

Better Regulation Statement

Proposed NSW energy savings scheme targets and reforms



New South Wales
Government

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1. Executive summary

In June 2008, the NSW Government announced a new package of initiatives under the NSW Energy Efficiency Strategy, to improve energy efficiency and help reduce the cost of cutting the State's greenhouse gas emissions.

A key measure included in the package is new energy efficiency targets under the Energy Savings Scheme (ESS). These new ESS targets will revitalise the energy efficiency component of the NSW Greenhouse Gas Reduction Scheme (GGAS) to provide an enhanced market-based incentive for energy efficiency. These targets will commence on 1 July 2009.

This Better Regulation Statement (BRS) demonstrates that the better regulation principles have been applied in the development of the ESS energy efficiency targets and supporting regulatory reforms. For convenience these targets and reforms will be referred to as ESS. The Statement discusses the general form that ESS will take, and finds that Government action in the form of ESS is justified in response to the market failures and barriers which limit the adoption of cost effective energy efficiency measures. Greater uptake of energy efficiency is an objective of Government because it helps households and business deal with electricity price increases due to the introduction of the Federal Government's Carbon Pollution Reduction Scheme (CPRS). It also overcomes market failures which are barriers to reducing energy cost and to the uptake of low cost abatement under the CPRS.

ESS will also be an important part of transitioning GGAS to the Federal Government's CPRS, when it commences. The Government has already legislated to end GGAS when the Federal Government's CPRS commences (planned for 2011). The non-energy efficiency components of GGAS need to end when the CPRS starts because they would otherwise overlap with the Federal scheme.

However, the cessation of the energy efficiency component of GGAS, which will not overlap with the CPRS, will leave a gap in incentives for energy efficiency, unless action is taken. The ESS targets effectively maintain and improve the energy efficiency component of GGAS.

The Statement also finds that the proposal is complementary to, and does not duplicate, the CPRS. This is because ESS addresses market barriers which will not be addressed by a carbon price alone, especially in the early years of the CPRS when the carbon price is expected to be low.

It is considered that the need for a market-based incentive for energy efficiency will continue until a national energy efficiency trading scheme is established, or in the absence of this, until 2020, subject to five-yearly reviews of the continuing need for action and the level of action required. ESS will also be reviewed in the early years of the CPRS and will be subject to ongoing review, as part of the general monitoring and evaluation framework for the NSW Energy Efficiency Strategy. Any proposed changes to the scheme arising from these review processes will be subject to thorough consideration and detailed consultation in order to maintain investor certainty.

The objective of the ESS energy efficiency targets is to create financial incentives to overcome the market failures and barriers to delivering energy efficiency activities. The NSW Government identified six options for achieving this objective, which were evaluated for their effectiveness and efficiency. Of the six options evaluated, option b1 (a market-based instrument with the liability on electricity retailers) was identified as having the greatest net benefit for NSW, because it:

- delivers the economic benefits of avoiding or deferring the cost of additional electricity supply infrastructure and reducing the cost of achieving an emissions cap

- delivers the financial benefits of reduced energy bills over time for residential, commercial, and industrial electricity customers
- leads to the lowest energy savings compliance costs because it provides the greatest incentive for competition and innovation among the options considered, and because retailers have an existing relationship with customers
- involves the lowest compliance reporting costs because retailers have existing systems in place for this type of scheme and because it provides the best opportunity to harmonise with similar schemes in other jurisdictions as a platform for potential national uniformity
- provides the greatest potential to reduce administration costs for business engaged in energy efficiency by harmonisation of administration with similar schemes in other jurisdictions
- offers the greatest opportunity to minimise government administration costs by using existing systems developed for GGAS.

Each stage of the development of the ESS has been informed by public consultation. These consultations include:

- the Owen Inquiry into Electricity Supply in NSW
- the GGAS-NETS Transition Working Group
- the Demand Side Abatement Transition Working Group
- specific consultation on the high-level design elements of ESS.

The remainder of this Statement outlines the Government's approach for implementation of the preferred option and for ensuring the preferred option will achieve its stated objectives effectively and efficiently. This Statement sets out the proposed approach in the following areas:

- scheme coverage
- approach to implementation
- use of existing GGAS structures and mechanisms
- ensuring compliance
- minimising reporting overlaps
- national harmonisation
- quantification of costs and benefits
- timing of implementation.

2. Introduction

In June 2008, the NSW Government announced a new package of initiatives under the NSW Energy Efficiency Strategy to improve energy efficiency and help with the task of cutting the State's greenhouse gas emissions.

A key measure included in the package is new energy efficiency targets under the Energy Savings Scheme (ESS). These new ESS targets will revitalise the energy efficiency component of the NSW Greenhouse Gas Reduction Scheme (GGAS) to provide an enhanced market-based incentive for energy efficiency. These targets will commence on 1 July 2009.

The ESS will operate on the same principles as GGAS:

- Electricity retailers (and wholesale market customers and electricity generators that supply directly to retail customers, unless exempted) will have an obligation to obtain a specified amount of energy efficiency activity.
- Retailers (and any other liable parties) will comply with this obligation by acquiring and surrendering certificates for eligible energy efficiency activities.
- The eligible energy efficiency activities will be specified in the rules of the Scheme.
- Retailers (and any other liable parties) will have the flexibility to undertake the activity directly or to pay third parties to undertake them.
- The financial incentive to comply with the obligation will arise from a penalty if liable parties fail to fully comply with their obligation.

Trading schemes such as ESS are a flexible form of regulation that minimise cost impacts. For example, trading of certificates (such as the flexibility to undertake the activity directly or to pay third parties to undertake them) minimises compliance costs overall for liable parties and increases the opportunities to harness the innovative capacity of the private sector to find cost-effective ways of delivering energy efficiency results.

The revitalisation of the energy efficiency component of GGAS requires transfer of certain GGAS provisions to a separate scheme because the Government has already legislated to end GGAS when the Federal Government's Carbon Pollution Reduction Scheme (CPRS) commences (planned for 2011). The non-energy efficiency part of GGAS needs to end when the CPRS starts because the two schemes would otherwise substantially, though not completely, overlap and cannot continue in parallel. However the Demand Side Abatement (DSA) component of GGAS will not overlap with the CPRS and its cessation will leave a significant gap in energy efficiency incentives if it is not continued or replaced.

GGAS's DSA Rule allows the creation and trading of certificates generated from implementation of energy efficiency actions. The DSA Rule has had demonstrated success in overcoming a range of market failures and barriers which limit uptake of cost-effective energy efficiency by consumers. For example, the DSA Rule led to the development of innovative business models for implementing energy efficiency at least cost, such as free or low cost compact fluorescent light (CFL) installation, which has led to the retrofitting of more than 20 per cent of households in NSW with high efficiency CFLs. Projects such as these stimulated an increase in energy efficiency activity under GGAS from around 345,000 greenhouse abatement certificates created in 2003 to almost ten million in 2007, equivalent to the abatement of almost ten million tonnes of greenhouse gas emissions.

The end of GGAS in 2011 means that this level of energy efficiency activity will end unless replaced by an equivalent incentive, to overcome the market failures which currently limit uptake of cost-effective energy efficiency. It is unlikely that the CPRS will provide such an incentive in the short to medium term.

The need for the large amounts of low-cost energy efficiency of the kind delivered by the DSA Rule is increasing in the current environment. Energy efficiency will help minimise the impact on consumers of energy price rises, including those due to carbon pricing, as well as being one of the cheapest ways available of reducing greenhouse gas emissions. Many energy efficiency measures have net financial benefits because the cost savings more than offset the initial cost within a short timeframe.

