



**public interest**  
ADVOCACY CENTRE

## **PIAC submission to the NSW Energy Security Target and Safeguard**

**26 June 2020**

## About the Public Interest Advocacy Centre

The Public Interest Advocacy Centre (PIAC) is an independent, non-profit legal centre based in Sydney.

Established in 1982, PIAC tackles barriers to justice and fairness experienced by people who are vulnerable or facing disadvantage. We ensure basic rights are enjoyed across the community through legal assistance and strategic litigation, public policy development, communication and training.

## Energy and Water Consumers' Advocacy Program

The Energy and Water Consumers' Advocacy Program (EWCAP) represents the interests of low-income and other residential consumers of electricity, gas and water in New South Wales. The program develops policy and advocates in the interests of low-income and other residential consumers in the NSW energy and water markets. PIAC receives input from a community-based reference group whose members include:

- NSW Council of Social Service;
- Combined Pensioners and Superannuants Association of NSW;
- Ethnic Communities Council NSW;
- Salvation Army;
- Physical Disability Council NSW;
- Anglicare;
- Good Shepherd Microfinance;
- Financial Rights Legal Centre;
- Affiliated Residential Park Residents Association NSW;
- Tenants Union;
- The Sydney Alliance; and
- Mission Australia.

## Contact

Thea Bray  
Public Interest Advocacy Centre  
Level 5, 175 Liverpool St  
Sydney NSW 2000

T: (02) 8898 6550  
E: [tbray@piac.asn.au](mailto:tbray@piac.asn.au)

Website: [www.piac.asn.au](http://www.piac.asn.au)



Public Interest Advocacy Centre



@PIACnews

The Public Interest Advocacy Centre office is located on the land of the Gadigal of the Eora Nation.

# Contents

- 1. Introduction ..... 4**
- 2. Setting an Energy Security Target..... 5**
  - 1. Is the approach to assessing firm capacities from generators, interconnectors and demand response used to meet the EST reasonable and appropriate? Is there an alternative approach? ..... 5
  - 2. Is the approach to applying the capacity factors for wind and solar generators reasonable and appropriate? ..... 5
  - 3. Are AEMO’s maximum demand forecasts appropriate for use in determining the EST? Should alternatives be considered (e.g. TransGrid’s forecasts)?..... 5
  - 4. How often should EST updates be published?..... 5
- 3. Powers to gather information..... 5**
  - 5. Are the entities required to provide information to the EST register that are listed above suitable and adequate? ..... 5
  - 6. Is there other information that should be provided for the register beyond that listed above?..... 5
  - 7. Are the types of projects that may contribute to meeting the EST described above suitable and adequate? How could prospective projects, beyond those identified as committed, be considered within the EST forecast for firm capacity?..... 5
  - 8. Many market participants already have requirements to report to AEMO or other market bodies. Where do you consider there may be overlap with these existing requirements that the NSW Government could leverage to ensure industry does not need to report twice? Are there other ways the NSW Government could obtain this information?..... 5
- 4. Implementation timeframes for the Safeguard ..... 5**
  - 9. What would be a reasonable commencement date for the new energy saving and peak demand reduction targets? Please provide an explanation for your response... 5
  - 10. Could elements of either scheme, such as the early accreditation of certificates ahead of surrendering requirements, be brought forward? Please provide an explanation for your response..... 6
  - 11. What support does industry need to prepare for the introduction of the scheme? Please provide an explanation for your response..... 6
- 5. The NSW Government will extend the ESS to 2050 and increase targets..... 6**
  - 12. What issues should the NSW Government consider when setting targets to 2030? At what rate should the targets be increased to reach 13% by 2030? ..... 6
  - 13. What are the most promising opportunities once commercial lighting reaches market maturity? What is the likely size and cost of these opportunities? ..... 7

15. What additional data sources are available that could inform assessment of the size and cost of the energy efficiency opportunity in New South Wales? Refer to Appendix B for technical assumptions. ....	10
16. What feedback can you provide to improve the other modelling assumptions set out in Appendix B?.....	10
<b>6. Penalty rates and exemptions.....</b>	<b>10</b>
17. Is the current penalty rate set at an appropriate level to incentivise retailers to buy and surrender certificates? .....	10
18. Should small retailers be exempt? If so, up to what size? .....	10
<b>7. The NSW Government will expand fuel switching activities .....</b>	<b>11</b>
19. Which cleaner fuel switching activities should the scheme provide incentives for? .....	11
20. Should the scheme cover technologies that are being wound down under the SRES? If so, what is the best way to do this? .....	11
21. How should energy savings be counted for these cleaner fuel switching activities? .....	11
22. What would be the likely scale of uptake of cleaner fuel switching activities? Please consider the number, size, and cost of projects.....	11
23. Under what circumstances should the NSW Government consider extending scheme liability beyond the electricity sector?.....	12
<b>8. The purpose of a peak demand reduction scheme .....</b>	<b>12</b>
24. How can the scheme’s certificates best capture capacity, timing, duration and availability factor? .....	12
25. Who is best placed to manage the financial risk that capacity is not made available when needed? .....	12
<b>9. Eligible peak demand reduction activities .....</b>	<b>13</b>
26. Are there other activities the NSW Government should consider for inclusion in the peak demand reduction scheme? .....	13
27. What is the size and cost of the peak demand reduction opportunity available in New South Wales? .....	13
28. Are there alternative ways in which the peak demand scheme could complement national schemes?.....	14
29. What are the key issues, and potential mitigation measures, the NSW Government should consider on consumer protection? .....	14
30. Which calculation methods should be developed first? .....	19
31. Should location-based multipliers or activities that are specific to certain locations be considered? .....	20
<b>10. Establishing liability for the scheme .....</b>	<b>20</b>
32. What are your views on the proposed approach to scheme liability? Please align your response with the topics above.....	20
33. What would be the implications for the available dependable peak demand reduction capacity in New South Wales if the scheme allows carry forward?.....	20

