Mr David Blowers
Energy Sector Development Division
Department of State Development, Business and Innovation
esi.Review@dpi.vic.gov.au

8 July 2013

Re: Review of the Energy Saver Incentive: Issues Paper - June 2013

Dear Mr Blowers

The Energy Efficiency Council (EEC) welcomes the opportunity to provide input on the 'Review of the Energy Saver Incentive: Issues Paper - June 2013' (the 'Issues Paper'). The EEC is the peak body on energy efficiency, cogeneration and demand-management, and represents experts in energy efficiency from industry, academia and the public sector. Incorporating expert advice into the design of energy efficiency policy and programs significantly improves their effectiveness.

The EEC strongly supports the continuation of a refocused and enhanced Energy Saver Incentive (ESI). The ESI addresses a number of barriers to optimal investment in demand-side services and products by:

- Enabling third-parties to help consumers undertake coordinated demand-side activities at scale, addressing a combination of information failures and biases in energy markets;
- Creating an incentive for third-parties to find ways to overcome well-known market failures that prevent the take up of privately cost-effective energy efficiency;
- Creating a salient incentive that addresses organisational failures and skill gaps in energy users, supporting the take-up of socially cost-effective energy efficiency; and
- Overcoming a broad range of intersecting market failures to enable market-transformation in the supply of energy efficiency goods and services, such as high-efficiency fan motors.

Because the ESI addresses these market failures, which are not addressed by either a carbon price or an Emissions Reduction Fund, it is complementary to these carbon-reduction policies. When it was first introduced the ESI was also focused on addressing greenhouse gas emission externalities. However, given the introduction of the carbon price, and possibly an Emissions Reduction Fund, we believe that the carbon reduction focus of the ESI is no longer required.

Therefore, the EEC recommends that the objectives of the ESI be changed to:

- Helping households and businesses manage rising energy costs by improving consumption efficiency;
- Improving the efficiency of Australia's energy markets; and
- Developing the market for energy efficiency services and products.

Changing the objectives of the ESI should lead to changes to the design and implementation of the ESI. These changes in design and operation will also substantially improve the cost-benefit of the ESI. The ESI has, so far, delivered substantial benefits to Victorians, including reduced energy consumption (fuel savings), reduced wholesale energy prices and reduced expenditure on networks. However, a number of design issues mean that it has not delivered on its full potential, and there are significant opportunities to improve the effectiveness of the ESI.

The ESI should be upgraded through a number of design changes, including:

- Fully linking it with the NSW Energy Savings Scheme, as an interim step towards a national energy efficiency certificate scheme;
- Designing methodologies to support activities in the commercial and industrial sector, with a focus on highly credible accurate project-based methodologies; and
- Enhancing scheme management to reduce compliance costs and ensure that deeming is accurate.

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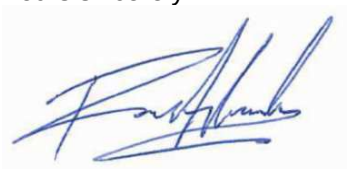
We have set out a number of design principles in this submission, but further detailed input can be found in the EEC's submission to the development of a national Energy Savings Initiative, which is attached.

Victorians deserve energy markets and policies that serve their interests. Energy prices are rising rapidly, and governments must take action to limit the impacts on households and businesses. Governments cannot influence factors like rising fuel prices, but they can fix market failures and problems in energy markets that unnecessarily inflate energy bills. Energy efficiency, demand-management and cogeneration are amongst the very few options that governments have open to them to keep energy affordable.

Victoria has been a national leader in energy market reform. We encourage the Victorian Government to continue its leadership role by enhancing the ESI to become a world-leading energy efficiency scheme that can form the basis of a national energy efficiency scheme.

Please contact me on 03 8327 8422 or ceo@eec.org.au should you require further information on any of the issues raised in this submission.

Yours sincerely



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Energy Efficiency Council
Submission on the
Energy Saver Incentive Issues Paper

Suite 2, 490 Spencer Street, West Melbourne VIC 3205 ABRN 136 469 291 ABN 63 136 469 291

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1. Benefits of Energy Efficiency and Demand Management

Energy efficiency is one of Victoria's biggest untapped opportunities. The policies that are set out in this document would help keep energy affordable, tackle cost-of-living pressures, strengthen businesses and improve Victoria's competitiveness.

> *"Make no mistake, we are in a global race...*
> *it is the energy-efficient that will win that race,"*
>
> ***British Prime Minister David Cameron***
> ***February 2013***

Making energy affordable

Homes and businesses save money when they get more out of each unit of energy that they use. Recent estimates suggest that improving the energy efficiency of our economy would save homes and businesses $5 billion every year by 2020.

