AEMC

Public Forum

Integrated Distribution System Planning

November 2025

AEMC

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Introductory remarks

AEMC

Commissioner Rainer Korte

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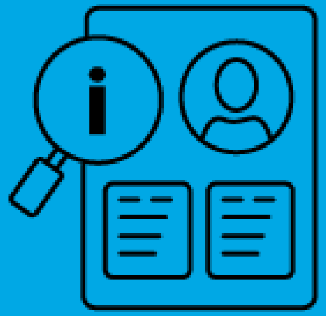

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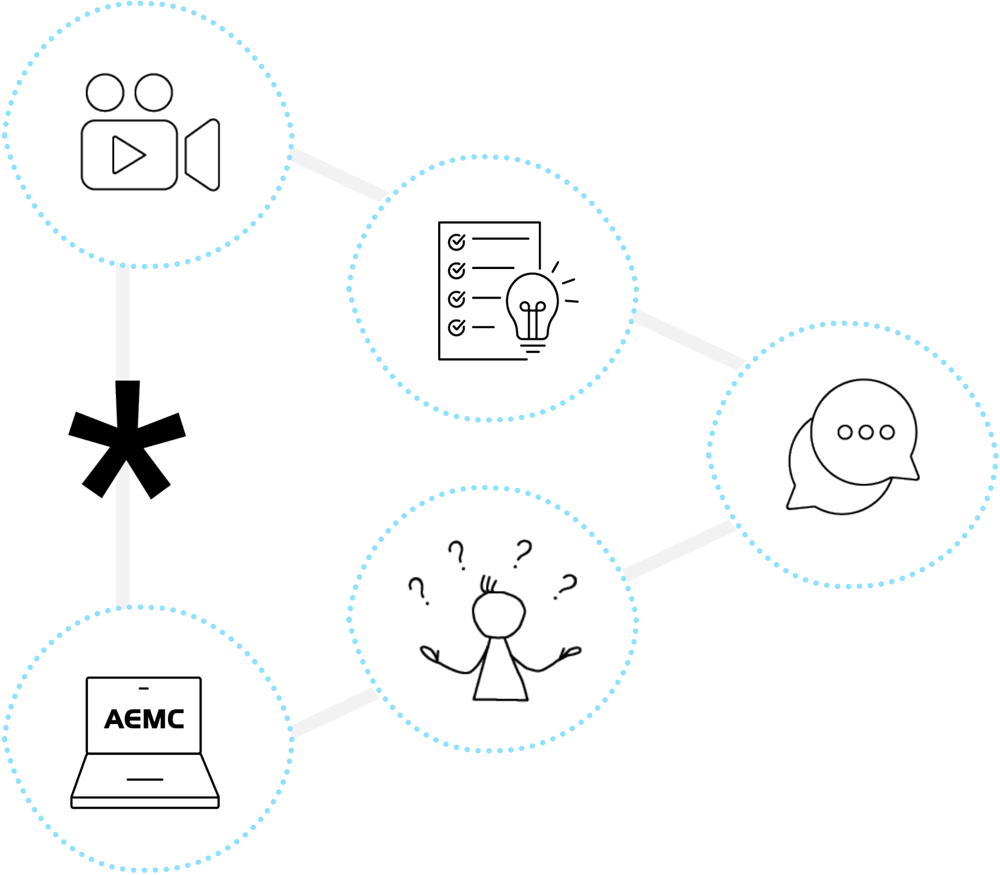

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  - about the purchase or supply of any products or services that other attendees also buy or sell
  - to not engage with persons or the terms upon which they will engage with such persons (i.e. boycotting)
  - to deny any person's access to any products, services or inputs they require
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- object immediately, ask for the discussion to be stopped and ensure the minutes record this
- raise concerns about anything that occurred with their legal counsel immediately afterwards

1 Welcome and housekeeping

2 Process to date

3 Presentation on the directions paper

4 Q&A session

5 Wrap-up and closing remarks

The process so far

Timeline of the rule change process so far

January	2025	Energy Consumers Australia (ECA) submitted their Integrated Distribution System Planning (IDSP) rule change request
June	2025	Consultation paper on the IDSP rule change request issued for stakeholder feedback
July	2025	Consultations closed for the consultation paper
August	2025	Public forum for consultation paper
October	2025	Directions paper published

Overview of the issues our policies are seeking to address

Emerging challenges in distribution network planning

The existing planning process is unable to meet the challenges being created by the changes in distribution network usage

We consider the current distribution annual planning process in the rules has two purposes:

1. Efficient network planning, including non-network options.
2. Transparency and information sharing.

However, we think that the planning process is no longer meeting these purposes as it does not:

- Adequately account for the added complexity that the uptake of consumer energy resources (CER) is creating.
- Provide sufficient transparency or data, particularly for the low-voltage distribution network in a high CER environment.

