Public Interest Advocacy Centre

Submission to DCCEEW Consumer Energy Strategy: households

1 March

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About the Public Interest Advocacy Centre

The Public Interest Advocacy Centre (PIAC) is leading social justice law and policy centre. Established in 1982, we are an independent, non-profit organisation that works with people and communities who are marginalised and facing disadvantage.

PIAC builds a fairer, stronger society by helping to change laws, policies and practices that cause injustice and inequality. Our work combines:

- legal advice and representation, specialising in test cases and strategic casework;
- research, analysis and policy development; and
- advocacy for systems change and public interest outcomes.

Energy and Water Consumers' Advocacy Program

The Energy and Water Consumers' Advocacy Program works for better regulatory and policy outcomes so people's needs are met by clean, resilient and efficient energy and water systems. We ensure consumer protections and assistance limit disadvantage, and people can make meaningful choices in effective markets without experiencing detriment if they cannot participate. PIAC receives input from a community-based reference group whose members include:

- Affiliated Residential Park Residents Association NSW;
- Anglicare;
- Combined Pensioners and Superannuants Association of NSW;
- Energy and Water Ombudsman NSW;
- Ethnic Communities Council NSW;
- Financial Counsellors Association of NSW;
- NSW Council of Social Service;
- Physical Disability Council of NSW;
- St Vincent de Paul Society of NSW;
- Salvation Army;
- Tenants Union NSW; and
- The Sydney Alliance.

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1. Introduction & Overview

PIAC welcomes this opportunity to work with the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) in progressing the development of a NSW Consumer/Household Energy Strategy[1] (the Strategy). We have consistently highlighted the need for an overarching strategic approach linking climate and energy policies, with a specific focus on improving equity of outcomes for all NSW household energy consumers. We commend the NSW Government for initiating this process and look forward to further opportunities to progress the strategy and develop further detail in its implementation.

We strongly recommend this strategy be grounded in the NSW Governments legislated commitments to eliminate greenhouse gas emissions, be framed by targets informed by these commitments, and derived from the best, most up-to-date evidence regarding what contributions are required from each sector of the NSW economy and community.

The overarching purpose of this strategy should be explicit, to link climate and energy policy, aligning with and promoting the objectives of both, by optimising the contribution households can make to the energy system transition, and maximising the benefits that transition delivers to all NSW households. While we see this as potentially implicit in the strategy consultation, we recommend this being made more explicit in the final strategy.

Understandably this strategy cannot do everything, but the purpose outlined above should inform the identification of other Government agencies (including Local and Commonwealth Governments), policies and processes this strategy should align with and link to in order to fully realise its intent.

Most importantly, this process should not assume the role of the strategy is to mitigate potential negative impacts on some NSW households. It should be seen as an opportunity to use the climate change inspired energy system transition as an opportunity to co-ordinate NSW Government actions to improve equity, and actively improve outcomes for all NSW households, with ambitious targets to make their homes more efficient and sustainable, and their access to energy more affordably able to support health, wellbeing and prosperity.

2. Objective

PIAC welcome the step to focus the strategy on an explicit objective and broadly support the scope of this objective. As outlined in the previous section, we consider it important to have a broad, explicitly stated purpose to sit above this objective, clearly articulating where this strategy sits and what role it has in linking climate and energy objectives.

While the overall scope of the objective is appropriate, we strongly recommend changes to better integrate the various aspects of the objective (particularly the focus on equity) and more clearly articulate the genuine focus on better outcomes for all NSW household consumers. Key aspects to add or strengthen include:

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1 We refer to both consumers and households in this submission

- Ensuring that equity is explicitly included throughout the objective, to ensure better outcomes for all NSW households is the clearly stated intent.

- Refocus the objective from 'access to' technology, products or services, to access to or benefit from the range of new technology, products and services. Individual access to any particular technology or product may be limited and it may be neither possible (or efficient) to overcome this. However, a focus on better outcomes provides an effective frame to guide the implementation and use of new technology and services that can benefit all households regardless of their individual access to the technology or product itself. This is crucial as it clearly indicates that better outcomes are the intent of strategy.

- Add an objective recognising the need to build fairness through the strategy, to support equitable outcomes for all NSW households and support the overall efficiency of the energy system and its transition in NSW.

- Ensure aspects of the objective are integrated and overlapping, rather than appearing to be distinct and separate from each other.

Question on objective

1. Are these the right objectives for a Household Energy Strategy?

PIAC recommends the objective be redrafted as follows:

The NSW Household energy strategy will support and contribute to a net zero emissions future for NSW, optimising benefits for all NSW households, the community and climate by:

- Enabling and facilitating deployment of, and better household outcomes from, energy efficiency, electrification, advanced metering, household generation, flexible demand and storage.

- Improving equity of outcomes for all households through the transition to a more efficient net zero emissions energy system, including households who rent, live in apartments, live remotely, or have low incomes.

- Co-ordinating consumer energy resources to optimise the balance of electricity demand and supply and help maximise the efficiency of the energy system and minimise its costs to all NSW households.

- Building fairness by ensuring policy, regulation, rebates, supports and payment frameworks support a fair sharing of the costs and risks of the energy transition.

- Ensuring robust safety, quality, interoperability, performance and consumer protection standards for consumer energy resources and their suppliers.

3. Principles

PIAC welcome the focus on a strategy framed by robust principles. These principles will have a crucial role in shaping the ongoing implementation measures arising from the strategy and provide an important measure by which to evaluate implementation and inform further work required. We commend this approach and recommend the principles be framed ambitiously and be capable of ensuring this strategy helps seize this opportunity to ensure the energy system transition in NSW leads to better outcomes for all NSW households.

While we do not strongly disagree with any of the principles, there is scope to reframe them in order to more closely align with the updated objective we have recommended, and the purpose we assume the strategy is intended to fulfil. We have provided recommended changes in response to the question below.

Additionally, we note an absence of more functional principles which we consider could provide more robust guidance for the design of implementation measures arising out of this strategy. As framed the principles express a positive narrative but could be regarded as the desired outcomes from the strategy, rather than guidelines or directions for how the strategy should be implemented. Both of these functions are valuable. PIAC consider it valuable to have strategic principles which can help guide and focus the measures arising out of the strategy, and frame what implementation should look like.

Questions on principles

2. Are these the right principles for a Household Energy Strategy?

PIAC recommend the existing principles be amended to ensure a clearer focus, make them more practical and better aligned with the embedded objective and purpose of the strategy. We have provided amendments in red.

- Promote decarbonisation and net zero – speed up the transition to net zero emissions by ensuring all parts of the energy system, including households and communities, are contributing to rapid, efficient decarbonisation

- Ensure dependability – ensuring the energy system remains safe, secure and stable for the supply of this essential service to all households now and into the future

- Support affordability – all households can affordably access the energy services they need, they get the expected outcomes they pay for, and are supported to resolve payment difficulty where they can't afford the energy they need.

- Optimise efficiency – Consumer energy technologies and demand management are deployed and utilised to optimise the efficiency of the energy system and minimise the cost of energy to all household energy consumers

- Build equity through accessibility of benefits – improving equity by ensuing the benefits of energy products and services enabling the energy transition are accessible to all consumers, regardless of income, where they live or tenure. Opportunities to address

existing inequities, such as those experienced by first nations communities, CALD communities, young people, people with disability, renters and people living in regional areas, should be prioritised.

- Empowering and protecting households, without requiring choice - transparent information, supports and protections enable the exercise of meaningful choice where consumers wish to choose. Choice is not a requirement, and good, fair outcomes for consumers do not rely on consumer engagement.

- Focus on delivering outcomes – targets and measures to deliver them are meaningful, monitorable, and achievable.

a. Is there anything missing from the draft principles? Is there anything that should be removed and why?

As noted above, there is scope for the addition of principles (or requirements) which clearly direct how implementation measures should be framed. This could be added to the existing structure, as direction for how the strategy itself will be formulated, updated and how implementation measures will be derived from it. Examples could include:

- Strategy targets and commitments should be based on the NSW and Australian Government climate commitments and should incorporate robust, up-to-date evidence.

- End-point targets and commitments should be expressed at the outset, to provide certainty, with interim targets and commitments utilised to provide scope to monitor progress.

- Good consumer outcomes should not be dependant or contingent upon consumer agency, choice or engagement.

- Household consumers should not carry costs or risks they do not benefit from or are not capable of managing.

4. Encouraging deployment

While Governments at other levels have can and should contribute to better outcomes from the deployment of consumer resources, this strategy must take every opportunity to move independently where it can and identify linkages with other Government action where this will be beneficial.

Importantly, the focus must not be to 'maximise' deployment of all resources or focus only on deployment itself. The clear purpose of this strategy must be to ensure resources are deployed most efficiently, where and how they best contribute to the objectives of the strategy and optimise impacts for all consumers. The strategy should identify opportunities for the NSW to ensure standards, regulations and policies promote and ensure equitable deployment, support equitable benefit from deployment, and enable targeted support for deployment (and benefit) for

households unlikely to be able to benefit otherwise. This falls into several broad categories of action the strategy should include:

- Raising the 'floor' and creating the standards to ensure all NSW households are 'efficient' and electric.
- Aligning laws, regulations, and policies with deployment benefit objectives.
- Providing certainty through long term commitments.
- Leveraging and realigning existing resources.
- Focussing direct support on those otherwise unable to access and benefit from resources.
- Considering incentives to enable others to meet long-term requirements, and share the benefits of their resources.

In summary this involves a range of measures such as:

- Committing to and commencing implementation of standards and requirements which promote equitable (universal) deployment of energy efficiency and electrification, including
    - Implementing a more equitable and efficient NSW-specific approach to the rollout and utilisation of advanced (smart) metering, enabled by NSW DNSPs, and capable of supporting better outcomes for all NSW consumers[2]
    - Commence implementing mandatory disclosure of energy efficiency standards at the point of sale and lease, by no later than 2025
    - Committing to implement minimum energy efficiency standards for rentals no later than 2025, with staged implementation in line with the community blueprint[3]
    - Implementing a ban on new residential gas network connections no later than 2025.
    - Implementing a ban on the sale of new residential fixed gas appliances (such as water heaters and heaters) no later than 2030.
    - Updating BASIX to require 'zero carbon ready' new homes from 2025.
    - Reviewing NSW planning, electricity and gas laws and regulations to enable efficient residential gas network connection retreat.
    - Develop and implement long-term targets for the electrification of all NSW households, and the universal application of energy efficiency standards capable of ensuring all NSW homes are zero-carbon ready by no later than 2040.

2 PIAC has addressed this in more detail elsewhere and has provided a relative assessment of the AEMC metering framework and potential NSW options, at appendix 1 in section 8

3 A link to the blueprint is provided in section 8 of this submission

- Aligning existing policies, programs and supports with the objectives of the strategy, with a focus on equitable access to the benefits of consumer resources, including:

    - Reviewing ESS and PDRS programs to update and expand the resources they apply to, while targeting the programs to support cohorts with identified need (such as those unable to access resources independently, or those in need to more substantial benefits to improve outcomes). This could include – targeting rebate holders, low-income households with existing gas connections, social housing, landlords providing low-cost rentals, first nations communities, and remote community residents. PIAC provides more detail throughout this submission.

    - Reviewing rebates and supports programs to align with and support the objectives of the strategy. The priority should be linking rebates and supports with other programs and maximising benefits to impacted households. This includes providing scope to use gas rebates up-front to cover disconnection and switching costs, linking rebates with ESS and PDRS programs, targeting rebate holders for efficiency upgrade and electrification supports, reforming the family energy rebate to support energy upgrades, reforming the low-income-energy rebate to provide it as a percentage of the bill, and ensuring access to solar-soak and other 'solar share' arrangements for rebate households without scope for solar (such as renters).

- Refocussing existing measures and considering new measures to directly support deployment and household benefit from consumer resources. The priority should be targeting direct support where it will maximise benefits to the impacted household, and potentially to all households. This should include:

    - Committing to build on existing measures, setting targets for the electrification and upgrade of the efficiency of all social and community housing in NSW.

    - Refining ESS and PDRS schemes to ensure they have robust equity framing.

    - Considering measures to directly support efficiency upgrades, electrification and the rollout of consumer resources for targeted household groups. This may include considering programs where household appliances are provided freely where they help contribute to Government demand management/response or system flexibility programs.

- Develop incentives and enabling measures aligned with the implementation of standards and regulations to unlock consumer finance in households with the means to do so. These incentives should be developed in conjunction with Commonwealth reforms, for instance to negative gearing and other tax incentives. Importantly these measures should only be introduced in conjunction with the implementation of robust standards and requirements, to smooth transition and encourage advance action.

We provide more detail in relation to these aspects in response to the questions below.

Questions about encouraging deployment

3 What role do you see consumer energy resources playing in the energy system as it transitions to net zero emissions? Compare this role to consumer energy resources in commerce and industry, and to grid supplied energy.

Consumer energy resources (as defined in this process, including electrified fixtures, energy efficiency upgrades, advanced metering, and generation, storage and demand management assets) are critical to the energy system transition. NSW's climate and emissions reduction commitments cannot be met without electrification, a step-change improvement to household efficiency, renewable energy resources and more dynamic sharing and management of supply and demand.

The role to be played by consumer resources is crucial and cannot rely on individual consumer choice because:

- systemic outcomes are too important to be contingent on the aggregated choices of millions of diverse, often vulnerable consumers, and
- because most consumers do not have (and cannot consistently be given) the agency, information, or financial means, and are not in any meaningful position to independently act in a way that will ensure consumer resources deliver themselves and (and the system as a whole) the desired outcomes and benefits.

Government must play its role, through this strategy, to plan, require, enable, incentivise, and actively support the deployment of consumer energy resources that will deliver outcomes for all consumers and the NSW community.

Industrial and commercial entities, as well as those involved in grid energy supply, are in a position to act independently, with a financial imperative to maximise their benefits through the implementation and use of energy resources. Unlike household energy consumers, they consumer energy consciously, with the ultimate power to decide not to consumer (to pause, downgrade or shutter their business). Energy is essential for households, and they must continue to consumer regardless of their capacity to afford, or their perspectives of the services they are utilising. Their choices regarding energy are driven by the needs (outcomes) the energy provides, not the characteristics of the energy itself. This fundamental difference must be reflected in reforms to energy which do not rely on consumer agency.

