
# InterEnerStat Meeting

## Harmonisation of Definitions of Energy Products and Flows

## IEA, Paris, 28-30 October 2008

# Background

# and

# Objectives

**Jean-Yves Garnier**
**Head, Energy Statistics Division**
**International Energy Agency**


- A short background
- Three years of InterEnerStat
- The 3rd InterEnerStat meeting
  - Preparation
  - Objective


# Quality of energy statistics was declining in the early 2000's

## Completeness

- More and more data are estimated
- More and more data are missing and/or confidential
- Less and less details, more aggregation (CHP, public vs. autoproducers, …)

## Quality

- Efficiency of power plants > 100%
- Subtotals do not add up to totals
- Large statistical difference (>20%)
- Breaks in time series - no revisions in time series
- "Other sectors" often used as a balancing item

## Timeliness

- More and more time to collect, process, check and release data

Supply and Consumption for Heat (TJ) - Tables 3 and 4

| | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Gross Production** | **443459** | **448383** | **430271** | **404831** | **407411** | **395300** | **416600** | **418943e** | **381577e** | **385800e** | **379551e** | **315920e** | **321022e** | **316222e** |
| Own use (-) | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total Net Production** | **443459** | **448383** | **430271** | **404831** | **407411** | **395300** | **416600** | **418943e** | **381577e** | **385800e** | **379551e** | **315920e** | **321022e** | **316222e** |
| Imports (+) | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| Exports (-) | **122e** | **122e** | **122e** | **122e** | **122e** | **141e** | **141e** | **159e** | **145e** | **183e** | **146e** | **144e** | **152e** | **152e** |
| **Energy Supplied** | **443337** | **448261** | **430149** | **404709** | **407289** | **395159** | **416459** | **418784e** | **381432e** | **385617e** | **379405e** | **315776e** | **320870e** | **316070e** |
| Trans.+Distribut. Losses (-) | 29216 | 49439 | 42785 | 38858 | 41906 | 37259 | 40559 | 32411e | 30518e | 30153e | 29594e | 24631e | 25028e | 24653e |
| **Total Consumption (calc.)** | **414121** | **398822** | **387364** | **365851** | **365383** | **357900** | **375900** | **386373e** | **350914e** | **355464e** | **349811e** | **291145e** | **295842e** | **291417e** |
| **Total Consumption (obs.)** | **414121** | **398822** | **387364** | **365851** | **365383** | **357900** | **375900** | **386373e** | **350914e** | **355464e** | **349811e** | **291145e** | **295842e** | **291417e** |
| **Total Energy Sector** | **18288** | **15709** | **9408** | **9906** | **10698** | **9100** | **9700** | **8300e** | **6900e** | **6300e** | **6200e** | **5160e** | **5243e** | **5165e** |
| Coal Mines | 5598 | 5393 | 4396 | 4103 | 3986 | 3600 | 4000 | 2900e | 2820e | 2570e | 2529e | 2105e | 2138e | 2107e |
| Oil + Gas Extraction | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Patent Fuel Plants | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Coke Ovens | 1202 | 909 | 1305e | 1700 | 2198 | 2000 | 2100 | 1900e | 1550e | 1415e | 1392e | 1159e | 1178e | 1160e |
| Gas Works | 7239 | 6418 | 600e | 615 | 909 | - | - | - | - | - | - | - | - | - |
| BKB | 1348 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Oil Refineries | 2901 | 2989 | 3107 | 3488 | 3605 | 3500 | 3600 | 3500e | 2530e | 2315e | 2279e | 1896e | 1927e | 1898e |
| Nuclear Industry | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Energy Non Specified | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total Industry Sector** | **97390** | **100848** | **85374** | **69108** | **67936** | **69850** | **70400** | **71570e** | **50330e** | **46030e** | **45298e** | **37701e** | **38309e** | **37736e** |
| Iron + Steel | 5246 | 3869 | 2520 | 2520 | 2081 | 2200 | - | - | - | - | - | - | - | - |
| Chemical + Petrochemical | 27989 | 24707 | 17761 | 18816 | 19343 | 18900 | 19900 | 19450e | 13680e | 12510e | 12311e | 10246e | 10411e | 10255e |
| Non Ferrous Metals | 703 | 967 | 645 | 762 | 557 | 550 | 550 | 585e | 410e | 375e | 369e | 307e | 312e | 307e |
| Non Metallic Minerals | 8177 | 3722 | 2696 | 1846 | 1817 | 2100 | 1850 | 2080e | 1465e | 1340e | 1319e | 1098e | 1116e | 1099e |
| Transport Equipment | 11811 | 10492 | 13511 | 12397 | 11958 | 11650 | 12350 | 12120e | 8520e | 7790e | 7666e | 6380e | 6483e | 6386e |
| Machinery | 6829 | 17438 | 15123 | 10375 | 9847 | 9900 | - | - | - | - | - | - | - | - |
| Mining + Quarring | 88 | 88 | 264 | 381 | 352 | 400 | 350 | 400e | 280e | 260e | 256e | 213e | 216e | 213e |
| Food, Beverages+Tabacco | 9789 | 13335 | 10639 | 5656 | 5422 | 5850 | 5600 | 5800e | 4080e | 3730e | 3671e | 3055e | 3104e | 3058e |
| Pulp, Paper + Printing | 2315 | 3927 | 3634 | 3195 | 3751 | 4150 | 3850 | 3700e | 2600e | 2380e | 2342e | 1949e | 1980e | 1950e |
| Wood + Wood Products | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Construction | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Textiles + Leather | 5539 | 3136 | 2315 | 1495 | 1612 | 1800 | - | - | - | - | - | - | - | - |
| Industry Non Specified | 18904 | 19167 | 16266 | 11665 | 11196 | 12350 | 25950 | 27435e | 19295e | 17645e | 17364e | 14453e | 14687e | 14468e |
| **Residential** | **298443** | **282265** | **292582** | **286837** | **286749** | **278950** | **295800** | **306503e** | **293684** | **303134** | **298313e** | **248284e** | **252290e** | **248516e** |
| **Comm. + Pub.Services** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Agriculture** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Sector Non Specified** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |


