Draft 2022 consumption forecasts

For the 2022 ESOO

25 May 2022

Forecasting Reference Group Meeting

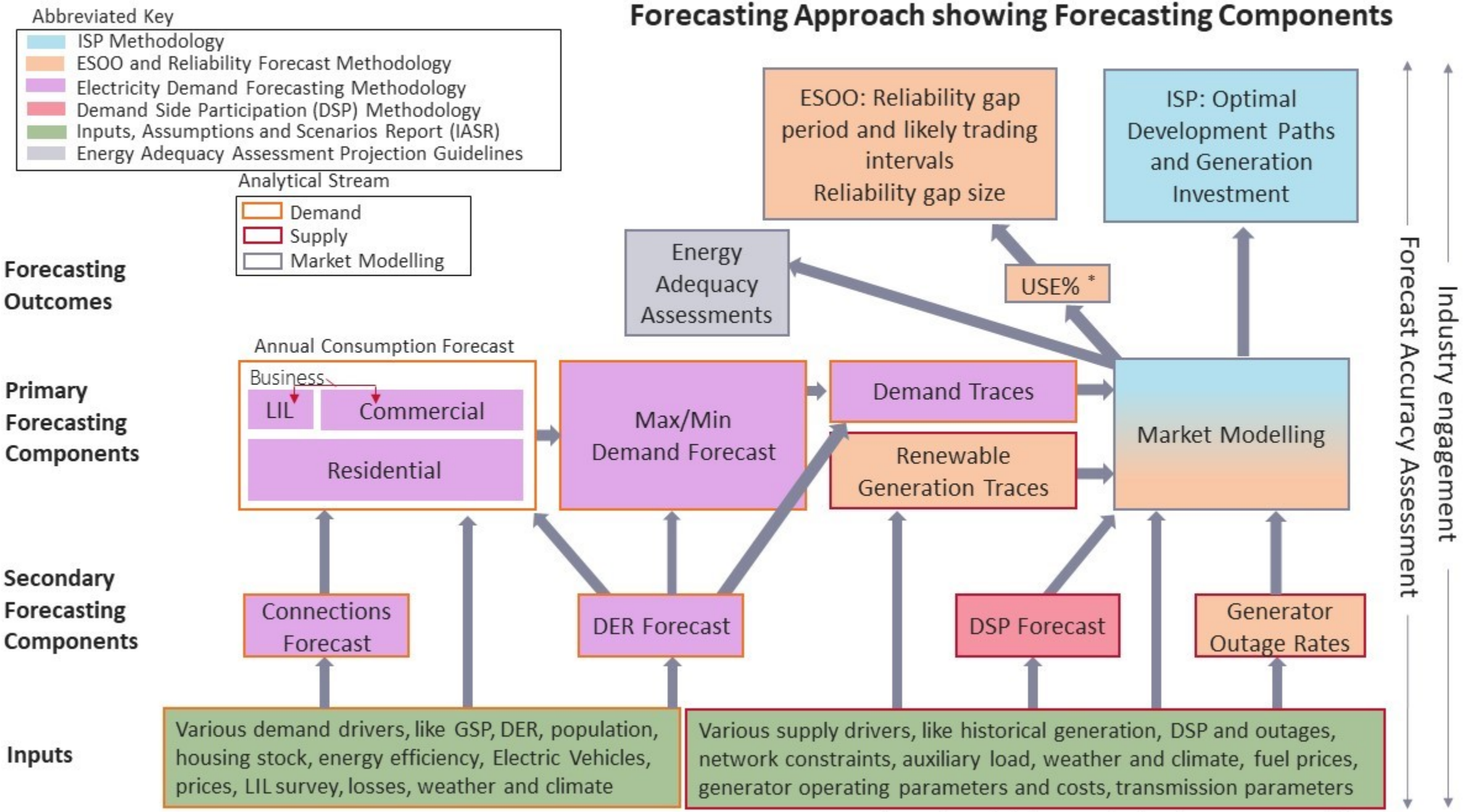
Purpose and agenda

The purpose of this presentation is to *consult* with the FRG on draft 2022 Electricity Statement of Opportunities (ESOO) consumption forecasts.

- Today's Agenda includes:
  - Definitions
  - Model inputs
  - Component draft forecasts
  - Appendices with regional forecasts and select model input forecasts

Timing	Relevant topic	Responsible
Dec 21 – Apr 22	Forecasting Assumptions Update consultation	Stakeholders, AEMO
Apr 2022	ESOO Update published	AEMO
Today	**FRG presentation and discussion on draft consumption forecasts**	**AEMO, FRG**
29 June	FRG presentations and discussions: • Draft minimum and maximum demand forecasts • Generator Forced Outage Rates	AEMO, FRG
End Aug	2022 ESOO publication	AEMO

Forecasting Approach showing Forecasting Components



See AEMO's Forecasting Approach

* See also Reliability Standard Implementation Guidelines

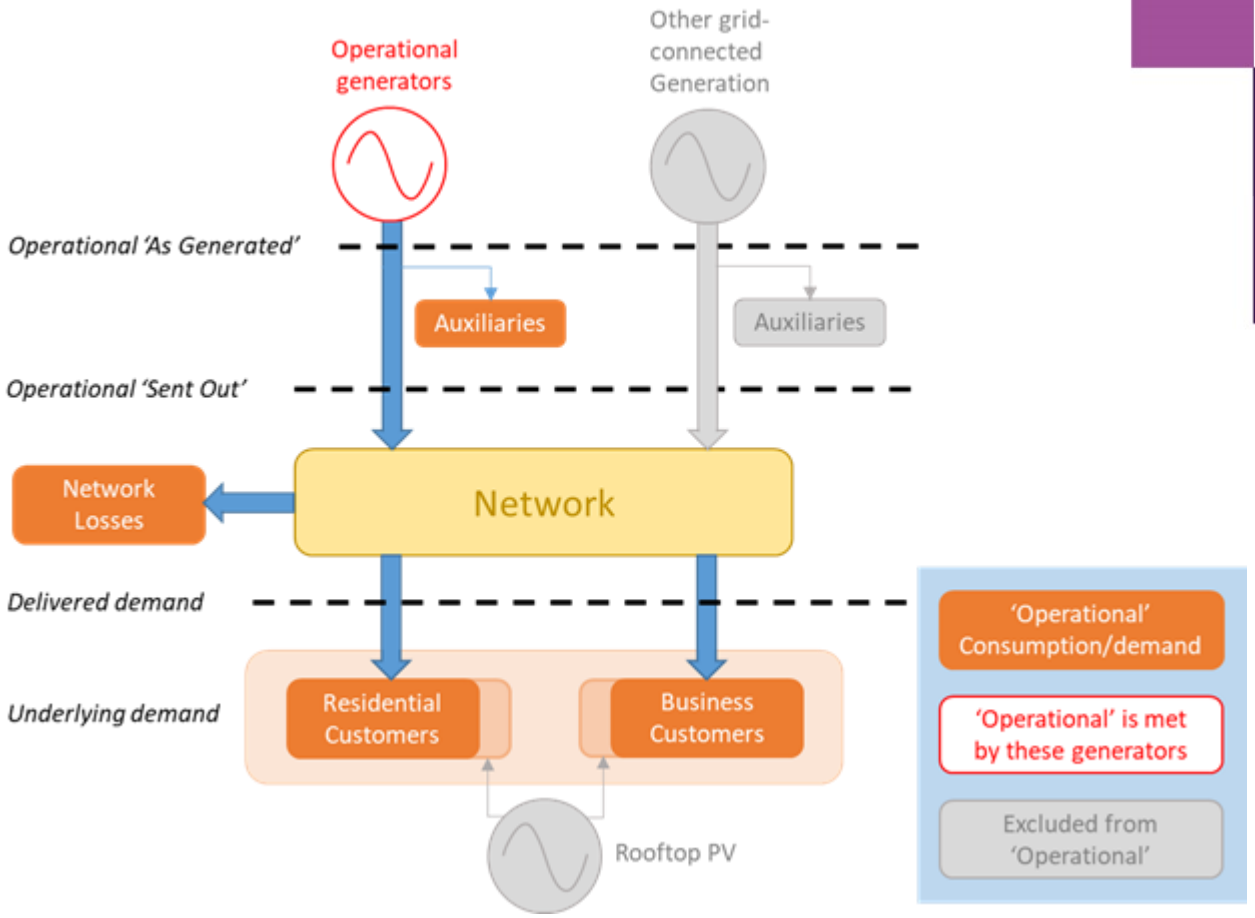
Understanding the language of forecasting electricity consumption

Key forecasting definitions in use today:

- **Underlying Demand:**
  - Underlying demand is the "power point" demand of consumers, irrespective of where that power is generated (from the grid or within the home).
- **Delivered Demand:**
  - Delivered demand is the demand that is met from the transmission grid, net of any distribution-generated energy such as rooftop PV
- **Operational Demand**
  - What is consumed by consumers, as supplied by scheduled, semi-scheduled and significant non-scheduled generating units >= 30MW (with some exceptions).

