

Energy efficiency in manufacturing SMEs: Sharing Australian and International Experience in Policy and Program Design

Report on a workshop hosted by the Australian Government Department of Industry and the Ministry of Economy, Trade and Industry of Japan, under the International Partnership for Energy Efficiency Cooperation (IPEEC) and IPEEC's Energy Management Action Network (EMAK).

The workshop was held on Thursday, 27 February 2014, at the State Library of NSW, Macquarie St, Sydney, Australia.

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Executive summary

The Australian Government Department of Industry, in association with the Ministry of Economy, Trade and Industry of Japan, under the International Partnership for Energy Efficiency Cooperation (IPEEC) and IPEEC's Energy Management Action Network (EMAK), hosted this workshop on energy efficiency policy and programs for small and medium enterprises (SMEs) in the manufacturing sector. Workshop participants included policymakers, government program managers, industry associations, manufacturing SMEs, educators and researchers. International input was provided by representatives from Japan, China, India and the International Energy Agency.

The workshop outcomes were defined early in the development process as providing participants with an opportunity to:

- learn about and share experiences on designing and implementing energy efficiency policies and programs for manufacturing SMEs
- initiate and develop networks within and across industry associations, manufacturing SMEs and government policymakers
- contribute towards ongoing domestic and international dialogue and capacity-building on energy efficiency for SMEs; for example, the workshop will provide important input to the IEA's forthcoming publication on energy efficiency policy development for SMEs.

Many examples of leading practices, challenges and practical suggestions for policy and program development were put forward and discussed throughout the workshop. Four of the themes that emerged and were discussed consistently throughout the workshop include: the value of networks and networking; the diversity of energy efficiency policies and programs for SMEs, the importance of policy stability and consistent messaging; and, the ongoing challenge of encouraging a high standard of energy efficiency product and service provision in the market.

1. The value of networks and networking

Interaction among participants in the workshop highlighted the value of networks and networking as an important means of capacity building. Interactions within and between energy efficiency policymakers and practitioners were particularly constructive in providing new perspectives on effective policymaking and program implementation. Participants shared successful practices and explored solutions to challenging policy and program implementation issues. The workshop has supported ongoing informal collaboration between workshop participants on energy efficiency policy and program development and implementation.

2. The diversity of SME energy efficiency policies and programs requires careful planning to ensure that they are complementary to one another.

SMEs face many barriers to energy efficiency. Throughout the workshop a range of energy efficiency policies and programs were described—from those that emphasise information provision through to those that focused on financial and capital barriers. Emphasis was placed on ensuring that as new policies are developed, they are seamlessly dovetailed into existed policies.

3. Policy stability combined with consistent messaging from multiple stakeholders was identified as essential in order to support ongoing energy efficiency improvement amongst SMEs.

The diversity of SME size, industry sub-sector and energy end-uses presents a significant challenge. Ongoing progress can be supported by policy stability since it takes some time for organisations to understand the implications of government policies and programs and to respond effectively. Energy efficiency improvement may be maximised through consistent communication of the business case for energy efficiency through multiple channels including across multiple government departments and industry associations.

4. Product and service delivery to an appropriate standard remains a challenge.

SMEs may be confronted by a range of claims made by suppliers and service providers. This may encourage complacency due to conflicting messages and a lack of confidence in the ability of suppliers and service providers to deliver consistent outcomes. Poor quality advice, equipment selection and installation combined with explicitly misleading information can significantly impact on SME confidence in energy efficiency improvement and, subsequently, may discourage effective action. Key stakeholders are addressing this challenge in a variety of ways including through informal networks, delivery of services through industry associations, accreditation and the development of equipment and service standards.

This workshop report provides further detail on the themes, challenges, opportunities and suggestions for policymakers that were explored at the workshop. It is intended that the report be used as an input for the development of the IEA's pending policy pathway on energy efficiency policy and programs for SMEs. Further, it is expected that by making the presentations and report publicly available the knowledge shared within the workshop can be communicated and applied more widely through the EMAK and IPEEC networks.



1. Introduction

1.1 Overview of this report

This report provides a summary and analysis of the presentations and discussions that were conducted at the workshop titled: Energy efficiency in manufacturing SMEs: Sharing Australian and International Experience in Policy and Program Design.

This introduction to the report describes the background to the workshop, its structure, aims, and invited participants.

Following the introduction, the report presents:

- summary of presentations, questions and answers in workshop sessions 1 to 3
- feedback from the interactive dialogue and discussion in workshop session 4
- analysis of workshop themes and their implications for policymakers and practitioners
- summary and conclusions.

Appendices attached to this report include the workshop agenda, speaker biographies, a list of workshop participants and a summary of the workshop evaluation. Hyperlinks (underlined blue text) have been inserted throughout the document to facilitate easy access to further information about organisations, programs and issues.

1.2 Background to the workshop

The Australian Government [Department of Industry](#) and the [Ministry of Economy, Trade and Industry](#) of Japan hosted this workshop under the [International Partnership for Energy Efficiency Cooperation \(IPEEC\)](#) and IPEEC's [Energy Management Action Network \(EMAK\)](#). EMAK aims to improve energy efficiency in industry through information-sharing and the development of policy and practitioner networks (Figure 1).

