



NSW Productivity Commission Green Paper

6 October 2020

About the Public Interest Advocacy Centre

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

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

Energy and Water Consumers' Advocacy Program

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

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

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Introduction

The Public Interest Advocacy Centre welcomes the opportunity to respond to the New South Wales Productivity Commission's Green Paper, Continuing the productivity conversation.

Over the course of developing this Green Paper, the community and economic impacts of drought, bushfires and COVID-19 have brought reform in energy and water into sharper focus. In the wake of the ongoing impacts of COVID-19 it has become apparent that the size of the stimulus required presents an opportunity for long-lasting reform and rebuilding.

Important strategic decisions taken now, supported by effective governance and transparent decision-making frameworks, will help underpin the resilience, sustainability and long-term prosperity of the NSW community.

Principles for long-term decision making in energy and water

The source of energy and water, the efficiency of its development, distribution, pricing and access, will determine NSW long-term prosperity and the health and well-being of its community. It is vital that the long-term implications of decisions are considered, and short-term requirements for rapid stimulus do not undermine long-term productivity, resilience or prosperity. Ensuring decisions are transparent, and driven by long-term objectives of sustainability and efficiency, is key to maximising the return on the investment of government and business.

Narrow principles of competitive neutrality and technological agnosticism, such as those contained in draft recommendation 5.10, are no longer fit for purpose. In energy and water productivity, efficiency and sustainability have complex determinants that can change over time. Investments have decades-long implications for both costs and the viability of communities from which costs are recovered. Climate change continues to radically alter costs, risks and potential benefits. Essential industries and future economic opportunities depend on decisions in energy and water, and particular technologies can either enable or curtail future possibilities. Neutrality and agnosticism is inappropriate and insufficient in this context.

Additional principles are needed for assessing and realising economic opportunities in energy and water. Any reasonable assessment of potential reforms, policies or investments, must consider both the immediate and long-term returns in improved productive capacity. We need to consider the potential of opportunities available, the risks they mitigate, their capacity to enable further benefits, and their sustainability and long-term resilience to the impacts of climate change.

PIAC strongly recommends that the NSW Productivity Commission discards the obsolete focus on competitive and technological neutrality, to recognise the need for more proactive and strategic decision making, and commits to principles that:

- consider the relative cost and efficiency over time, not only at the point of decision
- prioritise contribution to climate change mitigation and resilience
- prioritise rapid and equitable economic transition to a zero-carbon economy

- consider the longevity of the benefits realised in any opportunity, and prioritise those able to realise or enable benefits beyond 2050. For instance, where benefits in the form of investment, jobs, improved capacity and improved resilience to climate impacts extend beyond 2050
- consider the relative risk impacts that climate change, and responses to it, may have on identified opportunities. For instance, considering that international responses to climate change will introduce further costs to high-carbon assets, and benefits to low-carbon assets
- consider the enabling (or disabling) impact on the long-term productive potential or sustainability of other sectors of the community. For instance, where decisions taken now may improve the viability of a carbon intensive industry in the short term, but hamper the ability to realise productive opportunities over the long term.

In the wake of the impacts of COVID-19 many frameworks for effectively synthesising the needs of post-COVID stimulus, rapid economic transition and long-term productivity reform, have been publicised. PIAC notes the work done by the Australia Institute¹, and the recent report by the NSW Chief Scientist and Engineer² that sets out a practical framework for long-term decision making. We strongly recommend that this report be supported by the NSW Productivity Commission.

PIAC welcomes the issues addressed in the Green Paper and responds both to the broad subject matter and specific draft recommendations.

Water

Water is an essential resource that underpins the health and wellbeing of the community and is a foundation of industry, agriculture and the viability of the environment. As the impacts of climate change intensify, improving the productivity and resilience of water resources is more urgent. The Green Paper identifies the scope of reforms and measures required to ensure that the way we conserve, utilise and re-use water can adapt to our new reality. PIAC supports many of the draft recommendations in principle and intent, and makes expanded recommendations we consider more likely to deliver the intended outcomes.

Productivity is, like efficiency, an equation relating the fulfilment of a function, its inputs and outputs. Water has not historically been subjected to analysis of productivity that acknowledges the full value of outputs against the full cost of the units of water required as an input.

Responding to climate change, and the increasing insecurity of water resources, requires this kind of assessment. Re-use, recycling, desalination and other technologies increase our water security, but they do so at significantly higher cost that may diminish productivity.

Determining and incentivising productive use of water requires a framework to assess the full value of water resources to the community, which incorporates more than the direct cost of its

¹ The Australia Institute '[Design principles for fiscal policy in a pandemic](#)'. Discussion Paper, April 2020.

² NSW Chief Scientist and Engineer. '[Opportunities for prosperity in a decarbonised and resilient NSW](#)' August 2020.

delivery. It must recognise water's value in sustaining the environment, its potential as a productive input and the fragility of long-term supply.

