

Energy Savings Scheme Review
Department of Trade and Investment
NSW Government
energysavings.scheme@trade.nsw.gov.au



10 March 2014

Dear Review Team

This letter provides an overview of the Energy Efficiency Council's view on the Issues Paper for the Energy Savings Scheme (ESS) Review (hereafter referred to as 'the Issues Paper'). This letter is accompanied by a submissions form.

The Energy Efficiency Council is the peak body for energy efficiency in Australia, and brings together our nation's top experts in this area to support the development of policy and programs. The Council welcomes the opportunity to provide a submission to the ESS Review.

In summary:

- The Council supports the ESS as a key mechanism to address a combination of distortions in energy markets and barriers to investment in energy efficiency. Correcting these distortions results in a more cost-effective balance of supply-side and demand-side investments, lowering costs for energy consumers.
- The ESS should remain in place until these distortions are comprehensively addressed or a national energy savings scheme is in place.
- ESS targets should be reviewed and expanded to take advantage of the potential for energy savings in New South Wales, and the ESS should be expanded to gas.
- The process for generating certificates should be simplified but complemented by a strong audit and enforcement regime. This should be complemented by a review of the efficiency of IPART's processes.
- The government should clarify governance and implementation arrangements.
- Allowing ESCs to be bid into the Emissions Reduction Fund would deepen the liquidity of the NSW ESS, increase certificate price stability and lower energy costs.
- The NSW Government should look seriously at options to reduce the growth in peak demand. While it may be appropriate to adjust savings values in the ESS to account for the impact on peak demand, on its own the ESS will not be able to unlock the potential for peak demand reduction. The ESS should be complemented by both energy market reforms and the NSW Government setting a target for Distribution Network Service Providers to invest in localised demand-side projects that offset the need for more expensive network augmentation projects.

The Energy Efficiency Council looks forward to working closely with the NSW Government in the Review of the ESS. If you require any further information please contact me at any time on 0414 065 556 or ceo@eec.org.au.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Rob Murray-Leach".

Rob Murray-Leach
Chief Executive Officer



energy efficiency
COUNCIL

Energy Savings Scheme Review

Summary of Key Issues

Contents

1. Rationale for the Energy Savings Scheme.....	4
1.1 Benefits from improvements in energy efficiency	4
1.2 Barriers to optimum investment in energy efficiency	5
1.3 Policies to unlock the barriers to energy efficiency.....	6
1.4 Objectives of the ESS and Scheme Termination beyond 2020.....	7
2. Scheme Design	8
2.1 Fuel Coverage and targets.....	8
2.2 Simply processes, improve robustness and lower cost	8
2.3 Roles and responsibilities	8
2.4 Linkage to the Emissions Reduction Fund.....	9
2.5 Peak demand	10

1. Rationale for the Energy Savings Scheme

1.1 Benefits from improvements in energy efficiency

Improving the level of energy efficiency in the NSW economy would deliver significant benefits to the state, including:

Keeping energy affordable

A recent survey found that NSW households' biggest cost-of-concern is electricity, with 84 per cent of households concerned about electricity¹. The vast majority of NSW households, 85 per cent, believe it is important, or very important, that the NSW Government take action to help reduce energy bills for households and businesses.

Energy efficiency was by far the most popular policy to address energy affordability, with 82 per cent of NSW households wanting the NSW Government to help homes and businesses save energy. Energy efficiency reduces energy bills by helping homes and businesses get more out of each unit of energy that they use, and can also reduce electricity prices.

This survey provides support for the NSW Energy Efficiency Action Plan, which aims to *"deliver savings on bills to those most affected by recent price rises, and further reduce pressure on future prices."*

Boosting competitiveness

Helping Australian businesses to get more out of each unit of energy would improve their global competitiveness. Research by Vivid Economics suggested that improving Australia's energy efficiency by an extra 1 per cent a year would generate an extra \$8 billion in GDP by 2020 and \$26 billion in GDP by 2030.²

Managing the change in energy markets and technologies

There are major changes occurring in energy supply, both locally and globally. This creates a difficult environment for investing in long-lived electricity infrastructure. Addressing the market failures that decrease energy efficiency will help energy users adapt and reduce the need to invest in supply-side assets during this period of uncertainty.

