

# Forecasting Reference Group (FRG) DRAFT MINUTES

MEETING: FRG #2 2022  
 DATE: Wednesday, 23 February 2022  
 TIME: 2:00pm – 4:00pm AEDT

## ATTENDEES:

Name	Company	Name	Company
Ben Skinner	AEC	Florie Fong	Energy Australia
Andrew Turley	AEMO	Lawrence Irlam	Energy Australia
Daniel Collins	AEMO	Patrick Gan	Energy Australia
Deborah Marsh	AEMO	Richard Paprzycki	Energy Australia
Greg Staib	AEMO	Sam Wilkinson	Energy Policy WA
Helen Wang	AEMO	Kerina Heath	Ergon
Joachim Tan	AEMO	Brent Hudson	Essential Energy
Levi Rosenbaum	AEMO	Cameron Potter	FFI
Tim Abernethy	AEMO	Christina Sutherland	GLNG
Shira Samocha	AEMO services	Andrew Nance	ISP Consumer Panel
Damian Dwyer	APPEA	Mark Grenning	ISP Consumer Panel
Ed White	Ausgrid	Stephanie Bashir	ISP Consumer Panel
Scarlett Jiang	Ausgrid	Chotima Micallef	Lochard Energy
Morteza Moallemi	Ausnet Services	Sarah-Jane Derby	Origin Energy
Nick Cimdins	Ausnet Services	Ben McGregor	Powerlink
James Foster	CSIRO	Dean Knight	Powerlink
Paul Graham	CSIRO	Jennifer Brownie	QEUN
Daniel Dempsey	DELWP	Marino Bolzon	SA DEM
Jean Paul Dussaubat	DELWP	Ron Logan	Shell
Norman Jip	DELWP	Noel John Sligar	Sligar and associates
Taryn Gale	DELWP	Joe Hemingway	Stanwell
Geoffrey Brett	DISER	Sharon Raymond	Tasmania Treasury
Caroline Valente	ECA	Herath Samarakoon	TasNetworks
Alex Driscoll	Edge2020	Julie Morrison	TasNetworks
Abu Abdullah	ElectraNet	Inushka Dassanayake	Total Eren
Connor Mcleod	Enel	Sujeewa Vithana	United Energy

## 1. Welcome and Introductions

Daniel Collins (AEMO) welcomed everyone and covered the following:

- Draft FRG Minutes circulated:
  - 24 November 2021
  - 27 January 2022
- Submissions to [Energy.forecasting@aemo.com.au](mailto:Energy.forecasting@aemo.com.au) are appreciated.

## 2. Presentation 1 – 2023 Inputs and Assumptions - stakeholder topics

Before the FRG, AEMO polled stakeholders for their top ten key topics in relation to the 2023 IASR development, that may influence energy needs in future. Greg Staib (AEMO) presented AEMO's initial views on the long and short term importance of each topic.

The FRG discussed each topic's relative importance as detailed below. **Appendix A** shows the final long/short term relative importance matrix, as polled by the FRG, as well as the FRG's views on the appropriate engagement category for each topic.

### Topic 1 – Climate change

Key topics raised by stakeholders during this session included:

- Ron Logan (Shell): Climate change can be divided into separate topics with varying preferences. Meteorological changes are of longer term importance, but carbon targets and related policies would be of shorter term importance.
- Ben Skinner (AEC): Climate change can be subdivided into:
  - national climate targets, (High long-term, low short-term)
  - state development schemes, (High long and short term)
  - investor interest/bias, (High long and short term)
- Cameron Potter (FFI): Policy impacts are important in the short and long term.
- Poll results:
  - Most respondents considered this topic to be of high long-term and medium short-term importance.
  - Most respondents considered this topic as a forecast driver, while others considered it a forecasting assumption.