The current cost recovery for metropolitan water supply in NSW inappropriately values all water equally, whereby water to drink is priced the same as water to wash a car.

The only framework for considering the relative uses of water is based on the monetary value of output for which water might be a direct input. In this way use of water by a coal mine may be deemed productive because it enables production of a resource with a high market value. Similarly, the water markets of the Murray Darling Basin assign water to those who pay the most, assuming that the preferable use of water as a resource is the one with the highest return. This allows producers of almonds to accumulate secure water allocations because they can sustain higher water prices than wheat, dairy or vegetable producers. Neither of these examples considers the impact of certain uses of water on the productivity and sustainability of the community. For instance, a Murray basin dominated by almond orchards diminishes viability of the river system and has implications for the diversity and resilience of economic opportunities, the security of food supply and is vulnerable to market price fluctuations in one commodity.

Considering the value to the environment and community, and assessing sustainable productivity over time, will be key to effective decision-making in relation to water in NSW. PIAC presents recommendations that seek to address this, in response to the draft recommendations contained in the Green Paper.

Responses to draft water recommendations

5.1 Outline the long term vision for the whole water sector (including rural water, wastewater, storm water, flood management) and develop a plan to meet the challenges facing the sector

PIAC supports the intent of this recommendation, and the need for a long-term strategic plan for water in NSW. A statement of a vision alone, however, is insufficient, and a long-term plan based on defined principles and objectives is needed. This must be developed collaboratively with the community, industry and the full range of stakeholders. While some planning processes likely to impact water are currently underway, in PIAC's view, they are not sufficiently transparent, co-ordinated or focussed on agreed principles and objectives to be effective. PIAC recommends that a NSW water planning process:

- is long-term, with a target of 2050 to align with current climate policy targets
- commences planning at a State level, with regional, catchment, city and other plans flowing from the agreed objectives, principles and targets established
- involves open, deliberative consultation with government, industry and community stakeholders
- prioritises the key principles to shape decisions that relate to the development, use, pricing and conservation of water resources
- sets clear objectives and targets, including for resource security, sustainability, utilisation, sharing value, pricing, and climate risk management
- involves transparent reporting of progress against key indicators for the state and lower-level plans

- will be reviewed at least every 10 years, through a transparent and consultative process that incorporates input from all stakeholders, and
- initiates reform of governance and regulatory responsibilities across water in NSW.

PIAC recommends that any related processes currently in progress be adapted as outlined above.

5.2 Issue Statements of Expectations to state-owned water corporations to provide clear guidance on the Government's plans and direction.

PIAC contends that Statements of expectations will not achieve long term objectives in investment and efficient water service delivery.

Statements of expectation typically sit outside of the transparent, objective, regulatory and governance framework, and carry risk of unintended consequences undermining efficient investment and operation of state-owned water corporations.

Long-term plans, informed by transparent objectives and supported by independent governance and regulatory structures, are more effective at ensuring operation of state-owned corporations according to the communities expressed preference and the agreed parameters of economic and environmental efficiency and sustainability. These transparent and objective processes should be insulated from interventions that can distort long term processes or undermine community preferences.

PIAC reiterates our recommendations in response to draft recommendations 5.1 and 5.3.

5.3 Bring together leaders from all key NSW water sector organisations to co-ordinate and deliver the vision outlined in the planned state water strategy. Identify governance measures to solve the fragmentation of water responsibilities across NSW Draw on the experience of the INSW South Creek Sector Review to identify other areas in NSW that would benefit from integrated land use and water planning.

PIAC supports this recommendation in principle, and highlights the urgent need for comprehensive reform of governance and regulatory responsibilities in the water sector. Governance reform is incomplete and has largely been reactive.

As outlined in response to recommendation 5.1, PIAC strongly recommends this process be integrated with strategic planning, informed by meaningful engagement with all stakeholders. The priority must be a plan that clearly establishes the principles and objectives to guide the governance and regulation of water in the long term. The principles and objectives set the key parameters for investment, development, service delivery, usage, and pricing, and have huge implications for productivity, equity and sustainability. As such, they must be determined prior to the creation of governance and regulatory frameworks, and must be developed transparently through engagement with key stakeholders and the community at large.

Once such principles and objectives are established, a comprehensive review of governance and regulatory responsibility can assess the most effective and appropriate means of enacting, monitoring and adapting them.

5.4 Sydney Water should continue to work with IPART to estimate the long-run marginal costs for its wastewater catchment areas and consider implications for pricing.

PIAC strongly supports water pricing reform. We agree that better aligning wastewater pricing with wider pricing objectives is required, but note this should not be in isolation from holistic reform of water regulation and pricing.