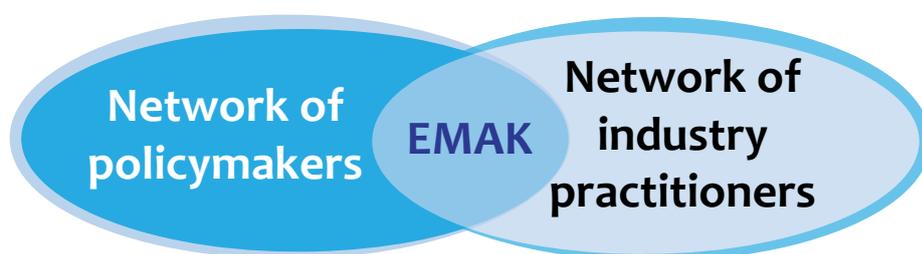


Figure 1: Interaction between policy and practitioner networks.

This is the 5th EMAK workshop. Previous workshops have been held in the following locations (click on links to view the agenda and presentations for each workshop):

- [Paris, France – 26–27 January, 2010](#)
- [Washington DC, USA – 10 May, 2010](#)
- [Guilin, China – 15 November, 2011](#)
- [Tokyo, Japan – 1 January, 2013](#)

1.3 Workshop aims

The aim of the workshop was to provide an opportunity for participants to:

1. learn about and share experiences on designing and implementing energy efficiency policies and programs in manufacturing SMEs
2. initiate and develop networks within and across industry associations, manufacturing SMEs and government policymakers at both national and international levels
3. contribute towards domestic and international dialogue and capacity-building on energy efficiency for SMEs. For example, the workshop provides an important input to the IEA's forthcoming publication on energy efficiency policy development for SMEs.

1.4 Workshop structure

The workshop was conducted over four hours and structured around four sessions:

Session 1: National and state government programs in Australia that target manufacturing SMEs

Representatives from the Australian government and the NSW state government provided an overview of the energy efficiency policies and programs they have developed that target manufacturing SMEs.

Session 2: Industry association initiatives that drive energy efficiency improvement with their members

Representatives from Australian industry associations examined the successes, challenges and future opportunities associated with energy efficiency programs for their members.

Session 3: International perspectives on energy efficiency policy for manufacturing SMEs

Members of the International Partnership on Energy Efficiency Cooperation (IPEEC)'s Energy Management Action Network described existing energy efficiency policies and programs, key lessons learned and relevant issues associated with future policy and program development.

Session 4: Interactive dialogue and discussion session

Workshop participants themselves discussed issues and solutions in groups of 6–8 people. Each group then reported back on the top suggestions they have for industry associations and governments to improve the effectiveness of policies and program delivery for manufacturing SMEs.

The complete agenda and workshop program are provided in the Appendix (see Section 6.1, pp. 20–21)

1.5 Invited workshop participants

A wide range of stakeholders with an interest in energy efficiency policy and program development for manufacturing SMEs were invited to the workshop. Fifty people registered for workshop. Participants represented a range of perspectives and included government policymakers and program managers, industry associations, educators, researchers and private consultants.

2. Summary of presentations and Q&A in Sessions 1 to 3

In this section of the report brief summaries of each presentation are provided. These summaries are then supported with notes on the questions posed by workshop participants to speakers after their presentations.

2.1 Session 1: Australian and state government programs for manufacturing SMEs

Introduction

The aim of this session was to provide an introduction to national and state government policies and programs that target energy efficiency improvement in manufacturing SMEs in Australia (see Table 1).

Table 1: Session 1 agenda

9:00 am	National and state government programs in Australia that target manufacturing SMEs	
	Overview of Australian Government policies and programs	Ms Angela Dinos , Manager, Manufacturing Technology Programs Branch, AusIndustry
	NSW State Government policies and programs	Mr David Malicki , Senior Team Leader, Energy Efficient Business and Ms Karinne Taylor , Project Officer, NSW Office of Environment and Heritage.

Summary of presentations

Angela Dinos, Manager, Manufacturing Technology Programs Branch, [AusIndustry](#), welcomed all participants to the workshop and explained that AusIndustry is a specialist program delivery division within the Department of Industry.

Angela discussed:

- the energy needs and challenges faced by small and medium sized manufacturers in Australia, and the types of projects and manufacturing industry sectors funded through the merit-based [Clean Technology Investment Program](#)
- the scope of projects awarded under the [Energy Efficiency Information Grants Program](#)
- current energy efficiency programs and developments including the consultation process being undertaken to develop the [Emissions Reduction Fund](#)
- the role of the Australian Government's [Energy Efficiency Exchange](#) website as a central hub of information and capacity-building support for manufacturing SMEs and other organisations looking to improve their energy efficiency performance.

David Malicki is the Senior Team Leader, Energy Efficient Business at the NSW Office of Environment and Heritage (OEH). David presented together with **Karinne Taylor**, Project Officer, NSW OEH. OEH is responsible for energy efficiency policy and programs for manufacturing SMEs in the state of NSW. In this joint presentation, David and Karinne highlighted:

- the central elements of the [Energy Saver Program](#) include energy audits, information provision, project financing, market measures (such as the [Energy Savings Scheme](#)) and [energy efficiency training](#)
- how the program has evolved since 2009, culminating in 2013 in the NSW Government's [Energy Efficiency Action Plan](#)
- the lessons learned from [Sustainability Advantage](#), a program that has been running for seven years and brings together groups of businesses into clusters that share regional, industry or supply chain interests. Clusters meet quarterly to network and share experiences at the same time as they receive expert advice and guidance.

