



Australian Government
Department of Climate Change
and Energy Efficiency



Australian Government
Department of Resources,
Energy and Tourism



International
Energy Agency



RAP

Workshop on Energy Provider Delivery of Energy Efficiency

An Australia-focused workshop on Policies for Energy Provider Delivery of Energy Efficiency (PEPDEE) was held at the University of Sydney on December 12 2011. The workshop was delivered by the International Energy Agency (IEA) and the Regulatory Assistance Project (RAP) in cooperation with the Australian Department of Climate Change and Energy Efficiency (DCCEE) and Department of Resources, Environment and Tourism (DRET).

The workshop featured keynote presentations by two international speakers – Paolo Bertoldi of the European Commission’s Joint Research Centre (JRC) and Ahmad Faruqui of the Brattle Group San Francisco office. The workshop included presentations by IEA and RAP as well as presentations by participants in current Australian schemes for energy provider-delivered energy efficiency.

The agenda for the workshop is attached. Sixty people representing governments, regulators and energy providers from five Australian states were in attendance. The presentations are posted on the IEA (http://www.iea.org/work/workshopdetail.asp?WS_ID=545) and RAP web pages (<http://www.raponline.org/event/policies-for-energy-provider-delivery-of-energy-efficiency>).

About PEPDEE

Policies for Energy Provider Delivery of Energy Efficiency (PEPDEE) is a cooperative project taking place under the auspices of the International Partnership on Energy Efficiency Cooperation, and led by the United Kingdom Department of Energy and Climate Change with support from the US, Australia, and the European Commission.

The PEPDEE project will deliver two key products over the next six months:

- a review of the major regulatory mechanisms for obligating energy providers to deliver energy efficiency; and
- a stock-take of programs implemented by energy providers to satisfy these obligations.

An important part of the PEPDEE work stream is regional and national policy dialogues such as the one in Sydney. This Australian workshop is the first of a series which will eventually include Europe, North America, and China.

Session 1 – Welcome, Context, Background

The International Context

Dr. Grayson Heffner from the IEA briefly described the scope and objectives of the PEPDEE activity, which is being carried forward under the IPEEC umbrella of subtasks with leadership by UK DECC and support from the UK, US, Australia, and the European Commission. The core deliverables of the PEPDEE effort over the next six months include a review of the major regulatory mechanisms for obligating energy providers to deliver energy efficiency, as well as a stock-taking of the programmes which energy providers implement to satisfy these obligations. An important part of the PEPDEE work stream are policy dialogues



such as the one conducted in Sydney. Other PEPDEE workshops scheduled in 2012 include the European Union and North America.

The Australian Context

The Department of Climate Change and Energy Efficiency (DCCEE) provided an outline of the Australian Government's current investigation of the potential for a national Energy Savings Initiative. This work is part of the Australian's Clean Energy Future Plan and is being jointly undertaken by DCCEE and the Department of Resources, Energy and Tourism.

The investigation will consider a range of design features, including:

- the size of the targets;
- sectoral and fuel coverage issues;
- incentives or requirements to create certificates in low-income households and in ways which reduce electricity demand at peak times;
- eligible energy saving activities; and
- managing a smooth transition from state-based schemes.

A progress report on this investigation will be produced in the first quarter of 2012 and any final decision will be subject to the findings of detailed economic modelling and a regulatory impact analysis. A national scheme would be conditional on the agreement of the Council of Australian Governments and the abolition of existing and planned State schemes. This PEPDEE workshop contributes to the policy exploration work and provided an opportunity for discussion and learning from existing schemes, both in Australia and elsewhere.

Session 2 – Regulatory Mechanisms Enabling Energy Provider Delivery of Energy Efficiency

Effective Energy Efficiency Obligations

Dr. David Crossley of RAP presented an overview of energy efficiency obligations policies. He drew an important distinction between the obligation itself and how the obligation is satisfied. Some obligations policies specify both while others only specify the energy savings goal or target, not how it is met.

