



2022 Integrated System Plan Timetable

April 2021

A report for the National Electricity Market

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Important notice

PURPOSE

AEMO publishes the 2022 Integrated System Plan Timetable under clause 5.22.4 of the National Electricity Rules.

This publication has been prepared by AEMO using information available at 2 October 2020. Information made available after this date may have been included in this publication where practical.

DISCLAIMER

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VERSION CONTROL

Version	Release date	Changes
1.0	30/10/2020	Initial release
1.1	16/04/2021	<ul style="list-style-type: none">• Draft ISP Methodology changed from 21 April 2021 to 30 April 2021.• Final ISP Methodology changed from 30 June 2021 to 30 July 2021.• Minor changes to Figure 1 and Figure 2 for consistency with other ISP publications.

Contents

1.	Introduction	4
2.	2022 ISP Timetable	5
3.	Stakeholder engagement overview	8
4.	ISP Consumer Panel	10
5.	Inputs, Assumptions and Scenarios Report	11
6.	ISP Methodology	12
7.	Preparatory activities	13
8.	Draft and final ISPs	14

Tables

Table 1	Timetable milestones	6
Table 2	IASR publication timetable	11
Table 3	ISP Methodology timetable	12
Table 4	Preparatory activities triggered in the 2020 ISP	13

Figures

Figure 1	Timetable milestones	5
Figure 2	Milestone dependencies	7

1. Introduction

The Integrated System Plan (ISP) is a whole-of-system plan that provides an integrated roadmap for the efficient development of the National Electricity Market (NEM) over the next 20 years.

Leveraging expertise from across the industry will be pivotal in developing a robust plan that supports the long-term interests of energy consumers. AEMO is committed to facilitating a stakeholder engagement process that ensures a collaborative approach to developing the 2022 ISP.

The 2022 ISP Timetable provides a high-level overview of the key milestones related to the 2022 ISP. This allows stakeholders to understand and engage in the ISP consultation process.

The ISP Timetable sets out the timing for:

- **The establishment of the ISP consumer panel** – AEMO will establish the ISP consumer panel by 30 November 2020. This panel will help inform the development of the ISP from the consumer perspective.
- **Draft Inputs, Assumptions and Scenarios Report (IASR)** – AEMO will publish a Draft IASR on 11 December 2020. The Draft IASR outlines, and seeks feedback on, the key inputs, assumptions and scenarios that will underpin the 2022 ISP modelling. AEMO has already begun consultation on scenarios through a series of public workshops, and strongly encourages the involvement from all stakeholders.
- **Further updates and stakeholder opportunities for inputs** – Due to input dependencies, and the preference to use the latest information available, not all inputs and assumptions for use in the 2022 ISP will be updated in the Draft IASR in December 2020. AEMO will use Forecasting Reference Group meetings and workshops to consult on further updates to inputs as they are developed.
- **IASR** – On 30 July 2021, the IASR will be released to incorporate stakeholder feedback on the Draft IASR and include the final inputs and assumptions to be used in the 2022 ISP. Due to the complexity and depth of modelling required, only changes to inputs that could materially impact ISP outcomes will be considered for inclusion in the ISP, beyond this date.
- **ISP Methodology** – the ISP Methodology will begin consultation on 1 February 2021 and finalised by 30 July 2021. It will provide stakeholders with the information required to understand AEMO’s cost benefit analysis process and its modelling. This methodology will describe the processes used to determine efficient development paths and the methodologies applied in AEMO’s modelling processes.
- **Draft ISP** – On 10 December 2021, the Draft ISP will set out, and seek feedback on, an optimal development path for the NEM. This draft will include preliminary information on actionable projects and will request submissions for non-network solutions to any new actionable projects.
- **ISP** – the final ISP report will be published on 30 June 2022. It will incorporate feedback from the Draft ISP and finalise an optimal development path for the NEM.

For the 2022 ISP, AEMO will follow the consultation process prescribed by the Rules and the Australian Energy Regulator’s (AER’s) Forecasting Best Practice Guidelines and Cost Benefit Analysis Guidelines¹.

