

03 September 2026

Australian Energy Market Commission
Level 15, 60 Castlereagh Street
Sydney NSW 2000

Project reference: EPR0092

Dear Commissioners

Review of the Integrated System Plan framework – Discussion Paper

The members of the ISP Consumer Panel appreciate the opportunity to provide this submission to the Australian Energy Market Commission in response to its *Review of the Integrated System Plan Framework* Discussion Paper.

The Panel has a particular interest in this Review given its role in representing consumer perspectives in the development of AEMO's Integrated System Plan. We consider the Review an important opportunity to strengthen the ISP framework as the National Electricity Market continues to evolve, while preserving the considerable value of the ISP as a national planning and coordination framework.

Our submission focuses particularly on the future audience, purpose and scope of the ISP, the relationship between the ISP and project delivery processes, the increasing importance of whole-of-system planning, and the need for the ISP to be more explicitly framed around consumer outcomes.

Although the ISP Consumer Panel is established as part of the AEMO ISP framework, this submission represents the independent views of the Panel. A preliminary version of the submission was provided to AEMO for comment. The Panel considered AEMO's feedback but retains full responsibility for the content and conclusions of the submission. Accordingly, the views expressed do not necessarily reflect those of AEMO. The Panel acknowledges and appreciates AEMO's support in preparing this submission.

The Panel thanks the AEMC for the opportunity to contribute to this important Review. With AEMO's agreement, we would be pleased to participate in any further discussions with the Commission on the matters raised in our submission as the Review progresses.

Yours sincerely,

Mike Swanston
Chair
AEMO ISP Consumer Panel

Review of the Integrated System Plan framework

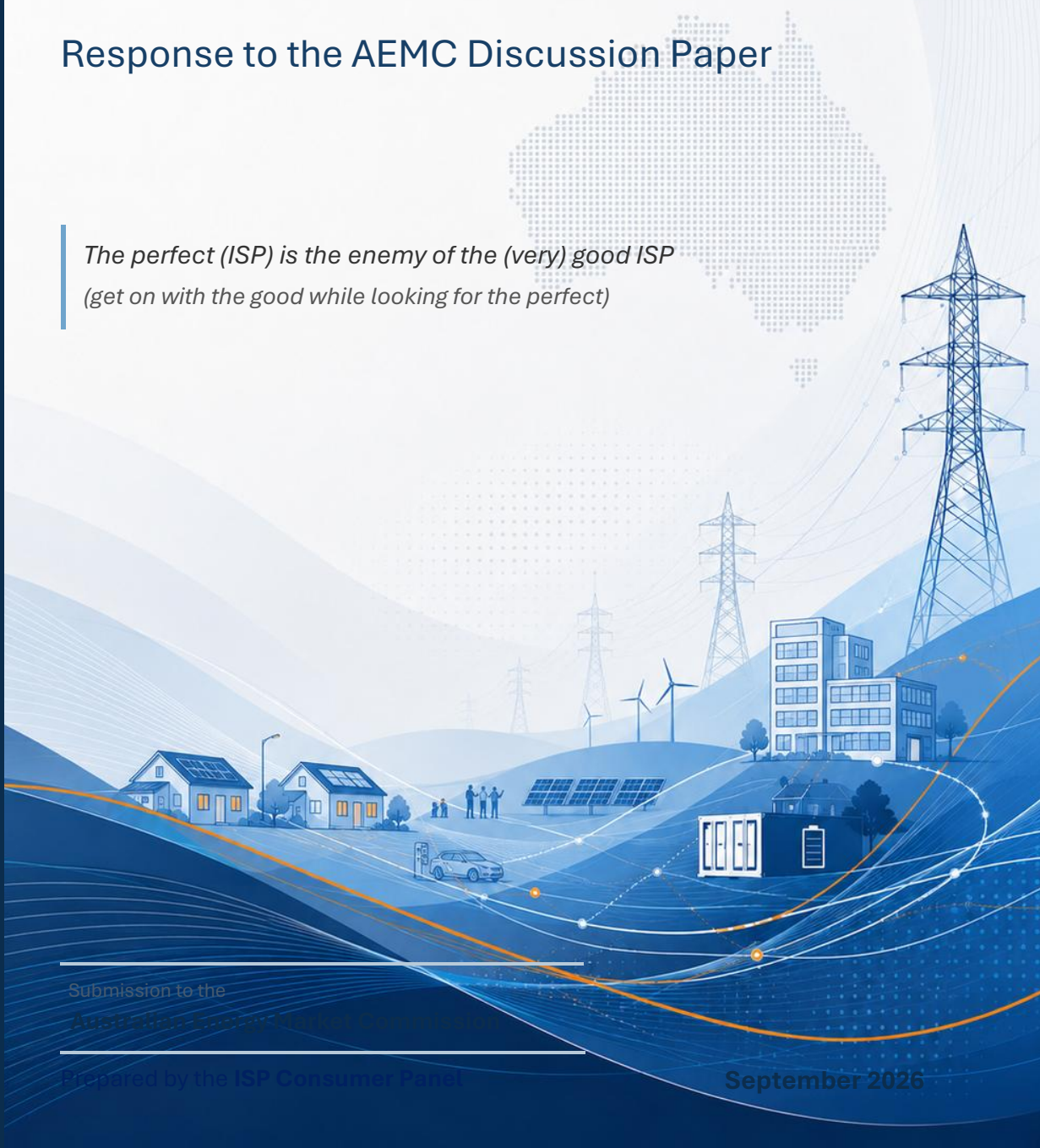
Response to the AEMC Discussion Paper

*The perfect (ISP) is the enemy of the (very) good ISP
(get on with the good while looking for the perfect)*

Submission to the
Australian Energy Market Commission

Prepared by the ISP Consumer Panel

September 2026



Acknowledgement of Country

The ISP Consumer Panel acknowledges the Traditional Custodians of the lands and waters across Australia on which the National Electricity Market operates. We pay respect to Elders past and present and recognise the enduring connection of Aboriginal and Torres Strait Islander peoples to Country.