David recommended a step-wise process for establishing obligations:

- Define and clearly state the policy objective(s)
- Establish the obligation through legislation or by regulation
- Decide which energy types will be covered, eg electricity, gas, transport fuels, etc
- Determine the sectoral coverage, eg residential, commercial, industrial
- Set the energy saving target, including measurement units and timeframe



- Assign responsibility for meeting the obligation, ie who are the obligated parties and what are their individual obligations?
- Set any penalties applicable for non-compliance
- Decide who may be accredited to carry out energy efficiency projects to meet the obligation and how this accreditation will be carried out
- Define the energy efficiency measures that will be eligible for meeting the obligation
- Decide how energy savings will be measured, reported and verified
- Provide sustained funding (if required)
- Administer the obligation

US Regulatory Mechanisms for Promoting Energy Efficiency

Dr. Ahmad Faruqi of The Brattle Group, San Francisco, appeared by live streaming video to deliver the first keynote presentation of the day.

Ahmad described the evolution of energy efficiency policies for energy providers in North America over the past 40 years – from load management to sustainable energy utilities. . Today, energy providers deliver energy efficiency through a range of mechanisms, and are achieving energy efficiency gains at a ‘power plant’ scale in at least ten states, that is, at a scale large enough to avoid building new power plants.

In the US, 24 States have implemented legislation requiring energy providers to achieve energy efficiency targets, commonly known as ‘energy efficiency resource standards’ (EERS). Energy providers have achieved the targets through various means, including through usage-dependent tariffs, behavioural change programs, and innovative financing options. Legislation proposing a national EERS has been drafted but is unlikely to be passed.

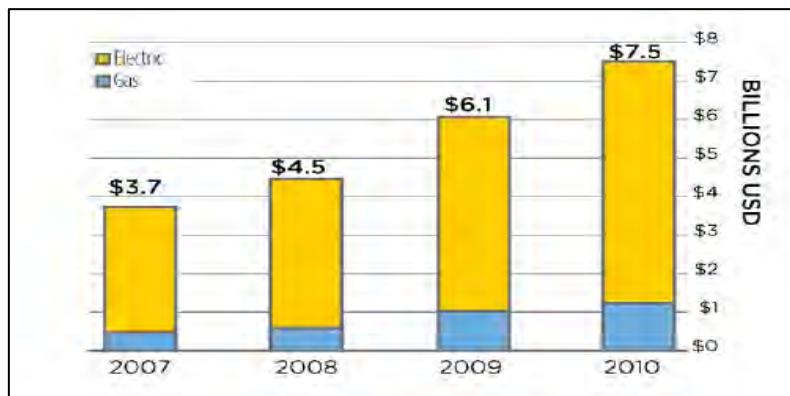
In many states, rising peak demand has become an issue. One solution has been to incentivise peak time savings by providing rebates for savings achieved during periods of high peak demand. In other cases, critical peak pricing rates are being pursued which charge higher prices during high peak demand periods and lower prices during lower demand periods. Key to the provision of these dynamic pricing options is the roll out of advanced metering: currently there are 22 million smart meters in the US, which will expand to 66 million in five years time.

Ahmad described some of the regulatory and ratemaking mechanisms which have led to a rapid scaling-up of energy provider-delivered energy efficiency over the past two decades. Some of the ways that US state commissions are incentivising utilities to achieve gains in energy efficiency include cost-recovery mechanisms, mechanisms that decouple utility revenues from electricity sales and shareholder reward mechanisms.

One of the most important is shareholder reward mechanisms, of which there are several types - shared energy savings schemes, capitalization of energy efficiency investments, and more-recent mechanisms based on avoiding new power plants (e.g., Duke Energy’s “save a

watt”). These shareholder reward mechanisms significantly affect energy provider behaviour. For example in California, \$2.7 billion in avoided energy costs resulted in \$323 million in payouts to shareholders to the three investor-owned utilities. Overall in North America over \$7 billion in ratepayer funding was invested in gas and electric energy efficiency, and this total is expected to grow over the next five years (see Figure 1).