The overall consultation process will provide a series of opportunities for industry engagement and timely and accurate decision-making support to the industry. If there are any changes to the timing of key milestones, AEMO will update this ISP Timetable.

For more information on AEMO’s ISP consultation process, or to be informed of upcoming ISP workshops, please contact ISP@aemo.com.au.

¹ AER. Guidelines to make the integrated system plan actionable, at <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/guidelines-to-make-the-integrated-system-plan-actionable/final-decision>.

2. 2022 ISP Timetable

The ISP Timetable provides information to stakeholders about the publication dates and timing of key milestones in the 2022 ISP development process. This Timetable outlines a series of consultative stages over a 2 year period before the 2022 ISP is published on 30 June 2022.

AEMO is responsible for the development of the ISP. The purpose of the ISP is to:

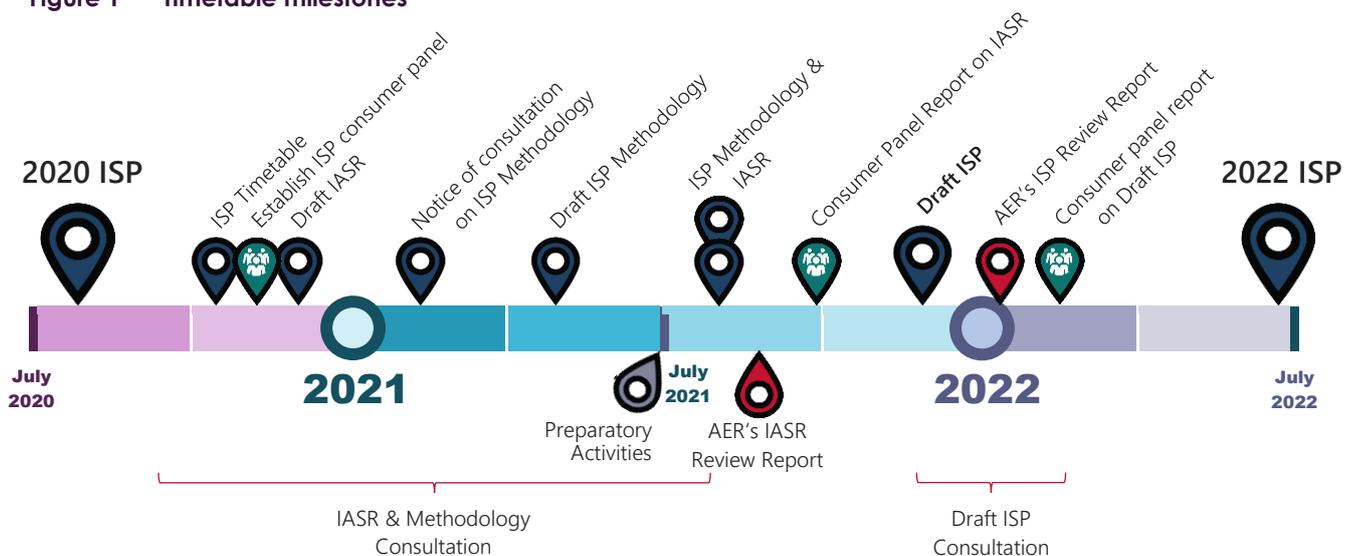
*"establish a whole of system plan for the efficient development of the power system that achieves power system needs for a planning horizon of at least 20 years for the long-term interests of the consumers of electricity."*²

AEMO publishes an ISP every two years. The current 2020 ISP was published on 30 July 2020 and is available on AEMO's website³.

Timetable overview

The following diagram outlines the key milestones for the 2022 ISP. The dates for these milestones are presented in Table 1. Further information about the purpose of these milestones and their role in the wider ISP process is presented in the following sections of this report.

Figure 1 Timetable milestones



² NER clause 5.22.2

³ AEMO, 2020 ISP, at <https://aemo.com.au/en/energy-systems/major-publications/integrated-system-plan-isp/2020-integrated-system-plan-isp>.

