implications of U.S. withdrawal from the process remained to be assessed.

The Secretariat's Note described the IEA's contributions to the COP-6 process:

Discussions and decisions on many of [the] elements benefited enormously from the work of the IEA, and of the Annex I Experts Group, which the IEA jointly supports with the OECD Environment Directorate. Papers on issues ranging from analyses of emissions trading, the Clean Development Mechanism, and monitoring and compliance, had direct links to the process. More indirect, but still critical, were analyses of possible policies and measures to reduce emissions, inventory work on CO₂ emissions from fossil fuels, and longer-term projections of energy supply and demand such as that provided by the IEA's World Energy Outlook. [Paragraph 4].

In the Secretariat's view, its work to identify and analyse possible policies to mitigate emissions remained relevant for all countries, including the United States, and should continue. With respect to COP-7, the Executive Director would make a statement to the Session's high level meeting, as he had done at previous COP sessions, and the Agency would showcase a number of its publications and hold side events.

One important publication released by the IEA at COP-7 was *International Emission Trading – From Concept to Reality*. This publication brought an economic evaluation of the trading regime with and without U.S. participation and an analysis of a simulation run by the Secretariat, and considered the rules that might govern international emissions trading, as well as the issue of global participation.

Also at the October 2001 Governing Board meeting, the CTI's Board of Managers reported to the IEA Governing Board that the threshold conditions

for institutionalising the CTI as a "special activity" of the Agency had not been met, either in funding commitments or in terms of the number of participating countries. The CTI's spokesman indicated that a decision on restructuring the CTI would be proposed to the Governing Board in the first half of 2002, and expressed a desire that, in the interim, the CTI continue to operate within the IEA on the existing basis, funded by voluntary contributions [IEA/GB/C(2001)4/REV1, Item 5(c)].

The Secretariat reported to the December 2001 meeting of the Governing Board that the Accords adopted in COP-7 at Marrakech provided a detailed interpretation of the Bonn Agreement, covering all aspects of how, concretely, the Kyoto Protocol would be implemented [IEA/GB(2001)45]. The Secretariat's expectation was that sufficient countries were likely to proceed with ratification of the Kyoto Protocol to result in the Protocol's entry into force, perhaps as early as the World Summit on Sustainable Development, which was scheduled to be held in Johannesburg, South Africa, in September of 2002.

The Secretariat's Note considered the implications for the IEA's work programme:

Further work on emissions trading, monitoring, compliance, joint implementation and the Clean Development Mechanism - in particular the issue of baselines of crediting - will be required for implementation. Work on the inventory of CO₂ emissions from fossil fuels, longer-term projections of energy supply and demand, analysis of policies and measures to reduce emissions, technological research and development and technology analysis, though less directly related to the negotiations, will underpin decision-making in Member countries and worldwide. [Paragraph 25].

The Note also raised the question of how the global community should approach the longer-term climate change problem, an issue that the Secretariat thought was also critical to the ultimate success of the Kyoto Protocol:

27. Even if parallel action is taken in the United States, the direct effects on greenhouse gas concentrations of the global commitments adopted so far will be very modest. The indirect effects on technical and structural changes will depend on the interpretation industry puts on governments' long-term intentions. If IEA analysis, suggesting a relatively low price for international emissions trading permits is correct, the price signal will be relatively weak.

28. The international community will need further analytical work on possibilities for and implications of further, longer-term action to mitigate climate change. These include technology development analyses and further assessment of how to make market-based instruments more effective in reducing emissions in an efficient and cost-effective manner....Work will undoubtedly be undertaken on the possibilities for further commitments by all countries - including ways to engage developing countries....

The Governing Board "commended the role of the Secretariat in relation to climate change and encouraged its continuation along the lines set out in the Note" [IEA/GB/C(2001)5, Item 7].

The IEA's attention next turned to the forthcoming Johannesburg Summit on Sustainable Development, which would bring together in late August and early September of 2002 an anticipated 60,000 participants, including Heads of State, national delegates and leaders from business, international organisations and non-governmental organisations. It was expected that the Summit Chairman's Paper, drafted in preparatory meetings and permeated by energy actions, many of which likely would be unacceptable to IEA Member countries, would form the basis for a political declaration on new commitments and directions for implementing sustainable development. The Standing Group on Long Term Co-operation, in February 2002, commented on a draft of a proposed IEA brochure to be entitled, "Towards a Solution: Sustainable Development in the Energy Sector", intended to bring a theretofore lacking energy sector perspective to the dialogue, with the intent of making the book available for the Summit. In a Note to the April 2001 meeting of the Governing Board [IEA/GB(2002)4], the Secretariat explained that in order for this brochure, which drew heavily from previously agreed IEA documents such as the Statement on Sustainable Development, to be considered as part of the negotiating process, it must be provided in advance of the Summit's final preparatory meeting, which was to take place in Bali, Indonesia, in late May and early June. The Governing Board accordingly agreed to finalise the brochure by a written procedure in time for submittal to the Bali preparatory meeting [IEA/GB/C(2002)1, Item 7(c)]. It also was proposed, during the Board's meeting, that a short document be prepared in which concise, key messages from the IEA to the Summit could be synthesised.

The IEA's brochure, *Toward Solutions: Sustainable Development in the Energy Sector*, approved by written procedure, was publicly released in late May. A Secretariat Note for the Governing Board's June meeting [IEA/GB((2002)19]

provided a draft of the proposed "key messages" document, and described the IEA's planned activities at the Summit, which the Executive Director and his staff would be attending in the capacity of official observers. The Governing Board referred the Secretariat's Note to the Standing Group on Long Term Co-operation for further consideration [IEA/GB/C(2002)2, Item 4(a)].

The future of the CTI was considered at the June 2002 meeting of the IEA Governing Board. The Board's Chairman observed that the threshold conditions for making the CTI an IEA "special activity" still had not been met, and discussion among the Member countries revealed a preference that the CTI explore alternative arrangements, including the formation of an IEA Implementing Agreement through which the CTI might be governed [IEA/GB/C(2002)2, Item 6]. This led to the formation of such an Implementing Agreement, which was approved by written procedure in July 2003 [IEA/GB/C(2003)5, Item 6(c)].

The Secretariat reported to the October 2002 meeting of the Governing Board on the outcome of the Johannesburg Summit, which had been attended by 84 Heads of State, and at which 190 countries were represented [IEA/GB(2002)31]. The overarching political commitments were contained in a four page "Declaration on Sustainable Development", which included:

- Reaffirmation of the commitment to sustainable development and Agenda 21, including: collective responsibility to advance the three pillars - economic, social and environment;
- Outline of the challenges - such as poverty eradication, changing consumption and production patterns, protecting and managing natural resources, the continued suffering of the global environment, the deep fault line between rich and poor which presents threats to global prosperity, security and stability;
- Welcome of Summit focus on decisions on targets, timetables and partnerships to increase access to basic requirements such as clean water and sanitation, *energy*, health care, food security and protection of biodiversity - covering the five key thematic areas set out by the UN Secretary General of water, energy, health, agriculture and biodiversity (WEHAB);
- Welcome of regional partnerships, and urging increased ODA; and
- Commitment to the Millennium Goals and the Johannesburg Plan of Implementation, and to monitor progress towards achievement of SD goals and objectives [Paragraph 4].

An eleven chapter "Plan of Implementation" provided the framework for realisation of the political objectives. The Secretariat noted that, "The interdependence of social and economic development and environmental protection - and particularly poverty reduction - is a recurring theme" which "reflects a partial shift from sustainability to development since the Rio Summit, where environment issues dominated, and when poverty was characterised mainly in terms of a financing issue" [paragraph 5]. Governments agreed a number of energy-related actions, most if not all of which were consistent with or identical to those supported by the IEA in the brochure it provided to the Summit, including those to:

- Establish domestic energy efficiency programmes;
- Accelerate development, deployment and dissemination of cleaner energy technologies;
- Promote increased R & D in various energy technologies;
- Support efforts to improve the functioning and transparency of energy markets;
- Policies to reduce market distortions such as restructuring taxation and phasing out harmful subsidies;
- Take further action to mobilise financial resources;
- Improve access to modern biomass technologies and fuelwood sources and support the transition to cleaner use of gaseous fossil fuels;
- Develop and disseminate alternative energy technologies with the aim of giving a greater share of the energy mix to renewable energies;
- Promote networking between centres of excellence on energy for SD;
- Diversify energy supply;
- Promote education about available energy sources and technologies;
- Strengthen national and regional energy institutions for enhancing regional and international co-operation on energy for SD, including arrangements for promotion on cross-border energy trade;
- Strengthen dialogue forums among regional, national and international energy producers and consumers;

- Promote investment and partnerships for development of sustainable, energy efficient multi-modal transport systems; and
- Develop partnerships with the private sector. [Paragraph 7].

Three issues that divided the negotiators, and had to be papered over, were the setting of targets for renewable energy, the phasing out of energy subsidies, and energy access. Negotiations on substantive climate change issues were left to the UNFCCC process. Governments did agree to:

- "With a sense of urgency, substantially increase the global share of renewable energy sources with the objective of increasing its contribution to total energy supply..."
- "Take action, where appropriate, to phase out subsidies... that inhibit sustainable development, taking into account specific conditions... and considering their adverse effect, particularly on developing countries..."
- Take joint actions and improve efforts to work together at all levels to improve access to reliable and affordable energy services for sustainable development sufficient to facilitate the achievement of...halving the proportion of people in poverty by 2015..." [Paragraph 10].

In addition, a new and innovative theme of the Summit was the announcement of some 300 so-called "Type 2" outcomes – that is, activities agreed only by those directly involved, much like IEA "special activities" – examples of which were set out in the Secretariat's Note. Finally, looking "Beyond Johannesburg", the Note enumerated areas where the Summit outcomes could influence IEA activities.

The Governing Board, responding to the Secretariat's Note [IEA/GB/C(2002)3, Item 6]:

- (ii) reaffirmed the importance of continued Governing Board engagement in the implementation of the actions pertaining to the energy sector agreed by Governments at the Summit, and asked the Secretariat to reinforce its activities in this area;
- (iii) invited the SLT, CERT and NMC to consider how the energy activities agreed in Johannesburg might be incorporated into the 2003-2004 Programme of Work...

- (iv) invited the Secretariat to explore opportunities for participation in Type 2 energy partnerships...; and
- (v) agreed to take account, when determining the overall Budget and Programme of Work for 2003-2004, of the resource implications for the IEA should the Secretariat become more deeply engaged in these issues.

According to the IEA's 2002 publication, *Energy Policies of IEA Countries*, energy-related CO₂ emissions in IEA countries rose by 14 per cent between 1990 and 2000. Improvements in energy intensity, although sometimes accompanied by a reduction in carbon intensity, were not enough to offset increases in energy demand. The publication advised that increased power generation and the rapid growth of road transport had been responsible for the vast majority of increased CO₂ emissions in the OECD [Page 45].

The IEA's 2002 *World Energy Outlook* was released in September of that year at the International Energy Forum held in Osaka, Japan. It forecast that unless new government policies and measures were adopted, by 2030 global energy-related CO₂ emissions would be 70 per cent higher than today, with two thirds of the increase, caused mainly by power generation and transport, coming in developing countries. Developing countries' share of global emissions would jump from 34 to 47 per cent, while the OECD's share would drop from 55 to 43 per cent; but by 2010, those OECD countries that signed the Protocol collectively would be 29 per cent above their Kyoto commitments. Even if countries with emissions below their Kyoto Protocol commitments sold all of their surplus entitlement to countries with emissions above their commitments, in 2010 emissions would be about 15 per cent above the Kyoto target (two per cent if the United States, which does not intend to ratify the Protocol, were excluded).

In the *WEO's* Alternative Scenario, however, the adoption of new energy and environmental policies that OECD countries are considering, combined with faster deployment of more efficient and cleaner technologies, would achieve energy savings and promote switching to less carbon-intensive fuels, thereby stabilising CO₂ emissions in OECD countries toward the end of the third decade. In 2030, under this Scenario, emissions could be reduced by 16 per cent below the level that otherwise would result, the biggest savings coming from power generation, due to a rapid growth in renewables and savings in electricity demand. While the three OECD regions still would not separately meet their Kyoto targets, the sale of surplus entitlements could allow the targets to be met.

On the occasion of the Eighth Session of the Conference of the Parties to the UN Convention on Climate Change (COP-8) held in New Delhi, the IEA published a book entitled *Beyond Kyoto – Energy Dynamics and Climate Stabilisation*, which showed the depth and breadth of the changes required in energy production and use to fulfil the ultimate objective of the Convention, namely to stabilise the atmospheric concentrations of greenhouse gases. Although the level of concentration and the timeframe for achieving stabilisation have been left unspecified by the negotiators, stabilisation of CO₂ concentration ultimately will require near elimination of anthropogenic emissions. The book suggests that the difficulties faced by countries around the world in adopting any near-term quantitative commitments arise from the uncertainties surrounding the costs of emissions abatement. It recommends that future agreements keep the emissions trading framework of the Kyoto Protocol, but perhaps replace the fixed and binding targets with targets indexed to economic growth, or introduce price-capping mechanisms, to reduce cost uncertainty. For the bulk of the developing countries, the book goes on to suggest that non-binding targets be made compatible with emissions trading, thus preserving the incentive to participate while removing the perceived threat to economic development.

The Secretariat put to the April 2003 meeting of the Governing Board a Note entitled, "Beyond Kyoto: Next Steps" [IEA/GB(2003)5], addressing the issue of how the energy sector – and the IEA – would participate in the debate over future climate policy actions. Although the energy industry now recognises that the climate issue is here to stay, the Note argued, the government energy policy community remains disengaged and sceptical, while the environmental community, including Environment Ministries, continues to develop and implement policies and measures to reduce emissions, especially in the energy sector. Yet the engagement of energy experts and policy makers is critical if the consistency of climate and energy policies is to be assured. This was all the more important as "the international climate program is at a crossroads": even if the Kyoto Protocol is ratified and enters into force, "it is clear that the Kyoto Protocol itself will not lead to the ultimate objective of the Convention." The reasons are as follows:

While the Protocol has been ratified by more than 100 countries, less than a third of these have concrete binding commitments to reduce emissions. Developing countries have not accepted – and apparently will continue to refuse to accept – binding commitments under the current structure. The agreement offers guidance only through 2012 – a very short period in the context of capital stock investment in the energy sector, and an even shorter period in the context of the 100+ year lifetime of GHGs in the atmosphere [Paragraph 9].

Throughout the UNFCCC process the IEA Secretariat has been actively involved, analysing options and projecting the implications of inaction. Recognising, however, that little attention to date has been paid to the synergies between energy policy and climate policy (especially by climate policy makers), the Secretariat suggested to the Governing Board a number of options for a more pro-active role:

- Large developing countries such as China and India are critical to both the global energy infrastructure and to climate policy. The IEA might seek to focus additional attention on how to maximise the global energy and environmental benefits from their increased participation in both the energy and climate change dialogues. This could take the form of outreach through the NMC, through individual research projects in the existing POW, or through the development of new elements to the existing Memoranda of Understanding negotiated with these countries.
- Specific aspects of the implementation of national climate policies have significant energy sector ramifications. The IEA and its Member Countries might wish to actively engage in debate – and policy recommendations – on issues such as:
 - How to design climate policies (such as promoting energy efficiency and the development of non-CO₂ emitting energy sources) to improve their synergies with efforts to reduce energy supply dependency;
 - Plans to allocate permits for national emission trading systems (which may affect the energy mix) should consider energy impacts;
 - How to balance demand for near-, medium- and long-term investment in climate mitigation to assure that it does not place undue stress on already anticipated investment shortages in the energy sector;
 - How to effectively promote joint co-operation in, and maximise the information exchange benefits of current national policies and measures.
- The longer-term development and diffusion of technologies to mitigate climate change will require more active direction by the energy community. As discussed in IEA/GB(2003)7 ("Energy Technology: Facing the Climate Challenge"), new energy

technologies are needed to achieve deep cuts in energy-sector carbon emissions. The IEA could spearhead an effort in this area [Paragraph 20].

The Governing Board [IEA/GB/C(2003)3, Item 6]:

- (iii) acknowledged that, at the national level, the development of energy and climate policy is critical to successfully meeting the climate challenge;
- (iv) called on the Secretariat, guided by the discussion in the Governing Board, to make recommendations on how the energy community might be better engaged in, and contribute more actively to solutions to the climate change problem that are compatible with energy policy; and
- (v) recognising the importance of climate change mitigation in the development of every aspect of energy policy, requested the relevant committees, within budget constraints, to consider how best to enhance the energy/climate links in the Programme of Work for 2003 and 2004.

Meeting at Ministerial Level at the end of April 2003, the Governing Board agreed that the "Three E's" – Energy Security, Environmental Protection and Economic Growth – remain robust as the IEA's guiding principles for energy policy. On the subject of sustainable development, the Ministers said, in their Communiqué:

We acknowledge the importance of, and our commitment to, implementing the agreements reached at the Johannesburg World Summit on Sustainable Development of September 2002. We particularly commit ourselves to enhance the role of renewables and other lower carbon-emitting sources of energy in the energy mix, and work to shape a future where basic energy services will be available to an increasing number of the world's citizens. We will continue our efforts to mitigate the impact of energy use on the global environment, and in particular on the global climate system, consistent with our efforts under the UN Framework Convention on Climate Change. We will continue to stimulate the development of new market-oriented instruments essential to reaching our sustainable development goals at lower costs. We also call for the further development of technologies needed to meet these goals, and to this end, with the help of the Secretariat, call for a review of the focus of our co-operative R&D programs in strategic areas.

We reaffirm our commitment to promoting a sustainable energy future, meeting the social, environmental and economic challenges that entails [IEA/GB/C(2003)4/ANN1].

In September 2003, for the first time in its history, the Annex I Expert Group held a seminar on the future development of the UN Convention on Climate Change with active participation of the government experts from several developing countries – Brazil, China and Indonesia – to consider issues of international technology collaboration to face climate change and institutional capabilities to take various form of commitments or actions. The success of this meeting led the Expert Group to decide that similar meetings with extended developing country participation will be organised on a regular basis, starting with a two-day meeting to take place in March 2004.

At the Ninth Session of the Conference of the Parties to the UN Framework Convention on Climate Change (COP-9) held in Milan in December 2003, the IEA again played an active role, including issuance of a publication, *Energy and Climate Change: Investment Needs and Technology Options to Integrate Energy in Environmental Goals*.

Section IV.F., Reviews of Members' Energy Policies and Goals

In April of 1995 the Governing Board delegated to the Standing Group on Long Term Co-operation the authority to approve publication of the annual series, *Energy Policies of IEA Countries*. A Secretariat Note proposing the change [IEA/GB(95)13] explained that, by avoiding the delay of obtaining Governing Board approval to publish, the publication could be put on the market in a more timely manner. As a precautionary measure, the Governing Board stipulated that if any IEA Member country objected to the policy review of any country, the SLT must refrain from approving that review for publication and refer the review to the Governing Board. In its decision, the Governing Board also asked the SLT to examine the possibility of improving the process of conducting the reviews, and the content of the annual publication [IEA/GB(95)18, Item 4].

This precipitated a "review of reviews", which culminated in discussions at December 1995 meetings of the SLT and the Committee on Energy Research and Technology, based on a Note by the Secretariat [IEA/SLT/CERT(95)32] that aimed at reaching agreement on various proposals in time to implement them in the 1995-1996 review cycle. The Note observed that while the original purpose of the energy reviews had been to monitor Member countries' progress in reducing dependence on imported oil, the reviews

today are intended critically to evaluate each Member's performance against common objectives encapsulated in the Agency's Shared Goals, and to offer constructive recommendations. Experience showed that there was substantial room for improvement in the way the reviews were conducted and in the analysis and presentation of their results: debates during the review visit should be more focused, the administrative workload generated by the reviews should be streamlined, and the peer element should be strengthened during discussion of the draft review report in the SLT and CERT. The Note went on to set out specific recommendations.

Discussion in the SLT revealed a general consensus that team size should be small and include a Member country peer element and one R&D expert, and that advance preparation is essential for in-depth review teams. The peer country normally should lead discussion in the SLT. The standard reviews should be streamlined and the general report should be maintained in the annual publication while making it shorter and adopting a thematic approach. There was no consensus on moving in-depth reviews to a five-year cycle or completing standard reviews every two years. There was a consensus to publish the in-depth reviews as individual reports on a trial basis [IEA/SLT/M(96)1, Item II.2].

The CERT welcomed a restructuring of the review publication. It wished to retain a peer element and recognised the importance of the quality of the review team, and CERT Delegations shared a common feeling that the composition of the review teams "should be able to cover the wide range of R&D and technology issues in those countries with significant programmes" [IEA/CERT/M(95)3, Item 5].