Wastewater, however, is an increasingly obsolete concept. As technology and systemic practices increasingly integrate the use of all forms of water, a focus upon the cost of water in any particular state by itself is not necessarily useful. What is currently regarded as wastewater is, increasingly, capable of being a resource utilised elsewhere, via recycling, nutrient reclamation, and more integrated water cycle management. Greater accuracy in calculating the long-run marginal cost of wastewater assumes that wastewater is primarily an output and a waste product and may limit exploring value and pricing structures that incentivise re-use and the valuing of wastewater as a resource.

PIAC supports a comprehensive examination of regulatory and pricing frameworks, informed by agreed long-term planning principles and objectives, which can consider alternative ways to estimate and recover costs of all water as a valuable resource.

5.5 Co-ordinate with state-owned water corporations to develop and implement a public engagement program for recycled water. Explore the establishment of a demonstration plant in Sydney to help people understand the water cycle.

PIAC strongly supports optimising the use of recycled water to improve the long-term sustainability, efficiency and resilience of water resources across the state. Experience, locally and internationally, indicates that support for the implementation of recycled water is heavily dependent upon effective community education to build the understanding of the water cycle and trust in water recycling technology.

PIAC does not agree that the key facilitators of increased implementation of recycled water, are the state-owned water corporations, and we do not consider them the key barrier to further implementation.

As the NSW Auditor General identified in its recent review of water conservation measures in Greater Sydney³, there are a range of policy, governance and regulatory impediments that operate as significant barriers to conservation and re-use. The role of strategic long-term planning, and appropriate governance reform, are crucial.

³ NSW Auditor General '[Water Conservation in Greater Sydney: Performance audit](#)' 23 June 2020

PIAC reiterates our comments regarding water planning and governance processes in response to draft recommendations 5.1 and 5.3. We recommend a specific objective be set optimising the implementation of water recycling and re-use across the state. This objective would inform regulatory and governance reform, and long-term plans that include public education campaigns, such as those in draft recommendation 5.5. However, such campaigns are likely to have limited value in isolation.

5.6 Identify and assess alternative models to help local water utilities meet quality and reliability standards.

PIAC supports a more consistent approach to the regulation and operation of all water utilities across the state. There is an established need for reform of governance, regulatory and structural responsibilities, most apparent in relation to local water utilities in regional NSW. While quality and reliability of supply are key delivery outcomes for all water utilities, it is not possible to examine and address them in isolation from other aspects of investment, planning, structure, service-delivery, governance and regulation.

The recent prolonged drought demonstrated that many local water utilities are compromised by their lack of resources, the lack of integrated catchment management, the lack of governance clarity and consistency, and the lack of long-term planning direction based on clear objectives. This has resulted in water quality issues, a dangerous lack of town water security requiring trucked water, and a scramble to implement emergency state-funded upgrades of key infrastructure. This experience mirrors that of the millennium drought and illustrates the urgent need for comprehensive reform.

PIAC strongly recommends that improvements in these areas should be a key objective in the comprehensive governance and regulatory reform of water in NSW. The process should address several key areas relevant to the operation of local water utilities, including:

- better integration of land-use, planning, resource, water and energy decision making frameworks.
- a transparent long-term strategic water policy for the state that outlines objectives for water resource use, value, conservation, sustainability, risk management, security and pricing.
- governance that assigns transparent responsibility in line with agency and authority to act on a catchment-based level.
- regulation and pricing principles that are consistent across all water utilities, local and state, and informed by the objectives and principles derived from the long-term water strategy.
- objectives, targets and incentives to optimise water conservation, re-use and recycling.
- reform of measures supporting access to water as an essential service to ensure consistent access across the State to proportionate rebates and assistance measures.

5.7 Monitor the effectiveness and efficiency of the new Sydney Water scarcity pricing model in managing demand and use this to guide water demand management policy.

PIAC supports a review of the pricing model implemented during the most recent pricing and regulatory decisions for Sydney and Hunter Water. It is important that the assessment of this pricing model be undertaken through the lens of alignment with the principles and objectives of long-term water planning, and the community's expectations of equity in affordable access to water as a service essential for sustaining health and wellbeing.

Pricing mechanisms do not operate in isolation and cannot be assessed without considering all of the factors that influence investment, yield and usage in the long-term. The principles and expectations the community has regarding the value of water, equity of access to water, and the way that costs are shared must be integrated. This recommendation would be most effectively implemented by a specialist energy and water regulatory body and must consider pricing within the wider scope of alignment with the objectives noted above and community expectations.

Energy

Climate Change

In energy and water productivity, efficiency and sustainability have complex determinants that can change over time. Investments have decades-long implications for both for costs and the viability of communities from which costs are recovered. Climate change continues to radically alter costs, risks and potential benefits. And, as the Productivity Commission has noted, the lack of a carbon dioxide emissions reduction mechanism places a significant stress on the reliability and affordability of NSW power supply.