<b>11. Peak demand reduction certificates .....</b>	<b>21</b>
34. What qualifications should certificate providers be required to have? .....	21
35. Should certificates expire every compliance year or should they be transferable to future compliance years? What implications would your preferred approach have for ensuring dependable peak demand reduction capacity in New South Wales?.....	21
<b>12. Achieving excellence in administration and regulation.....</b>	<b>21</b>
36. What is working well with the administration and regulation of the ESS? What features would you want to see continuing, and potentially replicated for the peak demand reduction scheme?.....	21
<b>13. Development, implementation and review of rules .....</b>	<b>22</b>
37. Should the annual Rule review and three-year major Rule review process for the ESS and new peak scheme be changed or is it working effectively? Please provide an explanation for your response.....	22
38. Would the above ideas help make the Safeguard more customer-centric? Do you have other suggestions?.....	22
<b>14. Scheme participants and service providers .....</b>	<b>22</b>
39. What improvements could be made to the administration and regulation of the ESS that would encourage the creation of effective energy saving activities? Please provide an explanation for your response, including an indication of your key priorities.....	22
40. Who should be responsible for developing the capability of service providers to deliver effective activities, the Scheme Administrator or the Department? .....	22
41. What is the best way to develop the capabilities of service providers?.....	22
<b>15. Administrators and regulators .....</b>	<b>23</b>
42. What are your views on the options to enhance the compliance and enforcement framework of the ESS? .....	23
43. Are the current provisions for the NCAT review of decisions by the Scheme Regulator and Administrator sufficient? Please provide an explanation for your response.....	23
<b>16. Government .....</b>	<b>23</b>
44. What key performance indicators and service standards should be considered for the Scheme Regulator and Administrator?.....	23
45. What else can the NSW Government do to ensure the continuous improvement of the ESS? .....	23
<b>17. Continued engagement.....</b>	<b>23</b>

# 1. Introduction

PIAC welcomes the opportunity to make a submission to the NSW Energy Security Target and Safeguard.

The Energy Security Target provides an additional layer of regulatory security to meet the electricity demand by NSW consumers during summer peak periods. Importantly, it considers both supply and demand side resources to ensure the most efficient combination of actions is taken.

Energy bills continue to be a high concern for NSW households. This has been exacerbated by people spending more time at home during the COVID-19 pandemic and subsequently using more energy. At the same time, many people in NSW have a lower capacity to pay energy bills due to lost or reduced employment and income. The Safeguard provides ways to alleviate this cost of living pressure by providing households with ways to reduce their energy bills.

An expanded Energy Savings Scheme (ESS) and a peak demand response program have the potential to substantially reduce network and energy market costs for consumers. A peak demand response mechanism that includes households can help deliver an efficient, lower cost, lower risk system and the benefits of this will flow through to all consumers.

When steps are taken to make dwellings more comfortable and resilient during extreme temperatures, energy efficiency is an essential climate adaptation tool. Heating and cooling are usually the largest components of a household's energy use, and with a changing climate and the projections of more extreme weather events, households are likely to have to pay even more to keep their homes thermally comfortable.

To address this, the ESS should prioritise energy efficiency measures that improve the thermal performance of a dwelling as well as the replacement of old, inefficient heaters and air conditioners. This would help protect the health of people who limit their use of mechanical heating or cooling beyond what is comfortable or safe, in order to save money.

The peak demand response mechanism also offers households another option to manage their energy bills by incentivising demand response (DR) actions and providing them a fairer share of the benefit of these actions. If aggregated, sources of demand response such as swimming pool pumps, air conditioners and household batteries could offer considerable value to the market.

A substantial energy efficiency retrofit and peak demand response program delivered via the Safeguard would be a powerful post COVID-19 stimulus project that would deliver long term benefits to households, create jobs and economic activity as well as contribute to addressing climate change. Focusing on low income households would ensure any money saved on energy bills is put back into the economy. The Safeguard should be linked to other energy saving/bill reduction programs to remove barriers to energy efficiency uptake and produce myriad benefits for households and the economy.

## **2. Setting an Energy Security Target**

- 1. Is the approach to assessing firm capacities from generators, interconnectors and demand response used to meet the EST reasonable and appropriate? Is there an alternative approach?**
- 2. Is the approach to applying the capacity factors for wind and solar generators reasonable and appropriate?**
- 3. Are AEMO's maximum demand forecasts appropriate for use in determining the EST? Should alternatives be considered (e.g. TransGrid's forecasts)?**
- 4. How often should EST updates be published?**

PIAC would welcome the opportunity to discuss these matters with the department.

## **3. Powers to gather information**

- 5. Are the entities required to provide information to the EST register that are listed above suitable and adequate?**
- 6. Is there other information that should be provided for the register beyond that listed above?**
- 7. Are the types of projects that may contribute to meeting the EST described above suitable and adequate? How could prospective projects, beyond those identified as committed, be considered within the EST forecast for firm capacity?**
- 8. Many market participants already have requirements to report to AEMO or other market bodies. Where do you consider there may be overlap with these existing requirements that the NSW Government could leverage to ensure industry does not need to report twice? Are there other ways the NSW Government could obtain this information?**

PIAC would welcome the opportunity to discuss these matters with the department.

## **4. Implementation timeframes for the Safeguard**

- 9. What would be a reasonable commencement date for the new energy saving and peak demand reduction targets? Please provide an explanation for your response.**

The Safeguard should be implemented as soon as possible whilst maintaining Scheme system rigor because it:

- Can be used as a mechanism to boost employment and help stimulate the economy following the COVID-19 pandemic recession.

Reduces household energy bills at a time when NSW residents are spending more time at home due to social distancing requirements, which increases their energy use, and when many NSW households have less capacity to pay their energy bills due to pandemic related unemployment and underemployment.

- Reduces greenhouse gas emissions and helps NSW meet its Net Zero Target, and climate action is more cost effectively acted on sooner rather than later.
- Has the potential to help homes be more passively comfortable during extreme temperatures which are projected to continue as our climate changes.
- Can reduce the possibility of load shedding during system peak demand, which can leave households vulnerable to the health implications of extreme temperatures.
- Helps to realise 'secondary' benefits, including accelerating reduction in technology and investment costs and accelerating access to new technology benefits such as demand reduction and participation in ancillary services markets.
- Allows investments associated with the target to benefit from the current cheap credit, maximising the ability to gain early benefits relative to ongoing costs.

