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Inputs, Assumptions and Scenarios Report Submission to AEMO

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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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Recommendation 1

That AEMO adopt a managed trajectory of accelerated emissions reductions in line with limiting global warming to 1.5°C as a factor in its consideration of optimal development paths.

Recommendation 2

That AEMO increase the transparency and accessibility of information regarding how temperature change assumptions will impact Australia, particularly the energy system, under each scenario and how they factor into the choice of optimal development path.

Recommendation 3

That AEMO ensure emissions targets are consistent with Australia doing its fair share as part of achieving the assumed temperature increase in a scenario.

Recommendation 4

That AEMO assume net-zero emissions by 2050 for the Central Scenario, in line with jurisdictional government policies and targets.

Recommendation 5

That AEMO remove the Diversified Technology scenario and replace it with one that is useful, does not risk AEMO's reputation, and will contribute to identifying and planning a future for the NEM that is in the long-term interests of consumers.

Recommendation 6

That AEMO include a scenario that models reaching net-zero in line with limiting temperature rise to 1.5°C.

Recommendation 7

That AEMO model a high-DER uptake sensitivity of the Central scenario.

Recommendation 8

That if AEMO persists with the Diversified Technology scenario, it models a risk sensitivity where CCS technology does not become economically viable after 2030.

Recommendation 9

That AEMO consider modelling high electricity demand and lower gas demand scenarios as more and more homes opt for electrification.

Recommendation 10

That AEMO ensure consultation follows best practice principles and allows consumers and their representatives the opportunity to engage meaningfully.

Introduction

The Australian Energy Market Operator's (AEMO) forecasting and planning work, particularly the Integrated System Plan (ISP), has an important role in shaping the development of the energy system. Ideally, it helps guide investment in large-scale generation, storage and network infrastructure to deliver an efficient, resilient and reliable system at least cost to consumers. The scenarios and sensitivities AEMO use are essential, helping to ensure the ISP presents a pathway that is both robust to future uncertainties and able to utilise future opportunities.

PIAC appreciates the work AEMO has undertaken so far to develop inputs, assumptions and scenarios that are useful and robust. We provide comment on various aspects of the draft 2021 Inputs, Assumptions and Scenarios Report (IASR), in particular AEMO's approach to climate change and resilience, the assumptions underpinning scenarios, AEMO's engagement and consultation approach, and transmission costs.

PIAC reiterates its opposition to the inclusion of the Diversified Technology Scenario, which we consider does not meet AEMO's own standards for inclusion, is a risk to AEMO's credibility and is not in the long-term interests of consumers, including people experiencing social and financial disadvantage

1. Climate change and resilience

1.1 Co-optimising development to manage climate risks

Australia is a signatory to the Paris Agreement, which aims to reduce global warming to 1.5 degrees.¹ This requires a shift away from fossil fuel energy sources to zero emissions energy sources and systems. Developed countries like Australia are to take a lead in reducing emissions.²

Irrespective of whether any one Government's policy effectively meets the Paris Agreement (or equivalent) at any given time, the continued rapid replacement of fossil fuels with renewable energy in the system is inevitable and necessary, and this is broadly reflected in state and territory government policies.

From a risk management perspective, an ISP that does not economically co-optimize growth in renewable generation with firming sources, such as batteries, and balancing sources, like transmission interconnection and demand response, leaves consumers vulnerable to avoidable cost increases.

PIAC strongly recommends AEMO adopt a managed trajectory of accelerated emissions reductions in line with limiting global warming to 1.5°C as a factor in its consideration of optimal development paths.

Recommendation 1

That AEMO adopt a managed trajectory of accelerated emissions reductions in line with limiting global warming to 1.5°C as a factor in its consideration of optimal development paths.

¹ The Paris Agreement, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

² Ibid.

1.2 Incorporating climate risks

The Central scenario is associated with modest global carbon reduction ambitions leading to higher global and domestic temperatures and more extreme weather conditions. The IASR states the proposed Central scenario aligns suitably to the International Energy Agency's (IEA) STEPS scenario, which forecasts global temperature rises of 2.7°C by 2100.