Technological agnosticism and competitive neutrality alone have limited use in determining outcomes in current conditions. It is necessary to introduce additional principles to the frameworks for assessing and realising economic opportunities in energy and water.

The frameworks need to consider the potential of opportunities available, the risks they mitigate, their sustainability and long-term resilience to the impacts of climate change. Any reasonable assessment of potential reforms, policies or investments, must consider 'both the immediate and long-term returns in improved productive capacity.

PIAC supports the Commission's statement that "for governments to intervene to expand the capacity of existing coal assets or extend their lives using non-market mechanisms.... risks further distorting the competitive landscape."⁴ However, noting the need for a broader and longer-term framework described above, PIAC strongly disagrees that technologies such small-scale nuclear generation will play any role in a zero-emissions energy sector for NSW. Even if small scale nuclear becomes viable technology elsewhere in the world, its inordinately long lead times, prohibitive expense and unacceptable risk render it pointless in Australia.

See PIAC's response to draft recommendation 5.10 below.

⁴ NSW Productivity Commission, *Green Paper: Continuing the productivity conversation*, August 2020, 173.

Reliability and security of supply

PIAC agrees with the Productivity Commission that energy security and reliability standards should be met as efficiently as possible. In addition, these standards must also be set at levels that reflect consumers' preferences, in particular their expressed willingness to pay.

As the Commission noted, many submissions including PIAC's argued that the current levels of reliability are largely satisfactory and many consumers would be unwilling to pay for increases. We reiterate that the NSW government should ensure its reliability settings and investment decisions reflect consumer preferences. If there is a desire to go beyond these preferences in order to meet broader social objectives, the cost of doing so should be recovered from budget revenue, rather than through energy consumers' bills.

The current arrangements for power system security and concepts of 'firmness' were designed when available technology meant the most cost-effective generation was large, centralised generators that provided firmness as a by-product.

Solar and wind are now the most cost-effective investments. Though clean, more reliable and able to be ramped down faster than traditional generating plant, solar and wind are variable, sometimes difficult to predict, and cannot be 'dispatched on' in the same way as earlier types of generation. While batteries can ameliorate these challenges, the current market arrangements do not fully reflect the benefits they can provide.

In the coming decade there will be more variable generation and diurnal and seasonal factors will affect the storage levels of battery or pumped hydro systems. As a result, high price events will be harder to predict on the basis of high demand and low generation alone.

Given the above, in order to maintain system security, flexibility will be needed in the NEM as a whole through generation, storage and demand side resources. However, flexibility is not the same as 'capacity' or the outdated measure of 'firmness'. Capacity or firmness without fast, on-demand ramping (the ability to change a generator or load up or down) is of little value in a market increasingly dominated by variable energy sources.

Reliability and system security will be essential characteristics of any flexible energy service. Much new flexibility would be expected to come from batteries, other energy storage systems, and demand response.

In order to ensure the NEM delivers reliability and system security that reflect consumers' preferences now and into the future, it is essential that standards and policies reflect levels that people are willing to pay for and use the most efficient ways to attain that level.

This is discussed further in the next section.

See PIAC's response to draft recommendation 5.9 below.

Driving down costs through demand response, metering and tariff reform

The Productivity Commission rightly states that Distributed Energy Resources (DER), Demand Response (DR) and cost reflective pricing are important mechanisms to help drive affordability

whilst meeting the energy needs for NSW in the long term. PIAC considers that the potential of these mechanisms has been under-realised to date, to the detriment of NSW households and businesses.

While the slow rollout of smart meters contributes to this underutilisation and should be addressed, it is by no means the only cause. For instance, consumers have had limited opportunity to participate in DR programs due to the lack of wholesale DR undertaken by retailers and generators, and the inability for consumers to undertake wholesale DR without a retailer.

While the Wholesale Demand Response Mechanism will address many of these issues, it will not initially be open to households. Further reform is required to ensure all consumers can participate in DR, for instance by ensuring DR-capable appliances are readily available.

Another contributor to the under employment of DER is the lack of affordability of DER systems for many households, and existing issues with certain housing circumstances (such as renters or those in apartments) preventing installation of a system. The government should aim to increase access to DER for this group by expanding programs such as the *Solar for low income households scheme* and introducing new programs to increase battery uptake. Renters can benefit from DER through programs that allow the costs and benefits of DER to be shared between landlords and tenants.

See PIAC's responses to draft recommendations 5.8 and 5.11 below.