**10. Could elements of either scheme, such as the early accreditation of certificates ahead of surrendering requirements, be brought forward? Please provide an explanation for your response.**

Fast tracking accreditation of social enterprises could help boost employment where it is needed most, including in regional areas. Including the Safeguard in COVID-19 economic recovery could help rebuild the economy while reducing greenhouse gas emissions. It would also generate long term savings for households and make homes healthier, safer and more comfortable during temperature extremes.

**11. What support does industry need to prepare for the introduction of the scheme? Please provide an explanation for your response.**

Promoting the scheme ahead of the launch of the installations will help to ensure that there is quick uptake of the scheme.

To ensure participation from disadvantaged and vulnerable households, promotion of the scheme should also be through community organisations such as Combined Pensioners and Superannuants Association of NSW, Ethnic Communities Council, Physical Disability Council NSW and EAPA providers, as well as through Service NSW. Where appropriate, households can also be recruited via other energy saving programs and supports such as Energy Accounts Payment Assistance, Appliance Replacement Offer, Empowering Homes Program, Solar for Low Income Households and Energy Switch.

## **5. The NSW Government will extend the ESS to 2050 and increase targets**

**12. What issues should the NSW Government consider when setting targets to 2030? At what rate should the targets be increased to reach 13% by 2030?**



In setting accelerated targets for the ESS to 2030, the NSW Government should consider the scheme's capacity to contribute to and support a range of direct and indirect benefits, including:

1. Provide health and well-being benefits:

- Improve the thermal performance of housing stock in NSW, resulting in improved wellbeing for occupants and less community health care costs.
- Reduce harmful energy rationing by households by improving households' ability to reduce the energy they need to use to stay healthy.
- Air pollution reduction and the resulting healthcare savings.
- Contribute to community resilience in the face of the impacts of climate change

2. Provide financial benefits to NSW residents and the NSW economy more broadly:

- Immediately reducing household energy bills, with benefits that continue through the longer term.
- Helping to reduce the existing financial and structural barriers to the broader implementation of improved energy efficiency.
- Delay or avoid network augmentation and associated costs – reducing energy bills for all NSW consumers over the longer term.
- Avoid additional generation and associated costs – reducing energy bills for all NSW consumers.
- The immediate economic stimulus effects the program could have on employment and the economy.
- Provide a tailored service where possible, directing people to other energy saving programs and support, creating spillover benefits.
- Reducing energy bills for low income households means the money will be spent elsewhere in the economy, helping to boost other sectors.
- Provide more headroom in the electricity system to support electrification of the transport sector.

3. Help address climate change:

- Energy efficiency is one of the most cost effective ways to reduce greenhouse gas emissions, with benefits that are enduring
- Contributing to the NSW Net Zero Plan.
- Make homes and communities, particularly those in rural and regional NSW, more resilient to extreme temperatures, emergency and disasters.

The ESS should be seen as a rolling program, upgrading technology in people's homes as it becomes commercially available so that energy efficiency is continually improving in homes (and businesses) in NSW.

**13. What are the most promising opportunities once commercial lighting reaches market maturity? What is the likely size and cost of these opportunities?**

There are numerous potential opportunities for residential, commercial and industry energy savings under the scheme.

Households currently have very little opportunity to participate in the ESS but the potential financial, health and wellbeing benefits of households participating are substantial. The ESS should be used to address entrenched problems of poor energy performance of NSW housing stock. Improving the thermal performance of housing has the potential to prevent ill health caused by temperature extremes, which in turn can reduce pressure on the health system. Reducing energy bills through energy efficiency for households, especially low income households, not only helps those households but can reduce the need for other NSW Government supports such as Energy Accounts Payment Assistance. If NSW energy rebates were based on a percentage of usage then the ESS could lead to further reduction in the cost to the NSW Government to provide bill support.

Activities that improve the thermal performance of homes (and keep their occupants safer in weather extremes) and measures that generate the largest energy savings, such as replacement of mechanical heating and cooling appliances and hot water heaters, should be prioritised. Additional assistance should be provided to ensure low income households can access these activities. Activities could include:

- Weather sealing, insulation and the installation of thermally efficient windows and window treatments.
- Appliance replacement that targets appliances with high impact on household health and energy usage, such as fridges, and heating and cooling appliances
- Installing/upgrading reverse cycle air conditioners where appropriate to replace inefficient (and less safe and healthy) heaters such as fan heaters with non-fixed, more efficient appliances where appropriate.
- Heat pump (or solar where more appropriate) water heaters to replace electric (and gas) water heaters.
- Switching appliances from gas to efficient electric (and disconnecting gas where practical and cost effective).
- Total home information and control systems that target efficiency and peak demand management (as opposed to comfort and convenience focused technology that is often likely to increase usage).
- Controlled electrical vehicle charging infrastructure that focuses on managing household usage and peak demand.
- Opportunities for 'total home conversion', particularly in relation to government property, such as social housing. Targeting the lowest performing property could realise and quantify significant efficiency gains by raising the total home performance through a 'total home' efficiency upgrade that sets a target performance improvement (for instance something that raises any house from 1-2 stars to at least 6).

#### **14. What would prevent the uptake of new opportunities? What support (including new standards and calculation methods) does industry need to transition to new opportunities?**

Currently under the ESS, replacing halogen lights with LED lights is the only activity available to households. Whilst significant benefits may be made with commercial and industrial upgrades, the benefits to households can also be substantial. This includes reducing the size of household

energy bills which in turn reduces the need for some households to seek financial assistance from the NSW Government and/or retailers. A target for the number of households should be set so the benefits of the ESS are less skewed towards commercial and industrial upgrades.

However, households that stand to benefit most from energy efficiency measures are often the least likely to participate, because they cannot afford the upfront cost or do not have appliances which qualify. Whilst there are other NSW Government programs that are targeted at low income households, these programs have eligibility requirements, such as having a concession card, meaning other low income households are unable to access energy savings programs. Many of these households, such as working families and renters, have limited capacity to control their energy usage and struggle to pay their energy bills and would benefit from participating in the ESS.