In 1998, a decision was made to extend the review cycle to two years, with only those countries that underwent in-depth reviews two years earlier being subject to a standard review. It also was agreed to approve the standard review reports pursuant to a written procedure. [See IEA/SLT(98)29; IEA/SLT/M(98)5].

In 2000, when the Czech Republic's accession to the I.E.P. Agreement made it necessary to conduct seven in-depth reviews in one year, the in-depth review cycle was reconsidered. Some Member countries expressed their preference to retain the current four-year cycle, arguing the importance of monitoring fast-moving policy developments observed in IEA Member countries. On the other hand, several Member countries preferred the extension of the review cycle to five years, in light of concerns about the heavy workload for the reviewed country and, as well, for the SLT, when numerous in-depth reviews must be

discussed in one session. The Secretariat proposed to continue the four year cycle, with a possibility of conducting seven reviews each year. [See IEA/SLT(2000)10; IEA/SLT/M(2000)2].

The most recent "review of reviews" was initiated at the request of Delegations at the June 2002 SLT meeting. Following discussion in the SLT in December and the submission of written comments, the Secretariat prepared a Note [IEA/SLT(2003)10] setting out concrete proposals, in the hope that decisions could be taken on them in time for implementation in the 2002-2003 review cycle. The standard review had by now become light-handed, being conducted every two years and focusing on major changes since the last in-depth review; the Secretariat's proposals therefore dealt exclusively with the in-depth review. The Secretariat recommended continuing the Member country peer practice. In light of increases in IEA membership, it proposed a four-year review cycle with possible irregularity, to be achieved by conducting six in-depth reviews each year. Review team size would vary from six to nine depending on the circumstances of the reviewed country. Comprehensive coverage would be maintained while putting emphasis on key issues. Most report drafting is done by Secretariat staff; drafting by Member country experts on a voluntary basis would, however, be welcome. The Secretariat would continue to assure that no more than two in-depth reviews were taken up in a single SLT meeting. It proposed trying an "animateur" system in SLT discussion. The Secretariat believed that the final report should be approved by all Member countries, including the reviewed country, but it recommended a process for assuring SLT involvement in resolving contested issues, and for seeking ultimate agreement on a compromise text.

The November 2002 meeting of the CERT had expressed general support of the Secretariat's proposals [IEA/CERT/M(2002)3/REV1, Item 12], and the SLT endorsed all of the recommendations set out above [IEA/SLT/M(2003)2, Item 9.1].

The most recent, 2003 edition of *Energy Policies of IEA Countries*, contains in-depth reviews of six IEA Member countries conducted from October 2002 to June 2003, and standard reviews of seven other Member countries. Subjects highlighted include energy security, the progress of Member countries in regulatory reform, their actions to meet the Kyoto Protocol greenhouse gas emission targets, their policies on energy efficiency and energy R&D, as well as developments in major non-Member countries.

With a growing interest in energy security in the increasingly complex electricity and gas markets, the annual policy questionnaire, serving as

input to individual country reviews and to other studies in the IEA, was enhanced in 2003 by adding a specific section on energy security [See IEA/SLT/CERT(2003)2].

Section IV.G., Freer Markets and IEA Shared Goals of 1993

One of the most important developments in the energy sector over the past decade has been the trend variously described as market liberalisation, deregulation and reform. This trend is visible both in IEA Member countries and in non-Member countries; the IEA has been active in the field, with the Secretariat bringing analysis and information to the debate through the Standing Group on Long Term Co-operation.

The 1995 Meeting of the IEA Governing Board at Ministerial Level noted the growing interdependence of the world's economies; Ministers agreed that energy policies must be developed in the context of a progressive reduction of government intervention in energy markets. [IEA/GB(95)30/ANN].

The Agency's "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49/REV1/ANN1], adopted by the Governing Board in December 1996 [IEA/GB/C(96)15, Item 2], observed that since a previous policy review in 1992, there had been significant political and economic developments or new perceptions, among them:

- Increasing interdependence between the world's economies, including greater global interdependence in the energy sector; [and]
- Widespread deregulation and liberalisation, resulting in markets being increasingly driven by market forces rather than government intervention.

The Strategy noted that liberalisation, privatisation, regulatory reform and the reduced role of governments in the energy sector mean that the support and co-operation of the energy industries is increasingly important to the achievement of IEA energy security objectives; thus the Agency would strengthen its relations with business and industry.

It recognised, however, that all governments intervene, to a greater or lesser extent, in energy markets; the challenge for policy makers was to strike the proper balance between free, open and competitive markets, and cost effective actions to meet fundamental policy goals, including those goals known as the "Three E's" – energy security, sustainable economic development and protection of the environment. The modified Medium-Term

Strategy that was "rolled forward" for the 1999-2002 period continued to reflect this view, adding that economic liberalisation and structural reform, altering the role of government in energy markets, continue to affect profoundly the style and substance of energy policies in Member countries [IEA/GB(1999)5/ANN1].

Similar sentiments were expressed in the Communiqué from the Governing Board Meeting at Ministerial Level in May 1997 [IEA/GB/C(97)3/ANN]:

- competition and transparency improve the functioning of energy markets through increased efficiency;
- the globalisation and liberalisation of markets are having a profound effect on governments, whose traditional role in influencing the energy sector has changed as a result of market-opening, regulatory reform, privatisation and demonopolisation; and
- recognising that the establishment of free and open markets is a fundamental point of departure, the challenge for policy makers is to determine how to structure their regulatory, tax, investment, energy, environment and technology policies to meet most effectively the public policy goals of energy security, sustainable economic development and protection of the environment.

According to the Communiqué from the Agency's May 1999 Ministerial [IEA/GB/C(99)3/ANN1]:

Ministers **emphasised** that free and competitive energy markets, appropriately regulated, together with liberalised international trade and investment provide an essential foundation for sustained economic growth. At the same time, Ministers **noted** the challenge involved in designing policies fully compatible with free markets to achieve goals that may not be attained by markets alone, such as energy security and environmental sustainability. Ministers **directed** the Secretariat to continue developing concrete analyses of such policies. They **instructed** the Secretariat to work with the energy industry to find long-term solutions to these challenges.

At their 2001 Meeting, IEA Ministers stated their view that while the framework for energy markets will be shaped by government policies, under normal circumstances markets work best when allowed to operate freely. They "warmly welcomed the advance of regulatory reform world-wide, which

promises to deliver long-term benefits." At the same time, they acknowledged that "market reform can imply a difficult period of transition before the full benefits are realised" [IEA/GB/C(2001)3/ANN1].

The 2002 edition of the Agency's *Energy Policies of IEA Countries* reviewed the status of liberalisation and reform in energy industries. The California electricity crisis, which had the effect of slowing market reform somewhat, especially in the United States, served as a reminder of the importance of proper market design. Even so, electricity reforms had continued to make progress in OECD Europe, where there were plans for a new EU directive on electricity, and in other OECD countries. Moreover, reform of the natural gas sector was well under way in OECD countries and was spreading and deepening, already having brought choice of suppliers and service providers to many customers. The book also noted that many OECD non-Member countries had undertaken market reform in the energy sector in the pursuit of increased economic efficiency [Pages 14-15].

There is recognition, nonetheless, that market liberalisation, deregulation and reform is a long process, and we are at the beginning. Lessons need to be drawn from the failures as well as from the more numerous successes. Given the important role of industry in the process, the IEA Secretariat is increasing its working links with the energy industry.

The 2003 IEA Ministerial Meeting noted that recent events provided a sharp reminder of the central role of energy for near-term security. Insecurity can arise from a range of issues, among them, "poor regulatory design". Nonetheless, Ministers declared:

Strengthening and extending the forces of the marketplace within and beyond our borders can contribute to enhancing energy security, economic growth and environmental protection. We commit ourselves to strengthen the policy framework permitting markets to meet our global investment and trade needs and to promote enabling environments that will attract private investment. [IEA/GB/C(2003)4/ANN1].

CHAPTER V, ENERGY RESEARCH AND DEVELOPMENT: TOWARDS LONG-TERM AND STILL LONGER-TERM CONTRIBUTIONS

Section V.A., IEA Organisation of R & D

The formal mandate of the Committee on Energy Research and Technology (CERT) remains as described in Volume I of *The History*. This mandate has been elaborated upon, however, by two strategic documents.

The CERT decided in 1996 to develop a "Medium-Term Strategic Plan for Energy Research and Development", in parallel with the "Medium-Term Strategy" that the Governing Board was developing for the Agency as a whole for the period 1997-2000 (See the introduction to Chapter VII of the *Supplement to Volume I*). Toward this end, the CERT prepared a document setting out a mission statement, key strategies and provisions for CERT operations [IEA/GB(97)6], which was approved by the Governing Board at its February 1997 meeting [IEA/GB/C(97)1, Item 8]. According to this document, the mission of the CERT's Medium-Term Strategy would be "to maximize the contribution of energy research and technology development and deployment to the main objectives of the IEA, including energy security, global environmental sustainability and economic growth." The document then set out in more specific terms the role of the CERT with respect to this mission. Based on these key strategies, the CERT in early 1997 adopted its Medium-Term Strategic Plan for the period 1997-2000. Key themes were energy technology collaboration and deployment. Strategic directions were to: encourage cost-effective energy technology collaboration; produce high-quality energy technology policy analyses; promote the exchange of information between IEA Member countries; provide energy technology policy advice; cooperate with national governments, the OECD and other international organisations by providing advice on energy technology issues; and keep the Governing Board fully informed of the CERT's activities and progress.

Following extensive discussion at CERT meetings during 1999-2001, the CERT agreed a new "Strategic Plan" for its activities [IEA/CERT(97)3], submitting it to the June 2002 meeting of the Governing Board [IEA/GB(2002)20], which "noted the continuing significance of the objectives" contained therein [IEA/GB/C(2002)2, Item 5]. The stated purpose of the new Plan was to communicate to "CERT stakeholders" – its Working Parties and Expert Groups, the Agency's Implementing Agreement participants, IEA Member countries

and others – the Committee's mission and vision for delivering tangible results from investments in energy technology R&D. The expressed "vision" is "for the CERT to become the pre-eminent player in clean energy technologies supporting sustainable economic development, environmental protection and global energy security", and the stated mission, "to support the IEA's mission and goals by promoting the development and deployment of clean and advanced energy technologies through international networking, co-operation, collaboration, analysis and policy advice". The CERT endeavours to be "the locus for information sharing, networking and collaboration among energy technology researchers and policy makers around the world." Its "most important relationships are with its Working Parties". The Plan commits the CERT to develop measures to assess its own progress, including those:

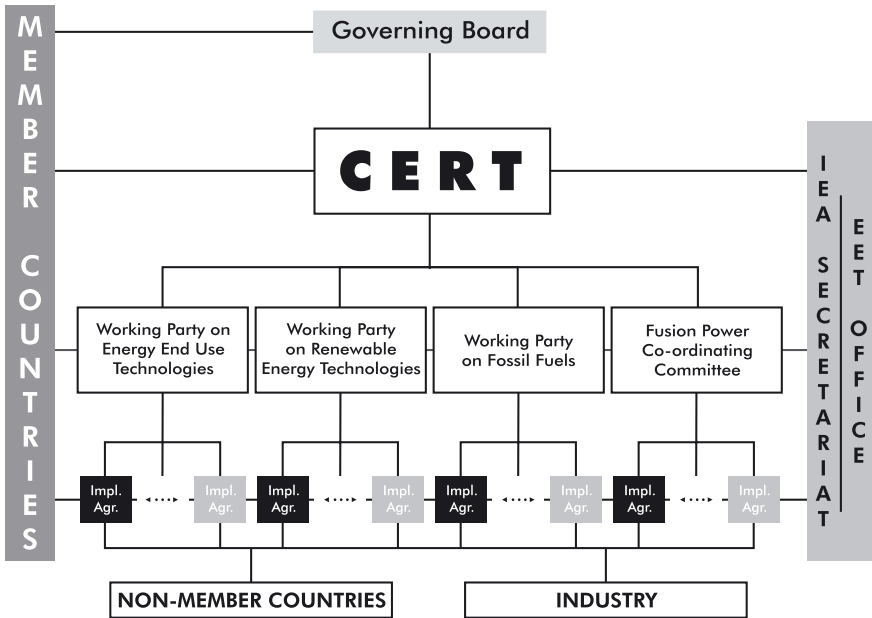
1. measuring progress against quantitative, results-oriented performance goals over time (such as a higher degree of recognition for research and publications);
2. measuring results obtained from activities under the Working Parties and Implementing Agreements by conducting multi-disciplinary reviews, cross-program reviews, and management reviews, in order to evaluate if they are properly focused; and
3. measuring the progress and results of projects.

Following presentation of the Strategic Plan to the Governing Board, the CERT decided that the Plan should be employed on a day-to-day basis in the Implementing Agreements sponsored by the Agency, as well as by the CERT and its Working Parties, and the CERT's Chairman dispatched a message so advising [IEA/CERT/M(2002)2, Item 3].

In practice, the CERT's success in attaining the goals of its Strategic Plan depends on a structure of relationships, interactions and transactions among the CERT, its four Working Parties, the Implementing Agreements sponsored by the IEA, the IEA Secretariat represented primarily by its Directorate for Energy Efficiency, Technology and R&D (EET), Member countries, non-Member countries, and industry. In 2002, the CERT designated CERT Liaison Officers to each of the Working Parties. This network of relationships is illustrated by the organigram overleaf.

The Mandates of the CERT's four Working Parties are reviewed periodically by the Committee, along with documentation concerning their respective strategies and implementation plans. The most recent approval of Working Party Mandates was in November 2003, when the CERT also endorsed those entities' strategic plans [IEA/CERT(2003)35].

Organigram of CERT Strategic Plan, April 2002



There have been cases of observership of the Agency's Working Parties by OECD countries that were IEA non-Member countries. In addition, Russia since 1995 has actually participated in the Fusion Power Co-ordinating Committee (Fusion Working Party).

As the result of a Hydrogen Workshop held in March 2003, the CERT has now created a Hydrogen Co-ordination Group.

In addition, the CERT makes use of Expert Groups. The CERT is supported directly by an Expert Group on R&D Evaluation, while two other Expert Groups, the Oil and Gas Expert Group and the Electric Power Expert Group, report through the Working Party on Fossil Fuels.

Creation of a Renewable Energy Unit within the EET Directorate, and some of the work of that Unit, are discussed in Section IV.D.5. above.

Section V.B., Research and Development Policies and Strategies

This section of Volume I of *The History*, at pages 255-256, describes the IEA/OECD publication, *Scoping Study: Energy and Environmental Technologies to Respond to Global Climate Change Concerns* (1994), and the High Level

Meeting convened in late 1994 to discuss it. A number of the suggestions made in that study led to activities in the Secretariat's Programme of Work, and some became the subject of IEA Implementing Agreements, or were added to existing Implementing Agreements [IEA/CERT(95)36]. Among the issues identified was how best to strengthen the Implementing Agreement mechanism, in order to make it more attractive to Member and non-Member countries as a vehicle for accelerating the rate of progress of technology development [IEA/CERT(95)35].

The Secretariat reported to the Governing Board at its February 1995 meeting, however, that the most significant result of the High Level Meeting was the progress made by Member countries in defining a "Climate Technology Initiative" (CTI) to support the actions on technology development and diffusion under the United Nations Framework Convention on Climate Change (UNFCCC) [Speaking Notes from records of Governing Board meeting in files of IEA Office of Legal Counsel]. At the First Session of the Conference of the Parties to the UNFCCC (COP-1) held in Berlin in April of that year, many of the IEA countries and the European Commission launched the CTI, an ambitious programme with objectives to deploy commercial and near-commercial climate-friendly technologies, and develop longer-term technological response options. Beginning in 1996, the IEA hosted the CTI on a temporary basis. (Subsequent developments with respect to the Climate Technology Initiative are discussed in Section IV.E. above).

Following the May 1995 Meeting of the IEA Governing Board at Ministerial Level, Ministers issued a Communiqué [IEA/GB(95)30/ANN] in which they identified specific means by which IEA countries could further their environmental, energy security and economic goals. The Ministers noted that the development of clean and efficient energy technologies has an important contribution to make, endorsed support for technological development and the removal of barriers to deployment in the marketplace, and supported expanded co-operation with key non-Member countries to encourage sustainable development with energy policy and investment regimes suitable for commercial ventures.

The IEA's "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49/REV1/ANN1], which the Governing Board adopted in December 1996 [IEA/GB/C(96)5, Item 2], contained a section on "Energy Technology". The section observed that declining R&D budgets in most IEA countries lent added importance to technology policy co-operation under IEA aegis, and

noted that greater industry participation might need to be fostered. The following objectives were set for the IEA:

- Reinforce its efforts to promote energy technology co-operation, in particular through Implementing Agreements;
- Concentrate increasingly on promoting deployment of new and improved technologies and helping to overcome barriers to their application;
- Analyse the role of energy technologies in dealing with climate change;
- Address the issue of declining R&D expenditure and barriers to faster deployment of new and improved energy technologies;
- Encourage non-Member country participation in energy technology co-operation;
- Convene industry panels in appropriate technology fields to discuss government and industry roles and funding for energy technology and R&D in order to encourage greater co-operation;
- Seek to direct energy technology co-operation to areas lacking adequate attention.

When IEA Ministers met in May of 1997, they expected that the Third Session of the Conference of the Parties to the UNFCCC (COP-3), to be held in Kyoto the following December, would result in international commitments to emissions limitation and reduction objectives. Energy technology – with both the long-term aspect of R&D and the short-term challenge of deploying clean, low-carbon and efficient energy systems to the market, especially in developing countries – was seen as vital to solving global environmental problems, while maintaining economic growth and energy security.

The Communiqué from the Ministerial Meeting [IEA/GB/C(97)3/ANN] accordingly endorsed the IEA's "Statement on the Energy Dimension of Climate Change" (discussed in Section IV.E. above), which included, in its description of the main energy aspects of the climate change issue, a recognition that "enhanced use of best available, cost-effective technologies could help reduce energy requirements and associated emissions, but barriers to the adoption of available and cost-effective technologies will have to be overcome" [paragraph 5]. Discussing possible energy responses to climate change, Ministers agreed that it was essential that developed countries co-operate on improving energy efficiency worldwide, including enhancing the

commercialisation of climate-friendly technologies, encouraging long-term energy R&D and deploying energy technologies in developing countries. There was a need for longer-term R&D, undertaken co-operatively between governments and between industry and government. Reaffirming the Agency's Shared Goals and welcoming its Medium-Term Strategy, Ministers asked the IEA to "concentrate the Agency's collaborative technology efforts on development and deployment of new and improved technology, particularly those relevant to the Climate Technology Initiative" [paragraph 14]. Ministers also welcomed increased participation by IEA non-Member countries in the Agency's Implementing Agreements.

The Committee on Energy Research and Technology took the Ministerial request as a mandate to analyse further international energy technology R&D and policy trends, with a special emphasis on deployment of clean and efficient energy technologies. It decided to produce a paper on post-Kyoto technologies for the Agency's 1999 Governing Board Meeting at Ministerial Level, asking how much technology can achieve, under what conditions, and at what cost. This led to a Background Paper for the May Ministerial Meeting, "The Role of Technologies in Reducing Greenhouse Gas Emissions", which subsequently was published as an IEA report, *Energy Technology and Climate Change - A Call to Action* (2000).

When the Governing Board, in February 1999, reviewed the Medium-Term Strategy and "rolled it forward" for another four years, 1999-2002, with modifications [IEA/GB/C(99)1, Item 5], the Board made two noteworthy changes to the objectives it had set in 1997: it stipulated that the encouragement of non-Member country participation in IEA Implementing Agreements was appropriate "when there is a net benefit to participating Member countries", and it added this new task: "Assess the implications of lower energy prices for development and deployment of new and improved energy technologies" [IEA/GB(99)5/ANN1, paragraph 40].

In addition to the Background Paper that the CERT prepared for the IEA's 1999 Governing Board Meeting at Ministerial Level, that Committee put forward to the April Governing Board Meeting a proposed Ministerial document, entitled "The Technology Response to Climate Change - A Call for Action". The Governing Board agreed that, with certain revisions, the document would be made available to Ministers [IEA/GB/C(99)2, Item 4(d)].

In this document [IEA/GB(99)29], the CERT pointed out that governments can and should play a role in transforming, into opportunities, the current problems that face low-carbon technologies. Change can be encouraged through

procurement programmes, market simulation measures, voluntary agreements and information programmes. Such measures are unlikely to have sufficient impact, however, if not reinforced by price signals or other means of encouraging investments in low-carbon technologies. Governments should reverse the decline in long-term R&D investment and intensify technology deployment policies and actions. Collaboration through the IEA enhances value-for-money in R&D, deployment policies and the promotion of technology use in Member and non-Member countries. Fossil fuel subsidies should be removed and market incentives established to reduce carbon emissions.