Acknowledgements

The Panel acknowledges the AEMC for its engagement on the Review of the Integrated System Plan framework, and AEMO staff and technical specialists for their ongoing engagement with the Panel throughout the ISP process.

The Panel also appreciates the support and the allocation of valuable resources provided by AEMO to the ISP Panel in preparing this submission.

About the ISP Consumer Panel

The ISP Consumer Panel is established under the National Electricity Rules to represent consumer perspectives in the development of AEMO's Integrated System Plan. The Panel's role is to test whether the ISP's assumptions, analysis and conclusions are well explained and are directed to outcomes in the long-term interests of consumers.

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Status of this document

This submission has been prepared by the ISP Consumer Panel in response to the AEMC Discussion Paper on the Review of the Integrated System Plan framework.

A preliminary version was provided to AEMO for comment. The Panel has considered AEMO's feedback and incorporated those suggestions it considered appropriate.

The submission remains the independent work of the ISP Consumer Panel and does not necessarily reflect the views of AEMO.

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Executive Summary

The Finkel Review of June 2017, or more accurately *The Independent Review into the Future Security of the National Electricity Market: Blueprint for the Future*, identified the value of a more strategic approach for the coordination of generation and transmission investment in the NEM to ensure security and reliability are maintained. It specifically identified the need for a long-term integrated grid plan to address the core problem that fragmented and incremental generation and transmission planning could no longer be expected to produce efficient whole-of-system outcomes in a rapidly changing NEM, and was unlikely to deliver secure and reliable electricity to consumers at lowest sustainable cost.

That recommendation was an important precursor to the ISP.

Our view is that, while technologies and the policy environment have changed dramatically, the underlying coordination problem has not disappeared. In fact, the number of actors and potential substitutes has multiplied and extended beyond utility generation and transmission to include distribution network development, batteries in many different applications, CER/DER, flexible demand, energy efficiency, gas firming, REZs, jurisdictional schemes and increasingly very large new loads.

The ISP remains an essential national planning framework for the NEM and should be strengthened rather than fundamentally redesigned. Its primary purpose should be to support the long-term interests of consumers by providing a credible, NEM-wide view of how the energy system can develop reliably, securely and at efficient whole-of-system cost, within the National Electricity Objective, legislated emissions-reduction targets and relevant government energy policies.

Reform should preserve the considerable analytical and planning value of the existing ISP.

We support the ongoing evolution toward a broader whole-of-system ISP. Distribution networks, CER/DER, energy efficiency, flexible demand, storage, mid-scale resources and gas where materially relevant increasingly interact with, and can substitute for, traditional generation and transmission investment. These resources should progressively be brought into the planning and optimisation framework where they are material to the Optimal Development Path (ODP), can be modelled with sufficient credibility and have realistic pathways to implementation.

On this basis, the Panel supports straw person SP3 as the minimum direction of reform, supplemented by selected elements of SP4, particularly a broader concept of actionability, while not supporting full electricity-gas co-optimisation under SP5 at this stage.

The ISP should remain a strategic national plan rather than becoming the vehicle for detailed project assessment or implementation. AEMO's role should be enhanced to further identify the actions, policy gaps, incentives, and responsibilities likely to be important to achieving the ODP, while governments, networks, market participants, and other institutions remain responsible for implementation.

Similarly, the RIT-T should remain a distinct project-level assessment. Better sequencing and information exchange between the ISP and RIT-T can reduce duplication, but material changes in project cost, timing or underlying assumptions before substantial commitment should trigger proportionate reassessment to ensure that proposed investments continue to provide net benefits to consumers and include active consumer engagement in each process.

The ISP should have a stronger and broader emphasis on 'actionability', with the Panel distinguishing between regulatory actionability and broader Delivery Recommendations. Regulatory actionability is the existing mechanism through which actionable ISP projects proceed to project-level assessment, while Delivery Recommendations address the wider question: "what must happen, by whom, and through what

mechanism, for the ODP to be achieved?" The Panel supports a more defined mechanism for translating the ISP's identified needs and delivery implications across the wider range of actors and industry participants.

Finally, the ISP should be framed much more explicitly around consumer outcomes. Consumers both influence the future system through their choices and ultimately bear its costs, risks and benefits. Affordability, reliability, distributional impacts, consumer behaviour and preferences, social licence and practical bill consequences should therefore be more visible throughout the ISP.

Consumer engagement remains integral to the ISP. In addition to the Consumer Panel, we see great value in continuing to develop targeted, deliberative engagement with consumer and DER advocates and organisations to assist AEMO's understanding of consumer preferences, challenges and emerging trends, including market innovations such as community energy initiatives and models to encourage VPP take up.

At the same time, as jurisdictional planning expands, the ISP's role as a consistent NEM-wide direction becomes more important: it should allow governments and consumers to understand where state and territory pathways align with or depart from the national ODP and the implications of those choices for total system cost, reliability and consumers.