This anticipated temperature rise will be accompanied by radical changes in the environment and extreme weather and consequent social, economic and technological upheaval.

These changes will also affect macro-level forecasts of energy demand such as:

- shifting populations and loads in response to temperature, sea level rise, sustained heightened bushfire risk or other changes to the liveability or arability of particular areas;
- changing loads (both reductions in existing loads and the entrance of new loads) as the Australian economy shifts in response to the urgent need to act on climate change including global emissions reduction targets;
- changing average temperatures and diurnal heating and cooling patterns affecting energy consumption both on typical and extreme days; and
- increasingly severe and regular extreme weather days.

They will also have major impacts on the operation of the energy system, such as:

- an increased proportion of distributed energy resources (DER) closer to load and less susceptible to extreme weather than centralised energy sources;
- increased risk of interruptions to transmission flow paths due to bushfires, floods or storms damaging network infrastructure, and parts of the network having to be de-rated or deenergised for safety and security;
- decreased availability of large, thermal generation as extreme weather forces generators to de-rate their output to maintain equipment within thermal limits or due to limited availability of cooling water; and
- early retirement of thermal generation due to decreased generation ability or weather-related damage – for instance if high temperatures damage or de-rate equipment and the high cost of repair shorten the economic life of plant.

AEMO has provided some information on how it incorporates climate change risks, including in its July Forecasting Reference group meeting. This information is not extensive or easy to access, however, making it unclear how climate impacts and risks are reflected in the scenario modelling and determination of the optimal development path.

As the Central scenario assumes an unsafe level of warming and the Slow Change scenario assumes catastrophic warming, more needs to be done to explain the impacts of the assumed temperature rises on society and the economy broadly and the energy system specifically, under each scenario.

Recommendation 2

That AEMO increase the transparency and accessibility of information regarding how temperature change assumptions will impact Australia, particularly the energy system, under each scenario and how they factor into the choice of optimal development path.

1.3 Climate and emissions assumptions

Only AEMO's Sustainable Growth and Export Superpower scenarios have the potential to result in a relatively safe climate outcome, but even they assume only a 26% reduction in emissions by 2030. Numerous bodies have warned cuts well above that will be required by 2030 to avoid crossing the 2°C threshold (let alone 1.5°C) by 2100.

A recent report released by the Climate Targets Panel found:

To be consistent with the Paris Agreement goal of limiting global warming to well below 2°C, Australia's 2030 emissions reduction target must be 50% below 2005 levels. A 2035 target would need to be 67% below 2005 levels. Net-zero emissions would need to be reached by 2045.

To be consistent with the Paris Agreement goal of limiting global warming to 1.5°C, Australia's 2030 emissions reduction target must be 74% below 2005 levels, with net-zero emissions reached by 2035.

A simple 'net-zero emissions by 2050' target for Australia is not sufficient for the Paris Agreement goal of limiting global warming to well below 2°C (nor 1.5°C).³

We note that these targets are 'economy-wide' targets, and many argue the electricity sector can and should transition faster than other sectors, including gas, in which the relative cost of achieving zero emissions is higher.

The emissions reductions assumptions for all the scenarios are inconsistent with some jurisdictional government targets. For example, the NSW net-zero by 2050 plan aims for a 35% cut in emissions by 2030 compared to 2005 levels.⁴

Emission reduction targets should be in line with the latest advice on what is required to limit temperature changes to what is assumed under the scenario and reflect jurisdictional targets.

Recommendation 3

That AEMO ensure emissions targets are consistent with Australia doing its fair share as part of achieving the assumed temperature increase in a scenario.

³ Climate Targets Panel Report, January 2021. *Australia's Paris Agreement Pathways: Updating the Climate Change Authority's 2014 Emissions Reduction Targets*, 6.

⁴ NSW Government, March 2020, *Net-Zero Plan Stage 1*. <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Climate-change/net-zero-plan-2020-2030-200057.pdf?la=en&hash=D65AA226F83B8113382956470EF649A31C74AAA7>.