Smarter energy use can also lower energy prices. National energy prices almost doubled in the last five years, putting huge stresses on homes and businesses. These price rises were mainly caused by the network companies spending $45 billion on the grid (poles and wires). Over a third of this was caused by rising peak demand on a few very hot or cold days. Boosting efficiency and reducing peak demand will reduce wholesale electricity prices and reduce the amount that we need to spend on poles and wires, helping to keep energy affordable.

Boosting competitiveness

Australia is one of the least energy efficient developed economies. Over twenty five years Australia's energy efficiency increased by just 0.7 per cent a year, compared to 1.6 per cent a year in most other developed countries. This puts our businesses at a competitive disadvantage as energy prices rise, particularly with China investing heavily to improve the energy efficiency of its industry. Giving Australian businesses access to the skills and programs they need to improve their efficiency is essential for their global competitiveness.

Managing the change in energy supply

There are significant changes occurring in energy supply, both locally and globally. The future price of gas in Australia is highly uncertain, and the costs of renewable energy and energy storage are falling but also uncertain. This creates a difficult environment for investing in generation, and an unwise environment for investing in long-lived monopoly network infrastructure that might not be suitable for future energy generation and consumption patterns. Addressing the market failures that decrease energy efficiency will reduce the need to invest in assets that could become stranded during this period of uncertainty, reducing energy costs.

Creating jobs

When a company improves its energy efficiency it becomes more competitive and can invest its savings on expanding production and retaining workers. Studies in the US found that each dollar invested in energy efficiency generated US$2.32 in local economic activity, US$0.84 more than an equivalent expenditure in petroleum and gas bills.[1] Boosting energy efficiency would also create a thriving domestic and export market with an estimated 75,000 jobs in Australia by 2030, including builders, engineers and manufacturers.

Meeting Australia's emission targets

Energy efficiency makes good economic sense and also reduces greenhouse gas emissions. Energy efficiency could deliver a third or more of carbon cuts that Australia needs to meet its bipartisan emissions target for 2020, and the Australian Bureau of Agricultural and Resource Economics estimated that energy efficiency could account for 55 per cent of Australia's greenhouse gasses cuts over the next 40 years[2].

[1] National Renewable Energy Laboratory 1995, DOE/GO-10095-196, Energy Efficiency Strengthens Local Economies, U.S. Department of Energy, Washington

[2] Gurney, A., Ford, M., Low, K., Tulloh, C., Jakeman, G. and Gunasekera, D. 2007, Technology: Toward a Low Emissions Future, ABARE Research Report 07.16

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2. Barriers to energy efficiency and the role of the ESI

2.1 Investing in demand-side and supply

Consumers' investment in energy efficiency can only be understood in the context of their wider investment in energy and other goods and services. Consumers do not consume gas and electricity directly, but consume them through equipment in order to achieve certain final services, such as light, warmth, entertainment, transport and manufacturing. Demand for these final services is affected by multiple social and economic factors, including disposable income and social factors.

To maximise their utility, consumers should achieve the desired final services by balancing their investment of time and resources in energy, energy-using appliances and management of those appliances. For example, office owners could optimise the cost of delivering satisfactory lighting in a building by considering natural light (changes to building fabric), lighting technology, lighting controls, user behaviour and energy purchasing.

In order to optimise their investment in supply-side and demand-side options:

- First, consumers must have access to energy and energy-using technologies
- Second, consumers must receive cost-reflective price signals for energy, energy-using technologies and services. The cost of goods and services includes transaction costs, such as search costs, contracting and compliance. Victoria's move towards flexible pricing is to be applauded.
- Third, consumers require sufficient information on the range of supply and demand-side options, the costs and benefits of those options and how to take those options up. In practice, in many markets consumers either satisfice using a heuristic (rule-of-thumb), or engage specialists, with the latter particularly critical in situations where significant amounts of information are required (e.g. building retrofitting). As a result, consumers' access to markets for specialist services is critical.
- Fourth, consumers require the ability to make effective decisions based on the information to which they have access. Third parties, such as utilities and other specialists, can overcome bounded rationality by making decisions on behalf of consumers, and so the market for services is often critical to implementing demand-side options.
- Fifth, the incentives faced by various parties must align with their ability to control outcomes (e.g. tenants are not always in a position to make decisions regarding building fabric.)
- Sixth, even if a demand-side option is highly cost-effective, consumers still require access to capital or financing to implement that option. In the case of energy supply, consumers rarely make investments - instead generators and network companies make investments and the costs are passed on to consumers over time.
- Seventh, as highlighted the first, second, third and fourth points, there need to be well-established and functioning markets for energy, energy efficiency goods and energy management specialist services. The role of markets for goods, services and technologies is often overlooked in the energy efficiency policy debate. The ability for an energy user to access the goods and services that they demand will depend on the features of specific markets. The features of markets are the outcome of complex interactions between parties and informal, formal and legislative market rules. Even following market reforms, there can be significant hysteresis, which can delay or prevent market adjustment.