# There are many reasons behind this deterioration

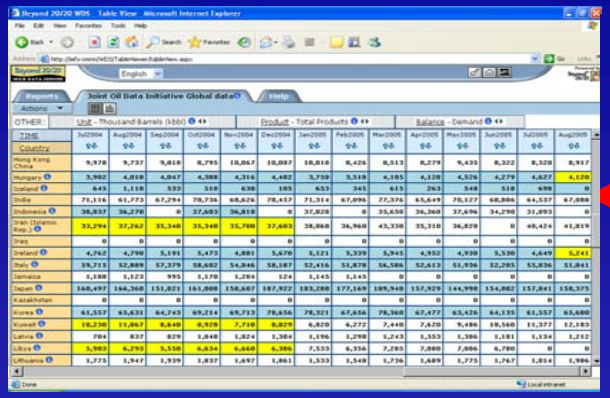
**New developments make the tasks of statisticians even harder:**

- **Liberalisation of the market:**
  **From one company to hundreds**
- **Confidentiality (linked to liberalisation)**
- **More work passed to statistics offices:**
  - **More companies to survey (liberalisation)**
  - **Renewables (remote information)**
  - **Energy efficiency indicators (including socio-economic data)**
  - **Environment (estimation of GHG emissions, ….)**
  - **Etc.**
- **Resources do not follow work load:**
  **Statistics still have a low profile, budget cuts**
- **Fast turnover in staff: lack of experience, continuity**


# A Need to Act and React

- At the policy maker Level
  - They are the ones who provide the resources
  - At the end of the day, they are the ones who will be suffering from the lack of good quality data
- At the technical level
  - Statisticians often lack resources
  - A need to compensate fast turnover
- The JODI initiative is certainly the best example of what working together could do in improving transparency and data quality and in raising profile of statistics and statisticians

# A short summary of the JODI Initiative



Madrid July 00
Riyadh Nov 00
Paris Nov 00
Bangkok Apr 01
Vienna May 01
Riyadh Nov 01
Vienna Oct 01
Luxem Jan 02
Vienna Apr 02
Mexico May 02
Paris July 02
Osaka Sep 02
Vienna Jan 03
Paris Dec 03
Cairo Oct 03
Amst. May 04
Vienna Jun 04
Bali Oct 04
Riyadh Jan 05
Paris Jul 05
Paris Nov 05
Riyadh Nov 05
Luxem Jan 06
N York May 06
Doha May 06
Vienna Sep 06
Riyadh Nov 06
Paris Nov 07

| | |
|---|---|
| Amst. May 04 | **International Energy Forum Conferences** |
| Mexico May 02 | **JODI Conferences** |
| Paris Dec 03 | **Inter-Secretariat Working Group Meetings** |

# What has JODI changed

- **How Statistics is Viewed by Policy Makers and Analysts**
  - ➔ **Policy makers and analysts have realised that building a detailed, timely and reliable global database on oil supply and demand cannot happen overnight.**
  - ➔ **It involves political commitment, a great deal of cooperation between companies, countries and organisations. It also needs proper resources.**
  - ➔ **The place and role of statistics and statisticians have certainly benefited from JODI**
- **Int**
  - ➔ **e ions:**
  - **en 7 JODI partner organisations is**
  - **ening of the links**
  - ➔ **momentum to further**
  - **tion not only on oil statistics but**

**On 19 November 2005, King Abdullah launched the JODI database live on internet**


# A short background

- At the 36th Session of the UN Statistical Commission, energy was in the spotlight of the Commission
- This led to the Ad-hoc Energy Group Meeting on 23-25 May 2005 organised by UNSD in New York
- This subsequently led to the recommendation to establish
  - ➔ A City Group (the Oslo City Group)
  - ➔ An Inter Secretariat Working Group (InterEnerStat)

# A few milestones in the development of the InterEnerStat work

Ad hoc Energy Group Meeting
UNSD, May 2005

InterEnerStat 1
November 2005

OCG 1

1st draft of the
InterEnerStat website

OCG 2

InterEnerStat 2
November 2007

OCG 3

2nd draft of the
InterEnerStat website


# The 1st InterEnerStat Workshop

- Date: 22-23 November 2005
- Place: International Energy Agency, Paris
- Participants: 24 major regional and international organisations. Both data providers (IEA, UNSD, OPEC, Eurostat, APEC, FAO) and users (IMF, UNFCCC,…)
- Objectives:
  - ➔ To hear from each organisation what they do, what are their problems and their expectation for more co-operation
  - ➔ To pave the way for more harmonisation and for strengthening bilateral and international co-operation

# Two Clear Requests

## Harmonisation

- Methodologies
- Definitions
- Units
- Conversion factors
- Harmonised demands and questionnaires
- Handbooks and manuals
- Training
- Quality framework

## Co-operation

- Raising political awareness
- Harmonisation
- Joint Questionnaire
- Joint Training
- Common manuals
- Joint quality assessment
- Exchange of data