### Topic 2 – Electrification by segment

Key topics raised by stakeholders during this session included:

- Ed White (Ausgrid): This topic could be subdivided into sectors that are already electrifying, including transport (high long-term, medium short-term), and those where electrification will rely on policies and technology, including appliance electrification (high long-term, low short-term).
- Paul Graham (CSIRO): For materiality consideration, electrification of transport in the strongest scenario is 4TWh.
- Herath Samarakoon (TasNetworks): Emerging sectors, including data centres are a major concern. Forecasts should focus on block loads in the shorter term.
- Cameron Potter (FFI): Rather than considering all topics individually as high long and short term importance, the relative importance of each topic would be most insightful.
- Poll results:
  - Most respondents considered this topic to be of high long-term and medium short-term importance.
  - Most respondents considered this topic as a forecasting assumption, while others considered it a forecast driver.

### Topic 3: Electrification drivers

Key topics raised by stakeholders during this session included:

- Paul Graham (CSIRO): The main electrification driver is the pace of cost reductions, for which policies and subsidies have recently improved. Mining companies are also signalling their intention to use electric or hydrogen trucks in the future.
- Caroline Valente (ECA): Household electrification is driven by housing affordability and ownership. Increasing private rentals reduces the ability to electrify.
- Poll results:
  - Most respondents considered this topic to be of high long-term and medium short-term importance, while some considered it of medium long-term and medium short-term importance.
  - Most respondents considered this topic as a forecast driver, while others considered it a forecasting assumption.

### Topic 4: Energy Efficiency

Key topics raised by stakeholders during this session included:

- Jennifer Brownie (QEUN): Energy Efficiency (EE) needs more understanding of consumer behaviour. Unless mandated, investing in energy efficiency upgrades will not be a high priority for consumers.
- AEMO: EE savings on new builds are based on the national constructor code. As the code's energy budget moves to include solar PV and hot water systems, EE improvement incentives will fall.
- Poll results:
  - Most respondents considered this topic to be of medium long-term and low short-term importance, while some considered it of low long-term and low short-term importance.
  - Most respondents considered this topic as a forecasting assumption, while others considered it a forecast driver.

## **Topic 5: Electrolyser demand patterns**

Key topics raised by stakeholders during this session included:

- Ron Logan (Shell): Electrolysers are only relevant if they are grid connected.
- Herath Samarakoon (TasNetworks): Electrolyser demand is forecast to be relatively stable, with 10-15% flexibility.
- Cameron Potter (FFI): Several grid connected electrolysers, >400MW, are forecast to be built in the next 5 years. While electrolyser demand will be relatively stable, their flexibility to react, even slightly, at peak supply can make a big difference to the grid.
- Ron Logan (Shell): How will AEMO model the impact of electrolyser flexibility on peak forecasts? This will directly impact required transmission.
  - AEMO: These facilities may reasonably provide demand response. AEMO's DSP forecasts may therefore consider the potential for these facilities to increase demand response.
- Poll results:
  - Most respondents considered this topic to be of medium long-term and low short-term importance.
  - Most respondents considered this topic as a forecasting assumption.

## **Topic 6: Electrolyser uptake**

Key topics raised by stakeholders during this session included:

- Mark Grenning (ISP Consumer Panel): The end user of hydrogen is most important for the electricity grid. If new transmission is required for a grid-connected electrolyser used to export hydrogen, that company should pay for it. This topic is of high long-term, low short-term importance.
  - AEMO: The Hydrogen Superpower scenario considers the uptake of export-facing electrolysers that are grid-connected. All other scenarios incorporate some uptake of hydrogen production for domestic use, but no grid connected exports are included.
  - Ron Logan (Shell): The 2023 IASR should detail assumptions around the percentage of grid connected electrolysers in AEMO's modelling.
- Poll results:
  - Most respondents considered this topic to be of high long-term and low short-term importance.
  - Most respondents considered this topic as a forecasting assumption.

## **Topic 7: Hydrogen technology**

Key topics raised by stakeholders during this session included:

- Ben Skinner (AEC): The percentage of grid connected electrolysers depends on the relative costs of electrolysers and generation. Opportunistic hydrogen producers will be grid connected and produce only when energy is cheap, whereas dedicated hydrogen producers will have continuous production.
  - Cameron Potter (FFI): Other factors driving on/off grid decisions exist also, including green levels of the grid and the cost comparison between an individual solar farm and transmission charges.
- Ron Logan (Shell): Is electrolyser efficiency improving?