Figure 1: Trends in utility spending on energy efficiency in North America

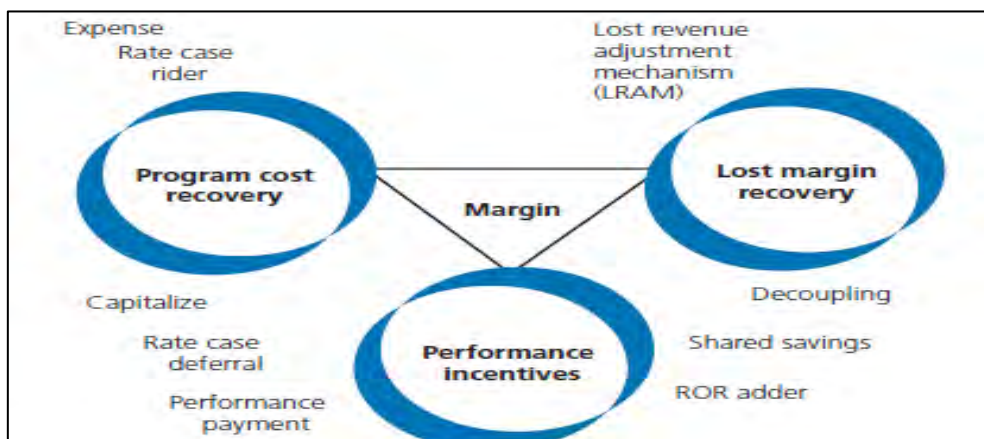


Source: Consortium on Energy Efficiency 2010

Ahmad described the institutional overheads associated with such mechanisms, notably the need for a large measurement and verification (M&V) infrastructure. Some 5-15% of programme costs in North America flow to M&V, much of it spent examining technically complex issues associated with the shareholder reward mechanisms, such as free-ridership and programme-net-to-gross ratios.

Ahmad described the three pillars of energy provider-delivered energy efficiency in North America – risk reduction through programme cost recovery assurances and decoupling of profits from sales, and introduction of performance incentives through shareholder reward mechanisms (see Figure 2)

Figure 2: The Three Pillars of Regulatory Mechanisms for Energy Efficiency



Source: US EPA 2007

More recent developments in North America include an upsurge in state legislative initiatives which address the role of energy providers in delivering energy efficiency. An example is the Maryland EmPOWER legislation, which responds to concerns about both sustainability and jobs creation.

Session 3 – International Experience in Energy Efficiency Obligation Programs

PEPDEE in More Detail

Grayson Heffner gave a brief presentation outlining the objectives and approach of the PEPDEE effort. PEPDEE seeks to improve our understanding of the interactions between market design, regulatory frameworks, institutional arrangements within the power sector, and the effectiveness of energy provider-delivered energy efficiency programmes. An important part of the work will be developing metrics to allow benchmarking of energy provider-delivered energy efficiency internationally (see Figure 3). Another element will be a review of the latest thinking regarding which energy provider entities should deliver energy efficiency.

Figure 3: A Spending Metric for measuring energy efficiency deliveries by energy providers

Region	Sales (TWh)	Revenues (USD Billions)	EE Spending (USD Billions)	Spending metric (%)
North America	4,200	400	6.1	1.5
EU 27	3,350	650	3.0	0.5
China's new DSM rule	4,700 ¹	410	1.2 (imputed)	0.3
Brazil	425	50	0.5	1.0 ²

¹2011 data; ²System benefit charge level; half flows to R&D and half to energy efficiency

Source: Nevius, Eldridge and Krouk, 2009; Barbose, Goldman and Schlegel, 2009

Experience in the European Union.

Dr Paolo Bertoldi, Principal Administrator, European Commission Joint Research Centre, gave the second keynote presentation, titled *Assessment and Experience of White Certificate Schemes in the European Union*.