The role for government in relation to industry and commerce is simpler. Information provision, ensuring access to technology and finance, and providing the certainty of long-term signalling through targets and standards. Businesses are capable of making decisions regarding how to affordably configure and utilise their energy resources, and have a direct profit-incentive to do so.

4 What do you see as the key barriers to increasing the uptake of consumer energy resources?

At the outset it is important to note that focusing on 'removing barriers' will not be sufficient to deliver on the intended objectives. In many cases the barriers regarded as preventing consumers from accessing and benefiting from consumer resources could be removed without a material, consistent impact on outcomes. For instance, lack of reliable information, or inability to access upfront (interest free) funding are often presented as 'barriers' to uptake of efficiency upgrades and consumer resources. While these are contributors, we regard removing these barriers as necessary, but not sufficient, to achieve the consistent and equitable outcomes intended.

Removal of barriers should then be regarded as an important plank of the strategy, alongside robust measures to directly enable, require and provide access to consumer resources.

The existing barriers to uptake of (and benefit from) the range of consumer resources noted in the consultation paper are broadly:

- **Structural** - These are regulations, policies, laws or standards and protections that are either absent, obsolete or miss-aligned, such that they either actively prevent access to benefits of consumer resources or ensure that access is available to a limited cohort of consumers. This is arguably the most important area of action for the NSW Government, where the strategy can reform these structures to 'raise the floor' and ensure structures support more consistent access to the benefits of consumer resources, and that they are better aligned with objectives to enable greater access to the benefits of consumer resources alongside other, co-ordinated measures.

- **Circumstantial** - These are broad circumstances which households are impacted by, such as the tenure or nature of their housing (such as residing in apartments and/or renting), the geography of their residence (such as residing in remote areas at the end of grid, or subject to extreme temperatures), and the quality of their housing (its poor efficiency, its dual fuel connection, insufficient metering, or inability to install solar or batteries).

  Many circumstantial barriers can be partially addressed through measures to address structural barriers (such as by introducing and raising minimum energy efficiency standards for rentals). However, they also require further measures to overcome - these range from direct action to improve social housing outcomes, support to convert and upgrade apartment buildings, measures to enable SAPs, Microgrids and community energy arrangements in remote communities, and schemes to ensure renters and apartment dwellers can 'share' excess solar.

- **Individual barriers** - These are barriers specific to households or cohorts of households, such as having fixed or low incomes, residing in first nations communities, residing social housing, being from a culturally and linguistically diverse background, or otherwise having limited literacy or numeracy skills.

  Addressing these barriers relies on robust measures to address both the structural and circumstantial barriers and recognising that more direct support is required. Measures here might include re-aligned rebates to provide assistance to electrify and upgrade efficiency, support through re-aligned ESS and PDRS programs, new measures to

support electrification and participation in demand management and solar-sharing schemes, reforms to rebates, as well as directly funding upgrades and access to resources for first nations communities, those residing in social housing and others with low incomes. While better, reliable information will be part of these measures, it will not be sufficient to overcome individual barriers for many NSW households.

PIAC highlights actions in the following categories which should be considered as enabling measures in the strategy.

Regulation, governance & legislation

Priority areas of action for NSW must include:

- Review of State laws, regulations, and standards across all areas of Government to identify areas where alignment and reform is required – this should include (but not be limited to) laws, regulations and standards governing housing (including social housing, strata, rentals, residential parks, boarding houses), planning, electricity safety and supply, gas safety and supply, fair trading, and local Government). This review should prioritise and plan actions to address changes required.

- Reform of NSW state planning laws and regulations to prioritise electrification and remove preferences for gas and support conversion. This should include updating BASIX to support 'zero carbon ready' new homes now.

- Commit to and commence implementing introduction of:
    - mandatory disclosure of energy performance at point of lease and sale (and consider other disclosure point requirements), and
    - minimum energy performance standards for rentals.

- Identify areas where 'derogation' from National Energy Laws is required to enable action which best promotes outcomes for NSW. Priority should be given to progressing NSW-specific arrangements for advanced metering deployment and utilisation by NSW DNSPs. Other areas of interest may include deployment of SAPS and microgrids by DNSPS, and the deployment of network connected batteries.

- Audit and reform appliance standards frameworks in NSW and initiate reforms to ensure robust compliance, including ensuring open interoperability of device operation and management systems.

- Initiate processes to improve co-ordination between governments, regulators & businesses to align policy, planning and investment to enable the transformation of NSW's energy system

- Lead advocacy to reform energy laws and rules to ensure they are fit for purpose to facilitate the efficient, managed retreat of gas networks.

- Ensure a unified whole-of-government responsibility to implement and oversee the progress and effectiveness of reforms.

Gas Network & Businesses

Co-ordinated policy, regulatory signals and supporting policies from the NSW government are required to allow regulators and gas businesses to plan for and enable an orderly retreat of

residential gas network connections in the long-term interests of NSW household energy consumers and the wider community. The retreat of gas networks and the electrification of households is critical to enabling more scope for household benefit from consumer energy resources.

This action should commence with development of a gas transition or a residential gas substitution roadmap for NSW. This roadmap should be designed to identify and progress the implementation of aspects of the consumer energy strategy related to the retreat of gas networks and the electrification of NSW homes. This should include at a minimum:

- An immediate moratorium and ban on new connections to residential developments. An immediate ban on new gas connections ensures the challenge of efficient electrification is only as big as it is today.

- Driving regulatory reform to ensure the full costs of any new connections to non-residential developments are fully recovered from the connecting entity with ongoing risk assumed by existing consumers and the gas network business.

- Legal and regulatory reform to enable gas network businesses to refuse new connection requests.

- Regulatory reform to allow (and require) gas network businesses to assess their networks and progressively plan for and implement staged network retreat where it is efficient to do so.

- Initiation of a process to consider comprehensive reform of NSW gas laws and regulations to enable efficient, staged gas network retreat.

- Initiating a process to consider the appropriate sharing of costs and risks of potential unrecovered gas network assets between consumers, governments and gas network businesses.

- Identification of measures for gas networks to collaborate with NSW Government and NSW Electricity DNSPs to assist 'vulnerable households' through supporting targeted electrification.

Building Standards

Strengthening building standards and mandating zero-carbon homes for new builds from 2025 will ensure all new homes built in NSW are efficient, electric and resilient homes. This will limit the number of dwellings that will require efficient electric upgrades in the coming decades and take advantage of the huge increase in new home construction already being initiated. Making these changes now maximises the number of homes with scope to integrate further consumer energy resources, and to benefit from the resources of others regardless (through being able to efficiently manage demand and utilise excess solar, for example).

Around 8 million dwellings were constructed (nationally) prior to the introduction of any residential energy efficiency standards. The average energy efficiency NATHERs rating of existing homes in Australia is 1.7 stars, compared to new homes which are now required to meet a rating of 7 stars

(out of a possible 10 stars). While more than building standards and policies will be needed to facilitate the scale of retrofitting required for existing housing stock, a range of regulatory and policy tools are available to be leveraged now to initiate the change required. This includes:

- NSW environment and planning laws and regulations
- BASIX
- Laws and regulations administered by Fair Trading/Customer Service NSW
- Local Government acts, regulations and other planning instruments
- Processes such as the Trajectory for low energy homes and the National Construction Code processes which NSW can lead by committing to implement changes in advance.

Appliance standards

Enforcement of robust, appliance standards (both for existing fixed household appliances and new renewable resources) are essential to help to ensure that NSW households fully realise the beneficial outcomes intended from consumer energy resources. The NSW Government and its businesses and agencies (including Fair Trading/Customer Service NSW, IPART, NSW DNSP's and others) have a crucial role to play in setting robust standards and ensuring consistent compliance, through both direct reforms and actions, and indirectly through taking a leadership role in co-ordinated national forums. Enabling consumer resources will involve:

- Raising the minimum standards of consumer resources (such as heat pumps, inverters, batteries and charges) to ensure they are durable and fit-for-purpose for consumers.

- Requiring best practice standards compliance procurement and provision through its own programs and budgets (such as the ESS, PDRS and other programs)

- Initiating a co-ordinated plan to identify and address standards failures in key consumer resource assets in NSW (such as inverters, PV, batteries, and chargers).

- Investigating and implementing options to ensure open interoperability of device operation and management systems and pursue reforms to protect against proprietary contracting and 'lock-ins'.

- Leading work to co-ordinate national reforms, improve the processes for standards updates, and strengthen legal and regulatory frameworks for compliance and enforcement activities related to consumer resources.

Alignment of Government and industry programs, supports and investments

There are a range of existing government and industry programs, supports and investments which should be re-aligned and leveraged to deliver better outcomes enabling consumer energy resource deployment, and ensure more equitable benefits. The strategy should include measures including:

- Reforming the existing ESS and PDRS schemes by:

    - expanding their coverage to consumer resources including, gas disconnection and electrification, quality heat pumps and efficient electric hot water systems,

demand-response capable air-conditioners, and batteries and chargers, building efficiency upgrades and EV chargers,

- raising the product standards required by these programs,
- introducing an 'equity' objective to these programs and targeting them to low-income households, social and community housing, rebate-recipients, and remote and first nations community residents,
- ensuring the schemes link to other programs (including rebates, EAPA, No interest loan schemes, and industry assistance programs, to maximise benefits to recipient households), and
- examining opportunities to support efficient electrification of embedded networks and apartment buildings.

- Reviewing and reforming NSW Government rebate and support schemes to support the objectives of the strategy, improving outcomes for recipient households and optimising contribution of recipient households to wider objectives of the strategy, though measures including:
  - Reforming the Gas energy rebate to provide it as an upfront support for gas disconnection and appliance conversion. Alignment with other industry and government programs should augment this measure and ensure ongoing affordability benefits to recipient households while increasing scope for the household to participate in flexible demand and 'solar sharing' schemes.
  - Reforming the family energy rebate, considering options to provide it as an ongoing support for electrification and energy efficiency upgrades for working family households.
  - Reforming the 'low-income energy rebate', including providing it as a percentage of energy bills. This measure helps offset electrification of households, maximising the 'impact' of Government support. Better co-ordination of this rebate with other programs to improve household energy efficiency (such as PDRS/ESS), participate in demand management and solar-sharing schemes will both enable greater deployment of consumer resources and optimise the individual and systemic benefits from them.

- Identifying and enabling co-ordinated investment by Government and industry to enable equitable consumer resource deployment. This should include considering measures such as:
  - Progress work to implement a NSW-specific framework for the efficient, equitable rollout and utilisation of advanced metering. Priority should be given to leveraging DNSP incentives, resources and aligned interests in enabling greater network visibility and flexibility. NSW Government support should be targeted at enabling

meter rollout through meter board remediation[4].

- Developing a collaboration with gas and electricity network businesses to support the efficient electrification of residential embedded networks and multi-unit apartment complexes. This may be enabled through NSW government support or incentives.

- Requiring Gas network businesses to develop a network 'retreat' plan, targeting vulnerable households for supported disconnection and electrification. The NSW Government should ensure these measures are co-ordinated with other government supports and programs (and potentially other measures supported by electricity DNSPs).

5. Should the uptake of consumer energy resources be encouraged by the NSW Government? Why or why not?

As detailed throughout preceding sections, PIAC strongly supports the NSW Government taking co-ordinated action, through this strategy, to facilitate, enable and encourage the update of (and benefit from) consumer energy resources.

a. If yes, what are the best ways to do this?

As detailed throughout this submission through this strategy the NSW Government should seek to co-ordinate action to address structural, circumstantial, and individual barriers to the uptake of (and benefit from) consumer resources, prioritising actions which provide the enabling structures to benefit all NSW households. In summary this action includes:

- Reforming and aligning regulations, rules, and standards (in planning, energy, housing, appliances and government programs) to support the objectives and principles of the strategy and enable benefit from consumer resources for all NSW households.

- Ensuring enabling frameworks support outcomes for all NSW households and enable the optimum (not maximum) integration of renewable resources and equitable benefit from them by all households - this includes rental efficiency and disclosure standards, NSW-specific framework for advanced metering, reforms to facilitate SAPs, microgrids, demand response, and solar 'sharing'.

- Co-ordinating existing policies, programs, supports and investments to align with the objectives of the strategy and enable the rollout (and benefit from) consumer resources. This includes rebates programs, PDRS and ESS programs, EAPA, housing support programs and other investments to support the rollout of appliances and renewable resources.

- Lead advocacy for co-ordinated action by all levels of Government (particularly the Commonwealth) to ensure the maximum potential for benefit is realised through tariff and

[4] PIAC supports NSW DNSP responsibility for metering and has provided a detailed relative assessment of options to implement this, assessed against the proposed AEMC framework.

pricing reform, wholesale demand response reforms and other reforms to improve the outcomes delivered through the retail energy market.

- Initiate and support rule changes to the AEMC to support ongoing reform of national energy frameworks.

Targets to accelerate deployment

PIAC strongly supports the development of targets and commitments as an integral part of this strategy. Long term targets should be committed to in advance, with staged progress targets designed to support progress monitoring and the progressive implementation of stronger standards and requirements.

Targets should be framed to support outcomes for consumers and consumer benefit, rather than measure process or 'industry development'. Where technology specific targets are utilised, they are best employed as interim targets to support progress towards more comprehensive 'outcome targets'. We provide more detail in relation to the questions and sections throughout the remainder of this submission.

Questions on targets

6. Should the government set specific targets for household energy products, technologies or services?

PIAC supports the co-ordinated use of strategic targets and commitments to provide long term certainty for industry and household investments. This is particularly important in maximising opportunities for 'voluntary' investment in advance of the implementation of robust standards, minimum requirements, and regulations. In summary, PIAC considers the following particularly important:

- Long term targets (with staged interim steps) for electrification and improved minimum energy efficiency standards in rentals, in line with those detailed in the community energy blueprint[5].

- Ambitious targets for the rollout of advanced metering in NSW, through implementation of a NSW specific approach lead by electricity DNSPs.

- Targets for residential efficiency and electrification (as detailed below) as developed by the collaboration for Efficient Electric Homes. These targets are ambitious, but achievable if committed to, and able to leverage available resources of Government, industry and private finance.