Short comings of the distribution annual planning process

The distribution annual planning process does not create a standardised, transparent process for strategic distribution network planning

- ECA, in its rule change request, considered the current minimum 5-year planning horizon to be too short.
- It was concerned that distribution network service providers (DNSPs) are unable to properly assess and incorporate the impact of electrification and CER uptake.
- However, some DNSPs provided evidence showing that they already undertake long term planning for their networks.

We commissioned a technical note from Ampere Labs that found:

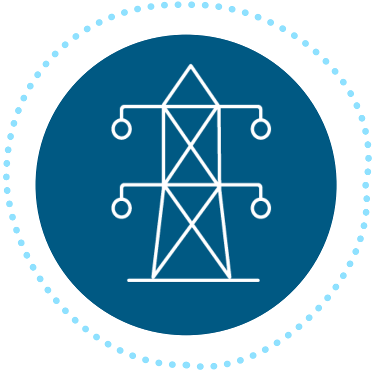
- DNSPs already develop strategic plans but do not transparently or consistently share them
- there is no natural home for publicly available strategic distribution network planning information
- some DNSPs plan for CER integration in a separate, parallel process.

The existing planning process is not eliciting sufficient non-network options

- One function of the current planning process is to provide an opportunity for DNSPs to draw out proposals for non-network solutions to address identified network limitations.
- Non-network solutions can help reduce network costs if they are less expensive than network upgrades or remove the need for an upgrade.
- We consider that there is sufficient evidence that the current process is no longer working as intended in drawing out a range of non-network options across the National Electricity Market (NEM).
- It is not clear that the industry engagement obligations for non-network options are fit for purpose, particularly as new highly distributed and controllable storage technology, including home batteries and electric vehicles, become common.

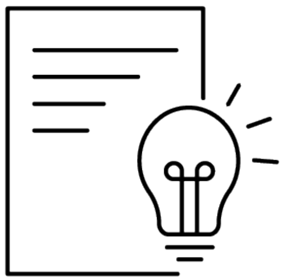
Coordination of distribution network planning between DNSPs and the ISP

- ECA and some stakeholders consider that distribution network planning is not sufficiently coordinated with the Integrated System Plan (ISP) or between DNSPs.
- Others thought alignment could be improved, but cautioned that either the:
    - ISP is not sufficiently local or granular for distribution planning
    - *Improving consideration of demand-side factors in the ISP* rule change is still being implemented by the Australian Energy Market Operator (AEMO).
- We consider that DNSPs' inputs into the ISP process will be improved by AEMO's ongoing implementation of the *Improving consideration of demand-side factors in the ISP* rule change.
- We agree that that above rule change should allow AEMO to properly incorporate demand side factors, including CER, into the ISP.
- However, we think there is still a process gap as DNSPs are not required to consider how their annual plans align with ISP inputs and assumptions.



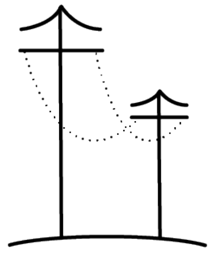
Lack of transparency in the distribution planning process under the rules

- ECA identified issues with the transparency of the modelling/scenarios and methodologies used by DNSPs for distribution network planning.
- ECA felt that transparency would help the DNSPs' stakeholders to better understand the assumptions DNSPs are using for their network plans.
- Stakeholders expressed different views about this in their submissions.
- We think that greater transparency would make it easier for stakeholders to understand how distribution network plans align with other AEMO, transmission network service providers (TNSPs) and DNSPs' plans.



Lack of low voltage network data

- ECA identified issues with low voltage network visibility. A wide range of stakeholders provided submissions that agreed with ECA's view.
- Several DNSPs are voluntarily publishing data beyond that required in the NER, but there is no consistent process, and the data may not cover the low voltage network (or other data beyond the zone substation).
- We acknowledge DNSPs' initiatives but are concerned that there is a risk of inconsistencies in information-sharing systems and processes across the NEM.
- This would make it difficult to access information across the NEM and could lead to differing levels of transparency for energy consumers, depending on the network and location.
- We are also concerned that potentially valuable information, such as low voltage circuit power flows and power quality data, may not be consistently gathered, calculated or retained at all, even on constrained circuits.