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2.2 Barriers to energy demand-side investment

A number of well-documented barriers meant that the conditions for optimal investment in demand-side goods and services are rarely met. The Issues Paper noted a number of the key barriers, and there are also a number of barriers associated with the structure of energy markets and markets for goods and services.

The EEC broadly categorises the key barriers to demand-side investments as:

1. **Non-cost-reflective energy prices:** the Australian Energy Market Commission's (AEMC), recent Power of Choice (DSP3) review confirmed that energy prices do not currently reflect the true cost of delivery at particular times and locations. For example, in some locations households that install air-conditioners that cost $1,500 could drive $7,000 of cross-subsidised investment in networks. This undermines the incentive for investing in energy efficiency.
2. **Energy use externalities:** Using energy from the Victorian grid results in greenhouse gas emissions which impose externality costs (damages) on other parties. These externalities are currently internalised by the carbon price.
3. **Misaligned incentives:** There are a number of misaligned incentives (principal-agent problems) in markets for energy and energy services, including the well-established landlord-tenant split and the misaligned incentives between energy consumers (principals) and Network Service Providers (agents). Environmental Upgrade Agreements (EUAs) can be effective at addressing landlord-tenant splits in commercial building markets, although low awareness and high transaction costs have reduced the uptake of EUAs. Future changes to the EUA market may address these issues.
4. **Information asymmetries:** when buyers and sellers have unequal access to information this can dramatically reduce the efficiency of markets and lead to adverse selection (Akerlof 1970)[3]. There are well known information asymmetries relating to the energy efficiency of appliances and buildings, as these are typically categorised as 'credence goods', where the quality (energy efficiency) is difficult to determine by non-experts even after the good is purchased. Energy Rating labels for certain types of appliances and NABERS ratings for commercial buildings have been shown to be highly effective at addressing information asymmetries for these products. Information asymmetries also currently exist in the markets for energy efficiency services (e.g. building retrofits), where energy users lack the information to determine the quality of service providers. The Energy Efficiency Council is currently developing an accreditation scheme for building retrofits, but effective accreditation schemes will be required in a range of other areas.
5. **Imperfect information (public good information):** Some forms of information have public good features, which means they will be underprovided by the private sector. While some degree of imperfect information occurs in most markets, there is a very high level of imperfect information in the markets for energy, energy-using goods and energy management services.
6. **Bounded rationality, organisational and cultural factors:** As noted, both households and businesses use heuristics (rules of thumb) to make decisions on energy management and, combined with certain inherent biases, these result in sub-optimal decisions. For example, future discounting rates of several hundred percent have been found in the markets for some goods. The heuristics used by homes and businesses were typically developed in periods of low, stable and cross-subsidised energy prices, and are highly unsuitable to the current period of rising energy prices and a shift to time-of-use pricing.
7. **Distortions in energy market rules, regulations and operations:** There are a number of distortions in the National Electricity Market (NEM) that create supply-side biases, which have been documented in the Parer Review (2002), Senate Committee on Electricity Prices Report (2012) and AEMC Power of Choice final report (2012). Alongside regulatory problems around Network Service Providers, the energy market has well-established mechanisms for supply-side service aggregation, but no equivalent for demand-side

[3] Akerlof, G. (1970) "The Market for "Lemons": Quality Uncertainty and the Market Mechanism", *The Quarterly Journal of Economics*, Vol 84, No 3, Aug 1970, pp 488-500

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services. For example, the market recognised the limited ability of consumers to engage in complex wholesale energy markets and mandates that most consumers must use a supply-side agent (retailer), but does not recognise, or address, equivalent limits on the abilities of consumers to deal with complex demand-side issues.

8. **Distortions in the markets for other goods and services:** The barriers noted above (including energy market distortions) have affected a range of markets for energy efficient goods and services. Hysteresis in these markets can sometimes result in a slow or limited response to a simple correction of one of the many market failures that affect these markets. As a result, a market transformation approach is generally recommended.

   For example, hot water systems tend to be replaced at the point of failure, meaning that households take the advice of the plumber on call in determining which system to install. When plumbers lacked the skills to install solar hot water, they had strong incentives to recommend against installing solar hot water systems. This dampened demand for solar hot water systems, in turn reducing the incentive for plumbers to learn the skills to install those systems. The combined approach of subsidised training for plumbers, incentives for solar hot water and awareness campaigns for households has started to shift this market.