2. Scenarios

PIAC supports AEMO's proposed principles and considerations for developing and assessing scenarios. In particular, we highlight the need for scenarios to be plausible and have utility for end users. We discuss issues with particular scenarios below and recommend new scenarios and sensitivities.

2.1 Central Scenario

PIAC notes the Central scenario does not assume the electricity sector meets net-zero emissions by 2050, despite all states and territories in the NEM, and key trading partners such as UK, European Union, South Korea, and the United States, currently having targets of net-zero by 2050 or earlier.

AEMO reasons as a number of the NEM states and territories targets do not have accompanying implementation plans or trajectories they should not be included as assumptions across the scenarios and instead the less ambitious federal policy should be applied. We highlight states have, particularly in recent years, been driving the energy transition and contributing significantly to Australia overshooting its federal emission reduction goals. In light of this, we consider it appropriate and important for the Central scenario to assume net-zero by 2050, in line with the jurisdictional targets.

Further, consumer preferences should be key to energy system planning, and energy users overwhelmingly express preferences to minimise climate change with a clean energy system.

Recommendation 4

That AEMO assume net-zero emissions by 2050 for the Central Scenario, in line with jurisdictional government policies and targets.

2.2 Diversified Technology

PIAC supports the inclusion of all but the Diversified Technology scenario. We consider it is implausible, not internally consistent and not useful. PIAC strongly recommends removing it from the IASR and replacing it with a scenario that meets AEMO's own principles and considerations.

AEMO states the set of scenarios should be: plausible, distinctive, internally consistent, and cover the breadth of possible futures. The Diversified Technology scenario assumes:

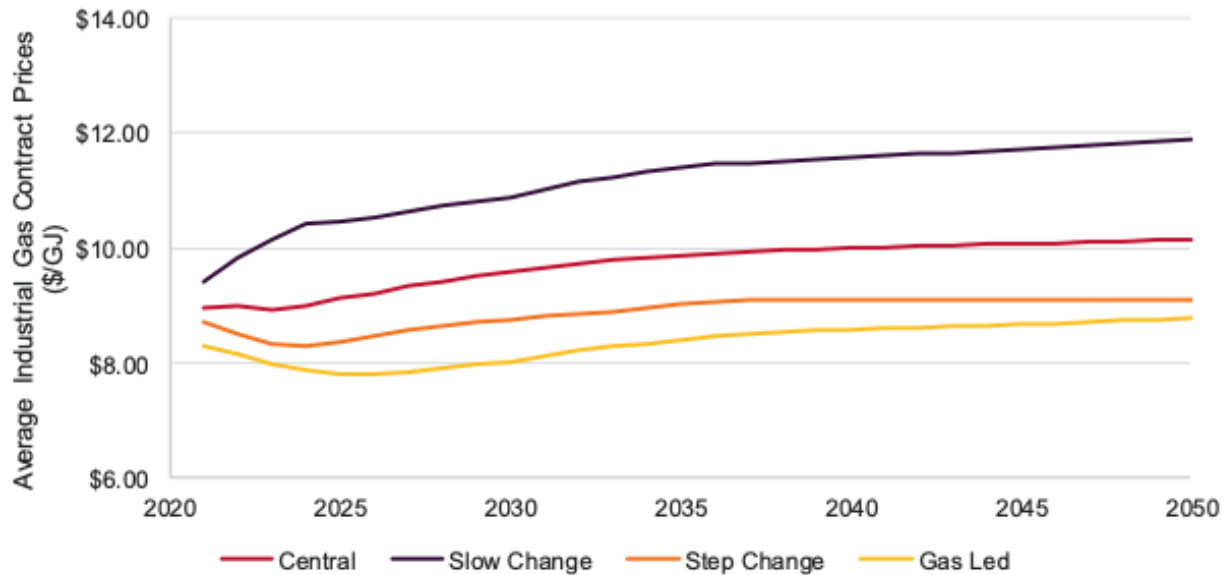
- governments use the COVID stimulus budget on gas infrastructure and this leads to lower gas prices
- carbon capture and storage (CCS) technology costs drop to be economically viable, and
- slower reductions in storage and Variable Renewable Energy (VRE) costs.