Session 1 highlights

The presentations in this session were comprehensive. Some of the essential points that emerged:

- Energy efficiency policy and programs typically involve multiple measures that are designed to address a range of diverse barriers to the uptake of energy efficiency in manufacturing SMEs
- Interventions are made by different levels of government and are most effective when such measures are complementary to each other.
- There is deep history of energy efficiency policy and program development for manufacturing SMEs in Australia. Programs evolve as learning occurs and program design is influenced by changing economic and political circumstances.
- Successful outcomes have been achieved from past and present programs. It is acknowledged that further improvements to energy efficiency will deliver more benefits to manufacturing SMEs while supporting the goals of government.

2.2 Session 2: Industry association initiatives that drive energy efficiency improvement

Industry associations play a central role in encouraging energy efficiency amongst manufacturing SMEs.

The advantages of involving industry associations in energy efficiency policy and program development and delivery include:

- using existing industry networks
- having a detailed understanding of the specific needs and issues that manufacturing SMEs that are members of their organisations face
- using existing program delivery mechanisms.

In this session three industry associations in the manufacturing sector (Table 2) described current initiatives they are implementing under the Australian Government's [Energy Efficiency Information Grants Program](#).

Table 2: Session 2 agenda

9.35 am	Industry association initiatives that drive energy efficiency improvement with their members. Representatives from Australian industry associations will examine successes, challenges and future opportunities associated with energy efficiency programs for their members.	
	Australian Industry Group (Ai Group)	Mr Tennant Reed , Principal National Advisor Public Policy
	Supply Chain and Logistics Association of Australia (SCLAA)	Mr Mark Skipper , National Director
	South Australian Wine Industry Association	Mr Mark Gishen , Project Manager, Environment and Technical
	Panel discussion	Facilitated by Mr Patrick Crittenden , Sustainable Business

Summary of presentations

Tennant Reed is the Principal National Advisor Public Policy of the [Australian Industry Group \(Ai Group\)](#). In this presentation, Mr Reed:

- shared lessons learned by Ai Group including the need to continue providing targeted and 'well-pitched' information on energy efficiency to manufacturing SMEs together with individual support and funding programs in which transaction costs are low
- summarised research into the level of interest and activity of their members in relation to energy efficiency (for example see the 2012 research report [Energy shock: pressure mounts for efficiency action](#))
- explained the activities of the Ai Group's in-house energy services team and the organisation's involvement in information grants, the Clean Technology Investment Program and state programs such as [Resource Efficiency Assist](#) for sites in the Australian States of Victoria and South Australia.

Mark Skipper is National Director of the [Supply Chain and Logistics Association of Australia \(SCLAA\)](#).

In this presentation, Mr Skipper:

- provided an overview of the SCLAA including its links to other industry associations in Asia
- explained the work completed to date in [developing face-to-face training, webinars and online tools for energy efficiency in SMEs](#)
- described some of the implementation lessons learned so far:
 - recognising the value of partnerships to maximise SME coverage, awareness and interest
 - using a range of free media options to 'get the message out'
 - keeping delivery time of information events short and sharp
 - incorporating actionable examples including return-on-investment case studies that are SME relevant (e.g. have a short payback)
 - respecting that SMEs often operate over very long hours each week and therefore it is important to work around the times that suit them
 - using webinars to access those managers that cannot attend at a specific date and time
- proposed ways for policymakers to support SMEs in energy efficiency benefits; e.g. with case studies with clear financial returns outlined and by consulting with SMEs on their needs and challenges.

Mark Gishen is Project Manager, Environment & Technical, South Australian Wine Industry Association.

In his presentation, Mr Gishen described:

- how existing work on energy efficiency in the winery industry that has been completed in previous years was adapted to develop the [Winery Energy Saver Toolkit](#) that specifically targets SMEs
- outcomes winery SMEs have achieved through application of the Winery Energy Saver Toolkit including benefits beyond energy savings. One organisation significantly reduced expenditure by factoring in energy efficiency when upgrading their winery; another reduced labour costs and energy use by minimising the transfer of liquid across vats and containers
- how the [Clean Technology Food and Foundries Investment Program](#) has supported the delivery of energy productivity improvements
- the challenge of engaging a large number of wineries in energy efficiency and the importance of interorganisational partnerships to create a spirit of collaboration and trust with SME owners and managers.

Q&A panel session

Following the presentations each speaker was invited on stage to be part of a question-and-answer panel session. Four questions were asked by workshop participants. These questions and the response by panelists are summarised below.

Question 1: What do you do to actively build partnerships across organisations and with SMEs?

The general response to this question was that it was important to consult carefully with and listen to the unique business circumstances and needs of SMEs. This is then be supported by communication through a wide range of channels including local media as well as industry association publications and briefings. Finally, partnerships between organisations with a high level of credibility and specific expertise in their area (e.g. technology, education etc.) was seen as an important means of building trust and delivering high-quality and effectively targeted programs.

Question 2: To what extent have you observed a reduction in energy efficiency activity amongst organisations due to the discontinuation of recent policies?

Tennant Reed from the Ai Group had observed a pause in activity, in part due to a reduction in grant funding under the C-TIP program when the previous national government introduced changes that reduced the price of carbon under the Australian [carbon pricing mechanism](#). At the same time there have been reviews of the [Energy Savings Scheme in NSW](#) and the [Victorian Energy Efficiency Target \(VEET\)](#) Scheme and the development of the Australian Government's [Emissions Reduction Fund](#) is ongoing.

These reviews and changes mean that there is uncertainty regarding policy settings, programs and the degree to which government information and grant support may be forthcoming in future.

