AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

# 2026 ISP Market Model Instructions

June 2026

A guide to using the published 2026 ISP PLEXOS model

# Important notice

## Purpose

AEMO has prepared this document to assist stakeholders in interpreting and using input data produced for the purposes of modelling the National Electricity Market (NEM) for the *2026 Integrated System Plan* (ISP).

AEMO's dataset covered by this guide is configured for use in the PLEXOS Integrated Energy Model software; the PLEXOS database itself containing the market models underpinning the 2026 ISP is also published as part of this data package.

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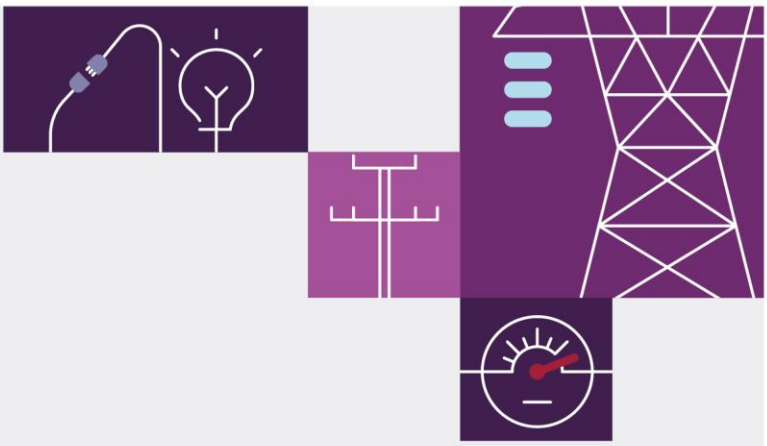
This data package has had any and all confidential data removed, and as such the model may not replicate the exact modelled outcomes produced by AEMO as published in the *2026 ISP* report.

AEMO makes no warranties on the PLEXOS Model, and the input data and model are provided for the information purposes of stakeholders only.

AEMO acknowledges the Traditional Owners of country throughout Australia and recognises their continuing connection to land, waters, and culture. We pay respect to Elders past and present.



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## Copyright



### Version control

| Version | Release date | Changes |
|---|---|---|
| 1 | 25/06/2026 | Initial release |

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# 1 2026 ISP DLT Model

This document outlines how to setup the Detailed Long Term (DLT) model and its input assumptions that AEMO makes publicly available to stakeholders.

The capacity outlook process uses two interacting models to address different aspects of long-term optimisation. The Single-Stage Long-Term Model (SSLT) and DLT.

The DLT model determines outcomes for generation expansion and retirement, transmission expansion, storage, and dispatch options. The DLT model takes some outputs from the SSLT and incorporates them as inputs to the optimisation.

The DLT allows a chronological optimisation of each day and ensures a more detailed representation of demand and VRE variability than the SSLT. Detailed information about the DLT and the other models used within the 2026 ISP can be found in the *2025 ISP Methodology*[1].

## 1.1 Market model and data package content

The publication of the 2026 ISP DLT model comprises:

- One PLEXOS database in .xml format for each scenario below, with data which corresponds to the optimal development path and input assumptions for each scenario:
    - *Step Change*
    - *Slower Growth*
    - *Accelerated Transition*
- Demand, renewable generation, gas availability, DNSP-level CER limits, seasonal timeslice specifications, and load subtracter traces in PLEXOS format.

### 1.1.1 Supporting data: Trace Files

AEMO optimises expansion decisions across multiple historical weather years known as *reference years* to account for short- and medium-term weather diversity. AEMO uses a *rolling reference years* approach to capture weather diversity in the capacity outlook models.

Consistent with the rolling reference years approach, these traces were obtained by combining time series of 16 historical weather years. The reference years were matched to the SSLT and DLT planning horizon in the following sequence described in Table 1 with the 16-year sequence repeating in the same order until the end of the outlook period.