Paolo began by providing some context for energy efficiency obligations within the broader energy policy framework of Europe, in particular the 20/20 target and the progression from the earlier Energy Services Directive towards the more comprehensive proposed Energy Efficiency Directive. European countries have also been moving toward fully-liberalising their energy markets.

Paolo stated that it is important to distinguish between energy efficiency obligations and white certificates schemes. It is entirely possible to have energy efficiency obligations policies without white certificates schemes. However white certificates schemes serve an important function – by accounting for savings in a manner that is credible, and by allocating ownership of the savings.

Key questions at the outset of obligations policy formulation include:

- How big is the target? Should it be set cumulatively or annually?
- Who should be obligated (suppliers, distributors, generators?);
- Who is eligible to participate (public entities, private ESCOs?);
- Which end-users and efficiency measures are eligible (households, commercial, industrial?);
- Should cost recovery mechanisms be built-in?; and
- How should the obligation policy interact with other policy tools?

The answers to these basic questions reverberate throughout the life of an obligations policy and have profound impacts on the delivered cost or cost-efficiency of energy provider-delivered energy efficiency. In fact different answers to these simple design questions have led to considerably disparity in European energy efficiency obligations policies.

Paolo identified five key elements of tradable white certificate schemes (see Figure 4).

Figure 4: Five key elements of tradable white certificate schemes

Five key elements of tradable white certificates schemes:

1. the **creation and framing** of the demand (government set the **overall target** and its **apportioning to obliged actors**).
2. Institutional **infrastructure** and processes (such as measurement and verification) to support the scheme.
3. the **cost recovery** mechanism, in some cases.
4. A system of **sanctions** in the case of non compliance
5. the **tradable instrument** (certificate) and the rules for issuing and trading,



Schemes operating in the EU target *technical* energy efficiency and have not yet established a way to measure and credit energy savings resulting from behavioural change.

There are considerable differences amongst the EU scheme, including that:

- some schemes' targets are expressed in terms of carbon emissions (UK) whereas others are in energy (France);
- coverage of energy end users varies between schemes with the some only targeting residential sector energy efficiency (UK) while others target all end users, and in some cases even the transport sector (France); and
- obligated parties vary, with energy retailers obligated in some countries (UK) but distributors obligated in others (Italy).

The differences in the schemes have provided some interesting observations, including that:

- a scheme's administrative costs tend to be a function of its simplicity;
- wider coverage should lead to lower marginal costs of achieving energy savings but it could also lead to higher administrative costs; and
- the point of obligation can affect who conducts the energy efficiency upgrades - obligated parties or third parties such as energy service companies (ESCOs). For instance in Italy, where distributors were obligated, 80% of activities was conducted by ESCOs.

Despite their differences, all schemes had resulted in obligated parties meeting or exceeding their targets. However, several obligated parties have recently encountered problems in meeting their targets, though at this point the reasons for this are uncertain.

The French scheme now includes substantial obligations for the Transport sector, unlike any other European scheme. In Italy, over 80 percent of the energy savings target is delivered by ESCOs. This occurred because private companies were eligible to participate and distributors without a direct link to end-users were the obligated entities. Having no commercial interest in working with end-users, most distributors prefer to source their targets from the white certificates market or through bilateral contracts with third party ESCOs. In France the opposite pattern can be seen, as it is energy retailers who are obligated, and they prefer to "own" the end-user relationship themselves.

Many of the earlier energy efficiency measures in the EU schemes were give-aways to end-users (e.g., CFLs provided to households free of charge), but this is changing as much of the low-hanging fruit has been picked. In the UK, retailers meet much of their targets through installation of loft and cavity and recently solid-wall insulation which can be quite costly. Retailers or third party providers give a rebate in exchange for signing over the energy savings, with the end-user paying the balance while taking advantage of a fixed-fee installation service provided by certified contractors.



Other technical issues include allowance for trading, banking and borrowing. A not so technical issue is base-lining and additionality. Eligible measures should be above and well beyond anything required by law or through standards.

