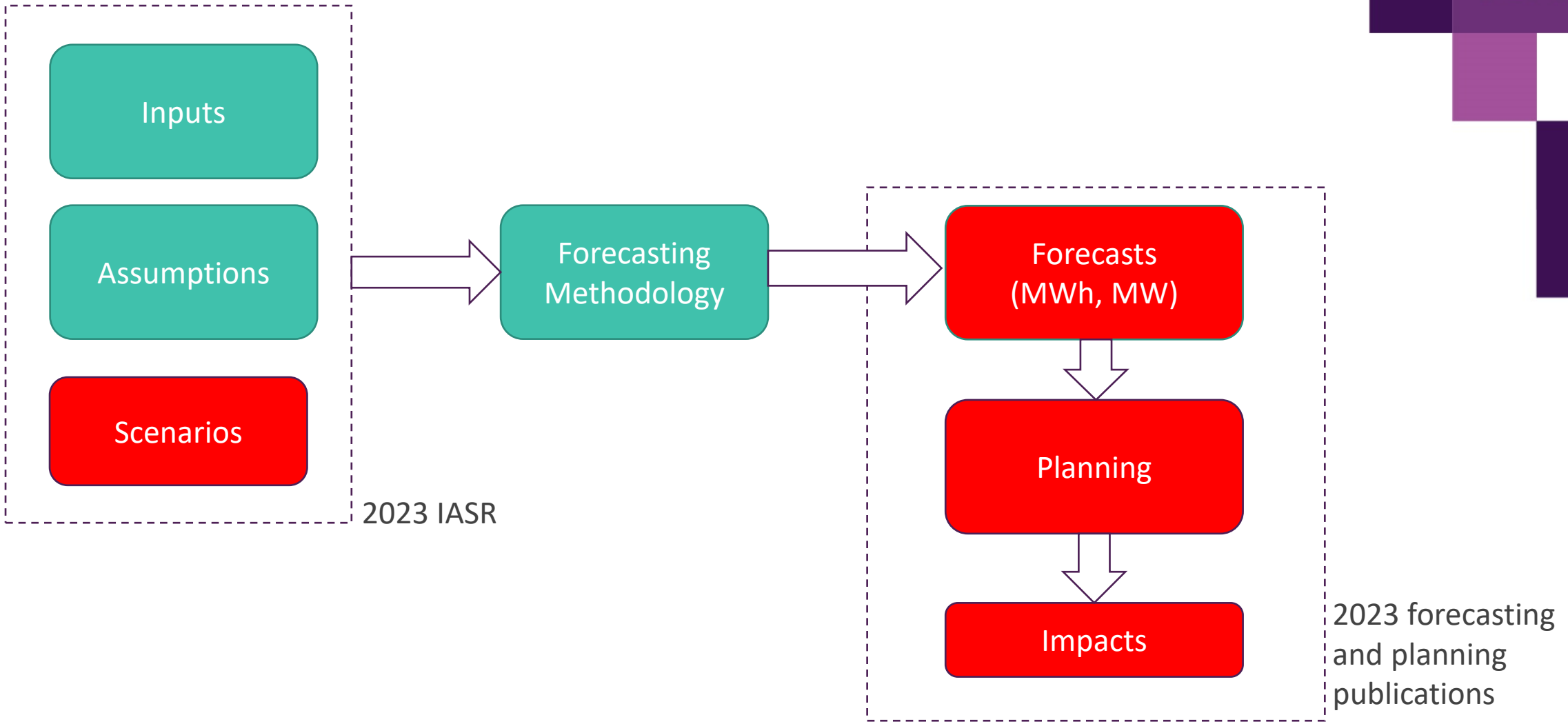
2023 Inputs and Assumptions – stakeholder DER topics

30 March 2022

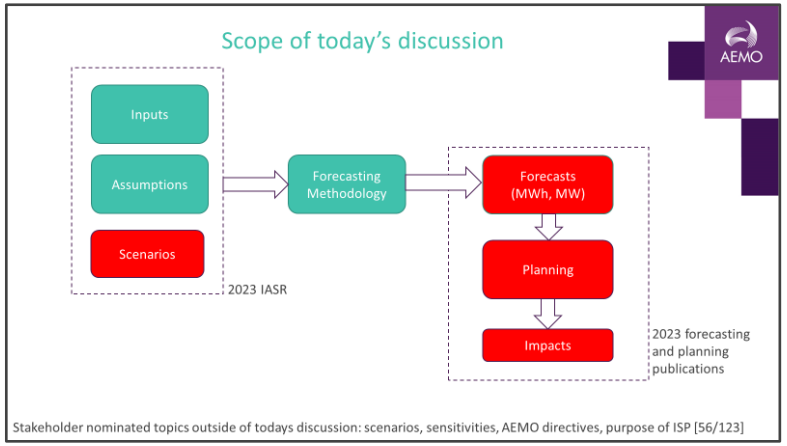
Forecasting Reference Group Meeting

Scope of today's discussion



Stakeholder nominated topics outside of todays discussion: scenarios, sensitivities, AEMO directives, purpose of ISP [66/131]

Approach for discussion



Relevant to electricity forecasts?