As supplementary income supports such as JobSeeker and JobKeeper are wound down, along with COVID-19 hardship requirements from the Australian Energy Regulator which require energy retailers to provide additional supports for customers who need it, energy bill affordability is likely to become a growing problem. Whilst other measures such as improved rebates can help alleviate this problem, one of the best long term solutions is to help households who are struggling to pay their bills – and may not get them back under control in the foreseeable future - is to provide them with long term solutions of reducing bills via substantial energy efficiency retrofits.

To help address this issue and make the ESS more inclusive for NSW households, a target for low income households would ensure the benefit of the ESS is provided to those households most in need. Eligibility should be broader than concession card holders to include people who are in a retailer hardship plan, on payment plans and/or holders of the Low Income Health Care Card.

The upfront cost required to participate in the ESS is a barrier to some households. To bridge this gap, additional financial support should be included for participants who need it. Access to No Interest Loans or a similar scheme could be used to repay upfront costs in manageable ways.

Once there is an energy efficiency rating disclosure scheme, dwellings with low ratings could be eligible for additional assistance to have energy efficiency retrofits undertaken, and this could replace a low income definition to target for supplementary support. This would raise the energy efficiency of the least well performing housing stock in NSW and reduce the chances of low income households not qualifying for the additional support offered through the ESS.

Awareness of the ESS is another barrier to participation. Coordinating the ESS with other energy efficiency strategies such as those under the Trajectory for Low Energy Buildings, including voluntary energy assessment scorecards, energy efficiency disclosure at time of sale/lease and minimum rental standards, would develop the market for certificates, reduce customer acquisition costs and increase the uptake rates and impact of the ESS. Participation in the ESS would be a good starting point for people who have had an energy assessment scorecard undertaken to begin to improve the energy efficiency of their home. Coordinating the ESS with energy efficiency disclosure at time of sale/lease would incentivise property owners to undertake ESS measures in

time for a sale or lease, while coordinating it with minimum rental standards would help address the split incentive barrier for energy efficiency uptake in rental properties.

Participating households can save more and the ESS can be more effective by matching households with other energy saving programs they are eligible for (such as the Appliance Replacement Offer, Empowering Homes Program and/or Solar for Low Income Households) as well as Service NSW's Energy Switch. Participants in these programs could likewise be referred to the ESS services as appropriate.

**15. What additional data sources are available that could inform assessment of the size and cost of the energy efficiency opportunity in New South Wales? Refer to Appendix B for technical assumptions.**

PIAC would welcome the opportunity to discuss these matters with the department.

**16. What feedback can you provide to improve the other modelling assumptions set out in Appendix B?**

Although the avoided health cost of air pollution is included in the CBA, other potential impacts to health and wellbeing that can be avoided through improving the thermal performance of homes and reducing the size of bills are not included. These include: reduced stress, reduced mould and damp and reduced exposure to extreme temperatures. The scheme can avoid these costs at both an individual and state level.

Spillovers can be increased if the scheme links participants to other energy/bill saving programs such as Appliance Replacement Offer, Empowering Home, Solar for Low Income Households and Energy Switch.

## **6. Penalty rates and exemptions**

**17. Is the current penalty rate set at an appropriate level to incentivise retailers to buy and surrender certificates?**

**18. Should small retailers be exempt? If so, up to what size?**

The ESS has been operating without smaller retailer exemptions. If evidence can be provided that the ESS does or would inhibit small energy retailers from entering the market, then rather than exempting them from the ESS, they could be provided with a 2-year phase in period. This would provide them with the time to implement their administrative and compliance systems, without it being part of their set-up costs. In the 2-year phase in period small retailers could provide their share of energy efficiency savings in the form of a fund provided to the NSW Government to provide energy efficiency programs for households on low incomes.

The Consultation Paper also notes that emissions intensive, trade exposed industries are provided with partial or full exemptions. It is argued that they are exempt so that these industries can remain competitive relative to overseas industries not subject to similar schemes or

requirements. The Consultation Paper does not list which industries these are nor provide evidence that they would be at a disadvantage if they were ESS Participants.

## **7. The NSW Government will expand fuel switching activities**

### **19. Which cleaner fuel switching activities should the scheme provide incentives for?**

Heat pump and solar hot water should be included.

Electrification (disconnection from gas for households and large industrials) should be considered a 'fuel switching' activity and be prioritised. Electrification not only addresses immediate efficiency issues, but is also builds the necessary infrastructure for the realisation of medium and long term emissions reduction benefits as generation switches to renewable technology.

Fuel switching involving hydrogen and biofuels should only be considered in relation to on-site energy use, such as the conversion of on-site generators from diesel to renewable-derived hydrogen or bio-fuels. Provision of hydrogen and biofuels through gas networks should not be considered for incentives as it would require the retention and augmentation of the gas network and the ongoing duplication of fixed infrastructure and related costs that are not efficient.

Consideration should generally be given to non-grid connected energy to incentivise the Stand Alone Power Systems and other activities which enable further benefits, such as transport electrification enabling technology.

### **20. Should the scheme cover technologies that are being wound down under the SRES? If so, what is the best way to do this?**

Replacing electric resistance water heaters with heat pump (or solar if more appropriate) water heaters results in significant energy savings for households. For many households the upfront cost of heat pump or solar water heaters is out of reach, even with the Small-scale Renewable Energy Scheme (SRES). Efforts to improve energy efficiency in NSW could be improved if the focus shifted from replacing appliances with a similar appliance (which is particularly a problem in residential tenancies) to replacing inefficient technologies (such as electric hot water systems) with efficient technologies (such as heat pump or solar hot water systems). The ESS could be used as a mechanism to enable this. PIAC agrees that the ESS and the SRES have objectives that can co-exist until the SRES winds down completely.

### **21. How should energy savings be counted for these cleaner fuel switching activities?**

### **22. What would be the likely scale of uptake of cleaner fuel switching activities? Please consider the number, size, and cost of projects.**

PIAC would welcome the opportunity to discuss these matters with the department.