  Level 1 – All homes

  - All homes to be efficient and electric by 2035 – where 2035 is a crucial emissions reduction target point and one where the energy system will be substantially renewable.

[5] The Community Blueprint is provided as a link in section 8 of this submission.

Level 2 – new and existing homes

- All new homes – efficient and electric no later than 2025 – where this involves immediately proceeding to 'zero-carbon ready' new homes to minimise the future retrofit burden.

- Existing homes – are retrofitted to be efficient and electric by 2035 – where this is a stretch target to inform action and provide certainty, and may involve allowing minimal, defined exceptions.

Level 3 – priority retrofits

- Public and community housing is efficient and electric before 2030 – where these represent an economically efficient opportunity to build supply chains and markets while prioritising equity in the transition for those facing the biggest barriers and most likely to benefit.

- First Nations regional and remote communities housing is efficient and electric before 2030 – where these represent an opportunity to prioritise equity.

- Low-income owner occupier housing is efficient and electric by 2030 – where these are a priority group requiring government assistance and support and represent an opportunity to prioritise equity.

- Rental standards for energy efficient and electric homes are mandated by 2025 in line with the community blueprint for minimum energy efficiency standards for rentals[1]. Full compliance with transition to all-electric rental properties should then be required by no later than 2035 – where this represents a crucial measure to prioritise equity and address the standards of existing housing stock and improve outcomes for more than 30% of the population who would otherwise be locked out of the benefits of efficient electrification.

- Interim targets for the conversion of gas hot water heaters to heat pumps (or efficient electric, where appropriate). These should be expressed in proportion of total, as well as simple numbers replaced.

a. What are the benefits, risks and other considerations in setting targets for consumer energy resources?

The risk in setting targets for consumer energy resources is focusing on the gross number of particular assets, rather than:

- ensuring the deployed assets are of good quality (this is currently an issue with the deployment of heat-pumps),
- ensuring the assets are being deployed where they are needed/can deliver the optimum benefit (a common problem with solar schemes and the existing ESS schemes), and
- ensuring assets are being deployed where they are needed/beneficial (this is an issue with many solar targets that see excess solar deployed in areas where the benefits are curtailed or outweighed by the costs resulting from deployment).

PIAC does not support 'gross' targets for specific consumer resources such as solar panels or batteries. More broadly we do not support 'gross targets', except where these are used as steps towards larger, longer term outcome-based targets (for instance using targets for heat pump hot water deployment as one measure of progress towards residential electrification).

Generally, 'gross targets' (ie x,000 units of heat pumps by 2030) should only be interim output measures to monitor progress, and ideally taken in conjunction with a range of other measures, they should not be targets in themselves. Targets for a particular technology (ie rollout x million solar panels by 2030) should be avoided. Targets can be proportional where appropriate, but this should also be an aid to monitoring progress, for instance:

- X% of legacy meters replaced by 2028 date, on the way to 100% by 2030, or
- 500,000 heat-pump water heater conversions by 2028, on the way to 100% by 2035, or
- x% of gas connections decommissioned by 2028 date, and x+10% by 2030 date

b. Which technologies may benefit from targets?

Refer to previous sections.

c. How should the government set and monitor the achievement of targets?

Refer to previous sections.

Incentives to encourage deployment of consumer energy resources

Questions on incentives

7. Should the NSW Government provide incentives to encourage uptake of consumer energy resources? If so, what type of incentives and why?

PIAC broadly supports the use of incentives in conjunction with other measures as detailed in earlier sections of this submission. However, we reiterate that the most important (and impactful) role of the NSW Government is in providing the structural foundation and 'enabling environment' through regulations, policies, laws and standards. Incentives have a role to build on this foundation, but are not sufficient on their own and a focus on incentives without this other work is likely to be both ineffective and inefficient deployment of limited Government resources.

Incentives work best when employed in conjunction with the certainty provided by long-term signalling of targets and commitments to raise standards and strengthen regulations. Here incentives help to encourage early deployment of industry and household finance, in advance of more stringent requirements (for instance, encouraging landlords to electrify and upgrade their properties in advance of the signalled date for the implementation of stringent requirements)

The NSW Government should focus on realigning existing incentive programs, and co-ordinating them with the measures detailed in this submission as a priority. The strategy should also identify opportunities to support reform to Commonwealth (and local government) incentives to align with and support the objectives of this strategy.

a. How could the NSW Government make better use of the Energy Security Safeguard schemes to provide incentives for the uptake of consumer energy resources by households?

The ESS schemes must be reformed as part of this strategy. As it stands, the on-bill nature of the schemes funding is inherently inequitable, ensuring all households fund programs which largely benefit households with relatively higher incomes. I any case, there is currently no scope to target and measure the impact of these schemes.

The strategy should involve a review of the ESS schemes (alongside all other Government programs and policies) to align them with the objectives and principles of this strategy. At a minimum this should involve:

- Expanding ESS schemes to cover gas disconnection, electrification, EV charging, and fixed building efficiency upgrade measures.

- Introducing an equity focus for the programs, ensuring they are only targeted at supporting efficiency and resource upgrades for targeted groups of NSW households – including:

    - Social housing residents
    - Rebate recipients
    - Low-income households
    - Tenants in identified affordable long-term private rentals
    - Remote community residents
    - First nations community residents
    - Identified EAPA recipients
    - Residents of low-efficiency embedded networks or multi-dwelling apartments (where converting and upgrading aspects of these developments can be made eligible for the scheme on account of the larger scale benefits).

- Aligning the ESS schemes with other programs (such as No-interest-loans schemes, energy rebate programs, industry support measures and direct government investments) to 'stack benefits for impacted households and, potentially undertake efficiency upgrades, electrification and fixture upgrades simultaneously. The ACT Government schemes provide some example of frameworks to accomplish this.

- Aligning the ESS with the development of Government schemes impacted households can participate in, managing demand and 'sharing excess solar' to increase the benefits to the households, and offset the costs of the programs by providing systemic/community benefits through more efficient system operation.

b. What other types of initiatives should the NSW government use to provide incentives for uptake of consumer energy resources (such as government programs for specific types of households or specific technologies, loan programs etc)?

Please refer to earlier sections detailing a range of incentives and program realignments that should be considered as part of this strategy.

c. What do you see as the main benefits and risks of mandating a minimum rate for a solar feed-in tariff?

No comment at this time.

d. How can the NSW Government complement national programs to support the uptake of consumer energy resources?

Through this strategy the NSW Government should take every opportunity act to ensure better outcomes for NSW households. This will require identifying areas where NSW action is not sufficient, and co-ordinated Commonwealth measures are needed. This strategy should actively identify measures required by NSW Government to initiate, support, enable or otherwise link to and leverage national programs, policies, incentives and frameworks. This should include (but not be limited to):

- The National Energy Performance Strategy,
- The Trajectory for Energy Homes,
- The National Battery Strategy,
- First Nations Clean Energy strategy,
- Housing Energy Upgrades Fund

However, the NSW Government should neither prioritise nor rely on National action. The interests of NSW household consumers and the NSW community require action that meets their needs.

Improving access to information about consumer energy resources

This strategy, its objectives and good outcomes for NSW households cannot rely or be dependent upon consumer information. Reliable, independent, accessible information will help maximise scope for choice for some households, and help improve outcomes for many, but it is not sufficient and, in many cases, will have little impact for most households.

Discussion of energy performance, efficiency and improved consumer outcomes is often framed around the behaviour of households, with responses prioritising consumer and public information, and assistance to change behaviour. Key determinants of the poor energy performance, and benefit from consumer resources of NSW households and communities are physical, related to poor building standards, inefficient appliances, inappropriate standards and regulations and business and service provision that is not fit-for-purpose. As we have outlined, this strategy should prioritise action on these factors, and regard improved information provision as an additional enabler.

Questions on communications

8. How important is access to the right information about consumer energy resources, compared to other barriers (such as upfront costs, tariff structures, the split incentive between landlords and tenants, and strata building issues)?

As we have noted, Information is an important enabler but not sufficient to determine the consistent equitable outcomes required and should not be regarded as a priority over other structural, circumstantial, and individual barriers identified in this submission. Information should be regarded as a means of assisting those who otherwise have means, to ensure they ensure optimum outcomes from their resource utilisation.

9. What are your views on implementing residential energy performance disclosure in NSW?

PIAC supports the NSW Government committing to implement mandatory residential energy performance disclosure from 2025. As previously outlined, this should be a key commitment of the strategy, and involve interim targets and other enabling measures, as part of co-ordinated measures to provide certainty and enable systemic improvements.

We already live under a 'voluntary disclosure framework'. Experience demonstrates no amount of incentive will encourage sufficient disclosure to underpin the changes required. Mandatory measurement and disclosure of home energy performance is a critical enabler of the residential retrofits required for efficient electrification.

A single, robust rating scheme consistently applied across NSW is required. Home energy performance should be disclosed for all residential buildings when they are sold and leased (and consideration should be given to requiring disclosure at other important junctures). Both mandatory minimum rental energy efficiency standards and low-carbon building standards will be bolstered by mandatory disclosure of home energy performance. Mandatory disclosure will provide greater transparency over energy performance to people buying and leasing homes allowing for more informed decision-making by consumers. More material measures to improve deployment and benefit from consumer resources are not possible without a robust framework for disclosure.

The Nationwide House Energy Rating Scheme (NatHERS) is a nationwide tool and currently provides energy ratings for new dwellings. Work is underway to develop NatHERS in-home rating scheme for existing homes and is estimated the tool will be available in mid-2025 after trials throughout late 2023 and 2024.[8] NatHERs in-home should be the rating scheme used for mandatory disclosure and minimum energy performance rental standards

a. What are the key challenges?

The key challenge is committing to a tool, committing to implement a mandatory framework by a set date, and identifying and addressing the issues required to progress. Issues of workforce and industry 'eco-system' will only exist so long as uncertainty remains. These issues can be addressed through the act of commitment and signalling a concrete target date for implementation. PIAC does not consider there to be any meaningful challenges which should prevent or delay commitment to implement mandatory disclosure in NSW.

b. What, if any, transitional measures would be needed before disclosure of residential energy performance could be made mandatory?

No 'transition' is required beyond the period between announcement of the date of implementation, and the date itself. We are already in a period of 'transition', with voluntary disclosure. No material progress will be made to make mandatory disclosure more practical until it is a concrete commitment. Continuing to delay is only impeding the further implementation.

c. What complementary policies or initiatives would help households to improve the performance of homes they are living in, selling, or leasing?

No policy or incentive can help people leasing or living in rented properties improve the performance of those homes. More importantly, it is neither desirable nor acceptable to require them to. Any complementary policies must be aimed at requiring, enabling or incentivising owners to improve housing. Measures focussed directly on tenants and occupants should aim to enable improved benefit from the resources of the property they reside in (and other properties), such as through targeted demand management, solar sharing and other schemes.

For owners and residential developers, a lack of accurate, unbiased, accessible consumer information and assistance hinders efficient residential electrification and improved outcomes from consumer resources, particularly in many multicultural communities. It is difficult for consumers to understand that electrification and improved energy performance is in their interests and know where to start on their journey, which vendors to trust and where to find support. This is often exacerbated by misinformation from entities who have a vested interest in slowing the pace of residential electrification (such as gas network businesses and gas appliance sellers) and undermining (or appropriating) the benefit from consumer resources.

NSW households require accurate, trustworthy, and accessible information on why and how to efficiently electrify their home, support the deployment of improved efficiency and consumer resources, and how to benefit from consumer resources (both their own and those of others).

Consumers would benefit from the creation of a 'one-stop-shop' of independently provided information and assistance regarding efficient electrification, improved energy performance, consumer resource deployment, and beneficial operation of resources, including demonstration of benefits for them, and assistance in identifying support, planning interventions, and accessing reliable service-providers and government and industry assistance schemes.

10. What are the priorities for improving communication of information in terms of: - Types of households?

- **Types of households?**
- **Technologies?**
- **Tariff?**
- **Consumer rights and protections?**
- **Government or industry programs?**
- **Other topics or issues?**

PIAC considers it appropriate to consult further on a detailed information and communication plan arising from this strategy process.

a. **Which of these are best done by:**
    - **industry or non-government bodies the NSW Government**
    - **the Commonwealth Government?**

PIAC does not consider industry to be an appropriate source for central information provision to consumers. The NSW Government should not rely on the Commonwealth Government or other entities to initiate or host this information provision. While the NSW Government should support and initiate the creation of a 'one-stop-shop' as a central point for the creation and hosting of consumer information, it may be appropriate for the information itself to be collated, verified, and hosted by an independently commissioned agency or body, specifically tasked for the purpose.

b. **What channels do you have available that could share NSW Government communications?**

PIAC has connections to community, social service and other stakeholders who could serve as a conduit for information from the NSW Government.

4.1.2 Improving access to local storage

PIAC supports this strategy focussing on improving the capacity for local storage to contribute to better outcomes for NSW households and communities. This should include examining opportunities to override the existing artificial distinction between activities of regulated and 'competitive' business. PIAC considers this current distinction to be acting against the interest of consumers in the efficient deployment of SAPs, Microgrids, network and community batteries and other assets, and maximising their benefit to households.

Questions on local network storage

1. **What role could community batteries play in alleviating network hosting capacity and improving household access to storage?**

a. **What are the key barriers to rolling out community batteries?**

The existing barriers to the beneficial rollout of network and community batteries include:

- The regulatory framework itself is currently a barrier, in requiring a role for retailers and other competitive entities and preventing more localised network tariff structures. The current framework curtails the scope to create and fully realise benefits for households.

- The existing access, ownership, and control arrangements need to be clarified and simplified.

- Ring-fencing arrangements and the need for class waivers complicate the role of network service providers. There is a need to clarify their role and where participation of network service providers is appropriate and where it is not. PIAC supports consideration of measures to allow NSPs to participate wherever they can demonstrate the arrangements maximise benefits to households.

- There is a need to appropriately differentiate between network and community batteries (i.e. consumers seek different functionality from these assets than do networks) and ensure that batteries have a clearly defined purpose and an explicit prioritisation of the benefits they are providing and for whom.

b. Which proponents are best placed to provide community batteries and why?