- Cameron Potter (FFI): Studies are underway to produce hydrogen more efficiently.
- Jennifer Brownie (QEUN): Using and transporting hydrogen more efficiently will reduce required production capacity.
- Ron Logan (Shell): Is electrolyser flexibility improving?
  - Cameron Potter (FFI): Less flexible alkaline electrolyzers are still cheaper, but PEM electrolyzers move fast. The question is which technology will be installed?
- Poll results:
  - Most respondents considered this topic to be of high long-term and low short-term importance, while some considered it of medium long-term and medium short-term importance.
  - Most respondents considered this topic as a forecasting assumption, while others considered it a forecast driver.

### **Topic 8: Fuel Prices**

Key topics raised by stakeholders during this session included:

- Ron Logan (Shell): Load closures due to high fuel prices cause a drop in the associated electricity load; demand destruction which will not return.
- Poll results:
  - Most respondents considered this topic to be of medium long-term and low short-term importance, while some considered it of either high or medium long-term and medium short-term importance.
  - Most respondents considered this topic as a forecasting assumption.

### **3. Other Business**

Key topics raised by stakeholders during this session included:

- Jennifer Brownie (QEUN): Will AEMO run information sessions about new technology?
  - AEMO: Results from this meeting will determine stakeholder education topics.

### **4. Meeting close**

The next FRG meeting will be held on Wednesday 30 March 2022, with continued planning for the 2023 IASR process, focusing on DER topics. (PV, Batteries and Electric Vehicles)

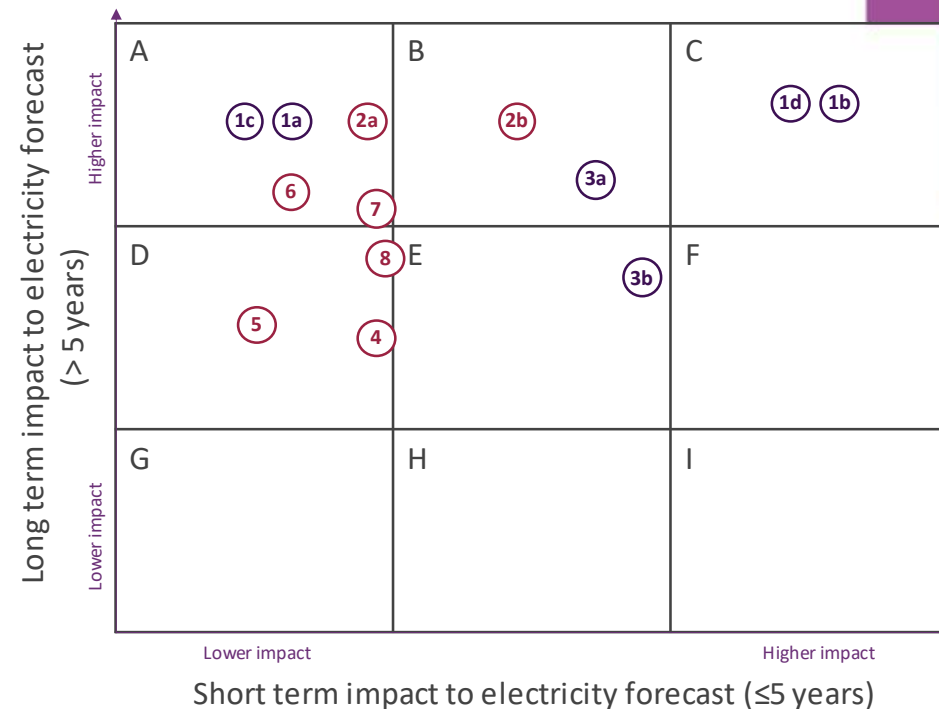
## Appendix A Relative importance of topics after FRG discussion

For discussion: a first pass on relative importance of Economics and Multi-sector modelling topics

1. Climate change
  - a. Expected meteorological changes
  - b. State schemes
  - c. National targets
  - d. Investor bias
2. Electrification by segment
  - a. Electrification of gas
  - b. Electric Vehicles
3. Electrification drivers
  - a. Electrification of gas
  - b. Electric Vehicles
4. Energy efficiency
5. Grid connected electrolyser demand
6. Electrolyser uptake
7. Hydrogen technology
8. Fuel Prices