Key demand measurement points:

- **"Sent Out"**
  - Electricity supplied to the grid by scheduled, semi-scheduled and significant non-scheduled generators (excluding auxiliary loads)
- **"As Generated"**
  - As per Sent Out, but including auxiliary loads (that load which is used within a power station)



For detailed definitions, see: demand-terms-in-emms-data-model.pdf (aemo.com.au)

Model inputs

Changes to model inputs (1/2)

Model inputs	Component forecast	Changes since 2021 ESOO	Status
Connections	RES	Rebased using latest actuals	Final
Appliance Index	RES	Rebased to forecast base year (2022)	Draft subject to analysis of Residential Baseline Study (RBS) 2.0 data
GSP and Population	RES and BUS	Gross State Product (GSP): Rebased using ABS National Accounts for FY 2021 Population: As per 2021 forecast (indirect input)	Final
Energy Efficiency	RES and BUS	Rebased to forecast base year (2022) 2021 ESOO April update adjusted short-term outlook*	Final
Electrification	RES and BUS	Rebased to forecast base year (2022) 2021 ESOO April update adjusted short-term outlook*	Final

*Refer to Appendix for forecasts

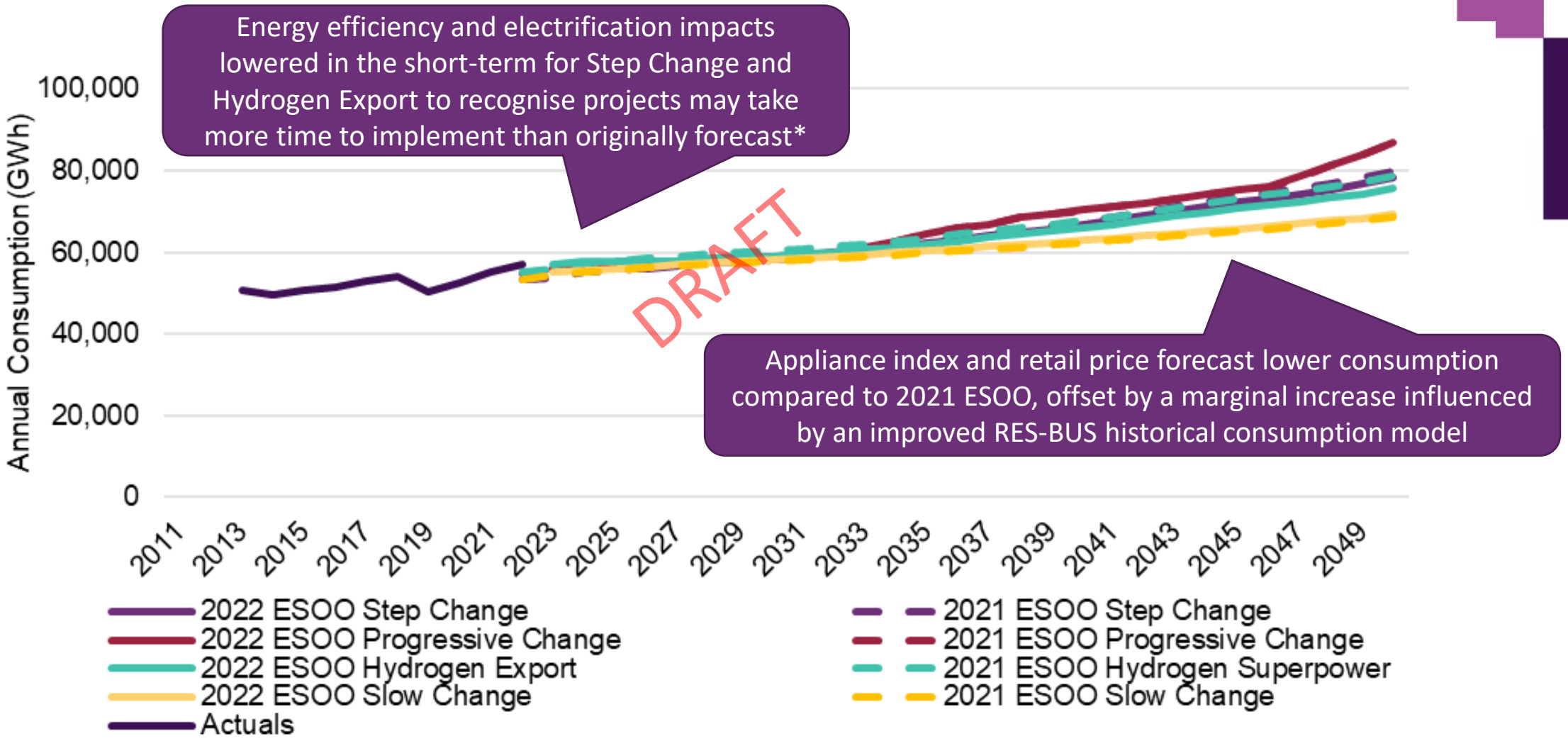
Changes to model inputs (2/2)

Model inputs	Component forecast	Changes since 2021 ESOO	Status
Electric Vehicles	RES and BUS	Rebased using latest sales data (total EV sales in NEM in June 2022 revised up from approx. 26K to 50K vehicles)	Monitoring policies
Retail Price Index	RES and BUS	Updated with AEMC report, 'Residential electricity price trends 2021'# and latest modelling to align with 2022 ISP*	Reviewing for latest price movements
PV Generation	RES and BUS	Rebased using latest actuals^	Monitoring and consulting with external stakeholders incl. CER
LIL surveys	BUS	Updated surveys sent to LILs^	In progress
Hydrogen Electricity Impact	TOTAL	To be rebased to align with 2022 ISP	In progress

Report available at https://www.aemc.gov.au/market-reviews-advice/residential-electricity-price-trends-2021
* Refer to Appendix for forecasts
^ Refer to later slides for forecasts

Draft component forecasts

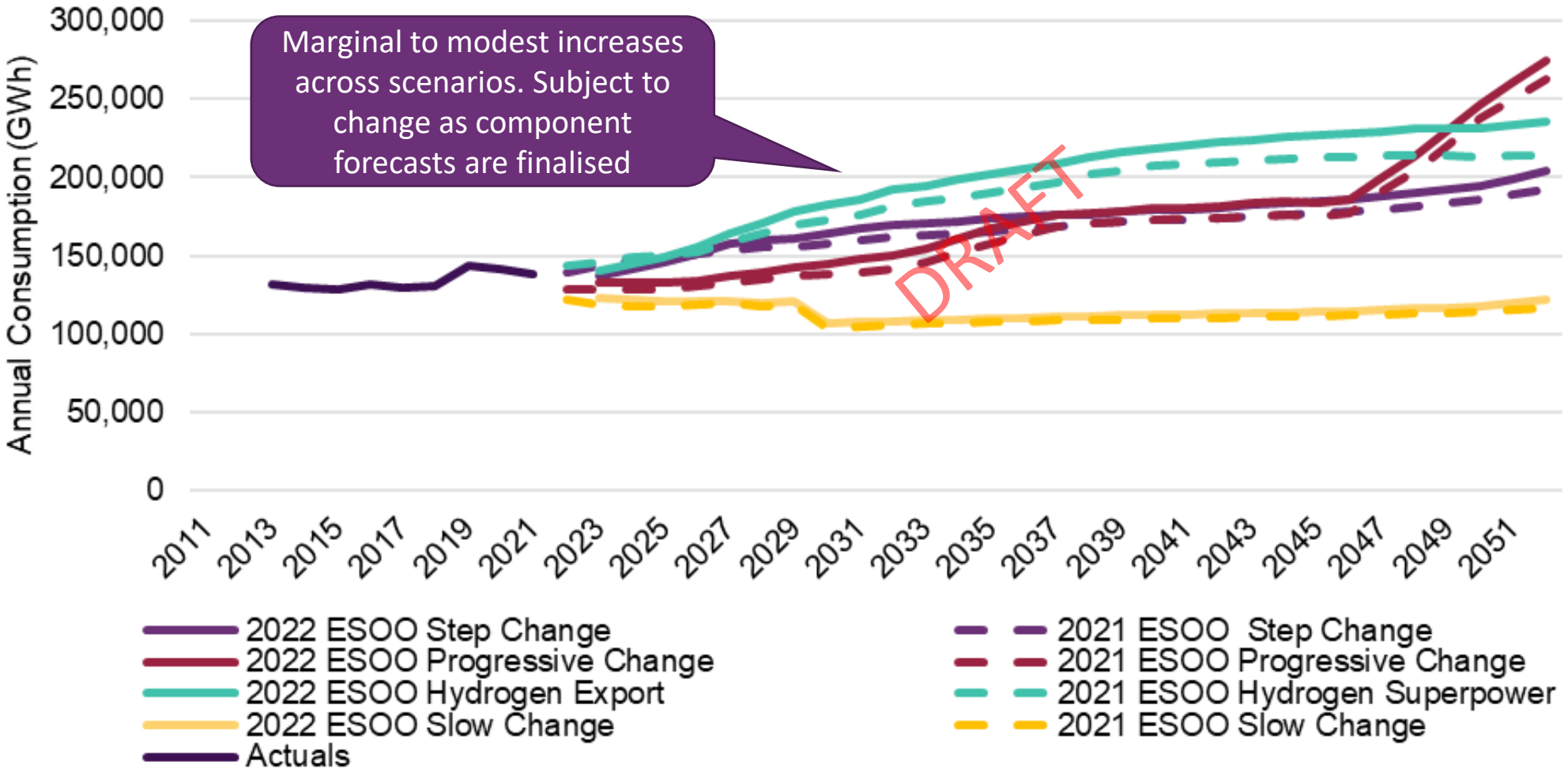
Residential forecast (Underlying)