PIAC consider it is not necessarily a case of who is best placed to provide community and network batteries. It is likely that Networks themselves and other such entities have the resources and skills to provide the batteries. The more pertinent consideration is what arrangements are required to ensure that whoever is providing the batteries, the intended role and benefit of the battery is clearly defined, and fully delivered for consumers.

c. Are the roles and responsibilities to supply community batteries clear? If not, how could they be improved?

As per our previous responses.

d. What type of information do consumers need about community batteries to access them?

Regardless of the role and function of network or community batteries and who is providing them, the role of the battery and how it will be operated (and who it will benefit) must be clearly defined to consumers. We note the following considerations:

- Community and network batteries need to be appropriately differentiated from their behind-the-meter counterparts (i.e. different objectives, access, ownership, and control arrangements). Consumers primarily view community batteries as an alternative to BTM storage which raises tensions between whether these assets are intended to provide public or private benefits, and how those benefits will be prioritised and shared.

- Any proponent or operator needs to be clear about the purpose/s the network or community battery is to fulfil and prioritise these objectives accordingly. The community will need information to either express their preferences for prioritisation or provide their informed consent for the intended operational priorities.

e. What is the role for government in relation to community batteries?

The Government should implement measures to ensure the appropriate cost-recovery arrangements are in place (i.e. align with beneficiary/causer pays principles) and assist with defraying costs of batteries, aligning regulatory and pricing frameworks, and ensure consumers have a role in assigning or approving the priority roles of batteries.

f. How can community battery value stacks be better unlocked?

Refer to previous responses. Before optimising benefits we need to first clarify what role we want community and network batteries to play, and ensure consumers have a role in setting and approving the priority roles (i.e. deliberative discussion with consumers are necessary here).

5 Improving equitable access

PIAC reiterate our strong recommendation that equity be regarded as a fundamental aspect of the strategy, not a consideration after the fact intended to provide some amelioration for 'those left behind'. This strategy is an opportunity to improve overall equity of outcomes for all NSW households, not merely improve access to specific technological improvements. We refer to detailed answers provided throughout previous sections of this submission, providing extensive explanation of measures to embed equity in this strategy.

General questions about improving access

12. What are the main issues or barriers with household access to consumer energy resources?

PIAC has provided extensive responses relevant to this question throughout section 4 of this submission.

13. How can the NSW Government best improve access to consumer energy resources for:
- **Private renters**
- **Social housing residents**
- **Low-income households**
- **Apartment residents**
- **Embedded network residents**
- **Regional and rural households**
- **Any other vulnerable groups?**

PIAC has provided extensive responses relevant to this question throughout this submission, particularly in section 4. However, we take this opportunity to reiterate that the priority must be to improve access to the benefits of consumer resources, not the resources themselves. This is particularly important for the highlighted groups of those experiencing potential vulnerability and disadvantage.

In addition to the groups nominated in this question, PIAC highlight the need to consider outcomes for First Nations Communities, Culturally and Linguistically Diverse communities (particularly recent arrivals) and youth and young people. While these people are likely to be captured within low income, social housing, regional and renting cohorts, their circumstances leave them likely to experience multiple layers of disadvantage in accessing the benefits of consumer resources.

We again reiterate the importance of prioritising measures in this strategy to address structural and circumstantial contributors to poorer outcomes for these groups. Such measures improve outcomes without relying on individual choice, action or capacity. They help 'raise the floor' and

provide a robust foundation on which more specific measures to target these groups (to address 'individual factors') can be effective.

In addition to those already outlined, measures to target improved outcomes for these groups could include:

- A Government backed 'for purpose' energy service provider who could be utilised to take social housing tenants and other identified cohorts 'off market'.

- Considering limiting energy charges for social housing tenants to a percentage of their income. This could be enabled by improvements to social housing, utilisation of consumer resources, and schemes to manage demand and 'share solar'.

- Utilising a government backed or 'for purpose' energy service provider to implement solar sharing between those with resources/those electrified homes without solar.

- Support for a First Nations community energy agency funded to build energy independence, and community capacity as well as improve service outcomes for First Nations communities.

Low-income households

Questions on low-income household access to consumer energy resources

14. What are the best ways to improve access to consumer energy resources for low-income households?

a. What is the role of the NSW Government in driving uptake for these households?

Refer to previous answers. The priority role for NSW Government is to raise standards, and improve electrification and efficiency for all, and provide a robust foundation for other measures to provide more specific assistance for low-income households to access greater benefit from consumer resources. Again, we reiterate the focus is not driving 'uptake' but improving beneficial outcomes.

b. How can the private sector, including the finance sector and community organisations, contribute to improving access?

Low-income households are those worst impacted by inefficient, unhealthy homes and the least able to efficiently electrify, improve efficiency and benefit from consumer resources without adequate additional supports (beyond the structural measures we have already outlined). As we have noted throughout, alignment of existing programs, supports and measures should focus on groups, such as low-income households, requiring additional assistance.

Further assistance will be likely, given the task to meet the objectives of this strategy within our indicated timeframes is significant.

PIAC support the recommendations contained in the ACOSS paper examining funding options for supporting low-income homes to 'retrofit', improve efficiency and benefit from consumer resources. A link to this report is contained in section 8, but we highlight the following:

ACOSS funding paper recs:

- Prioritise and directly invest in energy performance and climate-resilience retrofits for low-income housing and enabling infrastructure. This will improve health outcomes, reduce deprivation, and build economies of scale and market capacity to reduce the costs of all housing retrofits.

- Pursue long-term green, social or other bonds, to provide low-cost, long-term sources of debt capital that can directly finance and refinance (public and private sector) investments to support energy performance and climate-resilience retrofits.

- Establish an Environmental Upgrade Finance (EUF) program, that can be tailored by local councils to support energy performance and climate-resilience retrofits for private landlords and owner-occupiers. EUFs provide low-cost, long-term finance, that stays with the property, and is repaid through council rates. Low-income owner-occupiers should receive an additional subsidy to participate. Local councils would need support to establish such programs with appropriate consumer protections in place Funds to support the EUFs could come from the Australian Efficiency and Resilience Retrofit Fund (AERRF)

Social housing residents

Questions on social housing tenant access to consumer energy resources

15. What is required to ensure that social housing providers can use consumer energy resources to reduce energy bills and make their housing more liveable for their tenants?

PIAC has provided recommendations in previous sections of this submission. However, we reiterate that NSW Government has the most crucial role to play in directly improving outcomes for social and community housing tenants. The strategy should also include the NSW Government role in enabling better outcomes through all social and community housing providers. This role could include:

- Redesigning the HEUF or initiating another fund able to be practically accessed by social and community housing providers design something else that community housing providers.

- ‘Raise the floor’ by setting best-practice standards for building energy efficiency, electrification, and consumer resource benefits in all social and community housing.

- Ensure providers adhere to a principle of prioritising energy efficiency upgrades (building shell and fixtures) first, then electrification, then solar and other renewable assets.

- Implement targets and funded support programs to unwind and convert legacy gas embedded networks.

a. What sources of additional investment or innovation could help increase the number of homes upgrades across NSW?

PIAC recommends the strategy include a commitment based on the ACOSS recommendations outlined below.

ACOSS recommendations:

- Implement a single residential building energy performance rating tool and climate-resilience tool for existing homes to support implementation and financing of retrofits. Work with public and community housing providers to test and finalise the tool.

- Build on existing social housing retrofit funding to establish a 7-year program to fully fund energy performance (energy efficient, all electric, with rooftop solar) and where needed climate-resilience retrofits, for all public housing and regional and remote Aboriginal community-controlled housing, prioritising Aboriginal housing, before 2030. Funding for retrofits could draw on the Australian Efficiency and Resilience Retrofit Fund (AERRF).

- Build on existing social housing retrofit funding to establish a 7-year grants program to support energy performance (energy efficient, all electric, with rooftop solar) and, where needed, climate-resilience retrofits for community housing that is owned and managed by the Community Housing providers. The funding for these retrofits could come from the Australian Efficiency and Resilience Retrofit Fund (AERRF), as proposed in the recommendation above. A separate special purpose finance vehicle could be established to provide:

    - Access to zero-interest or low-interest loans.
    - Access to non-competitive continuous grants to pay up to 90% to implement the retrofits, including project assessment and project management.
    - Additional funding for replacement of stock (where it's not cost effective to upgrade), to ensure there is no net reduction in present or future stock

Private renters

Questions on consumer energy resources for private renters

16. What are your views on implementing minimum energy efficiency rental standards to activate uptake of consumer energy resources across the rental sector?

a. What should the Government consider as part of the investigation?
b. What, if any, transitional measures would be needed such as lead times, temporary financial incentives, information tools to assist landlords etc?
c. Would you like to be consulted further as part of the investigation?

PIAC strongly supports the NSW Government committing to implement mandatory minimum energy efficiency standards for rental properties, with timeframes and targets in line with the Community Blueprint. This should be regarded as a priority measure in this strategy and is crucial for ensuring renters have improved access to the benefits of consumer resources.

As a key stakeholder in the National Trajectory processes identifying standards as a key reform measure and a leading member responsible for drafting the Community Sector Blueprint: a National Framework for Minimum Energy Efficiency Rental Requirements PIAC should be included in any further consultation considering the implementation of minimum standards.

We highlight the recommendations in the Community Blueprint and we recommend that decision-makers adopt the objectives, principles and outcomes contained in the Blueprint as part of a range of measures to improve energy performance in rental homes.

In addition PIAC supports the strategy incorporating recommendations from ACOSS report on funding low-income retrofits, and highlights the following:

ACOSS recommendation

Private rental retrofit programs should aim to:

- Establish Environmental Upgrade Finance programs across local councils to provide low-cost, long-term, on-property finance, paid back through rates.
- While the EUF program is being established, provide low or zero-interest loans and conditional and targeted subsidies. Subsidies should be tied to a cap on rent increases.
- Funding for these retrofits could come from the Australian Efficiency and Resilience Retrofit Fund (AERRF). A separate special purpose finance vehicle could be established to deliver the program.

Apartment residents

Questions on apartment residents

17. How can the government help improve access to consumer energy resources for apartment residents?

PIAC has provided responses relevant to this question in previous sections. In particular we highlight:

- Implementing a ban on new residential gas connections
- Raising residential building efficiency standards
- Implementing minimum energy efficiency standards for rentals
- Implementing mandatory energy efficiency disclosure
- Aligning supports, assistance measures, rebates and industry schemes (such as PDRS and ESS) and ensuring they are available to apartment residents and operators

- Implementing a NSW advanced meter rollout and metering framework through NSW DNSPs
- Initiating collaboration between gas and electricity network providers and supporting them to convert gas connected apartments, and upgrade availability of consumer resources.
- Implement and support schemes to manage demand and share solar and make them available to apartment residents.

a. Should the government focus on common areas and facilities, or on access for individual residents, or both?

As noted in our previous responses, measures should relate to the buildings as a whole, individual apartments and the services available to residents in apartments.

Efficiently electrifying apartments, multi-dwelling buildings and strata properties presents a notable challenge. These housing arrangements present distinct hurdles to efficient electrification due to multiple ownerships, a blend of owner-occupiers and renters, private and shared energy infrastructure, limits to CER installation and the potential presence of embedded energy networks. Decision-makers will need to collaborate with industry and with organisations such as strata peak body groups to fully identify and address the added social, legal and technical challenges of efficiently electrifying apartments.

Residents of caravan parks etc

18. What are your views on IPART's draft recommendations?

PIAC supports IPARTs recommendations as a first step, and supports further measures to recognise the differential outcomes experienced by residential park residents and pursue reforms to address them

We refer to further detailed responses in our submission to IPART https://piac.asn.au/wp-content/uploads/2024/02/090224-PIAC-submission-to-IPART-Draft-Report-Embedded-Networks.pdf

Access to pricing information

Specific questions on pricing information

19. Should retailers be required to inform customers of a better offer by other mechanisms than the bill?

a. If so, when and by what means?

PIAC does not consider informing consumers of a 'better offer' to be a sufficient of effective measure to enable better outcomes for consumers or protect them against detriment. Consistent evidence in the retail market demonstrates improved pricing information is fundamentally inadequate to ensure better outcomes, due to the insurmountable information and power imbalance between retailers and consumers. Making outcomes dependent upon consumer

information condemns consumers to inconsistent, poor and fundamentally inequitable outcomes. If the strategy considers measures to address retail pricing it could include:

- Implementing an obligation for all retailers to offer a 'flat-priced' tariff option (this is a crucial measure to enable more rapid network tariff reform).

- Reforming the DMO to make it a genuine, robust, efficient default which applies in all circumstances where a consumer has not explicitly chosen an offer, or where the offer they have explicitly chosen materially changes (in price, price structure or terms). Where there is an obligation to offer a flat priced retail option to consumers, the DMO could serve this function.

PIAC has detailed recommendations of this nature in response to Default Market Offer determinations and reviews over the last 5 years and supports the National Energy Transformation Partnership initiating an equity and affordability workstream which could (among other projects) undertake a review of the DMO to consider the recommendations above as part of fundamental reforms to the operation of the retail energy market to make it deliver more equitable, better outcomes for NSW consumers.

Additional specific topics

In previous sections PIAC has recommended that First Nations households & communities, Culturally & Linguistically Diverse communities and Youth should be regarded as additional cohorts experiencing disadvantage, and requiring specific supports, policies and funding to have equitable access to the benefits of consumer resources.

First Nations households and communities

PIAC support the First Nations Clean Energy Network submission to the First Nations Clean Energy Strategy consultation. We recommend this strategy process seek to incorporate and implement relevant jurisdiction recommendations from that process and undertake further work with NSW First nations communities to build on and progress these recommendations.

In addition, we reiterate ACOSS recommendations to support the finance of upgrades for housing in First Nations communities.

ACOSS Recommendation:
build on existing social housing retrofit funding to establish a 7-year program to fully fund energy performance (energy efficient, all electric, with rooftop solar) and where needed climate-resilience retrofits, for all public housing and regional and remote Aboriginal community-controlled housing, prioritising Aboriginal and Torres Strait Islander housing, before 2030. Provide additional funding for replacement of stock (where it is not cost effective to upgrade), to ensure there is no net reduction in present or future stock (see section 6.4 for details). Funding for retrofits could come from the Australian Efficiency and Resilience Retrofit Fund (AERRF).