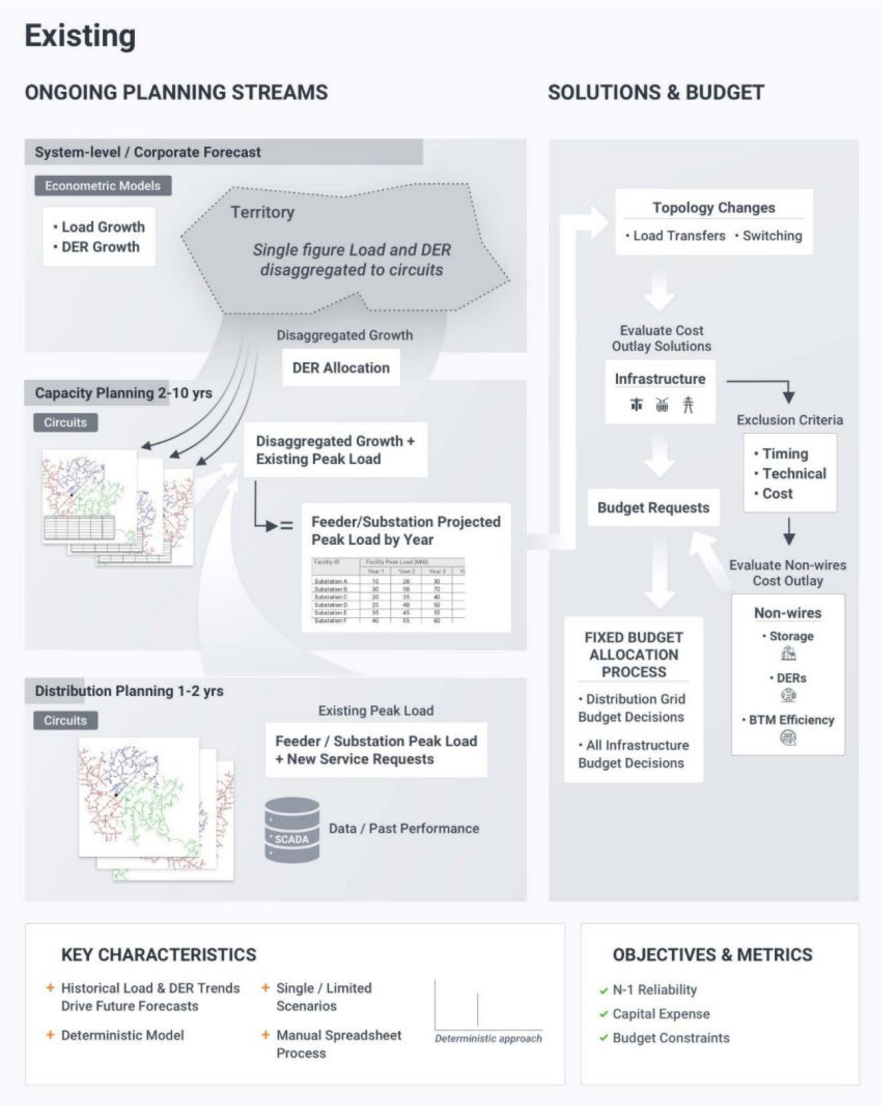


We asked Ampere Labs to investigate the USA's IDSP process

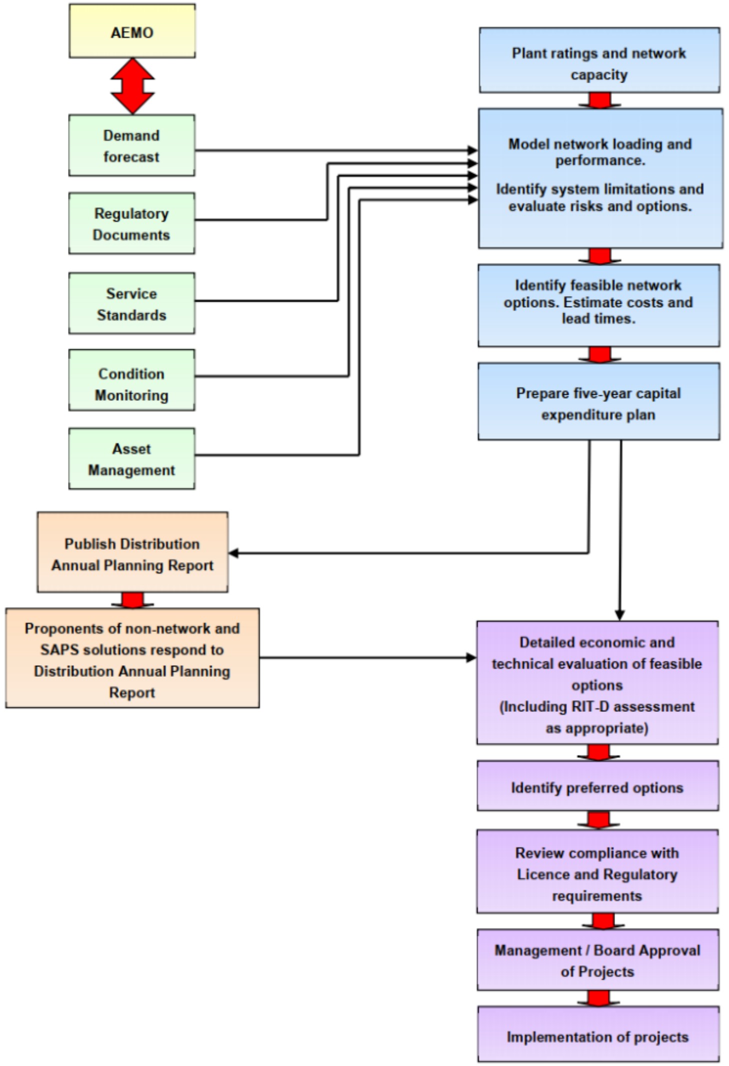
The "standard" planning process in the US and Australia are similar

Shared characteristics:

- Goal of planning is to ensure network reliability at least cost.
- Network centric approach with a focus on peak demand.
- Non-network options / non-wires alternatives are only evaluated after network options are identified (i.e. not integrated in the initial options analysis).



NREL (2022)



Jemena 2024 DAPR

IDSP implementations are not that far from NEM practices

- The IDSP framework as set out by Berkeley Lab and PNNL can be seen as an aspirational platonic ideal.
- Actual implementations of integrated distribution planning in the US are more like evolutionary add-ons to the standard planning processes, and not yet the comprehensive integrated framework described by Berkeley Lab.
- The actual IDSP implementations in the US are also not that far removed from current NEM DNSP practices when it comes to the substance that is different to “standard” planning processes (e.g. hosting capacity analyses, non-network options, bottom-up forecasting, etc), though perhaps the requirements are more explicit and transparently structured.
- For example, although there are no rule requirements for DNSPs to develop and publish DER hosting capacity analyses, most of the DNSPs do perform these analyses (partly as a way to justify expenditure via DER integration works). Some DNSPs (e.g. SAPN) also voluntarily publish hosting capacity maps.

However, there are some differences to current NEM practices

Interesting features in IDSP implementations that are different to current standard NEM distribution planning practices