1 Key recommendations

1. ***Invest time in re-examining, restating and communicating the role of the ISP. It is important for all stakeholders to share, as far as practicable, a common view of why the ISP exists, what its strengths and limitations are, and how its findings, analysis and recommendations feed forward into the planning and development processes of the various parts of the energy system.***
2. ***Focus on the best outcome for consumers:*** Retain the ISP as the national planning framework, explicitly focused on achieving the best long-term outcomes for consumers within the National Electricity Objective, legislated emissions-reduction targets and relevant government energy policies, and avoid reform that delays the delivery of current transmission and infrastructure development.
3. ***Broader whole-of-system planning:*** Evolve the ISP as an ongoing, broader whole-of-system planning framework, including distribution, CER/DER, energy efficiency, flexible demand, non-network options, gas where materially relevant, and mid-scale resources where these can credibly affect the ODP.
4. ***Be explicit about the human factors:*** Recognise the effect of policy and market settings on consumer behaviour, the increasingly individualised nature of energy choices, and the wider social factors influencing how energy is used, stored and generated. Give explicit attention to consumer preferences and practical capacity to participate in the future energy system.
5. ***Adopt a broader concept of actionability: Distinguish the legal transmission actionability trigger from a wider set of recommended actions, incentives and responsibilities required to deliver the ODP. Use SP3 as the minimum direction of travel, while incorporating the broader actionability intent of SP4 through staged and proportionate mechanisms.***
6. ***Frame the ISP explicitly around consumer outcomes:*** affordability, reliability, distributional and regional impacts, consumer behaviour and preferences, bill implications and the practical actions consumers are assumed to take.
7. ***Strengthen the relationship between the ISP and distribution planning,*** including the new Distribution Network Development Plan framework to effectively action the DER/CER and demand side integration required by SP3/4.
8. ***Preserve the ISP as a consistent NEM-wide reference point*** against which jurisdictional plans can be assessed; require transparent explanation of alignment, departures and the resulting implications for whole-of-NEM costs, emissions-reduction objectives and consumer outcomes.
9. ***Take a staged approach to gas rather than adopting SP5 now:*** prioritise the more immediate SP3/SP4 reforms; continue to strengthen AEMO's gas market modelling and the coordination of the GSOO with the ISP; and review regulatory and guideline barriers that could unnecessarily constrain more integrated energy planning in future.
10. ***Continue to enable and strengthen consumer engagement*** and support for the Consumer Panel, but do not create a separate Independent Technical Panel.
11. ***Continue to improve accessibility, transparency and trust*** by clearly identifying the ISP's purpose, assumptions, uncertainties, consumer impacts and material changes between ISP cycles, and tailoring content to specific audiences.

2 The continuing rationale for an integrated national plan

The rationale for an integrated national planning process remains substantially the same as that identified by the Finkel Review in 2017. Finkel concluded that a more strategic approach was required to coordinate generation and transmission investment across the NEM, particularly as the generation mix changed, and new renewable resources increasingly developed in locations remote from the existing transmission network. The concern was that fragmented and incremental generation and transmission planning could no longer be expected to produce efficient whole-of-system outcomes in a rapidly changing NEM, or to deliver secure and reliable electricity to consumers at lowest sustainable cost.

That underlying coordination problem has not disappeared; in important respects, it has become more complex. The system now involves a much wider range of resources and decision-makers, including large-scale generation and transmission, storage and firming, distribution networks, CER/DER, mid-scale renewable developments, flexible demand, energy efficiency and increasingly significant jurisdictional planning and investment programs. Many of these resources can substitute for, complement or materially affect one another. As such, identifying the optimal development path for the future energy system needs to be able to take all these factors into account.

At the same time, the long-lived nature of major electricity infrastructure means that poorly coordinated decisions made today can constrain future options and impose costs on consumers for decades. Finkel specifically warned that incremental planning based on the next marginal investment was unlikely to produce the best long-term outcomes and could result in inefficient or duplicative investment.

The ISP is built on sophisticated engineering and economic analysis. Its role is to support the long-term interests of consumers by providing a credible national view of how the energy system can develop reliably, securely and at lowest sustainable cost, while operating within the National Electricity Objective, legislated emissions-reduction targets and relevant government energy policies. The Review should reinforce that role without disrupting or delaying the work the ISP already performs well.

The increasing role of state and territory governments further strengthens rather than diminishes the case for a NEM-wide planning perspective. Individual jurisdictions will legitimately pursue their own policy, reliability and development objectives, but the resulting investments interact through a physically interconnected electricity system and ultimately contribute to costs and risks borne by consumers.

The ISP therefore retains an important role as the common national reference point: identifying a coherent whole-of-system development pathway, exposing the consequences of material departures from that pathway, and providing governments, investors and consumers with a consistent basis for understanding the trade-offs between cost, reliability, security and timing.

3 A national strategic compass

As the energy system becomes more complex, the ISP should increasingly be understood as a strategic national reference point rather than a comprehensive delivery plan. AEMO's comparative advantage lies in its ability to bring together sophisticated engineering, economic and market analysis across the NEM, test interactions between the growing range of system resources, and identify the development pathway that appears most likely to deliver reliable, secure and efficient whole-of-system outcomes.

In addition, the ISP should not be considered in isolation from AEMO's other forecasting, reliability, security and planning functions. The value of the ISP is not in duplicating these functions. Rather, its distinctive role should be to draw together the material implications of AEMO's wider analytical work,

together with relevant government policy settings and stakeholder inputs, into a coherent NEM-wide view of the preferred long-term development pathway.