Culturally and Linguistically Diverse Communities

Different communities have varying energy experiences and needs and will require different strategies to ensure efficient electrification, efficiency upgrade and consumer resource deployment can meet those needs. Targeted funding should be made available to multicultural

communities to run deep engagement and support programs which can help shape the implementation of efficient electrification and consumer energy policies.

PIAC has sought insights from organisations that work in and with different multicultural communities on how communities can be more involved in the household energy transition. The following recommendations reflect those insights. Organisations including Sydney Community Forum and the Voices for Power program offer particularly helpful insights into communities in NSW and would be crucial stakeholders for the Department to engage and resource in helping to progress this area of work.

- Fund enduring programs with long-term timeframes, rather than 12–36-month limitations, to provide scope to undertake the deep community listening and connection building work required.

- Build relationships with a range of existing community leaders (formal and informal) as they are trusted and connected.

- Engage with communities with the time and intention to listen and seek insights. Different communities will have their own structures and requirements, and often have their own solutions to unique issues they are experiencing, including how to improve awareness of and access to efficient electrification in a way that best suits their community.

- Work with pre-existing organisations, cultural groups and other communications networks e.g. the Arab Council, Pasifika church groups and informal advice networks.

- Develop and provide information that is:
    - easily accessible in multiple formats, including through direct dissemination by existing community leaders,
    - in different languages,
    - culturally appropriate. E.g. images used in visual materials (also noting that images and infographics can be as or more effective than translations), and
    - in simple, understandable language not jargon.

- Have people with English as a second language review flyers, websites and other communication materials for plain language and cultural appropriateness.

- Use cultural events as promotion opportunities including Lunar New Year and Diwali celebrations.

Youth

Young people are under-represented and a cohort which both experiences a range of disadvantages and is often excluded from support and assistance. A number of measures outlined previously will be crucial to ensuring better outcomes for youth and young people, particularly those relating to building standards, rental efficiency standards and improved access to solar share schemes. In addition, the strategy should consult with community groups and stakeholders for youth and young people to identify and develop measures to specifically target young people experiencing disadvantage. This should include looking at:

- New or reformed rebates
- New retail products or services specifically targeted to youth/renters in share-houses.

6 Coordinating demand with supply

General questions about coordinating demand with supply

20. What should the NSW Government do to better coordinate consumer energy resources with grid supply?

PIAC provides detailed responses throughout previous and following sections. In summary measures to co-ordinate demand and supply more efficiently for all NSW consumers should include:

- Electrification of all homes, commencing with larger loads such as water heating and heating/cooling.
- Expanding and aligning existing ESS/PDRS schemes with high standards assets and open interoperability
- Consider creating a NSW govt Wholesale Demand Response platform to aggregate controllable loads in NSW buildings where this can be done without increasing risks to household consumers.
- Advocate for expansion of the wholesale demand response mechanism.
- Implementing a NSW framework for metering rollout and operation, enabled by NSW DNSPs.
- Support the conversion of gas-connected multi-unit apartments, particularly those configured as embedded networks, in conjunction with gas and electricity network providers.
- Consider developing a NSW government backed or 'for purpose' retailer/aggregator to buy load/ Match load and supply/ provide services to social housing.

Incentives to coordinate demand with supply

21. What are the priorities for coordinating demand with supply?

PIAC has provided detailed responses for measures which will enable better co-ordination of demand and supply throughout this submission. In addition the strategy should include:

- Expansion of the PDRS, for example to include EV chargers.

- Requiring retailers to offer tariffs or incentives to households to encourage demand response, battery discharge and load management.

- Requiring retailers to offer more controlled load services .e.g. for air-conditioning or other voluntary load shedding.

- Introducing common guidelines for existing retailer-led peak demand reduction programs to increase visibility and consumer protections.

- Strengthening small customer protections for control of consumer energy resources, to allow expansion of the WDRM to small customers.

- Strengthening incentives for distribution networks to increase uptake of the DMIS.

The top priority should be allowing households to participate in demand response – particularly wholesale demand response – with a provider of their choosing. It is crucial that provider not have to be a FRMP or a retailer. This would entail extending the existing WDRM to households, which should be actively supported by the strategy.

22. What household demand response programs are already occurring?

a. How effective are they?
b. Would retailers or DRSPs be comfortable sharing data confidentially on their programs, including their uptake, capacity and effectiveness?
c. What are the barriers to increasing demand response from households?
d. How can these be overcome?

PIAC does not regard any existing retail demand response programs as relevant considerations or evidence that no further reforms are required. The existing frameworks provide no incentive for retailers to expand demand response or to introduce DR programs that maximise benefits to consumers.

23. How should demand response initiatives be designed to ensure they benefit customers?

Extending a mechanism such as the Wholesale Demand Response (WDR) mechanism to households will maximise the pool of demand response (DR) available. This can help deliver a more efficient, lower cost, lower risk system overall and the benefits of this will flow through to all consumers. It also offers households another option to manage their energy bills by incentivising DR actions and providing them a fairer share of the benefit of these actions.

NSW households have 100's of MW of prospective demand response. With the uptake of EVs and electrified gas loads (which we recommend this strategy prioritise) in coming years, this figure will likely amount to 1,000s of MW. If aggregated, even a fraction of these sources of demand response could offer considerable value to the market.

Despite these potential benefits, the question of how to provide adequate consumer protections has been a limiting factor in its application to households. While there are material consumer protection issues to consider, excluding households from participation in WDR programs is unnecessary and fails to fully promote the NEO and ensure the best outcomes for all NSW households.

- There are household demand response options which have no risk of affecting people's quality of life – such as pool pumps and household batteries - that, if aggregated, could offer a lot of value to the market and households.

- Australian Consumer Law already provides the key consumer protections people need for many demand response contracts, like pool pumps and household batteries. These loads could be operated with adequate consumer protections under current ACL provisions.

- The work of extending existing consumer protection arrangements to deal with more sensitive and complicated loads – such as air conditioners and electric vehicles - is underway through the AEMC and AER and the NSW Government should support these processes and can seek to introduce its own interim programs and protections where it is warranted.

Below, PIAC sets out a practical framework to enable households to have the option of participating in wholesale demand response while balancing concerns regarding consumer protections.

Current protections framework

The National Energy Customer Framework (NECF) is intended to work in conjunction with the Australian Consumer Law (ACL) with respect to consumer protections. However, the NECF itself only provides for the energy-specific regulation where there is a sale of electricity or gas to a customer connected to the grid. As a result, the requirements in the National Energy Rules (NER) for retail authorisation and exempt selling arrangements apply only where there is a financial transaction relating to the volumes of energy and has generally revolved around the existence of a metered connection.

This means that providers of many energy related services, with similar potential consumer harms to those where energy is transacted, do not currently have to comply with any energy-specific regulation under the NECF. Instead, they are only bound to the more general consumer protections under the ACL.

In the past, this approach may have been suitable because most energy services required metered transactions. Now, with emerging technologies and business models, it is clear that this approach provides insufficient protections for some consumers.

Limiting protections only to where energy is metered and traded runs the risk of creating loopholes. For example, the provider of a product or service can avoid complying with consumer protections that apply under NECF's retail exemption arrangements, simply by not selling energy on a per kWh basis and so avoiding the need for an exemption.

Harm-based protections

PIAC supports a system where the protections offered to consumers are commensurate to the potential harm the consumer may face should they lose that energy product or service – the higher the potential harm, the stronger the protections offered to the customer. This should not depend on the model of provision and reflects the nature of energy as an essential service.

PIAC does not support any delay to the inclusion of household demand response options that carry little or no risk of harm to people's health and wellbeing.

Potential harms from household WDR

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

- The type of energy 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 make them more sensitive to temperature changes.
- The context of when and where the DR event occurs, such as whether it is on an extreme weather day.

Very broadly, these 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 loss of usage 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 loss of use 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.

The potential financial harms from WDR are similar to the potential harms that currently exist for households in receiving their traditional grid supply and through their own investment in behind the meter technologies such as rooftop PV. In this regard, many of the existing customer protection frameworks provide adequate protections for some DR.

By contrast the potential harms to health and wellbeing from WDR are fundamentally different to those that currently exist for traditional grid supply of energy. In the case of an unplanned outage of traditional grid supply, the harm is from the loss of all (or at least a significant portion) of the energy supply to their home for an indefinite time until the outage is resolved. In the case of WDR for households, the harm is from the loss of full usage of one or several specific appliances within a home for a relatively well-defined period until the DR event ends.

There are several important differences here to highlight in the case of WDR: it is inherently controllable; it is only for specific loads not the entire home's supply; it is not necessarily the full loss of supply of those loads; it is for a finite time; and in many cases the consumer can opt out of, or override, the DR event.

Types of energy usage

The types of energy usage for household WDR sit on a spectrum from flexible, having no impact to the household's health and wellbeing, to inflexible, having the potential to impact the household's health and wellbeing.

	Flexible loads		**Inflexible loads**
	Increasing degree of potential harm to household Increasing need for consumer protections		
Examples	• Home battery • Pool pump	• Electric hot water systems • Smart appliances • AC on day 1 of a heatwave for typical household • EVs – from, say, 100% to 50% of state of charge	• AC on day 4 of a heatwave for typical household • AC for temperature-sensitive consumers • EVs – last 10% of charge
Potential harms	• No impact on health or wellbeing from deferring this energy use • Potential for financial harm	• Inconvenience to household from deferring this energy use but little or no potential impact to their health and wellbeing • Potential for financial harm	• Potential material impact to health and wellbeing from deferring this energy use • Potential for financial harm

Figure 1: Categorisation of potential loads offered for demand response by the potential harm to the households

It is worth noting from Figure 1 that air-conditioning (AC) can sit at various places on the spectrum from flexible to inflexible loads to offer for DR. This depends on a range of factors

governing the context of its use including the type of household that is potentially offering it and the time at which it is offered.

For instance, the impact to a household's health and wellbeing from reducing their AC 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 the house has poor thermal insulation. The potential impact on the health and wellbeing can be quite high if anyone in the household is particularly temperature sensitive, such as those suffering from thermos-regulatory illness, the elderly or young children.

One potential way to address this may be to establish temperature ranges outside of which the indoor temperature is not allowed to deviate for households during a DR event through their AC. In this case, a typical household without thermal sensitivity may have a relatively wide temperature range (for example 15-28°C) within which the impact to their health and wellbeing is minimal. The automated AC can cycle down during a DR event while the indoor temperature remains within this range. During this cycling, if the temperature deviates from this range, the AC will cycle on again to maintain the household's wellbeing. By contrast, the temperature range for households that are temperature sensitive would be much narrower, for example, to a range of just 3-5 degrees. In both cases, the automatic maintenance of temperature within appropriate ranges can be supplemented with an override option for the household to opt-out in the lead-up to or during a planned DR event, for whatever reason.

A framework such as this could allow households to participate in and derive the benefits of WDR whilst balancing consumer protection requirements.

Proposed solution for household WDR

PIAC proposes a tiered approach to consumer protections commensurate to the potential harm from **category of load** being offered for DR.

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 are 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 ACL. These loads could be included in WDR immediately.

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 AC (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.

Category 3 – higher potential harm

The 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 targeted 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.

Technical constraints on solar exports

Questions on technical constraints

24. What are the best ways to support the use of solar and other consumer energy resources while upholding the technical and operational needs of the grid?

This strategy should include the following broad categories of measures to support the use of (and optimum benefit from) solar and other consumer resources, while ensuring efficient operation of the system:

- Electrification - Rapid electrification, prioritising larger loads, and predictable household loads provides maximum scope to absorb, balance and utilise installed solar. The strategy can indicate a prioritisation for electrification that identifies areas of excess solar where extra load would be beneficial, or areas where local solar sharing schemes could be implemented to support equity objectives.

- Metering – The NSW Government should implement a NSW framework for metering to be rolled out and enabled by NSW DNSPs in conjunction with the NSW Government. This optimises network visibility and scope for more flexible and safe network operation in a 'high solar' environment.

- Interoperability, Standards and compliance - Reviewing, reforming and strengthening product and service standards will help ensure assets (both solar and consumer resources which can utilise solar) perform optimally (and predictably). A program to remedy existing non-compliance should be initiated in conjunction with DNSPs, and future products and resources should be required to eb openly interoperable and compliant.

Communicating with consumer energy resources

Questions on communicating with consumer energy resources

25. Is implementation of the AEMC recommendations the best way to communicate with consumer energy resources in NSW?

The AEMC recommendations for metering are not fit for purpose and cannot support the objectives of this strategy and cannot equitably enable good outcomes for NSW households. The AEMC did not adequately consider all options and PIAC has worked with NSW DNSPs to provide a detailed assessment of alternatives which could better meet the needs of NSW households and the NSW community. We have provided this assessment as Appendix 1 in Section 8 of this submission.

a. If not, what would you change?

As documented in Appendix 1, PIAC supports metering rollout and metering services being provided through NSW DNSPs, either as the responsible contracting party or by assuming full responsibility for metering. PIAC strongly recommend the NSW Government adopt this approach as a key element of this strategy.

26. What common data framework should NSW use?

- CSIP-Aus has limitations at the device level and other open standards and protocols for interoperability should be permitted.

- CER devices should be required to have a minimum communications protocol requirement, even if a CSIP cloud platform or a CSIP gateway is available. CSIP-Aus should not be mandated as the only protocol allowed for CER-CER interoperability.

- OEMs should not be permitted to implement a common data framework exclusively at the cloud-level. There is a risk that in order to capture the cloud part of the data value stack, OEMs will only provide access to a cloud CSIP-Aus client and device level interoperability will be lost.

- The DNSP's connection agreement should not limit device-level options to CSIP-Aus only. Even if a CSIP-Aus cloud platform or CSIP-Aus gateway client is available, every inverter should be required to have a minimum communications protocol requirement, such as SunSpec Modbus, IEEE 2030.5 or the Open Charge Point Protocol (OCPP) for electric vehicle supply equipment (EVSE).

- What is important is that there is a minimum interoperability standard at the lowest level (the device level) which provides interoperability with the utility server without impeding device-to-device interoperability that consumers will need for a home energy management system (HEMS) and other future functions to benefit from their resources.