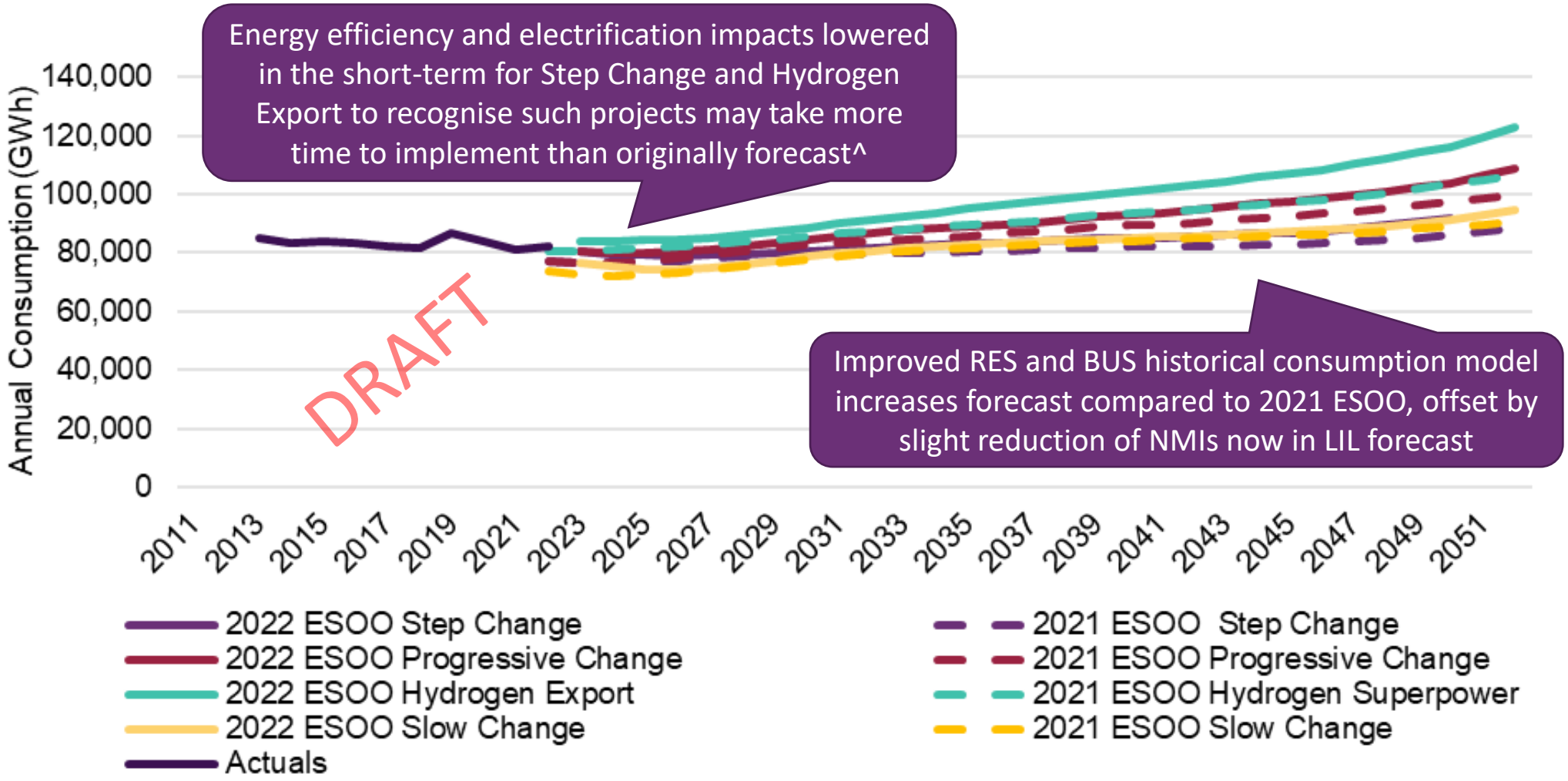
* Refer to Appendix, 'Model Inputs' for energy efficiency and electrification forecast comparisons

Business consumption forecasts (Underlying)

Business = Business mass market + Large industrial loads + LNG



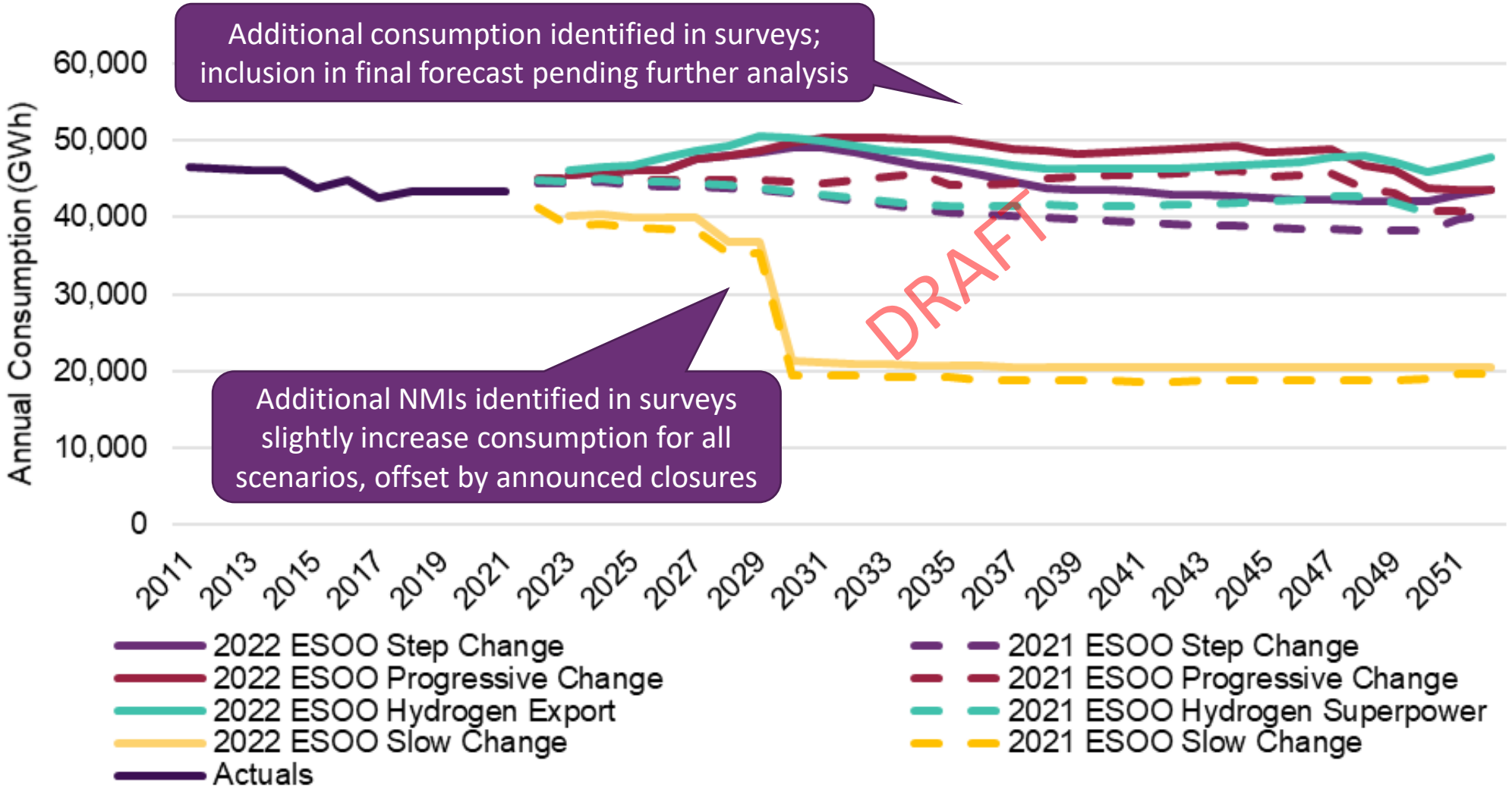
Business mass market forecast* (Underlying)



*Electrification impact not in BMM forecast; included in the Business consumption forecast

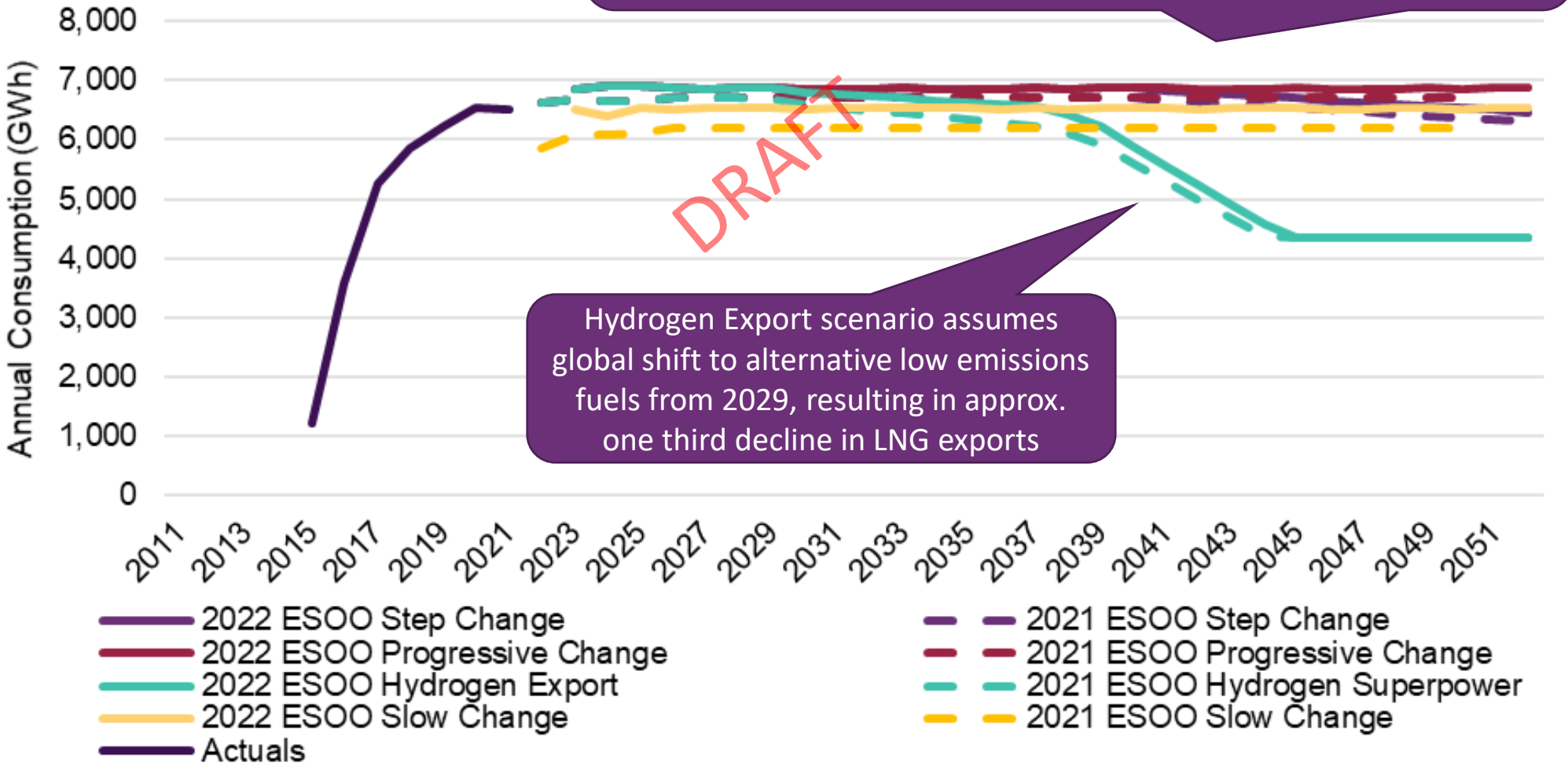
^ Refer to Appendix, 'Model Inputs' for energy efficiency and electrification forecast comparisons