2.3 Role of the ESI

There is no single policy tool that can address these multiple issues, and a suite of cost-effective, complementary measures is required. The table below is not intended to be comprehensive, but highlights which barriers an ESI is most suited to address.

Issue	Policy options
Energy Price Distortions	Energy market reforms are the best way to address the lack of site-specific (nodal) pricing and the lack of time-of-use pricing. In the case of nodal pricing, the EEC recommends reforms that involve Network Service Providers and other parties investing in site-specific demand-management programs where the benefits exceed costs.
Externalities	While an ESI can provide a positive price signal for carbon reduction, given the likely existence of either a Carbon Price or Emissions Reduction Fund (Direct Action Plan), we do not believe that this should be the primary goal of the ESI.
Misaligned incentives	Regulations (e.g. minimum standards) and aligning incentives using tools such as EUAs are generally regarded as the most effective ways to address misaligned incentives.
Information Asymmetries	Rating schemes such as NABERS and accreditation schemes are generally the best ways to address information asymmetries.
Imperfect Information	Direct information provision and support for education and training play a role in addressing imperfect information. However, an ESI can substantially overcome information issues by linking energy users, particularly households and SMEs, with specialists that have the knowledge to help them make decisions.
Bounded rationality and organisational heuristics	Programs like the Energy Efficiency Opportunities program can help overcome inappropriate heuristics, and standards can protect against some forms of bounded rationality. However, an ESI can address bounded rationality by linking SMEs and households, and the supply-side aggregation distortion (see below) by linking them to specialists that act on their behalf or help them to make decisions. An ESI also provide a salient signal to overcome heuristics in both smaller and larger energy users.

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Energy market distortions	A number of energy market distortions should be addressed directly (e.g. changing the incentives for NSPs). However, there are multiple factors that lead to supply-side bias in the NEM (including supply-side aggregation) that need to be balanced by fostering demand-side aggregation through an ESI or similar mechanism.
Distortions in markets for demand-side products and services	A well-designed ESI can overcome the multiple market failures that have restrained the growth of markets for demand-side services and products, and address the hysteresis in these markets.

In summary, rather than a single solution to a single market failure, the ESI addresses multiple, interacting market failures. While an ESI may not be the first-best solution to each of these barriers, it is strongly preferable to no solution or a piecemeal solution to these barriers. As governments and other organisations progressively address these other market failures it would improve the efficiency of the ESI, reducing the certificate price.

2.4 Objectives of the ESI and complementarity to the carbon price

There are a number of potential goals for an ESI. As noted above, an ESI can provide a positive price signal for emissions reduction, and when the ESI was introduced its primary goal was to reduce emissions. Since then, the Australian Government has introduced a carbon price and the opposition has committed to replace the carbon price with an Emissions Reduction Fund. Therefore, the EEC recommends that the ESI no longer focus on carbon reduction, and instead be refocused on addressing the other market failures that it is well suited to addressing.

As noted above, the ESI can be effective, as part of a suite of measures, of addressing barriers to the cost-effective take up of energy efficiency. In particular, we believe that an ESI would:

- Enable third-parties to help consumers undertake coordinated demand-side activities at scale. This would address a combination of information failures and structural biases in energy markets which encourage supply-side activities at scale but impede delivery of demand-side activities at scale.
- Create an incentive for third parties to find ways to overcome well-known market failures that prevent the take up of privately cost-effective energy efficiency, including information barriers, bounded rationality and split-incentives.
- Create a salient incentive that addresses organisational failures and skill gaps in energy users, supporting the take-up of socially cost-effective energy efficiency.
- Overcome a broad range of intersecting market failures to enable market-transformation in the supply of energy efficiency goods and services, such as high-efficiency fan motors.

The ESI will address these barriers, making it easier for households and businesses to respond to rising energy prices. The ESI should stay in operation until other policies and energy market reforms are enacted that address these barriers. This is unlikely to occur before 2030, but reviews should be undertaken in 2020 and then every 5 years to determine if the ESI is still necessary.

Therefore, the EEC recommends that the objectives of the ESI be recast as:

> *"The primary objective of the ESI is to **help households and businesses manage rising energy costs by improving consumption efficiency** – specifically via the uptake of socially cost-effective energy efficiency, distributed generation and demand-side activities.*
>
> *The ESI will focus on saving households and businesses money by improving the efficiency of energy consumption (GJ per unit of service), but will also help mitigate energy price rises by providing support for specified technologies that reduce consumption during periods of peak demand.*
>
> *The ESI will foster effective markets for demand-side services and products in advance of a range of market failures being tackled across the economy."*

Because the primary purpose of an ESI should be to reduce energy costs, rather than emissions, and target market failures that the carbon price or Emissions Reduction Fund won't address, it

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would be complementary to a carbon price or Emissions Reduction Fund. However, because an ESI will address barriers to energy efficiency and support low-cost actions that reduce emissions, it will reduce the cost of achieving Australia's emissions bipartisan emissions reduction target.

