

Demand Forecasting Portal – User Guide

April 2024



Purpose

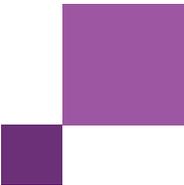
The new demand forecasting portal managed by AEMO, offers insights into Australia’s energy market trends for Electricity and Gas of National Electricity Market (NEM), Wholesale Electricity Market (WEM) and Western Australia (WA).

Copyright

© 2024 Australian Energy Market Operator Limited. The material in this publication may be used in accordance with the [copyright permissions on AEMO's website](#).

Version control

Version	Release date	Changes
0.1	30/04/2024	-



Contents

Q1. How do I access the forecasting data portals for electricity and gas?	5
Q2. How do I filter charts by Region, Category, Forecasting Component or Scenario?	8
Q3. How do I download the electricity and gas forecasts?	10
Q4. How can I view the underlying data of a chart?	12
Q5. How can I increase the size of the chart?	13
Q6. How do I switch from chart format to table format?	14
Q7. What does the 'Additional Options' button do?	15
Q8. How do I access the input and assumptions data for the forecasts?	18

Figures

Figure 1	Forecasting Portal Homepage	5
Figure 2	Electricity Annual Consumption Forecast chart with filters (Default Page)	6
Figure 3	Category, primary and secondary chart Options for Electricity Annual Consumption	7
Figure 4	Primary chart for a selected Category (Operational (Sent Out))	8
Figure 5	Secondary chart for a selected Forecasting Component (Electrification)	8
Figure 6	Default chart of Electricity Annual Consumption, broken down by Category	9
Figure 7	Selecting Region and Scenario from the drop-down menu	9
Figure 8	Display message when filters are deselected	10
Figure 9	Selecting the three dots and Export Data option	11
Figure 10	Select file format of the data to be downloaded	11
Figure 11	Export data	11
Figure 12	Selecting the three dots and the 'Show as a table' option	12
Figure 13	Chart view together with the list of underlying data	12
Figure 14	Selecting the Focus Mode option	13
Figure 15	Chart shown in Focus Mode	13
Figure 16	Selecting the 'Chart' and 'Table' buttons	14
Figure 17	Table format of the forecasting data	14
Figure 18	Identifying the 'Additional Option' button	15
Figure 19	The 'Additional Options' window and multi-select options	16
Figure 20	Example of sub-category aggregation	17
Figure 21	Selecting Primary and Secondary Publications for Comparison Chart	18

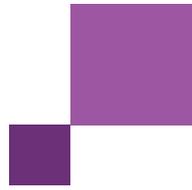
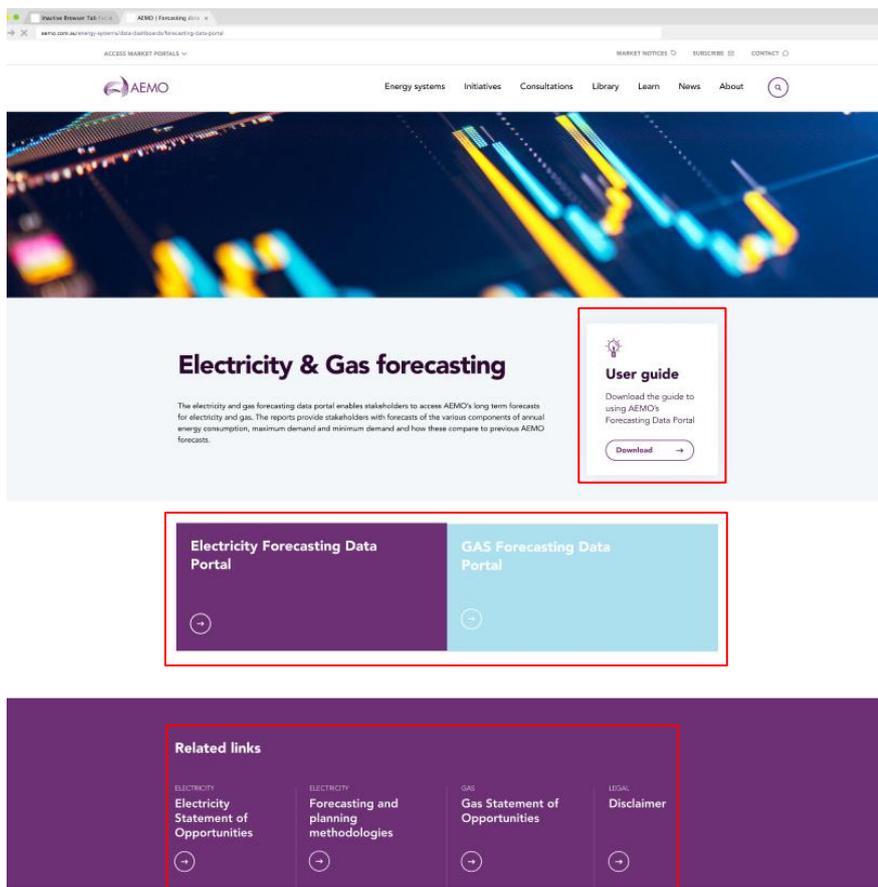


Figure 22	Figure 21 Identifying the 'Input and Assumption' tab on the landing page	18
Figure 23	Page with list of IASR input links	19

Q1. How do I access the forecasting data portals for electricity and gas?

1. Visit the Forecasting Data Portal at <https://forecasting.aemo.com.au/>
2. In the homepage, links for the Electricity Forecasting Data Portal, Gas Forecasting Data Portal, User Guide and Related Links are available, as shown in Figure 1.