Creating jobs

Boosting energy efficiency will create a thriving domestic and export market with thousands of jobs including builders, engineers and manufacturers.

Meeting Australia's emission targets

Energy efficiency makes good economic sense and also reduces greenhouse gas emissions. The Australian Bureau of Agricultural and Resource Economics estimated that energy efficiency could deliver 55 per cent of Australia's reductions in greenhouse gas emissions over the next 40 years³.

¹ CHOICE, Brotherhood of St Laurence and Energy Efficiency Council (2013) 'Survey of Community Views on Energy Affordability'

² Vivid Economics (2013) *Energy Efficiency and Economic Growth*, Report prepared for the Climate Group, Vivid Economics, London.

³ 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

1.2 Barriers to optimum investment in energy efficiency

In an ideal market, energy users would maximise their wellbeing by balancing investment in energy (supply-side) and appliances (demand-side). For example, homeowners would cool their homes at the lowest cost by balancing investment in energy, efficient air conditioners and insulation. However, market failures that interact with distortions in the energy market result in over-investment in supply and under-investment in the demand-side.

Firstly, price signals for consumers do not reflect the true cost of delivering electricity at particular times and locations. For example, it could cost \$7,000 of cross-subsidised network investment to provide enough power for a household that pays just \$1,500 to install an air-conditioner. As the cost of this network infrastructure is smeared over consumers, there is little incentive to improve individual investment decisions.

Secondly, consumers do not have perfect information and face transaction costs and limits to capital to invest in energy efficiency. While consumers face these issues in most markets, the highly regulated energy market addresses these barriers for energy supply, but not for energy efficiency, inhibiting the emergence of services to address these issues.

Expanding on the previous example, homeowners that wish to increase the amount of cooling in their home do not choose between investing in a more efficient air conditioner or expanding their energy supply. Rather, network service companies anticipate that households might want to increase their cooling and augment the network just in case. In effect, the networks make decisions on behalf of households and provide an aggregated supply-side solution that smears the cost of capital over multiple years and across all energy users, putting upward pressure on energy bills. Similarly, energy retailers manage purchases from the wholesale energy market on behalf of households. Retailers perform a valuable and mandated role to correct imperfect information on the supply side.

However, while there are mandatory structures to address barriers to investment on the supply side, there are no comparable structures in energy markets to address these market failures on demand side. As a result, the NEM distorts investment to focus on supply-side rather than demand-side solutions, resulting in sub-optimal outcomes for consumers. This comes at a substantial societal cost – network companies spent \$45 billion on grid expansion over the last five years, almost doubling national energy prices and putting huge stresses on homes and businesses. In contrast, sensible investments in energy efficiency have a negative cost over their life.

These problems are well known. In 2002, Warwick Parer (Australian Minister for Energy and Resources from 1996 to 1998) chaired a review into the National Electricity Market (NEM) that concluded:

“[There] is a relatively low demand side involvement in the NEM because

- the NEM systems are supply side focussed*
- the demand side cannot gain the full value of what it brings to the market*
- residential consumers do not face price signals.”*

However, the challenges of the energy market reform process mean that, to date, these issues have not been resolved. Therefore, without specific policies to address the supply-side distortions, the energy market and consumers in NSW are likely to overinvest in supply-side and under-invest in energy efficiency, raising the cost of energy services for consumers.

1.3 Policies to unlock the barriers to energy efficiency.

To unlock the abatement in energy efficiency, we need to address the multiple barriers to energy efficiency. There is no single policy tool that can address these multiple barriers, and a suite of cost-effective, complementary measures is required. The table below is not comprehensive, but highlights the roles of key policies, particularly the ESS.