Cost to households of energy efficiency obligations varies according to how the counting and cost allocation is done. In Denmark the delivered cost is 6 eurocents per kWh on an annual basis but only 0.5 eurocents per kWh on an undiscounted lifecycle basis.

Additional key lessons from the EU experience to date include:

- where a scheme has cost recovery mechanisms, it was important not to fix the level of cost recovery, which could lead to windfall gains (as observed in Italy with the initial design of the cost recovery mechanism);
- to ensure savings are ‘additional’, eligible measures should be above and well beyond anything required by law or through standards;
- energy efficiency obligation schemes are best-suited for low-cost and standard deemed savings for small energy users;
- there is no evidence that schemes with trading are inherently ‘better’ than schemes without; and
- energy efficiency obligation schemes are not a ‘silver bullet’ for achieving a country’s energy efficiency goals and need to be accompanied by complementary policy tools such as strong standards.

Session 4 – Panel Discussion on Existing Domestic Schemes

Panellists from the New South Wales, Victorian and South Australian State governments described their existing energy efficiency obligation schemes and outlined lessons learned.

New South Wales

Henry Adams of the NSW Office of Environment and Heritage and Margaret Sniffin of the Independent Pricing and Regulatory Tribunal presented on the NSW Energy Savings Scheme¹, or ESS. State legislation adopted in 2009 established the ESS to avoid electricity supply costs and to increase investment in energy efficiency². The first two years of operation has demonstrated a net benefit of over \$24 per Energy Savings Certificate from participating in the ESS

The ESS turns energy savings into a tradable commodity by establishing legislated energy savings targets for electricity retailers. The energy savings target ramps up from 0.5% of eligible electricity sales³ in 2009 to 4% in 2014 and continues at this level to 2020.

¹ See <http://www.ess.nsw.gov.au/Home>

² The ESS Rule was legislated in 2009, but legislation it falls under is *the Electricity Supply Act, 1995*. See: <http://www.ess.nsw.gov.au/about/legislation.asp> The ESS extends the energy efficiency component of an earlier broader GHG emissions trading scheme that commenced in 2003.

³ Some sales to energy-intensive trade-exposed industries are excluded from the target,



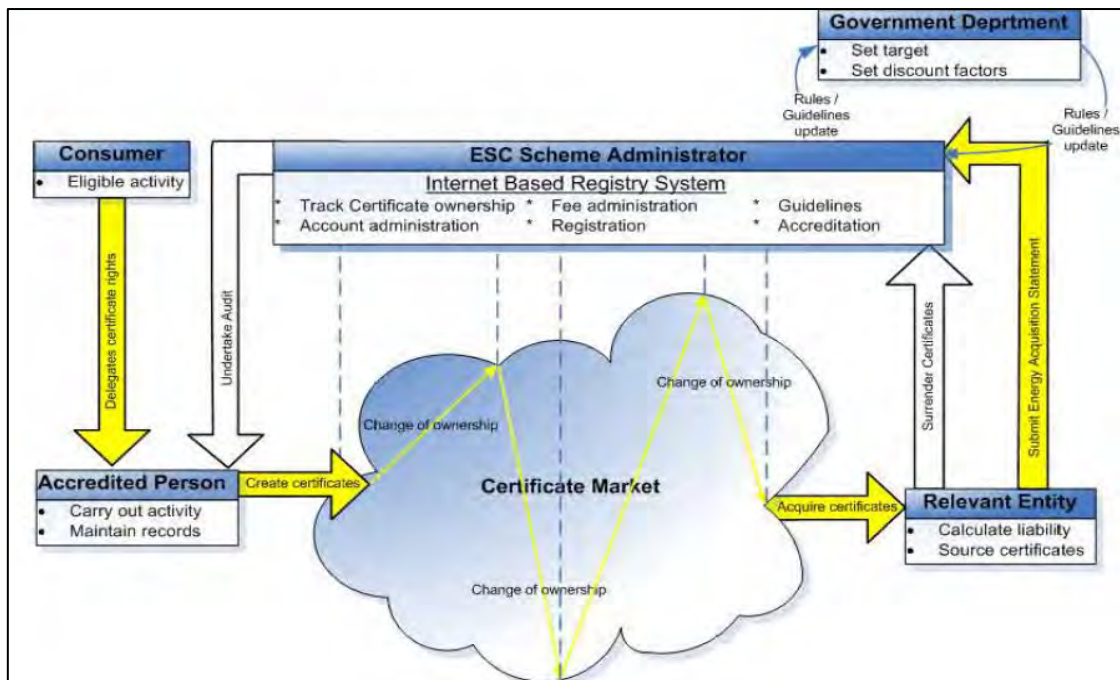
Most sectors – residential, commercial, and industrial – are eligible, although M&V requirements vary by sector. While initially activities primarily took place in the residential sector, there has been a significant rise in the number of commercial projects in the ESS. A wide variety of entities are involved in the ESS, including end-users, auditors, third party service providers, accredited certificate providers, certificate brokers and traders, and the obligated parties (electricity retailers and wholesale customers). As of 2011 there were 97 accredited parties who had mobilized 153 projects (1.5 projects per party). However each accredited party can go on to create many projects, so this ratio should improve as the scheme moves forward and the targets increase.