Mark Gishen explained that the availability of capital accelerated activity amongst SMEs in the South Australian wine sector. Mark expects that raising the profile of energy efficiency through the Energy Efficiency Information Grants program will help, to some extent, to keep a focus on energy efficiency.

Mark Skipper explained that there continues to be activity in the logistics and warehousing sector since there remain significant cost savings and other benefits that companies can achieve—even without access to grants or other incentives.

David Malicki from NSW OEH also responded to this question. He explained that any grant funding is likely to generate additional activity. For the NSW Government the ongoing operation of the market-based [Energy Savings Scheme](#) is a priority over grant funding. David also pointed out that rising energy prices had also increased the interest of SMEs in energy efficiency and this level of interest may continue as gas prices are estimated to increase significantly in the next few years. Other important drivers have been the improvement in technologies that have enhanced the business case and financial return for particular projects (e.g. lighting).

Question 3: What lessons have you learned about providing training and capacity building to manufacturing SMEs?

Mark Skipper explained that partnerships can play a particularly important role. In the case of the Supply Chain and Logistics Association of Australia information grant project a partnership was formed with ClimateWorks at Monash University to deliver energy efficiency training. Mark explained that those involved specialise in energy efficiency and training and are therefore able to provide high quality content.

The organisation also has credibility due to the high profile of its board. The association is doing the marketing and ClimateWorks is delivering the content. Mark also explained the importance of running events at a time that is suited to SME managers; for example, morning sessions in some sectors are preferable to evening sessions.

Mark Gishen described the difficulties in getting the right people into the room with most SMEs explaining that they 'just don't have the time'. Mark explained however that he often promoted energy efficiency projects that would save time and labour costs. For example, reducing the pumping of liquids from one vat to another can reduce energy use as well as labour costs.

Mark also highlighted the important role that the Energy Efficiency Information Grant program has had in encouraging 'leaders' to come forward in order to demonstrate the benefits which they can then share with their peers. He considers this as a particularly powerful way of promoting the benefits to other SME owners and managers.

Tennant Reed explained that Ai Group deliver training programs on a range of subjects. They aim to integrate information on energy efficiency into other courses (e.g. occupational health and safety and workplace relations). In this way, the association increases exposure across the sector without requiring significant additional resources. This approach to 'mainstreaming' reaches owners and managers that are unable to participate in a dedicated energy efficiency event.

Question 4: There is wide variability in the quality of services from energy service providers, equipment suppliers and tradespeople installing equipment. Do you have any suggestions for ways of improving quality and reducing the spread of inaccurate or misleading information about energy efficiency technologies and practices?

Tennant Reed acknowledged that this is a challenging issue because, 'who wants to take responsibility for who is good and who is bad?', referring to energy efficiency equipment and service providers. Tennant suggested that governments generally want to steer clear of making recommendations and industry associations are constantly approached by service providers wanting the associations member lists. Ai Group offers its own energy services (e.g. energy audits) but does not make recommendations to SMEs regarding equipment suppliers and installers.

Mark Skipper encouraged the development of accreditation, noting that 'there is a whole industry of 'fly-by-nighters out there that jump on the bandwagon and it is difficult for SMEs to know what is right and wrong'.

One solution provided by Tennant Reed was that industry associations could provide SMEs with information that they could use to 'sense check' the information they were provided by equipment and service providers.

A member of the audience highlighted that while accreditation of service providers was not available in all areas, a scheme for service providers delivering building upgrades had been recently developed through government and industry association collaboration.

Session 2 highlights

The presentations in session two were comprehensive and explored a range of issues from the perspectives of industry associations that work with SMEs. Some of the essential points that emerged of relevance to the aims of the workshop:

- It is evident that there are multiple benefits that result from the implementation of many energy efficiency projects. Often these benefits may outstrip the value of energy cost savings alone.
- There is significant learning amongst industry associations about energy efficiency program design and implementation for SMEs. Presenters highlighted the need to understand real and perceived challenges SMEs face in their businesses and targeted information about energy efficiency options. Also noted was adapting existing capacity-building resources with larger organisations in mind to meet the needs of SMEs.
- There is a need to close the gap between SMEs having information and actually implementing energy efficiency initiatives. This may be addressed by collaboration among key stakeholders (industry associations, service providers, government etc.) and direct briefings to SMEs on a one-to-one basis.

2.3 Session 3: International perspectives on energy efficiency policy for SMEs

Introduction

The aims of the Energy Management Action Network (EMAK) are to:

- improve energy efficiency, mainly in industry, by promoting energy management through the establishment of energy efficiency policy and energy efficiency practitioner networks
- create a robust forum for the discussion on policy issues related to energy management and sharing the best practices of each region, country and industry.

EMAK has made an important contribution towards ‘within-country’ networks and ‘international’ networks. In this session speakers provided perspectives on energy efficiency policy and program development of manufacturing SMEs globally including in Japan and Guangdong Province in China, India and the IEA (Table 3). Whilst Sameer Pandita was unable to present at the workshop, his comprehensive slides will be made available together with the other presentations on the Energy Efficiency Exchange website (eex.gov.au).

Table 3: Session 3 agenda

11:00 am	International perspectives on energy efficiency policy for SMEs	
	Members of the International Partnership on Energy Efficiency Cooperation's (IPEEC) Energy Management Action Network will describe existing energy efficiency policies and programs, key lessons learned and the issues associated with future policy and program development.	
	Why promote energy efficiency in manufacturing SMEs?	Ms Vida Rozite , Energy Efficiency Unit, International Energy Agency (IEA)
	Subsidised energy audits in Japan	Mr Niro Kitagawa , Energy Conservation Center, Japan(ECCJ)
	Policy and programs in Guangdong Province, China	Ms Anna Zhang , Deputy Director, Guangdong Provincial Economic and Information Technology Commission
	Panel discussion	Facilitated by Mr Patrick Crittenden , Sustainable Business

Summary of presentations

Ms Vida Rozite is an energy analyst at the IEA, where she manages industrial energy efficiency .