Figure 1 Forecasting Portal Homepage

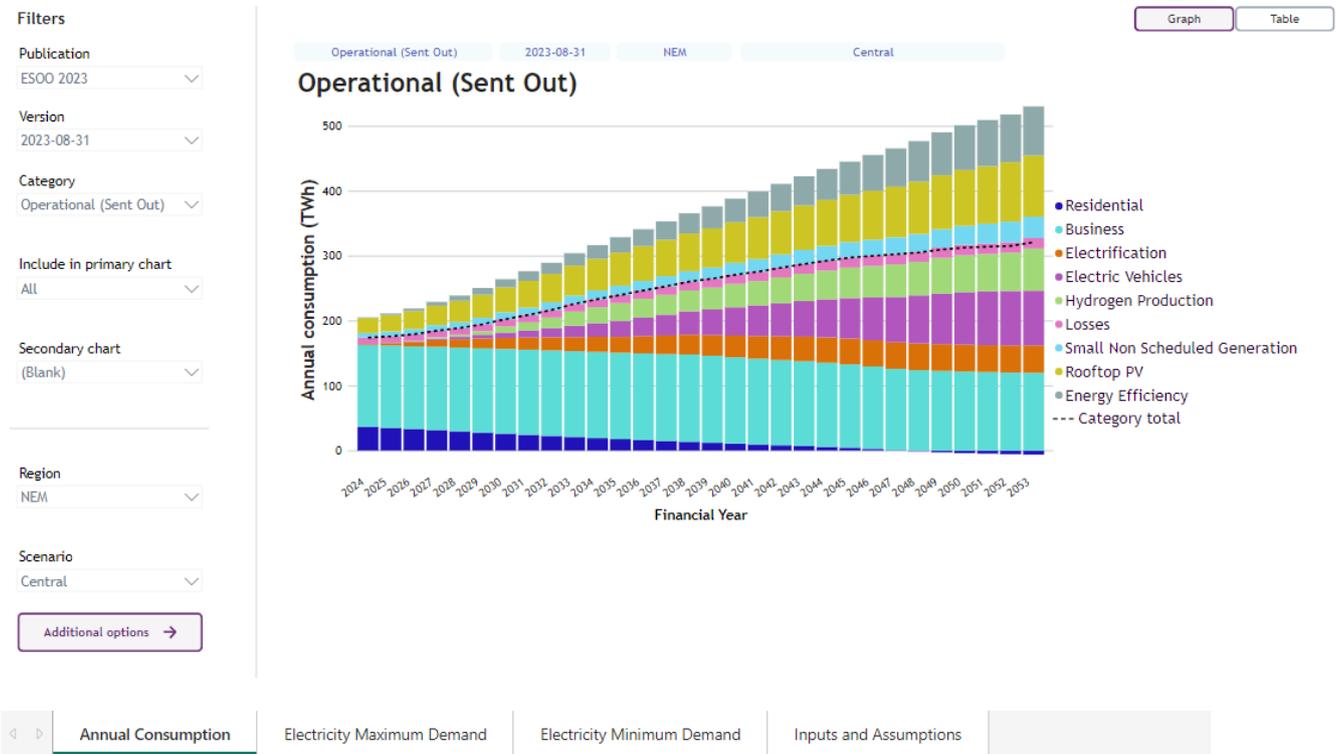


As an example, when the Electricity Forecasting Data Portal link is clicked, the user is taken to the suite of electricity reports, as illustrated in Figure 2.

Figure 2 Electricity Annual Consumption Forecast chart with filters (Default Page)

Electricity Annual Consumption

Final 2023 ESOO forecast: This version includes consumption related to H2 (including export and green steel), while these are not reflected in max/min demand.



Once within the reporting dashboard, users can filter the report by selecting the required options from the drop-down boxes to view the relevant forecasting chart.

The available filters are:

Publication

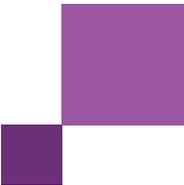
Publication refers to the AEMO publication in which the forecast was published. For example, the Electricity Statement of Opportunities (ESOO) of a given year.

Version

The Version is the date of the specific publication that the data corresponds to. This usually corresponds with the release of a major publication or update. For example, if an ESOO of a given year has multiple versions, this is where a user will select their desired version.

Category

The Category drop-down box allows the user to select the level at which they want to view the forecasts. In electricity, this includes Operational (Sent Out), Operational (As Generated), or Native (Sent Out). Gas only has one level for the Category (Total).



Include in primary chart?

This drop-down box allows the user to select which Forecasting Components (which sum to the Category selected above) to display in the primary chart. Users can hold down the Ctrl key and use their mouse to select or de-select the Forecasting Components. Note that the Category total (dotted line) will remain the same, regardless of whether any Forecasting Components are de-selected, as this line represents AEMO’s forecast for the Category selected.

The Forecasting Component options differ slightly across Annual Consumption, Maximum Demand and Minimum Demand for electricity and gas due to the level of aggregation at which the modelling is undertaken.

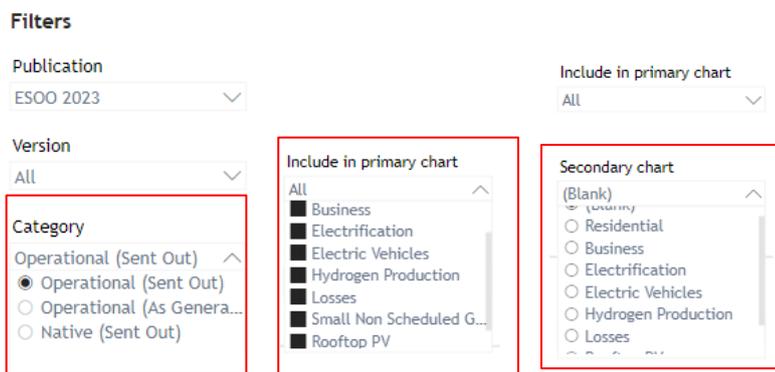
Secondary Chart

This drop-down box allows the user to select a Forecasting Component to display on its own in a secondary chart that will appear below the primary chart. If the Forecasting Component is comprised of two or more sub-components, these may be displayed in the secondary chart (refer Figure 5).

The list of Forecasting Component options dynamically changes for each Category selected.

The Annual Consumption Category, Primary chart and Secondary chart options are shown in Figure 3.

Figure 3 Category, primary and secondary chart Options for Electricity Annual Consumption



Upon selecting the Publication, Version, Category and primary/secondary chart options, the dashboard will display the relevant Category (primary) and Forecasting Component (secondary) charts, with examples shown in Figure 4 and Figure 5.

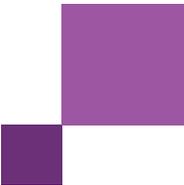


Figure 4 Primary chart for a selected Category (Operational (Sent Out))

Operational (Sent Out)