Discuss importance of topics and how to incorporate in electricity forecasts

Economy and Multi-sector model

Feb FRG meeting

DER and EV

This FRG meeting

IASR/ISP Engagement planning

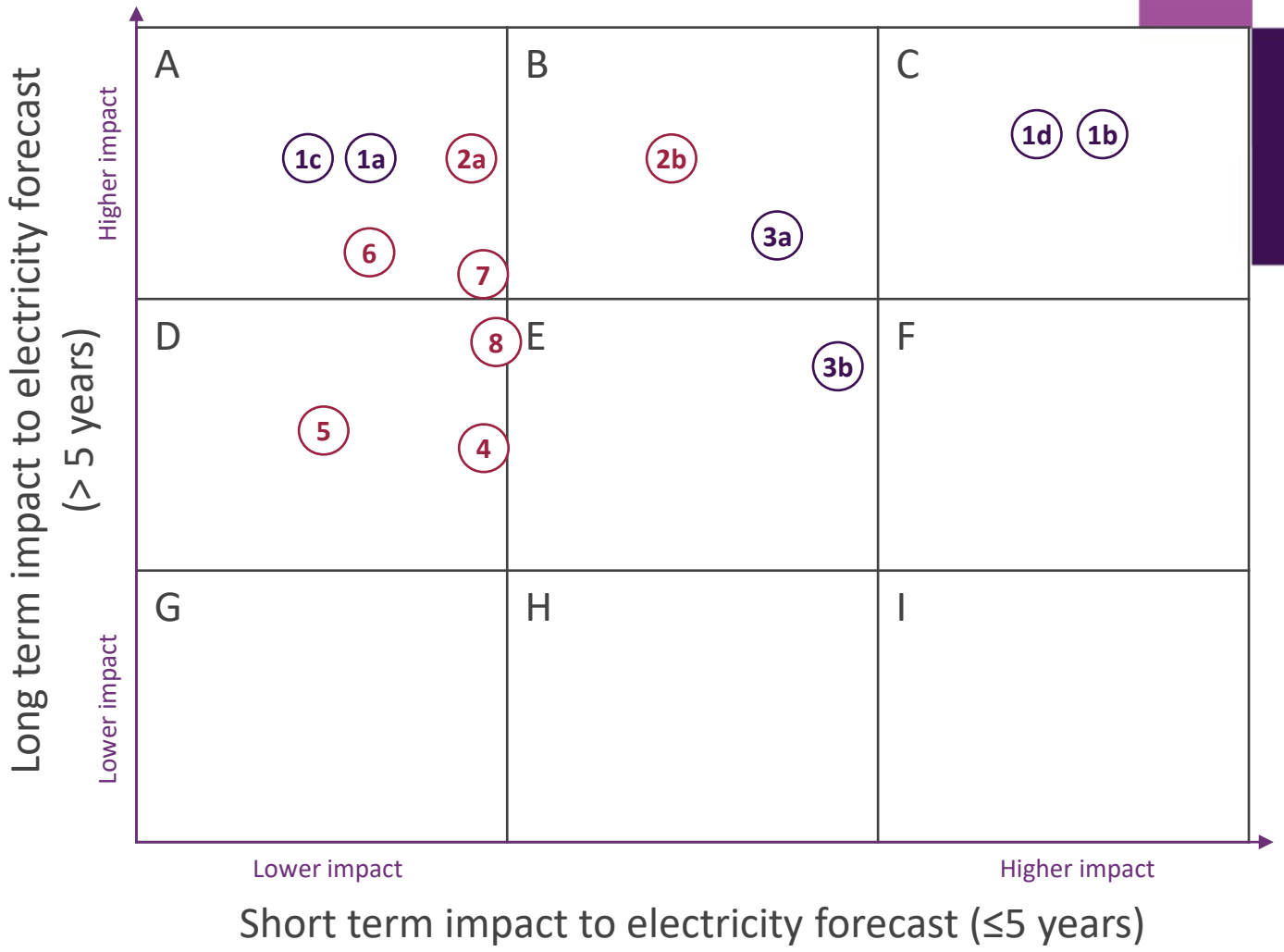
Recap from February:

A first pass on relative importance of Economics and Multi-sector modelling topics

Draft

AEMO

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



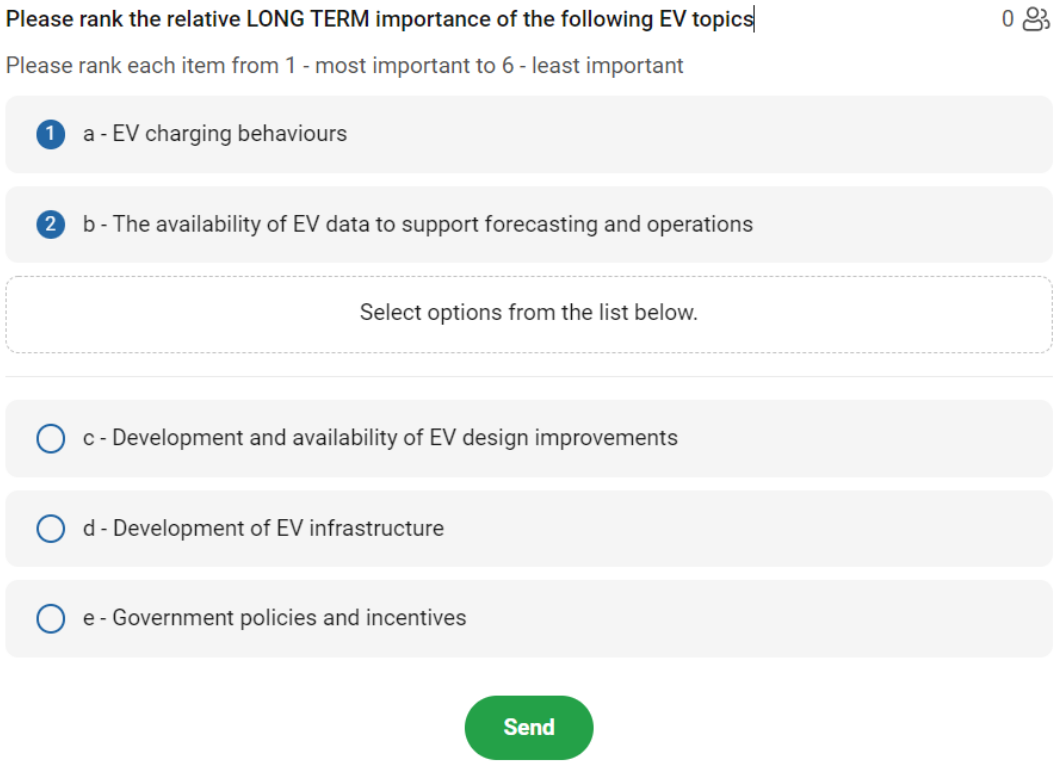
Improvement category:

Forecasting driver
Forecasting assumptions
Stakeholder education
Data and reporting
Forecasting methodology