- **Staged ISP-like process** with rounds of stakeholder engagement and consultation (e.g. methodologies, inputs, assumptions, scenarios, draft findings, etc) before final approval.
- **Scenario analysis** with multiple future forecasts (instead of a single deterministic forecast for minimum and maximum demand that is common practice in NEM DNSPs).
- **Longer time horizons**, e.g. ≥10-year planning horizons vs the 5-year planning horizons common in the NEM.
- **Multi-criteria decision making frameworks** that include non techno-economic goals, e.g. equity, affordability, customer choice, DER and technology adoption, etc. This may have limited applicability in the NEM given the primacy of the national electricity objective.
- **Integrated transmission and distribution network planning**, although it is noted that unlike Australia, most US utilities are vertically integrated, thus making coordination of transmission and distribution planning more tractable. TasNetworks' integrated 10-year transmission and distribution annual planning report is a NEM example of this.

Our proposed policy options

Overview of proposed actions

We are proposing:

- to introduce new network data reporting guidelines via a rule change and guideline
- that the Australian Energy Regulator (AER) would produce the guideline
- to make changes to the distribution annual planning process via a rule change (3 policy options).

We have also considered:

- making no changes to the distribution annual planning process
- implementing the proposed biennial integrated distribution system planning process.

Our reasons for not pursuing these options are covered in Appendix A of the Directions Paper.