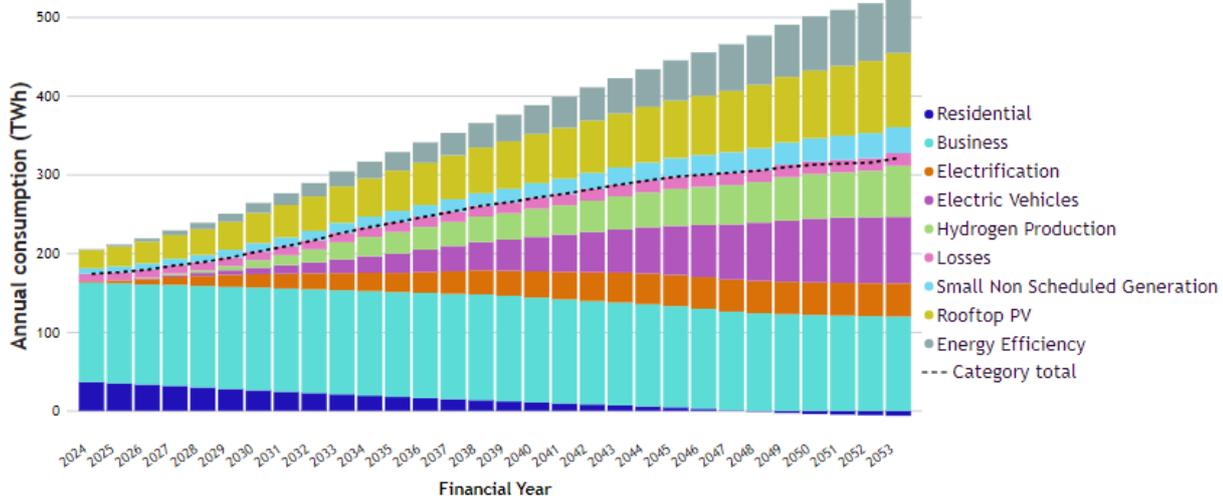
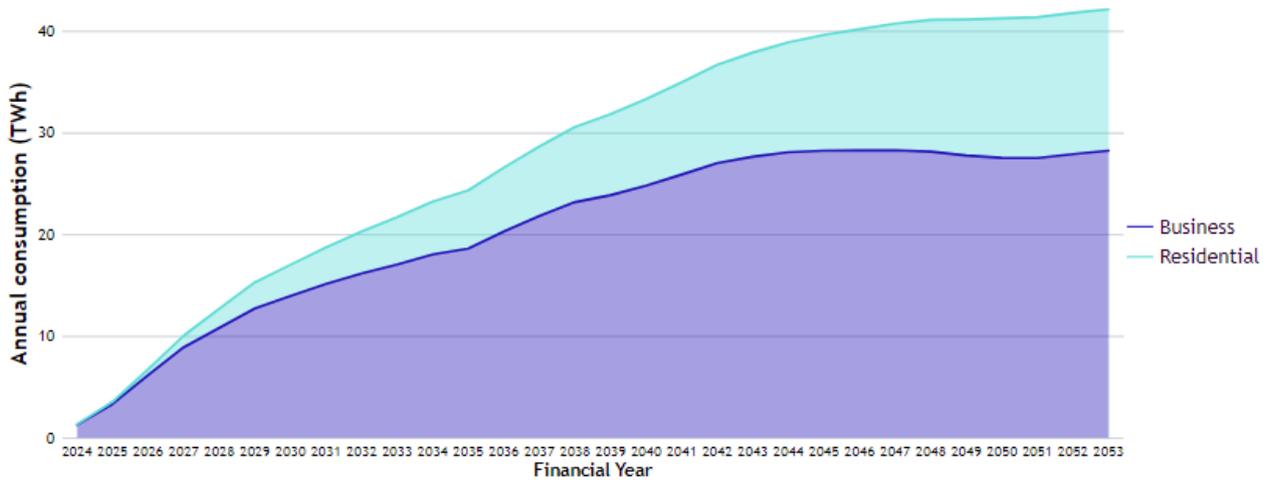


Figure 5 Secondary chart for a selected Forecasting Component (Electrification)

Electrification



Q2. How do I filter charts by Region, Category, Forecasting Component or Scenario?

1. By default, the page will show a pre-defined forecast chart, with an example shown in Figure 6.

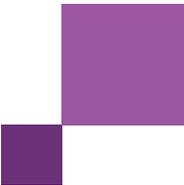
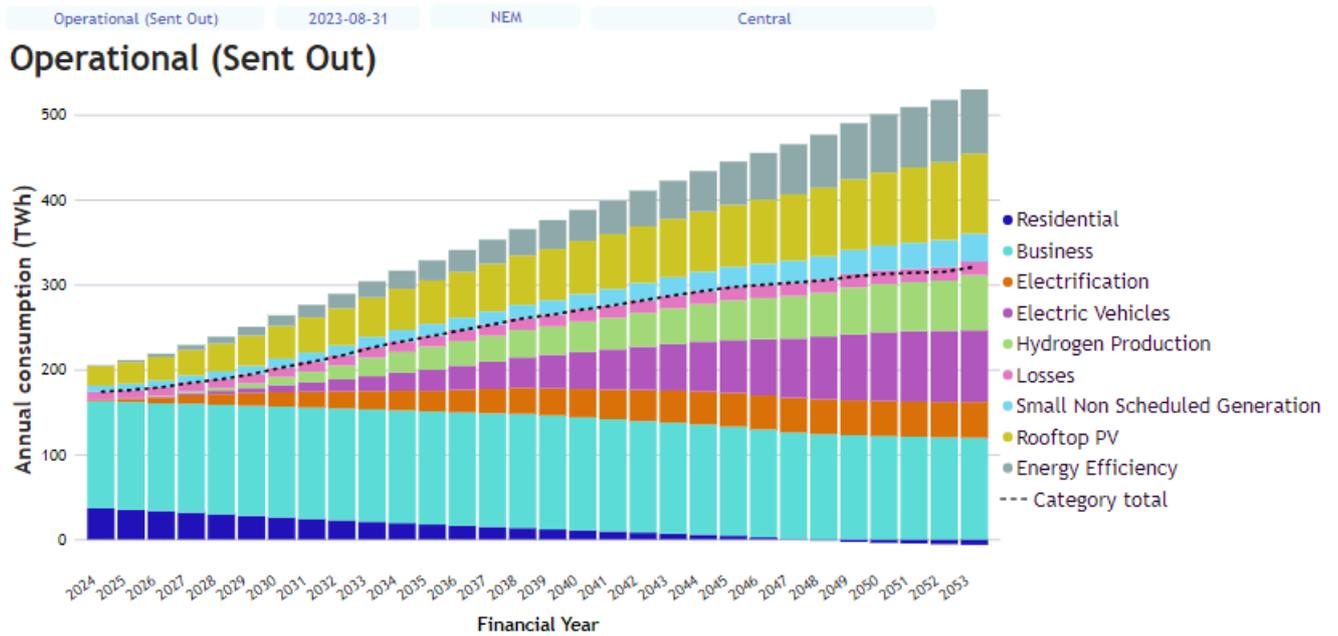


Figure 6 Default chart of Electricity Annual Consumption, broken down by Category



2. Follow the steps in outlined in question 1 to produce a primary and/or secondary chart.
3. To select region and scenario, click on the relevant drop-down lists, as shown in Figure 7.

Figure 7 Selecting Region and Scenario from the drop-down menu

Filters

Publication
ESOO 2023

Version
2023-08-31

Category
Operational (Sent Out)

Include in primary chart
All

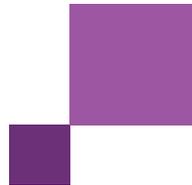
Secondary chart
Residential

Region
NEM

Scenario
Central

Additional options →

On this page, Region and Scenario drop-down selections are limited to 'single selection', i.e., only one Region and one Scenario are available to select and display. To enable a comparison of multiple selections for Region and Scenario, click on the 'Additional Options' button (more detail about 'Additional Options' is provided in Q7).