Table 1 Timetable milestones

Publication	Timing	Responsibility
ISP Timetable	30 October 2020	AEMO
Establish ISP consumer panel	By 30 November 2020	AEMO & ISP consumer panel
Draft IASR	11 December 2020	AEMO
Notice of Consultation on ISP Methodology	1 February 2021	AEMO
Draft ISP Methodology	30 April 2021	AEMO
Preparatory Activity Reports	By 30 June 2021 [†]	Powerlink & TransGrid
ISP Methodology	30 July 2021	AEMO
IASR	30 July 2021	AEMO
AER's IASR Review Report	By 30 August 2021 [‡]	AER
Consumer Panel Report on IASR	By 30 September 2021 [#]	ISP consumer panel
Draft 2022 ISP	10 December 2021	AEMO
AER's ISP Review Report	By 10 January 2022 [*]	AER
Consumer Panel Report on Draft ISP	By 10 February 2022 [#]	ISP consumer panel
2022 ISP	30 June 2022	AEMO

[†] Powerlink and TransGrid are required to produce preparatory activity reports on Future ISP Projects by 30 June 2021. AEMO intends to release these reports once they are available. See Section 7 for more information.

[‡] The AER must publish the IASR review report within one month of AEMO publishing the IASR. This report will assess whether AEMO has adequately explained the derivation of key inputs and assumptions, how they changed since the previous ISP, and whether they were derived from verifiable sources or adequate consultation.

^{*} The AER must publish the ISP Review Report within one month of AEMO publishing the Draft ISP. This report will assess whether AEMO has adequately explained the derivation of key input and assumptions and how they contribute to the outcomes in the Draft ISP.

[#] The ISP consumer panel must give a consumer panel report to AEMO within two months of AEMO publishing the IASR and the Draft ISP. AEMO will publish these reports on its website.

Milestone dependencies

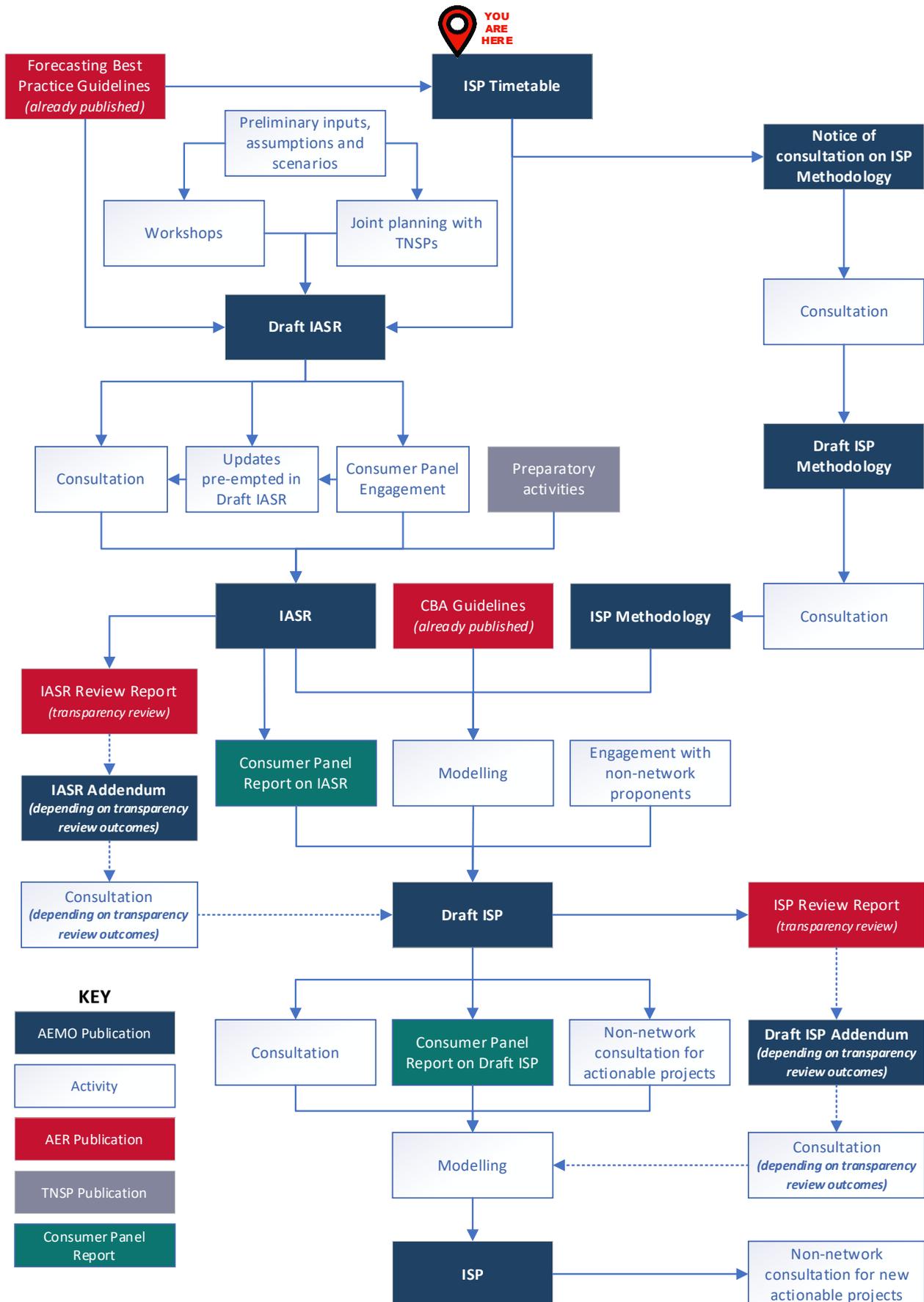
The ISP milestones are inter-related, and some later milestones are dependent on the successful completion of early milestones. Figure 2 shows how the milestones relate to each other, as well as the activities and engagements surrounding them. Notably, the following are pre-conditions for AEMO to finalise the IASR:

- The Draft IASR has been published.
- Stakeholder feedback to the Draft IASR has been received and incorporated⁴.
- The preparatory activities reports have been completed (due 30 June 2021 – see Section 7).

Similarly, the Draft ISP requires successful completion of an ISP Methodology and IASR.

⁴ In some instances, Draft IASR inputs must be finalised before determining other variables for the IASR. In these instances, AEMO will engage appropriately on new information once it is available. For example, the scenarios and economic drivers resulting from the Draft IASR will influence demand projections in the Final IASR. Draft demand forecasts will be consulted on via the Forecasting Reference Group.

Figure 2 Milestone dependencies



3. Stakeholder engagement overview

In feedback from the 2020 ISP, some stakeholders emphasised the importance of ongoing engagement to ensure the ISP remains robust and fit for purpose. In general, stakeholders expressed a desire for continued comprehensive engagement.

AEMO is committed to engaging effectively and meaningfully at all stages of the ISP development process. For the 2022 ISP, AEMO intends to build on its consultation process from previous ISPs, using the principles from the AER's Forecasting Best Practice Guidelines and Cost Benefit Analysis Guidelines⁵ and providing stakeholders with multiple opportunities to contribute.

When to get involved

The ISP Timetable provides stakeholders with key milestone dates for the development of the 2022 ISP. The main stages of consultation for this ISP include:

- **IASR** – this will include the key inputs, assumptions and scenarios that will underpin the 2022 ISP. This process started in September 2020 and will continue until July 2021. Stakeholders who are interested in helping shape the inputs, assumptions and scenarios are invited to participate in the IASR consultation – see Section 5.
- **ISP Methodology** – this document will describe engineering and analytical processes through which inputs, assumptions and scenarios are applied to determine development paths. This process will occur from February 2021 until late June 2021. Stakeholders with an interest in methodology and analysis are invited to participate in the ISP Methodology consultation – see Section 6.
- **Draft ISP** – once the inputs, assumptions, scenarios and methodology are determined, AEMO will produce and consult on a Draft ISP. Feedback from the Draft ISP will be used to finalise the 2022 ISP. Stakeholders with an interest in the outcomes of the ISP are encouraged to participate in the Draft ISP consultation starting in December 2021 – see Section 8.