Proposed network data reporting requirements

We are proposing to create new network data reporting requirements in the National Electricity Rules (NER)

- Our view: *appropriate, up to date and consistent data collection and disclosure obligations are best determined through an AER guideline*.
- We propose to establish an obligation on DNSPs to publish network data in accordance with the proposed AER guideline.
- AER would be required to develop the guidelines in accordance with principles established in the NER.
- We consider this approach provides flexibility to:
    - reflect any changes in DNSPs' data capabilities, demand for data, new use cases and emerging technology
    - incorporate outcomes of and data from other projects, including National CER Roadmap projects
    - reduce the need for network augmentations in the long term
    - improve visibility of low-voltage networks for users including, for example, electric vehicle charge point operators, consumers choosing to invest in CER, customer agents and virtual power plant operators.

Proposed changes to distribution annual planning process

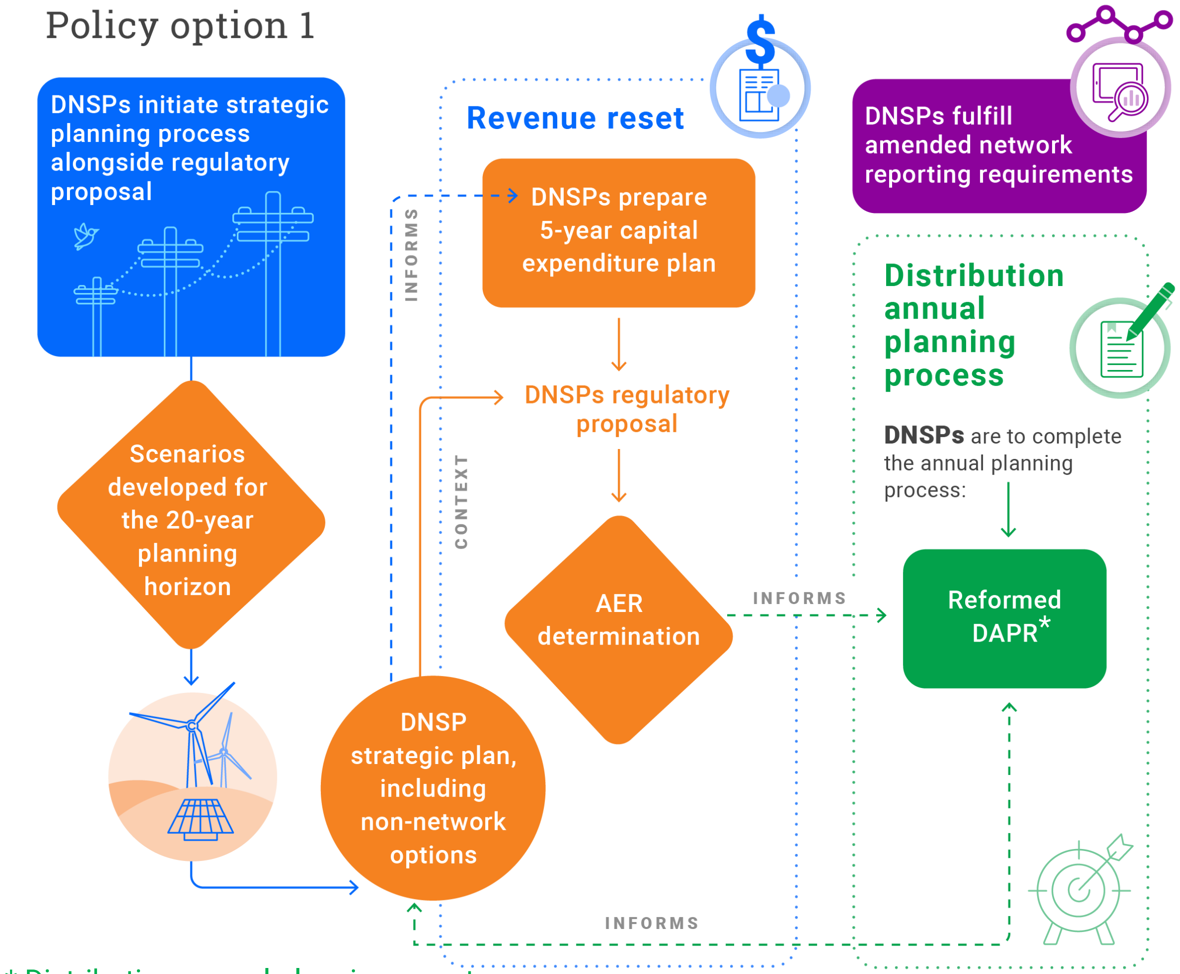
We are also proposing changes to the distribution annual planning process to improve the approach to long term planning in the NER

- We have put forward three different options to achieve this:
  - **Policy option 1** – implement a new strategic planning process to address challenges in long term planning while reforming the distribution annual planning process to improve transparency.
  - **Policy option 2** – reform the current annual planning process to improve transparency and longer term planning.
  - **Policy option 3** – fully replace the existing annual planning process with the proposed strategic planning process.
- ***Note: The network data arrangements on the previous slide would apply under all policy options***.