3. The need for government action

In the NSW State Plan, the NSW Government has committed to targets for reducing greenhouse emissions and maintaining the reliability of electricity supply (targets E3 and E2).

Energy efficiency is a low, or negative, cost action that can make a significant contribution to meeting both of these targets.

However, this Better Regulation Statement identifies the presence of market failures and barriers which limit the adoption of cost effective energy efficiency measures by most energy users. This Statement concludes that specific action can be taken by Government to ensure these low and negative cost energy efficiency opportunities are taken up at a net benefit to the community as a whole.

In addition, Government action is also required to address issues arising from the termination of GGAS at the commencement of the CPRS.

3.1 Action is needed to address energy market failures

There is a range of market failures present in the electricity market.

Some of these (for example, public good and market power issues) are dealt with by regulation, through the National Electricity Market structure.

Another market failure, the external cost of greenhouse gas emissions from electricity, will be dealt with by the introduction of the CPRS.

Neither of these measures, however, fully addresses market failures on the demand side of the electricity market. As a result, the efficient allocation of resources that would result in investment in demand-side options (to the extent that they are lower cost than supply-side options) does not occur.

The market failures and barriers which prevent the efficient allocation of resources to demand-side energy market options have been well documented.

In his *Inquiry into Electricity Supply in NSW*, Professor Anthony Owen found that in an efficient market environment, cost-effective energy efficiency investments should occur without Government incentives, but that it is clear that such investments are not currently happening at the necessary level¹. The report of the Owen Inquiry identified a range of market failures and barriers which prevent energy being used in an economically efficient way. These include:

- information barriers: customers may lack information on how their choice of technologies and their pattern of electricity use actually relates to the size of their electricity bill
- transaction cost inefficiencies: for example, most energy users' bills represent only a small portion of their expenditures and it is not worth their while to research and implement energy savings measures individually. However, from the perspective of energy users as a group, it can often be more efficient if collective measures are implemented

¹ NSW Government, *Inquiry into Electricity Supply in NSW by Professor Anthony Owen*, September 2007, pp. 4-6 to 4-8. Available from <http://www.nsw.gov.au/energy/>

- split incentives: for example where building owners would bear the cost of improving air conditioning or lighting, but are not motivated to do so because tenants will receive the benefits in lower future bills
- behavioural barriers such as the failure to value energy savings over time when making initial capital purchases (often called “bounded rationality”).

These market failures and barriers are characteristic of electricity demand in the residential, commercial and industrial sectors. With the exception of a small number of highly electricity-intensive businesses, electricity costs represent a small percentage of operating costs for business. Like residential customers, commercial and industrial electricity customers face similarly high transaction and search costs in overcoming market failures and barriers. As a result, there are significant opportunities for greater energy efficiency in these sectors which are unrealised.

The Intergovernmental Panel on Climate Change, in its 2007 *Fourth Assessment Report*, found high levels of expert agreement based on “much evidence” that many barriers exist against tapping energy efficiency potential in new and existing buildings and that full use of the economic potential for energy efficiency in the industrial sector is not being made.²

The problem of market failure in the efficiency with which energy is used at the point of end-use has also been comprehensively documented in the Report of the Prime Ministerial Task Group on Emissions Trading³ and the UK Government’s Stern Review of the Economics of Climate Change⁴.

The consultation processes which have helped develop the NSW Government’s approaches to the termination of GGAS and the development of ESS have confirmed these that issues are of concern and have supported the case for Government action.

One of the effects of these market failures and behavioural barriers is that, in contrast to the market for the supply of energy, the market for energy efficiency is characterised by low levels of specialisation and a lack of the associated benefits of economies of scale. This relative immaturity of the market for energy efficiency goods and services results in private search and transaction costs to identify energy efficiency opportunities and to assess options that are higher than the equivalent costs of simply increasing supply. The effect is that energy users are unlikely to make full use of the economic potential of energy efficiency actions, and instead end up demanding additional, but more costly, increases in energy supply infrastructure.

3.2 Demand-side electricity market failures have negative impacts

The demand-side market failures and behavioural barriers which characterise the NSW electricity market currently limit the adoption of cost effective energy efficiency measures by most energy users. The impacts of not addressing these market failures include:

- continued inefficient allocation of resources resulting in the expansion of generation and network investments even when lower cost energy efficiency investments exist
- higher business and household energy costs due to higher wholesale electricity prices resulting from the above and higher energy consumption

² IPCC, 2007, *Fourth Assessment Report, Mitigation of Climate Change, Summary for Policy Makers*, pp. 13-14. Available from <http://www.ipcc.ch/ipccreports/ar4-wg3.htm>

³ Australian Government, Prime Ministerial Task Group on Emissions Trading, *Report of the Task Group on Emissions Trading*, 2007, pp. 133 – 136. Available from <http://pandora.nla.gov.au/pan/79623/20071127-1411/www.dpmc.gov.au/publications/emissions/index.html>

⁴ UK Government Her Majesty’s Treasury, *The Stern Review of the Economics of Climate Change*, 2006, p. 378. Available from: http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_Report.cfm

- higher exposure to electricity prices rises under the CPRS due to higher electricity consumption levels
- higher carbon prices under the CPRS, due to the inaccessibility of low cost abatement in the form of energy efficiency.

Sections 6 and 8 below quantify the impacts that improved energy efficiency would have on each of these factors.

In their submissions on the Consultation Paper on energy efficiency targets, many stakeholders supported the need for Government action to address the market failures limiting implementation of cost-effective energy efficiency.

It is recognised that electricity-intensive industries already have a strong incentive to minimise their electricity consumption, and there is less impact of market failure. Where these industries are also trade-exposed, they will be exempt from obligations and pass-through costs under ESS.

3.3 The transition of GGAS to the Carbon Pollution Reduction Scheme will leave a gap

ESS is also aimed at preventing the emergence of a gap in policy incentives and to maintain confidence in the energy efficiency services market when GGAS will end at the commencement of the CPRS.

The need to address the potential end of energy efficiency trading with the ending of GGAS was also identified by the Owen Inquiry⁵ and the Energy Consultative Reference Committee chaired by the Hon Barrie Unsworth⁶.

As described, the DSA component of the NSW GGAS currently provides incentives for energy efficiency activities. However, GGAS will end in 2011. The other three components of GGAS (lower emissions generation, large user emissions reduction and forestry sequestration) will largely be covered by the CPRS, though some transitional issues remain⁷. However, the CPRS will not incorporate energy efficiency trading, and it is unlikely that a separate national energy efficiency trading scheme will be developed before 2011.

A survey of all 54 DSA certificate providers and applicants for accreditation by the Demand Side Abatement Transition Working Group provided evidence of the likely effect of the end of the DSA component of GGAS. The survey found that, even with the CPRS, many companies in the residential sector would cease DSA activities once GGAS ends, while others in the commercial and industrial sectors indicated that the termination of GGAS may mean that new DSA projects become less financially viable or more commercially risky. As well as threatening ongoing energy efficiency activity, this development threatens the investments made by businesses which create certificates under the GGAS DSA Rule.

Many of these businesses invested in creating certificates based on the understanding that GGAS would run until at least 2012. In the absence of an equivalent measure, the termination of GGAS in 2011 may otherwise disadvantage these firms. This is quite different to the situation of businesses

⁵ NSW Government, 2007, as above, p. 4-1.