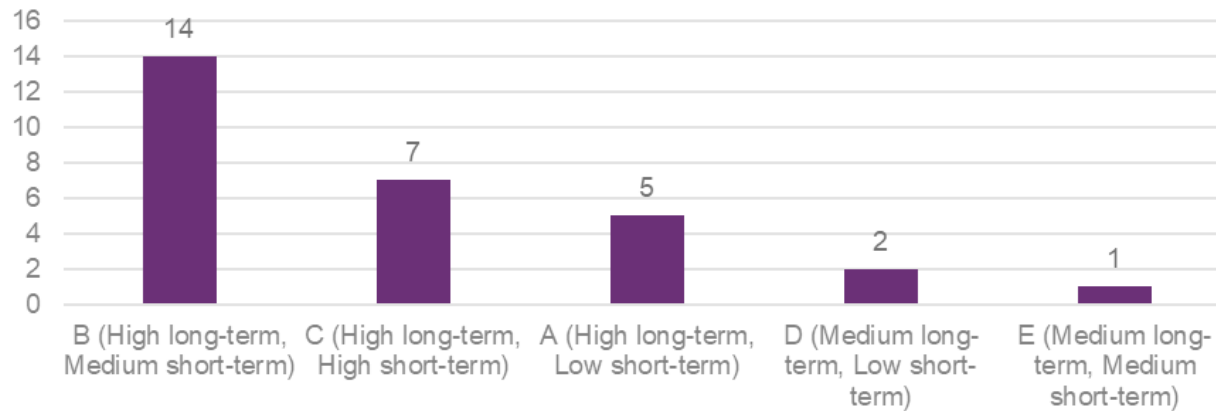
Improvement category:

- Forecasting driver
- Stakeholder education
- Forecasting methodology
- Forecasting assumptions
- Data and reporting

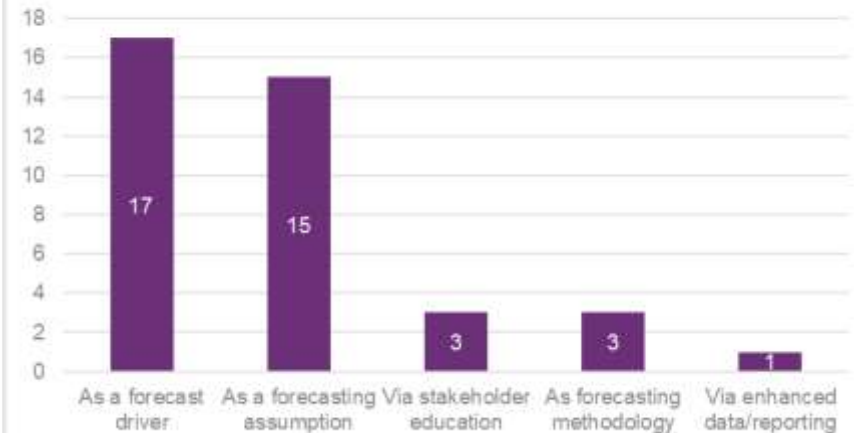


## Appendix B In meeting poll results

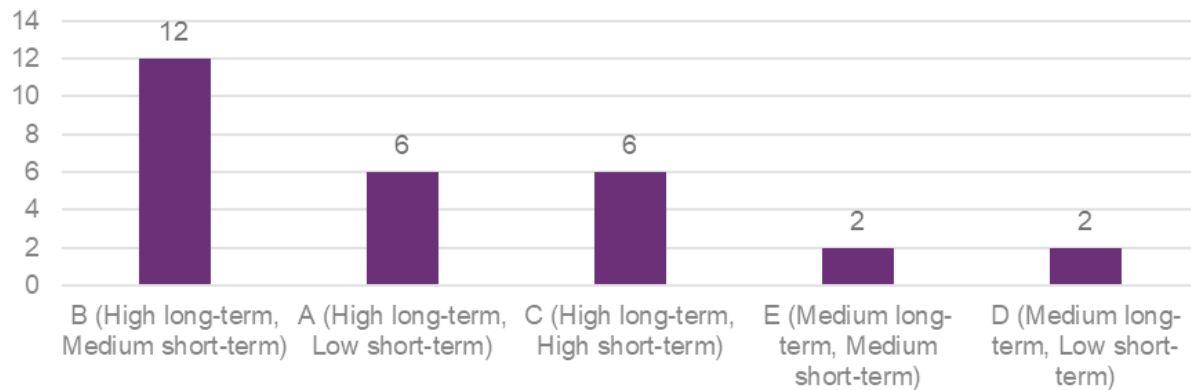
Long/short term importance - 1 Climate change