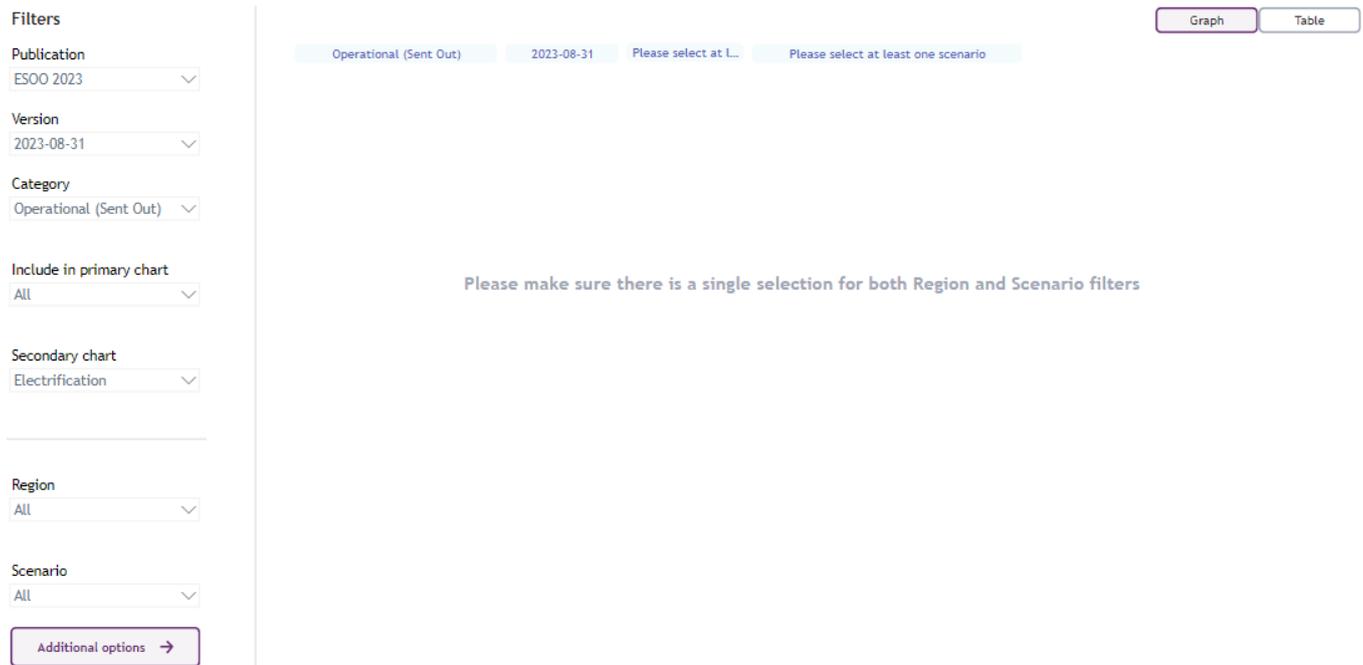


If something other than a single item within the Region or Scenario drop-down boxes are selected, an error message will appear. An example is included in Figure 8.

Figure 8 Display message when filters are de-selected

Electricity Annual Consumption

Final 2023 ESOO forecast: This version includes consumption related to H2 (including export and green steel), while these are not reflected in max/min demand.



If the Publication selection is changed, the Power BI software retains the drop-down selections from the previous Publication. These selections may not always be applicable for the newly selected Publication and will also lead to an error message being displayed. For example, if a user was viewing the Central scenario for the 2023 ESOO and the user then changes the Publication to an older report, such as the 2016 NEFR, the 'Central' scenario will remain selected in the Scenario drop-down box, even though the 2016 NEFR referred to the central case as the 'Neutral' scenario. In this instance, once the user selects 'Neutral' from the Scenario drop-down box, the chart will display and the 'Central' option in the drop-down box will disappear, as it is no longer relevant for the selected publication.

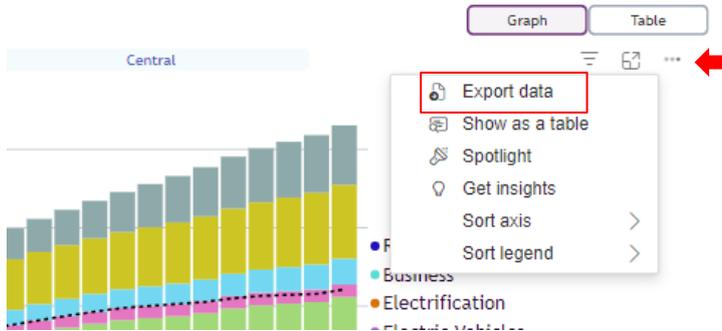
In the event that a future update to Power BI allows to dynamically switch to a different Scenario name when the Publication filter is changed, AEMO will update the dashboard with this new functionality.

Q3. How do I download the electricity and gas forecasts?

1. Navigate to the respective Forecasting Data Portal – see question 1 for details.

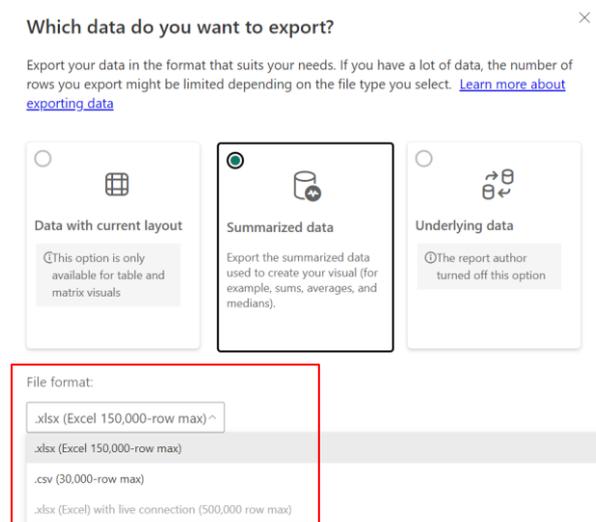
2. In the top right-hand corner above the chart on the webpage, click on the three dots to view the list of options. Select Export Data option (as shown in Figure 9).

Figure 9 Selecting the three dots and Export Data option



3. By clicking on Export Data, a pop-up window opens to select the file format (Excel or CSV), as shown in Figure 10.

Figure 10 Select file format of the data to be downloaded



4. Once File format is selected, click on the 'Export' button to download the data to the local system (Figure 11).

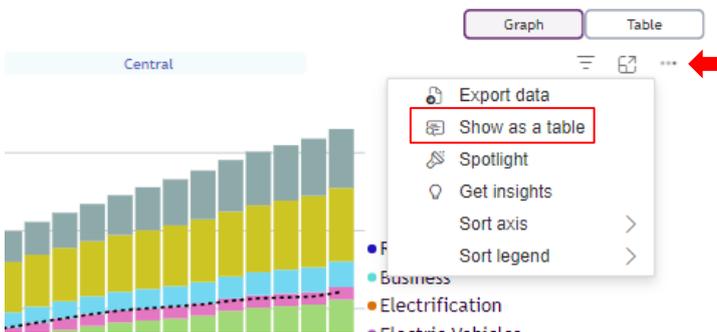
Figure 11 Export data



Q4. How can I view the underlying data of a chart?