⁶ Unsworth Consultative Reference Committee, *Impact Statement*, 2008, Recommendation 32 (a). Available from <http://www.nsw.gov.au/energy/>

⁷ These issues are discussed in NSW Government, *Transitional Arrangements for the NSW Greenhouse Gas Abatement Scheme, Consultation Paper*, April 2008. Available from http://www.dwe.nsw.gov.au/energy/sustainability_greenhouse_gas.shtml

creating certificates using the lower emissions generation, large user emissions reduction and forestry sequestration components of GGAS, whose investments are likely to continue to be of value under the CPRS. These differences are detailed in the NSW Government's Consultation Paper on *Transitional Arrangements for the NSW Greenhouse Gas Abatement Scheme*.⁸

In developing ESS, the NSW Government is responding to the need to act now to prevent a gap in the incentive for energy efficiency activities between the termination of GGAS in 2011 and the potential future implementation of a national energy efficiency scheme, and to avoid disadvantaging businesses which create certificates under the GGAS DSA Rule.

3.4 There is a need to complement the Carbon Pollution Reduction Scheme

Worldwide, most energy efficiency programs pre-date carbon pollution concerns. They have been adopted to overcome electricity market failures with the simple goal; of reducing energy costs for final users and the economy. The establishment of the CPRS is simply a further pressure on electricity prices and hence a further justification to act to access energy (and money) savings opportunities.

The question of complementarity with the CPRS was also a subject of substantial comment during the consultation period. Many supported ESS as being complementary to the CPRS, particularly businesses engaged in energy efficiency activities and some electricity retailers. Others, including trade-exposed electricity-intensive industries, energy companies and some businesses engaged in energy efficiency activities, argued that ESS was not complementary, with some of these arguing that energy efficiency trading should be incorporated into the CPRS. The latter is not likely to occur as the Commonwealth Government has already made it clear that energy efficiency trading is not seen to be within the scope of the CPRS.

While the CPRS will be the primary measure to achieve Australia's emissions reductions targets, the Commonwealth Government's *Green Paper* on the CPRS provides guidance on the types of measures that will be needed to complement it.

“Complementary measures can supplement the Carbon Pollution Reduction Scheme [and] will be required to address market failures that a carbon price alone cannot overcome, or to deal with the distributional consequences of the scheme...[They] can be justified only if they lead to a lower cost for the given level of abatement or are of a transitional nature such that they change the capacity of the economy to respond, thereby allowing the Government to set a more demanding cap in the future”.⁹

The central issue is whether the carbon price alone will be sufficient to overcome the market failures and barriers that limit implementation of cost-effective energy efficiency. A number of key reports have concluded that this is unlikely, especially in the initial phases of the CPRS. These include the Commonwealth Government's Green Paper itself, as well as the National Emissions Trading Taskforce's August 2007 *Final Framework Report*¹⁰, the *Prime Ministerial Task Group on Emissions Trading May 2007 Report*¹¹ and the *Stern Review of the Economics of Climate Change's 2006 Report*¹².

⁸ NSW Government, 2008, as above.

⁹ Commonwealth Department of Climate Change, *Carbon Pollution Reduction Scheme, Green Paper*, July 2008, p. 31. Available from <http://www.climatechange.gov.au/greenpaper/report/pubs/greenpaper.pdf>

¹⁰ National Emissions Trading Taskforce, *Final Framework Report*, 2007, p. 378.

¹¹ Australian Government, Prime Ministerial Task Group on Emissions Trading, 2007, as above, pp. 134.

¹² UK Government Her Majesty's Treasury, 2006, as above, p. 349.

For example, the Commonwealth Government’s Green Paper found that:

“Expanding and enhancing the range of genuinely complementary energy efficiency policies would...address market barriers and failures that remain even after the introduction of the scheme and which prevent energy efficiency opportunities from being exploited...[and] would assist households and small businesses in the transition to a low carbon economy, particularly in helping low income households reduce their energy costs”.¹³

A related argument is that Government action on energy efficiency might give it priority over other lower cost abatement options. However, this fails to recognise that:

- a. energy efficiency is recognised as a low or even negative-cost form of abatement, delivery of which is inhibited by non-price barriers
- b. energy efficiency also provides non-greenhouse benefits of avoided investment in electricity generation and transmission infrastructure.

To the extent that there is a risk of an ESS forcing delivery of ‘expensive’ energy efficiency, this risk can be managed by setting a cap on the cost of energy efficiency to be obtained by any energy efficiency policy measure (for example, the penalty price in an energy efficiency certificate trading scheme).

The more likely and significant risk is the opposite one, that in the absence of Government action on energy efficiency, the cost of abatement under the CPRS would be higher than necessary because the market failures and barriers would limit the implementation of lower cost energy efficiency actions. Modelling suggests that ESS will result in a small (\$1-\$2) reduction in carbon prices, below what they would be without these reforms.

For these reasons, the NSW Government considers that Government action on energy efficiency is complementary to the CPRS.

It is also noted that many of those concerned about ESS not being complementary to the CPRS were concerned that they would be liable under both schemes. In fact, there will only be about five entities that will be directly liable parties under both schemes – five electricity retailers which also generate electricity with annual emissions of 25,000 tCO₂e or more.

3.5 Government action is required until 2020

It is hoped that the need for a Government incentive for energy efficiency will decline over time. For example, it is anticipated (although not certain) that the carbon price will eventually reach a level that will provide a sufficient price signal to overcome some of the market barriers identified above.

For this reason, the Government has committed to reviewing the need for ESS following the commencement of the CPRS. ESS will also be subject to statutory review every five years and subject to ongoing review as part of the general NSW Energy Efficiency Strategy monitoring and evaluation framework.

The Government has committed to maintaining ESS until 2020, or until a national energy efficiency trading scheme is established.

¹³ Commonwealth Department of Climate Change, 2008, as above, p. 284.

The announced duration of twelve years, with reviews at certain points, balances:

- the ongoing need for regulatory certainty and confidence in markets
- the time required for Government incentives to make a significant and lasting contribution to reducing the impact of market failures
- recognition that the energy efficiency market will reach a point of maturity when such supporting measures are not required
- the need for flexibility to take account of the rapidly changing regulatory, policy and market conditions.

Regulatory certainty is needed to provide sufficient confidence to firms investing in business development, specialisation and expansion under the scheme. For this reason, GGAS, the Commonwealth Mandatory Renewable Energy Target (MRET) and the Victorian Energy Saver Incentive Scheme were initially all announced as being of between ten and twenty years' duration.

Time is needed for Government action on energy efficiency to make a significant contribution to achieving its objectives because the benefits of energy efficiency are cumulative. Energy efficiency measures continue to provide benefits in subsequent years, not just the year of implementation. Moderate levels of benefit in a single year can accumulate over a longer period to provide significant benefits. Hence, the Government action needs to be in place long enough for significant levels of benefit to accumulate.¹⁴

As Government action on energy efficiency is designed to be complementary to the CPRS, it needs to be flexible to take account of the rapidly changing regulatory, policy and market conditions. In particular, it is likely that in the early years of the CPRS carbon prices will be relatively low and will not be sufficient by themselves to overcome the market failures and barriers that limit implementation of cost-effective energy efficiency.

As emission targets are strengthened and carbon prices rise, a mature energy efficiency market will increasingly become self-sustaining and there may be less need for complementary measures for energy efficiency. However, as it is difficult to anticipate the timing of this, reviews at certain points will enable the Government to determine when and if changes to the scheme are required.

As both Victoria and South Australia have introduced energy efficiency schemes in 2009, the NSW Government has stated its preference for a national energy efficiency scheme to take over from state-based schemes. However, there is uncertainty about whether this will occur, and if so, when.

Taking these factors into account, the Government considers that the need for action will continue until a national energy efficiency trading scheme is established, or in the absence of this, until 2020, subject to regular reviews of the continuing need for action and the level of action required.