2.5 Alternative policy options

There are other policy options that could be considered in place of an ESI, such as a public benefits charge or direct utility obligation. However, the EEC holds that these policies would be less effective at fostering a demand-side market than a well-implemented ESI. Certificate schemes generally have much greater stability and transparency than grant schemes, and are therefore better at encouraging investment and development of demand-side businesses.

Furthermore, the Victorian Government has spent several years establishing the ESI to support the emergence of a demand-side market. Both the Victorian Government and the private sector have invested substantially in, respectively, the set up of the ESI and systems to work within the ESI's broad structure. These costs do not need to be expended again if the ESI is maintained, whereas shifting to an alternative policy option would require considerable investment in new systems. The cost of transition would be likely to result in many demand-side businesses closing, undoing much of the benefit of the ESI to date in terms of building an effective demand-side market.

Therefore the EEC strongly recommends retaining the ESI as the policy tool to address the market barriers noted above, and maintains that public and private costs of shifting to an alternative policy tool would significantly outweigh any benefits.

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3. Benefits of an ESI and performance to date

3.1 Performance of the ESI to date

Overall, the ESI has delivered substantial benefits to Victorians, including:

- Reduced energy bills for homes and businesses, which, addresses cost of living pressures and boosts competitiveness.
- Reduced wholesale electricity prices. There is substantial evidence that reduced electricity demand in the past few years has significantly reduced the wholesale electricity price, significantly outweighing the impact of ESI certificates on electricity bills.
- Reduced need to expand electricity networks. Given that expenditure on networks has been a major driver in rising energy prices in the past 5 years, this is a substantial benefit.

The effectiveness of the ESI depends not only on the high-level architecture of the scheme, but also on its detailed design and implementation. We believe that, while the ESI has delivered substantive benefits, it could deliver substantially more if it is modified. To date:

- The ESI has not unlocked the significant potential for commercial and industrial energy efficiency, losing any potential benefits to businesses through energy savings and potential benefits to other energy users through avoided expenditure on the network and reductions in the wholesale energy price.
- The ESI has driven limited SME activity over the last 18 months, partly due to limited options and numerous changes in requirements since SME activities were introduced.
- Although the EEC supports deeming where appropriate, some inaccuracies in deeming methodologies have reduced the benefits of the ESI by failing to drive highly effective activities or over-driving some activities. For example:
    - In the case of commercial lighting, limiting lighting hours to 3,000 hours per annum has undervalued energy savings from lighting upgrades to 24-hour lighting systems (e.g. fire-escapes)
    - Overly-generous deeming to Standby Power Controllers (SPCs) has delivered too much support for this technology, reducing certificate prices and support for other technologies. For example, the fall in certificate prices owing to overly-generous deeming of SPCs has reduced the ability to replace inefficient heaters with high-efficiency centralised heating systems.
- The compliance costs and transaction costs vary between various technologies in ways that do not reflect genuine risks between these methodologies. For example, simple compliance for SPCs and excessive compliance for commercial lighting has weighted the scheme towards SPCs and away from commercial lighting.
- A focus on ‘low-hanging fruit’ has created a number of activities that are effectively free for end users, which does not help the development of a long-term market for energy services. The Council recommends that the scheme transitions to more co-contribution technologies.

However, the ESI has delivered significant overall benefits, and the issues mentioned above should be regarded as learnings to improve the operation of the ESI moving forward, rather than significant issues with the ESI.

In addition to the benefits for energy users, a number of Council members have engaged staff in Victoria due to the ESI, with some estimating that the ESI has created around 2,000 jobs in Victoria.

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3.2 Benefits from energy efficiency certificate schemes outside Victoria

The well-documented benefits from schemes outside Victoria indicate the nature and scale of benefits that should be expected from effective energy efficiency schemes.

UK Carbon Emission Reduction Target (CERT)

An extensive evaluation of the last phase of the UK's energy efficiency scheme (Energy Efficiency Commitment phase 2) found that it delivered $12.7 billion of benefits to households, with every dollar spent by energy retailers delivering $9 worth of benefits to households. The current round of the scheme will deliver of 293 megatonnes of reduction of CO_2 and substantially cut household energy bills.

New South Wales Energy Savings Scheme (ESS)

Modelling by the NSW Government indicated that "over the life of the scheme this will save energy customers between $330 million and $1.3 billion... It will deliver a net economic benefit to NSW of between $27 million and $109 million …, due to fuel savings, and the deferral of new electricity generation and network infrastructure[4]."