# Priority was to collecting basic information on each organisation in terms of statistics collecting and use

Short presentation of each organisation

Definition of flows used by organisations

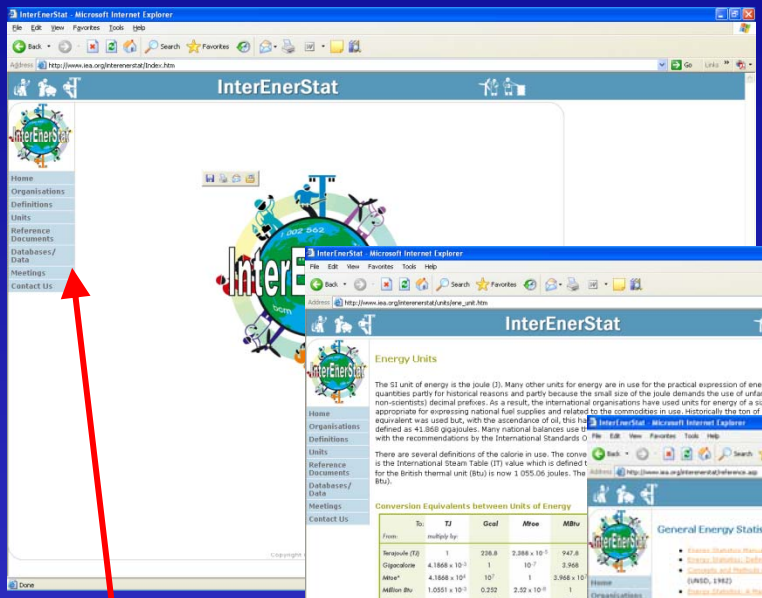
Links to databases

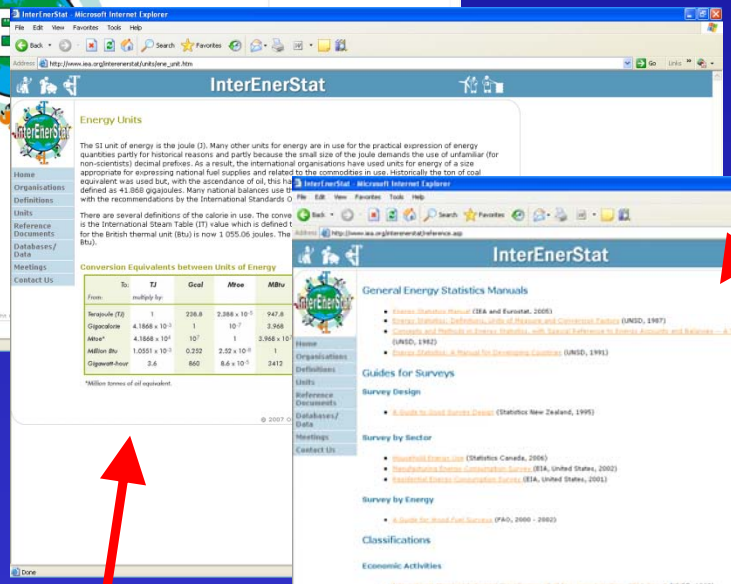

Definition of products used by organisations

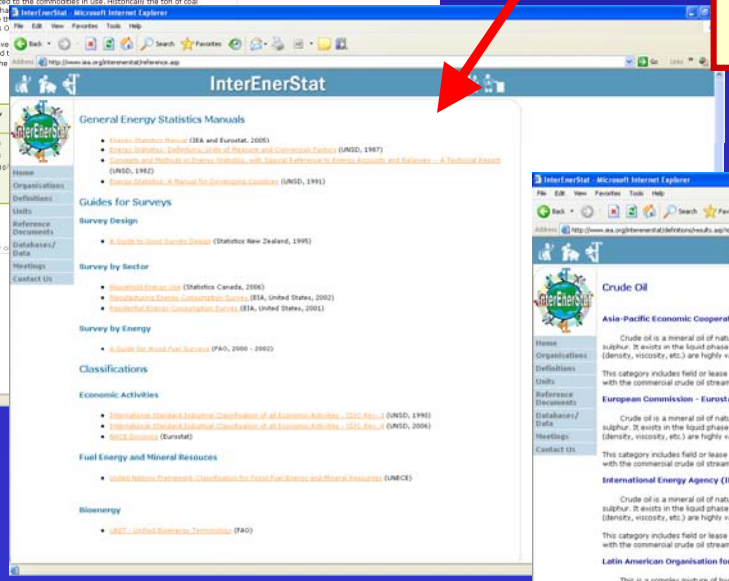
Key reference documents and manuals

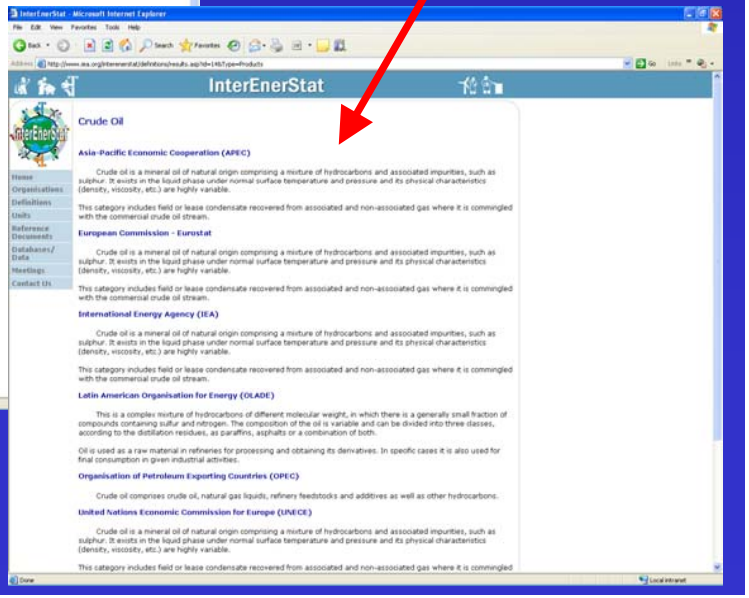
Main units used in energy statistics

# A Web site was prepared to display the information gathered




List of reference documents by category

Definitions of products and flows from all the organisations who have definitions