Policy Option 1

Policy option 1

Implement a new strategic planning process and reform the annual planning process



* Distribution annual planning report

- Propose to introduce a new strategic planning process.
  - Strategic planning process would draw on and inform the DNSP's capital expenditure plan for their regulatory proposals.
  - Strategic planning report would be provided as a supporting document to regulatory proposal.
- Distribution annual planning process maintained, but with streamlined reporting and improved transparency.
- Most distribution network data provided through new reporting requirements (i.e. separate from planning process).

Policy option 1 (cont.)

Proposed purposes for planning processes

- Strategic planning process:

  To require DNSPs to plan efficient investment in those electricity network services that maximise the long term interests of consumers under a credible range of scenarios.

- Distribution annual planning purpose:

  To inform stakeholders of the current state of a DNSP's distribution network and the expected near-term changes.

Policy option 1 (cont.)

Key elements of the proposed strategic planning process

- 20 year planning horizon, refreshed every 5 years.
- Best practice forecasting guideline (existing ISP) or new guideline to be prepared by AER.
- Require use of AEMO's Inputs, Assumptions and Scenarios Report as baseline inputs, with flexibility for DNSPs to adopt more granular scenarios and assumptions, so long as transparently declared.
- Require DNSPs to develop multiple future scenarios.
- DNSPs required to align scenarios with regulatory proposals.
- DNSPs required to draw on Chapter 6 consultation requirements for regulatory proposals.
- Expect largely consistent with the process already used by some DNSPs.

Policy option 1 (cont.)

Advantages and disadvantages of implementing a strategic planning process and reforming the distribution annual planning process relative to other policy options

Advantages:

- Provides transparency of the strategic planning process and long term plans for distribution networks.
- Maintains transparency of the expected near term state of the distribution network.
- Creates alignment between the distribution planning processes and broader planning framework.
- Improves synergy between the distribution planning and regulatory proposal processes.
- Network data reporting requirements (required by all policy options) will be independently managed through an AER guideline.