Modelling for an Australian National Energy Savings Initiative

Modelling undertaken by MMA for the Prime Minister's Task Group on Energy Efficiency forecast that the establishment of a National Energy Savings Initiative would save households between $50 - $243 per year from 2012 – 2030.

	2012-2020	2021-2030
CPRS-5 with low target	1.06	2.16
CPRS-5 with low target	1.39	3.39
CPRS-5 with low target	1.41	3.64
CPRS-15 with high target	1.58	4.69

Table 1: Reduction in expenditure on electricity by households due to an ESI, $/week

Source: The Report of the Prime Minister's Task Group on Energy Efficiency

Quantified benefits for the commercial and industrial market

Additionally savings gained from reduction in retail prices and reduction in costs of energy savings forecast that medium businesses would save from $10,608 - $23,712 per year and large businesses from $70,616 - $158,132 per year depending on the target for an emissions trading scheme.

	Small	Medium	Large
CPRS-5 with low target	2	204	1,359
CPRS-5 with low target	2	287	1,912
CPRS-5 with low target	2	288	1,923
CPRS-15 with high target	3	456	3,041

Table 2: Reduction in expenditure on electricity by business due to an ESI, $/week

Note: Small business is defined as those consuming 40MWh per annum, medium as those consuming 6,000 MWh per annum and large consuming 40,000 MWh per annum . Source: The Report of the Prime Minister's Task Group on Energy Efficiency

[4] NSW Department of Water and Energy, 2009 - *Proposed NSW energy savings scheme targets and reforms*

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4. Enhancing the ESI

The EEC believes that the ESI has delivered substantial benefits to date, but could deliver much more substantive benefits if its design is enhanced. In summary, the Council recommends:

- Redefining the objectives of the ESI
- Refocusing the ESI based on these redefined objectives.
- Fully linking the ESI with the NSW Energy Saving Scheme using mirror legislation (or replacement with national legislation), to form the basis of a national energy saving scheme that other states can then opt into.
- Focusing the work of Victorian and NSW government agencies on developing effective methodologies for SME, commercial, industrial and precinct activities (e.g. cogeneration). The Victorian scheme would become much more effective simply by adopting a number of the 'project based' methodologies utilised in NSW, and further work is required on a potentially highly effective 'guaranteed savings' methodology.
- Linked to the previous point, focusing the work of Victorian and NSW government agencies on 'project-based' methodologies, which use reliable measurement and verification of savings.
- Re-introducing insulation into the ESI

4.1 Updating the ESI objectives

As discussed in Section 4 of this submission, we recommend refocusing the ESI around new objectives:

- *"The primary objective of the ESI is to **help households and businesses manage rising energy costs by improving consumption efficiency** – specifically via the uptake of socially cost-effective energy efficiency, distributed generation and demand-side activities.*
- *The ESI will focus on saving households and businesses money by improving the efficiency of energy consumption (GJ per unit of service), but will also help mitigate energy price rises by providing support for specified technologies that reduce consumption during periods of peak demand.*
- *The ESI will foster effective markets for demand-side services and products in advance of a range of market failures being tackled across the economy."*

4.2 Redesigning the ESI in-line with these revised objectives

To deliver these revised objectives, the scheme must have a number of design features, including:

- Retaining its current design as a baseline-and-credit scheme, with retailers as the point of obligation and tradable certificates
- Redesigning the scheme to operate in all sectors that use stationary energy (residential, commercial and industrial)
- Covering both electricity and gas, and the government should consider coverage of coal and liquid fuels where they are used for remote generation or mining/industrial activities. The scheme should continue to exclude transport fuels.
- Allow large energy-users to opt out if they agree to meet a target for improved efficiency
- Measure savings in additional gigajoules (GJ) saved, weighted to address fuel-switching.
- Consider additional support for efficient air-conditioning to ameliorate peak demand.
- Have a target set as a percentage of liable sales (like NSW) equivalent to the size of the current NSW scheme, adjusted to the Victorian population.

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- Support full participation of low-income households, potentially via extra support to parties that drive certificate generation in low-income households. The EEC does not object to a sub-target for low-income households, but notes this would decrease scheme efficiency.
- Establish an independent Measurement and Verification Authority to establish and approve certificate methodologies, similar to the Domestic Offsets Integrity Committee. The Authority should develop certificate-generation methodologies including deeming, project based-assessment, guaranteed energy saving projects and use of the International Performance Measurement and Verification Protocol (IPMVP). Private proponents should also be able to develop methodologies for consideration by the Authority.