Large Industrial Load forecast (Underlying)



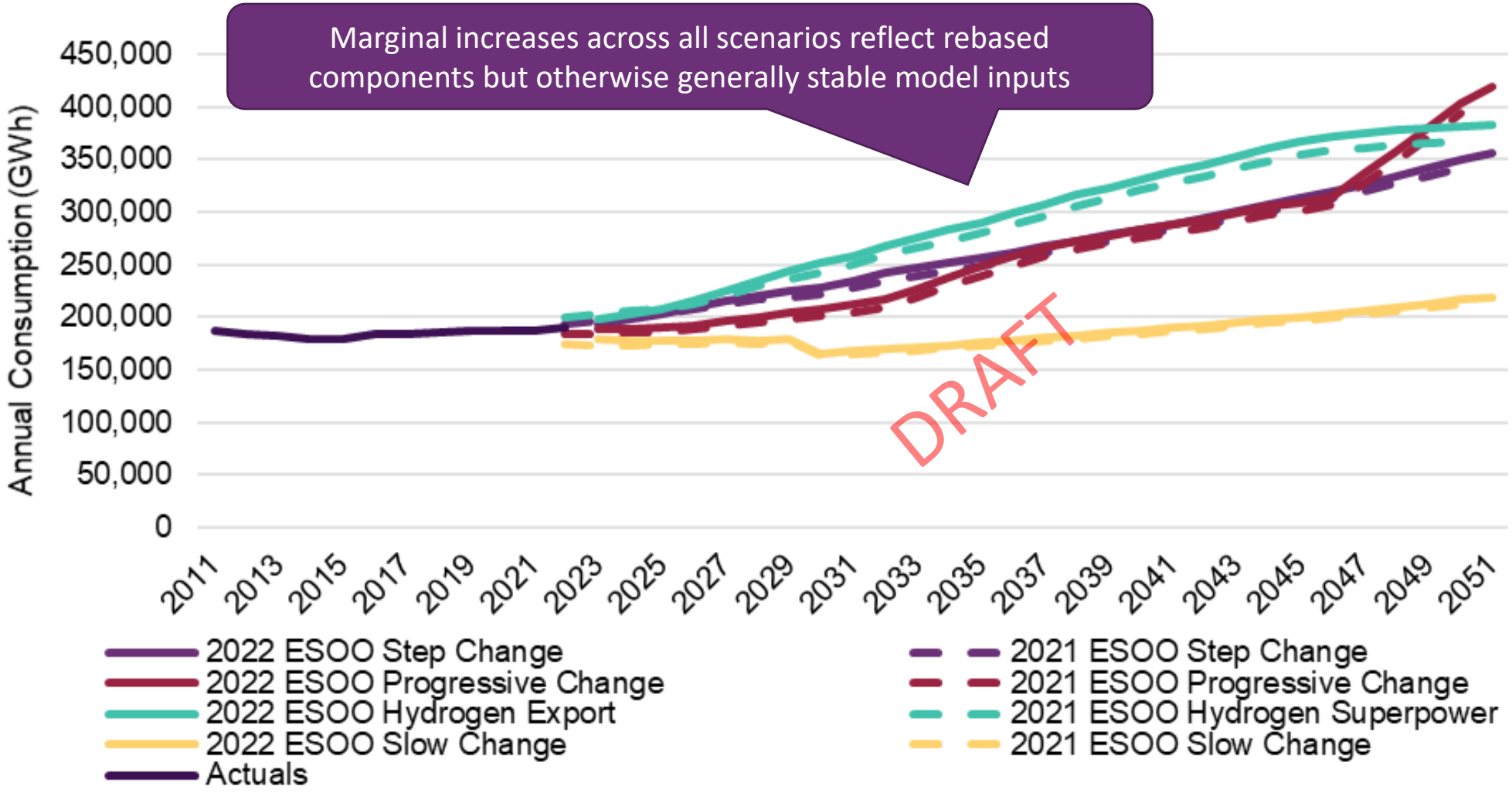
LNG forecasts

Higher forecast compared to 2021 ESOO due to improved survey response from LNG operators, higher global demand and prices following European energy crisis over winter 2021-22, and recovery of global economic growth from initial COVID-related downturn

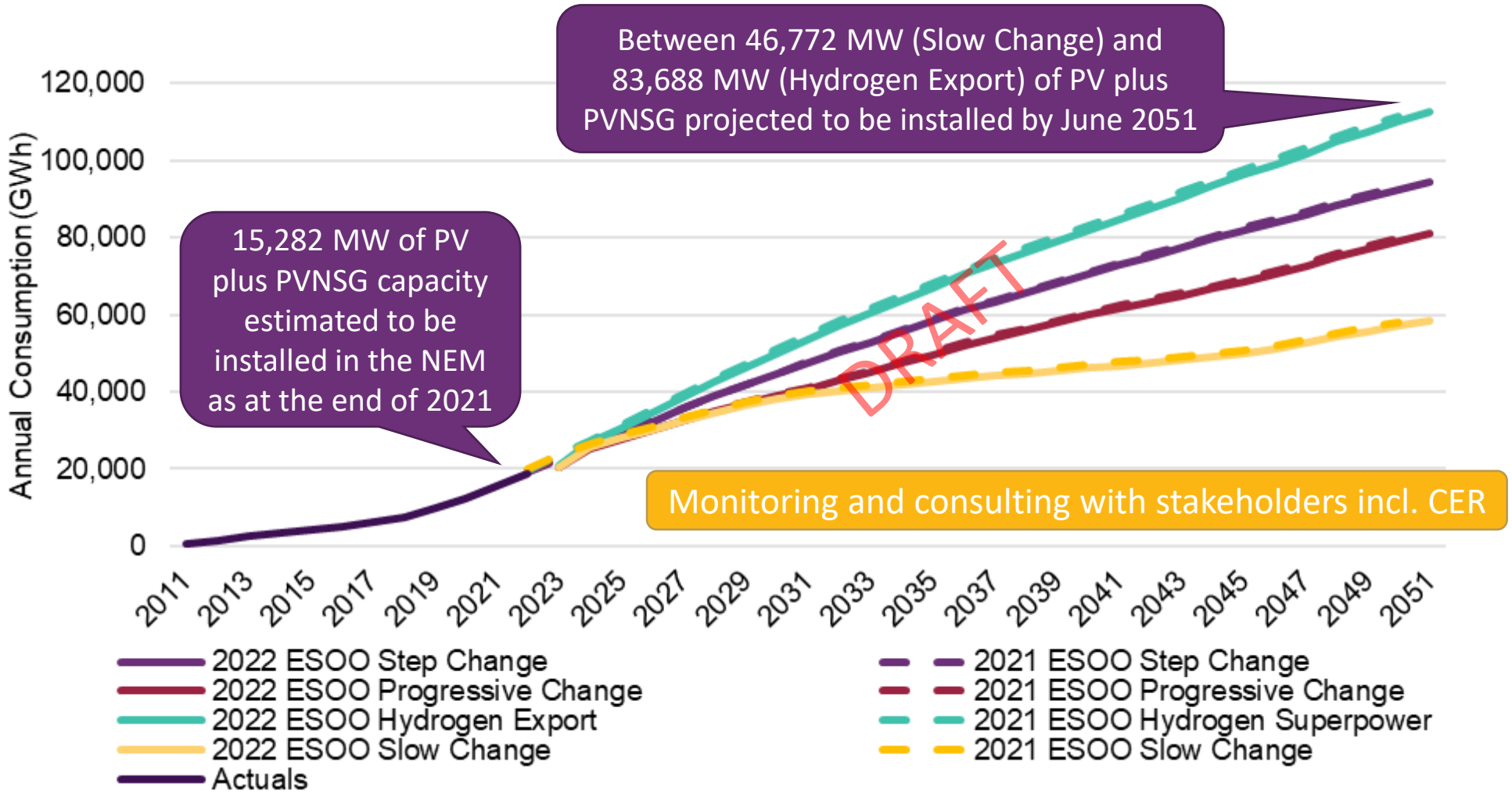


Hydrogen Export scenario assumes global shift to alternative low emissions fuels from 2029, resulting in approx. one third decline in LNG exports