Ms Rozite explained:

- why the IEA is actively promoting energy efficiency policy in relation to manufacturing SMEs
- the vast potential for energy efficiency improvement in industry
- how the IEA is supporting SME energy efficiency including through the development of the 2014 Policy Pathway which aims to provide actionable guidance to policymakers and other stakeholders.

Mr Niro Kitagawa from the Energy Conservation Center of Japan (ECCJ) described a range of policies in Japan that target energy efficiency improvement in SMEs with a particular focus on subsidised energy audits. His presentation focused on:

- why a focus on energy efficiency improvement in manufacturing SMEs is important
- SME energy efficiency policies in Japan
- the approach adopted and results achieved through a subsidised energy audit program
- lessons learned from the subsidised energy audit program
- ongoing challenges and future plans.

The Japanese delegation to the workshop also provided links to recent research about Japanese energy efficiency policies, namely:

- [The Networks for Energy Management Activity around the World](#)
- [Fact-finding Study on Japan's Energy Management Policies – Proposals for Developing Countries](#)
- [Japan's Energy Management Policy Experiences and Their Implications for Developing Countries](#)

Ms Anna Zhang, Deputy Director, Guangdong Provincial Economic and Information Technology Commission provided insights into policies that support energy efficiency improvement in SMEs from the perspective of Guangdong Province in China. Ms Zhang's presentation covered:

- the importance of energy efficiency improvement in manufacturing SMEs
- current energy efficiency key policies of Guangdong Province
- main methods used and the results of energy efficiency interventions
- challenges and opportunities for further improvement.

Ms Zhang also highlighted that there are some important events and activities held in Guangdong province that progress work on energy efficiency improvement in manufacturing SMEs. These include:

- the [China International Green Innovative Products & Technologies Show \(CIGIPTS\)](#) which is held in November each year. CIGIPTS focuses on trade and investment, and closely aligns with policy trends on energy conservation and emission reduction
- the [China International Small and Medium Enterprises Fair \(CISMEF\)](#) which is held in September each year. CISMEF is a platform for the display, exchange, trade and cooperation for domestic and overseas SMEs. Specialized shows focus on energy conservation technology and products.

Mr Sameer Pandita is the Assistant Energy Economist, [Bureau of Energy Efficiency \(BEE\)](#), Ministry of Power, Government of India. He is responsible for the development and implementation of energy efficiency programs for SMEs in India. Although Mr Pandita was unable to present at the workshop, his presentation highlights:

- the economic importance of SMEs in India and the typical energy efficiency barriers that SMEs face
- how industry clusters have been used as a means of targeting energy use in SMEs
- progress with the [World Bank – GEF Project: Financing Energy Efficiency at MSMEs](#) project
- current and planned initiatives that the government of India will be using to progress energy efficiency improvement in manufacturing SMEs.

Panel question-and-answer session

Ms Vida Rozite, Mr Niro Kitagawa and Ms Anna Zhang participated in the panel session. Questions from the floor were moderated by Mr Patrick Crittenden.

There were six questions asked by workshop participants:

Question 1: How do SMEs in Japan view the provision of energy audit services by ECCJ?

Mr Kitagawa highlighted that ECCJ was seen as a trustworthy organisation by SMEs since it provided energy audit services but did not sell particular equipment or technologies. Therefore it was considered to provide impartial advice.

Question 2: How do SMEs response to the range of financial paybacks that are associated with energy efficiency projects.

Panel respondents explained that projects with a longer financial payback were less likely to be implemented. Mr Kitigawa explained, however, that in cases where organisations had to replace existing equipment anyway (e.g. a boiler) this encouraged the implementation of more energy efficient units or systems.

Question 3: How popular and effective are low-interest loans as a policy mechanism to support energy efficiency improvement in Japan?

Low-interest loans have been a popular and effective means of encouraging the uptake of energy efficiency in Japanese SMEs.

Question 4: To what extent do mandatory and voluntary measures influence energy efficiency activities amongst SMEs in China?

Ms Zhang explained that mandatory measures had been particularly influential in Guandong province. For example, organisations that did not meet their commitments may find it difficult to access financing from banks in some instances.

Question 5: To what extent are countries around the world interested in policies and programs for energy efficiency in SMEs?

Ms Rozite explained that there is a growing level of interest, particularly in emerging economies where SMEs comprise a high proportion of businesses. Growing interest has motivated the IEA to develop the next policy pathway document on the topic of energy efficiency policy for SMEs.

Question 6: To what extent do your SME programs consider the activities of agricultural SMEs?

Ms Rozite explained that countries such as the Netherlands and Denmark have active energy efficiency policies and programs for the agricultural sector.