¹⁴ This cumulative effect will be modelled when setting target levels of energy savings, as explained in section 6 below (Costs and benefits of options).

4. The objective of government action

The NSW Energy Efficiency Strategy seeks to overcome these market failures identified above and improve energy efficiency in NSW. The overall objectives of the strategy are to:

- reduce greenhouse emissions from energy consumption in NSW and contribute to achievement of State Plan Target E3 on greenhouse gas emissions
- contribute to a delay in the need for, or amount of, additional energy generation, transmission and distribution infrastructure
- reduce costs to the economy through more economically efficient energy consumption and supply patterns
- help reduce the cost impact of CPRS.

As outlined in section 3 of this BRS, it is important to meet these objectives in a way which is consistent with current policy settings and the transition from GGAS to CPRS. Thus, Government action has two subsidiary objectives:

- to commence the action as soon as possible to arrest the uncertainty and consequent costs and disadvantages to participating businesses arising from the end of GGAS in 2011
- to meet these objectives in a way which is aligned with the policy settings of other jurisdictions.

The Strategy aims to meet these objectives through a series of targeted measures. These include enabling measures such as skills training and community awareness-raising, and measures targeted at specific areas of energy efficiency opportunities in low-income households and large industrial energy users.

However, there is a significant amount of energy efficiency potential which cannot be reached through these policy measures. The complex interaction of demand-side market failures cannot be readily overcome through narrowly targeted policy measures. Moreover, the relative immaturity of the energy efficiency market means that individual energy users face prohibitively high costs in attempting to improve their own energy efficiency themselves.

For these reasons there is a need for a comprehensive and specific policy measure that cuts across market failures, and provide incentives for the development of a mature market for energy efficiency.

The objective of ESS is to achieve this, by creating financial incentives to overcome the market failures and barriers, with the broader aims of:

- complementing the CPRS by assisting electricity users to reduce their overall energy use and costs
- reducing the cost of, or need for, additional energy generation, transmission and distribution infrastructure
- improving energy productivity and reducing costs to the economy through more economically efficient energy consumption and supply patterns
- contributing to the achievement of NSW economy-wide energy efficiency and greenhouse gas emission targets
- serving as a prototype for and demonstration of a national energy efficiency trading scheme.

These objectives are consistent with existing Government policy, including the NSW Energy Efficiency Strategy as announced by Government on 18 June 2008. Moreover, they build on the existing policy settings of the GGAS DSA Rule.

5. Consideration of options

There is considerable experience both in NSW and elsewhere in creating financial incentives to overcome the market failures and barriers to delivering energy efficiency activities. NSW has experience from the DSA component of GGAS. Market-based instruments, such as energy efficiency trading schemes, are key policy mechanisms for delivering energy savings in many jurisdictions, including the UK, Italy, France, Belgium (alongside, in these countries, the EU Emissions Trading Scheme), a number of states in the USA including California, as well as Victoria and South Australia.

Drawing on these experiences, the Government identified six options for evaluation for their effectiveness and efficiency in achieving the objective stated in section 4 above. The options were:

a. No action

This option would involve the termination of the DSA component of GGAS with the rest of GGAS, when the CPRS starts in 2011. This would represent the repealing of an existing regulatory framework.

b1. Market-based instrument with the obligation on electricity retailers (MBI – retailers)

This option would create an obligation on retailers to deliver energy savings, combined with the opportunity for any person to create tradeable energy efficiency certificates for use by retailers to comply with their obligations. This option would reform and simplify the existing GGAS DSA framework.

b2. Market-based instrument with the obligation on electricity distributors (MBI – distributors)

This option is similar to option (b1), except with the obligation on distributors. This option would involve repealing the existing GGAS DSA regulatory framework and replacing it with a new regulatory framework to create an obligation on energy distributors.

b3. Market-based instrument with the obligation on electricity customers (MBI – electricity customers)

This option is similar to options (b1) and (b2), except with the obligation on electricity customers. This option would involve repealing the existing GGAS DSA regulatory framework and replacing it with a new regulatory framework to create an obligation on electricity customers.

c. Prescriptive regulation (Regulation)

This option would create an obligation on parties (either retailers, distributors or customers) to deliver energy savings, but without the opportunity for any person to create tradeable energy efficiency certificates to comply with the obligations. This option would involve repealing the existing GGAS DSA regulatory framework and replacing it with a different type of regulation.

d. Government subsidies

This option would involve the delivery of energy savings through Government tender, grants and/or bulk purchasing programs. This option would involve repealing the existing GGAS DSA regulatory framework and replacing it with a new regulatory framework to ensure the accountability of Government energy savings purchases.

As outlined in section 7 of this Statement, the identification and evaluation of these options was strongly informed by the outputs of a number of stakeholder consultation processes, including the Owen Inquiry, the GGAS to NETS Transition Working Group and the DSA Transition Working Group.

6. Costs and benefits of options

The options identified in section 5 above were evaluated for their effectiveness and efficiency in achieving the objectives set out in section 4.

The benefits of a policy option that is effective in achieving these objectives are both economic (the avoided or deferred cost of additional electricity supply infrastructure and the reduced costs of achieving an emissions cap) and financial (cost savings for residential, commercial, and industrial electricity customers from reduced energy bills over time).

6.1 Option (a) fails to achieve the objectives of government action

If the Government pursues option (a) and does not take any action, NSW will forgo between 3,500 GWh to 4,593 GWh of negative cost energy efficiency improvements by 2020. This means NSW electricity customers would forgo between \$330 million and \$1.3 billion in energy bill savings by 2020. In addition retail electricity prices would be 1 per cent to 3 per cent higher than if these energy efficiency improvements were achieved.

Option (a) would not resolve the policy needs outlined in sections 2 and 3 above and disadvantage businesses accredited under the current GGAS DSA arrangements.

The advantages of this 'no action' option over other options are no compliance or administrative costs. But these advantages are outweighed by the fact that this option would deliver no benefits.

6.2 Option (b1) is the most efficient and effective approach

The remaining options (b1) to (d) can all be designed to deliver comparable levels of energy savings. Detailed analysis has been undertaken of the energy efficiency opportunities for NSW. This analysis has found that between 3,500 GWh and 4,593 GWh of energy savings could be cost-effectively achieved by 2020, through options (b1) to (d).

However, these options differ markedly in their efficiency, costs and impacts. These differences depend on whether the option is market-based (options b1 to b3) or not (c and d) and from the type of liable party (retailer, distributor, electricity customer or government).

Compared with the large difference between the no-action option (a), and all other options, the differences between the other options are relatively minor. It is difficult to quantitatively compare the differences between options (b1) to (d). For this reason this section provides a qualitative assessment of the relative costs and benefits of options (b1) to (d), then quantitatively assesses the costs and benefits of the different design features of the preferred option.

Options (b1) to (d) were evaluated for their efficiency in delivering energy savings benefits, against four types of costs:

Compliance costs for liable parties

i. Energy savings costs

The direct costs of delivering energy efficiency projects (or of acquiring certificates for eligible energy efficiency activities, in the case of market-based instruments).

ii. Reporting costs

The indirect costs of monitoring and reporting of compliance.

Administration costs for businesses engaged in energy efficiency activities

Businesses which may voluntarily engage in energy efficiency activities include electricity retailers, commercial and industrial companies investing in energy saving projects, and companies providing energy efficiency services to households and businesses. For example, under the DSA component of GGAS, there are currently around 50 companies engaged in creating certificates from energy efficiency activities.

iii. Administration costs

The costs of accreditation or tendering as an energy efficiency provider, registration of certificates and auditing activity.