The CERT's message found a response in the Communiqué from the May 1999 Ministerial Meeting [IEA/GB/C(99)3/ANN1]. Ministers acknowledged that lower oil prices produce economic benefits but cautioned that lower prices could slow the development of and investment in new, more efficient and cleaner energy technologies, including those based on renewable energy sources. They "restated the commitments made in the 1997 Kyoto Protocol" [paragraph 6], but also recognised the importance of controlling greenhouse gas emissions beyond the 2008-to-2012 fulfilment period set by the Protocol. Accordingly:

They **underlined** the vital role of long-term technology research and development in this context. They **affirmed** the importance of co-operative efforts under IEA Implementing Agreements in developing and deploying a new generation of sustainable energy technologies. Ministers **emphasised** the need to mobilise public and private resources to deploy environmentally sound technologies globally and to implement long-term emission reductions [Paragraph 8].

The Ministers affirmed the importance of co-operative efforts under IEA Implementing Agreements in developing and deploying a new generation of sustainable energy technologies. They asked the Secretariat to continue assessing the full range of energy issues and choices, including renewable energy and nuclear power, and the implications of any emerging market value for carbon, and to work with the energy industry to find long-term solutions to the challenges. Recognising the critical role that developing countries will play in the evolution of energy markets in the new century, they agreed that the IEA should widen and deepen its relations with major non-Member countries.

In translating the Ministers' messages into action, the CERT in 2000-2001 focused its discussions on the involvement of industry and non-Member countries in CERT-related activities, on lessons learned in energy technology

policy and on the role of long-term R&D. A CERT Note for the Agency's 2001 Ministerial Level Meeting of the Governing Board, "Support for Energy Technology – Imperative for the 'Three E's" [IEA/GB(2001)24], grew out of an October 2000 workshop on "Energy Technology Research, Development and Demonstration: Lessons for Twenty-First Century Partnerships"; a project on best practices in deployment of new energy technologies (published in 2003 as *Creating Markets for Energy Technology*); and an Informal Meeting of the Governing Board in April 2000 that discussed the deployment of cleaner energy technologies in non-Member countries.

The CERT's Note observed that energy R&D, which is crucial for the "Three E's", is becoming more short-term, and contended that it is the role of government to invest in and stimulate R&D over the long term. The old paradigm of government simply as a provider of research funds had to be replaced by a broader view of how governments can support energy research, development and demonstration (RD&D) and deployment. Governments needed, inter alia, to catalyse private sector RD&D by using "grand challenges" as frameworks for work with industry and academia; to increase collaboration in light of the global nature of the challenges; to help stimulate worldwide markets for available but not yet cost-effective or widely-used technologies; to create market conditions favourable for new technologies arising from long-term R&D; and to provide adequate in-house capability to support government's broader role in fostering energy technology RD&D and deployment.

The May 2001 IEA Ministerial Meeting discussed energy security and the place of energy in a sustainable future. Research and development featured prominently in the Communiqué from that meeting [IEA/GB/C(2001)3/ANN1], which reflected part of the CERT's conclusions. In all IEA countries, technological developments were seen to be improving prospects for greater energy efficiency, broader commercial application of cleaner fuel technologies, renewable energy and combined heat and power generation; the Ministers encouraged IEA Secretariat efforts to accelerate these improvements worldwide. They committed themselves, in their own countries and within the framework of the IEA, to support the development and transfer of energy technologies, and stated:

We recognise that energy technology research, development and demonstration... are essential to achieving energy security, environmental protection and economic growth. We accept the need for a government role in supporting long-term RD&D and encouraging the participation of industry. The IEA provides a unique forum and structure for collaboration to promote the availability of advanced technologies and reduce their cost.

Ministers supported the continuing diversification of energy systems – both by energy type and by source. While acknowledging that national circumstances and policies would determine the mix of fuels in each country, they stated their intention that renewable energy play an increasing role.

The Secretariat presented to the October 2002 meeting of the Governing Board a Note [IEA/GB(2002)34], "Technology Options: CO₂ Capture and Storage Technologies", informing the Board of IEA activity concerning the capture and storage of carbon dioxide from fossil fuel use. The Note explained that if costs can be brought sufficiently low, CO₂ capture and storage can become an acceptable component, alongside renewable energy, of a sustainable energy future; indeed, the Note asserted, such technology might be necessary to achieve deep reductions of CO₂ emissions worldwide in time to stabilise the concentration of greenhouse gases at acceptable levels. Assuming that systematic valuation of carbon is introduced and that there are substantial reductions in the cost of CO₂ capture and storage, the attractiveness of natural gas and coal will be enhanced, and as between them, coal's competitive position will be improved, while the hydrogen produced in the process of separating CO₂ from coal and natural gas could be used in transportation, if hydrogen were developed as a commercial fuel.

Industry participation in demonstration and dissemination of the appropriate technologies was seen as essential; however, few large companies presently are engaged in research and demonstration projects, and there is no clear financial incentive for them to do so. Therefore, if CO₂ capture and storage is to be added to the arsenal of climate-friendly technologies, the Note argued, governments will need actively to promote its development and facilitate industry's involvement, such as through financial and regulatory incentives, a long-term policy framework, and a stable policy environment.

The IEA Working Party on Fossil Fuels already had initiated a major project to foster the needed technologies, and had approved a "Zero Emissions Technologies Strategy for Fossil Fuels", which the CERT in June adopted as an activity in line with its own Strategic Plan. The Implementing Agreement for a Co-operative Programme on Technologies Relating to Greenhouse Gases Derived from Fossil Fuel Use and other IEA Implementing Agreements were active in this field, and the Coal Industry Advisory Board had launched its own programme on the subject. The Secretariat intended to facilitate the policy dialogue with all of the involved "stakeholders" to analyse and evaluate the long-term policy framework and technological achievements necessary to achieve commercial application of CO₂ capture and storage technologies.

In response, the Governing Board took a decision in which it "encouraged greater collaboration to support national and international R&D and demonstration projects, including projects undertaken by the relevant Implementing Agreements". It also asked the Secretariat to prepare the elements of a long-term policy framework to facilitate greater commercial application of CO₂ capture and storage technologies [IEA/GB/C(2002)3, Item 9].

A Secretariat Note to the 3 April 2003 meeting of the Governing Board [IEA/GB(2003)7/REV1] provided an assessment of the energy technology developments that could generate significant cuts in CO₂ emissions whilst also meeting security and economic goals in the energy sector. The contextual framework for the Note was that deep emissions reductions would come only by transforming the global energy system into one that relies on advanced, efficient, low-emissions technologies, which would have to be adopted progressively, but in light of long-term effects of decisions on capital stock that are being made near-term. The Note contended that many promising technologies are under development, and that what was needed was rapidly to make them competitive. Accomplishing this required action to spur investment, a link between basic sciences and applied R&D, and support of uptake of a technology by the market before that technology becomes competitive.

Annexed to the Note was a detailed review of individual technology options, which were being reviewed by a network of experts from IEA Member countries, the CERT and the Secretariat. Speaking of that annex, the Note said:

14. Numerous technology solutions offer substantial CO₂ - reductions potential, including renewable energies, fossil-fuel use with CO₂ capture and storage, nuclear fission, fission energy, hydrogen, biofuels, fuel cells and efficient energy end use. No single technology can meet this challenge by itself....
15. Energy technologies for end-use efficiency in the transport, industrial, and residential and commercial sectors are equally crucial.

Enhanced international collaboration was seen as vital to improve information and reduce costs in R&D, facilitate sharing of costs of large facilities and demonstration projects, and foster technology uptake so as to enhance "technology learning" and the cost reductions it brings.

In its decision, the Governing Board:

- (ii) confirmed that, without faster progress in technology development and adoption, deep cuts in energy sector greenhouse gas emissions and adequate long-term security cannot be achieved at reasonable cost;
- (iii) acknowledged the need for the following actions to facilitate faster progress in energy technology development:
 - devoting more public and private resources to cost effective applied energy technology R&D and demonstration;
 - increasing efforts to foster technology uptake by the market to enhance "technology learning";
 - increasing efforts to integrate basic science efforts and energy technology development needs; and
 - enhancing collaboration on energy technology R&D and demonstration, on fostering energy technology uptake, and, where appropriate, "directed" basic science efforts focused on energy technology challenges... [IEA/GB/C(2003)3, Item 7].

In the lead-up to the 28-29 April 2003 Meeting of the IEA Governing Board at Ministerial Level, the CERT concentrated its efforts on technologies for the long-term reduction of greenhouse gas emissions. Co-ordinating contributions from CERT and Working Party delegates and from Implementing Agreements sponsored by the Agency, the CERT prepared a draft report from which was drawn a Background Paper for Ministers, "Energy Technology: Facing the Climate Change" [IEA/GB(2003)7/REV2]. The Background Paper argued that the need had become urgent for IEA governments, individually and in concert, to speed the rate of technology innovation and adoption. In addition, the Secretariat together with the CERT, the Working Parties and the Implementing Agreement participants organised an "IEA Energy Technology Collaboration Fair", which took place at the Ministerial [See IEA/GB(2003)19].

Research and technology themes recur throughout the Communiqué from the Ministerial Level Meeting of the Governing Board [IEA/GB/C(2003)4/ANN1]. Ministers called for continuing development of policies and programmes, consistent with national priorities, to promote energy diversification, including increased support for energy RD&D and deployment; they indicated their particular interest in the acceleration of the commercial availability of cleaner technologies with low pollution and carbon emissions. More needed to be

done to reduce energy use per unit of output, and Ministers committed themselves to achieving greater efficiency both through national programmes and through international technology collaboration; they would pursue this by increasing incentives to efficiency in market and consumer behaviour, in particular in the transport sector, and for buildings and equipment. They also would seek to reduce energy intensity through R&D, technological innovation and international collaboration.

In light of the threats posed by increasing IEA country dependence on imported oil, the Ministers recognised the importance of working together, and with the private sector, to accelerate research and development in fuel efficiency and competitive alternative fuel sources and carriers; they noted, "in particular, our intent to further develop the technologies for a hydrogen future." They similarly called on the Secretariat to pursue technology development to help assure the security of natural gas supply. Finally, IEA Ministers called for the further development of technologies needed to meet the goal of sustainable development, and asked the Secretariat to lead a review of the focus of the Agency's R&D programme in strategic areas.

A Secretariat Note prepared for the October 2003 meeting of the Governing Board [IEA/GB(2003)25] provided information on the status of nuclear fusion generally, and specifically on the decision soon to be made by Canada, China, the European Union, Japan, the Republic of Korea, the Russian Federation and the United States, whether to invest \$4.2 billion in the International Thermonuclear Experimental Reactor (ITER) project. The CERT had discussed this subject in November 2002 and, recognising the significance of the ITER project as a crucial milestone in developing fusion power, it recommended bringing the matter forward for Governing Board attention.

An attached paper from the IEA Fusion Power Co-ordinating Committee reported that, despite uncertainties, current evaluations show that fusion electricity could be competitive in the future energy market. The purpose of the ITER project is to demonstrate that electrical power from thermonuclear fusion is scientifically and technically feasible. As ITER construction would take about ten years, and plans call for exploiting the reactor for ten to twenty years, a demonstration power plant only would be brought on after about 35 years, leading to the first commercial plant toward the middle of the century. The Secretariat's Note also contains information about several IEA Implementing Agreements whose activity is relevant to the development of nuclear fusion power.

One preoccupation of the CERT and of the IEA Secretariat in recent years has been with the modelling of energy technology developments and policy options. In 1997 a conference on "Energy Technology Availability" discussed assumptions about energy technologies that are made in energy models. In the aftermath of that conference, modelling activities became major tasks of the Secretariat. With the benefit of learning from experience of the Agency-sponsored Implementing Agreement on the "Energy Technology Systems Analysis Programme" (ETSAP), from modelling workshops, and from participation in the ACROPOLIS project (a collaborative IEA/European Commission effort on technology policy simulations for climate change mitigation), the Secretariat developed a new global energy technology database and model known as the "IEA Energy Technology Perspectives (ETP) Project". Based on the MARKAL energy systems modelling software maintained under the ETSAP Agreement, the ETP project's database includes detailed representation of energy technologies throughout the energy system and multiregional coverage, and is at the frontier of energy technology modelling. The ETP Project's purpose is to analyse the long-term impacts of technology policy on international energy markets and greenhouse gas emissions under different policy assumptions, and the database and model already have been used for the Alternative Policy Scenario of the 2002 *World Energy Outlook*, for analysis of how CO₂ capture and storage technologies would compete under different CO₂ incentives, and for analysis of several hydrogen economy scenarios.

The transport sector also has been a subject of special focus, in light of the facts that the sector is responsible for almost 60 per cent of oil consumption in the IEA countries (up from 36 per cent when the Agency was established in 1974), and is the chief sector propelling future growth in OECD oil demand. The IEA, therefore, together with the seven IEA-sponsored Implementing Agreements concerned with transport issues that are overseen by the End Use Working Party, has strived to improve the energy efficiency of the transport sector and to develop new means and technologies that will reduce oil dependency and greenhouse gas emissions. Recent publications in this area have included *Automotive Fuels for the Future: the search for alternatives* (1999), *Saving Oil and Reducing CO₂ Emissions in Transport: options and strategies* (2001) and *Bus Systems for the Future* (2002) (examining transport patterns in developing countries, where the growth in oil consumption soon will outstrip that of OECD countries). A Secretariat Note for the October 2003 meeting of the Governing Board [IEA/GB(2003)24], discussed in Section IV.B. above, comprehensively surveyed the opportunities for near- and long-term oil savings and emissions reductions in the transport sector.

Another activity designed to help carry out the CERT's objectives is the dissemination of available information. Many Implementing Agreements actively disseminate energy technology and policy information. The IEA Secretariat achieves such dissemination not only through the IEA's publications (See Section V.D. below), but also through use of the Internet. In 2002 the IEA launched its OPEN (On-Line Publication of Energy News) Energy Technology Bulletin. E-mailed periodically, the Bulletin seeks to generate broad cross-fertilisation of energy technology information and ideas. As of early 2003, more than 3000 subscribers were receiving the Bulletin. In addition, much of the wealth of specific energy technology information that is derived from activities under IEA Implementing Agreements can be accessed through those Agreements' respective websites.

The initiative on assessment of CO₂ capture and storage technologies, discussed above in this section, was the first of a series of technology and technology policy presentations based on results from the "IEA technology family" – the CERT, its Working Parties, IEA-sponsored Implementing Agreements, and the Secretariat's Office of Energy Efficiency, Technology and R&D. Presentations on transportation technologies and policies, fusion power and a hydrogen economy are expected in 2004.

Section V.C., System for International Collaboration on Energy R & D Projects

Following the 1997 Ministerial Meeting of the IEA Governing Board, whose Communiqué recognised the need to promote accelerated deployment of climate-friendly technology in non-Member countries, the CERT and the Committee on non-Member Countries both explored possible new pathways for technology co-operation with non-Member countries. IEA Implementing Agreements were considered unsuitable vehicles for the needed co-operation because the principal interest of key countries such as China, India and Russia was near-term deployment of existing technologies, in which the existing Implementing Agreements have no special expertise. The Secretariat informed the Governing Board [IEA/GB(97)50] that attention had focused on the idea of a different kind of "technology cooperation arrangement/agreement" (TCA) with each selected non-Member country, in which multilateral donor organisations and the private sector could participate, along with national governments. The CERT's Working Party on Fossil Fuels planned to take the lead by instituting a coal power plant pilot activity in China with one or more host utilities.

The Secretariat assured the Governing Board that the proposed technology co-operation would be developed only in areas where Member countries agreed that the Agency's involvement would add value to ongoing industry activities

or to bilateral or multilateral co-operation, and that it would be conducted in such a manner as to avoid any negative effect on the Agency's Budget or Implementing Agreements [See IEA/GB/C(97)5, Item 5(b)].

A combination of factors, including difficulties in acquiring and deploying the needed expertise and problems in making arrangements within China, led to delays in the pilot activity. In November 2002 the Working Party on Fossil Fuels decided to continue its efforts.

Section V.C.2., Project Formation and Management

As discussed in Section V.C.6. below, the Governing Board in February of 1996 requested the CERT to report back to the Governing Board with proposals for changes to the Agency's "Guiding Principles for Co-operation in the Field of Energy Research and Development", to improve the attractiveness of the Implementing Agreement mechanism to non-Member countries. The CERT's proposals [IEA/GB(96)51], which substantially rewrote the "Guiding Principles", were presented to and adopted at the December 1996 meeting of the Governing Board [IEA/GB/C(96)5, Item 6].

These amendments altered the basis for non-Member country participation in IEA Implementing Agreements by eliminating the adjectival reference to non-Member country participants as "Associate" Contracting Parties to those Agreements, and enlarging the rights that NMCs or their designated participants could enjoy under the Agreements. Specifically, they revoked the restrictions that prevented NMC participants in Implementing Agreements from voting on adoption of new tasks and Annual Programmes of Work under those Agreements, as well as the provisions that excluded them from voting on certain structural and policy questions (the admission of new Contracting Parties or Task participants, and the determination of intellectual property questions). In addition, NMC participants would be allowed to act as Operating Agent for an Implementing Agreement if the Agreement's Executive Committee chose them to play that role. The amendments retained, however, the stipulation that an NMC participant in an Implementing Agreement could not block an otherwise unanimous decision by Member country participants in a case where unanimity was required by the Implementing Agreement's participants, and also retained the prohibition against persons from NMC countries serving as Executive Committee Chairmen.

The amendments also modified the Governing Board approval process for participation by non-Member countries in IEA Implementing Agreements, to eliminate the need for repetitive Governing Board approval of a particular country's participation in different Implementing Agreements. Subsequent

applications by an NMC that had received a single Governing Board approval of its participation in an Implementing Agreement would be monitored by the CERT and the overall status of NMC involvement in Implementing Agreements would be reported annually to the Governing Board by the CERT.

An innovation made by the amendments was the creation of a new class of participants in Implementing Agreements to be known as "Sponsors". Article VIII of the amended "Guiding Principles" would allow, in exceptional cases, and subject to approval by the CERT, participation by entities of OECD Member countries that were not designated by the governments of those countries to become Contracting Parties to the Implementing Agreement. Such participation would be as Sponsors, in accordance with equitable terms and conditions adopted unanimously by the Contracting Parties.

At its April 2003 meeting the Governing Board accepted recommendations of the Secretariat for replacement of the "Guiding Principles" with a "Framework for International Energy Technology Co-operation", that unlike the "Guiding Principles" is intended to be binding on Implementing Agreement participants. Executive Committees of pre-existing Implementing Agreements have commenced making necessary amendments to their agreements to effect the binding nature of the "Framework" [See IEA/GB/C(2003)3, Item 8, and IEA/GB(2003)6/REV2]. The Secretariat's Note containing its recommendations explained that over the preceding 18 months, many CERT members, Working Parties and participants in Implementing Agreements had encouraged the Secretariat to review and revise the "Guiding Principles". The objectives of the revision were to:

- (a) permit broader participation by OECD non-Member countries;
- (b) permit broader participation by the private sector;
- (c) provide simple, common and binding rules for participation in Implementing Agreements and make known clearly the responsibilities of Implementing Agreement participants and the various IEA bodies, such as the CERT; and
- (d) to reduce the administrative burden, delay and any legal ambiguity for present and prospective participants in Implementing Agreements. [Paragraph 2].

The new "Framework" makes major changes in the provisions governing participation by NMCs or their designees in Implementing Agreements as Contracting Parties, and in those concerning NMC entities' participation in

Implementing Agreements as Sponsors, the aim of the changes being to broaden Implementing Agreement participation by OECD non-Member countries and by the private sector.

With respect to NMC participation as Contracting Parties, the "Framework" eliminates the remaining restrictions on NMCs or their designees mentioned above, specifically, the NMCs' previous inability to block otherwise unanimous decisions by Member country participants, and the prohibition on their representatives serving as Executive Committee Chairmen. The "Framework" does, however, stipulate that OECD non-Member country participants shall have no greater rights or benefits than OECD Member country participants. The "Framework" also delegates to the CERT the authority previously retained by the Governing Board to approve first-time participation in Implementing Agreements by OECD non-Member countries.

As concerns Sponsors, the "Framework" expands eligibility beyond the OECD universe, allowing Implementing Agreement participation in that capacity by entities of NMC countries without need for designation by those countries' governments, with the CERT retaining its approval authority for such participation. This was in recognition that industry today plays an increasingly important role in what formerly was the domain of government research, even as government funding of R&D has been declining.