Engagement type - 1 Climate change



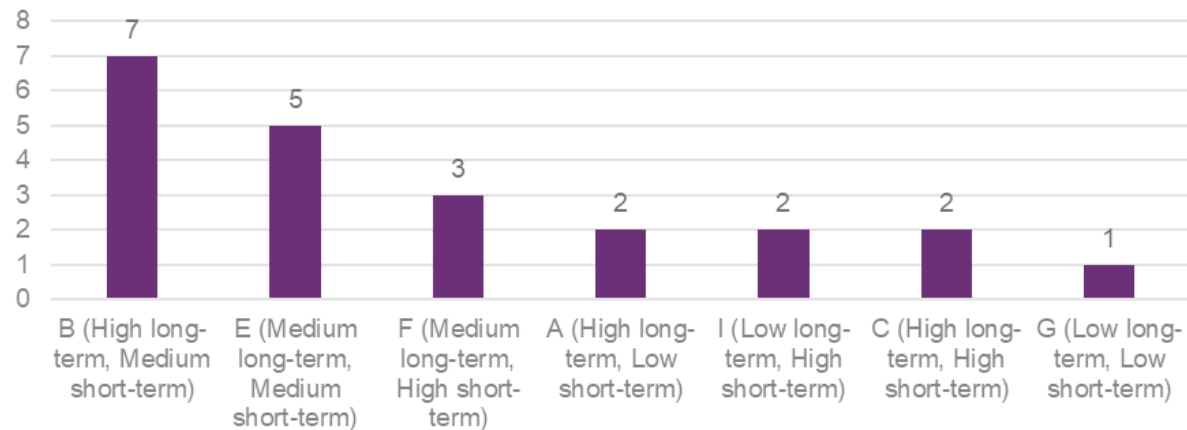
Long/short term importance - 2 Electrification by segment



Engagement type - 2 Electrification by segment



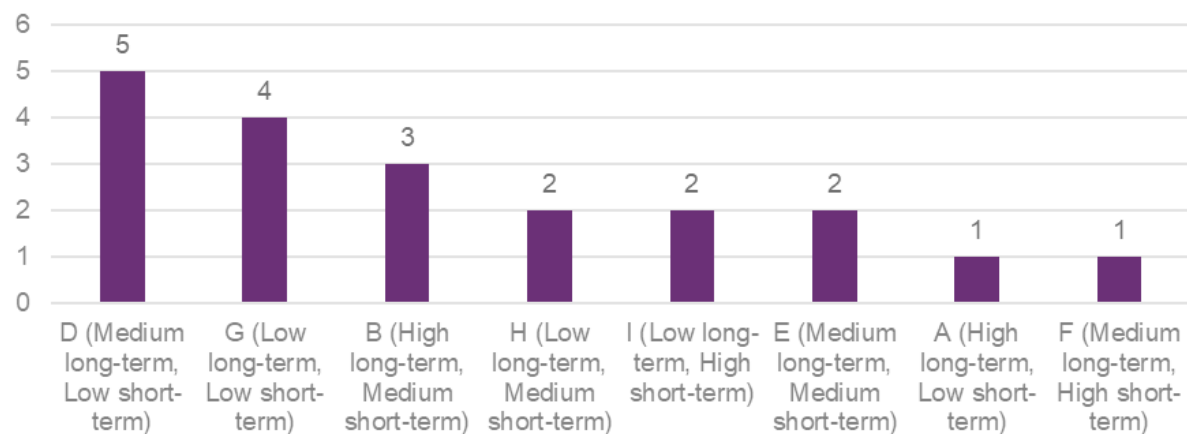
Long/short term importance - 3 Electrification drivers