How to get involved

In the 2020 ISP development process, AEMO facilitated consultation with a broad collection of stakeholders through avenues such as written submissions, in-person discussions, workshop participation, webinars, and briefings. For the 2022 ISP, AEMO will account for the time and resource constraints that face consumer groups and stakeholders and tailor engagement approaches to allow for this.

This will mean considering alternative communication methods, additional forums, extra time for review of material where practicable ahead of workshops and improved responsiveness to feedback. AEMO will use the International Association for Public Participation (IAP2) spectrum⁶ of informing, consulting, involving, collaborating and empowering.

The establishment of the ISP consumer panel (see Section 4) provides AEMO with the ability to further understand consumer expectations and perspectives and incorporate these more effectively into the ISP, through several key points of the ISP development process.

⁵ AER. Guidelines to make the integrated system plan actionable, at <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/guidelines-to-make-the-integrated-system-plan-actionable/final-decision>.

⁶ International Association for Public Participation (IAP2). *Public Participation Spectrum*, available at <https://www.iap2.org.au/resources/spectrum/>.

AEMO will provide stakeholders with up to date information on opportunities to contribute to the ISP's development through AEMO's website and email notifications. An ISP mailbox and distribution list has been established to help inform stakeholders. Interested parties can email isp@aemo.com.au to join this list.

AEMO recognises that stakeholder engagement is a critical part of the ISP development process. Drawing on constructive and critical input from all parties and aligning the ISP development approach with the ISP Rules and the AER's Forecasting Best Practice Guidelines and Cost Benefit Analysis Guidelines, allows AEMO to deliver an ISP that supports Australia's future energy needs.

4. ISP Consumer Panel

AEMO is establishing an ISP consumer panel, consistent with the Rules, to inform the development of the 2022 ISP. AEMO intends for the ISP consumer panel to be a key forum (but not the only forum) through which consumer perspectives are incorporated into the process of developing and finalising the 2022 ISP.

AEMO published a call for expressions of interest (EOI), including Terms of Reference, on 3 September 2020⁷.

While the ISP consumer panel must have at least three members⁸, AEMO is able to appoint additional panel members to ensure an appropriate mix of skills.

AEMO will establish the ISP consumer panel for the 2022 ISP by 30 November 2020.

About the ISP consumer panel

The ISP consumer panel must provide written reports to AEMO, responding to each of the IASR and the Draft ISP.⁹ These reports must provide assessment of evidence and reasons for supporting the IASR and Draft ISP. Each of these reports must be given to AEMO within two months of the publication of the document to which they relate. AEMO will publish these reports and will have regard to them in producing the ISP.

In order to promote the effective production of these consumer panel reports, AEMO intends to engage with the panel continuously throughout the ISP development process. This will allow the views of the ISP consumer panel to be communicated to AEMO in a timely manner, supporting their full consideration and allowing for AEMO's approach to be adjusted where appropriate. AEMO considers this process to be particularly important because the ISP consumer panel is not required to produce an official report until two months after the IASR is finalised.

The ISP consumer panel is required to have regard to the long-term interests of consumers, and to seek to give its reports by consensus¹⁰.

More information

More details of the operation of the ISP consumer panel are provided in the Terms of Reference, which can be found on AEMO's website¹¹.

⁷ AEMO, ISP consumer panel, at <https://aemo.com.au/-/media/files/major-publications/isp/2020/isp-consumer-panel-fact-sheet.pdf>.

⁸ NER Clause 5.22.7(b)

⁹ NER Clause 5.22.7(a)

¹⁰ NER Clause 5.22.7(d)(2-3)

¹¹ AEMO, ISP consumer panel, at <https://aemo.com.au/en/energy-systems/major-publications/integrated-system-plan-isp/2020-integrated-system-plan-isp>

5. Inputs, Assumptions and Scenarios Report

AEMO develops, consults and publishes a report on the inputs, assumptions and scenarios to be used for the ISP, called the Inputs, Assumptions and Scenarios Report (IASR).