### **23. Under what circumstances should the NSW Government consider extending scheme liability beyond the electricity sector?**

As most, if not all gas retailers operating for small customers in NSW are also electricity retailers they will already have the administrative and compliance systems in place to meet their obligation under the ESS so the scheme could easily be expanded to include them. This could help drive efficiencies.

## **8. The purpose of a peak demand reduction scheme**

Throughout the following sections concerning peak demand reduction, PIAC will refer to actual demand reduced or shifted, or the actual amount of demand response delivered from an activity undertaken as 'realised'. For example, the amount of verified demand response achieved over a period is the 'realised demand response'.

### **24. How can the scheme's certificates best capture capacity, timing, duration and availability factor?**

The design of certificates should be dependent on the types of outcomes and benefits sought by the scheme.

To produce benefits to networks, certificates should be linked to predictions of maximum demand. It should target reducing 10% Probability of Exceedance estimates of maximum demand. For wholesale market benefits, certificates should be linked to spot prices, as demand reductions will put downwards pressure of wholesale prices whenever prices are high, irrespective of weather. PIAC recommends that how certificates quantify benefits in the ancillary services market is considered further by the NSW Government.

PIAC highlights that aggregation will help mitigate uncertainty and reduce risks of the scheme. The accuracy of certificate issuing for individual participants within an aggregated group – particularly individual households – is not of critical importance and must not be a barrier to implementation.

### **25. Who is best placed to manage the financial risk that capacity is not made available when needed?**

Financial risk should be placed with those best able to manage it. The NSW Government, not NSW energy consumers, should be responsible for the financial risk of the scheme, particularly because the scheme builds capacity rather than rewarding realised demand reduction and response.

Small energy consumers such as households are least well-placed to manage risk in most cases and this should be reflected in the design of the scheme and allocation of liability. The allocation of risk should be based on the scheme certificates and what they reflect.

While there is the risk of demand reduction not being met, there is also the risk of energy users having to reduce demand when doing so will harm them. This risk is not strictly financial and

should be managed using the principles for harm-based protections set out in the response to Question 29 below.

The risk that sits with participants and liable parties can be mitigated through the framing of certificates, certificate expiry and carry-forward allowances, and through aggregation.

Risks can also be mitigated by reviewing the outcome of certificates. If there are shortfalls in available capacity or certificates are in other ways not meeting their intended purpose, their value should be adjusted.

There should also be accountability for certificate providers to ensure they are making demand reductions under the scheme. This could be done from an ex-post assessment of the realised demand reduction from the scheme.

## **9. Eligible peak demand reduction activities**

### **26. Are there other activities the NSW Government should consider for inclusion in the peak demand reduction scheme?**

Residential activities in the peak demand reduction scheme should include:

- Home batteries;
- Pool pumps;
- Electric water heaters;
- Smart appliances (eg washing machines and clothes dryers);
- Air conditioners; and
- Electric vehicles

As explained in our response to question 29, air conditioners for temperature sensitive consumers could be added to the scheme after appropriate, energy-specific consumer protections have been extended to them.

### **27. What is the size and cost of the peak demand reduction opportunity available in New South Wales?**

The network benefit of localised peak demand reduction can be seen in locational long run marginal costs of networks in areas the scheme targets. Reductions in long run marginal costs can indicate costs avoided due to reductions in demand.

The wholesale energy and ancillary services benefits of the scheme will be reflected in changes to wholesale energy and ancillary services prices over its duration.

The scheme also provides an opportunity to manage the risk of early coal plant closures and support the transition of the energy system.

## **28. Are there alternative ways in which the peak demand scheme could complement national schemes?**

The peak demand scheme should aim to complement existing national schemes and encourage and facilitate ones that are yet to be developed. The state scheme should also aim to fill gaps in national schemes, such as the exclusion of households from participating in the wholesale demand response mechanism to be introduced in 2021, and aim to incentivise household demand response ahead of the two-sided market implementation. PIAC recommends considering whether, in order to develop a household demand response market ahead of the two-sided market, it may be appropriate to modify the design of the scheme so that it stands alone as an incentive for realised demand response for households, not just capacity.

PIAC considers the NSW scheme, as it is focussed on building demand response capacity rather than developing an operational market, is well-placed to support but not duplicate a national wholesale demand response scheme in any case.

PIAC does not consider duplication among state and national schemes is inherently negative, although it naturally introduces risk of inefficiency. Duplication should be avoided where it is materially risky or expensive to not do so, for example where there is risk of double dipping between schemes, but it should be traded off against the risk of deterring actual demand reduction.

Duplication can be avoided by excluding liable parties from having contracts to provide similar demand response capacity in two different mechanisms or schemes, and by an ex-post review of the scheme's effectiveness in reducing peak demand, in particular, the outcomes for household demand. PIAC considers the risks around duplication are less material with respect to RERT.

The scheme should be designed with the intention it can provide useful lessons for future reform processes, such as the two-sided market design.

## **29. What are the key issues, and potential mitigation measures, the NSW Government should consider on consumer protection?**

PIAC considers that the National Energy Consumer Framework should provide sufficient protections for most activities undertaken under the peak demand reduction scheme. We go into more detail on principles for consumer protections, particularly with respect to demand response, below.

PIAC supports a system where the protections offered to consumers are commensurate to the potential harm they may face should something go wrong – the higher the potential harm, the stronger the protections to be offered. This should not depend on the particular model of provision but should instead reflect the nature of energy as an essential service. Similarly, risks of lower harm need only be met with proportionately lower protections. Applying this principle of harm-based protections to the peak demand scheme requires an appreciation of the range of different energy uses and the range of different potential harms that could occur from its interruption or loss. Failing to do so may expose consumers to unnecessary risks if the protections are inadequate or underutilise the opportunities of more flexible energy use if there are excessive restrictions on participation.



The potential harm to households from any particular DR event depends on a number of factors including:

- The energy end-use being affected by the DR event (e.g. whether it is heating/cooling load or battery storage) and its duration.
- Characteristics of the household itself, such as whether there are medical conditions that impact its energy needs.
- The context of when and where the DR event occurs, such as whether it is on an extreme weather day.