In the period 1995-2003 the Governing Board approved the formation of the following new Implementing Agreements:

Implementing Agreement for a Co-operative Programme on Geothermal Energy Research and Technology [IEA/GB(96)37, Item 11(b)(iii)]

Implementing Agreement for a Co-operative Programme on Ocean Energy Systems [IEA/GB/C(2001)4/REV1, Item 10(d)(ii)]

Implementing Agreement for a Co-operative Programme on Spherical Tori [IEA/GB/C(2002)2, Item 9(c)(ii)]

Implementing Agreement for Climate Technology Initiative adopted by written procedure [IEA/GB/C(2003)5, Item 6(c)].

Further information about the IEA's "Framework" can be found in two recent Agency publications, *IEA Implementing Agreements: background and framework as of 2003* (2003) and *Implementing Agreement Highlights: 2002-2003 edition* (2003).

Section V.C.3., Financing and Facilities

The desire to maximise IEA non-Member country participation in IEA Implementing Agreements, and to use the Implementing Agreement framework as a mechanism for transferring climate-friendly technologies to non-Members, has been frustrated somewhat by funding limitations on the part both of those countries and of the Implementing Agreements' existing Contracting Parties. In December 1999, while considering a report from the CERT on its review of the IEA's Implementing Agreements (1995-1998), the Governing Board asked the CERT to provide specific suggestions on how to increase resources to fund outreach activities undertaken by Implementing Agreements. To prepare a response, the Secretariat invited CERT discussion on a proposal to establish within the Office of Energy Efficiency, Technology and R&D a new Unit, to co-ordinate existing efforts on deployment of technologies in non-Member countries, to ensure that this work was integrated with other work relating to deployment within IEA countries, and to initiate new efforts [IEA/CERT(2000)45]. The proposal was not brought forward to the Governing Board because it became clear that funding of the additional resources needed to implement it could not be expected.

Section V.C.4., Intellectual Property

The "General Guidelines Concerning Information and Intellectual Property in Implementing Agreements" were nullified by the Governing Board's April 2003 decision, discussed in Section V.C.3. above, to annul the "Guiding Principles on Co-operation for Research and Development in the Energy Sector", to which the "General Guidelines" were an annex. The Agency has not replaced the "General Guidelines", thus allowing greater latitude for variation from one Implementing Agreement to another in the intellectual property provisions.

Section V.C.5., Participation

As discussed above in the introductory section of this chapter, the "Guiding Principles" were annulled in April 2003, and replaced with a new "Framework". See that discussion for an explanation of the capacity in which non-Member countries now may participate in IEA Implementing Agreements.

In 2003 the Governing Board empowered the CERT to decide on first-time participation in IEA Implementing Agreements by the designees of non-OECD Member countries [IEA/GB/C(2003)3, Item 8]. As noted in Section V.C.1. of Volume I of *The History*, the Board already had delegated to the CERT the power to approve the participation of "Sponsors" in Implementing Agreements.

Participation by NMC entities in IEA Implementing Agreements has increased over the past decade, fostered by the Agency's liberalisation of the governing

provisions. At this writing the designees of eleven OECD non-Member countries are Contracting Parties to such Agreements (the number of Agreements participated in by each country is shown in parentheses): Algeria (1), Brazil (3), China (2), Croatia (1), Egypt (1), Israel (4), Lithuania (1), the Russian Federation (7), South Africa (2), Ukraine (1) and Venezuela (2). Three OECD Member countries that are not IEA Members also participate: Iceland, Mexico and Poland [IEA/GB(2003)6/REV2].

The following entities now participate as Sponsors in IEA Implementing Agreements:

Implementing Agreement for a Co-operative Programme on Technologies Relating to Greenhouse Gases Derived From Fossil Fuel Use

Sponsor	CERT Decision
RWE Aktiengesellschaft	IEA/CERT(94)29/ADD
The Electric Power Research Institute, Inc.	IEA/CERT(94)29/ADD
ExxonMobil Corporation	IEA/CERT(97)39; IEA/CERT/M(97)3
BP International Ltd.	IEA/CERT(97)39; IEA/CERT/M(97)3
Shell International BV	IEA/CERT(98)9; IEA/CERT/M(98)1
Chevron Texaco Corporation	IEA/CERT(2000)03; IEA/CERT/M(2000)1
EniTecnologie SpA	IEA/CERT/RD(2000)2; IEA/CERT/M(2000)2
Alstom Power Technology AG	IEA/CERT/RD(2001)3; IEA/CERT/M(2001)1
TOTAL SA	IEA/CERT(2002)9; IEA/CERT/M(2002)1

Implementing Agreement for a Programme of Research and Development on Energy Conservation through Energy Storage

Sponsor	CERT Decision
IF Technology b.v.*	IEA/CERT(2003)31; IEA/CERT/M(2003)3

Implementing Agreement for the IEA Clean Coal Centre

Sponsor	CERT Decision
Australian Coal Industry Consortium*	IEA/CERT(2003)32; IEA/CERT/M(2003)3
Coal Association of New Zealand*	IEA/CERT(2003)32; IEA/CERT/M(2003)3
Danish Power Group*	IEA/CERT(2003)32; IEA/CERT/M(2003)3

* These Sponsors were approved in 2003 but as of 31 December 2003 had not yet officially signed the Implementing Agreement.

The following table shows the overall status of participation in Implementing Agreements by non-OECD Member countries and their designees, and by Sponsors, as of 30 April 2003:

Energy Technology Area	Number of Implementing Agreements	Number of Countries Participating	Number of Contracting Parties	Number of Sponsors
Fossil Fuels	6	3	4	8
Renewables	9	9	11	0
Energy End-use: Transportation, Information Centres, Systems Analysis, Industry, Buildings	17	2	3	4
Fusion Power	8	3	6	0
Transfer of Technology	1	0	0	0
Totals	41	11	24	12

The participation of both OECD Member countries and non-Member countries in IEA Implementing Agreements is shown in tabular form in Annex 2 to the Agency's 2003 publication *Implementing Agreement Highlights*.

A report to the June 2003 meeting of the CERT [IEA/CERT(2003)24] showed that while the total number of Contracting Parties to IEA Implementing Agreements has continued to grow over the period 1990–2003, the rate of annual increase slowed in the latter half of that period.

Section V.C.6., Functions of the Implementing Agreement

In 1995, the third *Review of Energy Technology Collaboration Activities* was conducted, this one covering the period 1991–1994. The Secretariat's Note to the February 1996 meeting of the Governing Board [IEA/GB(96)5], while concluding that there were clear benefits of Implementing Agreement collaboration, and noting an increase in activities with an environmental focus, nevertheless cited some shortcomings: not all Agreements had made adequate progress in involving industry and end-users in their work and in disseminating the results of their work to industry; participation in some Agreements was weak; room remained for improved co-ordination between – or amalgamation of – Agreements; the review process itself needed streamlining; and the level of non-Member country participation was not as high as desired. The Governing Board observed that the efficiency and effectiveness of the Implementing Agreements must be improved, particularly

through enhanced co-ordination and transparency of the evaluations, and through amalgamation or termination of Agreements where synergies or cost savings could be achieved. It further requested the Committee on Energy Research and Technology to propose amendments to the "Guiding Principles for Co-operation in the Field of Energy Research and Development" to make the Implementing Agreement mechanism more attractive to non-Member countries. Those amendments are discussed in Section V.C.2. above.

A fourth review of IEA Implementing Agreements, for the period 1995-1998, was completed in 1999, and was the subject of a Note to the December 1999 Governing Board from the CERT [IEA/GB(99)59]. The review process involved obtaining detailed information on all Agreements, short evaluations, and the preparation of portfolio reviews by the Committee's Working Parties and the Fusion Power Co-ordinating Committee (Fusion Power Working Party), followed by consideration in the CERT.

The conclusions reached were similar to those from the previous review. The review reaffirmed the benefits of the collaboration, but said that from the strategic management standpoint, there needed to be prioritisation of subjects for Implementing Agreements, particularly in light of the critical issue of how such Agreements most effectively can address climate change issues. Also needed was stronger co-ordination within the governments of IEA Member countries, to assure that consistent messages about priorities were passed to national representatives on Implementing Agreement Executive Committees. The Note stated that the CERT will continue to encourage Working Parties and Implementing Agreements to develop mechanisms to encourage industry participation, and remarked that if outreach to non-Member countries by Implementing Agreements was to be induced, as desired by the Governing Board, additional funding would be required. The Governing Board endorsed the CERT's findings and asked the CERT to provide specific suggestions on how to increase resources to fund outreach activities undertaken by Implementing Agreements [IEA/GB/C(99)6, Item 7].

For the period 1999-2002, no integrated review of the Implementing Agreements was conducted; however, as discussed below, the extension process for individual Implementing Agreements was made more meaningful.

In 2001 the Governing Board delegated to the CERT the authority to approve extensions of the Agency's Implementing Agreements [IEA/GB/C(2001)1, Item 8]. This, together with the recommendation from the two reviews of Implementing Agreements that management of the technology co-operation programme be streamlined, led to the CERT's adoption of guidelines for End-

of-Term Reports for Implementing Agreements [IEA/CERT(2001)35] and of procedures and criteria for Implementing Agreement extension [IEA/CERT(2002)24]. The role of the Working Parties in supervising the Implementing Agreements was confirmed: they are tasked with making recommendations to the CERT on whether Implementing Agreements should be extended, based on a specified set of evaluation criteria.

The recent activities of the Agency's various Implementing Agreements are described in the 2003 publication, *Implementing Agreement Highlights*, which also gives information on their respective websites.

Section V.D., Country Reviews and Technology Reviews

The IEA Secretariat reported on "IEA Country Funding of Research and Development" at the October 1996 meeting of the Agency's Governing Board, expanding on initial conclusions that the Chairman of the Committee on Energy Research and Technology had presented at the Board's June meeting [IEA/GB(96)45]. The IEA long has collected national statistics on government spending for energy technology R&D; these are published in the Agency's annual *Energy Policies of IEA Countries*. Most governments do not collect detailed information on private sector energy technology R&D spending, however. To obtain a better understanding of that subject, IEA Member countries were asked to respond to several questions, and the Secretariat's Note summarised the data that was provided by the twelve countries that responded positively.

The Secretariat's Note advised that the data on total government investment showed the following trends:

- Over the past ten years, overall real levels of government investment in energy technology research and development seem to be declining in many countries. In some countries government support for energy R&D has declined very sharply.
- Since 1985, in real 1995 currencies, only energy conservation budgets have increased.
- Most energy R&D is conducted in only a few IEA Member countries: Canada, France, Germany, Italy, Japan, The Netherlands, Switzerland, the United Kingdom, and the United States. These nine countries account for about 96 per cent of total government energy technology R&D expenditures...

- overall government budgets relating to fossil and nuclear energy technologies have declined significantly in some countries, while recent support for renewable energy appears to be increasing....
- a shift in emphasis towards meeting shorter-term needs and away from support for longer-term technology options;
- in parallel with this trend, the tendency of increasing industrial competition and greater liberalisation in the utility industry to strongly encourage a shorter time perspective on private sector R&D.

These trends highlighted the need for greater collaboration, between national governments and between governments and the private sector, to foster longer-term energy technology R&D.

While high quality energy technology R&D information on private sector investments and priorities is difficult to come by, the Note concluded that, in general, longer term energy technology R&D investment by the private sector appears to be declining, partly, it was believed, under the influence of increasing worldwide market competition. These factors were cited:

- Current energy prices provide limited incentive for longer term energy R&D by private firms....
- It appears that the structure of energy technology R&D by private companies is undergoing change. Large corporations have been shifting the majority of their R&D resources away from central corporate laboratories (long believed to be the home of longer term industrial R&D) and into business unit laboratories (which are believed to be the locus of shorter term, product R&D)....
- The restructuring of the natural gas and electric utility industries in IEA Member countries may at least initially reduce the ability of these industries to fund longer term, pre-competitive energy R&D....
- Many analysts believe (in spite of the absence of substantiating data) that industry may be changing the composition of its energy R&D portfolio and shifting resources away from supply/production technologies and toward energy end-use technologies....

- Private sector firms performing energy R&D appear to be using co-operative mechanisms to offset some of the decline in overall industrial energy R&D funding and to ensure a proportion of projects continuing longer term R&D....

In discussing the Secretariat's Note, Governing Board delegates emphasised the potential benefit of analytical work on data that already is available, and discouraged the imposition of new data collection burdens. The Board asked the CERT to examine trends in government and private sector energy technology R&D and report back to the Governing Board in 1997 [IEA/GB/C((96)4, Item 7].

The CERT reported back on this subject at the December 1997 meeting of the Governing Board [IEA/GB(97)53]. Its findings were similar to the previous year's, but carried a tone of greater urgency:

- The continued erosion of energy science and technology budgets... has put at risk our ability to provide advanced technological solutions to climate change concerns....
- The trend toward shorter-term R&D is... affecting some government R&D budgets as governments... seek to partner more closely with industry....
- ...Ministers should be very cautious in their assumptions about the timely future availability of new, advanced, climate-friendly technologies... to meet their shared goals..., and... to meet possible future targets for reduction of greenhouse gas emissions from the energy sector....

Governments therefore should protect longer-term energy technology R&D, share information, and support R&D partnerships within and among countries.

The Governing Board, at its December 1997 meeting, agreed that the CERT's findings warranted serious consideration, and asked the CERT to provide in 1998 a more detailed report on the qualitative effects of recent changes in energy technology R&D expenditures, along with recommendations on how those effects should be addressed. [IEA/GB/C(97)5, Item 10].

The General Report ("Overview") within the Agency's 2002 edition of its annual publication, *Energy Policies of IEA Countries*, advises that government energy R&D budgets in IEA countries declined an average 1.7 per cent per annum in the 1990s, although they increased slightly after 1997; the most drastic decline was in coal research, while R&D budgets for energy conservation, renewables, power and storage increased. Recent trends in Member countries were described as follows:

Stronger awareness of sustainable development is the most important recent trend. However, in many instances the role of technology developments that enhance energy security also comes in for emphasis, so that technologies in efficiency, renewables, fuel cell, hydrogen, CO₂ sequestration and clean coal are becoming important. Enhancement of industrial competitiveness is being considered by a number of countries.

Other recent trends include understanding the importance of innovation, involvement of industries, universities, research institutes, and international co-operation [Page 96].

The most recent Questionnaire employed in the annual review process is Document IEA/SLT/CERT(2003)2, used for the 2003-2004 reviews. This document contained new questions, with respect to "overall [R&D] policy objectives", about the criteria and strategy in selecting energy research programmes (including the balance among long-term, medium-term and short-term objectives); the linkage between basic science and energy technology development; the methodology used to evaluate the performance of energy R&D programmes; and the results of that evaluation.

Apart from "survey" studies such as *Energy Policies of IEA Countries*, global analyses like that done on energy technology R&D spending in 1996, and input to the Agency's *World Energy Outlook*, the CERT's portfolio of specific energy technology and policy reviews is a broad one, indicative of the concept that there is no "single bullet" – no single technology – to achieve a sustainable energy economy. Support is given to a continuing diversity of energy systems, by both energy type and energy source, and with regard to country-dependency on a particular mix of fuels. For example, publications during 2002-2003 have dealt with a variety of subjects such as bus systems, nuclear reactor development, emissions technologies for fossil fuels, renewable energy, fusion power, international energy technology collaboration, and the creation of markets for energy technology.

The Agency's 2003 publication, *Creating Markets for Energy Technologies*, posits that market forces alone will not enable clean energy technologies to become the pillars of a sustainable energy system, and examines the design and implementation of policies that encourage the use of cleaner and more efficient energy technologies. The publication contains studies of 22 cases of successful government support programmes for the creation or expansion of markets for clean energy technologies, collectively representing an investment of more than 20 billion Euros. The 22 cases are

examined from the research, development and deployment perspective, to more fully understand the nature of the innovation and learning process; from the perspective of market barriers, to better deal with market failures; and from the market transformation perspective. The key messages to policy makers are to: (1) invest in niche markets and learning in order to improve technology cost and performance; (2) remove or reduce barriers to market development that are based on instances of market failure; and (3) use market transformation techniques that address shareholders' concerns in adopting new technologies and help to overcome market inertia that can unduly prolong the use of less effective technologies.

CHAPTER VI, THE INTERNATIONAL OIL MARKET: TRANSPARENCY AND INFORMATION DISSEMINATION

Section VI.A., Oil Market Information Policies

In Volume II of *The History*, this chapter is about oil markets only, and this section is about information policies only in the oil market arena. Certainly, the IEA's impressive efforts to promote the efficiency of the oil market through transparency and information dissemination deserve special attention. The Agency, however, also has promoted transparency and dissemination of information in the energy markets generally, and this section and Section VI.D. of the *Supplement to Volume II* will cover the IEA's energy market information policies and dissemination practices, rather than limiting themselves to the oil market.

At the May 1995 Meeting of the IEA Governing Board at Ministerial Level, IEA Ministers recognised the importance of information exchange in improving the functioning of the oil market and the mutual advantages of co-operation with non-Member oil producing countries. They encouraged co-operation and dialogue with energy market participants, particularly in relation to improving the efficiency of energy markets [IEA/GB(95)30/ANN].

In July 1995 the IEA and OPEC Secretariats began a series of visits to one another's headquarters, for the purpose of sharing professional expertise on the oil market and in particular on oil market statistics.

The Agency's "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49/REV1/ANN1] called for closer IEA co-operation with other international bodies in order to develop such mutually beneficial activities as exchange of data, information and analysis. This exhortation was retained when the Strategy was "rolled forward", in modified form, for the period 1999-2002 [IEA/GB(99)5/ANN1].

The Communiqué from the Agency's May 1997 Ministerial Meeting recognised that transparency and competition improve the functioning of energy markets through increased efficiency, and IEA Ministers stressed the need to strengthen dialogue and exchange of information with major non-IEA oil producing and consuming countries [IEA/GB/C(97)3/ANN].

The Energy Statistics Working Group (ESWG) participated in by the IEA, the European Commission and the UN Economic Commission for Europe, meets regularly at intervals of five or six years. In November 1999 the IEA Secretariat organised a meeting of the ESWG that convened more than 120 participants from OECD Member and non-Member countries. This was followed by a meeting on Harmonisation of Energy Statistics in which twelve international organisations or regional centres participated. The participants in those meetings reached two significant conclusions: that energy statistics need to be adapted to reflect the current energy market, and that there is a growing imbalance between the amount of statistics needed and the resources dedicated to their collection and dissemination.

The Secretariat carried these messages to the June 2000 meeting of the IEA Governing Board in a Note, "Energy Statistics: One Step Further..." [IEA/GB(2000)17]. The need for data on such issues as the liberalisation of energy markets (e.g., to monitor competition), energy efficiency, energy and the environment (e.g., to measure greenhouse gas inventories) and the development of renewable energy sources, as well as for greater co-operation with non-OECD countries and coverage of the oil market, was compelling the adaptation of statistical systems that were not always flexible enough to meet the need. At the same time, available resources had suffered reductions at both the national and international levels: the effects of budget costs and staff departures in OECD countries was being seen in deficiencies in the timeliness and quality of reporting, while several major international organisations including the United Nations had curtailed their statistical activities.

The IEA Secretariat, meanwhile, had been increasing its efforts to improve the quality and coverage of its statistics, by providing assistance to Member countries and establishing links with other international organisations, with the aims of increasing transparency in the world energy market generally and minimising volatility in oil prices. Much effort was being put into the dissemination and exchange of information. The Secretariat's statistical workload had dramatically increased over the previous few years, at a time when the supporting resources were being reduced. Unless the Governing Board was prepared to contemplate an increase in the regular Budget to accommodate this work, the Note advised, it would be necessary to seek voluntary contributions for certain specific projects.

In response, the Governing Board expressed concern about the "growing mismatch between energy data requirements and the resources available, nationally and internationally, to meet them", and "urged IEA Member

countries to take the necessary and appropriate measures to deal with this problem". There was general agreement among Delegations that, as statistics work is a core activity of the IEA, it should be adequately funded from the Agency's regular appropriations, rather than being dependent on voluntary contributions [IEA/GB/C(2000)3, Item 6].

Following a US-led initiative to discuss data problems at a conference in Madrid in July 2000, motivated by concern about the unusual volatility of oil prices, the IEA Secretariat brought together the five other key international organisations involved in oil statistics – OPEC, the European Community's Eurostat, APEC (Asia-Pacific Economic Cooperation), OLADE (the Latin American Energy Organization) and the United Nations (Statistics Division) – with the objective of achieving systematic global data improvement. This was the commencement of the "Joint Oil Data Exercise", which subsequently became known as the "Joint Oil Data Initiative" and then the "Oil Data Transparency Initiative".