IPART has a robust risk mitigation strategy which includes both upfront project assessments and ongoing compliance audits. IPART makes a risk-consequence calculation and tailors the audit regime to the level and nature of the risk. IPART also tries to reduce risk by actively encouraging applications from existing businesses, emphasizing documentation, and improving the efficiency of application assessments.

Victoria

Rod Woolley of the Essential Services Commission Victoria presented on the Victoria Energy Saver Incentive⁴, also known as the Victorian Energy Efficiency Target (VEET). The VEET began on 1 January 2009. The scheme is broadly similar to the ESS with creation of a certificates market and accredited certificate creators, but VEET covers both electricity and gas (see Figure 5). The obligated parties are 14 electricity and gas retailers.

Figure 4: The Victorian Energy Saver Incentive Scheme



Source: Essential Services Commission, Victoria.

⁴ See <https://www.veet.vic.gov.au/Public/Public.aspx?id=Overview>



Originally focused on achieving energy savings in households, from 1 January 2012 a second phase will include energy savings achieved in the commercial and other non-residential sectors. This second phase aims to deliver 5.4 million tCO₂-e annually.

The scheme is based on pre-approved measures for which savings have been deemed *ex ante*, including 30 energy efficiency measures for residences and 12 for businesses. The most common measures installed during the first two years of operation have been energy efficient lighting and water heaters. Standby power controllers were introduced in July 2011.

South Australia

Mike Philipson of the Essential Services Commission of South Australia (ESCOSA) described the Residential Energy Efficiency Scheme (REES)⁵ which has been in effect since 1 January 2009. The obligated parties are all electricity and gas retailers serving more than 5000 customers.

The REES is unique in Australia and was consciously based on the UK's Carbon Emission Reduction Target (CERT). It has multiple objectives – improve energy efficiency, reduce carbon emissions and assist households (particularly low-income households) to reduce total energy costs. Similar to the UK CERT, the REES includes a sub-target of 35% of energy savings to take place within a priority group of low income households. Energy audits are available for low-income households (subject to annual targets), to help assess current energy use practices, compare them to energy efficient practices and identify practical ways to be more energy efficient at home.

All energy efficiency measures are pre-determined⁶ and all savings are deemed. The most common measures included lighting (CFLs), low-flow showerheads, water heaters, ceiling insulation, and draught-proofing. In 2012 the programme will expand to include downlights, high-efficiency pool pumps, and standby power controllers. M&V efforts focus on not just transactions, but making sure that measures were installed.

The scheme delivered 0.25 million tCO₂-e in 2010. So far no attempt has been made to calculate the relative delivered cost of energy savings for priority and non-priority groups. Costs of the programme are socialized amongst all residential customers. Programme cost is 0.8% of revenues.