Engagement type - 3 Electrification drivers



Long/short term importance - 4 Energy efficiency

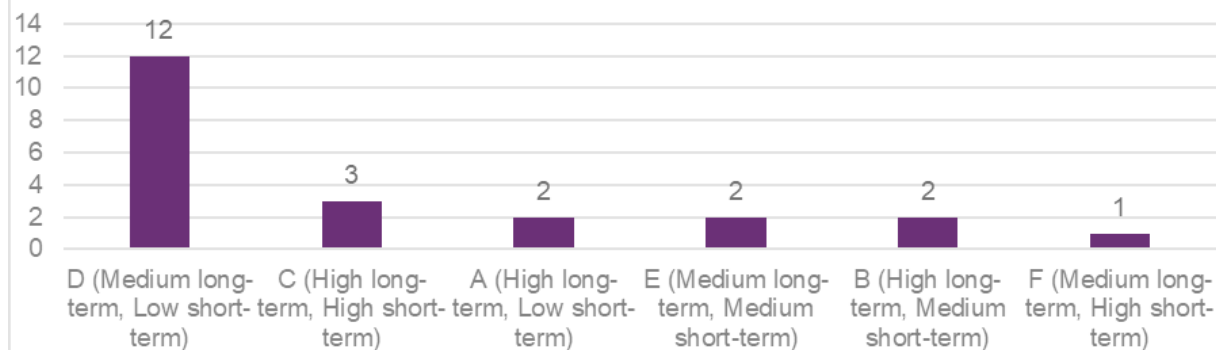


Engagement type - 4 Energy efficiency

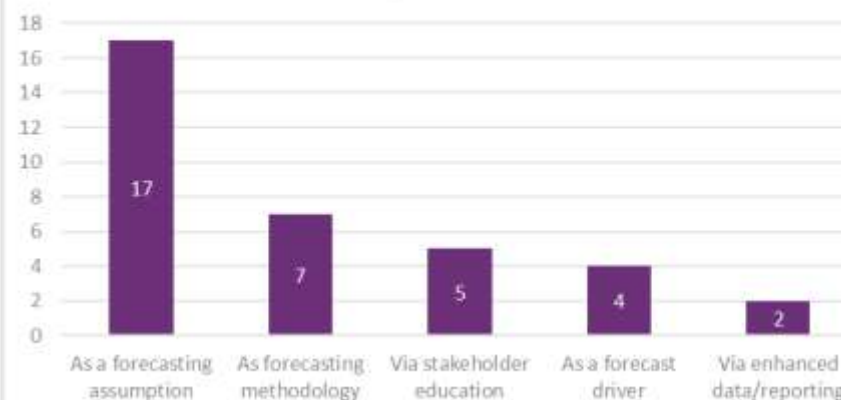




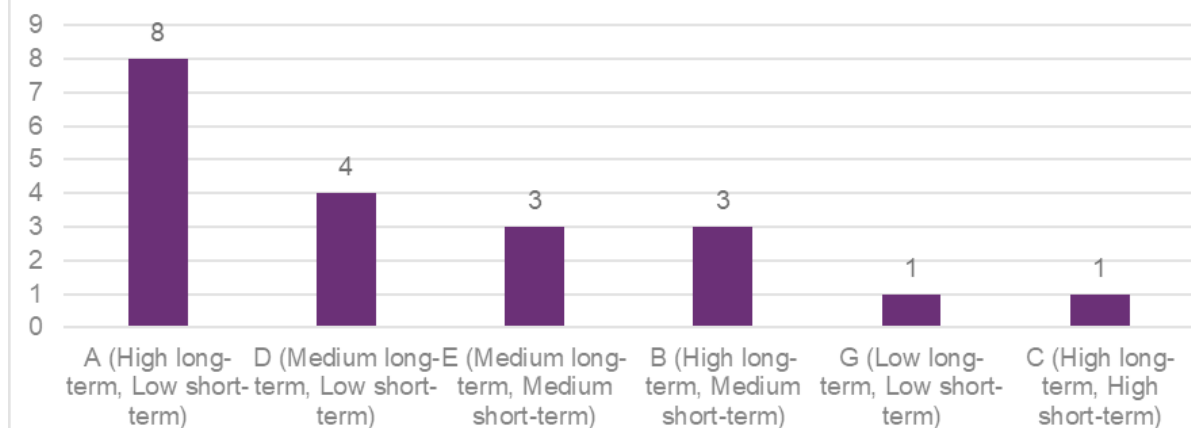
Long/short term importance - 5 Electrolyser demand patterns