Correcting the narrative in relation to gas

PIAC is concerned by the way that gas and its relative availability is presented in the Green Paper, including the conclusions which are drawn as a result. We highlight the following errors in the presentation of the circumstances relating to gas in NSW:

- that there is an imbalance between supply and demand that threatens the availability of gas, or gas at a reasonable price,
- that increased supply of gas from NSW will address prospective issues with gas availability,
- that gas sourced in NSW would have a significant impact on the affordability of gas in NSW,
- that both increased supply and the prospective price of that supply would be a significant driver of improved economic productivity in NSW, and
- that increasing the supply and use of gas is consistent with achieving a net-zero economy by 2050.

It is incorrect to frame the near-term circumstance as one where NSW is 'running out of gas'. Notwithstanding any issues with the efficiency of delivery, there is an east coast network for gas which facilitates delivery of gas for existing retail, industrial and generation usage in NSW. In an interconnected market it is not necessary (or even preferable) for NSW to produce gas in order to source it for current or ongoing usage.

In the second instance, short-term security of gas supply is not in danger. Australia is by some estimates the world's largest gas producer, with the vast majority of production being sold for export⁵. The existing domestic production capacity, without any expansion, significantly exceeds committed contracts, with substantial excess. Further, the world is currently experiencing an extended period of oversupply of such severity that the net back price has collapsed well below Australia's domestic price. Internationally and domestically suppliers are writing tens of billions of dollars off the value of their assets, and leaving large volumes of gas uncontracted. The availability of gas to meet existing needs in NSW, in the short term, is not at risk from lack of physical capacity.

Rather, the ACCC has repeatedly identified market manipulation by gas companies as the source of current 'shortages' and the sustained premia of domestic gas prices compared to the international market. The ACCC recently highlighted domestic gas prices up to twice as expensive as those on the international market Australia exports into. Despite this sustained price gap the ACCC noted that in late 2019 uncommitted gas equivalent to 10% of east coast demand was sold into the international spot market at prices well below those of the domestic market⁶. This behaviour created an artificial 'shortage' on the domestic market and higher domestic gas sale prices. Increased supply of any kind is unlikely to materially alter the domestic gas availability and price over the short or long term.

Measures to increase supply are unnecessary. Current and prospective production is sufficient to meet domestic demand if the balance between gas exported and gas retained for domestic use, is addressed. Examining projected 'shortages' of gas compared to existing developed sources involves an assumption of continued export at current or expanded levels. A gas reservation policy, guaranteeing domestic needs over the next decades, in conjunction with accelerated measures to reduce the residential and industrial use of gas, would be a more effective means of addressing any short-medium term issues with supply and price of gas.

Importantly, when considering the potential impact of gas upon energy productivity, new gas sourced from NSW is not likely to have any downward impact upon gas prices. Identified gas resources in NSW have costs at or above existing gas sourced from QLD. More reputable estimations indicate that the minimum cost of gas able to be delivered from NSW would be substantially more expensive, locking NSW into much higher priced gas⁷. These risks strongly recommend pursuing alternatives that improve NSW energy productivity and are more resilient to longer term trends in the international energy market and global responses to climate change.

Finally, it is imperative to recognise that gas is a carbon intensive energy source, with serious potential impacts upon productive land and water resources. Gas extraction and use in generation, manufacture and in homes, makes an unacceptable contribution to accelerating climate change⁸. Any transition to achieve a net zero economy by 2050 will have to involve eliminating or minimising the use of gas. Increasingly, energy market analysts and international

⁵ The Australia Institute. ['Weapons of Gas Destruction: lifting the lid on greenhouse gas emissions from Australian fossil gas projects'](#) September 2020, 1-14.

⁶ ACCC Media release ['Domestic gas users paying too much'](#) 17 August 2020.

⁷ The Australia Institute. ['Fast and loose: analysis of Santos eleventh hour Narrabri Gas project documents.'](#) August 2020.

⁸ The Australia Institute. ['Weapons of Gas Destruction: lifting the lid on greenhouse gas emissions from Australian fossil gas projects'](#) September 2020.

oil and gas companies⁹ accept that gas, like other thermal energy industries, has rapidly declining prospects and will not play a significant role in the world economy beyond 2050.

Expanding gas development and use is contradictory to the NSW Government's commitment to a net-zero economy, and likely to impede the ability to realise the opportunities presented by new zero carbon technologies. This Green Paper seeks to identify the optimum measures that can be employed now, to deliver improvements in productivity and economic opportunity that can be sustained over the long-term. No further development of gas in NSW could be recommended when considered in this context.

The NSW Chief Scientist & Engineer recently presented a report to the NSW Government¹⁰, identifying opportunities across the economy to rapidly decarbonise the NSW economy and improve its productivity. This report lays out practical measures that can be taken implementing existing technology and accelerating and deploying nascent technology. Crucially, many of the pathways and practical measures set out in this report provide a risk-free, long term means of improving the productivity of the NSW economy by rapidly transitioning its energy to a more sustainable footing. Many of these measures, such as the conversion of gas dependant industry, will be dangerously impeded by increased investment and commitment to obsolete, expensive and carbon intensive technology like gas.