Costs for Government

iv. Government costs

The cost to Government of administering the policy.

Note that in the case of Option d (Government subsidies), the cost to government of acquiring energy savings is treated as the “energy savings” (compliance) cost, with the Government acting as the party liable for delivering the energy savings.

Options (b1) to (d) are evaluated for their efficiency in delivering energy savings benefits against these four types of costs below. The distributional impacts of the benefits and costs are also discussed.

6.3 Option (b1) has the lowest energy savings costs

The different characteristics of the policy options affect the likely level of competition and innovation in the energy efficiency market and hence the energy savings cost for the policy measure.

The first key characteristic is the number of liable parties.

Options b2 (MBI – distributors) and d (Government subsidies) involve only a small number of liable parties (three distributors or one Government), providing a small number of buyers in the market, with lower levels of competition and higher costs likely to be the result.

Option b3 (MBI – electricity customers) involves a large number of liable parties and market buyers, but most would face similar barriers as for energy efficiency generally e.g. most are so small they would face similar search and transaction cost barriers in acquiring energy savings certificates as they do now making energy efficiency investments.

Option b1 (MBI – retailers) involves 25 electricity retailers, sufficient to provide competition among buyers, while also providing the economies of scale and scope required to overcome the search and transaction cost barriers.

Further, electricity retailers are unique in the National Electricity Market in having a direct and regular relationship with electricity customers, and have the option to deliver energy efficiency goods and services with minimal variations to their business models, either directly or through third-party providers.

The second key characteristic is whether the option provides for tradeable certificates representing eligible energy efficiency activities. Tradeable options (b1 to b3) provide greater market liquidity and price transparency than the non-tradeable options c (Regulation) and d (Government subsidies). Tradability also allows the development of risk management instruments such as forward and hedging contracts. These effects in turn provide strong incentives for innovation and downward pressure on costs.

Taking these two key characteristics together, option b1 (MBI - retailers) is most likely to drive costs down and lead to the lowest energy savings costs because it provides the greatest incentive for competition and innovation and because retailers have an existing relationship with customers.

6.4 Options (b1) and (c) have the lowest reporting costs

The type of liable party significantly affects reporting costs for energy efficiency policy options. The key reporting requirements for all options are the amount of energy used (to calculate the energy savings obligation) and the amount of energy saved (to monitor compliance).

In all cases except option (b3) (MBI – electricity customers), the amount of energy used can be obtained by regulators independently of liable parties, leaving liable parties only to report the amount of energy saved. Liable parties would have to provide data on exempt sales to any exempted parties and on electricity supplied from generators embedded in the distribution network.

Option (b3) would be administratively complex for both liable parties and regulators due to the large number of energy users having to report or allow reporting of their energy use.

For reporting of energy savings, options (b1) (MBI – retailers) and (c) (Regulation, applied to retailers) are likely to create the lowest reporting costs for two reasons.

First, electricity retailers in NSW already have the staff, systems and processes required to comply with GGAS. They are well placed to comply with a replacement scheme based on the DSA component of GGAS without incurring significant additional costs.

Second, only with the liability on retailers is it possible to harmonise a NSW-based scheme with other jurisdictions. As the Victorian Energy Saver Incentive Scheme and the South Australian Residential Energy Efficiency Scheme (REES) both draw heavily on the GGAS DSA framework, it is possible to reduce the overall administrative burden of these schemes, as well as the costs to government, through harmonisation between jurisdictions. Such harmonisation could include alignment of reporting timeframes and information requirements, alignment of the administrative processes for certificate creation and potentially the creation of a common registry and scheme administrator.

The opportunity for harmonisation with other jurisdictions is further developed in the section on the Preferred Option below.

In summary, options (b1) (MBI – retailers) and (c) (Regulation, applied to retailers) are likely to involve the lowest reporting costs because retailers have existing systems for this type of scheme and because these options provide the best opportunity to harmonise with similar schemes in other jurisdictions.

6.5 Options (b1) and (c) have the lowest administration costs

In the absence of harmonisation with other jurisdictions, it is unlikely that there would be major differences between options (b1) to (d) in administration costs for businesses engaged in energy efficiency activities, as all require administration of accreditation or tendering by energy efficiency providers, reporting of activity delivery or registration of certificates and auditing of activity.

However, only options (b1) (MBI – retailers) and (c) (Regulation, applied to retailers) allow harmonisation of administration with similar schemes in other jurisdictions.

6.6 Option (b1) has the lowest government costs

In the longer term, there are not likely to be major differences between options (b1) to (d) in government costs as all require the development and use of systems for accreditation or tendering by businesses engaged in energy efficiency and monitoring and auditing energy savings.

However, option (b1) (MBI – retailers) offers the greatest opportunity to minimise the government's set-up costs by using existing systems developed for GGAS.

Benefits and costs will be distributed proportionally to electricity customers

The economic benefits of options (b1) to (d) will flow to all electricity customers because the avoided or deferred cost of additional electricity supply infrastructure and the reduced costs of achieving an emissions cap will have a dampening effect on wholesale electricity and carbon prices.

The financial cost savings for residential, commercial, and industrial electricity customers from reduced energy bills will benefit those that participate by accepting offers from electricity retailers or specialist energy efficiency businesses.

The compliance, administration and government costs of options (b1) – (b3) and (c) are likely to be passed through to electricity customers, regardless of who initially incurs the liability¹⁵. Option (d) (Government subsidies) could be funded in many ways, including by taxpayers or by electricity customers (as currently occurs with the NSW Climate Change Fund, through an electricity distributor contribution which is passed through to customers).

6.7 Option (b1) can deliver substantial energy savings with a net economic benefit

The precise costs and benefits of these options are heavily influenced by the energy savings target set, and the price paid for energy efficiency. As outlined above, it is difficult to use modelling to compare these quantitative differences between the above options. Therefore the preferred option was selected on qualitative grounds. Quantitative modelling and analysis was then used to inform the selection of the target and price for this option.

Under the preferred option (b1), the amount of energy savings is determined by the target set for the scheme, which electricity retailers then have to meet. The maximum price paid for energy savings is capped by the level of penalty paid by retailers if they fail to meet their obligation.

¹⁵ The question of exemptions from direct or indirect liability is discussed in the section on the Preferred Option below.

Access Economics and McLennan Magasanik Associates (MMA) were commissioned to undertake a detailed assessment of the amount of energy savings that are available in NSW under ESS and to estimate their costs. This analysis was then used by MMA and Access Economics to analyse the impacts on the NSW economy, and electricity markets of different targets and penalty levels.

This analysis found that between 3,500 and 4,600 GWh of cost effective energy savings are available each year. This is equivalent to between 4 per cent and 5.5 per cent of NSW electricity consumption each year. However, the savings that are possible in any given year depends on both the penalty price level, and the time it takes for energy efficiency to develop the products and services which will deliver these savings.

The analysis found that savings could be delivered for a net economic benefit at any penalty price between \$25 and \$55 per MWh of savings. But the available savings and net benefits vary depending on the precise penalty price. Net benefits will also vary depending on whether carbon prices under the CPRS are high or low. Prices closer to \$55 generally meant more savings, but a lower net benefit because additional savings were more expensive. Lower prices generally meant less savings, but a higher net benefit because savings were cheaper. A penalty price of around \$35 per MWh strikes a balance, by achieving strong savings and strong net benefits under both high and low carbon prices. At this price savings of around 4 per cent of electricity sales are possible each year.