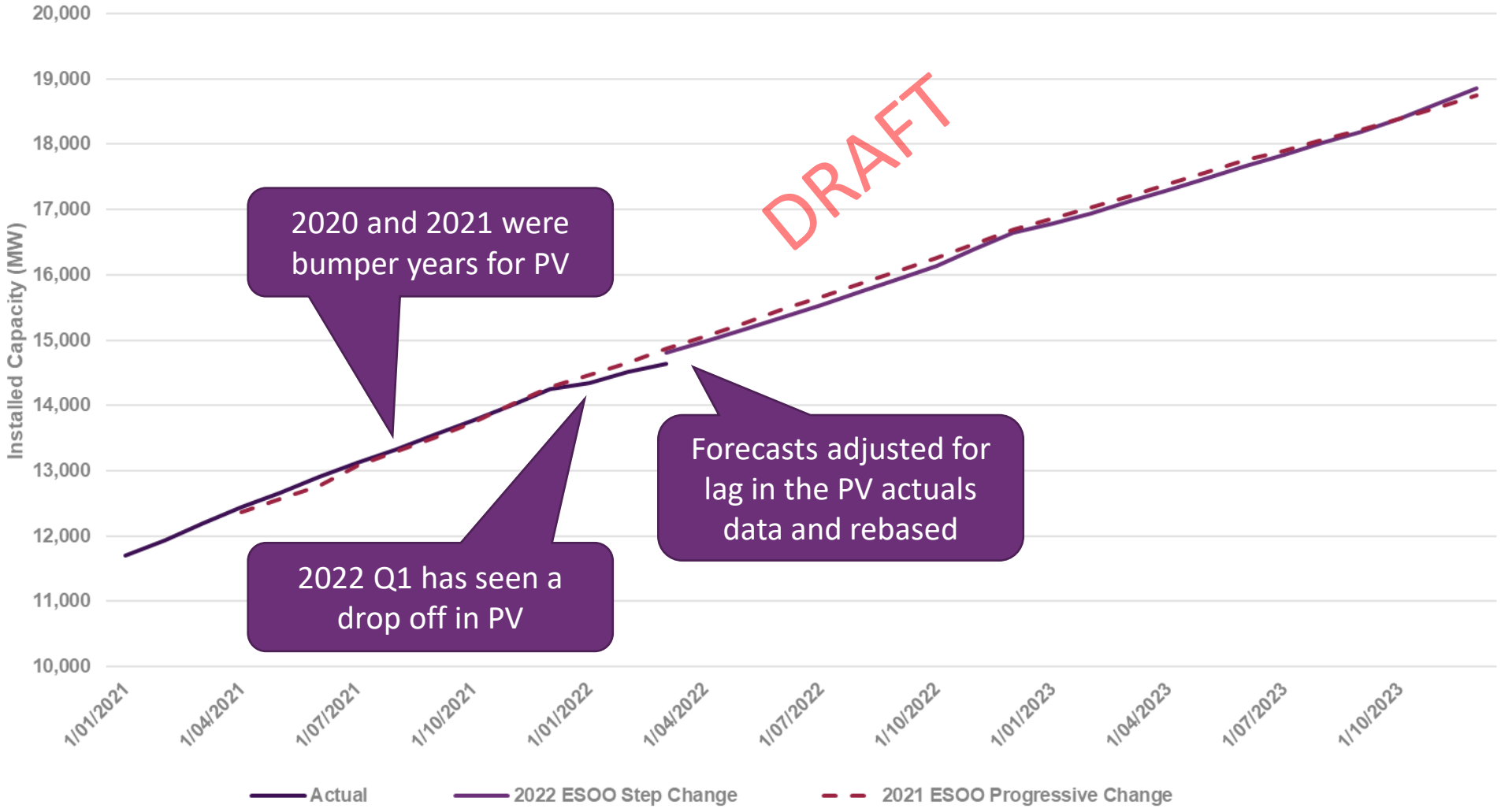
Total underlying consumption (excluding H2)



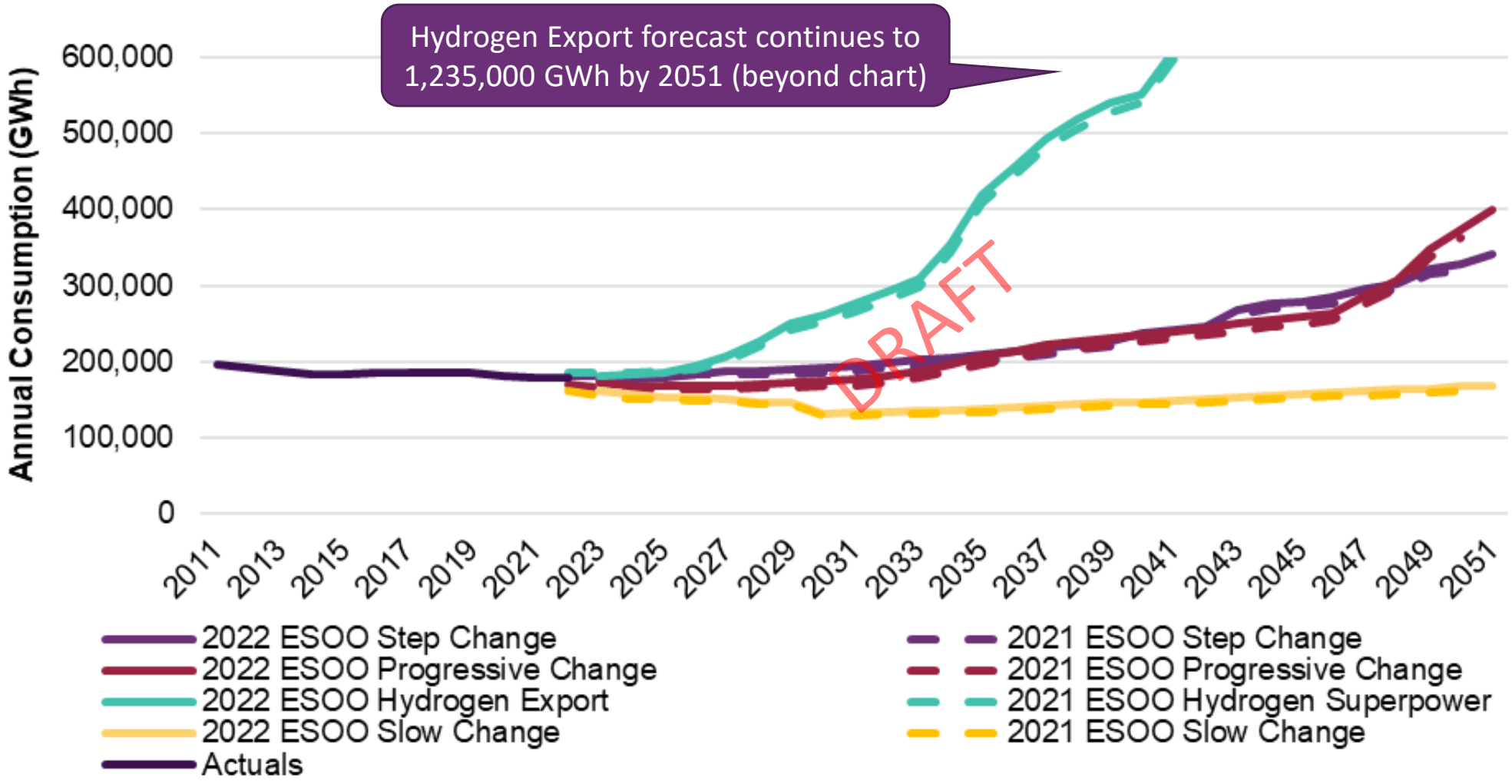
Distributed PV generation rebased to latest data



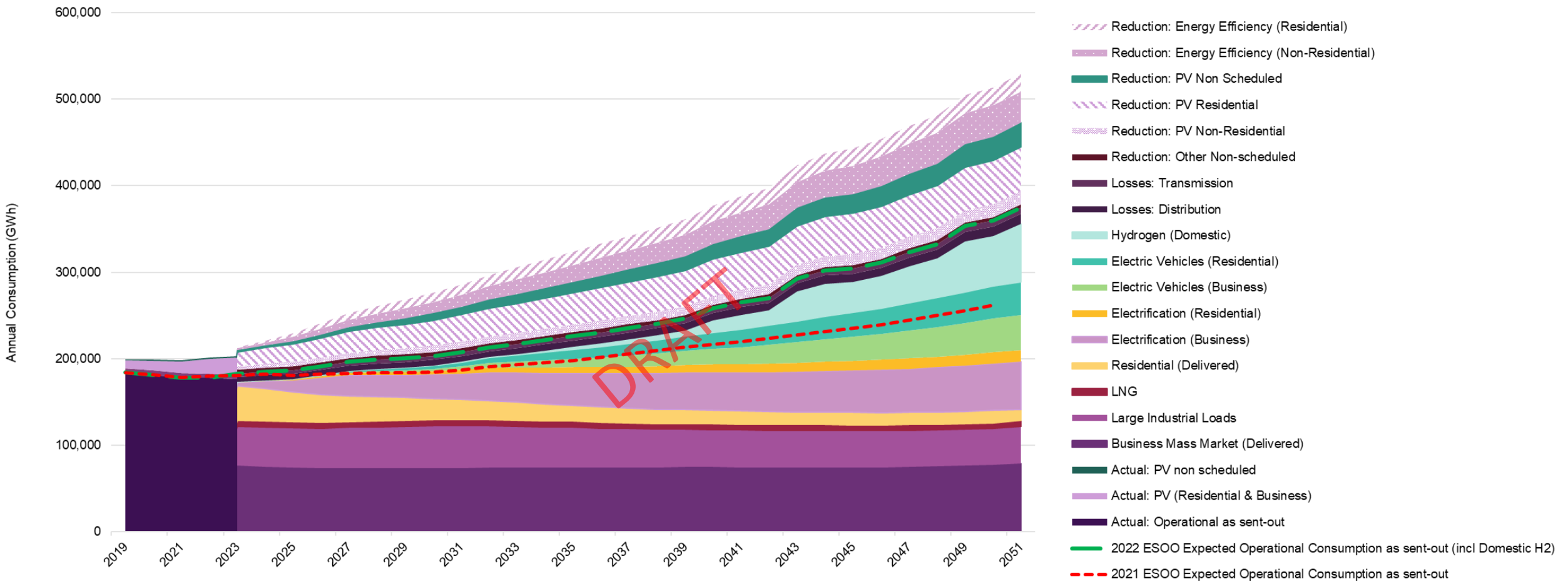
NEM rooftop PV installed capacity



OPSO (as sent-out) with Hydrogen



NEM forecast by component (Step Change)