Menu driven

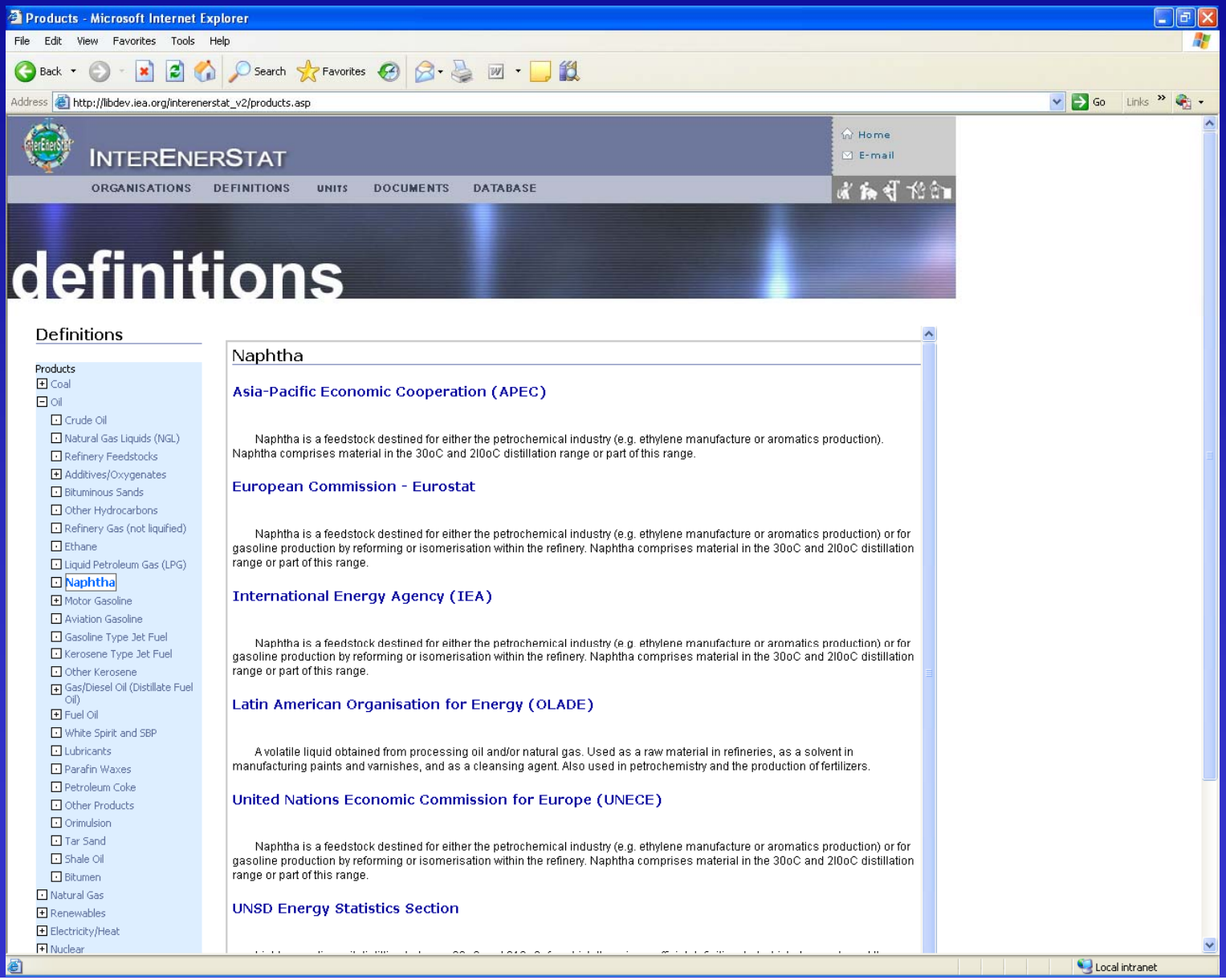
Main units used in energy conversion

# The 2nd InterEnerStat Workshop

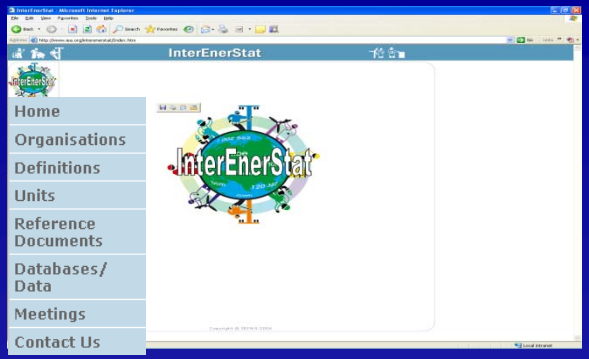
## 19-20 November 2007, IEA, Paris


- Comment on the website
- Activities to improve energy statistics
- Strategy towards harmonisation

# A new InterEnerStat website was then designed to take into account the comments received



The 2nd InterEnerStat workshop highlighted that a lot of work took/takes place in each organisation and between organisations