[1] 2025 ISP Methodology Report available at: https://www.aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2024/2026-isp-methodology/isp-methodology-june-2025.pdf?rev=e88a1f1bbeef447ba27692b785069a0a&sc_lang=en

**Table 1 Rolling reference years sequence in capacity outlook models**

| Planning Year | Reference Year | Hydrological Reference Year | Variable Renewable Energy (VRE) Reference Year |
|---|---|---|---|
| ***2025-26*** | 2014-15 [2] | 2006-07 (Dry year) | 2014-15 |
| ***2026-27*** | 2010-11 | 2010-11 | 2010-11 |
| ***2027-28*** | 2011-12 | 2011-12 | 2011-12 |
| ***2028-29*** | 2012-13 | 2012-13 | 2012-13 |
| ***2029-30*** | 2013-14 | 2013-14 | 2013-14 |
| ***2030-31*** | 2014-15 | 2014-15 | 2014-15 |
| ***2031-32*** | 2015-16 | 2015-16 | 2015-16 |
| ***2032-33*** | 2016-17 | 2016-17 | 2016-17 |
| ***2033-34*** | 2017-18 | 2017-18 | 2017-18 |
| ***2034-35*** | 2018-19 | 2018-19 | 2018-19 |
| ***2035-36*** | 2019-20 | 2019-20 | 2019-20 |
| ***2036-37*** | 2020-21 | 2020-21 | 2020-21 |
| ***2037-38*** | 2021-22 | 2021-22 | 2021-22 |
| ***2038-39*** | 2022-23 | 2022-23 | 2022-23 |
| ***2039-40*** | 2023-24 | 2023-24 | 2023-24 |
| ***2040-41*** | 2024-25 | 2019-20 [3] | 2024-25 |

# 2 Configuring the 2026 ISP Model

The following section outlines the steps needed to set up the 2026 ISP DLT PLEXOS market model, including the configuration of the input data package. The PLEXOS version used for simulating the 2026 ISP DLT is the PLEXOS 12.0 Release 1 (R01)[4].

The step-by-step guide is documented below:

1. Download the 2026 ISP Model zip file from AEMO's 2026 ISP webpage[5].
2. Unzip the file 2026 ISP Model. This will generate the 2026 ISP Model folder.
3. Open the 2026 ISP Model folder. There will be one folder for each of the three scenarios.
4. Download and unzip the three other folders, i.e., 2026 ISP Wind traces, 2026 ISP Solar traces, and 2026 ISP timeslice traces. Those contain wind, solar, and timeslice traces that are the same for all scenarios.
5. Copy the three unzipped folders (wind, solar, and timeslice) and paste them into the Traces folder within the scenario of interest. The traces folder must contain nine folders with the names exactly as shown in Figure 1.

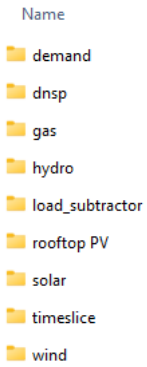
[2] The dry year traces (2006-07) were replaced with 2014-15 traces for renewable and demand as they were most similar in profile to the 2006-07 year.

[3] Hydrological data for the 2024-25 reference year was unavailable at the time of modelling, and substituted with data from the 2019-20 reference year as the next most similar in profile.

[4] The ISP model may be able to be used in other versions of PLEXOS, but these have not been tested by AEMO.

[5] See https://www.aemo.com.au/energy-systems/major-publications/integrated-system-plan-isp/2026-integrated-system-plan-isp

### Figure 1 Content of traces folder




6. The list and respective content of files is presented in the Table 2 for *Step Change*.

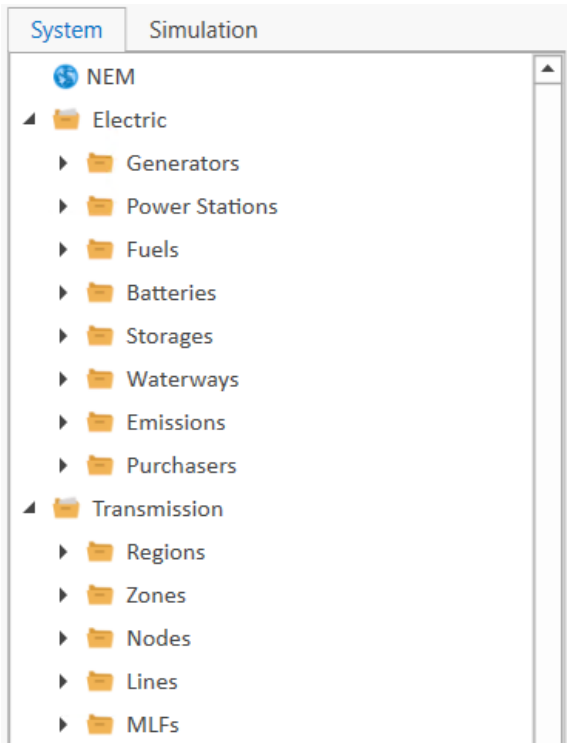
### Table 2 Files and folders for 2026 ISP *Step Change*