- For example, in California Rule 21[6] there are multiple options available at the device level (i.e. DNP3, SunSpec Modbus, and IEEE 2030.5) and at least one of these must be available on the device even if there is a CSIP cloud service. This would not stop the use

[6] See California Public Utilities Commission – Rule 21 Interconnection

of CSIP gateways or a CSIP cloud platform, but it would protect consumers.

- Subsequent discussions of CSIP via cloud API have raised serious concerns around risk of limiting consumer choice and increasing costs, and cyber-security risks and management overheads of relying on unregulated OEM cloud infrastructure.

a. Who should be required to comply with a common data framework and how?

- Effective compliance with standards should not be dependent on consumer understanding or action.

- A coordinated approach is necessary to ensure compliance is maintained across whole supply chain.

- DNSPs have limited capacity to enforce standards under the existing industry structure. Returning responsibility for metering to DNSPs (as we recommend NSW do) would ensure they have the required visibility to identify non-compliance and coordinate with installers to rectify existing issues.

7. Raising standards

General questions

28. How can the NSW Government build consumer confidence in CER products and services?

The NSW Government can build consumer confidence by adopting a strong objective focussed on better consumer outcomes, embed the principles outlined in this submission, and commit to an ambitious program of work to implement the strategy. PIAC has provided detailed recommendations throughout this submission regarding targets and commitments for robust standards which should be adopted as a key plank of this strategy.

More specifically, to build confidence in consumer products and services, NSW can work identifying standards and compliance issues in CER in NSW and taking a whole of government approach (in conjunction with NSW DNSPs and Accredited Service Providers (ASPs)) to implementing a plan to raise standards and enforce robust compliance. Priority principles to embed in this process should be:

- Consumer products, particularly those with wider system impacts (such as inverters, chargers, batteries and solar PV) must meet high minimum standards to ensure assumed consumer outcomes and enable systemic predictability.

- Compliance and monitoring frameworks should be robust and assign responsibility to the parties best placed to act consistently. In any case, compliance cannot reply on consumer information and action.

- Any NSW programs or procurement (including those auspiced by the Government such as the ESS/PDRS) should implement best practice product and service standards.

- Products and their installation and operation should embed open interoperability and enable maximum consumer choice, agency and flexibility of future use.

It is crucial that the current confusion regarding roles and responsibilities for CER technical standards is clarified prior to the detailed design of a regulatory framework for CER technical standards.

The most urgent and important use cases for interoperability should be to improve compliance of CER systems with DNSPs' connection agreements and enable dynamic flows of electricity (e.g. dynamic operating envelopes).

29. What are the key challenges with modernising standards for consumer energy resources?

The key challenge is the fragmented set of frameworks for standards and compliance enforcement, shared between jurisdictional and commonwealth responsibilities. These frameworks are inconsistent, often out of date and leave many gaps. A further challenge results from leaving industry and its peak organisations to essentially 'self-regulate' and to set its own standards, often based on ease of developing market scale rather than delivering high-quality, consistent outcomes for consumers.

While the NSW Government and its agencies cannot do everything, they can take a crucial leadership role and develop a co-ordinated approach action in NSW, which can not only identify actions to take within NSW responsibility, but where linkages to other jurisdiction and responsibilities can be lead. In addition to developing a comprehensive plan, including actions we have identified throughout this submission, PIAC highlight the role of the NSW Government in:

- Taking a whole-of-NSW Government approach to identifying issues with standards in compliance and developing a long-term plan to raise standards, improve compliance and develop measures to address existing failures. Actions should also coordinate stakeholders across all sections of the supply chain i.e. ensuring manufacturers/suppliers adopt appropriate standards/open communication protocols; ensuring installers promote compliant installation; ensuring networks/other service providers have recourse to appropriate enforcement/monitoring measures.

- Collaborating with NSW DNSP's and ASPs to develop a 'rectification' plan and build more durable compliance for new installations of consumer resources. Rectifying existing standard breaches (i.e. approximately 60-70% of existing CER incorrectly configured in some way) is also a key challenge. The government should consider retroactive measures to improve compliance with existing systems and not just rely on device churn to achieve this objective.

- Leading efforts to build collaboration with all responsible actors nationally and in other jurisdictions, and develop a co-ordinated plan to improve the framework for developing,

updating, implementing and ensuring compliance with standards. This cannot rely on self-regulation or assessment, and must involve the clear vesting of responsibility in an independent entity.

Modernising standards

Questions on setting standard

30. Which consumer energy resources need new, updated or strengthened standards? Why?

a. Which standards would benefit from harmonisation at the national or international level?

Local interoperability compliance via IEEE1547-2018 (international standard) should be integrated under AS4777.2 as soon as possible. This standard is called up in the California Energy Commission (CEC) Solar Equipment Certification List, which defines the required physical interface and open protocols that CER devices must support. This standard also contains the requirements for mandatory control capabilities that the manufacturer must ensure are present in CER devices.

This capability (local interoperability) is present on all new devices sold in the US market however it is being software disabled by suppliers in the Australian market.

This is unacceptable. By restricting Australian consumer access to local, open interoperability of their CER assets, these manufacturers are maintaining technical and commercial “lock-in” to the vendor’s walled gardens at the expense of the Australian consumer and grid security of supply.

With the exception of a few notable manufacturers there is industry wide support for local interoperability of behind-the-meter CER assets.

b. What role do you see for the NSW Government in improving standards for consumer energy resources versus the Commonwealth Government?

PIAC supports introducing a national testing and certification regime to ensure efficient and consistent processes across the Australian market. This arrangement must promote transparent and fair treatment of OEMs to ensure that products being installed are consistent with those listed.

Effective regulatory and governance frameworks are essential to ensuring that network and market interoperability standards and compliance measures are working in consumers’ interests and that consumers can participate, with confidence and appropriate protections, in competitive markets.

We do not support using industry self-regulation to oversee the certification of products against relevant standards and data frameworks. We consider the Clean Energy Regulator best placed to establish appropriate governance arrangements for the product certification/de-certification process. Given the Clean Energy Regulator’s scope is currently limited to the voluntary small-

scale renewable energy scheme, which is due to expire in 2030, it may be necessary to invest it with additional resources and power(s) to carry out these duties effectively.

Policies should build on the recommendations set out in the AEMCs Review of CER technical standards. In all of its policy development, the NSW government and relevant regulators should seek to regulate what entities are required to do and, as much as possible, refrain from stipulating how they should meet their regulatory obligations.

The NSW Government should seek to take direct measures to improve and ensure compliance standards in NSW to the greatest degree possible. It should identify areas where commonwealth action is required and take measures to lead and encourage other actors to co-ordinate and match their own action. It is not acceptable for the NSW Government to assume other entities are responsible and it must take all measures to guarantee better outcomes for NSW consumers.

8. Additional resources and appendices

In this section we provide links to a number of previous PIAC submissions and external resources which are relevant to this process, as well as a detailed table outlining our assessment of the proposed AEMC metering reforms, alongside NSW specific options we regard as superior and capable of meeting the needs of NSW consumers.

CER regulation

The following resources provide further detail on necessary and desired regulatory reform for a fast and fair household energy transition.

- 2022 PIAC submission to 'Promoting innovation for NSW Energy consumers' https://piac.asn.au/wp-content/uploads/2022/03/22-03-04-PIAC-sub-to-Promoting-innovation-for-NSW-energy-customers-Final3847.pdf

- 2022 PIAC submission to 'Review into consumer energy resource technical standards' https://piac.asn.au/wp-content/uploads/2022/11/22-11-10-Sub-to-AEMC-Review-into-consumer-energy-resources-technical-standards.pdf

Standards

- 2022 PIAC submission to 'Sustainability in residential buildings: Proposed BASIX changes' https://piac.asn.au/wp-content/uploads/2022/06/22-02-23-PIAC-sub-to-DPE-on-review-of-BASIX-and-sustainability-measures-final40.pdf

Electrification and Decarbonisation

The following resources provide further detail on how efficient electrification of Australian homes can contribute to our energy affordability, emissions reduction efforts and our climate commitments.

- 2023 Climateworks Centre 'Climate-ready homes: Building the case for a renovation wave in Australia' https://www.climateworkscentre.org/resource/climate-ready-homes-building-the-case-for-a-renovation-wave-in-australia/

- Energy Efficiency Council 2023 'Clean Energy, Clean Demand: Enabling a zero emissions energy system with energy management, renewables and electrification https://www.eec.org.au/policy-advocacy/publications/Clean-Energy-Clean-Demand-April-2023

- 2023 PIAC 'Submission to the Senate Economic Reference Committee Inquiry into Residential Electrification' https://piac.asn.au/2023/09/29/submission-to-the-senate-economic-reference-committee-inquiry-into-residential-electrification/

Funding & finance for efficient electrification

These resources provide further detail into potential avenues for funding and financing efficient electrification of Australian homes. Some of these resources provide specific policy advice on supporting low-come households.

- 2024 ACOSS report 'Funding and financing energy performance and climate-resilient retrofits for low-income housing'. https://www.acoss.org.au/wp-content/uploads/2024/02/ACOSS-Report-Funding-and-Financing-Low-income-retrofits-January-2024-.pdf

- Australian Sustainable Finance Institute 2023 'Industry Workshop: Finance for Home Retrofits' https://www.asfi.org.au/publications/industry-workshop-finance-home-retrofits-report

Equity in the household energy transition

These resources provide further detail on specific cohorts of NSW residents who will require targeted supports, policies and resourcing to effectively implement a Household Energy Strategy.

- 2024 First Nations Clean Energy Network submission to the DCCEEW First Nations Clean Energy Strategy. https://assets.nationbuilder.com/fncen/pages/505/attachments/original/1708899108/First_Nations_Clean_Energy_Network_-_Submission_in_response_to_the_First_Nations_Clean_Energy_Strategy_Consultation_Paper.pdf?1708899108

- 2023 Voices for Power 2023 '*Our roadmap to clean and affordable energy'* https://www.sydneyalliance.org.au/our-roadmap

- 2023 Sydney Community Forum '*Submission to Residential Electrification Senate Inquiry*' https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Economics/ResElectrification/Submissions

- Brotherhood of St Lawrence 2023, 'Enabling electrification: addressing the barriers to moving off gas faced by lower-income households https://www.bsl.org.au/research/publications/enabling-electrification/

- ACT Council of Social Services 2023 'Supporting a fair, fast and inclusive energy transition in the ACT' https://actcoss.org.au/publication/supporting-a-fair-fast-and-inclusive-energy-transition-in-the-act-act-small-energy-consumers-understanding-planning-and-support-needs/

- 2023 Community Sector Blueprint: National Framework for Minimum Energy Efficiency Rental Requirements https://static1.squarespace.com/static/602f0d14c4c0a77efc25e152/t/64b095418e792e5f538088fb/1689294161675/Final+Community+Sector+Blueprint+-+Mandatory+Minimum+Rental+Standards+++%28July+2023%29.pdf

Energy Efficiency

The following resources provide further evidence demonstrating why energy efficiency and electrification must be progressed together by detailing the affordability, health and emissions reductions benefits that are gained through energy efficiency.

- Energy Efficiency Council and ANZ 2023 'Putting Energy Efficiency to Work: The Forgotten Fuel Series" https://www.eec.org.au/policy-advocacy/publications/forgotten-fuel-series

- Climate Council 2022 'Tents to Castles: Building Energy Efficient, Cost-Saving Aussie Homes'
- https://www.climatecouncil.org.au/resources/tents-castles-building-energy-efficient-cost-saving-aussie-homes/

- Energy Consumers Australia and Renew 2022 ' Energy Efficient Housing Research' https://renew.org.au/wp-content/uploads/2022/11/NGR2111008-Energy-Efficient-Housing-PUBLIC-Report_final.pdf>

- International Energy Agency 2023 'Energy efficiency and behaviour' in *Net Zero Roadmap: A Global Pathway to Keep 1.5 in Reach* https://www.iea.org/reports/net-zero-roadmap-a-global-pathway-to-keep-the-15-0c-goal-in-reach

Gas is costing Australian households

The following resources include modelling and costings demonstrating how much more dual-fuel households pay for their energy compared to efficient, electric homes.

- Environment Victoria 2023 'It's a Gas: How ditching gas this winter can cut heating bills by 75%'
- https://environmentvictoria.org.au/2023/07/19/its-a-gas-how-ditching-gas-this-winter-can-cut-heating-bills-by-75/

- Climate Council 2022 'Switch and Save: How Gas is Costing Households' https://www.climatecouncil.org.au/resources/switch-and-save-how-gas-is-costing-households/

- Renew 2021, 'Households Better Off: Lowering energy bills with the 2022 National Construction Code' https://renew.org.au/wp-content/uploads/2021/10/Households-Better-Off-full-report.pdf

- Renew 2022, 'Limiting energy bills by getting off gas' https://renew.org.au/wp-content/uploads/2022/11/Report-Limiting-energy-bills-by-getting-off-gas.pdf

Health impacts of gas

The following resources detail some of the health risks from the use of gas in homes

- Asthma Australia 2022 'Homes, Health and Asthma in Australia' https://asthma.org.au/wp-content/uploads/2022/11/AA2022_Housing-Survey-Report_full_v4.pdf

- Climate Council 2021, 'Kicking the Gas Habit: How Gas is Harming our Health' https://www.climatecouncil.org.au/wp-content/uploads/2021/05/Kicking-the-Gas-Habit-How-Gas-is-Harming-our-Health.pdf

- Doctors for the Environment 2020 'Home Gas Appliances and Your Health: Fact Sheet' https://dea.org.au/home-gas-appliances-and-your-health-fact-sheet/

Gas network transition – necessity, risks & myth-busting

The following resources provide greater detail into why a retreat of the gas network is necessary and policy requirements for advancing efficient renewable electrification. Some of these resources address stranded assets, risk management and cost recovery.