AEMO is committed to consulting with all interested stakeholders on scenarios, inputs and assumptions to ensure the forecasting approach appropriately considers a plausible range of futures. By following the consultation requirements in the Rules and in the Forecasting Best Practice Guidelines¹², the ISP will be transparent, follow well-understood methodologies, and provide opportunities for quality engagement.

The engagement process for the 2022 ISP will consider inputs and assumptions including, but not limited to:

- Forecasting energy consumption
- Policy, technical and economic settings affecting energy supplies and demand
- Existing generation assumptions
- Fuel cost assumptions
- New generation and storage technology costs and improvements over time
- Demand side participation
- Uptake of distributed energy resources (DER)
- Renewable Energy Zone candidates
- Transmission development options and non-network alternatives
- Network losses and Marginal Loss Factors
- Hydrogen and gas modelling assumptions

AEMO will also consult with transmission network service providers (TNSPs) on relevant inputs and assumptions as part of its joint planning processes. This involves working with TNSPs in assessing credible network and non-network options.

Following the release of the IASR by 30 July 2021, AEMO will use the scenarios and other inputs and assumptions to assess potential development paths for the ISP. AEMO will also incorporate the feedback from the consumer panel report on the IASR and the AER transparency review on the IASR into the Draft ISP.

In accordance with the Forecasting Best Practice Guidelines, AEMO may update the IASR to incorporate updates in market data and associated forecasts. If this occurs, AEMO will update the ISP Timetable to reflect the consultation process for those updates. AEMO may also update the IASR in response to submissions to the Draft ISP.

Stakeholder engagement for the IASR commenced in September 2020. Formal consultation on AEMO's IASR will proceed from December 2020 to February 2021. Following subsequent stakeholder engagement, development of forecast components that are updated annually for AEMO's Reliability Forecasts, and the availability of Preparatory Activity Reports (see Section 7), the IASR will be published by 30 July 2021.

Table 2 IASR publication timetable

Publication	Timing
Draft IASR	11 December 2020
IASR	30 July 2021

¹² AER, Forecasting Best Practice Guidelines (section 2.2), at <https://www.aer.gov.au/system/files/AER%20-%20Forecasting%20best%20practice%20guidelines%20-%2025%20August%202020.pdf>.

6. ISP Methodology

One of the key documents for the ISP is the ISP Methodology, which must contain the cost benefit analysis and modelling methodology used in developing the ISP¹³.

AEMO will follow the requirements of the AER's Forecasting Best Practice Guidelines and Cost Benefit Analysis Guidelines¹⁴ in developing the ISP Methodology. This includes providing a transparent process, supporting and working with stakeholders in their understanding of AEMO's analysis, methodologies and data, and providing additional information to complement the formal documentation.

AEMO will use a range of engagements such as briefings, webinars, workshops and one-on-one meetings, to allow a broad range of stakeholders to take part in this process.

AEMO undertakes a cost benefit analysis to identify which projects are optimally required to deliver the needs of the NEM over a 20-year period. Using the AER's cost benefit analysis approach, AEMO will identify and rank development paths. The ISP Methodology will provide information on the decision-making approaches used for scenario analysis and ranking of development paths. AEMO will use evidence-based decision-making approaches when deciding the optimal development path.

In taking this approach, AEMO believes the ISP Methodology will provide stakeholders with a cost benefit analysis approach and modelling methodologies that are transparent and well understood.

The ISP Methodology provides information to stakeholders about how AEMO undertakes this process. This will include:

- Transmission options development and assessment
- Power system analysis methodology
- Cost benefit analysis
- Interactions with capacity outlook modelling and time sequential market modelling
- Linkages to reliability forecasting methodologies
- Detailed information on how the engineering assessments will be conducted for the ISP

Stakeholder engagement on the ISP Methodology will begin on 1 February 2021. There will be two rounds of formal stakeholder consultation, with workshops, meetings and briefings as required, and the process will conclude by 30 July 2021.