Session 3 highlights

The presentations in Session 3 provided relevant and useful examples of SME policies and programs from a national, regional and international perspective. Some of the essential points that emerged of relevance to the aims of the workshop were that:

- policy on SMEs has been relatively neglected—in part due to the scale of the energy use of energy intensive sectors. However, the proportion of energy use in SMEs is significant—and of particular importance in emerging economies.
- countries and regions draw on a varied mix of voluntary and compliance based measures. For example, China has a wide mix of policies, programs and regional governments. Also, organisations may face punitive measures if mandatory requirements are not met. India has conducted significant capacity building and outreach activities over recent years in the SME sector and is now complementing these approaches with funding programs. In Japanese, recent challenges to energy security illustrated that when faced with a crisis, significant additional improvements were achieved.
- there is growing interest in SME programs and collaboration between governments and regions was identified as an effective means of sharing strategies to address challenges and to leverage the policy and program approaches that are most effective.

3. Session 4: Interactive dialogue and discussion

3.1 Introduction

Since attendees at the workshop have diverse, relevant and useful experience influencing energy efficiency in manufacturing SMEs the aim of this session was to provide a forum through which these experiences could be shared between all workshop participants (Table 4). The session was followed by closing comments on the workshop by Ms Yukari Yamashita.

Table 4: Session 4 agenda

12.15 pm	Interactive dialogue and discussion session Participants will discuss issues and solutions in table groups. This will be followed by a plenary discussion in which participants will be encouraged to share their perspectives on energy efficiency policy and program development for manufacturing SMEs
	Closing comments Ms Yukari Yamashita, Director, the Institute of Energy Economics, Japan (IEEJ)

The key questions posed to participants in the session were:

Question 1: What energy efficiency policy and program development have you been involved in?

Question 2: What results have been achieved to date?

Question 3: What are the key lessons you have learned about the development and implementation of energy efficiency policy and programs that you consider most relevant to other industry associations?

Question 4: What suggestions do you have for the actions that government policymakers could take to further support manufacturing SMEs to improve their energy efficiency performance?

Participants were asked to spend 15 minutes discussing the questions and to write down their responses. Each table grouping was then asked to report the top suggestions they had in response to these questions and to the workshop as a whole. Some responses cut across both industry associations and policymakers. In the section below the responses presented to the whole conference by nominated speakers in each group are provided.

Responses

Points raised in response to the questions included the following:

Need for partnerships that support use of specialist/appropriate skills. As one participant explained it: 'We keep on forgetting that this must involve a mixture of government, industry associations and service providers when doing outreach. Each provide specific and complementary roles.'

Importance for industry associations and governments to continue to learn by evaluating programs through networking. Although there are a number of established policy and program approaches the way in which they are delivered to SMEs has particular nuances and further learning is required

Information needs to be appropriately targeted. Many programs are designed for large organisations which have different priorities and different decision-making processes compared to small individual and sometimes family owned businesses. Therefore, information must be carefully adapted to address the interest and needs of SMEs.

Need for communication channels. It was highlighted that intermediaries that are not traditionally targeted by energy efficiency programs should be considered. For example accountants and tradespeople may be highly influential in the decision made by SMEs but these groups may not have been informed and educated about the benefits and options in relation to energy efficiency.

Information programs require attention to basic information. As a starting point, SMEs need to understand where energy is used in their operations. These fundamentals should be included in all relevant information programs.

Clear and consistent communication about energy efficiency across government departments. This would provide important leverage and influence over SMEs who may have a 'perception of whether government is reactive or proactive in this area'. It was suggested that policymakers need to clearly explain why energy

efficiency is important, the range of policies and programs available, and the rationale for the development of those policies and programs. Communication should be carefully targeted at the interests and needs of SME managers and other stakeholders that can influence SME energy efficiency outcomes.

The international perspectives help to encourage policymakers to 'step outside the box' and consider alternative policy approaches.

Transaction costs must be reduced to encourage SME participation. This includes ensuring that any administration requirements for programs are minimised wherever possible and communicated in plain language.

Development of the energy efficiency equipment and service sector is key. As one participant stated, 'I felt that the workforce development plan of the consulting sector needs to understand scale as well—we are getting a large number of aggregated consultants who charge a high fee relative to a low gain and yet there are many small, individual unemployed auditors out there'.

Mandated standards needed for common equipment. This would make it easier for businesses to make decisions that deliver energy efficient outcomes, and provide consistency in improvements across sectors.

Transparency of information is fundamental in order to build trust and credibility with SMEs. Therefore policymakers should consider how to minimise false and misleading claims made by equipment and service providers.

Important for policymakers to consult on program development. However, policymakers must be discerning about the information that they receive due to the influence of particular interest groups.

Investment in new facilities provides opportunity to influence decisions on energy efficiency improvements.

Closing comments: Ms Yukari Yamashita

Following the interactive dialogue and discussion session Ms Yukari Yamashita provided closing comments. Ms Yamashita thanked all those that had been involved in developing and delivering the workshop. She also thanked participants for their active involvement in the workshop itself. Ms Yamashita also spoke of the recent efforts in energy efficiency in Japan as the country responded to significant energy security and supply challenges of recent years.

4. Analysis of workshop themes

An analysis of the information presented in the workshop and the resulting discussions has highlighted four key themes that were featured at the workshop.

1. The value of networks and networking

Interaction among participants in the workshop highlighted the value of networks and networking as an important means of capacity building. Interactions within and between energy efficiency policymakers and practitioners were particularly constructive in providing new perspectives on effective policymaking and program implementation. Constructive interactions occurred among:

- policymakers in Japan, China and the IEA and workshop participants
- policy and program staff across Australian Government departments
- industry associations delivering information and grant programs
- researchers, educators and policy practitioners.

As well as sharing successful practices and exploring solutions to challenging policy and program implementation issues, it is expected the workshop will support ongoing informal collaboration between workshop participants on energy efficiency policy and program development and implementation.