Very broadly, harms could be categorised as either:

- Financial harms; in terms of choosing an appropriate offer, payment conditions or warranty terms. For instance, if there is information asymmetry between potential DR providers and households regarding the value of the DR load, households may not be well-placed to properly compare competing offers and judge which is most suitable for them.
- Inconvenience; from the unavailability of some appliances during a DR event. For instance, there may be potential impacts to the household's amenity from temporary loss of controlled load hot water.
- Harms to health and wellbeing; from the unavailability of some appliances during a DR event. For instance, there may be potential impacts to an individual's health from losing full access to heating or cooling devices during extreme weather events.

Balancing the level of protection required against maximising the opportunity of services such as DR cannot be done while considering end-uses of electricity as uniform or homogenous. Instead, it is essential to take into account the diversity of potential uses and the implications to the consumer of losing or postponing each. For instance, household energy usage sits on a spectrum from flexible/discretionary loads, which have no impact to the household's health and wellbeing, to inflexible or essential loads, which have the potential to impact the household's health and wellbeing.

	Flexible loads		Inflexible loads
Examples	<ul style="list-style-type: none"> <li>• Home battery</li> <li>• Pool pump</li> </ul>	<ul style="list-style-type: none"> <li>• Electric hot water systems</li> <li>• Smart appliances</li> <li>• AC on day 1 of a heatwave for typical household</li> <li>• EVs – from, say, 100% to 50% of state of charge</li> </ul>	<ul style="list-style-type: none"> <li>• AC on day 4 of a heatwave for typical household</li> <li>• AC for temperature-sensitive consumers</li> <li>• EVs – last 10% of charge</li> <li>• Lights and refrigeration</li> </ul>
Potential harms	<ul style="list-style-type: none"> <li>• No impact on health or wellbeing from deferring this energy use</li> <li>• Potential for financial harm</li> </ul>	<ul style="list-style-type: none"> <li>• Inconvenience to household from deferring this energy use but little or no potential impact to their health and wellbeing</li> <li>• Potential for financial harm</li> </ul>	<ul style="list-style-type: none"> <li>• Potential material impact to health and wellbeing from deferring this energy use</li> <li>• Potential for financial harm</li> </ul>

Figure 1: Types of loads

It is worth noting from Figure 1 that air conditioning (AC) can sit at various points on the spectrum from flexible to inflexible loads. This depends on a range of factors governing the context of its use including the type of household and the circumstances at that time.

For instance, the impact to a household’s health and wellbeing from reducing their air conditioning load for an hour may be negligible on the first day of a heatwave, especially if the house has good thermal insulation and is well sealed, meaning there is only a small and potentially unnoticeable change in indoor temperature during the DR event. However, this may not be the case if it is the fourth day of a heatwave or if the house has poor thermal insulation. The potential impact on the health and wellbeing can be high at any time if anyone in the household is particularly temperature sensitive, such as those suffering from thermo-regulatory illness, the elderly or young children.

PIAC proposes a tiered approach to consumer protections commensurate to the potential harm from category of load being offered for a peak demand scheme:

### **Category 1 – flexible loads with negligible potential harm**

These correspond to the flexible loads described in Figure 1, such as pool pumps and household batteries. For these loads there is no material risk of affecting people’s health and wellbeing – in fact most households will not even notice the loss of these loads for the duration of a DR event.

The potential harm, if any, from the loss of these types of loads during a DR event is limited to relatively minor financial impacts. As such, these types of loads can generally be adequately covered by existing, non-energy specific protections such as the Australian Consumer Law (ACL).

## **Category 2 – potential inconvenience**

These correspond to loads in the middle of the spectrum described in Figure 1 such as hot water systems and smart appliances such as washing machines and clothes dryers. We do not propose to include air conditioning in this category due to the complexity involved in creating a framework that would differentiate between cases where providing DR through air conditioning (such as on day 1 of a heatwave) and when it is more inflexible load and has higher risk to health and wellbeing (day 4 of a heatwave or for those with medical issues).

The loss of these loads during a DR event may cause inconvenience to households but will not cause material risk of harm to health or wellbeing. As such, these would benefit from basic protections, beyond those offered in the ACL but not as prescriptive as those offered in energy specific regulations. Therefore, PIAC proposes service providers calling on DR loads in this category must be a signatory to the New Energy Technology Consumer Code (NETCC).<sup>1</sup>

The NETCC is a voluntary industry code for providers of behind the meter products and services and outlines a range of minimum standards for customer service levels and obligations. These obligations include: ensuring their advertising is clear and accurate; educating consumers about their rights; providing clear information about product performance and maintenance; taking extra steps to protect vulnerable consumers; and implementing effective complaints handling processes. The draft Code is currently being consulted on by the ACCC as part of its authorisation process.

## **Category 3 – higher potential harm**

These correspond to the inflexible loads described in Figure 1 such as heating or cooling by air conditioning and EV charging. These have a higher risk of causing harm to household's health and wellbeing from the loss of these loads during a DR event.

These should not be part of the peak demand response market before appropriate, energy-specific consumer protections have been extended to them as the ACL and voluntary industry code such as the NETCC are inadequate. The work to develop these protections should commence at the earliest opportunity. In PIAC's view, however, an implementation horizon of two years would give sufficient time for the development of fit-for-purpose protections.

## **Consumer outcomes**

Consumer protections should also consider the different types of energy consumers.

Until energy retail prices were deregulated, household energy consumers across Australia could very broadly be categorised into 'haves' and 'have nots': they could either afford energy, and the tools to limit their usage if they so desired, or they could not.

Since then, deregulation, emergence of competition, innovation (particularly in relation to behind-the-meter energy technology), and escalation of energy prices have created the need for consumers to be thought of differently to just these two groups: in addition to social advantage, a consumer's level of engagement with the energy market now has a material impact on their energy outcomes.

---

<sup>1</sup> New Energy Technology Consumer Code, <https://www.cleanenergycouncil.org.au/advocacy-initiatives/behindthe-meter-code>.