In October 2000 the Governing Board met to discuss the state of the oil market, which was experiencing low stocks and regional imbalances in product stocks, particularly heating oil. A public statement released from that meeting [IEA/PRESS(00)14] noted that the Board had "reaffirmed the need for improved information, especially on oil production and crude and product stockholding worldwide, and commended IEA proposals to enhance market transparency." The Board "decided that, on an exceptional basis, the IEA Member country governments shall provide the IEA Secretariat with more disaggregated and more timely Monthly Oil Statistics data concerning heating oil and other petroleum products, in accordance with instructions to be provided by the Secretariat" [IEA/GB/C(2000)4, Item 1].

In November, representatives of the six organisations involved in the Joint Oil Data Exercise met in Paris, where experts identified a number of technical problems – involving methodology, definitions and units of account – on which officials of the organisations could act directly. Other issues, such as late or incomplete submissions, would require the involvement of national governments.

A third meeting of representatives of the six organisations took place in Bangkok in April of 2001, attended as well by representatives of 20 key oil producing and consuming countries. The participants discussed the causes of lack of transparency in oil markets and agreed on several common steps to extend and improve statistical coverage of oil issues. As a first concrete step, plans were produced for a six month exercise in co-operation among countries

and international organisations. At the IEA Governing Board's meeting later that month, the Secretariat appealed to IEA Member countries to participate in the follow-up data reporting exercise, and to provide the Secretariat with additional oil data for six months, in accordance with instructions to be provided by the Secretariat [IEA/GB/C(2001)2, Item 7(a)].

By the time of the IEA's May 2001 Meeting of the Governing Board at Ministerial Level, Ministers were able to welcome a constructive and improved dialogue between producers and consumers. Ministers called for early action to create greater transparency in world energy markets, especially the oil market, and expressed their support for the Secretariat's initiative to improve the quality, availability and reliability of data supplied by nations and by international organisations. [IEA/GB/C(2001)3/ANN1].

In September 2001 the IEA, jointly with the World Energy Council (WEC) and with the participation of a number of other organisations, launched an initiative to promote the creation of an African Energy Information System. The Agency and the WEC proposed to start collecting basic statistics through a questionnaire, in order to both feed an electronic database and permit evaluation of the problems African nations experienced in submitting basic energy data [IEA/NMC/M(2002)1; IEA/NMC/M(2002)2].

The Secretariat reported to the December 2001 meeting of the Governing Board on the status of its initiative to create greater transparency in world energy markets [IEA/GB(2001)43]. A meeting to evaluate the initial six month trial period of the exercise, held in Riyadh in October, had produced a very favourable result. Many OECD non-Member countries had joined the exercise, including China and Russia, but it remained to bring important energy players on board. Since the initiative responded well to the universal recognition, expressed at the Seventh International Energy Forum in Riyadh in November 2000, of the need for more transparency in the oil market, participants had agreed that a report on it should be made to the Eighth International Energy Forum scheduled to be held in Osaka in September 2003. The Governing Board, welcoming the progress that had been made, asked Member countries to continue their participation in the exercise until September 2002, invited further voluntary contributions to finance the work, and agreed to encourage the organisers of the Eighth International Energy Forum to provide for a discussion of the exercise [IEA/GB/C(2001)5, Item 4(b)].

The Secretariat again reported on the data initiative at the June 2002 meeting of the Governing Board [IEA/GB(2002)17]. A second evaluation meeting in Mexico during May had been attended by thirty countries and nine major oil

companies. As of the end of May, seventy countries representing 91 per cent of global oil production and 93 per cent of global oil consumption had submitted oil questionnaires to their respective organisations, although there was considerable variation in the timeliness and completeness of data. Progress had been made in improving the quality, coverage and timeliness of data, and in strengthening links between administrations and industry, but much remained to be done to induce greater co-operation by the oil industry, which is a major data user and potentially the major data provider.

The participants had agreed to extend the data exercise to March 2003, and had expressed a wish to see it become a permanent feature for all organisations as soon as possible, hopefully at the Osaka IEF meeting. The IEA Secretariat's Note recommended investing the IEF Secretariat with responsibility for co-ordinating the joint data reporting, but with the six participating international organisations retaining the data collection function. The Governing Board accepted this recommendation. Welcoming the progress made in the "Joint Oil Data Exercise", it:

- (iii) asked Member states to agree in principle to make a permanent reporting commitment based on this exercise;
- (iv) asked Member states to commit to make their best efforts to meet the required standards in their monthly submissions;
- (v) thanked those Member states which have provided voluntary financial support to fund the IEA Secretariat's costs in the exercise in 2001 and 2002;
- (vi) noted that the present decision amounts to a commitment, subject to adoption of a detailed Programme of Work, to provide the necessary financial resources to sustain the Secretariat's commitment to this process during 2003;
- (vii) authorised the Secretariat to release a selection of monthly JODE data; and
- (viii) agreed to support the effort to make this exercise a world-wide sustained initiative at the 8th International Energy Forum [IEA/GB/C(2002)2, Item 3].

Participants at the Eighth International Energy Forum in September 2002 agreed to support in principle the establishment of a permanent Secretariat for the IEF, to be based in Riyadh, and agreed to make the "Joint Oil Data Exercise"

a permanent reporting exercise, and to consider how it can be supported in the longer term. Ministers at the IEF spoke enthusiastically about the success of the JODE, and pledged to work hard to improve the quality and timeliness of their countries' data. [See IEA/GB(2002)28].

At its December 2002 meeting the Governing Board received an update by the Secretariat on the redenominated "Oil Data Transparency Initiative" [IEA/GB(2002)40]. The Note described progress within the participating international organisations toward making the reporting mechanism permanent and in meeting the required standards. The objectives now were to sustain and increase the level of participation, improve the quality and timeliness of the data, and increase data dissemination. The Governing Board welcomed the progress made, but noted the need for additional financial resources to support this activity through 2003. It also acknowledged a report on the first official visit by the Executive Director to the headquarters of OPEC, which occurred in November [IEA/GB/C(2002)4, Item 5(b)].

As of late 2003, some eighty countries had participated in the Oil Data Transparency Exercise. Many issues related to the quality, timeliness and sustainability of data reporting remained to be resolved, however, before full use can be made of the data. Further progress is to be reported at the Ninth International Energy Forum in Amsterdam in May 2004.

Section VI.D., Dissemination of Oil Market Information

In 1996 the IEA initiated its Monthly Oil Data Service (MODS) to complement the Agency's monthly *Oil Market Report*. This electronic data service, accessible through the Internet, which replaced a previous diskette system, is updated each month to provide the detailed data and forecasts that underlie the *OMR*'s summaries of supply, demand and stocks for OECD countries.

In 2002 the Secretariat initiated a new annual publication, *Renewables Information*, which had its genesis in a questionnaire created by the Energy Statistics Working Group in late 1999, to follow the development of renewables in OECD countries. As discussed in Section IV.D.3. above, an IEA Fact Sheet prepared in the aftermath of the 2002 Johannesburg World Summit on Sustainable Development helped lay the groundwork for the new data series. This series differs from other statistical efforts in that there are no central sources of data on the decentralised and distributed energy generated by renewables, so that a special effort is needed to collect data, for example, for the thousands of photovoltaic rooftop installations, for biomass use, for waste recycling efforts, etc.

The Agency's monthly *Oil Market Report* has continued to be an authoritative and widely followed source of information about and analysis of the oil market. The *OMR* has focused on the relationships among low stock levels, prices, backwardation and market volatility. It has examined the driving forces behind the move to lower industry stock holdings (policy objectives of OPEC, financial restructuring and constraints of industry) and the increased potential for supply disruptions in the wake of lower stock holdings. A frequent theme of the *OMR* in recent years has been that persistently low commercial oil inventories contribute to high price volatility, particularly on the up-side.

The *OMR*'s general format remains much as described in this section of Volume II of *The History*, but since the beginning of 2003 the bulk of the Report has been transmitted electronically, which puts its time-sensitive information into the hands of readers more quickly. The Agency recently instituted a website for the *OMR*, which includes about 3,000 webpages of charts and graphs and disaggregated information not present in the regularly published edition; information on the website is available instantly and without charge to subscribers, and on a two week delayed basis to non-subscribers.

CHAPTER VII, CO-OPERATION WITH NON-MEMBER COUNTRIES: THE GLOBAL PERSPECTIVE

Section VII.A., Non-Member Policy Arrangements

Section VII.A.2., Information Exchange Among Members

The Committee on non-Member Countries (CNMC) has continued to serve as the IEA's central forum for the exchange of information about non-Member countries. As the Agency's *World Energy Outlook* shows, the non-OECD world's share of energy consumption, and of the emission of greenhouse gases, is growing steadily, particularly in Asia; this has increased greatly the number of issues needing the attention of the CNMC, which typically meets three times each year.

Many of the IEA's activities involving non-Member countries are the primary responsibilities of Secretariat Directorates other than the Office of non-Member Countries, and are reviewed by the pertinent Standing Groups and Committees. Nonetheless, these "cross-cutting" activities also are reviewed in the CNMC, giving that Committee an extremely broad scope in terms of subject matter, in addition to the Committee's inherent geographic breadth.

While the CNMC has continued its historical practice of addressing oil producer and consumer issues, with a focus on the Middle East, over the past decade there has been a discernible concentration of attention on the three energy giants with which the Agency has arrived at special policy co-operation agreements: the Russian Federation (1994), the Peoples Republic of China (1996) and India (1998).

In 1995 the CNMC reviewed a draft of the *Energy Policies of the Russian Federation*, prepared by an IEA survey team [IEA/NMC/M(95)2], subsequent to which the Executive Director visited Moscow to present the survey; it was well received, despite some disagreement such as on recommendations with regard to the management of export routes and prices, and promptly was followed up with work on Russian energy efficiency and efforts to improve the exchange of data in the oil sector.

In April of 1998 a G8 Ministerial Energy Meeting was held in Moscow, in advance of the Heads of State Summit at Birmingham, England, precipitated

by a Russian request at the Denver Summit that an opportunity be provided to discuss the Russian energy sector. The IEA was invited to present a paper on the oil market, and also assisted the Energy Charter Secretariat in writing a paper on investment. The preparations and the results of the meeting were reviewed in the CNMC [See IEA/NMC/M(98)2].

Various Russia-centred projects, workshops and seminars ensued. In 2001, the IEA completed a second energy policy review of the Russian Federation [See IEA/NMC/M(2001)1], which became the basis for the Agency's 2002 *Russia Energy Survey*. The Secretariat reported to the March 2002 CNMC meeting on the Executive Director's presentation of the new survey in Moscow, stating that the Russian Energy Minister wished to enhance co-operation with the IEA [IEA/NMC/M(2002)1].

In March 2003 the IEA and Russia's Ministry of Energy signed a document entitled, "Joint Measures for Co-operation during 2003-2005", setting out a joint work programme [Copy in files of the IEA Office of Legal Counsel]. The June 2003 meeting of the CNMC discussed an IEA study of renewable energy opportunities in Russia, and heard a report on the Russian Energy Ministry's increasing interest in the IEA, and on the interest of the Minister in Russia's joining the Agency [IEA/NMC/M(2003)1].

A prioritisation exercise conducted within the CNMC around the start of 1996 showed that China was a top priority of Delegations. At the April 1996 meeting of the CNMC, the Secretariat briefed the Committee on progress that was being made toward a policy co-operation agreement with China, and the Committee gave the Secretariat a green light to propose a conference on energy efficiency and related technologies [IEA/NMC/M(96)1], which in fact was conducted. Following signature of the agreement, the CNMC reviewed the planned joint programme of work between the IEA and the Chinese Government [IEA/NMC/M(97)1].

The Agency's energy work with respect to China has expanded progressively since that agreement was signed, and has been a regular subject of discussion in the CNMC. The subject matter has been varied, including an analysis of China's natural gas market, workshops on emergency oil stock issues and appliance energy standards, labelling and standby power reduction, a seminar on oil emergency response, a collaborative exploration of the IEA's Implementing Agreements, and work on clean coal technology deployment. Relevant IEA publications have included *Coal in the Energy Supply of China* (1999), *China's Worldwide Quest for Energy Security* (2000) and *Developing China's Natural Gas Market* (2002).

The Secretariat reported to the October 1996 meeting of the CNMC on preparations for the Executive Director's planned visit to India in December, noting the desirability of institutionalising the IEA's relationship with that country [IEA/NMC/M(96)3]. The first joint activity, following execution of the IEA-India policy co-operation agreement in 1998, was a workshop on data requirements for energy policy, which led to new projects for the IEA's Programme of Work [IEA/NMC/M(99)2]. Meanwhile, the IEA prepared a comprehensive study on market development and energy pricing in India [IEA/NMC/M(99)3]. The Agency also has undertaken, and reported to the CNMC on, a workshop on policies to accelerate renewable energy market deployment and a project on indicators of energy use [IEA/NMC/M(2000)3/REV1], as well as a sectoral review of India's power market development [IEA/NMC/M(2001)2], a report on electricity market development in India [IEA/NMC/C(2002)1], and a conference on coal and electricity [IEA/NMC/M(2002)3]. The Agency's publications concerning Indian energy include *Electricity in India* (2002) and *Coal in the Energy Supply of India* (2002).

At the February 2003 meeting of the CNMC, the Secretariat provided an update on the Agency's India programme. It noted that since India was not part of any relevant multilateral framework, the IEA's India programme was of special importance in light of that country's pursuit of energy market reform. Upcoming initiatives were a conference on oil stocks and emergency response measures, an analysis of the development of gas to replace coal, a conference on power and coal, and an energy efficiency conference on standards and labels [IEA/NMC/M(2003)1].

Section VII.C., Policies and Actions Concerning Developing Countries

A great many of the IEA's activities concern developing countries. As pointed out in this section of Volume II of *The History*, however, the Agency's policies and actions with respect to developing countries have evolved in a global context, and therefore are discussed in that context.

Section VII.D., Globalisation of IEA Policies and Actions

At the 1995 Meeting of the Agency's Governing Board at Ministerial Level, IEA Ministers in their Communiqué observed that growing economic interdependence makes IEA relations with non-Member countries in all parts of the world of "essential importance." They welcomed, in particular, closer co-operation with the Russian Federation, and underscored the need for close co-

operation between the Agency and the Energy Charter Conference, in which are represented the Contracting Parties to the Energy Charter Treaty, including most of the Member countries of the IEA. In looking forward to increased co-operation with candidates for IEA membership, they also "asked the Secretariat to examine possible new forms of co-operation with other non-Member countries and organisations" [IEA/GB(95)30/ANN].

In late 1996 the IEA entered into a policy co-operation agreement with the State Planning Commission (later renamed the State Development and Planning Commission) of the Peoples Republic of China [See IEA/GB(96)43 and IEA/GB/C(96)4, Item 6].

The "Medium-Term Strategy: 1997-2000" [IEA/GB(96)49/REV1/ANN1], which the IEA Governing Board adopted in December 1996 [IEA/GB/C(96)5, Item 2], noted the findings of the Agency's then most recent *World Energy Outlook* that a structural shift was transpiring in the energy demand shares of different regions of the world, with OECD non-Member country primary energy consumption (especially in the Asia-Pacific) surging from 28 per cent to 40 per cent by 2010, the rise in demand being increasingly met by commercial energy. Potential demand growth in the transport sector posed special problems, and electricity requirements would grow fast. Increasing economic and fiscal strains in major oil producing countries had led to more pragmatism in economic policies and oil sector policy, including the opening up of new investment opportunities in Venezuela, Qatar and Kuwait. The countries of the former Soviet Union were making slow but steady progress toward market based energy policies and strategies.

Against this background, the Governing Board set the following objectives for the IEA in the "Medium-Term Strategy":

- The Agency welcomes membership applications from eligible countries that are willing and able to meet the requirements of the I.E.P. Agreement and the Shared Goals. The IEA should continue to help applicant countries prepare for membership through policy analysis and recommendations and by making them aware of IEA Member countries' rights and obligations.
- The Agency should maintain, in accordance with the Guidelines for non-Member Country Relations approved by the Governing Board, a balanced and selective approach in its relations with non-Member countries, tailoring relations with individual non-Member countries to the prevailing circumstances and ensuring that such contacts further IEA objectives.

- The IEA should seek to develop a level of understanding with major energy consuming non-Member countries regarding co-operation in energy supply/demand and security issues. In particular, it should:
 - enhance co-operation with Russia under the Joint Declaration signed in July 1994 and build on subsequent co-operative activities;
 - build on the Executive Director's missions to China and India to develop co-operative activities with those countries;
 - strive through its co-operation with oil-consuming non-Member countries to encourage their development and maintenance of strategic oil stocks;
 - enhance the energy-related environmental dimension of IEA co-operation with non-Member countries.
- The IEA can achieve a substantial multiplier effect by co-operating with regional groups such as the Asia-Pacific Economic Cooperation (APEC), the Black Sea Economic Cooperation Council (BSSECC) and the Latin American Energy Organization (OLADE). It should develop these relationships at a pace acceptable to the bodies concerned, and consistent with the Agency's overall priorities and resources, promoting the concepts that underlie the Agency's Shared Goals while recognising that diverse circumstances do not lend themselves to a standard solution.
- Closer co-operation with other international bodies such as the World Bank, EBRD, ADB, etc., should be maintained to avoid duplication and to develop mutually beneficial activities (including exchange of data, information and analysis).
- Although general investment and trade issues are not the responsibility of the IEA, the Agency should interact with the lead organisations in these fields in order to ensure that energy needs and experience are taken into account.
- The IEA has hosted three meetings of energy experts to foster understanding among energy exporting and energy importing countries. A fourth meeting is planned for Spring 1997. This dialogue should be sustained and further developed, possibly adopting new forms of co-operation now that the initial confidence-building phase has been completed.

- Country reviews of IEA non-Member countries have proven a successful vehicle to share the policy experience of IEA Member countries and to promote the IEA's Shared Goals. Because some of these countries are in the process of becoming Members of the IEA, non-Member country reviews can be reduced. Regional studies can provide Member countries with useful information. A number of non-Member countries are now seeking assistance in the policy implementation phase, particularly with respect to regulation of grid-based fuels. These activities should be maintained within the limits set by the Board's broad allocation of Agency resources.

In 1997 the IEA entered into a policy co-operation agreement with India [See IEA/GB(97)15 and IEA/GB/C(97)2, Item 7], thereby completing the last of the three such agreements that the IEA now has with non-Member countries that are seen as being of special importance as energy consumers or producers [See Section IV.A.6. of the *Supplement to Volume I*]. These were supplemented in 2001 and 2003 respectively by IEA agreements with China's Ministry of Science and Technology (approved by China's State Planning Commission) and with Russia's Ministry of Energy [Files of the IEA Office of Legal Counsel].

At the Agency's 1997 meeting at Ministerial Level, Ministers requested that "relations with countries of major importance for energy markets, especially China, India and Russia, be strengthened within the limits of the available resources" [IEA/GB/C(97)3/ANN, paragraph 13].

By February 1999 when the Agency's "Medium-Term Strategy" was reviewed, modified and "rolled forward" for the four year period, 1999-2002 [IEA/GB/C(99)1, Item 5; IEA/GB(99)5/ANN1], the *World Energy Outlook* perspective on the shift in energy demand toward the non-OECD world had become even more extreme. That part of the world was expected to account for 75 per cent of the increase in world energy demand from 1995 to 2020, with its share of world primary energy supply growing from just over 50 per cent in 1995 to just under 60 per cent in 2020. The background of demand growth in the transport sector, fast growing electricity requirements, and improved policies in major oil producing countries was unchanged. In the former Soviet Union countries, however, the Agency felt that despite some significant structural transformation, most FSU countries were making only sporadic progress toward market based energy policies and strategies.

Minimal changes were made in the Strategy's description of the Agency's objectives in its relations with non-Member countries. By now, policy co-operation agreements had been signed with China and India, as well as Russia,

and the IEA would seek to enhance co-operation under all three of those agreements. The World Energy Council was added to the list of international bodies with which closer co-operation should be maintained. And the Strategy noted that the Agency now had hosted four Energy Experts meetings, with a fifth meeting scheduled for spring 1999.

At their 1999 Ministerial Level Meeting, IEA Ministers supported "widening and deepening" the Agency's relations with non-Member countries, "in some cases by bringing them into IEA Membership" [IEA/GB/C(99)3/ANN1].