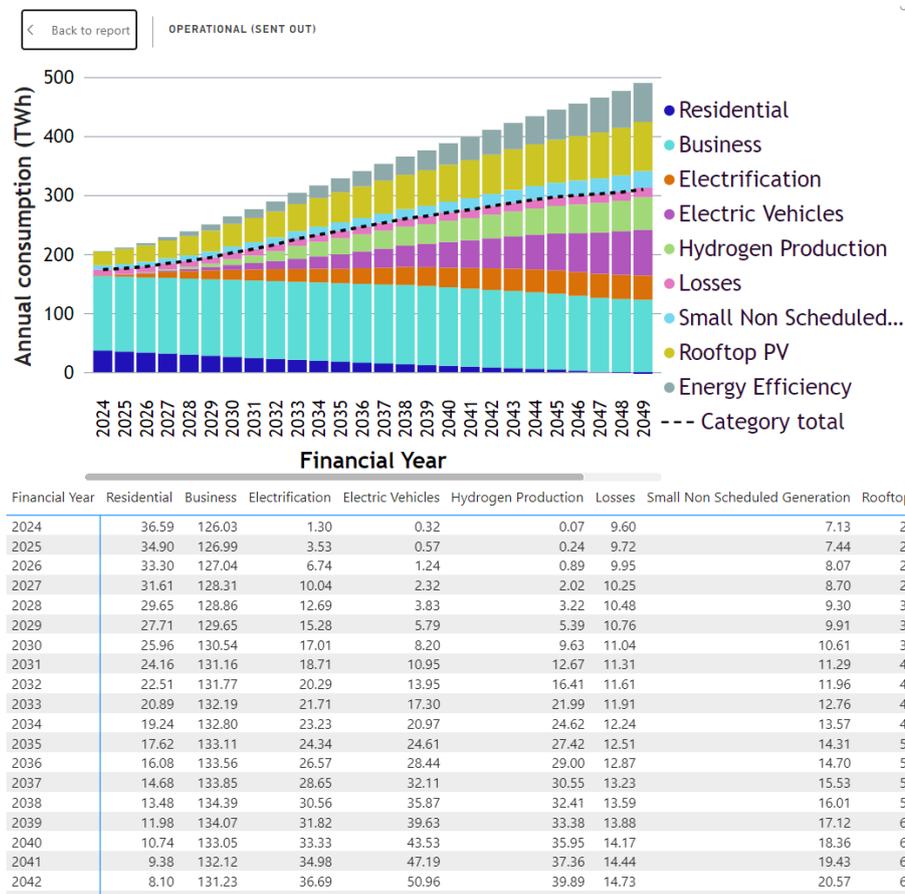
1. Navigate to the respective Forecasting Data Portal – see question 1 for details.
2. In the top right-hand corner above the chart on the webpage, click on the three dots to view the list of options. Select the 'Show as a table' option (as shown in Figure 12).

Figure 12 Selecting the three dots and the 'Show as a table' option



3. The data underlying the chart now displays beneath the chart (Figure 13).

Figure 13 Chart view together with the list of underlying data



Q5. How can I increase the size of the chart?

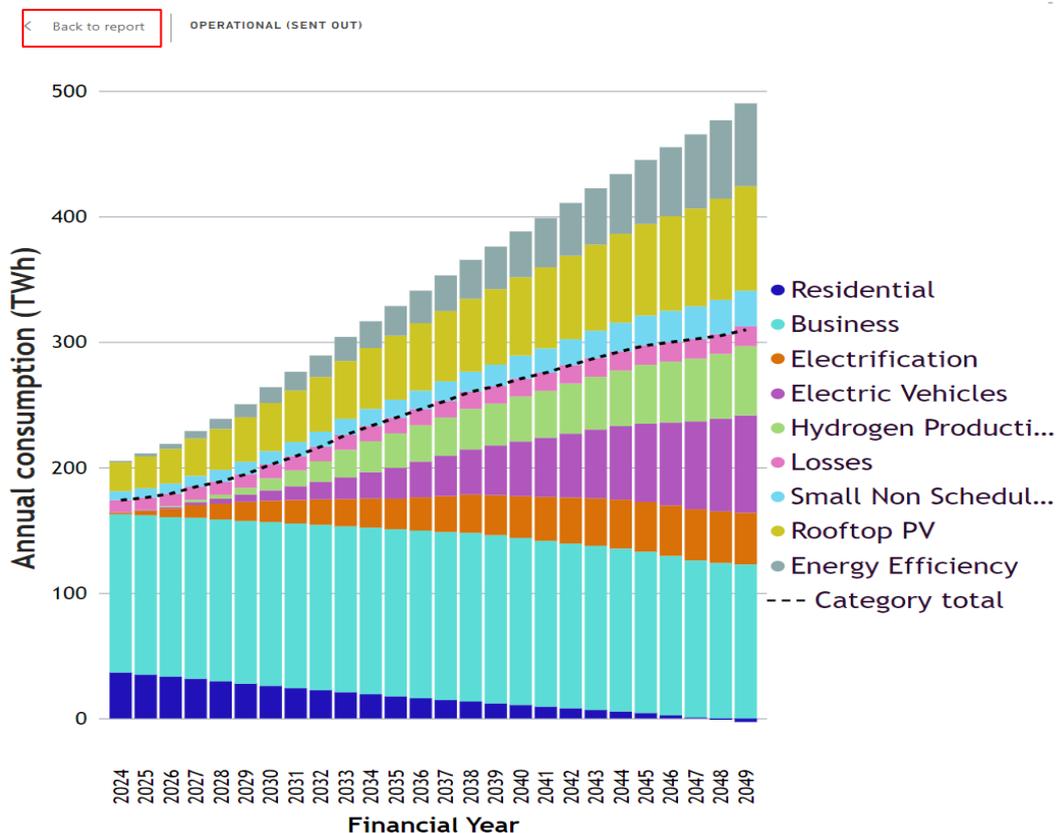
1. Navigate to the respective Forecasting Data Portal – see question 1 for details.
2. In the top right-hand corner above the chart on the webpage, click on the icon to the left of the three dots, called Focus Mode (as shown in Figure 14).