PIAC strongly recommends that the NSW Productivity Commission support this report, and explore opportunities to implement its recommendations as measures to encourage transition, reduce gas dependence and improve productivity.

Responses to draft energy recommendations

5.8 Review NSW's Building Sustainability Index scheme to ensure it meets both environmental and economic objectives.

PIAC supports measures to review and update the BASIX scheme to ensure that it is more effective in driving best practice outcomes for residential building efficiency. Health and environmental objectives, however, are more effective drivers of improvements in residential construction that contribute to overall economic productivity.

The primary function of housing is to provide an environment that sustains the health, wellbeing and productivity of residents. Efficient housing ensures residents are able to remain healthy and contribute productively to the community, utilising the minimum energy and water to do so. A sustainable home minimises the expenditure to sustain a healthy environment.

While BASIX has a role in addressing this, PIAC recommends that the Productivity Commission make recommendations for more comprehensive measures, integrating the recommendations of the NSW Chief Scientist & Engineer's report¹¹, with the resilient housing recommendations contained in PIAC's response to the NSW Housing strategy¹².

⁹ World Economic Forum ['World has already passed 'peak oil' BP figures reveal'](#) 22 September 2020.

¹⁰ NSW Chief Scientist and Engineer. ['Opportunities for prosperity in a decarbonised and resilient NSW'](#) August 2020.

¹¹ Ibid.

¹² Public Interest Advocacy Centre ['Transforming our housing system towards housing for all'](#) 31 July 2020. Pp25-34.

5.9 Revisit the Energy Security Target in the context of reliability standards endorsed by the Council of Australian Governments (COAG) energy Council:

- **If it imposes greater reliability requirements, demonstrate that this is consistent with consumers' willingness to pay.**
- **Otherwise, adopt the COAG Energy Council standards in its place.**

As noted in the section 'Reliability and security of supply', PIAC supports ensuring the reliability standards are set at levels that reflect consumers' preferences, in particular their expressed willingness to pay. If the NSW Energy Security Target imposes greater reliability requirements than consumer preferences, this must be addressed. If there is a desire to maintain a standard beyond consumer preferences (such as to achieve broader social objectives) the cost of doing so should be recovered from budget revenue, rather than through energy consumers' bills.

In addition to reviewing the level at which the standard is set, it is essential that the standard is able to make use of the most efficient ways to achieve that level. For instance, Distributed Energy Resources (DER), Demand Response (DR) and cost reflective pricing are important mechanisms to help drive affordability whilst meeting the energy needs for NSW in the long term. PIAC considers that the potential of these mechanisms has been underutilised to date, to the detriment of NSW households and businesses.

5.10 Commit to a contestable private energy market based on technology-neutral competitive neutrality principles.

Create a NSW-specific emissions intensity scheme to help optimise investment in electricity, having regard to climate change mitigation objectives and the pace of innovation.

As noted in the section 'Climate Change' above, PIAC considers the principles of technological neutrality and competitive neutrality have limited use in determining outcomes in current conditions. It is necessary to introduce additional principles to the frameworks for assessing and realising economic opportunities in energy and water.

As outlined earlier, in the section 'Principles for long-term decision making in energy and water', we need consider the potential of opportunities available, the risks they mitigate, their capacity to enable further benefits, and their sustainability and long-term resilience to the impacts of climate change.

Any reasonable assessment of potential reforms, policies or investments, must consider both the immediate and long-term returns in improved productive capacity.

PIAC recommends the Productivity Commission discards the obsolete focus on competitive and technological neutrality, to recognise the need for more proactive and strategic decision making, and commits to principles that:

- consider the relative cost and efficiency over time, not only at the point of decision,
- prioritise contribution to climate change mitigation and resilience,
- prioritise rapid and equitable economic transition to a zero-carbon economy,

- consider the longevity of the benefits realised in any opportunity, and prioritise those able to realise or enable benefits beyond 2050. For instance, where benefits in the form of investment, jobs, improved capacity and improved resilience to climate impacts extend beyond 2050,
- consider the relative risk impacts that climate change, and responses to it, may have on identified opportunities. For instance, considering that international responses to climate change will introduce further costs to high-carbon assets, and benefits to low-carbon assets,
- consider the enabling (or disabling) impact on the long-term productive potential or sustainability of other sectors of the community. For instance, where decisions taken now may improve the viability of a carbon intensive industry in the short term, but hamper the ability to realise productive opportunities over the long term.

PIAC strongly supports the recommendation to implement a market mechanism to support this process. We support an economy wide emissions intensity or carbon pricing mechanism, and agree that these options should be examined as a priority for NSW.