Lessons Learned from the Three State Schemes

Key lessons learned from the state based schemes presently operating in Australia include that:

- effort should be made to build a strong nexus between policy makers and scheme administrators;
- getting the compliance framework right at the start of the scheme is very important;
- a balance is needed between upfront assessment of projects and ongoing compliance audits;

⁵ See <http://www.escosa.sa.gov.au/electricity-overview/residential-energy-efficiency-scheme-rees-.aspx>

⁶ ESCOSA is able to add further measures over time, subject to a review of merits.



- scheme design should encourage long-term, sustainable businesses to bring projects forward;
- eligible activities should be flexible enough to accommodate changing market conditions; and
- clear documentation is crucial.

Session 5 – Panel Discussion on Energy Provider / Certificate Creator Experiences Under Existing Schemes

Three panellists, Ramy Soussou, from the Energy Retailers Association of Australia, Chris Rayment, from Low Energy Supplies and Services, and Anna Stewart, from AGL, presented some views from energy retailers and energy efficiency certificate creators on energy efficiency obligation schemes (both existing state schemes and in general). Following are the key issues raised by panellists.

Tradability

- Tradability is quite important for retailers, especially smaller retailers. Many retailers can't develop the large back-office systems needed to directly implement energy efficiency programmes.
- Where there are thresholds in a scheme that limit the number of obligated retailers, trading with non-obligated parties is also preferable, to increase the available options for compliance with scheme targets.

Scheme Harmonisation

- There are both positive and negative aspects of existing state schemes. The key for any national scheme would be to apply of lessons learnt from state schemes.
- Many retailers, especially national retailers working across state boundaries, would prefer a single national energy efficiency obligation over the three existing schemes that are currently in place. This is because important details like eligible customers, activities, target levels, compliance regimes, etc are all different which adds to the delivered costs of the savings. Software systems also vary across the schemes, with some better than others.

Measurement and Verification

- It is important to strike the right balance between stringency to ensure 'real' savings are achieved and flexibility, to ensure more savings are achieved. For instance, while stringent measurement and verification standards should be maintained, they should sit alongside a rigorous deeming process (bringing forward future savings to help finance changes now) that factors in likely business-as-usual and future uncertainty, while also encouraging the adoption of technologies with longer payback periods.



- In some schemes, the accreditation process for new activities has been difficult which, in some cases, has meant multiple visits to the same premises to make upgrades as new methodologies are approved. This seems inefficient so there is a preference for more flexibility in the approval of new methodologies.

Targets and Sub-targets

- When scheme targets are increased, they should be stepped up gradually.
- Views were mixed regarding sub-targets for priority groups such as low income households. Some retailers are opposed to sub-targets, taking the view that energy efficiency and social welfare policy shouldn't be targeted with the same policy tool. Others are not opposed per se, but say that difficulties in identifying priority households could increase administrative costs. Costs can be higher because low-income households are usually low-usage households, with limited energy savings potential and often don't have the ability to co-finance measures which can compound difficulties.

Coverage

- Both retailers and certificate creators support wide sectoral coverage in schemes. While households are a logical starting point for schemes, there is huge untapped potential in SMEs. However, to develop these markets there is a need for steady and stable market expectations that can only be created by multi-year targets, marginal abatement cost calculations, clear rules and regulations regarding risk abatement and project appraisals.

Point of Obligation and Scheme Participation

- Some retailers are happy being the point of obligation and recognise that they are well-placed to deliver energy efficiency to their customers.
- Small energy service companies are often very innovative so schemes should encourage their participation, however this needs to be balanced with clear rules and penalties to ensure the collective credibility of the scheme is not damaged by a few bad apples.

Discussion following the panellists' presentation centred on the objective of any national energy savings obligation (saving energy, helping households save money or assisting priority groups), whether schemes should encourage 'deep retrofits' as opposed to only low-cost measures, and how data gathered from existing state schemes could be built upon should Australia decide to adopt a national scheme.

Session Six – Applying PEPDEE Findings to Consideration of a National Energy Savings Initiative

The final session was a summary discussion of all workshop participants to identify key lessons learned from the day's undertakings.