In February of 2003 the Governing Board, noting Russian interest in IEA membership, agreed that such membership should be addressed when Russia has been accepted as a Member of the OECD, and asked the Secretariat to begin discussions with Russian counterparts on the establishment of an IEA/Russia "Co-ordination Committee" that would focus on the implementation of reforms in Russia's energy sector to meet the IEA Shared Goals [IEA/GB/C(2002)2, Item 4].

Meeting at Ministerial Level in April 2003, the Governing Board warmly welcomed the participation of the Russian Energy Minister in the meeting, and promised to engage Russia and other key countries more actively in their dialogue on energy policy. Ministers directed the Secretariat to reinforce a world-view in its work [IEA/GB/C(2003)4, Item (iii) and Annex 1].

IEA energy policy reviews of non-Member countries published since 1994 have included those on Poland (1995), Russia (1995 and 2002), the Slovak Republic (1997), South Africa (1996) and Ukraine (1996).

Section VII.E., Producer and Consumer Relations: New Ministerial Conferences and IEA Meetings of Experts (Beginning in 1991)

The third IEA technical level Meeting of Experts, held in Paris in April of 1995, drew participants from some 50 energy exporting and importing nations, 16 international and regional organisations and more than 30 companies and exchanges. The meeting was reviewed favourably in the Committee on non-Member Countries, which endorsed the holding of a fourth such meeting.

The Gulf Co-operation Council (GCC) had offered to co-host the fourth meeting, and the Committee encouraged the Secretariat to proceed prudently with the negotiation of such an arrangement. [IEA/NMC/M(95)2]. The negotiations were successful, leading to the scheduling of the Experts Meeting in Doha, Qatar, for May 1997, co-hosted by the GCC and the Government of Qatar – the first meeting in this series to be held outside of Paris. Two special sessions of the meeting focused on the Middle East and Asia.

Continuing the series of Experts Meetings was seen as especially important in light of adoption of the Kyoto Protocol and, as well, the decline in oil prices that had been experienced starting in late 1997. A fifth Experts Meeting was held in Paris on 2-3 December 1999. Delegates to the non-Member Countries Committee considered it to have made a useful contribution to the next Ministerial Level Producer-Consumer Meeting, planned to be held in Riyadh on 17-19 November 2000 [IEA/NMC/M(2000)1].

The October 2000 meeting of the Committee on non-Member Countries held a discussion of the Producer-Consumer Dialogue, strongly supporting the Dialogue and expressing a wish for greater focus on market transparency and the exchange of timely and reliable data on production, investment, stocks and demand. Delegations agreed that it was necessary to "increase the profile" of the Dialogue, but there was agreement that issues such as energy taxation and subsidies, "adequate" production levels, "fair" pricing or price band mechanisms, producer country debt or possible compensation in connection with climate change reduction goals would not be suitable subjects for discussion [IEA/NMC/M(2000)3/REV1].

The next Ministerial Level Producer-Consumer meeting, now known as the "Seventh International Energy Forum", saw an initiative by the Crown Prince of Saudi Arabia to establish a Permanent Secretariat for the IEF, in order to promote a sustained dialogue between oil and gas producing and consuming states. This Secretariat's main role would be to provide organisational and logistical support to future IEF meetings, as well as to act as a conduit for the exchange of data and other information. Participants reacted favourably to this initiative but requested a more detailed proposal, leading to subsequent Saudi consultations aimed at achieving some form of consensus in support of the proposal prior to the next IEF [IEA/GB(2002)18].

The sixth and most recent technical-level Energy Experts Meeting was held in Abu Dhabi, United Arab Emirates, on 21-22 January 2002, co-hosted by the GCC and the UAE Ministry of Petroleum. It was attended by some 130 participants including representatives from governments, international and regional organisations and selected companies. The off-the-record meeting discussed the future evolution of energy markets, the increasing role of natural gas in a globalised energy scene, and the conditions that will shape the investment needed to meet the increasing demands on the world's petroleum sector. The IEA Secretariat made formal presentations on the *World Energy Outlook*, the Joint Oil Data Exercise, the level and importance of oil stocks and the global role of natural gas, and provided the chair for a session on producer-consumer relations [IEA/NMC/(2002)2; IEA/NMC/M(2002)1].

The Eighth International Energy Forum, co-hosted by Japan, Italy and the UAE, was held in Osaka, Japan, on 21–23 September 2002, with a total of 65 countries (of which 34 were represented by Ministers) and ten international organisations in attendance. The formal topics for discussion were "World Energy Situation and Outlook", "Facilitating Investment in the Energy Sector", "The Interaction Between Energy Security, Environmental Issues and Economic Growth (the 3 E's)", and "The Way Forward for the IEF in Addressing International Energy Issues". This final topic opened to a decision on the Saudi proposal to establish a Permanent Secretariat for the IEF, and the participants collectively endorsed the proposal. They agreed in principle with a mission and general framework for the Secretariat, the aim of which is to "co-ordinate the activities of the IEF, maintain the informality of the dialogue and facilitate the channels of communication between oil and gas producers and consumers" [See IEA/GB(2002)28/ANN3].

The Committee on non-Member Countries again reviewed the Producer-Consumer Dialogue at its October 2002 meeting. In response to the Secretariat's question whether IEA countries now were prepared to address the more difficult issues such as production controls, administered pricing, "appropriate" oil prices and fuel taxation policy, several Delegations expressed the view that solutions to the issues were difficult to arrive at, but welcomed an opportunity to explore these issues at the Seventh Energy Experts Meeting, when a new format involving smaller breakout groups would be used in an effort to deepen the dialogue [IEA/NMC/M(2000)2].

Later in October the IEA Governing Board took a decision approving the participation of the IEA Secretariat on the Executive Board of the Permanent Secretariat for the International Energy Forum [IEA/GB/C(2002)3, Item 5(b)].

An important aspect of the work in which the new Permanent Secretariat will participate is the "Oil Data Transparency Initiative" (formerly known as the "Joint Oil Data Initiative", which in turn was preceded by the moniker "Joint Oil Data Exercise"). The Initiative had its origins in IEA Member country concerns, in 2000, about the unusually high volatility of oil prices, which both producer and consumer country representatives attributed to a lack of transparency in the oil market. To address this problem the IEA launched a collaborative process, aimed at systematic improvement of oil market statistics, with five other international organisations – OPEC, the European Community's Eurostat, APEC (Asia-Pacific Economic Cooperation), OLADE (the Latin American Energy Organization) and the United Nations (Statistics Division) – that subsequently drew in participants from national governments and oil companies. The Initiative proved so successful that the sponsoring

organisations decided to make it permanent, and to put the new Permanent Secretariat in the role of its co-ordinator. Accordingly, the IEA Governing Board at its June 2002 meeting "asked Member states to agree in principle to make [the Initiative] a permanent reporting commitment" and "to commit to make their best efforts to meet the required standards in their monthly submissions" [IEA/GB/C(2002)2, Item 3(b)]. (The Data Initiative is discussed in more detail in Section VI.A. above).

The growing collaboration between oil producers and oil consumers over issues of common interest is a prominent theme throughout this *Supplement to Volume II*, appearing most notably in the discussions at the introduction to Chapter III and in Section VI.A., as well as in this section. Three recent events symbolise the extent of the evolution in producer-consumer relations.

In September 2002 the IEA Executive Director and the Secretary-General of OPEC gave their first-ever joint press conference following their appearance together at the World Petroleum Congress in Rio de Janeiro, Brazil; in a press release [IEA/PRESS(02)21], the IEA stressed the views shared by the two organisations. In November of 2002, the Executive Director paid his first official visit to OPEC Headquarters. His successor did the same in February 2003, and this was followed by a visit of the OPEC Secretary-General to the IEA premises. Then, in June 2003, the IEA and OPEC held their first joint event, a workshop on oil investment prospects, which generated valuable information for the IEA's *World Energy Investment Outlook* discussed in Section IV.D.7. above.

At their April 2003 meeting, IEA Ministers looked forward to the Ninth IEF, to be held in Amsterdam in 2004, and pledged their active support for greater co-operation between consumers and producers [IEA/GB/C(2003)4, Item (iii) and Annex 1].

The Seventh Experts Meeting is scheduled to be held in Thailand in February 2004, co-hosted by the Thai Government. The meeting, which will focus primarily on investment and security of supply issues, is to be held in Thailand in order to ensure ample Asian participation and encourage the addressing of regional questions [IEA/NMC/M(2003)1].

Section VII.F., The IEA Review of Relations with Non-Members 1992-1994

Section VII.F. of Volume II of *The History* discusses the amendments to the Guidelines for non-Member Country Relations, which the Governing Board adopted in December of 1994. Further detail on these amendments can be found in Section IV.D.2. of the *Supplement to Volume I*.

At its April 1995 meeting the Governing Board authorised the Executive Director to apply "flexibly" the practice of inviting candidates for IEA membership to meetings of Standing Groups and Committees [IEA/GB(95)18, Item 6]. The intent was to avoid situations in which an applicant for IEA membership might indefinitely enjoy the benefits of membership without completing the accession process. To this end, the candidate countries initially would be invited to only one "set" of IEA Standing Group and Committee meetings; this set of initial meetings was held in the autumn of 1995.

The Governing Board revisited the issue of invitations to candidate countries at its February 1996 meeting. A Secretariat Note for that meeting [IEA/GB(96)7] said that the initial experience in applying the Board's guidance had been favourable from the standpoints of both the Agency and the candidate countries, but proposed the following supplementary guidelines for attendance at IEA meetings:

- Invitations to attend specified Standing Group and Committee meetings can be issued by the respective Chairmen when the Chairmen, in consultation with delegates, believe it would benefit the work of the Standing Group or Committee.
- Each invitation should be limited in its scope rather than blanket in nature; it should identify the particular meeting or meetings to which the invitation applies, and avoid creating an expectation that future invitations will be forthcoming;
- In meetings attended by NMC participants, Chairmen have the right to reserve particular agenda items for discussion among Member countries only.

There would be no change in the existing guidelines for participation in IEA activities by countries that are not active candidates for IEA membership. The Governing Board accepted the Secretariat's proposals [IEA/GB(96)13, Item 7].

Changes in the IEA's provisions governing NMC participation in R&D Implementing Agreements sponsored by the Agency are discussed in Section V.C.2. above.

In 1999 the Governing Board took note of Mexico's decision not to become a Member of the IEA [IEA/GB/C(99)2, Item 5(b)]. Mexico sought instead a special status in the IEA, involving closer affiliation short of membership but, thus far, mutually satisfactory terms for such a relationship have not been identified.

APPENDIX TO SUPPLEMENT II

APPENDIX I, ACTIVE IMPLEMENTING AGREEMENTS AS OF 31 DECEMBER 2003 AND THEIR WEBSITES

FOSSIL FUELS

IEA Clean Coal Centre.....	http://www.iea-coal.org.uk
Clean Coal Science	http://iea-ccs.fossil.energy.gov
Enhanced Recovery of Oil	http://spider.iea.org/eor
Fluidised Bed Conversion	http://spider.iea.org/tech/fbc
Fossil Fuel Multiphase Flow Sciences.....	http://www.etsu.com/ieampf
IEA Greenhouse Gas R&D Programme	http://www.ieagreen.org.uk

RENEWABLES

Bioenergy	http://www.ieabioenergy.com
Geothermal Energy Research Technology	http://spider.iea.org/tech/gia/index.htm
Hydropower Technologies and Programmes	http://www.ieahydro.org
Ocean Energy Systems	http://www.iea-oceans.org
Photovoltaic Power System (PVPS)	http://www.iea-pvps.org
Production and Utilization of Hydrogen	http://www.eere.energy.gov/hydrogenandfuelcells/hydrogen/iea
Solar Heating and Cooling Systems.....	http://www.iea-shc.org
Solar Power and Chemical Energy Systems (SolarPACES)	http://www.solarpaces.org
Wind Turbine Systems.....	http://www.ieawind.org

ENERGY END-USE – TRANSPORTATION

Advanced Fuel Cells.....	http://www.ieafuelcell.com
Advanced Materials for Transportation Applications	transportinfo@iea.org
Advanced Motor Fuels	http://www.iea-amf.vtt.fi
Hybrid and Electric Vehicle Technologies and Programmes.....	http://www.ieahev.org

ENERGY END-USE – INDUSTRY

Energy Conservation and Emissions Reduction in Combustion.....	http://www.im.na.cnr.it/IEA
Energy Conservation in Heat Transfer and Heat Exchangers.....	http://spider.iea.org/heatex/index.htm
High-Temperature Superconductivity on the Electric Power Sector.....	http://spider.iea.org/tech/scond/scond.htm
Process Integration Technologies	http://www.iea-pi.org
Technologies for the Pulp and Paper Industry.....	http://www.ieapap.com

SUPPLEMENT TO VOLUME THREE



APPENDICES TO SUPPLEMENT III

APPENDIX I, OFFICERS OF THE GOVERNING BOARD AT MINISTERIAL AND OFFICIAL LEVEL, STANDING GROUPS AND COMMITTEES, AND SENIOR MEMBERS OF THE IEA SECRETARIAT

(Updates Volume III, Appendix I from 1995 to 31 December 2003)¹

Name	Country	Meeting	Dates of Service
GOVERNING BOARD AT MINISTERIAL LEVEL			
Chairmen			
Mr. B. Wilson	United Kingdom	186 th	28-29 Apr. 2003
Mr. C. Pierret	France	175 th	16 May 2001
Mr. R. Goodale	Canada	164 th	24-25 May 1999
Mr. G. J. Wijers	The Netherlands	155 th	23 May 1997
Mr. S. Auken	Denmark	Informal	15-16 June 1996
Ms. H. R. O'Leary	United States	143 rd	22 May 1995

Name	Country	Dates of Service
GOVERNING BOARD AT OFFICIAL LEVEL		
Chairmen		
Mr. D. Maillard	France	Apr. 2002 - 31 Dec. 2003
Mr. A. Walther	Norway	Sept. 2000 - Apr. 2002
Mr. F. Sonck	Belgium	Apr. 1999 - Aug. 2000
Mr. C. Mandil	France	Nov. 1997 - Apr. 1999
Mr. E. Becker	Germany	Feb. 1995 - Nov. 1997
Vice-Chairmen		
Amb. S. Noboru	Japan	Oct. 2002 - Present
Ms. V. Bailey	United States	Jan. 2002 - Present
Amb. F. Olivieri	Italy	Jan. 2002 - Present
Mr. M. Nishimura	Japan	Dec. 1999 - Dec. 2002
Mr. P. Bass	United States	Jun. 1999 - Dec. 2000
Amb. A. Vattani	Italy	Mar. 1998 - Dec. 2001
Amb. Y. Nogami	Japan	Mar. 1998 - Dec. 1999
Mr. D. Jhirad	United States	Mar. 1996 - June 1999
Mr. M. Takahashi	Japan	Oct. 1996 - Mar. 1998
Ms. A. Blefari-Schneider	Italy	Oct. 1995 - Mar. 1998
Mr. A. Puri Purini	Italy	Oct. 1994 - Mar. 1997
Mr. C. Henderson	United Kingdom	Jun. 1994 - Mar. 1997
Mrs. S. Fallows Tierny	United States	Oct. 1993 - Feb. 1996

¹ The Officers of the Governing Board and other IEA bodies as well as Senior Members of the Secretariat for the years 1975-1995 can be found in Volume III, Appendix I, of *The History*.

Name	Country	Dates of Service
STANDING GROUP ON EMERGENCY QUESTIONS (SEQ)		
Chairmen		
Mr. D. Houssin	France	Feb. 2001 - Present
Mr. P. Scholten	Netherlands	Mar. 1999 - Feb. 2001
Mr. U. Boge	Germany	Mar. 1996 - Mar. 1999
Mr. L. Knegt	The Netherlands	Apr. 1995 - Mar. 1996
Mr. H.E. Leyser	Germany	Jan. 1992 - Apr. 1995
Vice-Chairmen		
Mr. K. Johanssen	Germany	Oct. 1999 - Present
Mr. J. Hart	United States	Feb. 1994 - Present

Name	Country	Dates of Service
STANDING GROUP ON LONG-TERM CO-OPERATION (SLT)		
Chairmen		
Mrs. A. Borg	United States	Jan. 2001 - 31 Dec 2003
Mr. D. Jhirad	United States	June 1998 - Dec. 2000
Mr. W. Ramsay	United States	Mar. 1996 - June 1998
Mr. S. Donnelly	United States	Oct. 1994 - Mar. 1996
Vice-Chairmen		
Mr. Y. Tanabe	Japan	Jan. 2003 - Present
Mr. H. Brouwer	The Netherlands	Oct. 2001 - Present
Mr. K. Kobayashi	Japan	Feb. 2001 - Dec. 2002
Mr. G. Koutzoukos	Greece	Dec. 1999 - Feb. 2001
Mrs. L. Dawson	United Kingdom	Mar. 1998 - Dec. 2002
Mr. M. Mishiro	Japan	Mar. 1998 - Mar. 2001
Amb. S. Lioukas	Greece	May 1997 - Mar. 1999
Mr. Y. Sumi	Japan	Jun. 1996 - Mar. 1998
Mr. K. Kimura	Japan	Jun. 1995 - Mar. 1997
Mr. J. Kekkonen	Finland	Jun. 1995 - Mar. 1997
Mr. H. Sakei	Japan	Oct. 1993 - Mar. 1996
Mr. P. Gerresch	Belgium	Mar. 1989 - Mar. 1996

Name	Country	Dates of Service
STANDING GROUP ON THE OIL MARKET (SOM)		
Chairmen		
Ms. M. Engebretsen	Norway	Oct. 2003 - Present
Vacant		Nov. 2002 - Oct. 2003
Mr. G. Dart	United Kingdom	Oct. 2000 - Nov. 2002
Mr. V. Coucello	Portugal	Mar. 1996 - Oct. 2000
Mr. M. Cleland	Canada	Mar. 1993 - Mar. 1996
Vice-Chairmen		
Mr. K. Katayama	Japan	Jan. 2003 - Present
Mr. H. Sobashima	Japan	Oct. 2000 - Dec. 2002

Mr. K. Sunaga	Japan	June 1998 - Oct. 2000
Mr. T. Sano	Japan	Mar. 1997 - Mar. 1998
Mr. L. Coburn	United States	Mar. 1997 - Present
Mr. K. Suganuma	Japan	Oct. 1995 - Mar. 1997
Mr. D. Pumphrey	United States	Oct. 1994 - Mar. 1997
Mr. N. Nikai	Japan	Apr. 1994 - Mar. 1996
Mr. S. Endo	Japan	Mar. 1993 - Feb. 1995
Mr. J. Brodman	United States	Jan. 1983 - Feb. 1995

Name	Country	Dates of Service
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COMMITTEE ON ENERGY RESEARCH AND TECHNOLOGY (CERT)
(formerly COMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT (CRD)
and SLT SUB-GROUP ON RESEARCH AND DEVELOPMENT)

Chairmen

Mr. G. Campbell	Canada	Jan. 2003 - Present
Mr. T. Turunen	Finland	Feb. 2001 - Dec. 2002
Mrs. S. Kirby	Canada	Nov. 1997 - Feb. 2001
Mr. C. Mandil	France	Jun. 1994 - Nov. 1997

Vice-Chairmen

Mr. B. Gale	United States	Jan. 2001 - Present
Mrs. A. Mignone	Italy	Jan. 2001 - Present
Mr. J. Arima	Japan	Feb. 2001 - Mar. 2001
Mr. R. Price	United States	Jan. 2000 - Dec. 2001
Mr. K. Masuda	Japan	Jan. 2000 - Dec. 2001
Mr. T. Nishimura	Japan	Mar. 1998 - Mar. 2000
Mr. F. Yoneda	Japan	Mar. 1997 - Mar. 1998
Mr. T. Imanaga	Japan	Jun. 1995 - Mar. 1998
Mr. J. Brodman	United States	Jun. 1994 - Mar. 2000
Mr. T. Murayama	Japan	May 1993 - Jun. 1995
Mr. R. Bradley	United States	Apr. 1993 - Mar. 1995

Name	Country	Dates of Service
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COMMITTEE ON BUDGET AND EXPENDITURE (BC)

Chairmen

Mr. R. Pegler	Australia	Oct. 2003 - Present
Mr. P. Giroux	Canada	Jan. 2003 - Aug. 2003
Mr. R. Knorreck	Austria	Oct. 2001 - Dec. 2002
Ms. M. A. Accili Sabbatini	Italy	Feb. 1999 - Aug. 2001
Mr. D. Purcell	Australia	Mar. 1997 - Feb. 1999
Mr. R. Knorreck	Austria	June 1994 - Mar. 1997

Vice-Chairmen

Mr. A. Bertoni	Italy	Jan. 2003 - Present
Mrs. T. Fjeldstad	Norway	Jan. 2003 - Dec. 2003
Ms. G. Miller	Canada	Oct. 2001 - Dec. 2002
Mr. N. Shikata	Japan	Oct. 2001 - Dec. 2002