The Website

Harmonisation

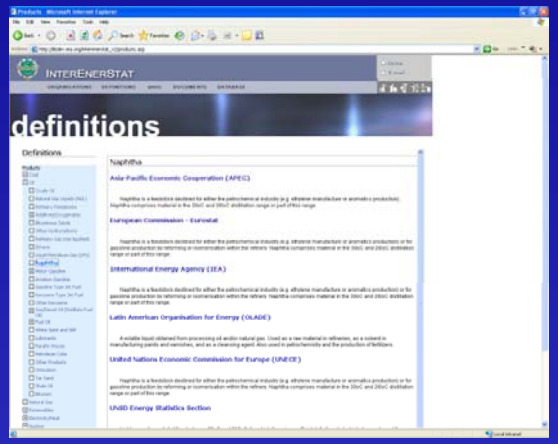
Manuals

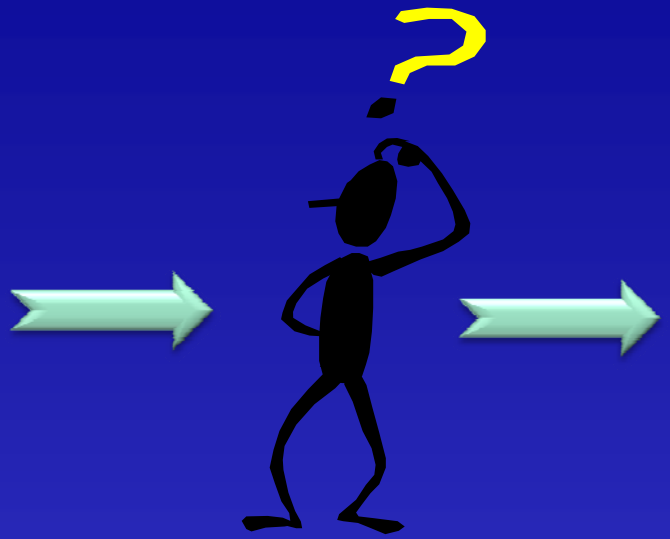
Statistics Law

Training

Dissemination

# What happened since InterEnerStat 2

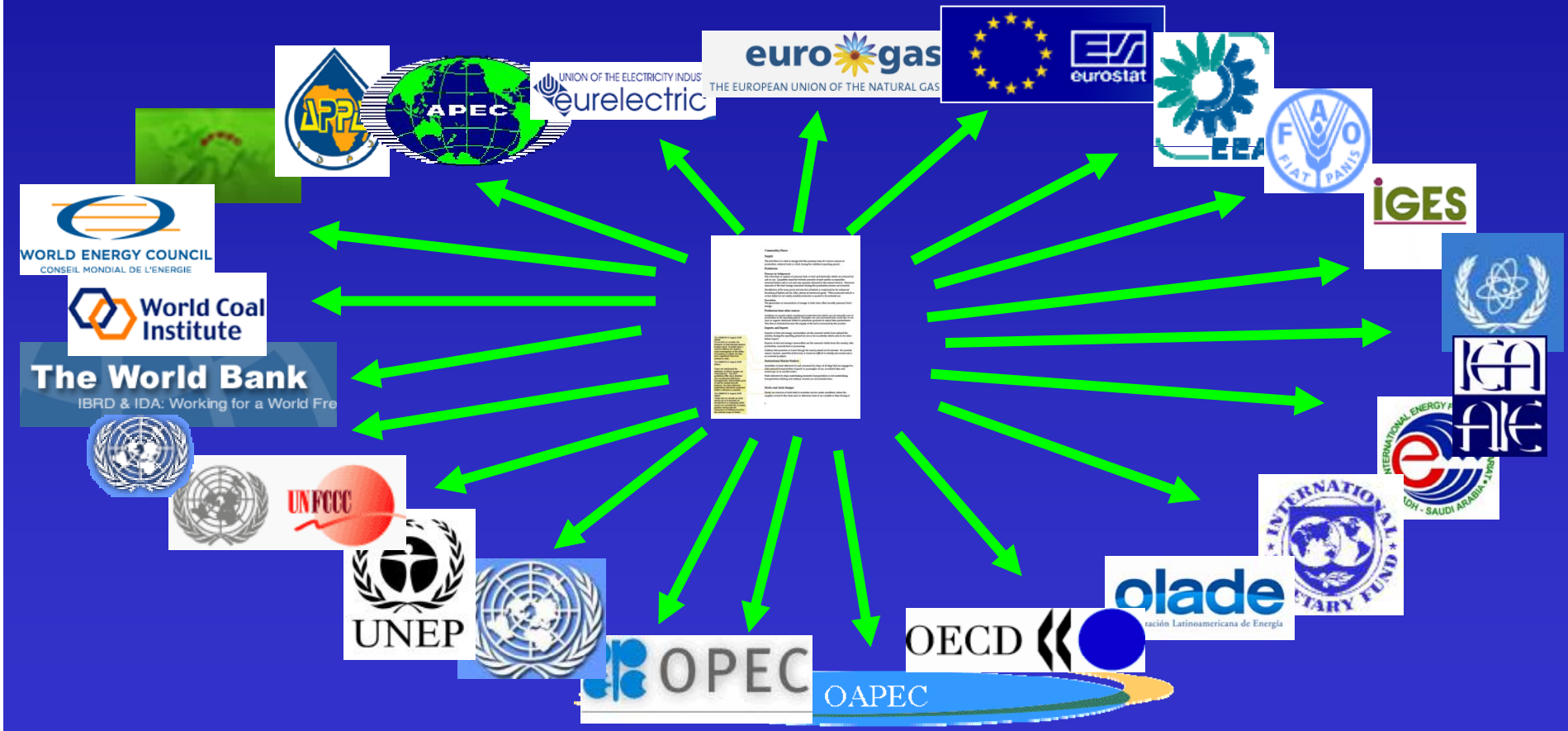


- **An expert has been contracted for:**
  - **Looking at flows and products**
  - **Highlighting similarities and differences**
  - **Proposing a "compromise" definition for each flow/product**