These assumptions and the scenario as a whole are not plausible nor internally consistent, and the rationale for the inclusion of the scenario is not clear.

AEMO's own forecasts for gas prices suggest no future where gas could reasonably compete with renewable energy and storage in the NEM. Figure 29 on page 102 of the IAS Report shows AEMO's assumptions for future gas prices under different scenarios (Figure 1).

Figure 1: AEMO future gas price assumptions

Figure 29 Average industrial gas price forecast for the major eastern demand centres (averaged across Brisbane, Sydney, Adelaide, Melbourne)



These forecasts show gas prices remaining around \$8/GJ between now and 2030, and increasing from then onward.

AEMO's analysis from the 2020 Integrated System Plan suggests the price of gas would have to be well below \$8/GJ and battery charging costs high for the fuel to compete with batteries in future:

[F]or GPG to remain a competitive investment as battery costs reduce (to \$922/kWh by 2030), gas prices need to be as low as \$4/GJ in the long run, while charging costs need to remain relatively high at \$30/MWh. Even in 2019-20, 4-hour batteries would have been able to charge at an average price below \$30/MWh in all regions except New South Wales.⁵

A recent report by the Grattan Institute found eastern Australia “faces inexorably more expensive gas” and that the “only rational approach, for governments, the energy industry, and its customers, is to begin planning for a future without natural gas, or at least with a substantially reduced role for natural gas”.⁶ It notes the measures proposed in the federal government’s ‘gas-led recovery’ will “either make little to no difference to gas prices, or would require significant ongoing taxpayer subsidies to do so.”⁷ The government’s plans do not stipulate such an ongoing

⁵ AEMO, *Integrated System Plan 2020*, July 2020, 55. <https://aemo.com.au/-/media/files/major-publications/isp/2020/final-2020-integrated-system-plan.pdf>.

⁶ Grattan Institute, *Flame out the future of natural gas*, November 2020, 3. <https://grattan.edu.au/wp-content/uploads/2020/11/Flame-out-Grattan-report.pdf>.

⁷ Grattan Institute, *Flame out the future of natural gas*, November 2020, 15. <https://grattan.edu.au/wp-content/uploads/2020/11/Flame-out-Grattan-report.pdf>.

commitment and AEMO's forecasts do not show a significant fall in prices, even under the gas-led recovery scenario.

The implausibility of the scenario is highlighted in statements made by NSW Energy and Environment Minister, Matt Kean, in September 2020 following federal government announcements of plans to subsidise and support increased gas supply. The energy minister for Australia's most populous state said, "the business case for gas is on the clock" gas "may be useful in the short term", and wind, solar, pumped hydro and batteries are "the future for New South Wales".

Origin director and former boss of gas pipeline business APA, Mick McCormack, has also said the kinds of low gas prices being discussed as part of the 'gas-led recovery' are not likely, saying \$4 per gigajoule was an unrealistic goal.⁸

The scenario's assumptions that continued strong decarbonisation ambitions internationally and increased global investment in decarbonising technologies will result in limited cost reductions in batteries, solar and wind but significant cost reductions in CCS lack consistency and seem implausible, particularly considering that much investment is being made into new and more efficient renewable energy sources in a global market in which Australia's actions have little effect on price.

Irrespective of Australian policy and stimulus, international investment and global markets will continue to bring down the costs of VRE and batteries, especially given the scenario assumes global decarbonisation ambitions are targeted at limiting the temperature rise to well below 2°C by 2100.