Figure 14 Selecting the Focus Mode option



3. The chart will be displayed in a larger format. Click 'Back to Report' to exit Focus Mode.

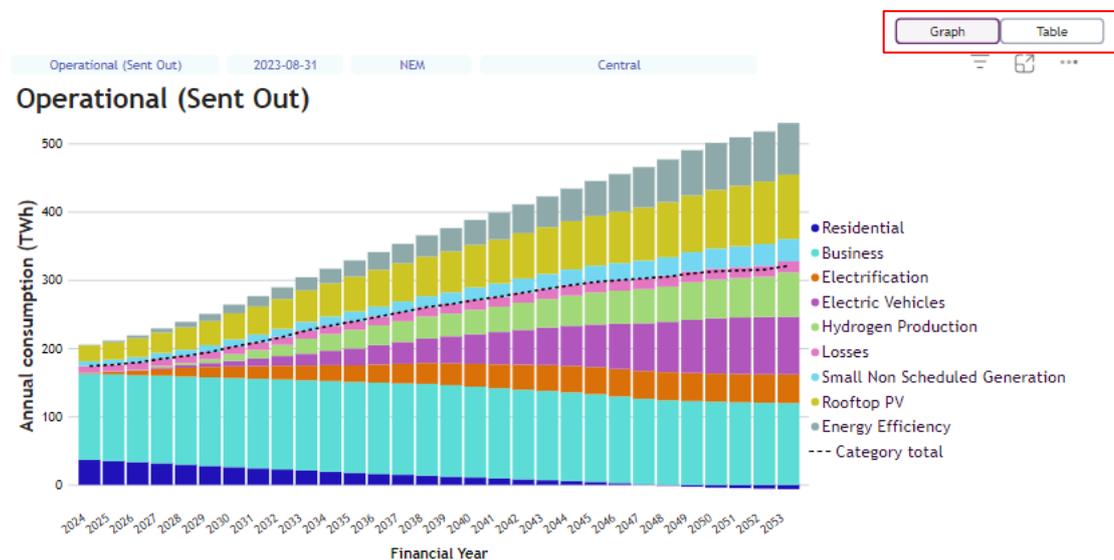
Figure 15 Chart shown in Focus Mode



Q6. How do I switch from chart format to table format?

1. Navigate to the respective Forecasting Data Portal – see question 1 for details.
2. In the top right-hand corner above the chart on the webpage, click on Table to convert the chart into a table.

Figure 16 Selecting the 'Chart' and 'Table' buttons



3. Switch from chart to table format by clicking on the 'Table' icon. The data will now display as a table.

Figure 17 Table format of the forecasting data

Electricity Annual Consumption

Final 2023 ESOO forecast: This version includes consumption related to HZ (including export and green steel), while these are not reflected in max/min demand.

The figure shows a table titled 'Main report' displaying electricity annual consumption data. The table has columns for Publication, Version, Parent Category, Category, SubCategory, Region, Scenario, Year, and Annual Consumption (GWh). The data is filtered for 'Operational (Sent Out)' in 'Central' region, 'New South Wales', 'Central' scenario, for the year 2020. A 'Table' button is highlighted in the top right corner.

Publication	Version	Parent Category	Category	SubCategory	Region	Scenario	Year	Annual Consumption (GWh)
ESOO 2019	2019-08-22	Operational (Sent Out)	Operational (Sent Out)	Operational (Sent Out)	New South Wales	Central	2020	66.18
ESOO 2019	2019-08-22	Operational (Sent Out)	Residential	Res grid demand	New South Wales	Central	2020	18.47
ESOO 2019	2019-08-22	Operational (Sent Out)	Residential	Res SHSG offset	New South Wales	Central	2020	-0.60
ESOO 2019	2019-08-22	Operational (Sent Out)	Business	Business SHSG offset	New South Wales	Central	2020	-1.51
ESOO 2019	2019-08-22	Operational (Sent Out)	Business	Large industrial loads	New South Wales	Central	2020	14.09
ESOO 2019	2019-08-22	Operational (Sent Out)	Business	Small to medium enterprises	New South Wales	Central	2020	31.62
ESOO 2019	2019-08-22	Operational (Sent Out)	Electric Vehicles	EV load	New South Wales	Central	2020	0.02
ESOO 2019	2019-08-22	Operational (Sent Out)	Losses	Distribution losses	New South Wales	Central	2020	2.59
ESOO 2019	2019-08-22	Operational (Sent Out)	Losses	Transmission Losses	New South Wales	Central	2020	1.52
ESOO 2019	2019-08-22	Operational (Sent Out)	Small Non Scheduled Generation	ONSG generation	New South Wales	Central	2020	1.67
ESOO 2019	2019-08-22	Operational (Sent Out)	Small Non Scheduled Generation	PVNSG generation	New South Wales	Central	2020	0.44
ESOO 2019	2019-08-22	Operational (Sent Out)	Rooftop PV	Business	New South Wales	Central	2020	0.69

As is the case with the Chart view, if the user modifies selections in the drop-down filters, the table will change accordingly. The table can be exported using the same steps as described in question 3.

Q7. What does the ‘Additional Options’ button do?

The Additional Options button can be used to enable the following functionality:

- compare forecasts between two publications
- enable a ‘multi-select’ option where the charts can display and compare forecasts for more than one Region or Scenario
- display forecasts for a particular Forecasting Component at varying levels of aggregation (e.g., display business consumption forecasts, but only for large industrial loads).

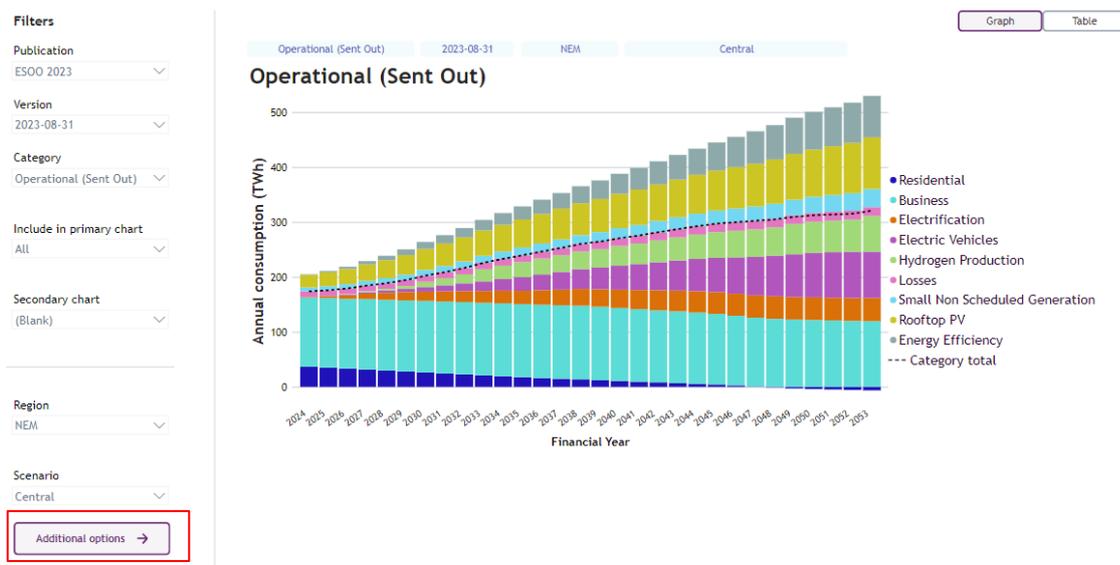
To use the Additional Options functionality:

1. Navigate to the respective forecasting data portal – see question 1 for details.
2. On the bottom left-hand corner of the page, click on the ‘Additional Options’ button to view the forecasting chart (as shown in Figure 18).