This is equivalent to a pre-tax penalty of around \$23 per tonne of carbon dioxide. This is slightly higher than carbon prices are forecast to be under the CPRS. This is justified, however, because the economic benefits of ESS are due to the deferral of new electricity generation and network infrastructure and energy fuel cost savings, not emission reduction. Savings at \$35 MWh are considerably cheaper than the cost of providing electricity. As an added benefit, these savings are expected to deliver small reductions (around \$1-\$2) in carbon prices, which will help the Commonwealth set and meet tough emission reduction targets for the CPRS.

The other factor which determines the available amount of energy savings is the capacity of the market to deliver. The Government's experience with GGAS suggests that it takes three to four years for entrepreneurs to establish businesses which can deliver large amounts of energy efficiency in innovative, low cost ways. Thanks to GGAS, a number of such businesses are already established. But this new scheme will require further innovation to deliver a wider range of energy efficiency products and services. As the scheme will only run for a half year in 2009, a warm start of around 0.4 per cent of total electricity sales is proposed. This is equivalent to current GGAS DSA levels, after other necessary changes are taken into account. This target will then gradually rise to a target of 4 per cent of total electricity sales by 2014, where it will continue until 2020.

This combination of target and penalty price will deliver around 3,500 GWh of savings each year and 615 MW of peak demand reduction by 2014. Over the life of the scheme this will save energy customers between \$330 million and \$1.3 billion (under low and high carbon prices respectively). It will deliver a net economic benefit to NSW of between \$27 million and \$109 million (under high and low carbon prices respectively), due to fuel savings, and the deferral of new electricity generation and network infrastructure.

7. Consultation

Each stage of the policy process which has led to the development of ESS has been informed by public consultation. The definition of the policy problem and identification of options drew heavily on the findings of a number of public consultations on the issues of energy policy, greenhouse emissions and the current GGAS scheme. These consultations include those undertaken by the Owen Inquiry into Electricity Supply in NSW, and the processes of the GGAS-NETS (National Emissions Trading Scheme) Transition Working Group and the Demand Side Abatement Transition Working Group.

The high-level design elements of ESS have been subject to focussed public consultation. The scheme rules will be subject to a further round of public consultation.

A summary of the nature of the consultations which have thus far informed the development of ESS follows.

7.1 The Owen Inquiry findings informed ESS reforms

The *Owen Inquiry into Electricity Supply in NSW*, held in 2007, was a public inquiry into options to ensure the adequacy of NSW electricity supply. The Inquiry received 74 written submissions. Submissions came from a range of stakeholders, including members of the public, businesses that use and supply electricity, peak industry groups, unions, environmental groups, community welfare organisations, and Members of Parliament. Professor Anthony Owen also met with many stakeholders to further discuss their views and concerns.

The Owen Inquiry's findings included:

- energy efficiency requires further Government intervention
- there are a range of market failures and other barriers to the uptake of cost effective energy efficiency
- a range of policy options are available for driving energy efficiency and reforming existing regulations
- the recommendation that “the Government should evaluate the case for replacing the Demand Side Abatement (DSA) Rule with an energy efficiency target and energy efficiency market-based instrument in the switch from the existing NSW Greenhouse Gas Reduction Scheme to a national emissions trading scheme. This will help keep incentives for energy efficiency in place.”¹⁶

7.2 GGAS-NETS Transition Working Group and the Demand Side Abatement Transition Working Group recommended ESS

The GGAS-NETS Transition Working Group and Demand Side Abatement Transition Working Group were established to advise Government on the issues relating to the transition from GGAS to the national emissions trading scheme (which will be known as CPRS). These working groups comprised a broad cross-section of stakeholder representatives, and oversaw targeted public consultation processes.

The GGAS-NETS Transition Working Group provided advice on the high-level issues surrounding the management of GGAS in the context of the introduction of a national emissions trading scheme.

¹⁶ Owen Inquiry Report, as above, page 4-1.

Membership included large energy users, electricity retailers, academics, environmental groups, as well as peak bodies representing the electricity industry, manufacturing industries, financial markets and energy users. A Consultation Paper on GGAS transition issues, including DSA issues, was released on 1 April 2008, and public forum was held on 10 April 2008. Twenty-eight submissions were received. The non-confidential submissions are available on the Department of Water and Energy website www.dwe.nsw.gov.au.

The DSA Transition Working Group was established to provide specific advice on the incentives for demand side abatement in the context of the cessation of GGAS, and the fact that energy efficiency would not be included in the national emissions trading scheme. The membership included large energy users, energy efficiency service providers, and welfare groups. The Working Group met on four occasions between 25 October 2007 and 11 February 2008, and conducted a survey of all accredited GGAS DSA participants.

The DSA Transition Working Group's recommendations included that the NSW Government:

- note the important role that market based instruments, like the GGAS DSA Rule, have in driving sustained investment and innovation in energy efficiency measures
- actively pursue the establishment of a National Energy Efficiency Trading Scheme to complement an Australian Emissions Trading Scheme
- facilitate a smooth transition to a national emissions trading scheme and a National Energy Efficiency Trading Scheme, by splitting GGAS into DSA and non-DSA components. The DSA component would run until it is replaced by a National Energy Efficiency Trading Scheme and the non-DSA component would run until it is replaced by a national emissions trading scheme.

7.3 Energy Savings Scheme design was informed by public consultation

Once a draft of the higher level design features of ESS was developed, a public forum was held on 4 July 2008. The forum was attended by around 100 stakeholders representing industry, energy retailers and generators, energy service providers, public welfare groups, the media and private citizens. A public discussion paper was released for comment from 9 July to 6 August 2008. Around 40 public submissions were received from a similar cross section of stakeholders. The non-confidential submissions are publicly available on the Department of Water and Energy website www.dwe.nsw.gov.au. Stakeholder views expressed during this round of consultation has been incorporated into the high-level design of ESS.

7.4 Contentious stakeholder issues have been addressed

The key contentious issues raised in stakeholder submissions include:

- **Complementarity of ESS to CPRS**
A number of stakeholders raised concerns about the extent to which ESS is complementary to the CPRS.
As outlined in Section 3 of this BRS, this issue has been considered this matter in depth, with an unambiguous conclusion that ESS is complementary.
- **National harmonisation**
A significant number of stakeholders expressed a preference for a national energy efficiency trading scheme, or failing this the harmonisation of a NSW-based scheme with related schemes in other jurisdictions.

The analysis concurs with both these propositions. The proposed approach for addressing these concerns is outlined in section 8.

- **Coverage of large industry**

A number of stakeholders questioned the inclusion of industry in ESS, on the grounds that a carbon price would be sufficient to drive energy efficiency improvements in that sector.

The analysis indicates that for a small number of electricity-intensive industries, a carbon price will provide a significant stimulus, and these will be exempted from ESS. However as outlined in section 3, a range of independent studies support the Government's findings that under relatively low carbon prices, the majority of industrial and commercial electricity customers will face a range of market failures and barriers that prevent the take-up of cost effective energy efficiency opportunities.

8. Preferred option

Of the policy options considered, option (b1), a market-based instrument with the obligation on electricity retailers (MBI – retailers), was determined to be the approach with the greatest net benefit to the community. As outlined in section 6, option (a) (no action) was rejected on the grounds that it would deliver no benefits, leave unresolved the policy needs outlined in section 3 and disadvantage businesses accredited under the current GGAS DSA arrangements. Of the remaining options, the preferred option was identified as having the greatest net benefit for NSW and being the most consistent with current NSW and national policy settings.