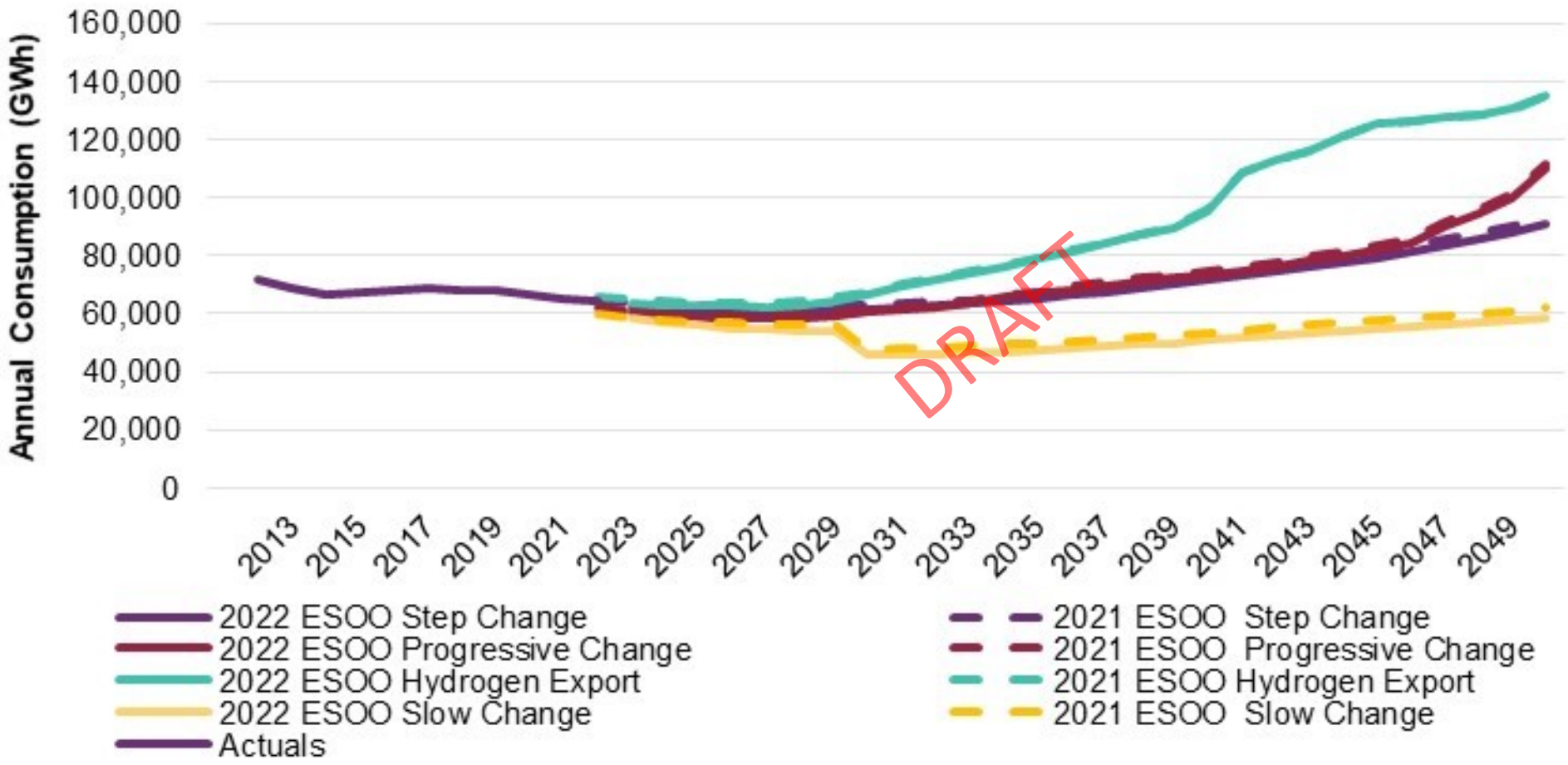


Appendix

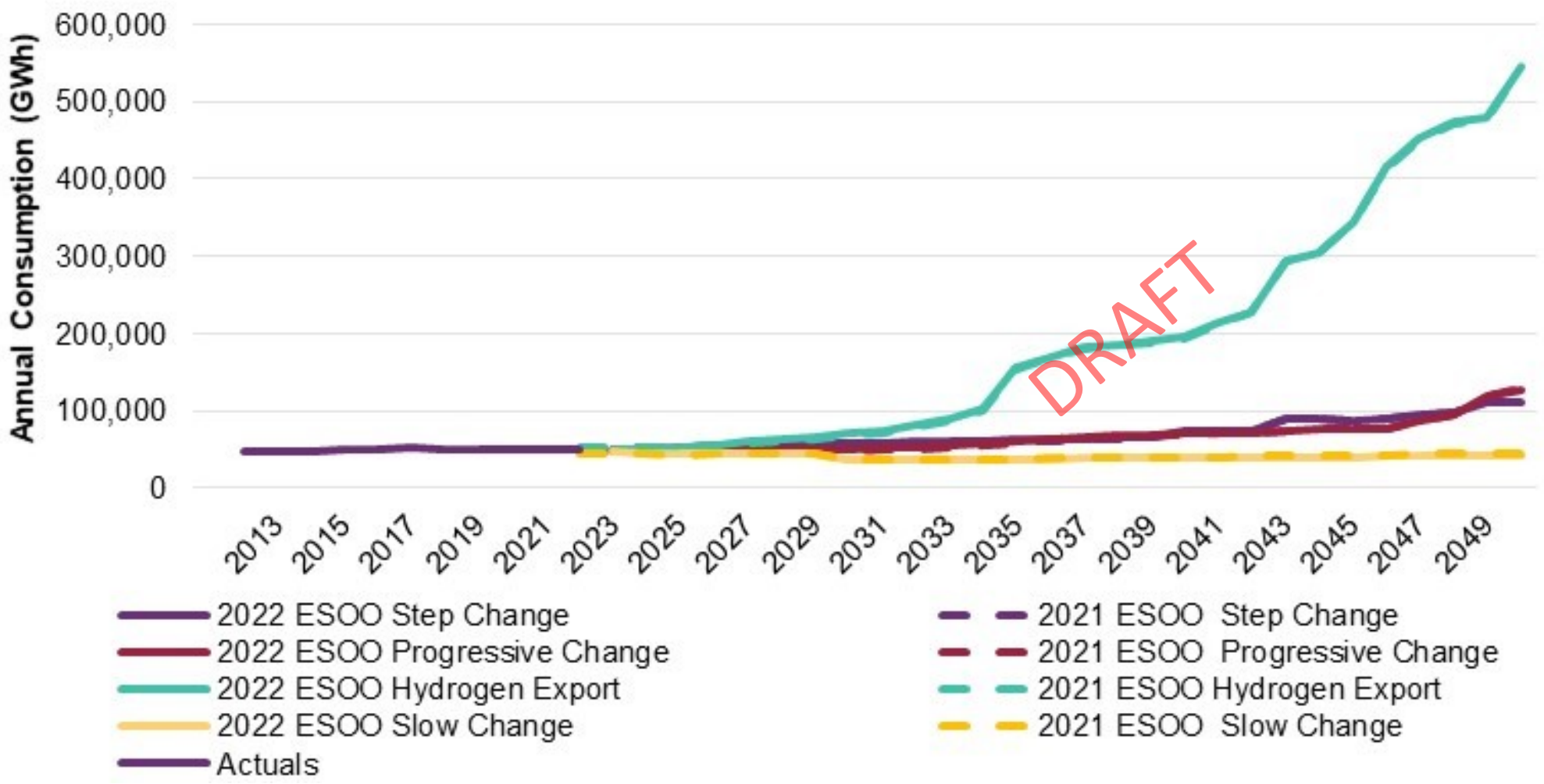
Regional

Operational consumption as sent-out (OPSO) forecasts

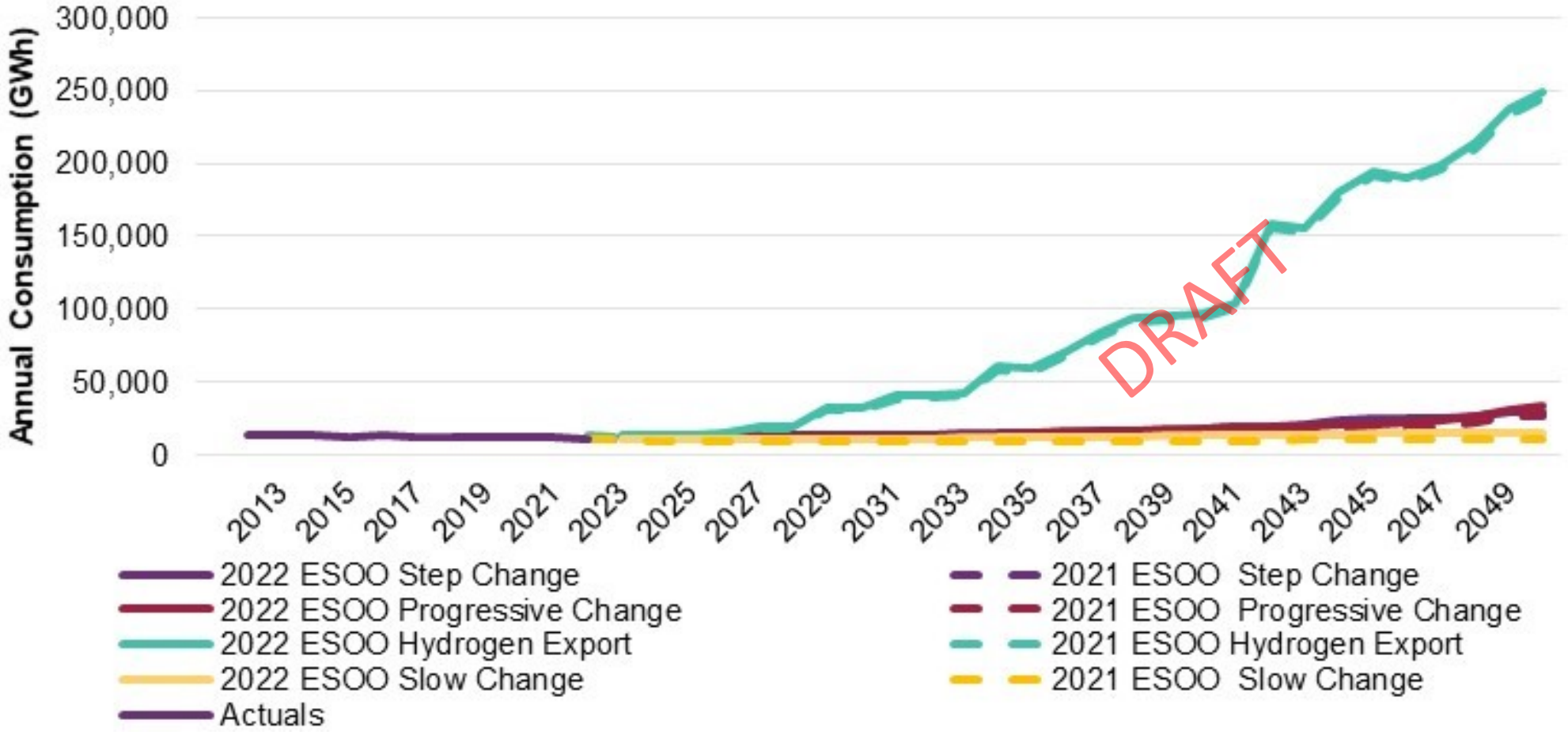
NSW OPSO (including domestic H2)