The ISP can provide confidence about the broad technical direction of the network - the system needs that are emerging, the principal trade-offs, the sequencing of major developments and the implications of alternative pathways. In that sense, it should operate as a compass for the wider energy sector: sufficiently authoritative and evidence-based to guide decisions, without attempting to prescribe every decision required to implement the pathway.

This is consistent with the Panel's view that the ISP should remain a strategic national plan rather than become the vehicle for detailed project assessment or implementation.

Recognising a hierarchical structure of accountability and deliverability

Delivery necessarily occurs through a hierarchy of institutions and decisions. Governments determine policy and legislative settings; networks undertake detailed system and investment planning; generators, storage providers, retailers, manufacturers and investors make commercial decisions; and project proponents must resolve matters such as technology choice, financing, detailed options assessment, constructability, environmental impacts and social licence.

These parties are generally closer than AEMO to the particular assets, communities, customers and commercial conditions involved, and are therefore better placed to make detailed implementation decisions and to be accountable for their outcomes. The purpose of the ISP should not be to displace that expertise or accountability, but to provide a common national analytical framework within which those decisions can be made.

This is particularly important as the ISP broadens beyond transmission to encompass resources that are owned, controlled and delivered by an increasingly diverse group; including those directly facing consumers and communities.

This suggests a more explicit cascade from national optimisation to decentralised delivery, supported by strong feedback loops. The ISP would identify the ODP, material system needs and areas where action is required; governments, jurisdictions, networks and market participants would then determine how those needs are most efficiently delivered within their respective responsibilities.

Importantly, this should not be a one-way process. Information from those closer to delivery - about costs, consumer behaviour, technical feasibility, financing, supply chains, community acceptance and emerging alternatives - should feed back into subsequent ISP analysis. Such a structure combines the benefits of a coherent NEM-wide direction with the benefits of decentralised knowledge, ownership and accountability.

It also allows the ISP to remain stable enough to guide long-lived investment while adapting as better information emerges. This approach is also relevant to our distinction between the ODP and broader Delivery Recommendations discussed later in this document.

4 Elements of a whole-of-system plan

Set in the context of national energy policy

The ISP must clearly recognise the policy and legislative settings within which the energy system is required to develop. These include Australia's nationally legislated emissions-reduction targets and relevant government energy policies. The ISP's role is not to re-prosecute those policy choices, but to identify an efficient, reliable and secure development pathway within them.

A clear statement of purpose

A wider scope, however, brings greater uncertainty, more decision variables, additional data and greater exposure to changes in technology, commercial conditions, consumer behaviour and government policy. The Panel therefore does not support an ISP that tries to be everything to everybody. A clearer statement of purpose and audience is essential. The ISP should remain a strategic national plan, with RIT-Ts and other project-specific assessments retaining the detailed economic and option assessment needed once strategic needs are identified.

Whole of system

On the AEMC's discussion paper "straw people", the Panel supports SP3 as the minimum direction of reform, supplemented by selected elements of SP4 - particularly its broader conception of actionability - implemented incrementally and proportionately. The framework should evolve while preserving what works and broadening the plan where there is demonstrable consumer value. The Panel's preferred direction could therefore be characterised as 'SP3 plus': a wider whole-of-system plan, a credible national pathway and broader pathways to action beyond transmission.

The co-optimisation of gas is not an immediate priority

Consistent with that staged approach, the Panel does not support adopting SP5 - full co-optimisation of electricity and gas infrastructure - as part of the current reform. Better coordination of electricity and gas planning is important, particularly as gas-powered generation may remain important for reliability and firming through coal retirement. However, the immediate priority should be the SP3/SP4 reforms, while AEMO progressively strengthens gas modelling and cross-sector planning capability as a pathway toward more integrated energy planning over time.

Consumer benefit framing

The Panel also considers that the ISP should be framed much more explicitly as a consumer-impact document. Consumers are both an input to the plan - through demand, CER uptake, electrification, flexible consumption and behavioural choices - and the ultimate payers of its costs, risks and recipients of its benefits. The ISP should therefore explain not only what infrastructure and resources are required, but also what the plan means for consumers: why the ODP is expected to deliver better outcomes than the alternatives, how costs and benefits are distributed across different consumer groups, what forms of consumer participation are expected, and why stakeholders should have confidence in the ISP as a coherent national reference point. This will require more explicit and informed treatment of consumer behaviour and consumer preferences, including the extent to which energy choices are made individually or collectively (including by communities), and the associated implications for equity and the distribution of costs and benefits.

Consumer research as an important input

The Panel also supports earlier and better-supported consumer engagement, including targeted research and particularly deliberative engagement to strengthen the evidence base on consumer preferences, behaviour and the distribution of costs and benefits.

Consumer behaviour is heterogeneous and cannot be treated as if households and businesses respond to a single economic objective. The modelling should recognise take-up rates, behavioural constraints, equity effects and the fact that private decisions may not align automatically with system-wide least cost. Additional targeted consumer engagement is recommended to deepen AEMO's understanding of preferences, diverse views, innovations and directions in this space.

From inputs to decision variables

The Panel supports testing a wider set of decision variables in the ODP. Recent research as part of the Enhanced System Planning Project suggests that co-optimisation of transmission- and distribution-connected supply and demand-side resources has the potential to yield substantial cost savings for consumers. This research also highlights the scale of the technical and procedural challenge involved, particularly the need for coordination and integrated planning between AEMO and network businesses. Resources should be brought in where they are material to system outcomes, capable of being modelled with sufficient credibility, and capable of being influenced through realistic delivery pathways.