- Grattan Institute 2023 'Getting off gas: why, how, and who should pay?' https://grattan.edu.au/report/getting-off-gas/

- Energy Consumers Australia 2023 'Stepping Up: A smoother pathway to decarbonising homes' https://energyconsumersaustralia.com.au/wp-content/uploads/Stepping-Up-Report-Final.pdf

- Energy Consumers Australia 2023 'Risks to gas consumers of declining demand' https://energyconsumersaustralia.com.au/publications/risks-to-gas-consumers-of-declining-demand

- Institute for Energy Economics and Financial Analysis 2023 ''Renewable gas' campaigns leave Victorian gas distribution networks and consumers at risk' https://ieefa.org/resources/renewable-gas-campaigns-leave-victorian-gas-distribution-networks-and-consumers-risk

- Friends of the Earth, Melbourne 2023 'Community Gas Retirement Roadmap: How and why to get off gas in Victoria" https://www.melbournefoe.org.au/community_gas_retirement_roadmap

Appendix 1

Context: Public Interest Advisory Centre (PIAC) has been consulting with NSW DNSPs and the NSW Government on options for small customer metering in NSW that would meet the needs of NSW energy consumers and ensure better outcomes for NSW households than the current framework. The AEMC review did not assess all viable alternatives (including changes to the industry structure) to ensure metering promotes the interests of consumers

High level summary of the metering framework options:

	Current framework/AEMC proposal	PIAC lite	PIAC full
DNSP involvement	Limited/ DNSPs prepare meter retirement plans	High	Full derogation of metering to DNSPs
Metering co-ordinator (MC)	Appointed by retailers	DNSPs	DNSPs
Metering provider (MP)	Appointed by retailers	Appointed by DNSPs	DNSP can be or appoint MP
Metering data provider (MDP)	Appointed by retailers	Appointed by DNSPs	DNSP can be or appoint MDP

Case studies
Neutral integrity Through smart meter data trials, Endeavour Energy has detected and resolved 105 Broken Neutrals cases to date. This is on a small sample of 50,000 meters or <5% customer/meter visibility. This would indicate there are likely 1000+ existing (backlog) cases out there that are unknown (i.e.an evolving safety risk not yet reported by customers). Based on our sample of 50,000 we are detecting and fixing (so they are confirmed genuine) at a rate of ~3 new neutrals per month on average. Extrapolated to our customer / network population that would indicate potentially 60 issues per month or 720 per annum on an ongoing basis if we had 100% visibility. All extrapolations are simplistic but our sample is reasonably random. Our DER integration Strategy quantified a risk cost benefit (customer safety) for the neutral integrity use case ~$2-3 per annum per meter. There are a number of other benefits of course including hosting capacity, customer service, operational efficiency and better planning.
Outage management Smart meters, when appropriately specified, can provide significant benefits in identifying, tracking and helping to reduce the size of network outages. This requires 'last gasp' functionality, where a meter proactively sends a notification when a network outage occurs. This allows the network

operator to proactively assess the extent of an outage, informing response strategies, resulting in faster restoration of supply and identification of outage causes.

All smart meters in Victoria have this functionality, whereas smart meters in NSW do not have this functionality as it is not contained in the 'Minimum Services Specification' under the NER.

Under the AEMC's current framework it is not considered feasible for networks to incentivise 'last gasp' functionality in key identified areas of the network due to the complexities with the number of parties involved (retailers as well as metering providers) and the need for commercial arrangements to be in place with all parties to ensure continued service with a broad enough reach. Under the proposed 'PIAC lite' or 'PIAC full' models these complexities are significantly reduced, which would result in networks being able to create benefits driven business cases to enable this functionality.

In lieu of any changes to the current framework, the closest functionality that may assist with outage management is 'real time meter enquiry service', where real time status and data can be polled on-demand from a smart meter. However, this would still require a customer who experiences an outage to call the network, who could then verify the breadth of an outage by instigating polling of multiple meters in the same area. Following this, a response strategy could be enacted. This would require significant commercial negotiation with metering providers and retailers, as well as multiple instances of ICT integrations. The benefits to customers of this approach are far less than if 'last gasp' functionality was broadly available.

PV solar installation

As the inverter data is not available to DNSPs, smart meter data is a great substitute to identify problematic PV installations. Ausgrid is currently purchasing smart meter data for 216,000 customers as part of a trial under our Network Innovation Program. A large number of these customers have solar installations. Preliminary investigation of this data is showing that up to 80% of these solar installations are non-compliant, which aligns with recent discussions with OEMS. If DNSPs had ubiquitous access to smart meter data we could identify where solar installation were non-compliant. This could form part of broader OECC work to improve CER installation compliance either through DNSPs or through NSW Fair Trading.

For example, a customer (customer x) complained to Ausgrid that they were having voltage curtailment issues with their smart meter data. Ausgrid investigated and customer x's inverters were installed with the wrong settings. In addition 8 out of the 10 other solar customers connected to the same LV distributor had the wrong invertor settings. The over voltage was caused by non-compliant inverter settings leading to the voltages on this distributor being raised above the normal operating voltage of the network. In particular, one customer's inverter was not limiting it's output nor providing reactive support and was effectively blocking any other system from operating, and potentially creating a safety issue by operating above the allowed operating voltage.

In other jurisdictions DNSPs have compliance functions to be able to monitor, set up training and prevent installations from non-compliant installers.

Regional customers

We have found that locations with a lack of retail competition, particularly in regional and remote areas – where retailers are not able to achieve economies of scale – result in higher unit costs and thus lower incentives to replace failed meters in a timely fashion. An enhanced role for DNSPs in the responsibility for metering could ensure that the rollout is carried out efficient manner, at least cost to customers. DNSPs could also effectively become a "one stop shop" with smart meter replacement, site remediation and multi-occupancy sites being cared for in a single visit.

Site remediation

In a geographically planned rollout, site remediation issues introduce inefficiencies which prevent the benefits of a smart meter rollout from being captured. For example, manual meter reading and

maintenance activities become inefficient, increasing the marginal cost for each remaining legacy meter as distributors service a patchwork of meter assets for which they retain responsibility.

Essential Energy has done some preliminary analysis which suggests that site remediation, to prepare meter boards for smart meter installation, could account for around 25 per cent of the current legacy meter base. This includes 37,865 meter boxes on Essential Energy's poles which will require remediation, at a forecast cost of around $93 million. A small part of the expected cost will fall to Essential Energy to cover, with the majority of the financial responsibility for site remediation falling on customers. The benefits of smart meters have public good characteristics insofar as maximum benefits are achieved, and ongoing meter reading and maintenance costs eliminated only once 100 percent penetration has been achieved. Networks, and their customers will continue to bear the financial burden for reading and maintenance costs for customers who retain legacy meters.

Meter failure notices

The development of a mechanism for meter replacement similar to the Meter Failure Notification (MFN) process, as recommended in the AEMC's draft report[7], is not likely to produce the desired results. For example, since the commencement of metering contestability, Essential Energy has issued 265,519 MFNs.[8] Of these, only 10.7 per cent were completed within the maximum NER replacement timeframe of 30 business days. The successful replacement rate sits at 66 percent, with an average duration of 558.5 days to completion. The other one third of failed meters are still awaiting replacement, with an average waiting time of 1469 days since MFNs were issued.

Microgrids

Universal smart meter penetration offers a number of benefits for the implementation of microgrids, particularly in rural and remote townships. Smart meters enable ongoing business as usual services such as load control (currently typically controlled by legacy ripple systems that are incompatible with autonomous microgrid operation) to be provided through customers. This is because the switching of customer's load control devices (generally hot water) can be managed through the smart meter, meaning that this service can continue whether in 'island' or 'grid' mode.

The efficient implementation of microgrids is likely to require the orchestration of customer's energy resources in order to maximise the capacity provided, whilst also minimising the investment in microgrid infrastructure required. Orchestration of this kind is likely to require access to near-real time meter data to ensure that safety, reliability and quality of supply are maintained at all times.

[7] AEMC draft report p.38.
[8] As at 4 July 2023.

Customer issue	Current framework/AEMC proposal	PIAC lite	PIAC full
Meet the targets	Unlikely to meet targets	Greater likelihood to meet (or exceed) rollout targets due to: - Unfettered DNSP scope to plan rollout for optimum efficiency and undertake direct contracting and other relationships to enable - Ability to co-ordinate and undertake replacement of multi-occupancy work without additional time, costs and complication - Ability to assign a 'last resort' installer option where no scope exists for contracted MC to undertake work on reasonable terms - Increased scope for economies of scale	Greatest potential to meet (or exceed) targets, particularly where there is flexibility for DNSPs to either contract or assume full metering responsibility. Additional benefit where immediate shift to DNSP-contracted metering arrangements can be used in the short term as a transition measure. Greater likelihood to meet targets is based on similar
Site remediation	Not addressed	Potential for DNSP contracting terms and rollout prioritisation to better identify and more consistently deal with site remediation issues. Some benefits of full DNSP responsibility may also be possible (at least in part), depending upon the detail of the arrangements implemented. Including: - Greater consistency of treatment - Greater transparency of cost - Improved oversight of outcomes - Could be coupled with NSW Government 2023 Budget commitments to deliver site remediation programs for EV charging infrastructure at less cost or through Reliability Check Up, Energy Security Corporation, low interest loans to DNSPs, customers or strata bodies.	Enables greater flexibility in both addressing remediation issues and addressing cost issues for consumers, by: - Greater scope for meter replacement to involve limited remediation (taking lessons from Victorian experience, this should be defined to ensure consistency) - Greater ability for more substantial remediation to be identified and addressed without cost (or at reduced cost) to the consumer, through work contracted at time of replacement - Ability for upfront costs to be shared or deferred with government contributions, consumer contributions or other arrangements possible - Greater transparency of costs to give confidence to Government on any remediation funding support - Greater scope to ensure consistent safety, consistent consumer treatment, through regulatory oversight. - Greater scope to bundle with other government programs (e.g. EV charging infrastructure site remediation/ Reliability Check Up recommendations)
Transition plans	NA framework doesn't change. Further consideration being the risk the AEMC reforms are not implemented at all (and no acceleration occurs from 2025)	Provides a pathway to commence transition to more effective, NSW-specific metering arrangements in a relatively immediate timeframe, while other measures and further reform mechanisms are developed and implemented. This would allow improvements to rollout co-ordination, efficiency and transparency to commence sooner than possible under the AEMC framework. It would provide greater control and certainty over improved arrangements than the AEMC proposals given that it would not be contingent on numerous rule-changes and could commence before 2025.	Could involve the benefits of the DNSP contracting option, where that option serves as a transition arrangement, or an ongoing option for DNSPS (that is, where a DNSP decides it may be more efficient/preferable to contract metering services). The end option here could facilitate flexibility in the approach taken by DNSPs, where that flexibility is exercised to achieve optimum consumer outcomes, efficient metering rollout, efficient metering service provision, transparent access to data visibility, efficient network utilisation, minimal cost to consumers (including remediation). Importantly, this option would result in greater 'alignment' with Victorian metering arrangements – which has established benefits and can provide valuable lessons on more efficient implementation and risk management. This is a significant strength in comparison to the AEMC proposals which present significant risk of repeating many of the mistakes of the Victorian rollout, while introducing a number of significant new risks of increased cost, failed rollout and public backlash. This option also maximises the scope for NSW DNSPs to co-operate with and support NSW Government policy in relation to CER integration, demand management and flexibility, consumer-focussed efficient electrification, distribution renewable energy zone development and improvements to safety and standards compliance in CER.
Communication to customers	Need comms campaign	Become part of DNSP network systems i.e. 'smart meter system' recovered through SCS, so customers don't need comms in the same way Importantly, NSW DNSPs are regulated entities subject to independent dispute resolution, where Metering Parties are not.	Similar to 'lite' option, with greatest scope to leverage existing DNSP systems and processes relating to 'interruptions', system standards and management. Importantly, NSW DNSPs are regulated entities subject to independent dispute resolution, where Metering Parties are not.

Customer issue	Current framework/AEMC proposal	PIAC lite	PIAC full
		This option does not place added pressure on customer-retail relationships which involve a direct commercial relationship and an established trust deficit.	This option does not place added pressure on customer-retail relationships which involve a direct commercial relationship and an established trust deficit.
Cost efficiency, transparency, and consistency	No visibility of costs, no consistency of costs and substantial inefficiency in model	Provides greater visibility of costs through ensuring they are subject to regulatory oversight – this ensures the 'total cost of metering' (including the meter, installation and ongoing data management) are revealed and able to be subject to efficiency assessment. This is in contrast to the existing/proposed arrangements which leave retailers almost unlimited scope to recover costs across and between consumers without any oversight or transparency of how efficient those costs are, or how consistent cost recovery is (with the likelihood consumers are paying a wide range of costs for the same metering services – this may include the likelihood of customers without smart meters paying for costs related to the meters and metering services of others). Ensures that all consumers (who carry the cost of metering under every option) are able to have those costs incurred and recovered consistently. Introduces a step-change in the efficiency of metering costs by rationalising the number of parties involved, increasing scope for economies of scale and operation, and ensuring DNSPs can set contract terms according to what is required from metering (for network efficiency and visibility, and individual consumer safety and utility). Importantly, this enables an improvement in what is required from metering, where the incentives for the DNSPs are aligned with the consumer (i.e. optimum data availability and utility at least cost). This is not the case under the proposed AEMC framework where retailers have an incentive to restrict data availability through their contracts, both to consumers and DNSPs and other parties, in direct opposition to the consumer interest.	Involves many of the improvements facilitated through the 'lite' option, with further scope for transparency and consistency by increasing scope for direct regulatory oversight. Competitive tension can be retained (and more effective) through utilisation of the ASP scheme, ensuring procurement of installation (and potentially remediation) services is more efficient.
Network visibility and control	Limited/no increase in real-time visibility of network	See case studies relevant to network visibility. Enables a step-change in network visibility and scope for control by allowing DNSPs to set contract terms to ensure metering capability and data provision is fit for purpose and supports the consumer interest in greater network visibility and data availability. DNSPs can (and should) be required to make data available to consumers and retailers (and depending on further reforms, other parties) freely as part of the fundamental function of metering, with an incentive to ensure their contracting for these services is as efficient as possible. Both these contract terms and the resulting standards and services will be transparent and there is scope to ensure greater consistency across networks. Additionally DNSPs can provide a standardised approach for customers to access the data in a consistent process with consistent messaging (similar to current meter data access procedures), which the AER can regulate by overseeing 3 regulated businesses instead of dozens of retailers. Victorian DNSPs are seeking to introduce new service classification categories about providing metering data to customers in their October 2023 Framework and Approaches. I.e. • Standard control services: customer requested provision of standardised electricity data • Ancillary control services: Customer requested provision of specific network data and advice related to network data	Builds on the same positive aspects of the 'lite' option, but with greater flexibility for networks to adapt requirements more dynamically according to need, without needing to engage third-parties – they would have flexibility to directly implement changes where they are most efficient, potentially varying requirements across their networks where equivalent outcomes can be achieved (for instance in utilising last-gasp). This option provides greatest scope for DNSP control and greatest scope for DNSP co-operation with, and support for NSW Government initiatives, such as the implementation of elements of a CER strategy, improvement to installation standards compliance, development of distribution REZs, implementation of local area arrangements (for instance solar sharing), and other measures focussed on improving consumer-focussed demand flexibility.