The assumption CCS could become economical and widely applicable in Australia poses a risk to the ISP's, and thereby AEMO's, credibility. There are no cost-effective CCS generation projects working at scale in Australia, despite more than a decade of investment. The only large-scale CCS facility, the Gorgon gas facility in Western Australia, became operational years behind schedule and has only captured a fraction of the emissions it was designed and intended to.⁹ Meanwhile, the cost of batteries, large scale and distributed PV and other DER continue to fall.

The assumption demand for distributed PV will be below the Central scenario is questionable given historical trends and AEMO's own price forecasts for gas. AEMO notes "lower electricity prices are expected due to the lower assumed gas prices, so the payback period for DER is longer".¹⁰ As noted earlier, AEMO's assumptions show gas prices remaining at levels uncompetitive with battery storage over the medium to long-term and only slightly lower than under the Central scenario.

⁸ The Australian, January 2020. *Cheap gas is unrealistic, warns Origin Energy director Mick McCormack.* <https://www.theaustralian.com.au/business/mining-energy/cheap-gas-is-impossible-warns-origin-energy-director-mick-mccormack/news-story/cebf34dbf69c96932b589a5d9297335f>.

⁹ Australian Broadcasting Corporation, September 2020. Angus Taylor says Australia has the world's largest carbon capture and storage project. Here's what he's not saying. <https://www.abc.net.au/news/science/2020-09-19/angus-taylor-carbon-capture-storage-gorgon-chevron/12676732>.

¹⁰ AEMO, Draft 2021 Inputs, Assumptions and Scenarios Report, December 2020, 28.

Additionally, it is well understood that return on investment (ROI) has little bearing in the rate of distributed PV uptake. Household PV purchasing behaviour is understood to be driven by up-front cost rather than the payback period for investment in solar and, in all likelihood, other DER. Non-financial drivers of uptake, such as emissions reduction, resilience, independence and reliability, feature heavily in household DER investment decisions.

The IASR states the Diversified Technology scenario is best aligned with Shared Socio-Economic Pathways 1 (SSP1), where the greatest transition towards low carbon technologies takes place, and with the IEA's Sustainable Development Scenario which targets no more than 2°C temperature rise.

The Diversified Technology scenario has the lowest uptake of DER, energy efficiency and other renewable resources. It rests on the increased extraction and burning of a fossil fuel up until 2030 when it assumes, despite overwhelming evidence to the contrary and none in support, CCS will become economically and technologically viable enough means of carbon abatement to limit global warming to 2°C. The Diversified Technology scenario is more appropriately mapped to SSP5, Fossil-fuelled Development, which has an associated temperature increase of 4.3°C. SSP5 is described as having high levels of economic and social development coupled with increased use of fossil fuels and resource-and energy-intensive lifestyles; and rapid economic growth, with increased faith in the role of technology in managing ecological systems, including via negative emission technologies and other types of geo-engineering.

As well as being implausible and inconsistent, the Diversified Technology scenario was deemed the least useful by stakeholders at the 11 November AEMO forum.

Continuing to use the scenario introduces risks

Given the scenario's implausibility by AEMO's own estimates and assumptions, and its lack of popularity among stakeholders, continuing to include it introduces a range of risks for AEMO, consumers and the community, for little or no discernible benefit.

Modelling the scenario may be perceived to legitimise proposals that are not in the long-term interests of consumers or the community. Without an understanding of the scenario's underlying assumptions, and with AEMO's credibility and perceived independence underpinning it, this could be used to bolster public support for gas extraction and supply with limited future viability in the absence of subsidies. No details of these government subsidies would accompany the modelling results.

As the scenario is not plausible and the rationale for its inclusion is not clear, including it undermines AEMO's credibility as an independent, expert system planner for the NEM. This erodes the usefulness of the ISP and AEMO's other forecasting and planning work.

Additionally, including the scenario in the ISP development may skew the results of the modelling and investment recommendations when applying the least-regrets framework. For example, having unrealistically low DER forecasts, as in the Diversified Technology scenario, assumes more demand is met through centralised rather than embedded generation and hence unduly favours candidate pathways with more transmission upgrades. Similarly, unrealistic assumptions of the role of gas and CCS would favour network expansion or reinforcement in different areas and at different times, resulting in transmission investment that is under-utilised, or even

stranded, and missed opportunities to enable more cost-effective options like renewable generation and storage.