This wider set of inputs should include:

- distribution network augmentation and non-network alternatives
- strategic location of emerging large loads such as data centres, where future scenarios could involve locational flexibility
- energy efficiency and demand response
- mid-scale generation and storage owned by local government, farms, businesses and community enterprises
- shared and community energy resources that can provide alternatives for consumers unable to install individual rooftop systems
- storage and firming across small, mid and large scales

Importantly, the Panel does not suggest that every consumer decision should become an optimisation variable.

Integration with jurisdictions

The ISP's role as a national plan is becoming even more important as planning and delivery increasingly follow jurisdictional pathways. State and territory initiatives are legitimate and often necessary, but fragmentation can undermine the ability to understand whether the combined outcome remains least cost for consumers across the NEM and consistent with applicable national emissions-reduction objectives.

The ISP should not override jurisdictional responsibilities but should provide a consistent NEM-wide reference point against which jurisdictional choices can be understood, including their implications for the ODP, total system cost, reliability and consumers.

Sequencing and materiality

A broader plan is likely to require staged implementation over successive ISP cycles. The key test should be materiality: does adding a resource class materially change the ODP, consumer cost, system resilience or required network investment? If not, additional modelling complexity may not be justified. The scope should widen where doing so improves decisions, not simply because more variables can technically be modelled.

Long-lived infrastructure has long gestation periods and becomes difficult and costly to vary once committed. The framework should preserve sufficient stability for investment and delivery while progressively improving the treatment of distributed, demand-side and cross-sector resources.

5 Actionability and delivery

5.1 A broader understanding of actionability

The AEMC usefully distinguishes the plan from the actionability framework. The Panel would go one step further and distinguish between 'regulatory actionability' and 'delivery recommendations'.

- **Regulatory actionability** is the current legal trigger for major transmission project assessment.
- **Delivery recommendations** address the wider question: what must happen, by whom, and through what mechanism, for the ODP to be achieved?

The Delivery Recommendations would involve identifying the gap between the ODP and current delivery settings and making high-level recommendations where additional actions will be needed to help achieve the ODP. Delivery Recommendations would make recommendations to relevant bodies regarding the need to investigate and develop:

- policies,
- programs,
- incentives,
- market mechanisms or
- coordinated actions

Under this broader conception of actionability, AEMO would not direct governments or consumers to take specific actions. Responsibility for investigating options, designing policies or programs, and implementation would remain with the institution or jurisdiction best placed to act. However, given that the ODP identifies the development pathway assessed by AEMO as optimal under the ISP's assumptions, scenarios and constraints, and that achieving it requires actions beyond building new transmission lines, actionability should also extend to identifying where action in other areas may be needed.

We recognise that, while AEMO is the author of the ISP, it is not the only party with implementation responsibilities. In his introductions to both the 2024 and 2026 ISPs, CEO Daniel Westerman identifies the crucial importance of collaboration among the many parties whose combined actions are needed to deliver the ODP. We see Delivery Recommendations as an explicit means of giving effect to this intent.

5.2 RIT-T and the national pathway

The Panel supports removing unnecessary duplication and timing misalignment between the ISP and RIT-T but considers the RIT-T should remain a distinct project-level process. The ISP should identify strategic system needs and the national development pathway; the RIT-T should retain detailed testing of credible options, costs, benefits and project-specific information (including community engagement and social licence) as these mature. Folding that detailed assessment into the ISP would risk making an already complex strategic planning process slower and less adaptable.

The issue is therefore better framed as sequencing and information flow: how can the ISP provide sufficient strategic priority and direction, while RIT-Ts retain the flexibility to respond to localised conditions and new information without unnecessarily re-opening the national plan?

Where there has been a material increase in project costs, a significant delay in project delivery, or other material changes in the assumptions underpinning the original assessment, there should be a proportionate reassessment before substantial commitment to confirm that the preferred option and its timing continue to deliver net benefits to consumers.

In response to this issue, the Panel also proposes a review of the AER's Cost Benefit Analysis guidelines to assess whether they remain fit for purpose in the context of the changing role and scope of the ISP.

Consumer engagement should extend to major project assessment and delivery decisions, particularly where project costs, scope or schedules change materially after a project has entered the ODP. This engagement should address both the continuing consumer case for the project and the community impacts and social licence that are critical to its successful delivery.

6 Consumers, affordability and social licence

The Panel considers that the ISP is, fundamentally, a consumer-impact document supported by sophisticated technical and economic analysis. Consumers fund much of the investment that follows from the plan, experience the consequences of reliability and security choices, and increasingly influence the plan itself through CER/DER, electrification, flexible demand, energy efficiency and behavioural decisions. They are therefore both an input and an outcome of the ISP.

This perspective changes the framing of the document.

The central question should not only be 'what is the technically optimal system?' but 'what development pathway is expected to deliver the best long-term outcomes for consumers, under what assumptions, with what distribution of costs and benefits, and with what reliance on consumer action?'

Technical optimisation remains essential, but it should be visibly connected to the people and businesses who benefit and pay.

The ISP should therefore improve how it tests and communicates consumer behaviour and outcomes, and how it understands and incorporates consumer preferences for how they want and need to engage with energy. This includes developing a better understanding of the willingness and ability of consumers to:

- join VPPs and other measures to shift load (demand response),
- adopt energy efficiency,
- purchase batteries, and

- electrify transport or gas uses,
- participate in collective or community energy initiatives.