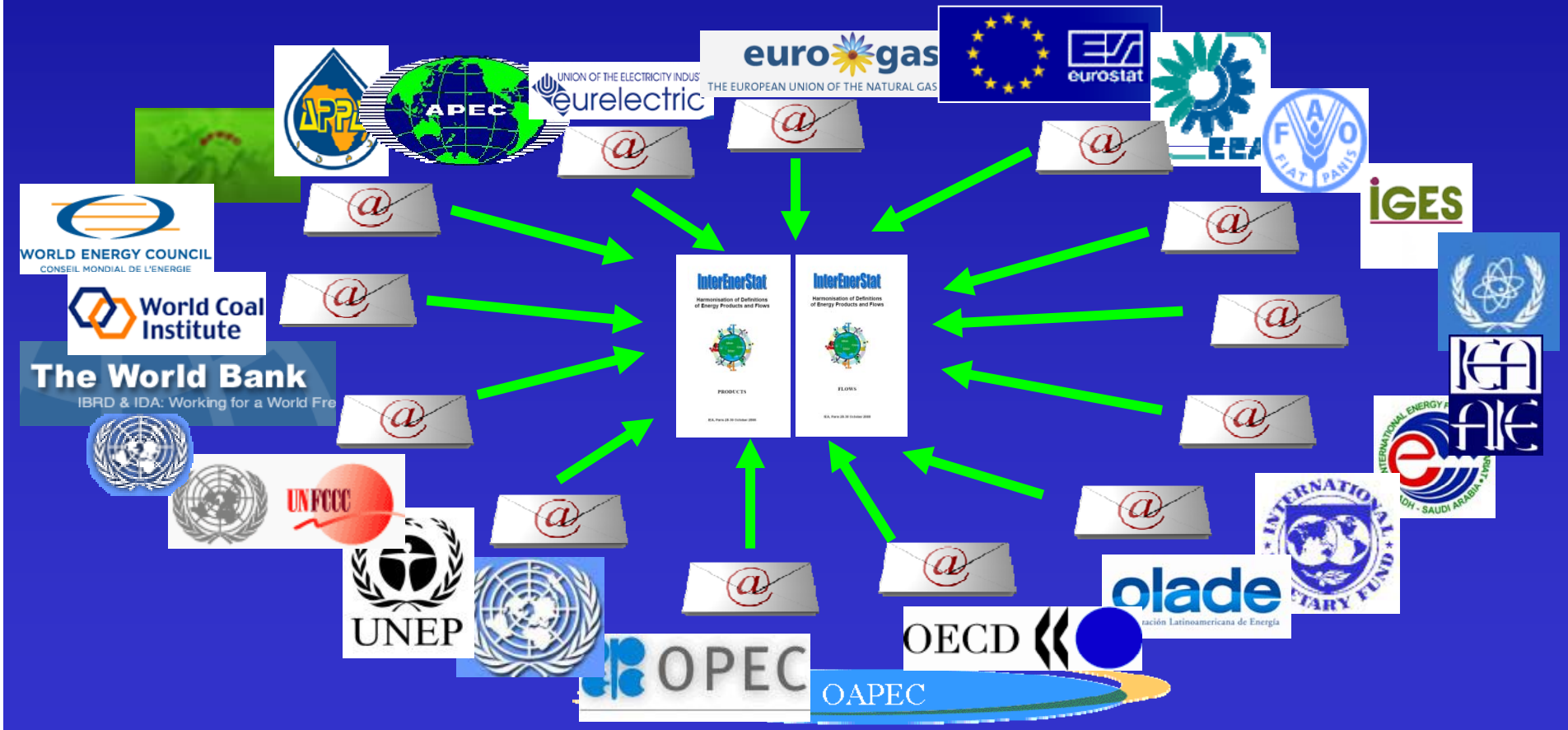
# What happened since InterEnerStat 2

- The proposed ‘compromise’ definitions have been sent to all organisations for comments



# What happened since InterEnerStat 2

- Comments have been sent by many organisations and assembled into two documents on flows and products




# InterEnerStat

## Harmonisation of Definitions of Energy Products and Flows

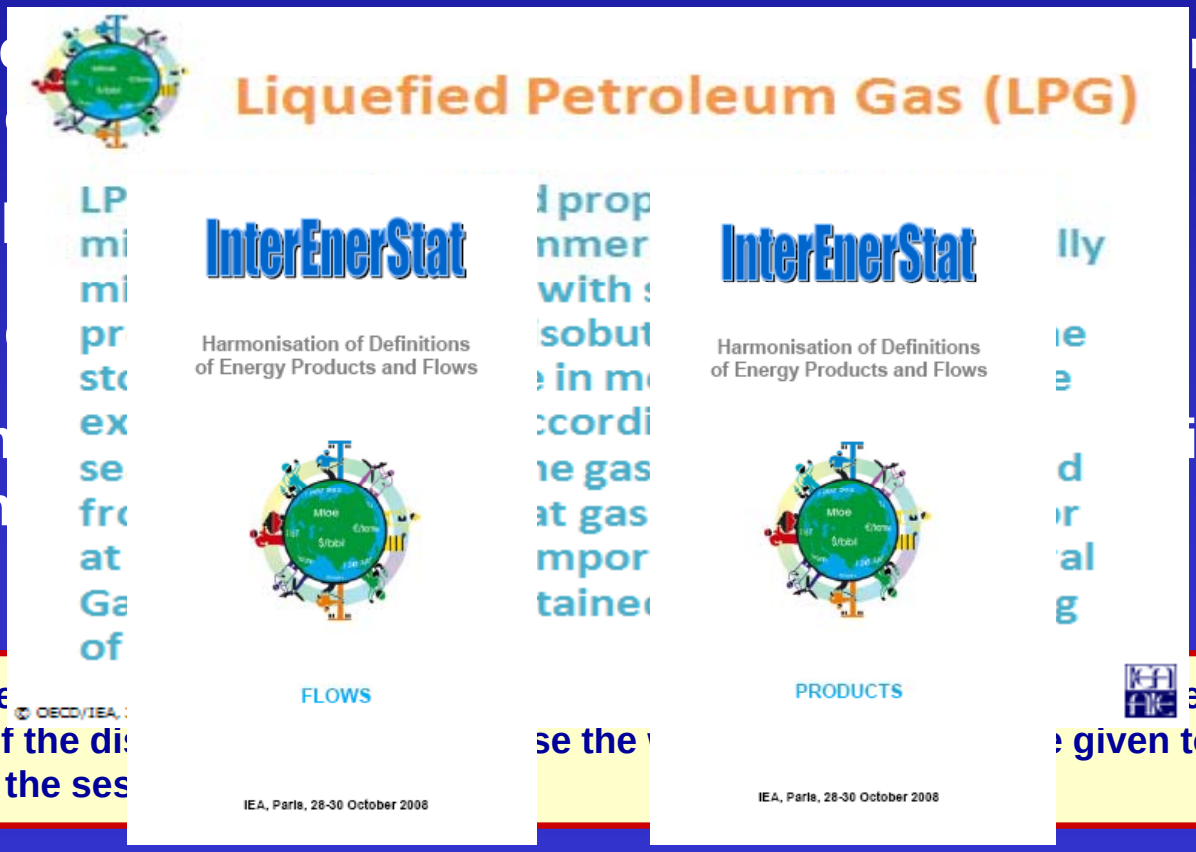

## FLOWS

IEA, Paris, 28-30 October 2008


| Tuesday 28 | Wednesday 29 | Thursday 30 |
|---|---|---|
| Background Objectives | Flows (1st session): Supply Transformation | Natural Gas |
| Coal | | Oil |
| Lunch hosted by the IEA | Lunch | Lunch |
| Renewables | Flows (2nd session): Consumption | Oil (cont.) |
| Electricity | | What's next Closing |
| | | Dinner hosted by the IEA |

# The Discussion Process

- The Chair to introduce the definition of a product or a flow
- The definition will be shown at the same time on the screen
- A pap… …nd the produ…
- The C…
- Open …
- Mr Sin… …iscussion and th…




Note: Two represe… …ed to write down the main points of the di… …se the … …e given to the participants after the ses…


**The definition as proposed by the consultant**

**Comments received from organisations**

### Stocks and stock changes

Stocks are reserves of fuels held to maintain service under conditions where the supplies of fuel to the stock and/or deliveries from it are variable in their timing or amounts. Not all stocks are eligible for inclusion in fuel statistics and those which are need to chosen in a manner consistent with the construction of the national fuel statistics.