AEMC recommendations

AEMC Recommendations	Assessment	PIAC lite benefit	PIAC full benefit
1. Universal deployment of smart meters by 2030.	While consumers (lead by PIAC) supported this objective as necessary, the date is not ambitious enough to meet many of the challenges NSW faces. Further, throughout the process resistance from the AEMC and metering entities/retailers indicate this is objective is not supported by the measures proposed to achieve it and is in fact not seriously intended to be met. Assessment of the 2030 target also indicates that this does not actually involve a rollout 'acceleration' (given that is assumes a rollout speed below what has already been achieved) but is an objective not to slow down the rollout as the 'easier' exchanges have been exhausted. Given the increased complexity from here, there is little reason to expect this target to be met even if all proposed reforms are implemented.	Allows for more immediate action before the 2025 start date, with greater certainty in rollout improvements than the AEMC proposals (which are contingent on rule changes proceeding). Also enables greater efficiency after commencement and greater likelihood of meeting or beating the 2030 target.	If 'lite' option is used as a transition, allows for more immediate progress and involves similar benefits to the lite option. Where this option is intended to be implemented directly there may be some delays as DNSPs develop capacity and legislative and other arrangements are developed. However, these can be undertaken before 2025, with greater control by the NSW Government and greater certainty in the outcome than possible under the AEMCs proposals. Once initiated, similar efficiencies to the lite option should be realised, making a 2030 target (or sooner) for actual universal advanced metering genuinely achievable.
2. DNSPs to provide legacy meter retirement plans (LMRP)s	While PIAC raised DNSP involvement in planning of meter rollout the framework proposed by the AEMC involves significant extra complication (and potential cost) for DNSPs in undertaking this function.	DNSPs can undertake this without unnecessary qualification or complication with greater control over (and certainty of) delivering outcomes.	Similar benefits to the 'lite' option, with potential for greater flexibility to undertake more targeting for local conditions, responding to new circumstances or alignment with and support for requirements of NSW government policy. For instance, prioritising retirement in areas with high solar penetration to maximise network utilisation and benefit for non-solar consumers.
3. Retailer performance reporting and compliance to promote transparency and create regulatory oversight	The existing retailer performance reporting framework does not provide confidence that there will be sufficiently robust oversight of retailer response to plans and delivery of the objective (and outcomes for consumers).	Greater performance oversight and confidence through regulation of DNSPs and their contracted operations.	Similar to lite option, with confidence that regulatory oversight provides transparency.
4. New customer safeguards as part of the transition	PIAC does not consider the proposed safeguards provide any meaningful protection for consumers and, in relying on retailers and unregulated MCs, presents a material increase in risks of harm to consumers and public resistance to the rollout as a result.	Would still be subject to similar consumer outcomes issues as AEMC option – but does provide benefit of not relying on retail relationship that is marked by a lack of trust.	Similar to lite option
5. No change to the current industry structure	The AEMC did not undertake a good faith review of the metering framework because it precluded any change to the industry structure and explicitly ruled out any assessment of alternatives which could better meet the objectives it set. PIAC questions whether this meets their responsibility to undertake an assessment of what best promotes the interests of consumers.	Simplifies structure to remove unnecessary and inefficient involvement of retailers. Aligns the industry structure more closely with the consumer interest.	Further simplifies structure and aligns more closely with established Victorian arrangements. Aligns the industry structure with the interest of consumers.
6. Removal of the existing opt-out provision under current framework and no opt-out provisions for accelerated deployments	While opt-outs should be removed in any framework which 'upgrades' the minimum standard of acceptable metering, there is a question whether this is appropriate where the exchange may involve costs to the consumer and material changes to their product availability. PIAC raised this issue and concern that retailers, as an entity with a direct contractual relationship with a customer, may not be an appropriate responsible entity under these circumstances.	This would be the same, though would be more effective as it does not rely on (and is not impacted by) the retail relationship with the consumer and complications involving compulsory changes being implemented by a retailer.	Similar to the lite option
7. Reduced number of retail notices	This is a reasonable, minor, change. However, where the issue of remediation and multi-occupancy co-ordination remain unresolved, it is likely that widespread instances of multiple retail notifications will continue (if not increase).	More likely to deliver actual reduction in 'notices' given DNSPs have an established system for consumer contact (in relation to outages and works), and reduced need for co-ordination means less scope for additional notices to be required.	Similar to the lite option.
8. Introduction of a process to encourage customers to remediate site defects, and to track sites that need remediation	This is totally inadequate to address remediation and is likely to create mass instances of 'defect notices' and failed exchange. PIAC raised further concerns that given the commercial relationship of retailers with consumers (and existing circumstances of low trust) the proposed	Provides a more effective basis on which to identify and respond to remediation work more consistently – in that DNSPs can agree and set a schedule of when remediation is required and include this in their contracts with Metering Parties.	Provides greatest scope to effectively (and equitably) deal with remediation issues, with flexibility in dealing with upfront costs without impacting consumers.

AEMC Recommendations	Assessment	PIAC lite benefit	PIAC full benefit
	arrangements present a material political risk where NSW households (or entire buildings) are presented with substantial bills to undertake work they did not ask for.	This would provide a more transparent (and certain) basis on which to provide government assistance for remediation. Option for remediation works to be carried out by metering providers under management by DNSPs, ensuring consistency in application and approach.	DNSPs can agree and implement a consistent schedule of when remediation is required and when minor remediation can be directly undertaken at the point of replacement without cost to the consumer (more consistently implementing lessons from the Victorian experience). This arrangement provides scope for NSW government to support remediation in conjunction with DNSPs, with flexibility to defray upfront costs and recover them over time from impacted connection points - with transparency of costs and scope for oversight and certainty that is not possible under the AEMC proposal.
9. Arrangements to better support vulnerable customers who need to carry out site remediation	There are no actual arrangements proposed in the framework. PIAC is concerned that without changes to metering responsibility any support will be ineffective and likely to be undermined by the inefficiency of the arrangements through which it would be provided (i.e. grants to impacted households).	As above	As above – this option provides maximum scope to effectively support vulnerable consumers through a combination of DNSP and Government funding.
10. Governments consider a review of jurisdictional/DNSP regulatory arrangements to: • **identify and implement adjustments that could reduce the need for, and cost of, site remediation** • **enable metering parties to undertake minor remedial work without requiring prior customer approval.**	Metering parties are not regulated entities and are not subject to regulatory oversight, consumer protection provisions or independent dispute resolution. The AEMC proposals are inappropriate and would either present risk to consumers and undermine consistent protections or require significant new regulatory interventions. Critically, the proposals contain no substantive measures to address issues with remediation and, in retaining the existing industry structure, retain fundamental weaknesses and inability to deal with remediation in an efficient or equitable way.	As above.	As above – provides Government with certainty and control over measures to enable remediation, without introducing safety or other risks – including risks of public backlash through reliance on retail relationships.
11. **Governments consider a review of jurisdictional arrangements to allow contestable metering parties to appropriately gain access to sites currently secured by a DNSP's locking system.**	Metering Parties are not regulated entities and are not subject to regulatory oversight, consumer protection provisions or independent dispute resolution. The AEMC proposals are inappropriate and would either present risk to consumers and undermine consistent protections or require significant new regulatory interventions.	Not required as metering parties could be contracted as delegated representatives of DNSPs – but with potential for coverage of safety and other oversight.	Not required – as DNSPs can access and are covered by existing safety and dispute resolution frameworks.
12. Improve industry coordination and minimise negative customer impacts in shared fusing installations	The complicated arrangements proposed by the AEMC do little to reduce the complexity and cost involved and make it highly likely that many shared fuse circumstances will simply be avoided as having 'access' issues or 'defected' as requiring remediation (due to a lack of any consistent guidance regarding when access or remediation applications should be invoked).	Not required as DNSPs can contract to identify and undertake shared fusing replacements under their existing systems to interrupt supply. This provides greater likelihood that shared fusing circumstances are addressed efficiently without consumer impacts.	Not required as DNSPS can interrupt supply under existing arrangements. This provides maximum confidence that shared fusing circumstances are addressed efficiently without consumer impacts.
13. Requirements on retailers to provide small customers important information in a clear, streamlined, and consistent way before any smart meter upgrade	PIAC has no confidence that retailers can deliver on simple, accessible information to consumers given their established track record and the serious lack of trust consumers have in retailers. PIAC noted retailers should not be responsible for pre-installation information due to their existing relationship with consumers, trust deficits, and the potential to draw negative attention to a 'compulsory' rollout.	Does not rely on retail information provision and can separate information provision from problematic retail-customer relationships (and lack of trust). Information could be simplified and provided independently as a government or DNSP function, akin to information provided in relation to street upgrades, etc.	Does not rely on retail information provision and can separate information provision from problematic retail-customer relationships (and lack of trust). Information could be simplified and provided independently as a government or DNSP function, akin to information provided in relation to street upgrades, etc.
14. **Development of a communications strategy to support the accelerated deployment of smart meters.**	As above	Instead of communications via dozens of retailers, communications could be provided in lock step between the three DNSPs and NSW Government to ensure clear, concise and transparent communications, that has been reviewed by customer advocates and EWON	Similar to lite option

AEMC Recommendations	Assessment	PIAC lite benefit	PIAC full benefit
15. Requirements on retailers to accept and deliver on customer requests for a smart meter	This is a reasonable requirement but there does not appear to be any robust measures associated with the provision.	Requests are received by retailers and provided to DNSPs via B2B comms – any metering request relating to solar or other CER installation would already be subject to an updated connection agreement, and these arrangements can be utilised to enable meter requests to be communicated.	Similar to lite option, with added simplicity through streamlined relationships.
16. **Implementation of appropriate replacement timeframes for meter malfunctions**	The provisions increase certainty of acceptable timeframes. However, given the performance under the current framework in relation to replacements (particularly those in regional NSW) there are serious concerns that these timeframes can be met.	Reduces the expected timeframes for replacements due to malfunctions as DNSPs can contract timeframes themselves and initiate replacements at the point of failure.	Provides further streamlining to improve the timeframes for replacement of failed meters, enabling DNSPs to directly replace failed meters.
17. Clarifications to the malfunctions exemptions process currently administered by AEMO	As above	Simpler and streamlined process for malfunctions in NSW as number of parties involved are minimised, resulting in consistency of application.	Similar to lite option
18. Introduction of arrangements for better access to power quality data	The arrangements are insufficient to enable optimum network efficiency, safety and visibility (including for third parties). Allowing additional data availability (and frequency) only through commercial arrangements is likely to undermine efficient network operation and the development of third-party use cases, and impose unnecessary additional cost on consumers.	Substantially improves the availability of data to DNSPs (including greater access to real-time PQD) by allowing DNSPs to contract for this data. This ensures data is provided at a standard and frequency that is fit for purpose as part of the base contract for provision of metering services.	Builds on the improvements enabled by the 'lite' option by further enhancing the scope for DNSPs to enable the collection and use of real-time data (including PQD) and ensuring that other data which promotes efficient operation of the network (and innovative service options on the network) can be required and implemented. This includes ensuring DNSPs are supporting and enabling NSW Government policy in integrating CER, developing DNSP REZs and improving standards compliance and other NSW consumer focused reforms.
19. Establishment of an enabling framework for customer access to real-time data	The proposal for consumer access to data is a robust improvement on existing arrangements. However, the proposal is dependent on a subsequent rule-change process and may not be delivered as intended. Given retailers and metering parties have strongly resisted real-time consumer access to data it is highly likely this framework will face significant obstacles to implementation.	Does not preclude implementation of the AEMC framework for customer access to real-time data and may improve the likelihood of its implementation and success by ensuring DNSPs can consistently contract for metering which effectively enables this function for consumers (given that these functions are compatible with requirements for DNSP data visibility). DNSPs can provide a standardised approach for customers to access the data in a consistent process with consistent messaging (similar to current meter data procedures), which the AER can regulate by overseeing 3 regulated businesses instead of dozens of retailers. Victorian DNSPs are seeking to introduce new service classification categories about providing metering data to customers in their October 2023 Framework and Approaches. I.e. • Standard control services: customer requested provision of standardised electricity data • Ancillary control services: Customer requested provision of specific network data and advice related to network data	Building on the lite option – this does not preclude AEMC reforms and could substantially simplify and improve them by enabling more consistent metering installations which can enable real-time data and provide a more consistent platform for the collection and maintenance of consumer data that does not rely on retailers and is not limited by their commercial interests. This could allow for greater consumer benefit through providing more scope for consumers to access data and share it with third parties, where they choose to do so. The AEMC framework, relying on retailers, means actual consumer benefit is less likely due to the inherent incentive of retailers to restrict the quality of consumer data available to third parties.
20. Exemptions from the testing and inspection of legacy meters during the acceleration period	These provisions unacceptably increase the risk of malfunctioning meters remaining in operation for an extended period (up to or 12 months or more), with impacts on the consumer through estimated and inaccurate billing.	Is not required under this option, with the benefit that there is a reduced likelihood of consumers being without effective metering for an extended period.	Is not required under this option. DNSPs can continue to inspect/test legacy meters, with both an incentive (and scope) for DNSPs to ensure metering is functional and replaced in a timely manner. Critically, this option provides an ongoing framework for replacement after completion of the initial rollout (where smart meters have a shorter effective life this is important, with Victorian DNSPs already starting to replace advanced meters installed during their rollout).
21. Clarifications to smart meter inspection requirements	These are sensible provisions that DNSPs are already subject to for legacy meters	Simpler and streamlined application in NSW as number of parties involved are minimised.	Similar to lite option.