Consideration also needs to be given to the differing capabilities and opportunities of households and businesses to participate, and the equity implications for consumers who cannot install or finance individual CER.

Where feasible, the ISP should translate system outcomes into understandable jurisdictional, regional and representative bill impacts.

ECA's suggestion of a 'Bill of the future' illustrates the broader principle: consumers should be able to see how the scenarios and ODP connect to the costs, services and opportunities they are likely to experience.

The precise communication method can be refined, but the consumer consequence should not be buried behind system-cost-benefit metrics.

6.1 The Consumer Panel

The Panel supports earlier and better-supported consumer input into the ISP process. The main challenge is **not** a lack of access to technical expertise within AEMO, as the consultation paper suggests; the Panel has been able to engage directly and constructively with AEMO technical specialists. The harder problem is obtaining sufficiently broad and independent evidence based on consumer views.

The challenge of a lack of technical expertise is more of an issue for consumers at large. As the ISP becomes increasingly multifaceted and detailed, it is difficult for 'ordinary' consumers and consumer bodies to engage with the content in a meaningful way. This points to the need for sufficient resources to enable consumer advocates to dedicate the time required to engage fully with the content. It is also why it is important that AEMO continues to work closely and productively with the Consumer Panel and Consumer and Community Advisory Group.

We see great value in continuing to develop targeted, deliberative engagement with consumer and DER advocates and organisations to assist AEMO's understanding of consumer preferences, challenges and emerging trends, including market innovations such as community energy initiatives and models to encourage VPP take-up.

Accordingly, the Panel does not presently see a compelling case for a separate Independent Technical Panel. Resources would be better directed to enabling broader consumer research, targeted deliberative engagement and accessible material that allows consumers and advocates to participate earlier in the process, particularly in relation to consumer behaviour and expectations.

7 National and jurisdictional planning

The growing use of jurisdictional planning and delivery frameworks does not weaken the case for a national ISP; in the Panel's view it strengthens it. As more projects and policies are initiated outside the national pathway, there is a greater need for an independent NEM-wide perspective that shows whether the combined result remains coherent and likely to deliver the greatest overall benefit at lowest whole-of-system cost.

The ISP cannot, and should not, override the constitutional and policy responsibilities of states and territories. Nor should jurisdictional initiatives simply become unquestioned inputs to the national plan. The useful role of the ISP is to provide a transparent national optimal development path: what would the

ODP look like on a consistent NEM-wide basis, and how do jurisdictional policies and projects change that pathway, its costs, timing, reliability and distributional impacts?

This approach would allow state-based planning and national optimisation to coexist. Jurisdictions could pursue local policy objectives, but material departures from the national ODP should be visible and explained. That transparency would help governments and consumers understand the trade-offs and reduce the risk that a collection of individually rational jurisdictional decisions produces a higher-cost or less coherent NEM-wide outcome.

The Panel therefore sees the ISP not simply as another planning document among many, but as the common national reference point that helps those other plans make sense as a system. Without that role, the energy transition risks becoming a patchwork of state and federal plans, investment mechanisms and policy interventions with no sufficiently authoritative view of the combined outcome for consumers.

The new Distribution Network Development Plan framework is an important opportunity to strengthen vertical integration between distribution planning and the ISP. Common scenarios, transparent departures and structured information exchange should improve the ability to identify network and non-network alternatives while preserving the national overview.

8 Gas, storage, firming and innovation

8.1 Gas

The Panel supports the objective of better integrating electricity and gas planning but does not support adopting SP5 as part of the current ISP reform. Gas-powered generation (GPG) is likely to retain an important reliability and firming role as coal generation retires. However, full co-optimisation of electricity and gas infrastructure would be a major legal, regulatory, commercial and modelling undertaking and risks distracting from, or delaying, the more immediate consumer benefits available from SP3 and SP4 - particularly improved treatment of distribution, CER/DER, energy efficiency and demand-side resources.

The preferred near-term approach is therefore staged integration rather than a single combined optimisation model. A useful model is the layered approach described in the AEMC's discussion of the United Kingdom: each sector is analysed using fit-for-purpose methods, with cross-sector coordination built through the planning process. This would preserve the strengths and specialist knowledge of the existing electricity and gas planning frameworks while improving the consistency of assumptions, constraints and investment signals between them.

For the 2028 ISP and beyond, AEMO should continue developing its gas market model and gas demand and supply forecasting, including through the GSOO, with a clearer focus on electricity-system interactions. This should include gas system constraints, the amount and location of GPG needed for reliability, pipeline and storage requirements, system-wide costs, and the commercial challenge of financing assets that may operate infrequently. Gas generation and its supporting infrastructure should be compared on an equivalent economic basis with other sources of flexibility, including long-duration storage, batteries, demand-side resources and other alternatives.

The analysis should also reflect the long-term task of reducing greenhouse emissions. Where gas is retained for electricity reliability, the costs and consequences of carbon emissions and fugitive methane emissions should be transparent. This is important because the economics of GPG will increasingly depend on rare periods of system stress, and future investment may require explicit policy or market support. Those interventions should be informed by a whole-of-energy-system view rather than considered in isolation.

The Panel also recommends that the AEMC, AEMO and AER examine whether existing regulatory instruments unnecessarily limit the evolution toward more integrated energy planning.