Stock change over the reporting period is conventionally the difference between the stock level at the beginning of the period (opening stock) and that at the close of the period (closing stock). Consequently a decrease in stock (stock draw) gives rise to a positive stock change and represents an addition to supply. Conversely, an increase in stock (stock build) results in a negative stock change and is considered a withdrawal from supply.

**Comment [4]:**
Tim SIMMONS 6 August 2008 09h42
I think that we should say what stocks are as it provides an introduction to explaining which stocks are excluded (for example, pipeline stocks) and the importance of defining precisely the national scope of stocks.

## COMMENTS

### APEC

**Stock and Stock Changes** – We agree with the consultant to identify which stocks are included and excluded. Only the stocks of the government, stock holding companies and bulk suppliers (importers, exporters, refineries and depots) should be included in stocks as stocks of consumers may be difficult to collect.

The word **"reserves"** to refer to stocks might also lead to confusion with reserves that are yet to be extracted from underground. Please find another word like inventory or the like.

### IEA

We agree that we need to have a definition of stocks, but find the current suggestion to be vague. We should say what is and is not included.

The second part of the definition depends on the reporting convention. For oil, for example, the opposite of what is mentioned is usually the convention i.e. the stock change= closing-opening stocks.

Stocks and reserves should not be confused. Reserves we use for what is still underground.

### OLADE

It would be useful to include formula for stock changes.

### OPEC

We would agree to provide the explanation as to which stocks are excluded and the importance of stocks.

### UNSD

The wording of the proposed definition seems to suggest that underground resources are included in the definition of stocks: the term "reserve" is generally used to denote a subset (which are exploitable under certain circumstances) of the natural underground resources.


## OSLO CITY GROUP

### *Introduction*

We much welcome the InterEnerStat initiative to harmonise definitions which we recognize is an important and challenging task.

We understand that the definitions are provided by the organisations and that the aim has been to harmonise these definitions to the extent possible, and recognize the work done by Mr Simmons by putting these draft definitions up for discussion. We see this as a unique possibility for energy statistics to have a set of clear and consistent definitions. We express our hopes that the work of InterEnerStat and Mr. Simmons will lead to an agreement on definitions, and ascertain our willingness to contribute in such a way that this will be possible.

We have taken your request for comments seriously. As a first approach to comment on the definitions as provided by Mr Simmons we contacted several data providers and users of energy statistics in Norway for their comments. In the next step we had internal discussion on the different groups of commodities and debated how we should take into account the different views we received. Finally we came to some conclusions and questions that we would now like to forward to you as a response to your request for comments.

### *Principles for definitions – criteria for the definition of products*

We completely agree with Mr. Simmons that definitions should be as simple as possible and limited to describing what the product is. With this we understand a description based on the physical and chemical properties of the products. We also agree that notes on reporting of quantities, classification of products, production and consumption processes should not be included in the definitions. We believe that by making simple definitions based on physical and chemical properties independent of classification it will be easier to come to an agreement on product definitions.

As we see it many of the products are not defined according to these principles and may need some elaboration. We have received many comments addressing the lack of consistency between the proposed definition and the criteria for the definition of products.

In energy statistics energy is traditionally classified into primary and secondary energy sources/commodities. Other classification schemes might be equally important. Energy sources and commodities can also be classified according to the state in which they are extracted, traded or consumed, gas, liquid or solid. Oil and gas are for instance in gaseous and liquid phases, while coal, coke and peat are in a solid phase (therefore solids, short for solid fossil fuels?). Recently, our awareness of climate changes and the importance of emission of carbon to the atmosphere have made us ask for more and better statistics on renewable energy. Therefore, energy sources are also classified in renewable and non-renewable energy sources. Energy sources can be renewable, fuels can not. We think that it is unfortunate to group side by side classes of energy sources and commodities like "oil and gas" on one hand and "renewables" on the other, as the word renewable belongs to a classification scheme.