PIAC urges AEMO to remove the Diversified Technology scenario and replace it with one that is useful, does not risk AEMO's reputation, and will contribute to identifying and planning a future for the NEM that is in the long-term interests of consumers.

Recommendation 5

That AEMO remove the Diversified Technology scenario and replace it with one that is useful, does not risk AEMO's reputation, and will contribute to identifying and planning a future for the NEM that is in the long-term interests of consumers.

2.3 Alternative scenarios

PIAC notes none of the proposed scenarios has an emissions reduction trajectory that can limit warming to 1.5°C. As noted in section 1, the latest evidence suggests to limit temperature rises to 2°C Australia must reach net-zero emissions by 2045 and to limit warming to 1.5°C must reach net-zero by 2035 and reduce emissions by 74% on 2005 levels by 2030. These trajectories are much steeper than those proposed in the Sustainable Growth and Export Superpower scenarios.

Global ambition to limit climate change has undergone a step change in recent months, including the Biden Administration's recent executive orders on climate change and China's net-zero by 2060 target, and rapid and widespread emissions reductions seem more likely than ever.

As mentioned earlier, these targets are economy-wide targets, and given the challenges for other industries such as gas, cement, steel and agriculture to achieve zero emissions, the electricity system is likely to require deeper, faster decarbonisation than these other sectors.

For policy and planning purposes, PIAC considers a scenario that models a trajectory of zero emissions from electricity in 2035 or 2040 would be essential, informative, and improve the credibility of the outputs.

Recommendation 6

That AEMO include a scenario that models reaching net-zero in line with limiting temperature rise to 1.5°C.

2.4 Risk scenarios/sensitivities

High DER

AEMO notes it has consistently underestimated the rate of distributed PV uptake.

AEMO has identified that the 2020 forecasts of distributed PV underestimated uptake across most regions. As outlined in its 2020 Forecast Accuracy Report, AEMO has identified the distributed PV forecast as a key continuous improvement area...¹¹

Given this historical inaccuracy and the important role DER uptake has on development of VRE and associated transmission infrastructure, we recommend including a sensitivity of High DER uptake in the Central scenario. This sensitivity may help mitigate over-investment or premature investment in REZ transmission or interconnectors, potentially revealing a lower cost development path.

Recommendation 7

That AEMO model a high-DER uptake sensitivity of the Central scenario.

Carbon Capture and Storage uncompetitive

The Diversified Technology scenario assumes temperature increases of less than 2°C despite the increased burning of gas (a fossil fuel) due in part to uptake of CCS technology after 2030. Given the extreme uncertainty around CCS ever becoming viable at a small or large scale, if AEMO persists with the Diversified Technology scenario, PIAC urges AEMO to model a sensitivity of it where the cost of CCS does not decline and the technology does not become competitive. This sensitivity would present a much more likely future outcome than the existing Diversified Technology scenario and would be of more use to stakeholders. It would also highlight the great risk in relying on an unproven and highly contentious technology to deliver emissions reductions while increasing the use of fossil fuels.

Recommendation 8

That if AEMO persists with the Diversified Technology scenario, it models a risk sensitivity where CCS technology does not become economically viable after 2030.

Electrification of gas and transport

There is a clear trend toward electrification of traditional gas (and transport) loads in homes (and businesses). For example, the ACT Government has committed to phase out fossil-fuel-gas in the ACT by 2045 at the latest and set a goal of no new gas mains infrastructure to new developments by 2023.

There are many benefits to electrification of gas loads, including:

- Overall cost savings from avoiding appliance fuel and capital cost and the cost of gas network connections
- Higher efficiency
- Improved health and safety
- Ability to participate in electricity services and markets
- Easier and more cost effective to decarbonise

¹¹ AEMO, Draft IASR 2021. https://www.aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/inputs-assumptions-methodologies/2021/draft-2021-inputs-assumptions-and-scenarios-report.pdf?la=en, 62.