Full SP5 implementation would potentially engage the NEL and NGL, the NER and NGR, wholesale market arrangements and AER instruments such as the Cost Benefit Analysis Guideline and Best Practice Forecasting Guideline. These issues should be worked through progressively rather than becoming a precondition for implementing the more immediate ISP reforms.

Actionability reinforces the case for a staged approach. Much of the relevant gas infrastructure - including GPG, pipelines and storage - is privately owned and does not sit within an equivalent of the actionable ISP/RIT-T framework for regulated electricity transmission. It would therefore be difficult to simply extend the existing electricity actionability mechanism to gas. Under the broader concept of 'Delivery Recommendations' proposed by the Panel, however, AEMO could provide stronger guidance to investors and policymakers on the efficient location, timing and scale of GPG and supporting infrastructure, while also identifying where policy intervention may be required and transparently accounting for gas use, emissions and their associated costs within the applicable emissions-reduction framework.

8.2 Storage and firming

Future ISPs will need to continue to give increased attention to storage and firming at all scales. The key planning issue is not simply how much storage is required, but where it should be located, what duration and services are required, how distributed storage interacts with network investment, and what delivery mechanisms are needed.

8.3 Innovation

The ISP cannot sensibly model speculative technologies as though they were certain. However, the planning framework should maintain a disciplined process for identifying emerging technologies that could materially alter costs, demand, system security or network needs, and should update stakeholders, including consumers, on their potential significance.

9 Responses to the AEMC questions

Question 1 - The ongoing role of the ISP

The ISP arose from the underlying coordination problem identified by the Finkel Review: incremental generation and transmission decisions could not be relied upon to produce secure, reliable and efficient whole-of-system outcomes over the long term. That rationale remains. Indeed, it has strengthened as the number of relevant resources, substitutes and decision-makers has expanded beyond large-scale generation and transmission to include distribution networks, storage, CER/DER, flexible demand, energy efficiency, jurisdictional programs and increasingly large new loads.

The ISP's continuing role should therefore be to provide a credible NEM-wide strategic compass: identifying the ODP and material system needs, explaining the principal trade-offs and uncertainties, and providing the many parties responsible for investment and implementation with a common national reference point. It should guide and coordinate their decisions without displacing their detailed planning, commercial judgement or accountability.

Its fundamental purpose should remain expressed in consumer terms: identifying the development pathway expected to meet system needs reliably and securely, at efficient whole-of-system cost and in the long-term interests of consumers.

Question 2 - Key changes to the environment in which the ISP operates

The most material changes are the increasing importance of CER/DER, mid-scale generation and storage, electrification, flexible demand, changing load shapes, gas and firming interactions, and the proliferation of jurisdictional planning and policy interventions. These changes increase both the value and the complexity of whole-of-system planning. They also increase the risk that a national plan becomes either too narrow or too unstable.

These developments have multiplied not only the variables that must be modelled, but also the institutions and market participants whose decisions must align sufficiently for the ODP to be delivered. The future challenge is therefore one of coordination and practical delivery as well as analytical scope. The Panel supports broader integration, but with staged implementation, materiality tests and a continued two-year cycle that balances certainty with adaptability.

Question 3 - The plan and actionability

The plan/actionability distinction is useful, but the Panel considers that two forms of actionability should be recognised. Regulatory actionability is the existing legal pathway through which major transmission projects proceed to project-level assessment. Delivery Recommendations would identify the additional policies, programs, incentives, market mechanisms or coordinated actions that may be required for the ODP to be achieved.

As author of the national strategic plan, AEMO should identify material delivery gaps and, at a high level, the bodies and mechanisms through which they could be addressed. It should not direct governments, networks, market participants or consumers, nor assume responsibility for detailed implementation. Those responsibilities should remain with the institutions closest to the relevant assets, markets, consumers and communities. Information from those parties should, in turn, feed back into subsequent ISP analysis.

Question 4 - Straw people

The Panel supports SP3 as the minimum direction of reform, supplemented by selected elements of SP4 - particularly its broader conception of actionability - implemented incrementally and proportionately. This would support a wider plan and a more effective national pathway while retaining a clear strategic role for the ISP and separate detailed project assessment. The preferred model is therefore broadly 'SP3 plus': wider whole-of-system planning, a strong national reference point, streamlined interfaces with delivery processes, and proportionate pathways to action for distributed, demand-side and other resources. This broader approach should improve coordination and make delivery responsibilities more explicit, without centralising detailed implementation or accountability in AEMO.

The Panel also identifies the importance of having a shared understanding of what "actionability" means and that this is part of the pending discussion paper 2. It is likely that the Panel will further explore 'actionability' in responding to this second AEMC paper for this Review.

Question 5 - Framework for choosing the future purpose

The Commission's proposed approach is broadly appropriate, but the assessment should begin more explicitly by distinguishing between those aspects of the ISP that are genuinely open to review and the legislative and policy settings within which it must operate.

In particular, the Review should clarify the problem the ISP is intended to solve, its principal audiences, the variables and design choices that can reasonably be reconsidered, and the fixed parameters arising

from the National Electricity Objective, legislated emissions-reduction targets and applicable policy settings that the ISP is required to recognise. It should distinguish these parameters from jurisdictional projects and initiatives whose effects on the national ODP should be transparently identified and tested. Within that framework, the central question should be what consumer outcomes the ISP is intended to deliver.