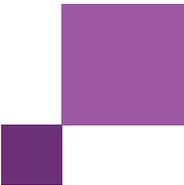
Figure 18 Identifying the ‘Additional Option’ button

Electricity Annual Consumption

Final 2023 ES00 forecast: This version includes consumption related to HZ (including export and green steel), while these are not reflected in max/min demand.



3. A new page will launch, providing additional filters allowing multiple selections, aggregation functionality, and the ability to compare publications.



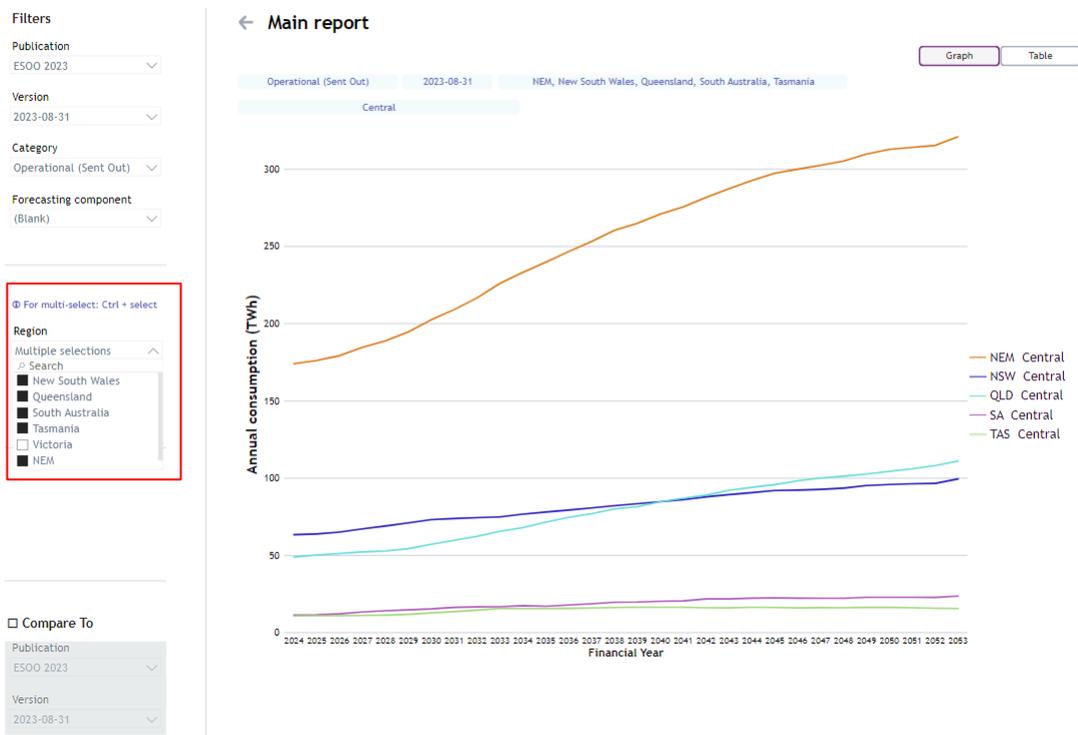
Multi-select region or scenario

Once in the Additional Options page, the chart can be configured to display forecasts for multiple Regions or Scenarios, by selecting the relevant drop-down box and pressing Ctrl on the keyboard, then selecting each Region and/or Scenario of interest with the mouse.

Figure 19 The 'Additional Options' window and multi-select options

Electricity Annual Consumption

Final 2023 ESOO forecast: This version includes consumption related to H2 (including export and green steel), while these are not reflected in max/min demand.



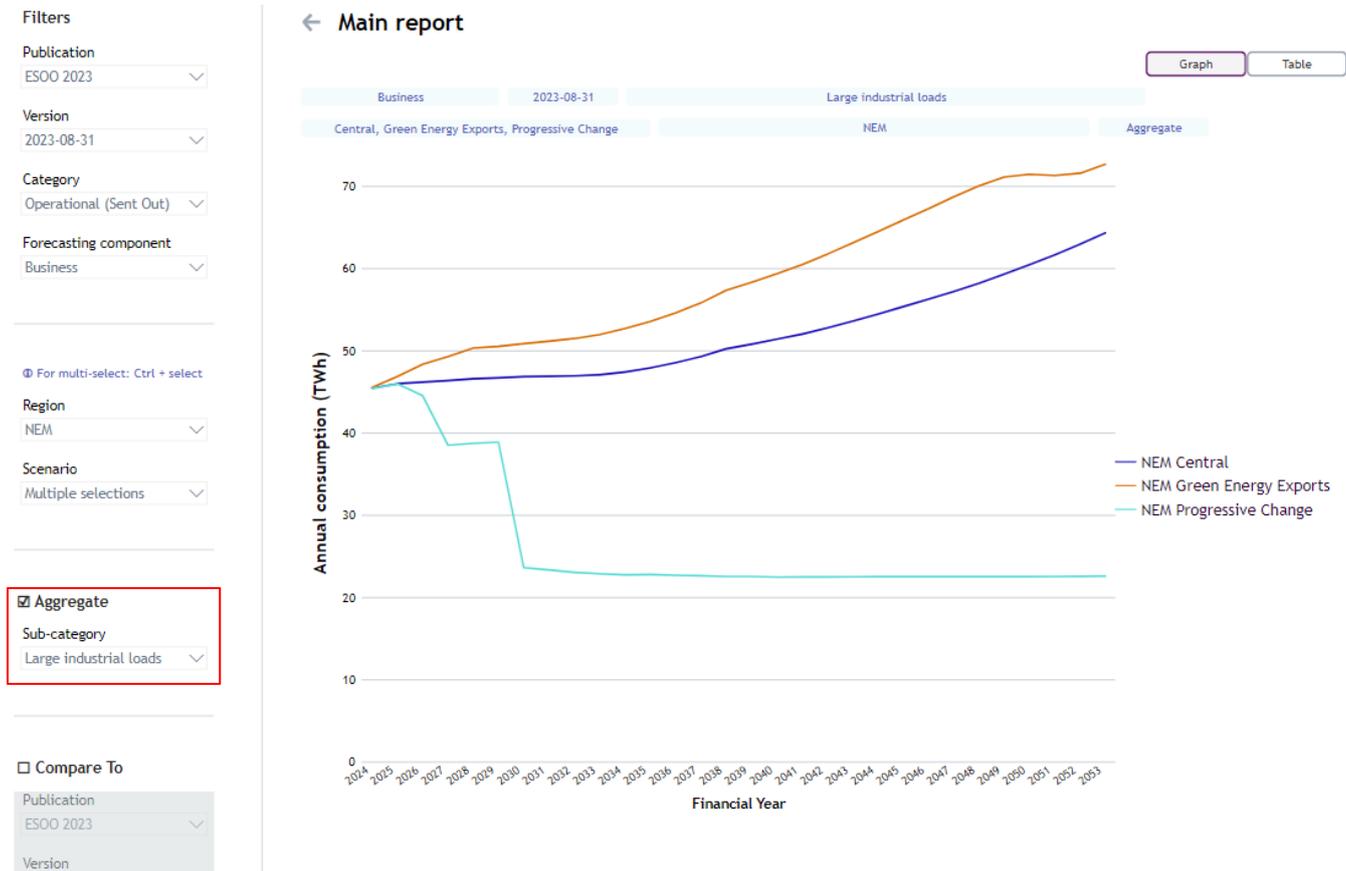
Aggregate function

Certain forecasting components, such as 'Business', are the aggregation of several distinct sub-components. The Aggregate function allows users to view an aggregated forecast for selected sub-components, leaving other sub-components out. For example, to view the only the large industrial load component of AEMO's Business consumption forecast, users can check the 'Aggregate' tick box and then de-select all sub-categories except large industrial loads and the chart will display a forecast for only that sub-category.