The key advantages of the preferred options are that it:

- delivers the economic benefits of avoiding or deferring additional supply infrastructure and reducing the cost of achieving an emissions cap
- delivers the financial benefits of reduced energy bills over time for residential, commercial, and industrial electricity customers
- leads to the lowest compliance costs because it provides the greatest incentive for competition and innovation and because retailers, who have an existing relationship with customers, will be the liable parties
- involves the lowest compliance reporting costs because retailers have existing systems, and because it provides the best opportunity to harmonise with similar schemes in other jurisdictions
- provides the greatest potential to reduce administration costs for business engaged in energy efficiency through harmonisation with other jurisdictions' schemes
- offers the greatest opportunity to minimise government costs by using existing systems developed for GGAS.

This section outlines the Government's approach for implementation of the preferred option and quantifies the anticipated costs and benefits of this approach.

8.1 ESS will work in a similar way to GGAS

The key features of ESS are as follows:

- A NSW-wide energy savings target will be set at 0.4 per cent of total electricity sales in 2009, rising to 4 per cent in 2014 where it will stay until 2020.
- This target will be converted into an obligation on electricity retailers (and wholesale market customers and electricity generators that supply directly to retail customers, unless exempted) to obtain a specified amount of energy efficiency activity. After exempt sales are taken into account this obligation will start at 0.5 per cent of liable sales for 2009, rising to 5 per cent of liable sales for 2014 where it will stay until 2020.
- Retailers (and any other liable parties) will comply with this obligation by acquiring and surrendering certificates for eligible energy efficiency activities.
- The eligible energy efficiency activities will be specified in the rules of the scheme.
- Retailers (and any other liable parties) will have the flexibility to undertake the activity directly or to pay third parties to undertake them.

- The financial incentive to comply with the obligation will arise from a penalty of \$24.50 per Megawatt-hour if liable parties fail to fully comply with their obligation (this will be converted into a price per certificate, measured in dollars per tonne of carbon dioxide equivalent).
- The certificates representing delivered energy efficiency can be freely traded.

8.2 ESS covers all electricity sales except those to electricity-intensive trade-exposed industries

The scheme target will be set with reference to all electricity used by grid-connected customers in NSW except electricity acquisitions by trade-exposed electricity-intensive industries that are exempted by the Minister. These exempted companies are deemed to have sufficient existing incentive to overcome electricity demand-side market failures and barriers. Exempted companies will not bear the costs of this scheme, nor will they be able to directly benefit from energy efficiency incentives delivered by the scheme.

8.3 ESS will build on the GGAS DSA framework

ESS will be implemented using much of the existing architecture and administrative arrangements of the GGAS DSA Rule.

The Independent Pricing and Regulatory Tribunal (IPART) will become the ESS Regulator and Administrator, and leverage the capabilities, systems and processes developed through the implementation of GGAS.

ESS will build on the approach taken in the GGAS DSA Rule. An ESS Rule will be created to replace the DSA Rule effective from 1 July 2009, and all energy efficiency activity (except on-site generation) will from then on take place under the ESS Rule. The new rule will update the existing DSA Rule in two ways:

- The Rule will expand the number of activities for which simple, broadly applied certificate calculation approaches (such as the Default Abatement Factors (DAF) method) are available.
- Some existing DAFs will need to be updated.

A full review of the existing Rule will be undertaken to identify opportunities to add technologies, activities and calculation approaches to enhance uptake of energy efficiency. Stakeholder consultation will be an integral part of this review.

As under the current GGAS, energy efficiency activities will only be eligible if undertaken in NSW (and the ACT if the ACT Government adopts the same approach).

The existing provisions for eligible on-site generation (embedded generation and cogeneration) in the GGAS DSA Rule will continue under the existing GGAS, rather than under ESS, as this will be a covered activity under the CPRS when it starts.

GGAS Abatement Certificate Providers (ACPs) currently accredited under the DSA Rule by IPART as the Scheme Administrator will automatically be accredited as ACPs under the new ESS rule without having to reapply.

This is specifically designed to aid administrative simplicity for scheme participants and ensure a smooth transition to the new ESS. The Scheme Administrator will review and amend existing accreditations to update calculation factors and other requirements, to make accreditations consistent with the new Rule. Existing ACPs wanting to undertake new activities can also request amendment to their existing accreditation.

8.4 ESS will improve on GGAS design features

While ESS will leverage much of the existing GGAS DSA architecture, the new scheme will also incorporate stakeholder feedback and seek to simplify the reporting arrangements. This will include:

- the establishment of a simple and transparent mechanism for determining the size of individual liabilities
- the calculation of liabilities based on electricity acquisitions, which the regulator can obtain centrally from the National Electricity Market Company rather than from each individual liable party
- the creation of a category of “exempt load” at a company level, to enable easy calculation of exempt sales for the regulator and liable parties
- the steps to harmonise reporting, compliance and participation arrangements with other jurisdictions, as outlined in above.

8.5 Compliance will be ensured through a penalty, and risk-based audits

As for GGAS, liable parties will be required to pay a financial penalty if they do not surrender sufficient ESS certificates to meet their obligation in a particular year. The role of the penalty is to ensure compliance.

IPART has already developed a risk-based approach for GGAS audits to ensure compliance of liable parties and accredited certificate providers with the scheme rules and regulations. IPART will continue this risk-based approach to auditing under ESS.

8.6 Three design features will ensure objectives are met

As outlined in sections 3 and 4, the Government’s objective is to design a mechanism that overcomes the complex interaction of market failures and barriers. ESS will help overcome these market failures and barriers in the following ways:

- **Imperfect information**
Third party specialist providers of energy efficiency services will reduce the transaction and search costs for energy customers through use of mass market techniques.
- **Bounded rationality**
Revenue from tradeable certificates will reduce the up-front cost of energy efficiency products and processes.
- **Split incentives**
The revenue from tradeable certificates will provide the incentive for building owners, tenants and third party providers to find mutually beneficial ways to capture energy efficiency improvements.

In addition ESS can help overcome a key barrier to the effectiveness of emissions trading which results from the present immaturity of the market of energy efficiency goods and services. It is inefficient for every energy user to develop energy efficiency skills and knowledge. ESS encourages the development of specialised energy service businesses that can deliver the services at much lower cost and higher convenience.

There are three design features of ESS which help ensure that these objectives are met within the anticipated range of costs and benefits. These features are:

- **Certificate price safety valve**
A penalty price will be calculated and set at a level which will ensure that certificate prices under the scheme do not exceed cost effective levels.
- **Exemption of certain energy loads**
Electricity-intensive, trade-exposed companies who are unlikely to face the same market failures and barriers as other electricity users will be exempt from the scheme.
- **Target adjustment mechanism**
In the event that targets have been set too high or too low, regulations will set out criteria which will provide a transparent process through which the Minister can determine if targets need to be adjusted and provide the market with sufficient notice of any change.

8.7 Reporting overlaps will be minimised

Stakeholders have raised the potential overlap of reporting obligations between a NSW energy efficiency instrument and Commonwealth measures, including CPRS¹⁷, the National Greenhouse and Energy Reporting System (NGERS)¹⁸ and the Mandatory Renewable Energy Target (MRET)¹⁹.

The liable parties under the CPRS will be about 1000 direct emitters of greenhouse gases, such as electricity generators. The liable parties under the preferred option (b1) (MBI – retailers) will effectively be the 25 licensed electricity retailers operating in NSW. Only the small number of electricity retailers which also generate electricity and which exceed the threshold for CPRS (annual emissions of 25,000 tCO₂e or more) will be liable under both CPRS (for the emissions from their generators) and ESS (for their electricity sales).

NGERS requires reporting of the production and final consumption of energy, but not the acquisition and sale of electricity by retailers, as required for ESS. Hence, there is no direct overlap of reporting requirements.