2. The diversity of SME energy efficiency policies and programs requires careful planning to ensure that they are complementary to one another

SMEs face many barriers to energy efficiency. Throughout the workshop, a range of energy efficiency policies and programs were described, from programs with an emphasis on information provision through to those that focused on financial and capital barriers. A diverse policy and program mix can help leverage opportunities for improvement that occur at different phases in a business life cycle; for example, when SMEs:

- redesign or replace existing equipment
- develop budgets and conduct business planning
- are exposed to new technology
- plan a project that is beneficial to their business but for which capital is unavailable.

The range of program types discussed at the workshop included the following.

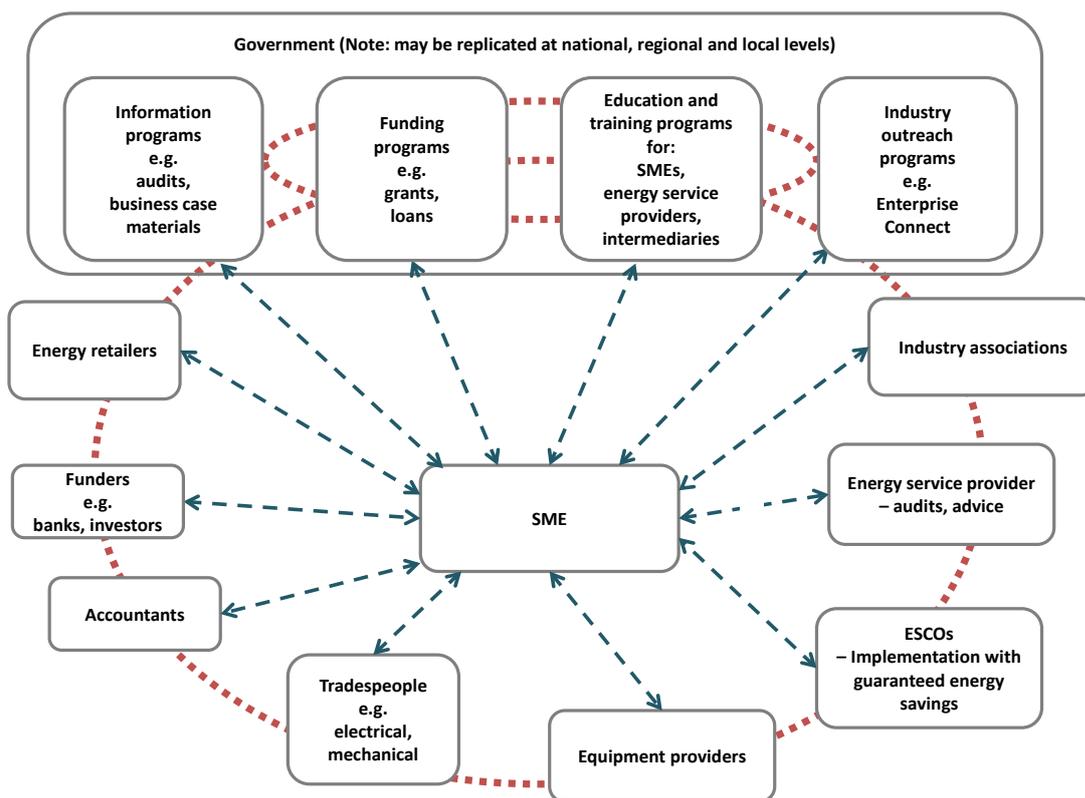
- Information-based programs to ensure that SME managers are able to make informed decisions about energy efficiency. Information resources described included online guidance material, training, energy audits, and technology demonstration projects.
- funding and finance-based programs for energy efficiency projects. Programs discussed at the workshop included market-based measures (e.g. the NSW Energy Savings Scheme), the development of alternative financing options (e.g. Environmental Upgrade Agreements) and the provision of grants, low-interest loans, fiscal and tax-preferential policies.

Other programs discussed included minimum standards on equipment, mandatory targets at the regional and enterprise level and international exchanges and cooperation.

3. Policy stability combined with the communication of consistent messages was identified as playing a central role in supporting ongoing progress for energy efficiency improvement amongst SMEs. This requires all stakeholders to make efforts to integrate energy efficiency into their work across government and industry channels.

The diversity of SMEs in size, industry sub-sector and energy end-uses presents a significant challenge. Ongoing progress can be supported by policy stability since it takes some time for organisations to understand and take up particular initiatives. Further, the diversity of SMEs means that energy efficiency improvement may be optimised through consistent communication of the business case for energy efficiency through multiple channels as illustrated in Figure 2 (next page).

Figure 2: Interactions between SMEs and other stakeholders as described at various times in the workshop.



While such consistency is difficult to achieve due to inevitable economic and political changes that occur over time, speakers and workshop participants presented a number of practical suggestions that can help to promote energy efficiency improvement in a more integrated way over time.

Policymakers are working across government to communicate the value of energy efficiency. An advantage of energy efficiency as a policy issue is that it can deliver multiple benefits (e.g. environmental, productivity and workforce development). Emphasis on one benefit over another can be made by different departments while at the same time providing multiple and consistent channels of communication to SMEs.

Industry associations have integrated energy efficiency into communication measures including industry briefings and training. Energy efficiency examples can be used to illustrate workplace health and safety benefits or show organisations how to enhance productivity and minimise risks associated with rising prices and security of supply.

Industry associations and service providers explained that partnerships support more effective messaging and program delivery.