Issue	Policy options
Energy Price Distortions	Energy market reforms are the best way to address the lack of time-of-use pricing and site-specific (nodal) pricing for electricity and other forms of energy.
Information Asymmetries	Where buyers and sellers don't have information about the quality of a product, it can cause adverse selection ⁴ . The existing rating schemes for appliances and commercial buildings are highly effective at addressing this problem.
Misaligned incentives	Where energy users (e.g. tenants) and those responsible for energy efficiency (e.g. building owners) don't have the same incentives, it can cause underinvestment. Minimum standards, and policies that re-align incentives (e.g. Environmental Upgrade Agreements), are effective in addressing this issue.
Externalities (greenhouse gas emissions)	The total costs of energy use include the negative impacts of energy use on society, including greenhouse gas emissions. Unless there is a carbon price or Emissions Reduction Fund (ERF), energy users won't face the full costs of their energy use, or benefit from improving their efficiency. The Council recommends that this is dealt with via a carbon price or ERF.
Imperfect Information	The ESS addresses imperfect information by linking energy users with specialists that have the knowledge to help them make decisions. Direct information provision can complement this approach.
Bounded rationality and organisational heuristics	The ESS can address bounded rationality by linking SMEs and households to specialists that help them to make decisions, and provide a salient signal to overcome heuristics in both smaller and larger energy users. Standards and information programs can also assist with bounded rationality.
Energy market distortions	Some energy market distortions should be addressed directly (e.g. distorted energy prices). However, there are multiple factors that lead to supply-side bias in the NEM (including supply-side aggregation) that must be balanced by fostering demand-side aggregation through the ESS.
Distortions in markets for demand-side products and services	The ESS can overcome the multiple market failures that have restrained the growth of markets for demand-side services and products.

In summary, rather than a single solution to a single market failure, the ESS addresses multiple, interacting market failures.

⁴ Akerlof, G.A. (1970). "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism". *Quarterly Journal of Economics* (The MIT Press) 84 (3): 488–500.

1.4 Objectives of the ESS and Scheme Termination beyond 2020

The Energy Efficiency Council supports the NSW Government's decision to place the ESS at the centre of its Energy Efficiency Action Plan. The ESS 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.

The Council strongly supports the continuation of the ESS on an indefinite basis until either:

- There is a National Energy Savings Initiative (NESI) in place; or
- An alternative package of measures is introduced that comprehensively addresses the supply-side bias in energy markets and other market failures.

If governments and other organisations progressively address the market failures that are addressed by the ESS it will result in certificates to be created at much lower cost. In this respect, the ESS will partially phase itself out if it becomes less necessary. However, the ESS should not be removed until the full set of market failures is addressed.

Unless a NESI is introduced, it is highly unlikely that the energy market structures will exist that justify the removal of the ESS before 2030. However, we would support reviews on the necessity of continuing the ESS in 2020 and then every 5 years. Reviews should not be taken outside of this framework, as they increase the uncertainty around the ESS and impede the development of markets for energy efficiency services.

2. Scheme Design

2.1 Fuel Coverage and targets

The ESS is currently focussed on driving electricity savings, which is partly because the serious supply-side distortions in the electricity market have been clearly identified. In contrast, the gas market has not been as well analysed.

The Council supports the primary focus of the ESS on electricity savings, but notes that there is a strong case to support gas efficiency on a transitional basis to help households and businesses adjust to the rapid jump in east coast gas prices. The construction of gas export terminals on the east coast of Australia has resulted in wholesale gas prices increasing from historical averages of around \$3.50 per Gigajoule (GJ) to over \$10 per GJ, and we are not aware of any credible experts predicting that gas prices will drop below \$10 per GJ in the short-to-medium term.

We believe that the scheme target should be expanded to support gas efficiency, including the replacement of inefficient gas boilers with more cogeneration systems. While the scheme could support a shift from low-efficiency electric boilers to high-efficiency cogeneration, it should not support households switching from electric boilers to gas boilers, as rising gas prices mean that gas boilers with low upfront costs could have very high running costs.