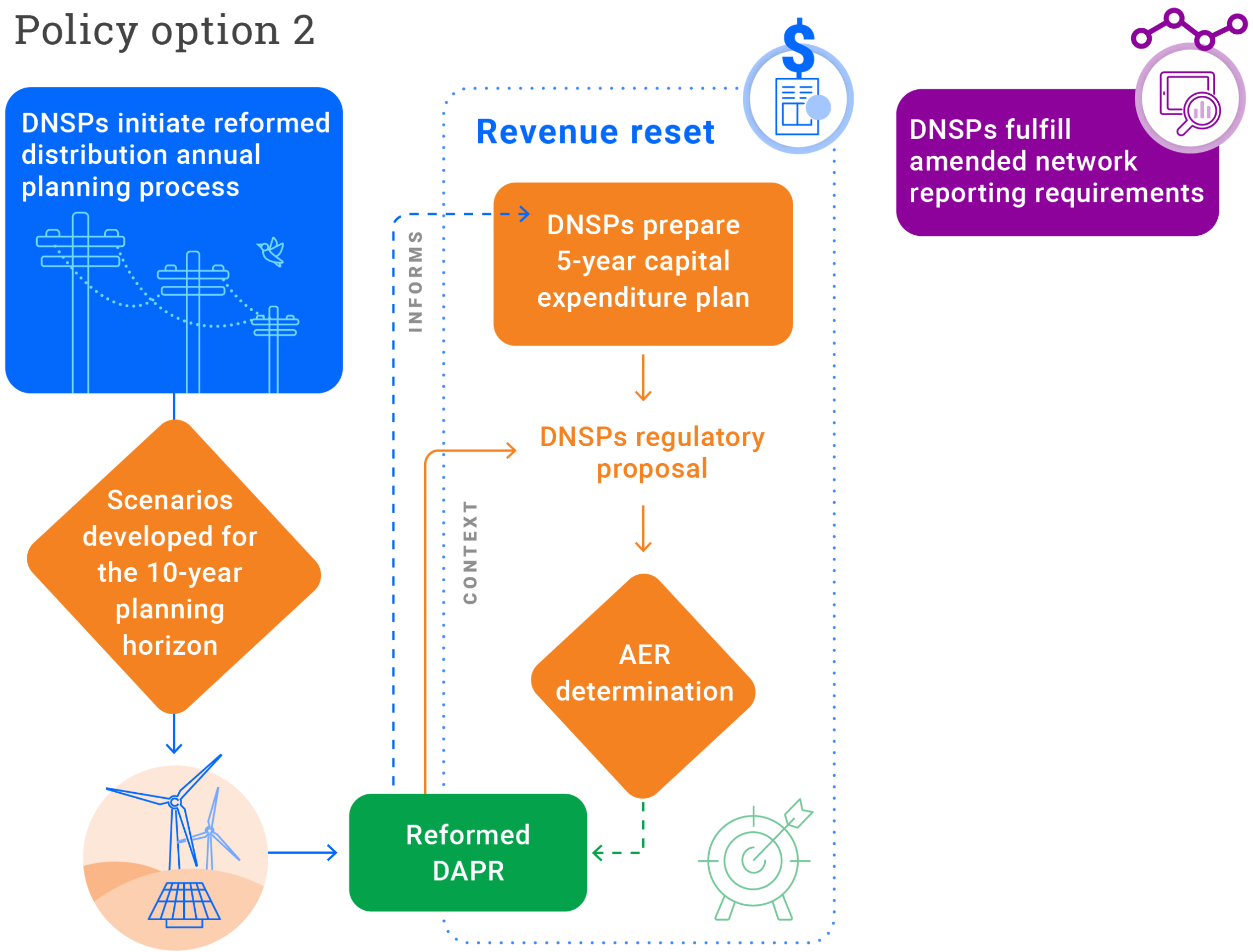
Disadvantages:

- Greater likelihood of duplication in reporting, complexity in implementation and higher administrative burden.
- Does not create a singular focus on the strategic planning process.
- Requires a longer period to implement than policy option 2.

Policy Option 2

Policy option 2

Reform the distribution annual planning process to address long term planning challenges.



- Purpose of the planning process would be in the NER:

  To require DNSPs to plan efficient investment in those electricity network services that maximise the long term interests of consumers under a credible range of scenarios.

- Planning horizon increased to 10 years (currently minimum 5 years).
- DNSPs required to draw on consultation from other processes e.g. reg proposal.
- DNSPs still fulfil separate network data reporting requirements.

Policy option 2 (cont.)

Advantages and disadvantages of reforming only the distribution annual planning process relative to other policy options

Advantages:

- Quicker and cheaper to implement (2-3 years).
- Earlier delivery of benefits.
- Reduction in reporting from streamlining the distribution annual planning report (DAPR).
- Network data reporting requirements (required by all policy options) will be independently managed through an AER guideline.