Table 3 ISP Methodology timetable

Milestone	Date
Notice of Consultation on ISP Methodology	1 February 2021
Draft ISP Methodology	30 April 2021
ISP Methodology	30 July 2021

¹⁴ AER. Guidelines to make the integrated system plan actionable, at <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/guidelines-to-make-the-integrated-system-plan-actionable/final-decision>.

7. Preparatory activities

In the 2020 ISP, AEMO identified six Future ISP projects that require preparatory activities to be carried out. These projects were not listed as “actionable”, but it is expected they might become actionable in the future and they were included as part of the 2020 ISP optimal development path.

TNSPs are responsible for conducting preparatory activities to develop the design and to improve the cost estimate of the project. This improves the quality of cost benefit analysis of these Future ISP projects with preparatory activities and the overall optimal development path¹⁵. Preparatory activities triggered for the 2022 ISP include the following scope:

- Preliminary engineering design
- Desktop easement assessment
- Cost estimates based on preliminary engineering design and route selection
- Preliminary assessment of environmental and planning approvals
- Appropriate stakeholder engagement

In the 2020 ISP, AEMO recommended preparatory activities for six projects which are listed below.

Table 4 Preparatory activities triggered in the 2020 ISP

Project	Responsible TNSP(s)
QNI Medium and Large	Powerlink and TransGrid
Central to Southern Queensland Transmission Link	Powerlink
Gladstone Grid Replacement	Powerlink
Reinforcing Sydney, Newcastle and Wollongong Supply	TransGrid
New England NSW REZ Network Expansion	TransGrid
North West NSW REZ Network Expansion	TransGrid

The 2020 ISP requires Powerlink and TransGrid to produce preparatory activity reports for these projects by 30 June 2021¹⁶. AEMO will release these reports on its website once they are available.

¹⁵ NER clause 5.10.2

¹⁶ 2020 ISP Appendix 3 Network Investments, p14, at <https://www.aemo.com.au/-/media/files/major-publications/isp/2020/appendix--3.pdf?la=en>.

8. Draft and final ISPs

Draft 2022 ISP

The Draft 2022 ISP will set out a preliminary optimal development path for Australia's energy future. During the development of the ISP, the Draft ISP is published to enable consultation on key outputs and ensure that the data and information in the final ISP is of high quality.

As part of the Draft ISP development process, AEMO will engage with non-network proponents on options for potential actionable projects.

AEMO will undertake extensive engagement on the Draft ISP through relevant stakeholder events such as workshops, webinars and briefings. The AER's Forecasting Best Practice Guidelines provide AEMO with key principles for its consultation processes and engagement. Feedback from the Draft 2020 ISP led to the 2020 ISP being more robust and fit for purpose.

AEMO will issue a consultation on non-network options for any actionable projects at the same time it issues the Draft ISP consultation. This process aims to encourage submissions from proponents about how a non-network option might address the identified need of the Draft ISP's actionable projects.

At the conclusion of the non-network consultation, AEMO will then work with the relevant TNSP(s) to assess these options. If the project remains actionable in the final ISP, any non-network proposals that are reasonably likely to meet the identified need will be assessed by the TNSP in their Project Assessment Draft Report (PADR).

AEMO plans to release the Draft ISP on 10 December 2021 and will invite written submissions by 15 February 2022.

Final 2022 ISP

The 2022 ISP will identify the optimal development path for the NEM, consisting of ISP projects and development opportunities.

With the release of the 2022 ISP, if AEMO has identified an additional actionable project that was not part of the Draft ISP consultation, AEMO will issue a non-network consultation on the project. The results of the consultation process will then be reviewed by AEMO and the relevant TNSP and incorporated into a PADR where appropriate.

Stakeholder engagement is pivotal in developing a robust ISP that will be an effective resource for industry on the future development of the NEM. After the consultation process is completed, the 2022 ISP will be published on 30 June 2022.