The Council recommends that the ESS target should be raised to allow for gas efficiency. However, even if gas is not incorporated into the ESS the target should be raised to tap into the significant potential for energy savings in NSW.

The Council recommends setting up a system where targets are reviewed based on movement in certificate price. If the certificate price significantly exceeds the penalty price for a significant period of time (highly unlikely at the current target level), this suggests that the targets may be set too high, and the targets should be reviewed to determine if they should be lowered. If the certificate price drops below a particular price it suggests that the targets are set too low, and targets should be reviewed to determine if they need to be raised. Given the current low price for certificates, there is a strong case to review the target and consider raising it.

2.2 Simply processes, improve robustness and lower cost

The Council supports the proposals in the ESS Rule Change, which shifts the focus of the scheme towards robust measurement and verification (M&V) processes. This will increase both the simplicity and the robustness of the ESS.

The Council recommends complementing this with a shift from paperwork-based compliance mechanisms and towards a centrally-funded audit process (similar to Victoria) with substantial penalties for any rorting by individuals and companies. The Council recommends that IPART take opportunities for prosecution in the case of clearly intentional rorting of the ESS. This shift would lower the cost for both certificate providers and regulators, at the same time as improving the robustness of the ESS.

Finally, the Council recommend that a third party be engaged to review the efficiency of IPART's processes. While IPART has made efforts to improve its operational efficiency, we believe that there should be significant opportunities for cost-efficiency that coincide with the introduction of the ESS Rule Change.

2.3 Roles and responsibilities

The Council believes that there is currently a substantial gap in roles and responsibilities in the ESS in relation to:

- Marketing the scheme to prospective certificate creators and energy users and providing training;
- Continual improvement and building complementary tools; and
- Reporting on scheme performance.

We recognise significant effort by various agencies to perform these roles on an ad-hoc or informal basis. However, there is a clear need to clarify governance relations in relation to these roles and ensure that one agency is charged with their delivery.

2.4 Linkage to the Emissions Reduction Fund

As discussed in Section 1, the ESS and the ERF are complementary. While they both drive 'additional' energy efficiency, the purpose of the ERF is to provide a price signal to internalise the benefits of abatement activities, whereas the ESS addresses a range of market failures, including energy market distortions.

There are four options to link the ESS and the ERF:

1. **Explicitly allow joint project funding** - allow projects to both generate certificates through state schemes (reflecting energy market benefits) and bid into the ERF (to capture the positive externality of abatement).
2. **Attempt to passively prohibit joint funding of projects** - passive requirements that projects cannot be funded by both the ESS and ERF would be administratively complex. Options 3 and 4 would be a more effective way of achieving this outcome.
3. **Use the schemes to focus on different sizes** - the ERF could focus on energy efficiency abatement projects on large sites, while the ESS could continue to support energy efficiency projects among households and SMEs.
4. **Allow the ERF to buy certificates from the ESS and other schemes** - proponents can generate energy efficiency certificates under the state schemes and bid them into the ERF, where they would be retired. This would allow the market to deliver energy efficiency above and beyond the targets set in the state schemes. In states without schemes, parties could directly bid into the ERF using the M&V methodologies of the ESS, and projects that aren't eligible under state schemes could bid in under new, broader M&V methodologies.

The Energy Efficiency Council recommends Option 4, as this would:

- Enable the ERF to ramp up rapidly and deliver substantial abatement over the three years of allocated funding, as energy service providers already have the processes and market offerings in place to work under existing schemes.
- Provide a robust framework for ensuring additionality by leveraging the existing certificate registries and accreditation processes. In addition, where certificates are bid into the ERF they would be retired, eliminating the chance that they could be double-counted toward state scheme targets and the ERF.
- Allow Federal administrators to focus their limited resources on compliance in states without schemes (Queensland, Western Australia, Tasmania and NT).
- Contribute towards electricity affordability, as allowing parties to bid state energy efficiency scheme certificates into the ERF would act as a price stabiliser for those certificate scheme. If parties can bid certificates into the ERF it would increase the number of certificate buyers and frequency of buying, which would lead to greater market liquidity, market efficiency and lower prices.
- Address issues of inter-state equity. Immature energy service markets can deliver low-cost energy efficiency opportunities through mechanisms such as low-flow showerhead roll-outs. These opportunities have already been accessed in NSW,