The trend towards electrification of homes will have consequences for electricity and gas demand. AEMO should consider modelling high electricity demand and lower gas demand scenarios.

Recommendation 9

That AEMO consider modelling high electricity demand and lower gas demand scenarios as more and more homes opt for electrification.

3. Engagement and consultation

PIAC welcomes the engagement and consultation AEMO has done so far in developing the IASR, especially given the size and complexity of the task, the range of stakeholders, and AEMO's limited resources. However, we highlight some issues with how AEMO has conducted its engagement and consultation, particularly with regards to consumers and consumer advocates.

3.1 Principles for engagement and consultation

Consumers are the parties most impacted by the development path of the energy system. Consumers pay the costs of overinvestment in network infrastructures and have their choices of energy supply and demand shaped for years by decisions made today. Given consumers shoulder most of the risks and costs of the ISP, their voices and preferences should be prioritised in its development.

Consumers should be engaged early and should be involved in every stage of the development process. Forums and other engagement activities are most beneficial when they allow two-way discussion between AEMO and stakeholders, and provide an opportunity to raise issues and give feedback effectively. If needed, there should be opportunities for stakeholders, particularly those who may be less technically adept, to have deep dives with AEMO into certain issues.

PIAC considers the AEMO's engagement should support three key objectives:

- Consumers should be confident decisions which will impact them - including decisions to make no change - are in their long-term interest and have been made with their views understood and accounted for.
- Where trade-offs are made by consumers, for example between price and reliability, they should be informed by consumer preferences.
- Where cross-subsidies occur between groups of consumers, or where services are above a minimum acceptable level, they should be well supported across the consumer base.

We consider the AEMO's engagement should broadly meet the principles set out by the Australian Energy Regulator (AER) in its Consumer Engagement Guideline for Network Service Providers.¹²

These are that engagement be:

¹² 6 AER, Consumer Engagement Guideline for Network Service Providers, November 2013

- Clear, accurate and timely;
- Accessible and inclusive;
- Transparent; and
- Measurable.

Recommendation 10

That AEMO ensure consultation follows best practice principles and allows consumers and their representatives the opportunity to engage meaningfully.

3.2 Areas of note

The ISP Consumer Panel (the Panel) is a welcome step to enable consumer input, however, we note it was not established until late November when much consultation on the scenarios had already been done. The choice of scenarios is a key consumer concern and it would have been beneficial for the Panel to have had the opportunity to provide meaningful, coordinated input into their early development. In future, AEMO should establish the Panel at the outset of consultation to allow it the opportunity to provide feedback on each stage of the process.

While the Consumer Panel is welcome, we highlight there are many important consumer voices outside the Panel. AEMO should take care to give all consumer input equal regard and not assume the Panel's views are representative of all consumers.

The timing of the consultation process – over the Christmas/New Year period when many people are on leave – made it difficult to have valuable and widespread, well-informed input from consumer representatives. Given the importance of the IASR in the final ISP, the wide scope and complexity of the subject matter and that this is the only opportunity to have formal feedback on the IASR, this timing may have prevented many consumer advocates from engaging. As a result of this, we caution AEMO not to assume the feedback received is an exhaustive reflection of consumer perspectives and allow future opportunities for feedback, including informal or verbal feedback.

4. Transmission costs

We welcome AEMO establishing a transmission cost database (the Database) for transmission projects in the ISP. Transmission costs have been consistently underestimated by Transmission Network Service Providers in early stages of the approval process for projects. As consumers bear the cost and risk of transmission investment, ensuring projects are accurately costed at each stage of the approval process is a key consumer concern. The Database is a step towards improving the transparency, accountability and reliability of cost estimates underlying large ISP projects. PIAC has concerns, however, with how AEMO will source costs for the database, what recourse stakeholders will have to query or dispute estimates, and how these estimates will be measured for accuracy. We welcome further consultation around the Database before it is finalised later in 2021.