Name	Country	Dates of Service
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COMMITTEE ON NON-MEMBER COUNTRIES (NMC)

formerly AD HOC GROUP ON INTERNATIONAL ENERGY RELATIONS, (AHGIER)

Chairmen

Mr. H. Schneider	Germany	June 2000 - Present
Mr. P. Pedersen	Norway	June 1999 - June 2000
Amb. R. Jeker	Switzerland	Apr. 1995 - June 1999
Mr. A. Walther	Norway	May 1992 - Apr. 1995

Vice-Chairmen

Mr. R. Pegler	Australia	Apr. 2003 - Present
Mr. S. Gallogly	United States	Jan. 2000 - Present
Mrs. C. Pozzo di Borgo	France	Jan. 2000 - Feb. 2001
Mr. K. Croker	Australia	Jan. 2000 - Dec. 2002
Mr. G. Koutsoukos	Greece	Jan. 2000 - Jun. 2000
Mr. M. Mishiro	Japan	Jan. 2000 - Jun. 2000
Mrs. L. Dawson	United Kingdom	Jan. 2000 - Dec. 2000
Mr. P. Pedersen	Norway	Mar. 1996 - Dec. 1999
Mr. G. Boyce	United Kingdom	Jun. 1994 - Mar. 1996
Mr. E. Denekamp	The Netherlands	Jun. 1994 - Jun. 2000

SENIOR MEMBERS OF THE IEA SECRETARIAT

Name	Country	Dates of Service
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EXECUTIVE DIRECTOR

Claude Mandil	France	Feb. 2003 - Present
Robert Priddle	United Kingdom	1994 - Dec. 2002

ACTING EXECUTIVE DIRECTOR

William C. Ramsay	United States	Jan. 2003 - Feb. 2003
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DEPUTY EXECUTIVE DIRECTOR

William C. Ramsay	United States	1999 - Present
John P. Ferriter	United States	1989 - 1999

LEGAL COUNSEL

Nancy Turck	United States	2002 - Present
Craig S. Bamberger	United States	1992 - 2001

PUBLIC INFORMATION OFFICE²

Pierre Lefevre	Belgium	2002 - Present
Scott Sullivan	United States	1996 - 2002
Joyce Heard	United States	1991 - 1996

OFFICE OF LONG-TERM CO-OPERATION AND POLICY ANALYSIS

Noé Van Hulst	The Netherlands	2003 - Present
Olivier Appert	France	1999 - 2003
Jean-Marie Bourdaire	France	1995 - 1999
Robert Skinner	Canada	1988 - 1995

² Formerly known as Special Advisor for Public Information

OFFICE OF OIL MARKETS AND EMERGENCY PREPAREDNESS

Masaaki Mishiro	Japan	2001 - Present
Tatsus Masuda	Japan	1996 - 2001
Tomihiro Taniguchi	Japan	1993 - 1996

OFFICE OF NON-MEMBER COUNTRIES

William C. Ramsay	United States	1998 - Present
Guy Caruso	United States	1993 - 1998

OFFICE OF ENERGY EFFICIENCY, TECHNOLOGY AND R & D

Marianne Haug	Germany	Jan. 2002 - Present
Hans Jørgen Koch	Denmark	1994 - 2001

ENERGY STATISTICS DIVISION

Jean-Yves Garnier	France	1995 - Present
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APPENDIX II, TABLE OF MINISTERIAL COMMUNIQUÉ DOCUMENT REFERENCES

(Updates Volume III, Appendix V to 31 December 2003)

Date of Meeting	Press Reference	Governing Board Reference
27 May 1975	PRESS/A(75)20	
5-6 October 1977	IEA/PRESS(77)10	IEA/GB(77)48(2nd Revision)
21-22 May 1979	IEA/PRESS(79)14	IEA/GB(79)35
10 December 1979	IEA/PRESS(79)28	IEA/GB(80)5
21-22 May 1980	IEA/PRESS(80)8	IEA/GB(80)58
8-9 December 1980	IEA/PRESS(80)20	IEA/GB(80)85(FINAL)
15 June 1981	IEA/PRESS(81)10	IEA/GB(81)34(Final)
24 May 1982	IEA/PRESS(82)8	IEA/GB(82)54(Final)
8 May 1983	IEA/PRESS(83)6	IEA/GB(83)36(Final)
9 July 1985	IEA/PRESS(85)6	IEA/GB(85)46
11 May 1987	IEA/PRESS(87)4	IEA/GB(87)33 Annex
30 May 1989	IEA/PRESS(89)4	IEA/GB(89)36 Annex
3 June 1991	IEA/PRESS(91)7	IEA/GB(91)42/REV2
4 June 1993	IEA/PRESS(93)8	IEA/GB(93)41
22 May 1995	IEA/PRESS(95)14	IEA/GB(95)30
23 May 1997	IEA/PRESS(97)9	IEA/GB(97)31
24-25 May 1999	IEA/PRESS(99)7	IEA/GB(99)31
15-16 May 2001	IEA/PRESS(01)13	IEA/GB(2001)29
28-29 April 2003	IEA/PRESS(03)11	IEA/GB(2003)20/FINAL

APPENDIX III, IEA PUBLICATIONS 1995-2003

(Updates Volume III, Appendix III to 31 December 2003)

I. Institutional

- 1996 IEA - The First 20 Years - Volume 3 - Principal Documents
Richard Scott

II. International Energy Economics

- World Energy Outlook - (published in 1996, 1998, 1999, 2000, 2001, 2002, 2003)
- 1997 The Link between Energy and Human Activity
- 1999 Key World Energy Statistics from the IEA -
(published in 1999, 2000, 2001, 2002, 2003)
- 2000 Energy Labels & Standards
- 2001 Towards a Sustainable Energy Future
- 2001 Things that go Blip in the Night - Standby Power and How to Limit it
- 2003 Cool Appliances - Policy Strategies for Energy Efficient Homes
- 2003 Energy to 2050 - Scenarios for a Sustainable Future

III. Oil Security

- 2001 Oil Supply Security - The Emergency Response Potential of IEA Countries in 2000

IV. Long-Term Co-operation

Energy Policies of IEA Countries

Previously published under the title "Energy Policies and Programmes of IEA Countries"; published annually since 1991 (1990 Review), and most recently in 2003.

Energy Policies of IEA Countries - Country Reviews

- 1996 Canada - 1996 Review
- 1996 France - 1996 Review
- 1996 The Netherlands - 1996 Review
- 1996 Portugal - 1996 Review
- 1996 Spain - 1996 Review
- 1996 Sweden - 1996 Review
- 1997 Australia - 1997 Review
- 1997 Belgium - 1997 Review
- 1997 New Zealand - 1997 Review
- 1997 Norway - 1997 Review
- 1997 Turkey - 1997 Review
- 1998 Austria - 1998 Review
- 1998 Denmark - 1998 Review
- 1998 Germany - 1998 Review
- 1998 Greece - 1998 Review
- 1998 United Kingdom - 1998 Review
- 1998 United States of America- 1998 Review
- 1999 Finland - 1999 Review
- 1999 Hungary - 1999 Review
- 1999 Ireland - 1999 Review

- 1999 Italy - 1999 Review
- 1999 Japan - 1999 Review
- 1999 Switzerland - 1999 Review
- 2000 Canada - 2000 Review
- 2000 France - 2000 Review
- 2000 Luxembourg - 2000 Review
- 2000 The Netherlands - 2000 Review
- 2000 Portugal - 2000 Review
- 2000 Sweden - 2000 Review
- 2001 Australia - 2001 Review
- 2001 Belgium - 2001 Review
- 2001 Czech Republic - 2001 Review
- 2001 New Zealand - 2001 Review
- 2001 Spain - 2001 Review
- 2001 Turkey - 2001 Review
- 2002 Austria - 2002 Review
- 2002 Denmark - 2002 Review
- 2002 Germany - 2002 Review
- 2002 Greece - 2002 Review
- 2002 The Republic of Korea - 2002 Review
- 2002 Norway - 2001 Review
- 2002 The United Kingdom - 2002 Review
- 2002 The United States of America- 2002 Review
- 2003 Hungary - 2003 Review
- 2003 Ireland - 2003 Review
- 2003 Italy - 2003 Review
- 2003 Japan - 2003 Review
- 2003 Switzerland - 2003 Review
- 2003 Finland - 2003 Review

- 1996 The Role of IEA Governments in Energy
- 1997 Renewable Energy Policy in IEA Countries
- 1998 Renewable Energy Policy in IEA Countries - Volume II: Country Reports

A. CONSERVATION AND EFFICIENCY

- 1997 Indicators of Energy Use and Efficiency
- 1998 Energy Efficiency Initiative - Energy Policy Analysis (Volume I)
- 1998 Energy Efficiency Initiative - Country Profiles & Case Studies (Volume 2)
- 1998 Regional Trends in Energy-Efficient, Coal-Fired, Power Generation Technologies (IEA/OECD/CIAB)

B. ENERGY DIVERSITY

Coal

- 1996 Factors Affecting the Take-up of Clean Coal Technologies (CIAB)
- 1998 International Coal Trade: The Evolution of a Global Market
- 1999 The Future Role of Coal - Markets, Supply and the Environment

Electricity

- 1999 Electricity Market Reform - An IEA Handbook
- 2001 Competition in Electricity Markets
- 2001 Regulatory Institutions in Liberalised Electricity Markets
- 2002 Distributed Generation in Liberalised Electricity Markets
- 2002 Security of Supply in Electricity Markets - Evidence and Policy Issues
- 2003 The Power to Choose: Demand Response in Liberalised Electricity Markets
- 2003 Power Generation Investments in Liberalised Electricity Markets

Natural Gas

- 1998 Natural Gas Distribution - Focus on Western Europe
- 1998 Natural Gas Pricing in Competitive Markets
- 2000 Regulatory Reform: European Gas
- 2002 Flexibility in Natural Gas Supply and Demand

Nuclear

- 1998 Projected Costs of Generating Electricity (NEA/IEA/OECD)
- 1998 Nuclear Power - Sustainability, Competition and Climate Change
- 2000 Business as Usual and Nuclear Power (Joint OECD/NEA/IEA Publication)
- 2001 Nuclear Power in the OECD
- 2002 Innovative Nuclear Reactor Development - Opportunities for International Co-operation (IEA/NEA/IAEA)

Oil

- 1996 Global Offshore Oil Production - Prospects to 2000
- 1997 Oil in Power Generation

Renewables

- 1998 Benign Energy? The Environmental Implications of Renewables
- 2001 Needs for Renewables
- 2003 Renewables for Power Generation
- 2003 Renewables in Russia - From Opportunities to Reality

C. ENERGY TRADE AND INVESTMENT

- 1999 Electricity Reform - Power Generation Costs and Investment

D. ENERGY AND THE ENVIRONMENT

CO₂ Emissions from Fuel Combustion - *Published annually since 1997.*

- 1996 Climate Technology Initiative - Inventory of Activities
- 1997 Voluntary Actions for Energy-Related CO₂ Abatement
- 1997 Energy and Climate Change
- 1997 Climate & Development Activities Implemented Jointly
- 1997 Transport, Energy and Climate Change
- 1998 Mapping the Energy Future - Energy Modelling and Climate Change Policy
- 2000 Energy Technology & Climate Change - A Call to Action
- 2000 Emission Baselines - Estimating the Unknown (Joint OECD/IEA)
- 2000 Dealing with Climate Change - Policies and Measures in IEA Member Countries

- 2000 The Road from Kyoto - Current CO₂ and Transport Policies in the IEA
- 2001 Dealing with Climate Change - Policies and Measures in IEA Member Countries
- 2001 Saving Oil and Reducing CO₂ Emissions in Transport - Options & Strategies
- 2001 International Emission Trading - From Concept to Reality
- 2002 Beyond Kyoto - Energy Dynamics and Climate Stabilisation

V. RESEARCH AND DEVELOPMENT

- 1996 Comparing Energy Technology
- 1996 International Energy Technology Collaboration: Benefits and Achievements
- 1997 IEA Energy Technology R&D Statistics 1974-1995
- 1997 Enhancing the Market Deployment of Energy Technology - A survey of eight technologies
- 1997 Energy Technologies for the 21st Century
- 1997 Key Issues in Developing Renewables
- 1999 International Collaboration in Energy Technology - A Sampling of Success Stories
- 1999 Automotive Fuels for the Future - The Search for Alternatives
- 1999 Electric Power Technology - Opportunities and Challenges of Competition
- 1999 The Evolving Renewable Energy Market (IEA Renewable Energy Working Party)
- 2000 Experience Curves for Energy Technology Policy
- 2001 Technology Without Borders - Case Studies of Successful Technology Transfer (UNEP/CTI)
- 2002 Bus Systems for the Future - Achieving Sustainable Transport Worldwide
- 2003 Creating Markets for Energy Technologies + CD-Rom
- 2003 Implementing Agreement Highlights
- 2003 IEA Implementing Agreements - Background and Framework as of 2003

VI. General IEA Statistical Publications

A. GENERAL ANNUAL PUBLICATIONS

Energy Statistics of OECD Countries

This series provides detailed statistics on production, trade and consumption for each source of energy in the OECD. This data has been published annually since 1990 (1987-1988 data). Historical data (1960s, 1970s and 1980s) for this series were published in 1991 under this title.

Energy Balances of OECD Countries

Published annually since 1976, it contains a compilation of data for the previous two years on the supply and consumption of coal, oil, gas, electricity, heat, combustible renewables and waste. Historical tables summarize key energy and economic indicators as well as production, trade and final consumption data. Historical series for 1960-1979 and 1980-1989 were published in 1991, for 1993-94 in 1996, and for 1994-95 in 1997.

Energy Statistics and Balances of non-OECD Countries

This series, published annually from 1991, (for 1988-1989 data) to 1997 (for 1994-1995 data), is a continuation of "World Energy Statistics and Balances". It provides energy data for over 100 countries for oil, coal, gas, electricity and heat expressed in original and common units. Historical tables for both individual countries and regions summarize data on coal, gas and electricity consumption since 1971.

Energy Statistics of Non-OECD Countries

This publication has appeared annually since 1999 with the latest year of data coverage appearing in the title.

Energy Balances of Non-OECD Countries

This publication has appeared annually since 1999 with the latest year of data coverage appearing in the title.

B. ANNUAL INFORMATION SERIES

Coal Information

This publication has appeared annually since 1984 with the latest year of data coverage appearing in the title. In 2002, exceptionally, a CD-Rom replaced the hard copy.

Electricity Information

This publication has appeared annually since 1997 with the latest year of data coverage appearing in the title.

Natural Gas Information

This publication has appeared annually since 1997 with the latest year of data coverage appearing in the title.

Oil Information

This publication has appeared annually since 1997 with the latest year of data coverage appearing in the title.

Renewables Information

This publication has appeared annually since 2002 with the latest year of data coverage appearing in the title.

Oil and Gas information

This annual publication contains country specific statistics for OECD countries on production, trade, demand and prices, refinery capacity at oil ports. It replaced "Annual Oil and Gas Statistics", starting in 1989, until 1996.

C. QUARTERLY PUBLICATIONS

Energy Prices and Taxes

A quarterly publication since 1984, it provides OECD statistics on energy prices and taxes for all energy sources and main consuming sectors

Quarterly Oil Statistics and Energy Balances

This series has been issued quarterly from 1988 until the third quarter of 1995. It contains data on oil and gas production, trade, refinery intake and output, stock changes and consumption for crude oil, NGL and natural gas. Import and export data are reported by source and destination. The quarterly energy balances show primary energy supply by type of fuel.

Oil Gas Coal and Electricity Quarterly Statistics

This series has been issued quarterly from the fourth quarter of 1995. It provides oil statistics that cover production, trade, refinery intake and output, stock changes and consumption for crude oil, NGL and nine selected oil product groups. Statistics for electricity, natural gas, hard coal and brown coal show supply and trade. Import and export data are reported by origin and destination. Moreover, oil and hard coal production are reported on a worldwide basis.

VII. Non-Member Countries

- 1996 Energy Policies of Ukraine - 1996 Survey
- 1996 Asia Gas Study
- 1996 Energy Policies of South Africa - 1996 Review
- 1996 Energy Policies of Slovenia - 1996 Review
- 1996 Regulatory Reform in Mexico's Natural Gas Sector
- 1997 North Africa Oil and Gas
- 1997 Asia Electricity Study
- 1997 Energy Policies of the Slovak Republic - 1997 Review
- 1998 Caspian Oil and Gas: The Supply Potential of Central Asia and Transcaucasia
- 1999 Regulatory Reform in Argentina's Natural Gas Sector
- 1999 Coal in the Energy Supply of China (CIAB)
- 1999 South East Asia Gas Study
- 2000 China's Worldwide Quest for Energy Security
- 2000 Black Sea Energy Survey
- 2002 Russian Energy Survey
- 2002 Electricity in India - Providing Power for the Millions
- 2002 Coal in the Energy Supply of India (CIAB)
- 2002 Developing China's Natural Gas Market - The Energy Policy Challenges
- 2003 South American Gas

APPENDIX IV, IEA CONFERENCES 1995-2003

(Updates Volume III, Appendix IV to 31 December 2003)

- Workshop on Financing the Development and Deployment of Renewable Energy Technologies
Washington DC, May 1995
- IEA Conference on the Strategic Value of Fossil Fuels: Challenges and Responses
Houston, 8-12 May 1995
- New Electricity 21: Designing a Sustainable Electric System for the Twenty-First Century
Paris, 22-24 May 1995
- Fourth International Energy Conference
Venezuela, September 1995
- Second ECE/IEA Joint Meeting on Energy Statistics
Geneva, 4-6 September 1995
- SolarPACES Workshop on Innovative Financing Strategies
Paris, 19 October 1995
- Meeting on Oil Trade Discrepancies in North West Europe
London, 9 February 1996
- IEA First Modelling Seminar on “Economic and Energy Market Impacts of Implementing Various Quantified Emission Mitigation and Reduction Objectives under the FCCC”
Paris, 30-31 May 1996
- Conference on Long-Term Oil Security Issues
Paris, 18 June 1996
- Russia’s Energy Efficiency Future: A Regional Approach
Chelyabinsk, September 1996
- Third IEA International Conference on Natural Gas Technologies:
A Driving Force for Market Development
Berlin, 1-4 September 1996
- International Conference on Energy Efficiency Improvements of Motors and Drives
Portugal, October 1996
- IEA/World Bank Workshop and Fossil Fuel Working Party Meeting
22-24 October 1996
- IEA Second Modelling Seminar on “Closing the Efficiency Gap in Energy Responses to Climate Change - Potential for Cost-Effective Energy and Carbon Efficiency Improvements”
Paris, 20-21 November 1996
- Fifth International Energy Conference
India, December 1996
- Energy Efficiency Improvements, Coal and Renewables:
Policy Measures, Innovative Financing and Technology Deployment
Beijing, 3-5 December 1996

Workshop on Using Energy Indicators in IEA Countries: Recent Experiences,
Future Directions, Finding Resources
Paris, 12-13 December 1996

First International Conference on Energy Efficiency in
Domestic Appliances and Lighting (EEDAL)
Florence 1997

Biomass Energy: Key Issues and Priority Needs
Paris, 3-5 February 1997

Fourth Energy Experts Meeting
Doha, 24-25 April 1997

NMC Conference on Global Long-Term Energy Security
Paris, 24-25 April, 1997

Workshop on Energy Technology Availability to Mitigate Future Greenhouse Gas Emissions
Paris, 16 June 1997

Workshop to Foster Technology Co-operation between the European Commission
and IEA Implementing Agreements
19-20 June 1997

International Energy Markets, Competition and Policy Eighteenth Annual North American
Conference of the USAEE/IAEE
San Francisco, 7-10 September, 1997

CERT Workshop
Rome, 10-11 September 1997

Workshop on "Mutually Beneficial Incentives" (MBI)
to promote Activities Implemented Jointly (AIJ)
Paris, 11-12 September 1997

Electricity Technology Workshop on the role of electric technologies
in measures to mitigating greenhouse gas emissions
Paris, 15-16 September 1997

IEA Third Modelling Seminar on "Uncertainty and Energy Policy Choices
to meet UNFCCC Objectives"
Paris, 16-17 October 1997

International Seminar on Energy Service Companies (ESCOs)
Mexico City, 27-28 October, 1997

IEA Expert Workshop "Modelling Energy Demand"
Paris, 18 November 1997

Forum on Electricity Market Policy and Regulation
25 November 1997

"Electric Technologies: Bridge to the 21st Century and Sustainable Future" IEA Workshop
December 1997