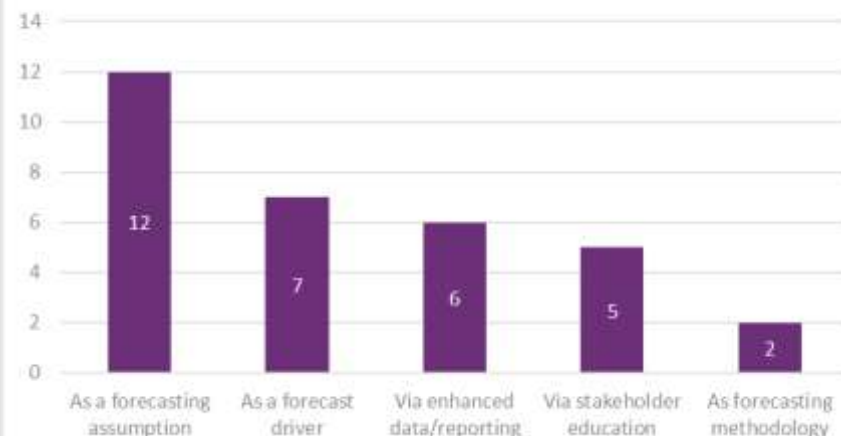
Engagement type - 5 Electrolyser demand patterns