An engaged consumer may be able to minimise their energy bills through a combination of retail churn, behind-the-meter technologies, and ongoing engagement in the form of paying their bills on time to access discounts. Conversely, a consumer that is not engaged, or is financially disadvantaged, is likely to consume more energy from the grid, purchased from a retailer to whom they pay a higher price by not accessing the cheapest deals.

Considering that levels of engagement and advantage are not mutually inclusive, PIAC considers that consumer outcomes should be thought of in four categories, for the purposes of consumer protections and promoting competition that works for all consumers (see Figure 2).

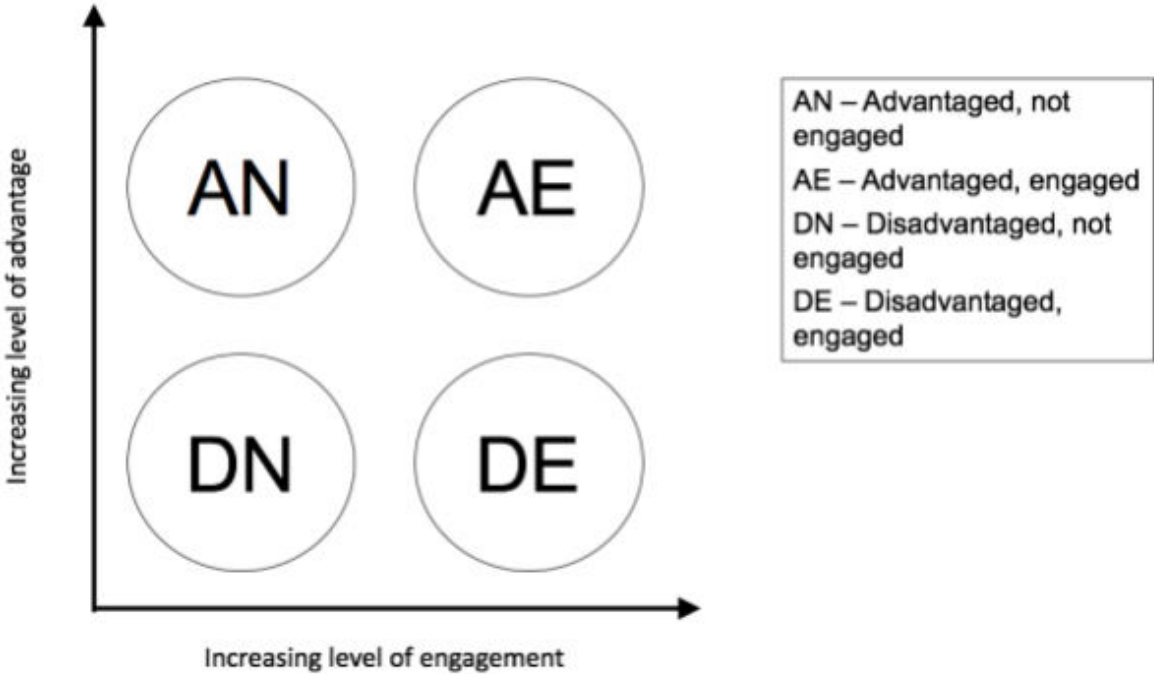


Figure 2: contemporary consumer cohorts

**Advantaged/able, not engaged (AN)**

This group is disengaged from the energy market. While they do experience higher bills through suboptimal retail contracts and a lack of demand side participation, their relative social advantage means that they are usually able to withstand the financial detriment associated with these contracts. On the other hand, while these consumers are more able to withstand the detriment associated with their lack of engagement, they still experience inefficiently high bills in a way their engaged counterparts do not. Many are at risk of falling into the DN group if their circumstances change, and consumer protections need to cater to this risk.

**Disadvantaged/vulnerable, not engaged (DN)**

This group is likely to have the worst outcomes. The combination of energy market disengagement and relative social disadvantage means that these consumers are unable or unlikely to take advantage of new energy technology or beneficial market contracts from energy retailers. They may use large volumes of high-priced energy that they are unable to afford. Competition frameworks should support them having the opportunity to benefit from engagement,

but it is critical that supporting frameworks, including protections and concessions, should not require them to be engaged or assume that is an option for them. The goal should be to move people from the DN cohort to the AN cohort, while giving them the opportunity to move to the AE cohort but not obliging them to do so.

### **Advantaged/able, engaged (AE)**

This group is the only one broadly getting good outcomes today. The combination of energy market engagement and relative social advantage means these consumers are likely to be on favourable retail energy contracts, and choose (and can afford) to be adopters of energy technology such as solar PV, energy storage and demand management systems. Competitive opportunities for these consumers should be encouraged, while recognising they are, by and large, least at risk of disadvantage.

### **Disadvantaged/vulnerable, engaged (DE)**

While this group still requires similar support to the DN cohort, their willingness to engage means they are able to ameliorate some impacts of disadvantage through engagement with the energy market, if presented with the opportunity to do so. The goal for this group should be giving them the opportunities to benefit from competition in the same way that the AE cohort has, while affording them the protections available to the DN cohort.

We recommend the NSW government consider outcomes for consumers in relation to their engagement with the energy market in addition to their social advantage.

PIAC's submission to the AEMC's consultation on consumer protections discusses this in further detail.<sup>2</sup>

## **30. Which calculation methods should be developed first?**

Calculation methods need to balance regulatory simplicity and minimisation of transaction and compliance costs with the need for accuracy and to ensure benefits are being realised from the scheme.

PIAC considers calculation methods should prioritise incentivising household demand response as incentives for commercial and industrial demand response already exist. In saying this, PIAC acknowledges household demand response typically has higher establishment and operational costs, on a per kW or MW basis, than commercial and industrial demand response.

Any calculation method needs to be conservative around assumptions of the benefits of realised demand response and be accompanied by ex-post evaluations, so as to not overestimate the effectiveness and value of the scheme and to ensure the incentives are producing the intended outcomes.