Greater weight should therefore be given to affordability, distributional impacts, social licence, transparency, adaptability, consumer preferences and the practical achievability of assumed consumer behaviour. The framework should also test whether proposed changes strengthen the ISP's capacity to remain a coherent NEM-wide strategic reference point as jurisdictional planning expands, and whether they establish a credible cascade from national optimisation to implementation by the relevant actors, with clear accountability and effective feedback to subsequent ISP cycles.

Question 6 - Extending the ISP to gas

The Panel does not support adopting SP5 as part of the current Review.

The potential benefit of more integrated electricity and gas planning is clear: it would allow the cost and reliability contribution of GPG, pipelines and gas storage to be assessed alongside alternatives such as batteries, long-duration storage, demand-side resources and other forms of flexibility. It could also improve visibility of where gas infrastructure is genuinely required through the transition and where investment may otherwise be stranded or inefficient.

The risks of full co-optimisation at this stage are also substantial. Electricity and gas have different legal, commercial and operational frameworks; SP5 would require significant changes to modelling, governance and potentially the NEL/NGL, NER/NGR and relevant AER guidelines. The Panel is concerned that pursuing these changes now could divert effort from the more immediate SP3/SP4 reforms, which are likely to deliver earlier consumer benefits through better integration of distribution, CER/DER, energy efficiency and demand-side resources.

The Panel therefore favours improved coordination as the next step. AEMO should continue to enhance the Gas Market model and GSOO and explicitly coordinate them with ISP assumptions and outputs, including the amount and location of GPG, gas supply and storage constraints, system-wide costs, emissions and the financing implications of low-utilisation firming assets. The AEMC, AEMO and AER should in parallel identify regulatory barriers to a more integrated approach over time.

For actionability, the current electricity mechanism cannot readily be transplanted to gas because most relevant gas assets are privately owned and governed under a different regulatory framework. A broader role to contribute 'delivery recommendations' is more realistic: AEMO can provide clear guidance to gas investors and policymakers on efficient investment needs and policy gaps, while implementation remains with governments, market participants and asset owners. This would improve coordination without requiring the ISP itself to become the direct implementation mechanism for gas infrastructure.

Question 7 - Planning framework issues

The main concern is not that the current modelling lacks credibility, but that its scope may become too narrow for the future system. Broader modelling could change the ODP where distribution, CER, demand response, energy efficiency or mid-scale resources defer or substitute for centralised infrastructure. The planning framework must also connect the ISP more effectively with Distribution Network Development Plans, jurisdictional planning and the investment and operational knowledge held by networks and market participants.

The influence of changes in government energy policy, regardless of where targeted, cannot be underestimated. Common scenarios, transparent treatment of departures and structured information exchange will be important. The ISP will require more explicit feedback stages to balance strong guidance for the development of long-lived assets with the need to adapt to changing costs, consumer behaviour, technical feasibility, commercial conditions and policy settings.

The CBA framework should more explicitly test consumer impacts. Additional prescription in the NER should be used only where necessary; methodology and governance may often be better tools.

Question 8 - Delivery framework issues

The delivery framework should extend beyond the interface between the ISP and the RIT-T. For regulated transmission, the Panel supports reducing unnecessary duplication and improving sequencing and information exchange, while retaining the RIT-T as a separate project-level process in which costs, credible options and localised impacts can be tested as information matures.

For the wider resources and actions required to achieve the ODP, the ISP should include proportionate Delivery Recommendations. These should identify the nature of the delivery gap, the institution or class of actor best placed to address it, and the policy, program, incentive, market mechanism or further investigation that may be required. Responsibility for considering and implementing the recommendation would remain with the relevant government, jurisdiction, network or market participant. A transparent feedback process should allow implementation experience—including information about costs, feasibility, consumer behaviour, financing, supply chains and social licence—to inform subsequent ISP cycles.

Where there has been a material increase in project costs, a significant delay in project delivery, or other material changes in the assumptions underpinning the original assessment, there should be a proportionate reassessment before substantial commitment to confirm that the preferred option and its timing continue to deliver net benefits to consumers.

Question 9 - Governance arrangements

Governance should support both the cascade from national planning to decentralised delivery and the corresponding feedback to future ISP cycles. AEMO should remain accountable for the integrity of the analysis, the ODP and any Delivery Recommendations, while governments, jurisdictions, networks and market participants remain accountable for decisions within their respective responsibilities. The Review should consider a proportionate and transparent mechanism through which bodies identified in material Delivery Recommendations can respond, report progress or explain why an alternative approach is being taken.

Accessibility and transparency materially affect trust in the ISP. The document should make its purpose, audiences, uncertainties and consumer consequences more explicit, including clearer regional and representative bill implications where feasible. The Consumer Panel should be engaged earlier and supported with resources for broader consumer research. The Panel does not presently see a compelling case for a separate Independent Technical Panel.

The two-year ISP cycle remains a reasonable balance between stability and adaptability, but the broader planning ecosystem needs clearer feedback loops and better alignment of timing.

Question 10 - Other issues

No reform should materially delay the core ISP process. The Review should also consider the ISP's role as a consistent NEM-wide reference point in an increasingly jurisdictional planning environment. State

and territory plans should be able to proceed, but the national framework should make clear where they align with or depart from the ODP and what those departures imply for total system cost, reliability and consumers.

This national coordination function is likely to become more important, not less, as jurisdictional pathways expand. The final test for reform should be whether it improves the translation of the ODP into coordinated decisions by the responsible actors without turning AEMO into the detailed implementer of the plan.