Key areas of discussion included:

- The regularity of updating baselines where baseline and credits schemes are used;
- The appropriate level of flexibility versus stringency in scheme designs;
- How to avoid “cream-skimming”, whereby only the lowest-cost measures are taken up and how to accommodate longer-lived measures, such as deep retrofits of buildings.
- The effect of obligations on retailer business philosophy. Some retailers have built energy efficiency into their business model; others have not. How can policies be developed to encourage this internalization so that a culture of prioritising energy efficiency endures after the obligations expire?
- How to balance energy efficiency and social welfare goals. Can energy efficiency policy be designed to effectively achieve multiple goals?
- Inter-regional trading of white certificates under a harmonized national scheme and how to deal with the fact that some states are part of the National Electricity Market while others are not. If some states have more low-hanging fruit than others, how would this affect a national scheme?
- Peak demand – Is there a way to design a scheme that effectively tackles it?
- In investigating a national energy efficiency obligation, what lessons can the Australian Government learn from establishing the Renewable Energy Target (RET)?
- The complementarity of energy efficiency obligation schemes to other climate and energy policies such as the carbon price and the RET.
- How to build the capacity of the end-user themselves to effect their own energy efficiency improvements.
- Pros and cons of two distinct delivery models (for creation of certificates): (i) neighbourhood by neighbourhood door knocking with a narrow set of measures; and (ii) intensive work on homes and businesses willing to co-finance deep-retrofits and other long-lived but expensive measures.



Policies for Energy Provider Delivery of Energy Efficiency Australian Workshop Agenda

Monday 12 December 2011

Law School Building, University of Sydney

9.15 - 9.45

Session one: Welcome, Context and Background

- Welcome
- IPEEC-PEPDEE Project and the international trend towards energy-provider delivered energy efficiency (Grayson Heffner, International Energy Agency)
- Australian Government's work in examining a national Energy Savings Initiative
(Serena Fletcher, Department of Climate Change and Energy Efficiency)

9:45 – 10.45

Session two: Regulatory mechanisms enabling energy provider delivery of energy efficiency

Effective Energy Efficiency Obligations

Presenter: David Crossley and Sam Swanson (The Regulatory Assistance Project)

US Regulatory Mechanisms to Promote Energy Efficiency

Presenter: Dr. Ahmad Faruqui (The Brattle Group)

10.45– 11.00

Morning Tea

11.00 -12.30

Session three: International experience in energy efficiency obligation programs delivered by energy providers

Policies for Energy Provider Delivery of Energy Efficiency

Presenter: Grayson Heffner (International Energy Agency)

Assessment and Experience of White Certificate Schemes in the European Union

Presenter: Dr. Paolo Bertoldi (European Commission)

12.30 – 13.30

Lunch



13:30-14:30

Session four: Panel discussion on existing domestic schemes

Panel members:

- Mr Henry Adams, Senior Policy Officer, NSW Office of Environment and Heritage
- Ms Margaret Sniffin, General Manager, Greenhouse Gas Reduction Scheme and Energy Saving Scheme, NSW Independent Pricing and Regulatory Tribunal
- Mr Mike Philipson, Manager Regulatory Programs, Essential Services Commission of South Australia
- Mr Rod Woolley, Manager, Victorian Energy Efficiency Target, Essential Services Commission, Victoria

14:30-15:30

Session five: Panel discussion on energy provider / certificate creator experiences under existing schemes

Panel members:

- Ramy Soussou, Deputy Chief Executive Officer, Energy Retailers Association of Australia
- Chris Rayment, Business Development Manager, Low Energy Supplies and Services
- Anna Stewart, Manager Energy Policy and Strategy, AGL

15.30 – 15.45

Afternoon Tea

15.45 – 16.30

Session six: Applying PEPDEE findings to consideration of a national ESI

16.30 – 17.00

Session seven: Summary of the day

Presenter: David Crossley and Grayson Heffner