MRET places obligations on retailers and, like ESS, requires data on acquisition of electricity by retailers. Like ESS, MRET's requirements will not be met by NGERS. As mentioned above however, it is likely that in both cases, electricity acquisitions can be obtained by regulators independently of liable parties.

8.8 ESS will be harmonised with other state and national schemes

As outlined above, a significant number of stakeholders expressed a preference for a national energy efficiency trading scheme, instead of state based approaches. Failing this, stakeholders urged the Government to harmonise ESS with the other state-based schemes such as Victorian Energy Saver Incentive Scheme and REES. The ESS measure is aligned with both these propositions: ESS is proposed as an interim measure until a national energy efficiency trading scheme is established.

A key benefit of the preferred option is the capacity to harmonise with these schemes. Such a harmonised approach would not be possible if the liability did not also rest on retailers in NSW.

¹⁷ The CPRS is the Commonwealth's nation-wide greenhouse gas emissions trading scheme.

¹⁸ NGERS is being developed by the Commonwealth Government as the primary data collection system for the CPRS and some other state and national programs.

¹⁹ MRET places obligations on retailers to acquire specified amounts of renewable energy.

The Government will work with the Victorian and South Australian Governments to harmonise the ESS, Victorian Energy Saver Incentive Scheme and REES scheme to serve as a building block of uniform national approach. The NSW Government will seek a memorandum of understanding with the Victorian and South Australian Governments on the harmonisation of the reporting and administration processes among the three states' schemes.

8.9 ESS will deliver net benefits for NSW electricity customers and the economy

As outlined in section 6, energy market and economic modelling has been commissioned to quantify the costs and benefits of different targets. The costs and benefits set out below are for annual targets that start at 0.5 per cent of liable electricity sales in 2009 and increases to 5 per cent for 2014 through to 2020, and a penalty price set at the pre tax equivalent of \$35 per MWh.

By 2014 ESS will fund the deployment of energy efficiency products and services of 3,500 GWh of energy savings for NSW households and business each year. By 2020 ESS will deliver between \$330 million and \$1.3 billion in energy bill savings to NSW electricity customers (depending on whether carbon prices are low or high, respectively). This will reduce the impact on individual consumers' energy bills of rising electricity prices, including those arising from the introduction of the CPRS in 2010.

The value of these energy savings to the NSW economy exceeds even the maximum cost of delivering them. The impacts of these amendments on energy markets and the economy were modelled under different carbon price scenarios to address uncertainty over the design and impacts of the CPRS. Modelling found that ESS will result in:

- a net benefit for the NSW economy of between \$27 to \$109 million (under low and high carbon prices respectively)
- a reduction in the impact on retail electricity prices due to CPRS of between 1 per cent to 3 per cent (under low and high carbon prices respectively)
- a reduction in carbon prices of between \$1 to \$2 by 2020
- a reduction in peak electricity demand of 615 MW by 2020.

8.10 Costs will be borne by retailers, but offset by wholesale price benefits

The direct costs of the scheme are the compliance costs to retailers of acquiring NSW Energy Efficiency Certificates from the market, or creating them by providing eligible energy efficiency products and services directly to their customers. While these costs will initially be incurred by retailers, they are likely to be eventually passed through to electricity customers, except for specified trade-exposed, emissions intensive industries, which will be exempt (to levels to be advised) from direct or indirect impacts under the scheme.

However, retailers are also expected to benefit from lower wholesale prices that will result from energy savings. In some of the early years of the scheme, costs might exceed the wholesale price benefits. However, over the period of ESS the reduction in wholesale prices is expected to be greater than the additional costs to retailers of ESS. ESS is expected to deliver retailer prices that are between 1-3 per cent lower than they would otherwise have been.

8.11 Costs may be passed through to electricity customers

For small electricity customers who choose to remain on regulated retail electricity prices, the Independent Pricing and Regulatory Tribunal will take into account the price effects of ESS, as well as other changes such as the CPRS, in its next review for the period starting in July 2010. (Small customers are households and small businesses with annual usage of less than 160 MWh per year).

For 2009-10, retailers will have the capacity to pass through any material price effect of ESS. There may be no material price effect because, since the last price determination, other factors have reduced pressure on prices (e.g. prices and costs of GGAS have fallen and the expanded Commonwealth Mandatory Renewable Energy Target is being implemented later than the originally proposed start date of 2008 for the NSW Renewable Energy Target).

Electricity retailers overall are likely to experience lower rates of growth in electricity sales. However, they can capture new sources of revenue and customer retention by delivering energy efficiency products and services to their customers while meeting their obligations under ESS.

Electricity distributors will benefit from the deferral of 'poles and wires' investments due to the 615 MW reduction in peak load that ESS will deliver by 2020.

8.12 Trade-exposed, emissions-intensive industry will not be affected

As noted above trade-exposed emissions intensive industries will be exempted from ESS. This means that the costs of the scheme will not be passed through to these users. The approach will aim to be consistent with exemptions under the Commonwealth Renewable Energy Target scheme.

8.13 ESS provides regulatory certainty for businesses delivering energy efficiency upgrades

Under the current Demand Side Abatement component of GGAS, fifty companies are engaged in creating certificates from energy efficiency activities. These include electricity retailers, commercial and industrial companies investing in energy saving projects, and companies providing energy efficiency services to households and businesses.

ESS will provide regulatory certainty and renewed market confidence for these businesses. In the absence of ESS, they would be disadvantaged by the transition from GGAS to CPRS because CPRS will not incorporate energy efficiency trading, creating a potential gap in the incentive for energy efficiency upgrades and stranding their investments.

8.14 Timing of implementation

A summary of the ESS implementation time-line follows:

- **December 2008 to 2nd Quarter 2009**
Stakeholder consultation on the activities to be permitted under the rules.
- **2nd Quarter 2009**
Legislation introduced and passed; targets and penalty level announced.
- **1 July 2009**
Scheme commencement.
- **2009**
Ongoing review and expansion of activities to be permitted under the rules; review and consultation on harmonisation with Victorian Energy Saver Incentive Scheme and REES.
- **2010 – 2013**
Interim review of complementarity of ESS with CPRS.
- **2013**
First full scheme review.

9. Evaluation and review

The framework legislation will establish ESS until a national energy efficiency trading scheme is established, or in the absence of this, until 2020, subject to five-yearly statutory reviews.

ESS will also be subject to ongoing review as part of the Energy Efficiency Strategy evaluation framework. These reviews will evaluate the energy savings contribution and cost effectiveness of all measures in the Strategy.

ESS will also be reviewed in the early years of the CPRS. Any proposed changes to ESS arising from this process would be subject to thorough consideration and detailed consultation in order to maintain investor certainty.

These reviews will evaluate the ongoing requirement for ESS in light of the impact of the CPRS and other energy efficiency policy measures. These reviews will also evaluate the performance of the scheme against its objectives, as outlined in section 3 of the BRS.

Regulations will be made which specify the criteria under which the Minister can review the scheme energy savings requirement, and exempt industries, and outline a timely transparent process for any required variations. This is important to enable maintenance of the complementarity of ESS with the CPRS, while ensuring transparency and investor certainty.

Glossary

ACPs Abatement Certificate Providers (under GGAS)

CPRS Carbon Pollution Reduction Scheme (Commonwealth)

DAF Default Abatement Factor (under GGAS)

DSA Demand Side Abatement

GGAS Greenhouse Gas Reduction Scheme (NSW)

ESS Energy Savings Scheme (NSW)

MRET Mandatory Renewable Energy Target (Commonwealth)

REES Residential Energy Efficiency Scheme (South Australia)