Victoria, South Australia and ACT, which would put Queensland, WA, Tasmania and NT at an advantage in the ERF auction. Allowing NSW, Victoria, South Australia and the ACT to use their schemes to tap into more complex opportunities would place all regions on an even footing to benefit from the ERF.

2.5 Peak demand

The NSW Government must ensure that there are state or national policies in place that adequately constrain growth in peak electricity demand, in order to keep electricity affordable. Peak demand events that last less than 0.5 per cent of the year are responsible for between 10 to 25 per cent of electricity bills in Australia, because infrastructure has historically been built to meet these very short periods of peak demand. The recent Future Grid report, developed by the CSIRO in conjunction with the energy industry, clearly stated that constraining further growth of peak demand will be critical to energy affordability, irrespective of whether Australia moves towards a centralised or decentralised model of energy supply.

Reducing electricity consumption delivers substantial benefits to consumers. However, if the NSW Government improves both consumption efficiency and peak demand, the combined benefits will be substantially greater. Constraining the growth in peak demand will reduce the expenditure on both electricity infrastructure and wholesale electricity hedging costs, which would reduce both electricity prices and electricity bills. Ernst & Young recently estimated that tackling peak demand could save up to \$15 billion between 2011 and 2030⁵.

The ESS is currently focussed on reducing electricity consumption. Reducing consumption (typically measured in MWh) is not identical to reducing peak demand (typically measured in MW), but some measures that reduce MWh also reduce peak MW. The ESS currently drives significant volumes of commercial lighting efficiency, which reduces demand during peak periods.

However, as it is currently designed, the ESS will not deliver the full potential of critical peak reduction. The ESS provides incentives based on the total amount of MWh saved, but this would not incentivise some very cost-effective ways to reduce peak (e.g. load shedding by industry) that deliver substantial MW savings for short critical peak periods, and so low volumes of MWh savings. While it is possible, and desirable, to include an adjustment factor in the ESS to provide greater incentives to projects that deliver both MWh and MW savings, this would not fully resolve this problem.

Therefore, the Energy Efficiency Council recommends complementing the ESS with:

- A mechanism to allow demand-reduction to compete with supply during critical peaks; and
- Reforms to the way that distribution and transmission companies are regulated and compensated to ensure that they invest in demand reduction when it is cheaper than network investment.

The Australian Energy Market Commission (AEMC) has proposed a Demand Response Mechanism (DRM) that would enable energy users to sell energy savings during peak periods into the wholesale energy market. If implemented, this could provide the first complementary mechanism. The Commonwealth Government is currently carrying out a cost-benefit analysis on the DRM which will be presented to the Standing Council on Energy and Resources later in 2014. The Energy Efficiency Council calls on the NSW Government to give in-principle support to DRM, with final support subject to deliberation on the results of the cost-benefit analysis.

⁵ Ernst & Young 2011 *Final report - AEMC Power of Choice: Rationale and drivers for DSP in the electricity market – demand and supply of electricity*, Ernst & Young

The AEMC has also recommended modest reforms to the way that distribution and transmission companies are regulated and compensated. These reforms, even if implemented, will not go far enough to ensure that network companies invest in demand reduction when it is cheaper than network investment. As the owner of distribution network service providers (DNSPs), the NSW Government is in a unique position to direct them to invest in demand reduction when it is cheaper than network investment.

The Council seeks a meeting with the NSW Government to discuss options to ensure that the DNSPs invest in demand reduction when it is cheaper than network investment. These options include a target for DNSPs to deliver a minimum level of network savings, potentially measured in MW or dollars saved through demand-side investments that reduce supply-side investment costs.