Long/short term importance - 6 Electrolyser uptake

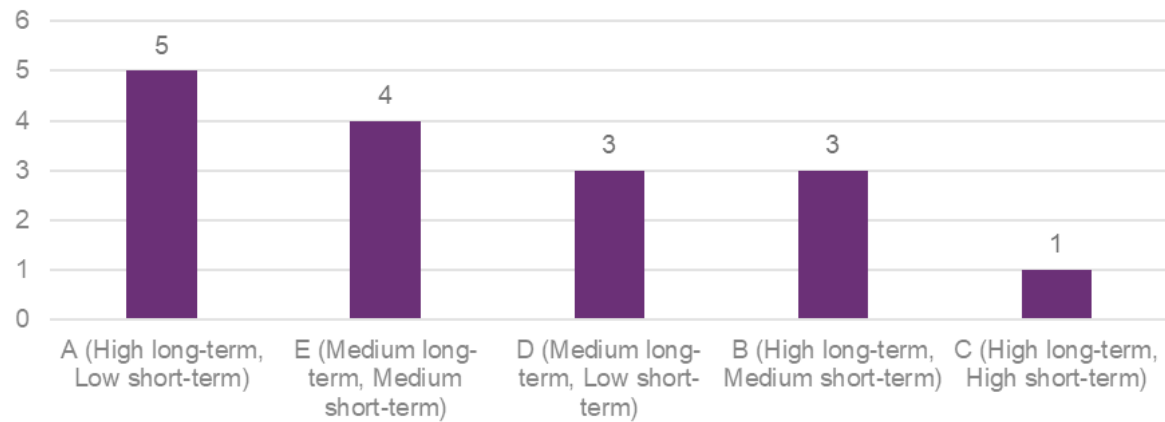


Engagement type - 6 Electrolyser uptake

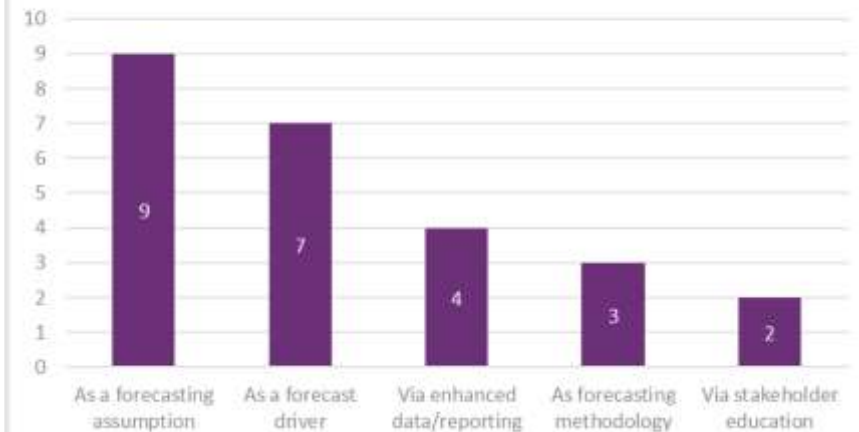




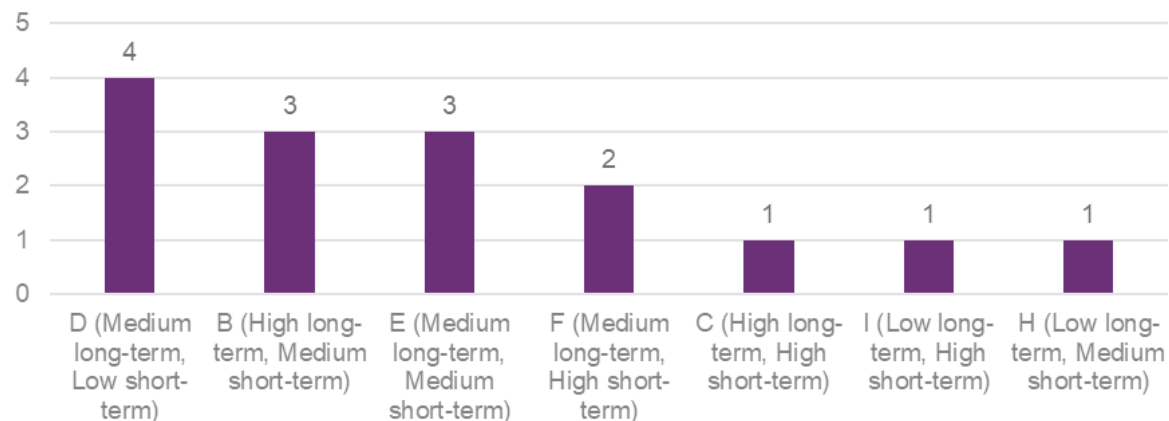
Long/short term importance - 7 Hydrogen technology



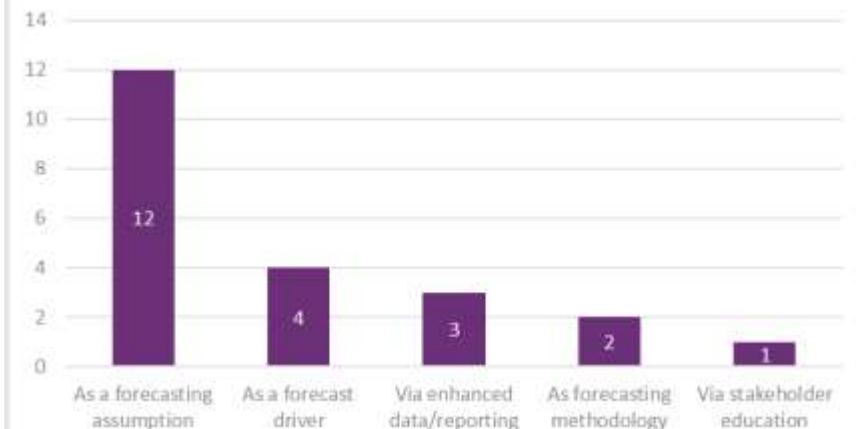
Engagement type - 7 Hydrogen technology



Long/short term importance - 8 Fuel Prices



Engagement type - 8 Fuel Prices



## Appendix C Forecasting Reference Group (FRG) Actions Items

### FRG Action Items – **CLOSED** (at 18 March 2022)

Item	Date Raised	Topic	Action required	Responsible	Details	Status
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