4.3 Harmonising the ESI with the NSW Energy Savings Scheme

Moving towards a single national energy certificate scheme would deliver multiple benefits, including:

- Improved efficiency through economies of scale and a deeper pool of potential savings
- Improved robustness and reduced administrative costs, by pooling the efforts of government officials across several states.
- Reduced compliance costs for retailers, who have to comply with different rules under different schemes in different jurisdictions. Multiple schemes increases costs for retailers without any extra benefits for households.
- Substantially reduced accreditation, product registration and compliance costs for energy service providers, including retailers, accredited persons and manufacturers. Many of the EEC's members do not currently engage in either the NSW or Victorian certificate schemes, because they perceive the cost of compliance for small markets to exceed the benefits. Therefore, a single national scheme would dramatically improve competition, boosting quality and lowering prices.
- Reducing variation will reduce costs for energy users that want to participate in the scheme in multiple states.

The EEC's preference is for a single national ESI to be established under national legislation, with the existing state schemes voluntarily incorporating into this scheme. This would result in the most effective and flexible scheme, as decisions could be made by a single minister. However, if this is not possible the EEC recommends that Victoria introduce mirror legislation to the NSW scheme, with other states then being able to opt in to the scheme.

4.4 Focusing on commercial and industrial efficiency

There is a very large potential for cost-effective energy savings in the commercial and industrial sectors. The ESI has the potential to substantially improve the competitiveness and productivity of Victorian businesses, with flow on benefits to the Victorian economy.

While the EEC believes that the ESI should continue to support efficiency in households and SMEs, additional focus should be put in to developing methodologies for commercial and industrial energy users. Previous data has indicated that 37 per cent of Victorian energy consumption comes from the residential sector, 18 per cent from the commercial sector and 45 per cent from the industrial sector. However, the limited methodologies for commercial and industrial activities mean that the ESI has delivered very little efficiency in the commercial and industrial sectors.

Unlocking these benefits will require project-based assessment methodologies.

4.5 Project-based assessment (PBA)

The largest opportunities for energy savings in businesses, such as Heating, Ventilation and Air Conditioning (HVAC) upgrades, retro-commissioning and continuous commissioning, vary substantially on a site-by-site basis. In addition, much deeper energy savings can be achieved by whole-of-site energy efficiency retrofits that combine several energy saving measures that interact together.

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PBA methodologies are essential to estimate, measure and verify the savings from these types of measure, and therefore to unlock the potential for energy savings in the business sector. The absence of a PBA methodology in the ESI, and the presence of a PBA methodology in the New South Wales Energy Savings Scheme (NSW ESS), means that much of the business investment in energy efficiency in Australia has flowed to NSW. This means that Victorian businesses are missing out on opportunities to improve their viability and profitability.

In addition, PBA methodologies can support whole-of-site approaches to both individual dwellings and multi-unit residential sites, encouraging innovation in energy service delivery and deeper energy savings in the residential sector.

The EEC recommends that the Victorian Government adopt PBA methodologies that:

- Are identical to, or as closely aligned as possible to, the NSW ESS PBA methodologies
- Provide certainty about the volume of certificates that will generated, including a focus on upfront generation of certificates
- Allow for maximum flexibility by developing a number of methodologies
- Use robust measurement and verification methodologies
- Encourage investment in deep energy saving projects, rather than just 'low-hanging fruit' projects that can undermine the opportunity for deeper savings
- Combine low compliance costs with strong compliance, by combining clear rules, limited upfront administration for certificate generation and strong audit regimes with significant penalties for non-compliance

Harmonisation with the NSW ESS

The Council strongly recommends that the Victorian ESI adopt PBA methodologies that are consistent with the current or planned PBA methodologies used by the NSW ESS. The NSW Government has significant experience in PBA methodologies, and the Victorian ESI should adopt the NSW methodologies, including the Recognised Energy Savings Activities (RESA) methodology, to ensure that the ESI and ESS are harmonised.

However, the ESI should also develop an Energy Performance Contract (EPC) methodology, as this would encourage the use of effective contracting methodologies, deliver high volumes of guaranteed savings and lower transaction costs for both the Victorian government and industry. This methodology could then be extended to NSW.

Upfront generation of certificates and measuring savings

As with the NSW ESS, the ESI should allow for several PBA methodologies, focusing on those PBA methodologies that combine both estimation (deeming) and metered-baseline.

The most accurate way to determine the lifetime savings from an energy saving measure is to measure the energy a site or piece of equipment uses over its entire lifetime compared to a baseline. However, if certificates are generated on an annual basis over many years, energy users will substantially discount the value of those future certificates at the point that they make their investment, reducing the impact of the ESI on decisions.