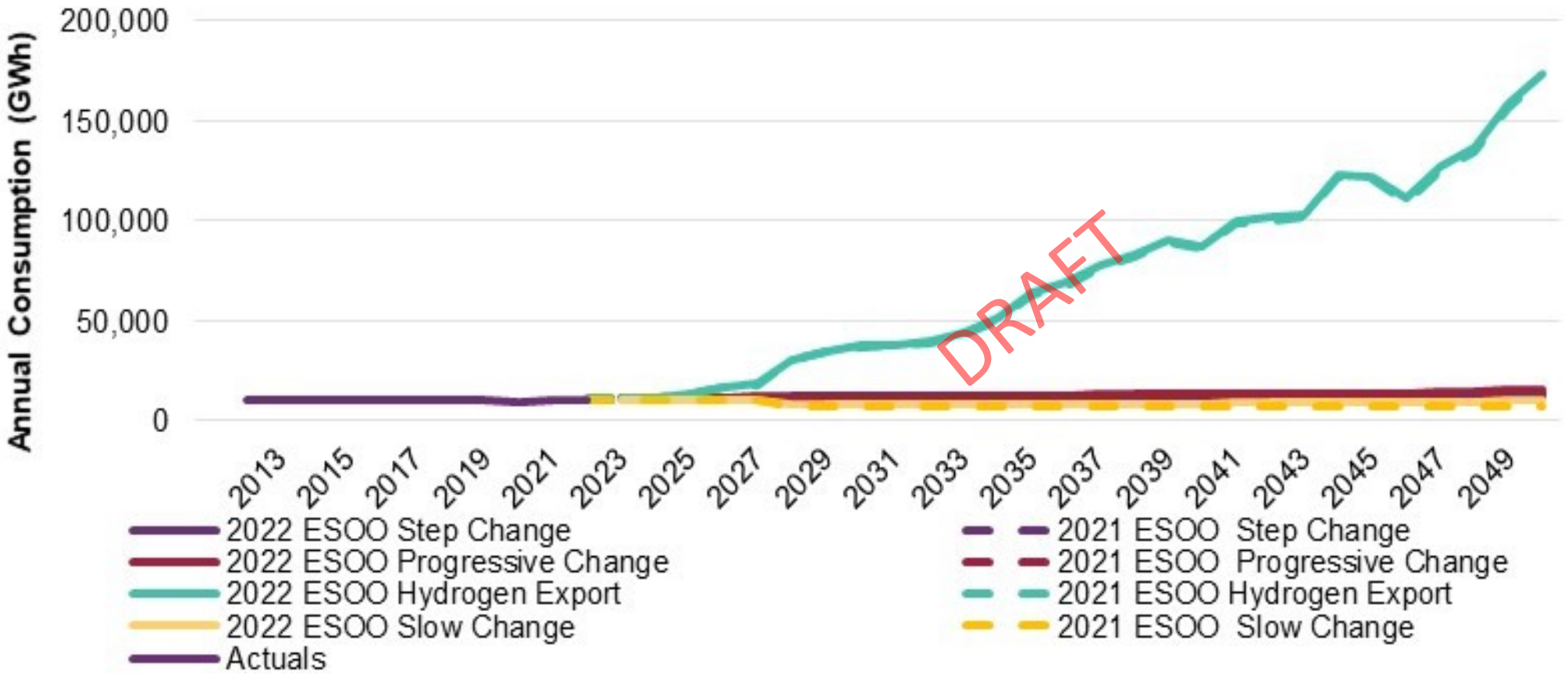
QLD OPSO (incl domestic H2)



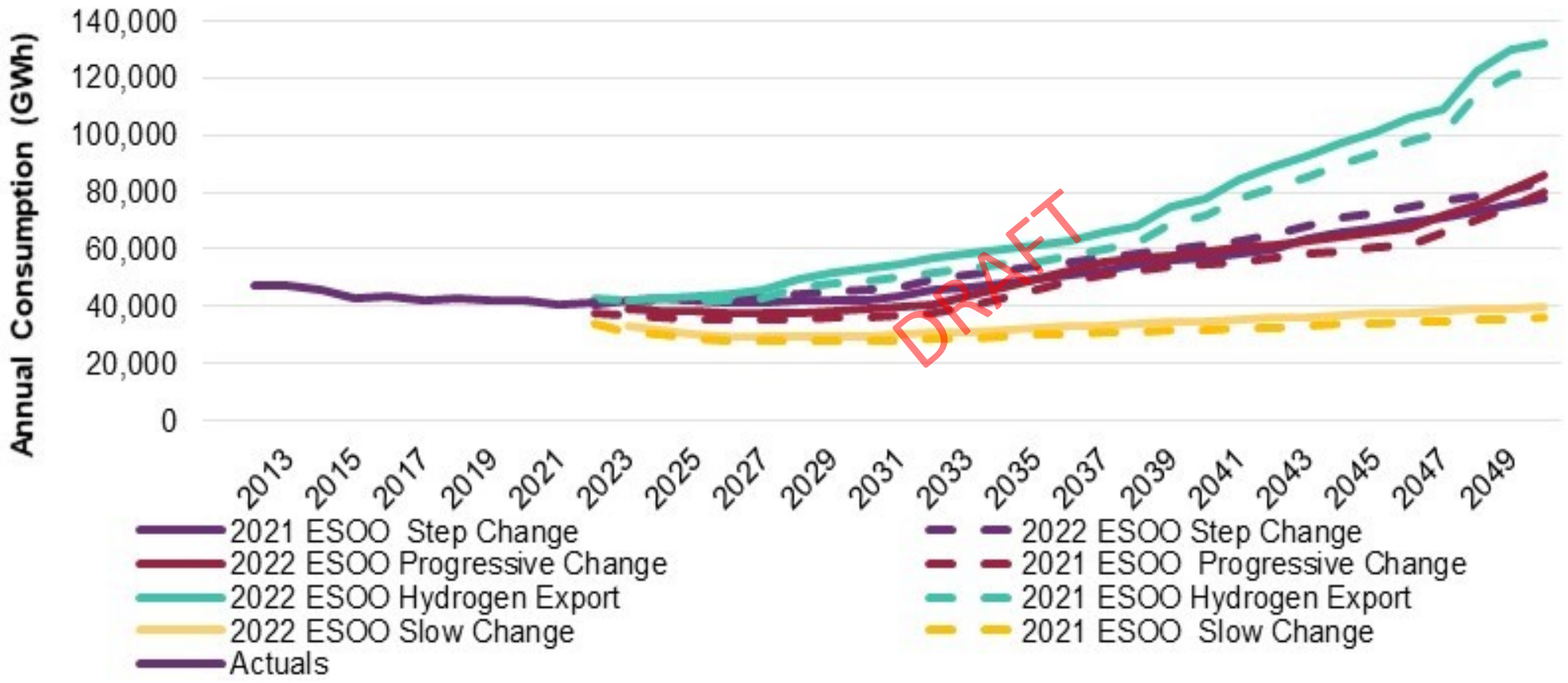
SA OPSO (including domestic H2)



TAS OPSO (including domestic H2)