5.11 Evaluate options for rolling out smart meters to all consumers and for time of use, cost reflective electricity pricing.

As noted in the section 'Driving down costs through demand response, metering and tariff reform', PIAC supports accelerating the rollout of smart meters in NSW. However, this alone will be insufficient to fully realise the potential benefits to reliability, affordability and emissions reductions.

Furthermore, implementing time of use tariffs must not be the end goal in rolling out smart meters as they are not particularly cost reflective. While they may send a better price signal and more fairly recover costs than flat tariffs, more cost reflective structures such as peak demand charges or critical peak pricing better reflect the impact consumers place on the network and more fairly recover costs. They also better incentivise consumers to optimise DER (such as rooftop solar and/or batteries) and to shift their usage to coincide with solar generation, orient solar panels to face west (and/or east) to coincide better with energy consumption and to store excess solar generation for use during times of higher demand.

Consumers have had limited opportunity to participate in DR programs and while the Wholesale Demand Response Mechanism will address many of these issues, it does not address network cost issues and will not initially be open to households. The Productivity Commission should recommend processes to open up the DR market to providers other than retailers, ensure households have DR-capable appliances and to make sure household DR can participate where appropriate to meet reliability standards or other policies.

Many consumers have been unable to realise the benefits of DER because they are unable to afford a DER system or their housing situation (such as renters or those in apartment) prevents from them installing a system. The NSW government should aim to increase access to DER for this group by expanding programs such as the *Solar for low income households scheme* and introducing new programs to increase battery uptake.

The NSW government should also explore models where the costs and benefits of DER to be shared between landlords and tenants to allow renters to benefit from DER.

While accelerating the rollout of smart meters will unlock benefits to many consumers individually and help improve the efficiency of the NEM as a whole, it also raises potential consumer protection issues.

For instance, the potential for remote de-energisation for non-payment of essential energy services is of particular concern. The requirement to manually undertake the process of de-energisation acts as a practical element in the delivery of consumer protections. Research shows remote de-energisation of households who are unable to pay has resulted in a material increase in completed de-energisations and an increase in those de-energised multiple times. In light of this, PIAC considers the time and practical steps required to complete de-energisation manually are important practical elements of ensuring consumer protections are delivered.¹³

In evaluating options to rollout smart meters to all consumers, the NSW Government must take a harm-based approach where the consumer protections offered are proportional to the potential harm the consumer may face should something go wrong – the higher the potential harm, the stronger the protections offered to the customer.

5.12 Establish a single NSW Energy regulator and remove the IPART responsibility for regular monitoring of the retail electricity market.

PIAC supports the recommendation to rationalise the range of energy regulatory functions into a single NSW expert energy regulatory body, but recommends that IPART's existing monitoring and oversight of the retail market in NSW be retained in the scope of this new body.

Expert regulation of the NSW energy system is becoming increasingly important as the complexity of the system increases. While IPART has significant expertise and resources, a more focussed regulatory role, complete with consolidated responsibility for all aspects of the NSW energy system and its interactions with the NSW economy and wider NEM, would provide scope for significant efficiencies and improvements. There is merit in considering the creation of such a regulator as an opportunity to incorporate similar functions of regulatory oversight of NSW Water, which is essential service sharing many expert regulatory requirements with energy.

The Green Paper recommends reform and rationalisation of the regulatory and governance functions across water in NSW. This long overdue process provides an opportunity to combine similar expert regulatory oversight functions in energy and water, under a single body able to focus on the twin essential service industries that underpin the prosperity of the state, and the health and wellbeing of the community.

The nature of the energy and water industries makes their regulation and oversight different from other pricing and regulatory functions, while exhibiting a high degree of harmony and similarity with each other. Both are essential services that require specialist consideration of

¹³ Some of the potential harms from remote de-energisation and options to address them are discussed further in PIAC, [Digital metering: improving service delivery](#), September 2019.

technical parameters, economic efficiency, environmental sustainability, long-term strategic and community interests, response to climate risks, and the complex and dynamic interaction between the industries in NSW and the wider national markets.

IPART has undertaken effective work developing and improving the economic efficiency of regulation across these industries as part of its wider remit. However, in the face of accelerating change across both industries, the need for governance reform, rapid technological change, and the imperatives of climate policy, IPART may no longer be the most appropriate body to meet these requirements. A single NSW Energy and Water regulator, created through a process of governance and regulatory reform outlined earlier in this submission, could deliver improved outcomes by:

- Developing and retaining the technical and expert knowledge to effectively monitor, regulate and develop the water and energy services in NSW in the long-term interests of the community, its households and businesses.
- Implement, monitor and assess the ongoing reform and restructure of governance, regulation and oversight of energy and water services in NSW

A consolidated, specialist energy and water regulatory body would also be an appropriate mechanism for undertaking a comprehensive review of supporting measures, and implementing and monitoring the resulting reforms to rebates and concessions as well as government programs that support of access to essential energy and water services. We will provide more detail in relation to this in response to draft recommendation 5.14.