Energy users discount the value of future certificates because of uncertainty about the future price of certificates and future government policy (which is exacerbated by the ESI running in three-year phases). Therefore, to maximise the impact of the ESI, certificates should be generated as soon as possible following the completion of works.

However, the more that a PBA methodology uses actual data on the impact of an energy saving measure, the more accurate it will be and the less that savings need to be discounted to account for uncertainty in actual savings.

Therefore, some of the most effective PBA methodologies would involve:

- Accredited Persons (APs) being able to develop a good estimate the volume of certificates that they can generate prior to installation; and

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- APs being able to generate certificates shortly after installation, following measurement of the impact of the energy saving measure and use of this short-term measurement to develop an accurate estimate of lifetime energy savings.

Multiple Methodologies

Following the NSW ESS, the ESI should allow for several PBA methodologies, including:

- A multi-year metered-baseline approach, where savings are determined through assessments of energy use at a site before and after implementation. The appropriate protocols for these methods are the International Performance and Measurement Verification Protocol (IPMVP), which was developed by the US Department of Energy, and NABERS. Some additional guidance to the IPMVP may be developed over time to ensure the development of appropriate measurement and verification plans.
- A 'before-and-after' metered-baseline approach, where energy savings are measured and then extended to estimate lifetime savings, with some discount factor. Again, the suitable protocols are the IPMVP and NABERS, although for this method certificates would need to be generated based on estimates of NABERS ratings.
- An individual site engineering estimate method, where certificates for projects are generated by upfront estimates that are checked and approved by an independent third-party.
- An Energy Performance Contract (EPC) Methodology, where one party guarantees a quantum of energy savings to a second party. Under this system, the first party would pay a financial penalty to the second party if a level of energy savings isn't delivered, giving the ESC good confidence that the quantum of energy savings can be delivered. Under this methodology, ESC and/or assessors would need to determine if the guarantee is contractually genuine and the contract is appropriate, the party making the guarantee is a genuine third party and the party making the guarantee has sufficient skills and finances to ensure that the guarantee is reasonable. As with the 'before-and-after' methodology, this would ideally involve some before-and-after' metered baseline.
- A Recognised Energy Savings Activities (RESA) methodology, where ESC approves an AP's methodology for estimating savings from a type of equipment, and the AP can then apply this methodology to multiple sites subject to spot-check auditing. This methodology will substantially reduce transaction costs. These methodologies often involve 'before-and-after' measurements.

Assessors

The EEC agrees that the ESC should set up a panel of well-qualified and independent assessors to carry out verify and sign-off on methodologies for generating certificates.

For all PBA methodologies, the role of the assessor should be to determine whether the method for calculating the volume of energy savings, and therefore the number of certificates, is appropriate. Therefore, all assessors will need:

- A sound grounding in the methods used to estimate or measure and verify energy savings. The only globally and locally accepted standard for measurement and verification experts is the Certified Measurement and Verification Professionals (CMVP) accreditation, which was jointly developed by industry and the US Department of Energy.
- Expertise in the PBA methodologies endorsed by ESI.
- Some understanding of the technologies or techniques used to save energy. In cases where assessors are analysing engineering assessments for upfront certificate generation, they would need to have significantly greater skills.

Where assessors are asked to determine whether an EPC guarantee is reasonable, they would also need an understanding of the contractual arrangements in EPCs.

Depending on the PBA methodology, the assessors would either carry out all their work pre-implementation (e.g. pre-installation assessments) or a mix of pre- and post-implementation (e.g. metered-baseline approaches).

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There is a modest but workable number of individuals that have the skills sets required for assessments. Currently, over 50 individuals have had CMVP training in Australia, and further training will be undertaken in late 2013. Many CMVPs have some understanding of the technologies or techniques used to save energy, although not all to the level required to evaluate the reasonableness of engineering assessments. CMVPs can be trained in PBA methodologies once the PBA methodologies are determined.

Assessors will need to provide accurate and independent advice in order to be effective, as otherwise they will simply duplicate the role of the Essential Services Commission (ESC).

Verification regimes

The verification regime will be critical to the success of PBA methodologies. The EEC strongly believes that the ESI should minimise administration costs while maximising compliance by only requiring large projects to be verified prior to the generation of certificates; smaller projects should be 'spot-checked' for compliance after implementation, to reduce processing time and verification costs.

4.6 Re-introduce insulation into the ESI

Following the launch of the Commonwealth Government's Home Insulation Programme (HIP), insulation was excluded from the ESI. Given the closure of the HIP, insulation should be reintroduced into the ESI program. Insulation represents one of the largest opportunities to reduce energy use in existing homes and businesses, and there is no reasonable reason for exclusion of insulation if appropriate safeguards are in place.

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