| File | Description | File location |
|---|---|---|
| **2026 ISP Step Change.xml** | Contains the .xml model for *Step Change* | Placed in the 2026 ISP Step Change folder |
| **Traces** | Contains nine folders with traces for demand, dnsp, gas, hydro, load subtracter, rooftop PV, solar, timeslice and wind | Placed in the 2026 ISP Step Change folder |
| *Demand* | Contains half-hourly sub-regional demand traces for underlying demand | Placed in the 2026 ISP Step Change\'Traces\demand' folder |
| *DNSP* | Contains half-hourly CER generation limits and coefficients for each distribution network | Placed in the 2026 ISP Step Change\'Traces\dnsp' folder |
| *Gas* | Contains daily gas availability for each gas zone | Placed in the 2026 ISP Step Change\'Traces\gas' folder |
| *Hydro* | Contains half-hourly and daily hydro inflows traces[6] | Placed in the 2026 ISP Step Change \'Traces\hydro' folder |
| *Load_ subtractor* | Contains half-hour load subtracter traces used to improve the accuracy of the approximation of load and VRE output | Placed in the 2026 ISP Step Change\'Traces\load_subtractor' folder |
| *Rooftop PV* | Constrains half-hourly generation traces for rooftop and other small-scale solar | Placed in the 2026 ISP Step Change \'Traces\rooftop PV' folder |
| *Solar* | Constrains half-hourly generation traces for large-scale solar | Placed in the 2026 ISP Step Change \'Traces\solar' folder |
| *Timeslice* | Contains traces for specifying seasonal timeslice profiles | Placed in the 2026 ISP Step Change \'Traces\timeslices' folder |
| *Wind* | Constrains half-hourly generation traces for wind | Placed in the 2026 ISP Step Change\'Traces\wind' folder |

[6] To maintain confidentiality some traces are provided at a monthly level.

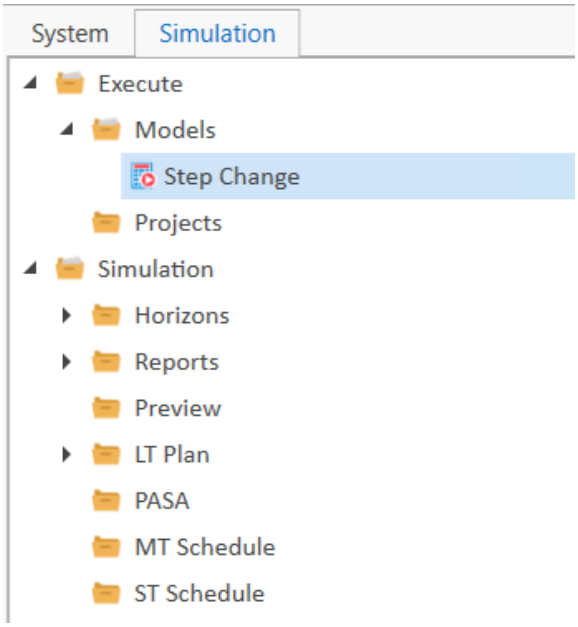
7. Open the .xml file in PLEXOS. The model consists of System and Simulation tabs, as shown in Figure 2. The PLEXOS System tab comprises all objects, as well as their memberships and properties. The PLEXOS Simulation tab contains the model object and all the settings used in the simulation.

**Figure 2 System tab of the .xml file**




8. Execute the highlighted model in the Simulation tab, corresponding to *Step Change* CDP 4 as shown in Figure 3.

**Figure 3 Simulation tab of the 2026 *Step Change* ISP Model.xml file**



## 2.1 Further modelling details

The size of the problem and the length of the planning horizon require some simplifications in the assumptions, trading off some model accuracy for computational manageability. These simplifications include:

- Aggregating half-hour demand across the 24-year planning horizon into a representative number of load blocks.
- Dividing the optimisation horizon into smaller steps (four steps of six years).
- Using notional transfer limits between sub-regions to simplify network representation.
- Preliminary screening of new entrant generation candidates by optimising the DLT model for a selection of snapshot years to determine if a technology is part of the most economically efficient solution at any time across the planning horizon.

Further information can be found in AEMO's *2025 ISP Methodology*[7].

[7] ISP Methodology available at https://www.aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2024/2026-isp-methodology/isp-methodology-june-2025.pdf?rev=e88a1f1bbeef447ba27692b785069a0a&sc_lang=en

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