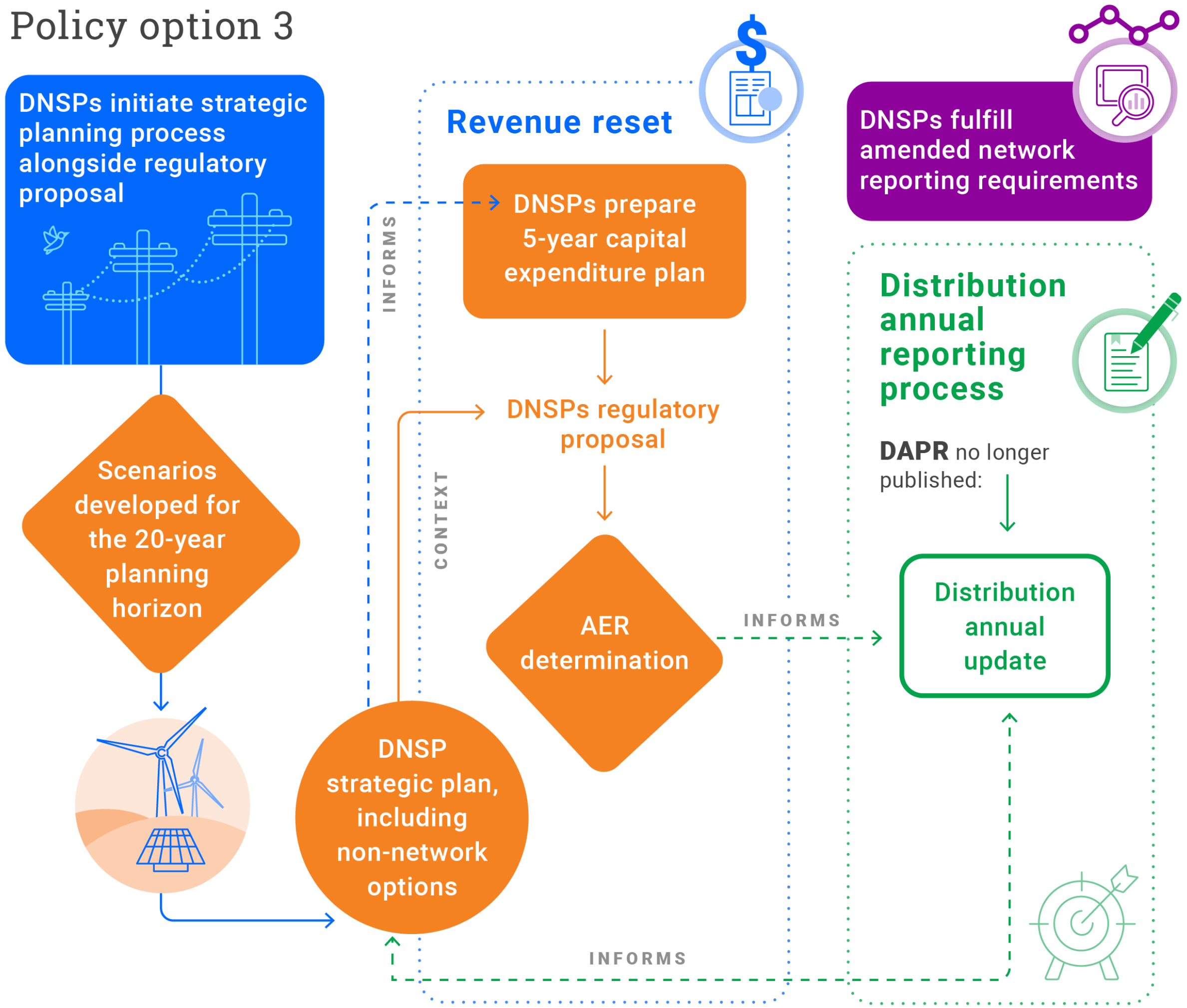
Disadvantages:

- Not as clearly aligned with broader planning framework.
- Potential loss of synergy with revenue determination process.
- May reduce granularity and transparency of near term data given longer planning horizon.
- Process for long term scenario planning may lack rigour if repeated annually.

Policy Option 3

Policy option 3

Replace distribution annual planning process with proposed strategic planning process



- Requirements for strategic planning are consistent with policy option 1 (20 year planning horizon, use of scenario analysis etc).
- Allow focus on implementing new strategic plan, though may reduce transparency on near term state of the network.
- DAPR would be replaced with an annual update by DNSPs (e.g. on their website).
- Annual update would cover:
  - progress of regulatory investment test for distribution (RIT-D) projects
  - joint planning activities
  - likelihood of scenarios
  - changes to anticipated investments.

Policy option 3 (cont.)

Advantages and disadvantages of replacing the distribution annual planning process with the proposed strategic planning process compared to the other policy options

Advantages:

- Network data reporting requirements (required by all policy options) will be independently managed through AER Guideline.
- Allows stronger focus on strategic planning.
- Reduces likelihood of duplication in reporting, reduced complexity and expense.

Disadvantages:

- Separate annual reporting requirements still needed for transparency of annual planning activities (e.g. completed and in progress RIT-Ds, joint planning activities).
- May reduce transparency on near term state of distribution networks.
- Removes or reduces engagement obligations for non-network options, may require creation of a new engagement process.

We are seeking broad feedback on our proposed policy approach

We are:

- Encouraging all attendees to make a submission.
- Seeking frank feedback on the options.
- Wanting to confirm the options are workable in the NEM and that there are no critical failings.
- Looking to identify if stakeholders strongly support or object to any of the policy options.
- Interested if stakeholders have any proposed improvements to the options.

Q&A

November 2025

Written submissions to directions paper due

March 2026

Draft determination and rule published

April 2026

Written submissions to draft determination and rule due

Concluding remarks

AEMC