- IEA/OECD Forum on Climate Change
Paris, 12-13 March 1998
- IEA/UNEP Regional Workshops on New Partnerships for Sustainable Development:
The Clean Development Mechanism under the Kyoto Protocol
Mangaratiba, Rio de Janeiro, Brazil, 28-29 April 1998
New Delhi, India, 12-13 May 1998
Beijing, 18 May 1998
Accra, Ghana, 21-24 September 1998
- Meeting on Wholesale Power Markets
Stockholm 11-12 May 1998
- IEA Seminar of the Effects of the Oil Price Drop of 1997/98
Paris, 14 May 1998
- IEA/OECD Seminar on Technology Diffusion in Asia
Beijing, 19-20 May 1998
- IEA/UNEP Expert Workshop on Prospects for Emissions Trading
and Joint Implementation under the Kyoto Protocol
15-16 June 1998
- Workshop on Enhancing Oil Energy Security
Rio de Janeiro, 24-25 June 1998
- IEA/ASCOPE-Asian Oil and Security Seminar
Singapore, 23-24 July 1998
- International Conference on Urban Energy Use
Shanghai, 10-11 September 1998
- Implementing Environmental Policy in competitive Electricity markets
Lisbon, 14-15 September 1998
- IEA/Renewable Energy Working Party Distributed Utility Seminar,
Paris, 28 September 1998
- IEA/UNEP Electric Technologies Workshop
Paris, 28-30 September 1998
- Meeting on Data Quality and Reliability: Key Issues for Success
Paris, October 1998
- Energy Statistics Working Group
Paris, October 1998
- Sixth International Energy Conference
South Africa, October 1998
- Workshop on Opportunities for International Co-operation under the Kyoto Protocol
Moscow, 1-2 October 1998
- Electricity Technology Workshop on the Role of Electric Technologies in Mitigating
Greenhouse Gas Emissions in Developing Countries and Countries
with Economies in Transition
Paris, 5-6 October 1998

IEA/UNEP Forum

Paris, 7-8 October 1998

International Meeting on Energy Statistics

Paris, November 1998

Workshop on Petroleum Coke

Paris, 17 November 1998

ERE98 - Emergency Response Exercise

Paris, 20-21 November 1998

First International Workshop on Standby Power

Paris, 18-19 January 1999

Future Directions for IEA Work with Energy Indicators

Paris, 21 January 1999

Pricing and Congestion in International Electricity

The Hague, 8-9 February 1999

Attracting and Managing Upstream Petroleum Investments in Russia: International Experience in Implementation of PSAs and other Investment Frameworks

Moscow, 16 February 1999

Improving Fuel Efficiency in Road Freight: The Role of Information Technologies

Paris, 24 February 1999

BIAC/OECD/IEA Workshop: Industry View on the Climate Change Challenge with Special Emphasis on the Kyoto Mechanisms

Paris, 8 March 1999

IEA/OECD Forum on Climate Change

Paris, 9-10 March 1999

Regional Seminar on the Year 2000 Problem in the Oil Industry

Caracas, 11 March 1999

Caspian Oil and Gas: Challenges and Rewards

Paris, 18-19 March 1999

SEQ/SOM Seminar on Long-term Implications of Low Oil Prices

Paris, 24 March 1999

IEA's Year 2000 Activities

Singapore, April 1999

International Workshop on Policies and Measures to Reduce Greenhouse Gas Emissions from Energy

Paris, 15-16 April 1999

IEA/Brazil Workshop on Regulation in Electricity and Gas

Rio de Janeiro, 27-28 April 1999

Ad-hoc Meeting of SEQ on Oil Supply Situation in ex-Yugoslavia

Paris, 29 April 1999

- IEA's Year 2000 Activities
Abu Dhabi, May 1999
- IEA/DOE Workshop on Technology to Reduce Greenhouse Gas Emissions:
Engineering Economic Analysis of Conserved Energy and Carbon
Washington, 5-7 May 1999
- Indicators of Transportation Activity, Energy and CO₂ Emissions
Stockholm, 9-11 May 1999
- Workshop on Data Requirements for Energy Policy
New Delhi, 13-14 May 1999
- Renewable Energy Working Party Workshop on National Programmes on Renewable Energy
Amsterdam, 27 May 1999
- Capacity Payments in Electricity Markets: a Review
Madrid, 7-8 June 1999
- Energy Modelling Forum
Paris, 16-18 June 1999
- The Year 2000 Problem in the Energy Sector of the Russian Federation and
Regional Energy Partners
Moscow, 7-8 July 1999
- Disruption Simulation Exercise, Including a Year 2000 Scenario
Paris, September 1999
- IEA Workshop on Financing of Clean Coal Power Technology for Retrofitting, Repowering
and New Power Plants in Central and Eastern Europe
Dresden, September 1999
- Second International Conference on Energy Efficiency Improvements of Motor and Drives
London, September 1999
- Seminar on IEA Oil Stock Strategy
Paris, 27-28 September 1999
- Energy Audit 1999
Turku, 10-12 October 1999
- The Year 2000 Problem: Interdependences in Contingency Planning
within the Energy Sector and across Borders
Prague, 11 October 1999
- Expert Meeting on Market Mechanisms for International GHG Emissions Trading
Paris, 11-12 October 1999
- IEA/NEA Meeting on Business as Usual and Nuclear Power
Paris, 14-15 October 1999
- Joint IEA/OECD Workshop on Achieving Sustainability and Energy Efficiency in Buildings
Paris, 2-3 November 1999
- Third IEA Executive Conference on Photovoltaic Power Systems: Il Valore del Sole
Venice, 3-5 November 1999

Conference on China's Natural Gas Industry: Market Development,
Regulatory Framework and Financing Needs
Beijing, 9-10 November 1999

Energy Statistics Working Group
Paris, 22-23 November 1999

Fourth IEA International Conference on Natural Gas Technology
Cancun, 8 December 1999

Workshop on Policies to Accelerate Renewable Energy Market Deployment
New Delhi, January 2000

Second International Workshop on Standby Power
Brussels, 17-18 January 2000

Electricity Trading: Trends and Issues
London, 9-10 March 2000

Joint OME/SLT Seminar on Public Policy Implications of Mergers and
Acquisitions in the Energy Sector
Paris, 22 March 2000

CTI/IEA Joint Industry Seminar on Technology Diffusion in Latin America and the Caribbean
San Salvador, 27-28 March 2000

Climate Change Responses: "Good" Practices in Policies and Measures
Copenhagen, April 2000

IEA/ASCOPE Asian Oil and Energy Security Seminar
Kuala Lumpur, May 2000

Second CTI/Industry Joint Seminar in Eastern Europe on Technology Diffusion and
the IEA Finance Forum
Warsaw, 11-12 May 2000

IEA/OECD Business Dialogue on Climate Change
Paris, 16 May 2000

Workshop and Executive Committee Meeting for the ETSAP (Energy Technology Systems
Analysis Programme) Implementing Agreement at the IEA. "Energy System Models for
Assessment of Climate Change Strategies"
Paris, 17 May 2000

Annex I Workshop on Transition Country Perspectives on the Kyoto Protocol, OECD/IEA
Bratislava, 17 May 2000

WEC/IEA International Symposium on Renewable Energy Development
Guilin, 22-25 May 2000

IEA/ASCOPE Asian Oil and Energy Security Seminar
Kuala Lumpur, 26-27 May 2000

International Oil Markets
Moscow, 30 May 2000

Follow up on the 1999 IEA/DOE Workshop, “Technologies to Reduce Greenhouse Gas Emissions: Engineering-Economic Analyses of Conserved Energy and Carbon”
Paris, May-June 2000

EXCETP 2: a Workshop on Experience Curves for Energy Technology Policy (EXCETP)
Stanford University, June 2000

Windsor Workshop. IEA Session on Transportation Fuels
Toronto, 8-9 June 2000

Electricity: The New Millennium
Montreal, 18-21 June 2000

IEA/BSREC Round Table on Regulatory Issues in Grid-Based Energy Industries
Sofia, 27 June 2000

Workshop on Indicators of Commercial/Service Sector Activity,
Energy and CO₂ Emissions and Policy Impacts
Karlsruhe, 28-30 June 2000

Meeting of the Co-ordination Committee of Transportation Implementing Agreements,
Special Session (Roundtable) on Fuel Cell Collaboration
Berlin, 30 June 2000

CTI/IEA Joint Industry Seminar on Financing Climate Change Projects in Latin America
Madrid, 18 September 2000

Second International Conference on Energy Efficiency in
Domestic Appliances and Lighting (EEDAL)
Naples, October 2000

End Use Working Party: Workshop to Identify Gaps in Implementing Agreements
 (“White Spots”) and the Role of End-Use Technologies in Reducing GHG Emissions
Vienna, 4 October 2000

Developing a New Generation of Sustainable Energy Technologies Long-term R&D Needs
Paris, 11 October 2000

EXCETP 3: Workshop on Experience Curves for Energy Technology Policy (EXCETP)
Paris, 14-15 October, 2000

Committee on Energy Research and Technology (CERT) Expert Workshop on “Energy
Technology Research, Development and Demonstration: Lessons for 21st Century
Partnerships”
Rueil Malmaison, 23 October 2000

Seventh International Energy Forum
Saudi Arabia, November 2000

UNEP/IEA Joint Workshop on Energy Subsidy Reform and Sustainable Development:
Challenges for Policy Makers
Paris, 6-7 November 2000

International Meeting on Oil Statistics
Paris, 13-14 November 2000

India Energy Day, World Energy Council, Executive Assembly
New Delhi, 24 November 2000

Experts Meeting on Indicators on Energy Use in India
New Delhi, 13 December 2000

Indicators of Energy Use in India (Expert Workshop 2)
Calcutta, 15 December 2000

UNEP/IEA Joint Workshop on Energy Subsidy Reform and Sustainable Development:
Challenges for Policy Makers
Durban, 15-16 December 2000

UNEP/IEA Joint Workshop on Energy Subsidy Reform and Sustainable Development:
Challenges for Policy Makers
Bangkok, 16-17 January 2001

Third International Workshop on Standby Power
Tokyo, 7-8 February 2001

Workshop on Policies to Accelerate Renewable Energy Market
New Delhi, 18-20 February 2001

IEA Regulatory Seminar on Energy Market Reform and Environment
Paris, 19 February 2001

Government-Industry Co-operation to Improve Energy Efficiency and
the Environment through Voluntary Action
Washington, 22 February 2001

International Energy Star Meeting
Paris, 12-14 March 2001

Millennium Conference on Oil Security Strategy
Paris, 21-22 March 2001

Second IEA/CTI Regional Workshop on Appliance Energy Efficiency Standards and Labels
in Latin America and the Caribbean
Buenos Aires, 22-23 March 2001

UNEP/IEA Joint Workshop on Energy Subsidy Reform and Sustainable Development:
Challenges for Policy Makers
Santiago, 27-28 March 2001

Climate Change Responses: "Good" Practices in Policies and Measures
Copenhagen, April 2001

Improving Oil Data Transparency
Bangkok, 2-3 April 2001

Workshop to review the findings of the IEA/NEA/IAEA Project, Innovative Nuclear Reactor
Development: Opportunities for International Collaboration
Vienna, 10-11 April 2001

IEA-China Workshop on Emergency Oil Stock Issues
Paris, 23-24 April 2001

- UNEP/OECD/IEA Expert Workshop on Identifying Feasible Baseline Methodologies for CDM and JI Projects
Roskilde, 7-8 May, 2001
- Future Buildings Forum Think Tank 2001
9-11 May 2001
- Indicators of Residential Sector Activity, Energy and Carbon Dioxide Emissions
London, 30 May-1 June 2001
- Sustainable Urban Transport Workshop
Paris, 7-8 June 2001
- IEA/Mexico Workshop on Renewable Energy: Exploring the Options for Mexico
Cuernavaca, 21-22 June, 2001
- Second Joint IEA/OECD Workshop on Achieving Sustainability and Energy Efficiency in Buildings
Paris, 28-29 June 2001
- Standardising Baselines for Energy Demand, Heavy Industry and Transport Projects
Bonn, 23 July 2001
- EPRI/ IEA/IETA, First Annual Workshop on Greenhouse Gas Emission Trading: The Linkages between Domestic Systems
Paris, 19-20 September 2001
- Workshop on Longer-term Energy and Environment Scenarios
Paris, 22-23 October 2001
- IEA/Eurostat Questionnaire Training Workshop
Paris, 29-31 October 2001
- IEA/China Seminar on Energy Efficiency Labels and Standards and Standby Power Reduction
Beijing, 6-7 November 2001
- International Meeting on Oil Statistics
Riyadh, 10-12 November 2001
- IEA/OECD, Energy Policy and Externalities, the Life Cycle Analysis Approach
Paris, 15-16 November 2001
- China's Energy and Foreign Policies
Paris, 22 November 2001
- Technologies Require Markets: IEA Workshop on Best Practices and Lessons Learned in Energy Technology Deployment Policies
Paris, 28-29 November 2001
- The Impact of Electricity Network Organisation, Regulation and Pricing on Renewables and Distributed Generation Pre-Symposium Organisational Meeting
Paris, 29 November 2001
- Regulatory Framework for Energy Third Party Financing in Central Europe
Budapest, 29 November 2001

- IEA/ASEAN Workshop on Electricity and Gas Sector Reforms
Paris, 3-4 December 2001
- Joint SLT/OME Inter-fuels Workshop
Paris, 12 December 2001
- Sixth Energy Experts Meeting
Abu Dhabi, 28-29 January 2002
- IEA Regulatory Forum “Competition in Energy Markets: Implications for Service and Security of Supply Goals in the Electricity and Gas Industries”
Paris, 7-8 February 2002
- The Future Impact of Information and Communication Technologies on the Energy System
Paris, 21-22 February 2002
- Roundtable on Electricity Reforms in India
Paris, March 2002
- Emergency Response Training and Simulation Exercise 2
Paris, 12-14 March 2002
- OECD/IEA/AIXG, “In House” Seminar on the Evolution of Mitigation Commitments
Paris, 18 March 2002
- Cross Border Gas Trade Issues Workshop
Paris, 26-27 March 2002
- Energy Efficiency Certificate Trading
Milan, 17 April, 2002
- Workshop on Data Management and Indicators of Energy Use in India
New Delhi, 18-19 April, 2002
- Electricity Reforms in India
Hyderabad, 23 April 2002
- IEA/ASEAN Workshop on “Electricity and Gas Sector Reforms”
Paris, 29-30 April 2002
- OECD/IEA/IETA Workshop on National Systems for Flexible Mechanisms:
Implementation Issues in Countries with Economies in Transition
Szentendre, 13-15 May 2002
- IEA/UNEP Power Sector Reform and Sustainable Development: Brainstorming Meeting
Paris, 21-22 May 2002
- Oil Data Transparency Seminar - A Major Step towards the Summit
Mexico, 23-25 May 2002
- Transport Workshop: Promoting On-board Technologies for Improving Fuel Efficiency
Utrecht, 27 May 2002
- Right Light 5: Fifth International Conference on Energy-Efficient Lighting
Nice, 29-31 May 2002

- Conference on Natural Gas Transit and Storage in Southeast Europe:
An Opportunity to Diversify European Gas Supply?
Istanbul, 31 May-1 June, 2002
- Workshop on Security of Gas Supply
Paris, 21 June 2002
- Eurelectric Convention Worldwide Energy Liberalisation: Building on Lessons Learnt
Leipzig, 24-25 June 2002
- Annual Meeting of International Energy Workshop
Stanford University, 25 June 2002
- Third International Conference on Energy Efficiency Improvements of Motor and Drives
Treviso, 15-16 September 2002
- IEA/EPRI/IETA, Expert Meeting: Allocation of GHG objectives
Paris, 16 September 2002
- IEA/IETA/EPRI: Second Annual Workshop on Greenhouse Gas Emission Trading:
Domestic and International Issues
Paris, 17-18 September 2002
- Mediterranean Renewable Energy Initiative: Renewable Energy Market Development
in the Mediterranean Region
Marrakech, 20-21 September 2002
- Eighth International Energy Forum
Osaka, 21-23 September 2002
- Workshop on Clean City Vehicles with a Special Focus on Developing Countries
Paris, 24-25 September 2002
- World Business Council for Sustainable Development, Sustainable Mobility Workshop
Paris, 26 September 2002
- End Use Working Party Workshop on Evaluating Implementing Agreements
Interlaken, 30 September 2002
- IEA-UNDP Workshop on New Energy Policies in Southeast Europe - The Foundation
for Market Reforms
Zlatibor, 1-2 October 2002
- Workshop on Energy Efficiency Policy Evaluation
Paris, 8 October, 2002
- Accelerating the Deployment of Renewable Energy/Distributed Generation in Baltic Region
Riga, 10-11 October 2002
- IEA/ZORD Workshop on Emergency Oil Stocks in Southeast Europe
Portoroz, 11-12 October 2002
- Training of Indian Statisticians and Energy Analysts at IEA
Paris, 14-25 October, 2002
- IEA-OLADE Latin American Conference on Cross Border Gas Trade
Santa Cruz de la Sierra, 30-31 October 2002

- Caspian Oil and Gas Scenarios
Paris, 11 November 2002
- Appliance Energy Efficiency Early Adoption Project Workshop
Berlin, 15 November 2002
- Conference on Non-Conventional Oil: Prospects for Increased Production
Calgary, 25-26 November 2002
- OECD/IEA Workshop on Policies to Reduce Greenhouse Gas Emissions in Industry
Berlin, 2-3 December 2002
- Joint IEA/China Seminar on Oil Stocks and Emergency Response
Beijing, 9-10 December 2002
- ASEAN+3/IEA Joint Workshop
Tokyo, 12 December 2002
- Roundtable on District Heating in Transition Economies, Priorities and Best Policy Practices
Paris, 16-17 December 2002
- Experience Curves: A Tool for Energy Policy Analysis and Design
Paris, 22-24 January 2003
- Enhancing Demand Response in Liberalised Electricity Markets
Paris, 24-25 February 2003
- Toward Hydrogen – R&D Priorities to Create Hydrogen Infrastructure
Paris, 3 March 2003
- End Use Working Party – Joint IEA/OECD Workshop: Promoting International Collaboration
on Energy Efficient Bioprocesses, Bioproducts and the Bio Based Economy
Ottawa, 3-6 March 2003
- Institutional Aspects of Energy Market Reforms: New Energy Policies for South East Europe
Rome, 24 March 2003
- Joint IEA/NEA Workshop on Power Generation Investment in Liberalised Markets
Paris, 25-26 March 2003
- Conference on Linking Basic Science and the Development of New Energy Technologies
Paris, 1-2 April 2003
- Roundtable on Caspian Oil and Gas Scenarios
Florence, 14-15 April 2003
- IEA Brainstorming Session: Investment Challenges in the Energy Sector
Paris, 28 April 2003
- Promoting On-Board Technologies for Promoting Fuel Efficiency
Utrecht, 27 May 2003
- IEA Hydrogen Co-ordination Group
Paris, 18-19 June 2003
- Saving Electricity in a Hurry
Paris, 19-20 June 2003

- The Big Bang? Energy and EU Enlargement
Prague, 22-23 June 2003
- Annual Meeting of International Energy Workshop
Laxenburg, 24-26 June 2003
- Joint IEA/OPEC Workshop on Oil Investment Prospects
Vienna, 25 June 2003
- Workshop with Gas Regulators on Security of Gas Supply in Liberalised Markets
Paris, 27 June 2003
- World Summit on Sustainable Development
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- Joint IEA/ASEAN Workshop “ASEAN Oil Security and Emergency Preparedness”
Paris, 1-5 September 2003
- Role of Demand Response in Liberalized Markets
New York, 9-10 September 2003
- Seminar on Oil Stocks and New Challenges in the Oil Market
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- Conference on Coal and Electricity in India
New Delhi, 22-23 September 2003
- IEA/IETA/EPRI/IDDRI Third Annual Workshop on Greenhouse Gas Emission Trading
Paris, 23-24 September 2003
- Central and Eastern European Countries Appliance Policy
Turin, 29-30 September 2003
- Third International Conference on Energy Efficiency in
Domestic Appliances and Lighting (EEDAL)
Turin, 1-3 October 2003
- From the Laboratory to the Marketplace (and the appliances to make it happen)
Washington, D.C., 8 October 2003
- Meeting on Data Quality and Reliability: Key Issues for Success
Cairo, 8-9 October 2003
- Economies in Transition, the IEA and Renewable energy
Budapest, 13 October 2003
- China-IEA Seminar on Energy Modelling and Statistics
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- Seminar on Energy Policies and Statistics in Economies in Transition (EITs)
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