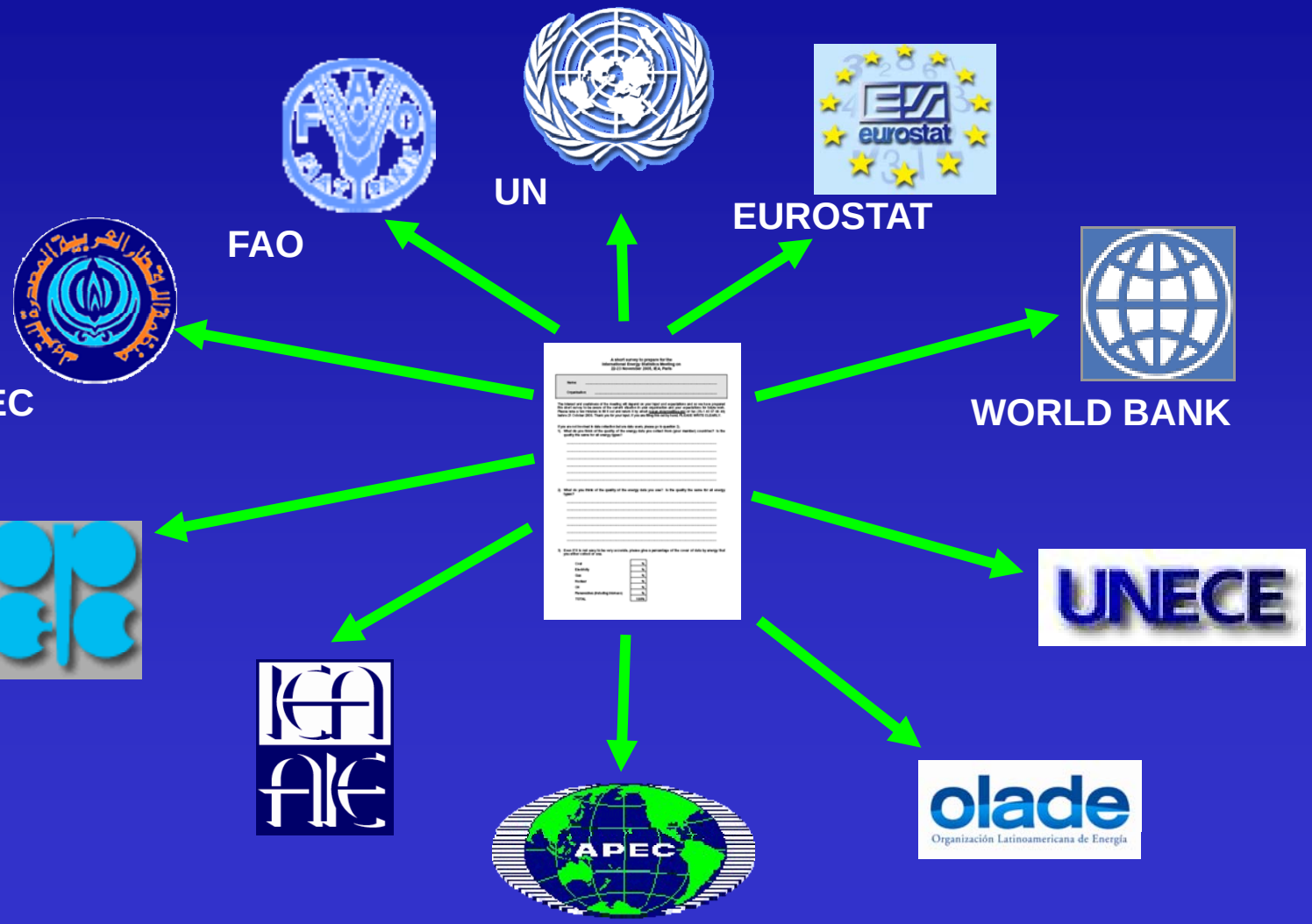


A few pages of general comments

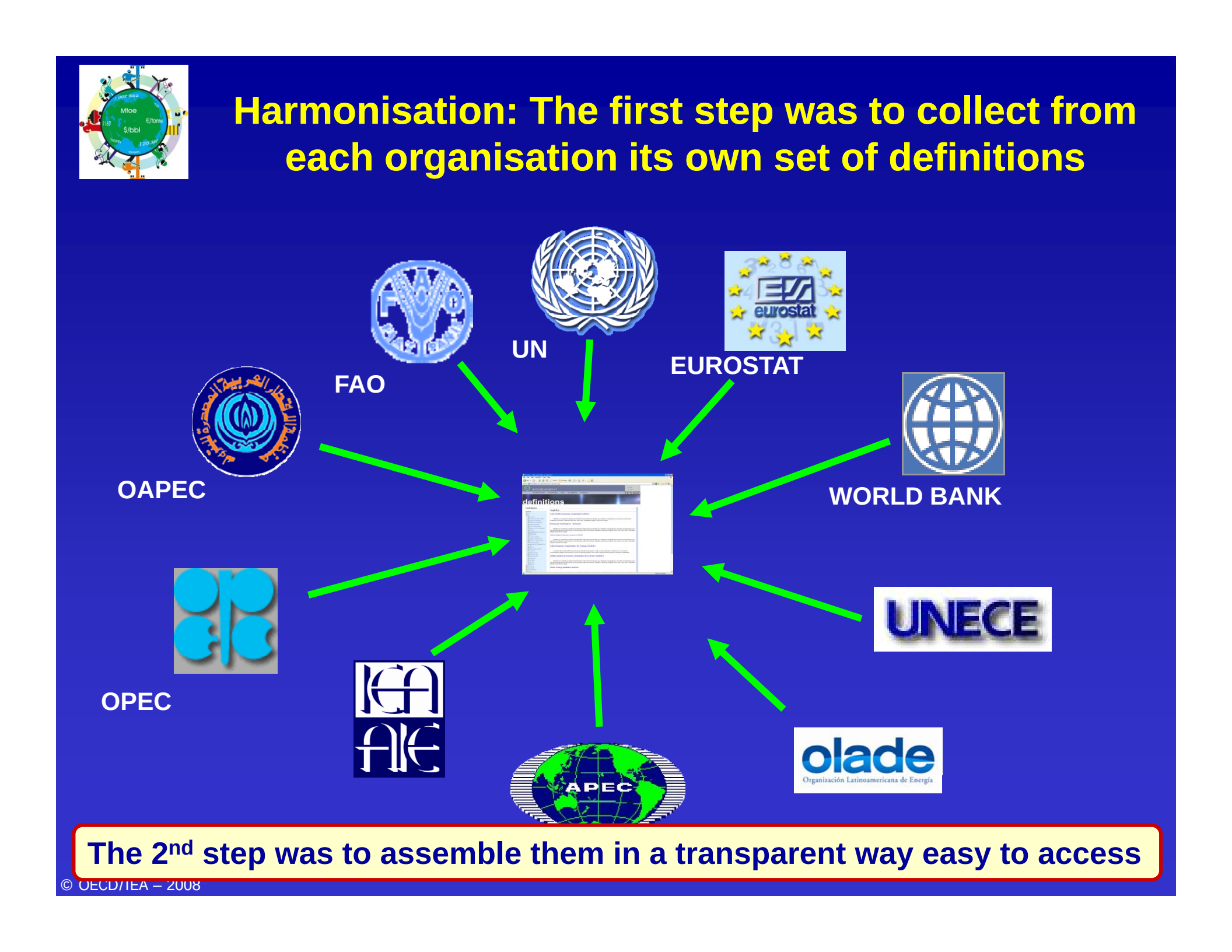

# A few words on what could be next

- The IEA to prepare and disseminate a report with the main points to take into account in redrafting the definitions
- The organisations to have a few days to look at the document to correct what needs to be corrected and to comment
- The Consultant to take into account all the comments received in the workshop, possibly amended by later corrections and comments in order to propose a second draft of the definitions
- The IEA to re-circulate the second set of definitions for fine-tuning comments
- It is well understood that these definitions will only be guidelines to help organisations to arrive to a common understanding of what is a covered by a particular flow or a particular product.
- It is also well understood that no organisation needs to change its current definitions to adopt the common definitions which could result from this work

# Two documents (flows and products) sent to organisations



# Harmonisation: The first step was to collect from each organisation its own set of definitions




**The 2nd step was to assemble them in a transparent way easy to access**