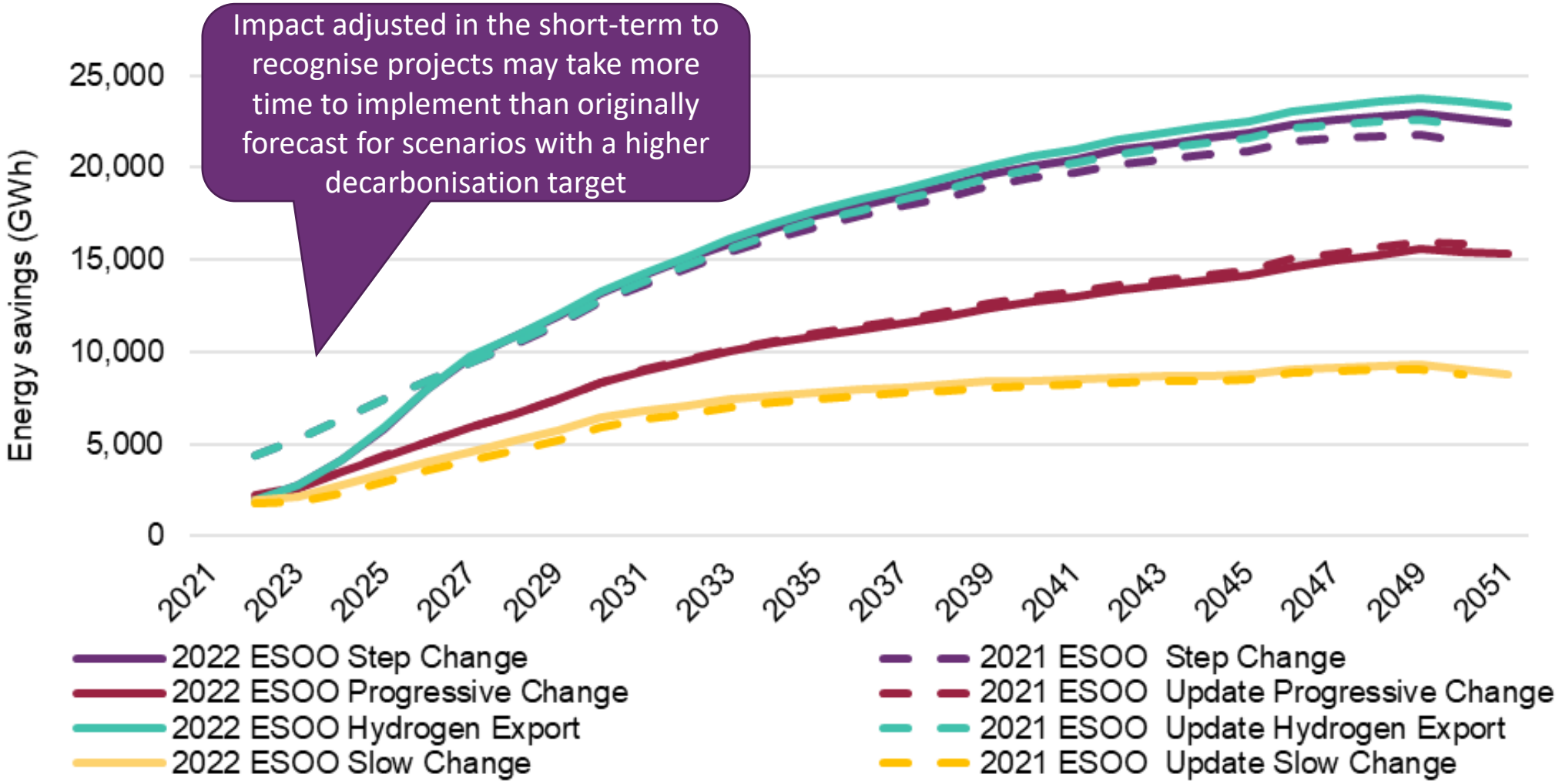
VIC OPSO (including domestic H2)



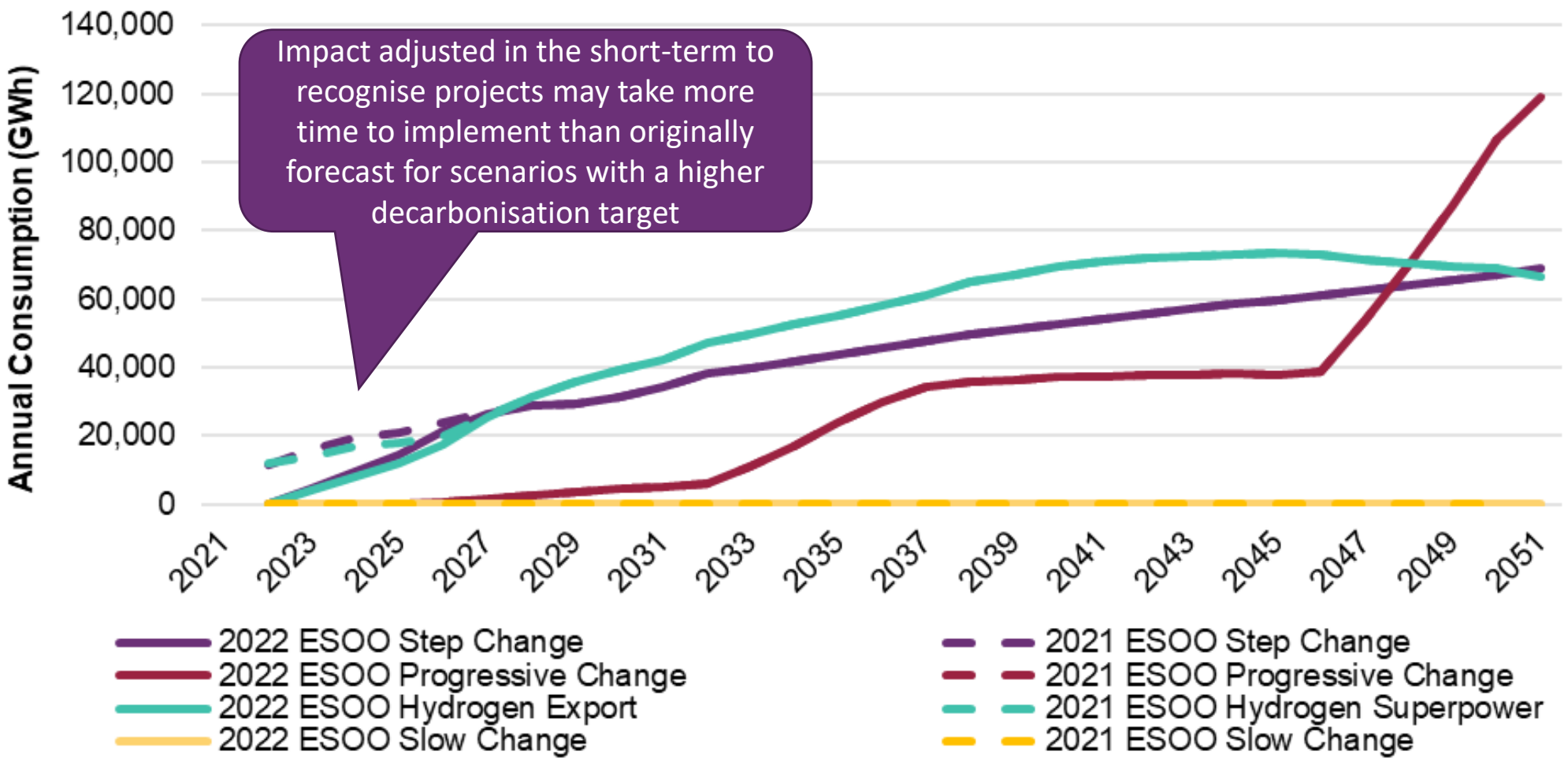
Appendix

Model Inputs

Energy efficiency forecasts

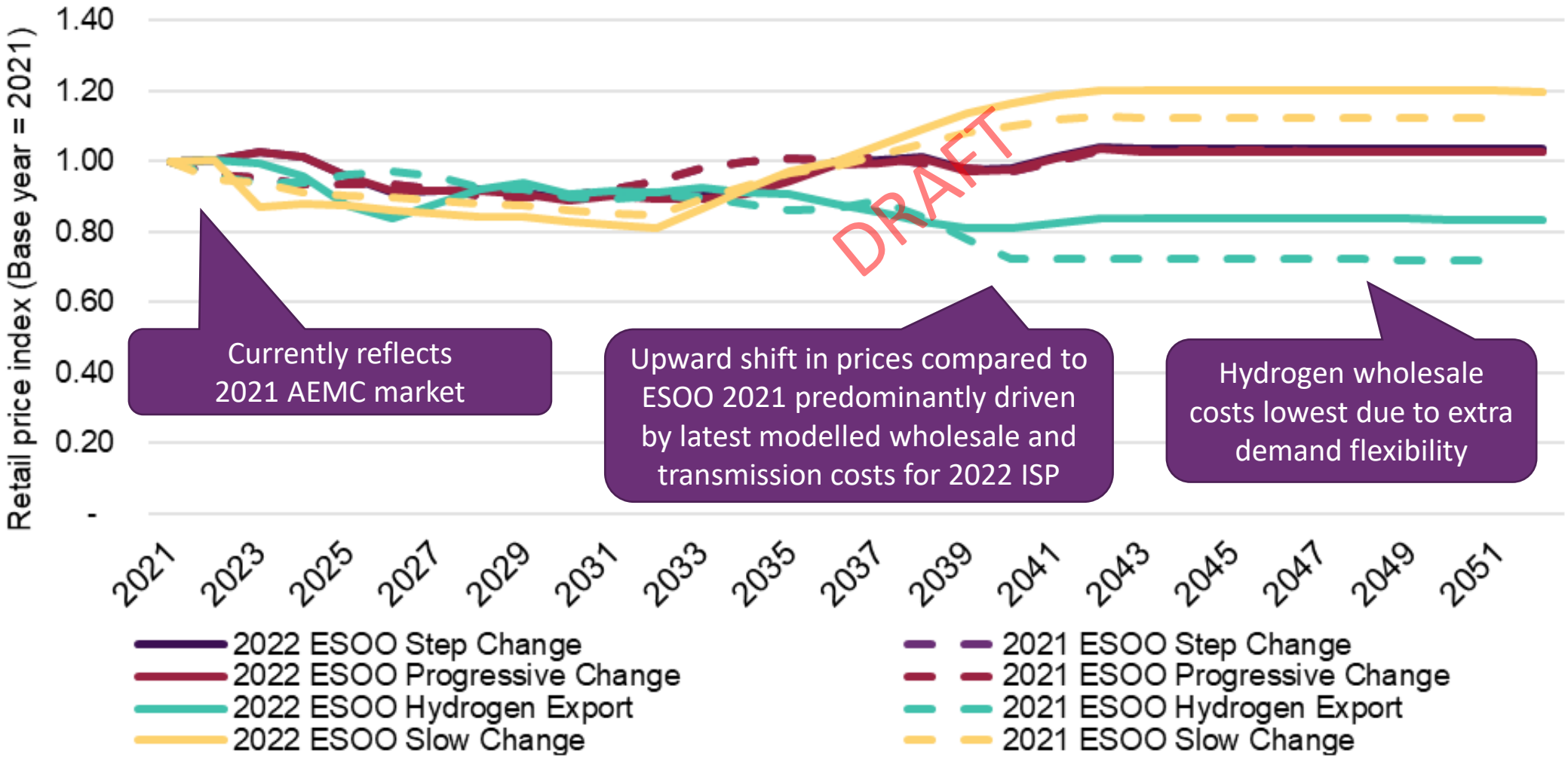


Total electrification impact



Retail Price Index*

Monitoring for price movements



*Connections weighted