5.13 Review the strategic regional land use policy and strategic release framework to ensure they maximise the balance of costs and benefits to industry and community.

PIAC supports, in principle, reviewing land-use policy as part of a process that better integrates long term strategy in planning, energy, water, resources and land-use. It is vital that such a review better recognises and integrates future risks, benefits and costs into current decision-making frameworks. Such a review, however, must not be narrowly linked to the increased availability of gas, or any particular resource. PIAC is concerned that the Green Paper may be recommending such a review in order to preference the development of gas in NSW.

In response to a NSW Parliamentary inquiry into the sustainability of energy supply and resources in NSW¹⁴, PIAC highlighted the need to ensure better integration of land-use, planning, resource, energy and water decision making frameworks.

A review of the way these frameworks interact is essential to ensure related decisions:

- are principles-based with a consistent focus on climate mitigation and resilience, minimised long-term risk, long-term job and economic opportunity,
- consider the impacts on related areas, so that decisions in any one area trigger consideration of risks and opportunities in other related areas. For instance, land-use or resource extraction decisions must consider impact in relation to long-term water security and resource availability,

¹⁴ Public Interest Advocacy Centre '[Submission to the inquiry into sustainability of energy supply and resources in NSW](#)' September 2019.

- consider impacts in a wider context and how they contribute to cumulative impacts or risks. For instance, land-use planning and resource decisions must consider not only the incremental water impacts of that project, but how they interact with other existing impactors and the resultant risks. This recognises that impacts on water security are not discrete and that multiple decisions taken separately may result in unacceptable risks or costs when considered as a whole, and
- consider the opportunity cost in cost-benefit assessments, and assess whether decisions may limit future opportunities such as by degrading or reducing the availability of productive land or undermining the viability of water resources.

We strongly recommend the NSW Productivity Commission revise this recommendation to ensure it supports a review incorporating the objectives outlined above.

5.14 Improve efficiency and accessibility of administering energy rebates and support programs by incorporating them into the Government made easy: tell us once initiative.

Review the suite of rebate and assistance measures with a view to consolidating their number and better aligning them to the needs of vulnerable and low-income households.

PIAC supports a comprehensive, transparent process to review rebates and measures supporting affordable access to both energy and water. We do not support the draft recommendation that the review be framed by the objective to consolidate the number of assistance measures. While consolidating the number of measures could be a means to better support consumers, it is not appropriate to pre-determine this as the intention of the review.

A more appropriate and effective framing for a review of assistance measures in both energy and water would involve:

- Recognising the essential function of energy and water services in supporting and enabling the health, wellbeing and productive participation of the household in the community.
- Stating that the objective of rebates, concessions, supporting policies and programs is ensuring all households have equitable access to the energy and water.
- Ensuring that the targeting of assistance measures, the form they take, and the quantum of assistance they provide is determined by the relative needs of the household. For instance, larger households with requirements driven by medical needs may be provided a higher proportion of assistance.
- Considering a range of means to support access to essential energy and water services, including:
 - proportional rebates, concessions and special payments,
 - special or social tariff availability or low-cost default service provision,
 - subsidised efficiency upgrades, appliance replacements and availability of supply supplement technology (such as rooftop solar, batteries and water tanks), and
 - health-based 'prescription' for energy and water support intervention. For instance where those experiencing chronic conditions exasperated by poor housing can be

‘prescribed’ assistance for draught proofing, efficiency upgrades, heating upgrades and other subsidies for essential energy and water usage.

The NSW Audit office has identified the value of proportional rebate support¹⁵. Consistent application of proportional support would align with other supporting policies and programs aimed at improving efficiency, facilitating demand management and onsite supply replacement or storage in both energy and water.

A consolidated, objective-based review of all rebates and supporting measures in energy and water should be undertaken by an expert energy and water regulatory body, as outlined in response to draft recommendation 5.12. Such a body could more effectively ensure a consistent assessment of rebates and supports according to the objectives outlined above. It would also align the regulation of the energy and water industries with the assistance measures intended to support the community’s access to essential energy and water services.

PIAC strongly supports the recommendation to improve the administrative efficiency of rebates, and notes that it would likely benefit from incorporating both energy and water regulatory, monitoring and assistance functions into a single energy and water regulatory agency.

Continued engagement

PIAC looks forward to continued constructive engagement to further explore the sustainability of energy supply and resources in NSW. We view this inquiry as a valuable opportunity to ensure that all NSW communities benefit from decarbonisation and the transition of the energy system.

¹⁵ NSW Auditor General [‘Performance Audit of Energy rebates for low income households’](#) September 2017.