Figure 20 Example of sub-category aggregation

Electricity Annual Consumption

Final 2023 ESOO forecast: This version includes consumption related to H2 (including export and green steel), while these are not reflected in max/min demand.



Compare function

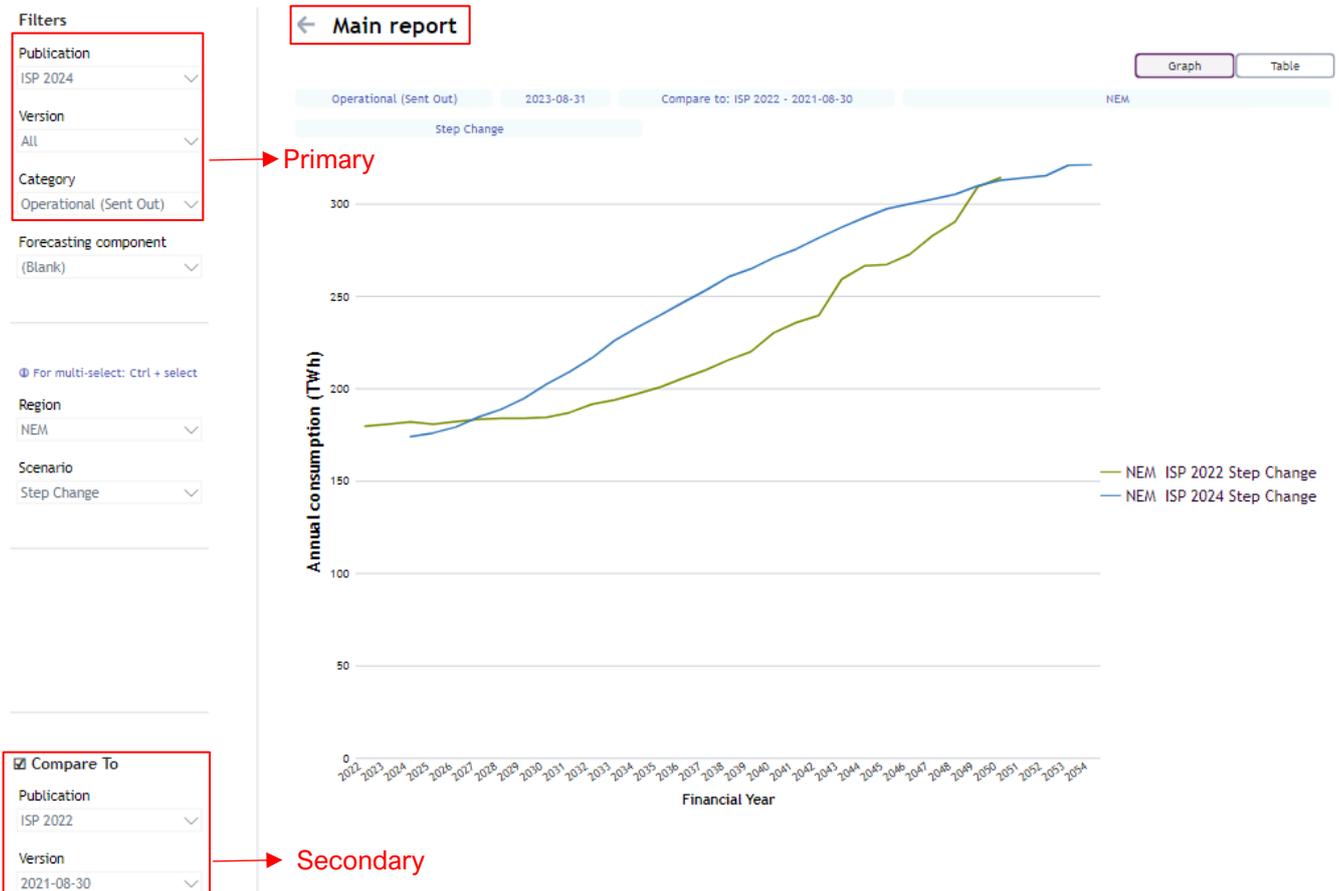
To compare forecasts across publications:

1. Tick the 'Compare To' checkbox.
2. Select the Publication and Version for the secondary publication to compare, as shown in Figure 21.

Figure 21 Selecting Primary and Secondary Publications for Comparison Chart

Electricity Annual Consumption

Draft 2024 ISP forecast. This version includes consumption related to H2 (including export and green steel), while these are not reflected in max/min demand.



To switch back to the main page, click on 'Main report'.

Q8. How do I access the input and assumptions data for the forecasts?

1. Navigate to the respective Forecasting Data Portal – see question 1 for details.
2. Click on the 'Inputs and Assumptions' tab available on the bottom of the page, as shown in the Figure 22.

Figure 22 Identifying the 'Input and Assumption' tab on the landing page



- 3. This tab displays a list of hyperlinks to the webpages which contain the inputs and assumptions for AEMO’s various forecasting publications, as shown in Figure 23.

Figure 23 Page with list of IASR input links

Inputs and Assumptions

Please use the below links to access the webpages for AEMO’s forecasting publications, which include any inputs and assumptions published in conjunction with those forecasts.

Year	Link to Input and Assumptions
2024	2024 ISP Inputs and Assumptions
2023	2023 ES00 Inputs and Assumptions
2022	2022 ES00 Inputs and Assumptions
2022	2022 ISP Inputs and Assumptions
2021	2021 ES00 Inputs and Assumptions
2020	2020 ES00 Inputs and Assumptions
2020	2020 ISP Inputs and Assumptions
2019	2019 ES00 Inputs and Assumptions
2018	2018 ISP Inputs and Assumptions
2018	2018 ES00 Inputs and Assumptions
2018	2018 EFI Inputs and Assumptions
2017	2017 ES00 Inputs and Assumptions
2017	2017 EFI Inputs and Assumptions
2015-2016	NEFR Inputs and Assumptions