Although time and resourcing is an issue, communication between SMEs was useful for industry leaders in promoting the benefits of energy efficiency and strategies for successful communication. Governments and industry groups are leveraging the experience of industry 'champions' through case-study materials as well as at face-to-face events.

4. Product and service delivery to an appropriate standard remains a challenge. Poor quality advice, equipment selection and installation combined with explicitly misleading information can significantly impact on SME confidence in energy efficiency improvement and, subsequently, may discourage effective action.

SMEs may be frustrated or confused by a range of claims made by suppliers and service providers with conflicting messages.

This may be addressed in a variety of ways:

- Industry association can play a role in informing their members so that they are able to discern among suppliers. Informal networks also provide an opportunity for SMEs to share information on a peer-to-peer basis.
- In Japan, energy audits and advice provided by the Energy Conservation Center is considered valuable as the organisation does not have a vested interest in dealing in additional products and services.
- The establishment of standards associated with both service delivery (e.g. energy audits) and equipment.
- Accreditation for suppliers and service providers is another option. It requires time and resources to develop and it is critical that any accreditation program is viewed as legitimate by the industry.
- Consultation and industry engagement on the part of policymakers can help to identify resourcing issues and collaborative solutions. Programs that are implemented progressively may also address the risk that unskilled suppliers and service providers may exploit the introduction of new policies and programs.

5. Conclusion

The **Energy efficiency in manufacturing SMEs: Sharing Australian and International Experience in Policy and Program Design** workshop has provided a range of stakeholders with an interest in accelerating energy efficiency improvement within manufacturing SMEs with an opportunity to share their experience with one another.

This report has summarised the workshop presentations and discussions and presented the themes, challenges, opportunities and suggestions for policymakers that were explored at the workshop. It is intended that the report be used as an input for the development of the IEA's pending policy pathway on energy efficiency policy and programs for SMEs. Further, it is expected that by making the presentations and report publicly available the knowledge shared within the workshop can be communicated and applied more widely through the EMAK and IPEEC networks.



6. Appendix

6.1 Workshop agenda

Energy Efficiency in Manufacturing SMEs

Sharing Australian and International Experience in Policy and Program Design

Thursday, 27 February 2014, 9 am – 2 pm

Dixson Room, State Library of NSW, Macquarie Street, Sydney

The Australian Government Department of Industry in association with the Ministry of Economy, Trade and Industry of Japan, and the International Partnership for Energy Efficiency Cooperation (IPEEC), are hosting this important workshop on energy efficiency policy and programs for small and medium enterprises (SMEs) in the manufacturing sector. IPEEC's Energy Management Action Network (EMAK) aims to improve energy efficiency in industry through information-sharing and the development of policy and practitioner networks. Members of the EMAK include the governments of France, USA, China and Japan as well as the International Energy Agency (IEA). This will be the 5th workshop hosted by EMAK since its inception in 2012.

Workshop participants include industry associations, manufacturing SMEs and policymakers.

Participants will:

1. learn about and share experiences on designing and implementing energy efficiency policies and programs
2. initiate and develop networks within and across industry associations, manufacturing SMEs and government policymakers
3. contribute towards Australian and international dialogue and capacity-building on energy efficiency for SMEs; for example, the workshop will provide important input to the IEA's forthcoming publication on energy efficiency policy development for SMEs.



Workshop program

Time	Topic	Presenters
9:00 am	Session 1: National and state government programs in Australia that target manufacturing SMEs	
	Welcome and overview of Australian government policies and programs	Ms Angela Dinos , Manager, Manufacturing Technology Programs Branch, AusIndustry
	NSW State Government policies and programs	Mr David Malicki , Senior Team Leader, Energy Efficient Business and Karinne Taylor , Project Officer, NSW Office of Environment and Heritage (OEH).
9.35 am	Session 2: Industry association initiatives that drive energy efficiency improvement with their members. Representatives from Australian industry associations will examine successes, challenges and future opportunities associated with energy efficiency programs for their members.	
	Australian Industry Group	Mr Tennant Reed , Principal National Advisor Public Policy
	Supply Chain and Logistics Association of Australia (SCLAA)	Mr Mark Skipper , National Director, Environment and Technical
	South Australian Wine Industry Association	Mr Mark Gishen , Project Manager,
	Panel discussion	Facilitated by Patrick Crittenden , Sustainable Business
10:40 am	Morning tea	
11:00 am	Session 3: International perspectives on energy efficiency policy for SMEs. Members of the International Partnership on Energy Efficiency Cooperation (IPEEC)'s Energy Management Action Network will describe existing energy efficiency policies and programs, key lessons learned and the issues associated with future policy and program development.	
	Why promote energy efficiency in manufacturing SMEs?	Ms Vida Rozite , Energy Efficiency Unit, International Energy Agency (IEA)
	Subsidised energy audits in Japan	Mr Niro Kitagawa , Energy Conservation Center, Japan(ECCJ)
	Policy and programs in Guangdong Province, China	Ms Anna Zhang , Deputy Director, Guangdong Provincial Economic and Information Technology Commission
	Panel discussion	Facilitated by Mr Patrick Crittenden , Sustainable Business
12.15 pm	Session 4: Interactive dialogue and discussion session. Participants will discuss issues and solutions in table groups. This will be followed by a plenary discussion in which participants will be encouraged to share their perspectives on energy efficiency policy and program development for manufacturing SMEs.	
	Closing comments , Ms. Yukari Yamashita, Director, the Institute of Energy Economics, Japan (IEEJ)	
1–2 pm	Networking lunch	