The Queensland PeakSmart scheme is an example of where household demand response was incentivised without appropriate controls on how and whether the benefits were realised. A CSIRO test of a PeakSmart compliant air-conditioner showed the actual benefit was only 6% of

---

<sup>2</sup> PIAC, [National Energy Consumer Framework Review Issues Paper 1: New Energy Products and Services](#), February 2020, 4-8.

the claimed benefit. Combined with unreliable communications, inability to target where the air conditioning is installed and the limited lifetime of the air conditioner the cost of the scheme became much higher than the benefits.<sup>3</sup>

### **31. Should location-based multipliers or activities that are specific to certain locations be considered?**

Location-based multipliers or activities will be most beneficial where the scheme seeks to realise network rather than wholesale benefits. Energy system benefits can be increased by targeting peak demand reduction activities in areas where there are constraint issues. Regional areas, often constrained sites, should then be targeted using additional incentives, such as a high constraint area factor or multiplier.

PIAC considers the demand reduction scheme could also be targeted to support bushfire-affected areas, however, does not consider it appropriate or efficient to target them through a location-based multiplier or factor. Bushfire affected areas should instead be targeted or supported through complementary measures, potentially funded through grants or other direct payments.

If location-based multipliers or factors are employed, there should be validation of their outcomes to ensure they are well targeted.

## **10. Establishing liability for the scheme**

### **32. What are your views on the proposed approach to scheme liability? Please align your response with the topics above.**

PIAC agrees with the proposed approach of matching the liability of the demand response scheme with the ESS, ie all electricity retailers, certain generators (those who supply directly to customers in New South Wales) and large energy users who purchase electricity directly from the NEM.

PIAC does not support the default exclusion of small retailers or trade exposed industries for the reasons provided in response to question 18.

When determining individual targets, PIAC supports option 2: Target by proportion of contribution to the liable activities.

### **33. What would be the implications for the available dependable peak demand reduction capacity in New South Wales if the scheme allows carry forward?**

PIAC supports limited carry forward as it may mitigate the cost of risk to liable parties of engaging with the scheme, and so will lower the cost of the scheme and maximise the benefit for consumers.

---

<sup>3</sup> Martin Gill, *Response to AER's Options Day discussing the Demand Management Incentive Scheme*. [Link retrieved](#).

PIAC acknowledges allowing carry forward would reduce the amount of dependable peak demand reduction capacity and recommends implementing a maximum of 10% of the target on the amount of dependable carry-over allowed.

## **11. Peak demand reduction certificates**

### **34. What qualifications should certificate providers be required to have?**

PIAC supports providers in the peak demand scheme having similar qualifications as ACPs under the ESS.

PIAC considers the qualifications of certificate providers should reflect the need to ensure the promised benefits are being realised and that specifications are linked to intended operations of providers. There should be evidence that providers have the capacity and intention to achieve a promised demand reduction outcome.

Over-specification of rules for providers and participating technologies should also be avoided to reduce unnecessary costs in the scheme.

### **35. Should certificates expire every compliance year or should they be transferable to future compliance years? What implications would your preferred approach have for ensuring dependable peak demand reduction capacity in New South Wales?**

PIAC agrees with government's preferred option to allow certificates to be transferred to future years. The scheme deals in capacity rather than realised demand response and so the administrative burden and costs of expiring certificates each year would be more than the likely benefits.

## **12. Achieving excellence in administration and regulation**

### **36. What is working well with the administration and regulation of the ESS? What features would you want to see continuing, and potentially replicated for the peak demand reduction scheme?**

PIAC considers the current arrangement of IPART regulating the ESS is satisfactory and should be carried to the peak demand reduction scheme. We consider there are benefits to having the scheme administered by a regulator as their independence, accountability and culture provides for long term efficiency and continuity for the scheme.

## **13. Development, implementation and review of rules**

**37. Should the annual Rule review and three-year major Rule review process for the ESS and new peak scheme be changed or is it working effectively? Please provide an explanation for your response.**

**38. Would the above ideas help make the Safeguard more customer-centric? Do you have other suggestions?**

Implementing a more transparent and collaborative rule change process and including consumer advocates is a good start in making the Safeguard more customer-centric as is bringing energy savings closer to the end-user by reducing barriers to entering the scheme, to encourage increased participation and drive behaviour change.

As addressed in Question 29, PIAC recommends certain service providers be signatory to the New Energy Technology Consumer Code (NETCC) to ensure minimum standards for customer service levels and obligations are met.

To make the Safeguard more consumer-centric and improve outcomes for households, there should be:

- a variety of available activities;
- at least one supplier (ESS) in all areas;
- residential targets;
- targets for households on low incomes and assistance for households who cannot afford the upfront cost, including access to No Interest Loans (ESS);
- coordination with other energy saving programs;
- participating households informed about how to use their energy saving equipment effectively; and
- trustworthy advice on which activities in the Safeguard are appropriate for individual household's circumstances.

## **14. Scheme participants and service providers**

**39. What improvements could be made to the administration and regulation of the ESS that would encourage the creation of effective energy saving activities? Please provide an explanation for your response, including an indication of your key priorities.**

**40. Who should be responsible for developing the capability of service providers to deliver effective activities, the Scheme Administrator or the Department?**

PIAC would welcome the opportunity to discuss these matters with the department.

**41. What is the best way to develop the capabilities of service providers?**

Accreditation programs should ensure service providers meet required standards.



## **15. Administrators and regulators**

### **42. What are your views on the options to enhance the compliance and enforcement framework of the ESS?**

Whilst compliance and enforcement are integral to scheme integrity, these should be carefully balanced with the scheme functioning and ensuring that activities can proceed.

### **43. Are the current provisions for the NCAT review of decisions by the Scheme Regulator and Administrator sufficient? Please provide an explanation for your response.**

PIAC would welcome the opportunity to discuss these matters with the department.

## **16. Government**

### **44. What key performance indicators and service standards should be considered for the Scheme Regulator and Administrator?**

PIAC would welcome the opportunity to discuss these matters with the department.

### **45. What else can the NSW Government do to ensure the continuous improvement of the ESS?**

PIAC would welcome the opportunity to discuss these matters with the department.

## **17. Continued engagement**

PIAC would welcome the opportunity to meet with the Department and other stakeholders to discuss these issues in more depth.