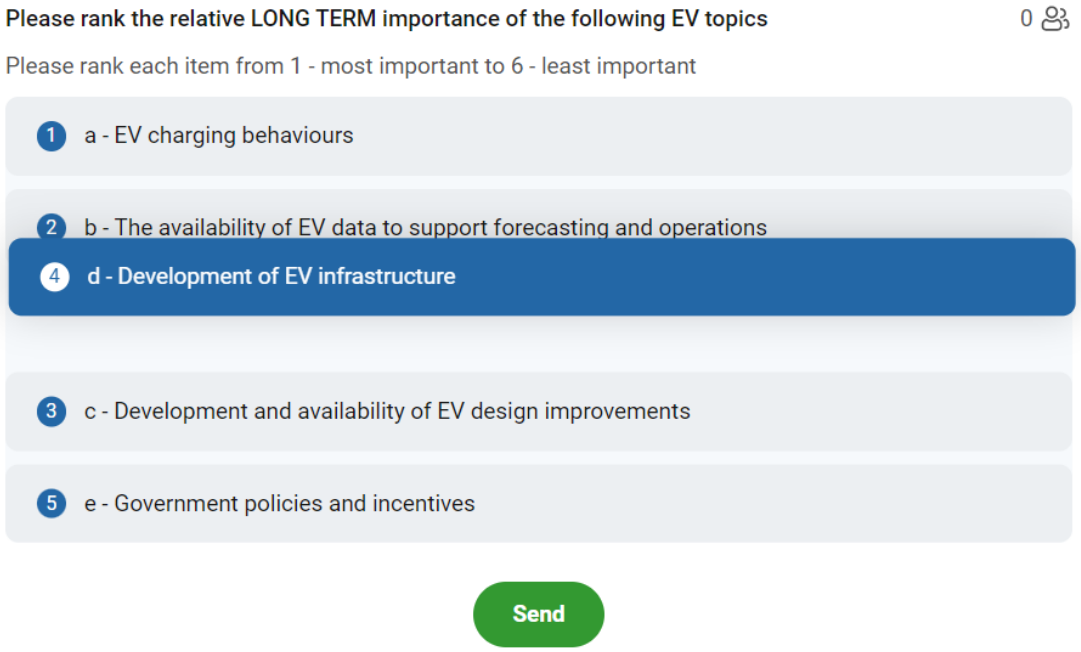
Ranking relative priorities

Practice using this Slido "Ranking poll" (sign in with your organisation and name)

- Click the options in order of ranking



- Once all options are clicked, "drag and drop" to re-order



Click "Send" when you're done

Topics for discussion today

What is the relative long and short term importance of each of the following topics:

1. DER uptake
   a. Development of technology which improves DER efficiency and/or duration
   b. Cost and availability of DER technology, including its raw materials
   c. Potential saturation of rooftop PV penetration
   d. Size and timing of PV and battery replacements
   e. Consumer acceptance and uptake of batteries
   f. Tariff reform
   g. The growth of PV Non-scheduled Generation (PVNSG)

2. DER management
   a. PV and battery degradation
   b. The emergence of technology that allows rapid system response
   c. The interactions between home PV and battery systems
   d. The impact of residential DER on distribution networks, and their response
   e. Magnitude and potential uses of Virtual Power Plants
   f. Consumer participation in the wholesale energy market through Wholesale Demand Response (WDR) and Demand Side Participation (DSP)

3. Electric Vehicles
   a. EV charging behaviours
   b. The availability of EV data to support forecasting and operations
   c. Development and availability of EV design improvements
   d. Development of EV infrastructure
   e. Government policies and incentives

For discussion: a first pass on relative importance of DER (PV, Batteries) uptake topics

Draft

AEMO

Please rank the following topics in relative importance (long and short term) to AEMO's electricity forecasts:

1. DER uptake
   a. Development of technology which improves DER efficiency and/or duration (1a)
   b. Cost and availability of DER technology, including its raw materials (1b)
   c. Potential saturation of rooftop PV penetration (1c)
   d. Size and timing of PV and battery replacements (1d)
   e. Consumer acceptance and uptake of batteries (1e)
   f. Tariff reform (1f)
   g. The growth of PV Non-scheduled Generation (PVNSG) (1g)

Long term (> 5 years) and short term (≤5 years)

A	B	C
D	E	F
G	H	I

Long term: Higher impact / Lower impact

Short term: Lower impact / Higher impact

For discussion: a first pass on relative importance of DER (PV, Batteries) management topics

Draft

AEMO

Please rank the following topics in relative importance (long and short term) to AEMO's electricity forecasts:

2. DER management
   a. PV and battery degradation (2a)
   b. The emergence of technology that allows rapid system response (2b)
   c. The interactions between home PV and battery systems (2c)
   d. The impact of residential DER on distribution networks, and their response (2d)
   e. Magnitude and potential uses of Virtual Power Plants (2e)
   f. Consumer participation in the wholesale energy market through Wholesale Demand Response (WDR) and Demand Side Participation (DSP) (2f)

Long term (> 5 years) and short term (≤5 years)

A	B	C
D	E	F
G	H	I

Long term: Higher impact / Lower impact

Short term: Lower impact / Higher impact

For discussion: a first pass on relative importance of Electric Vehicle topics

Draft

AEMO

Please rank the following topics in relative importance (long and short term) to AEMO's electricity forecasts:

3. Electric Vehicles
   a. EV charging behaviours (3a)
   b. The availability of EV data to support forecasting and operations (3b)
   c. Development and availability of EV design improvements (3c)
   d. Development of EV infrastructure (3d)
   e. Government policies and incentives (3e)

Long term (> 5 years) and short term (≤5 years)

Higher impact	A	B	C
Long term	D	E	F
Lower impact	G	H	I

Lower impact — Short term — Higher impact

Electricity stakeholder engagement planning