2021 Appliance Index updates

5 May 2021 FRG Meeting

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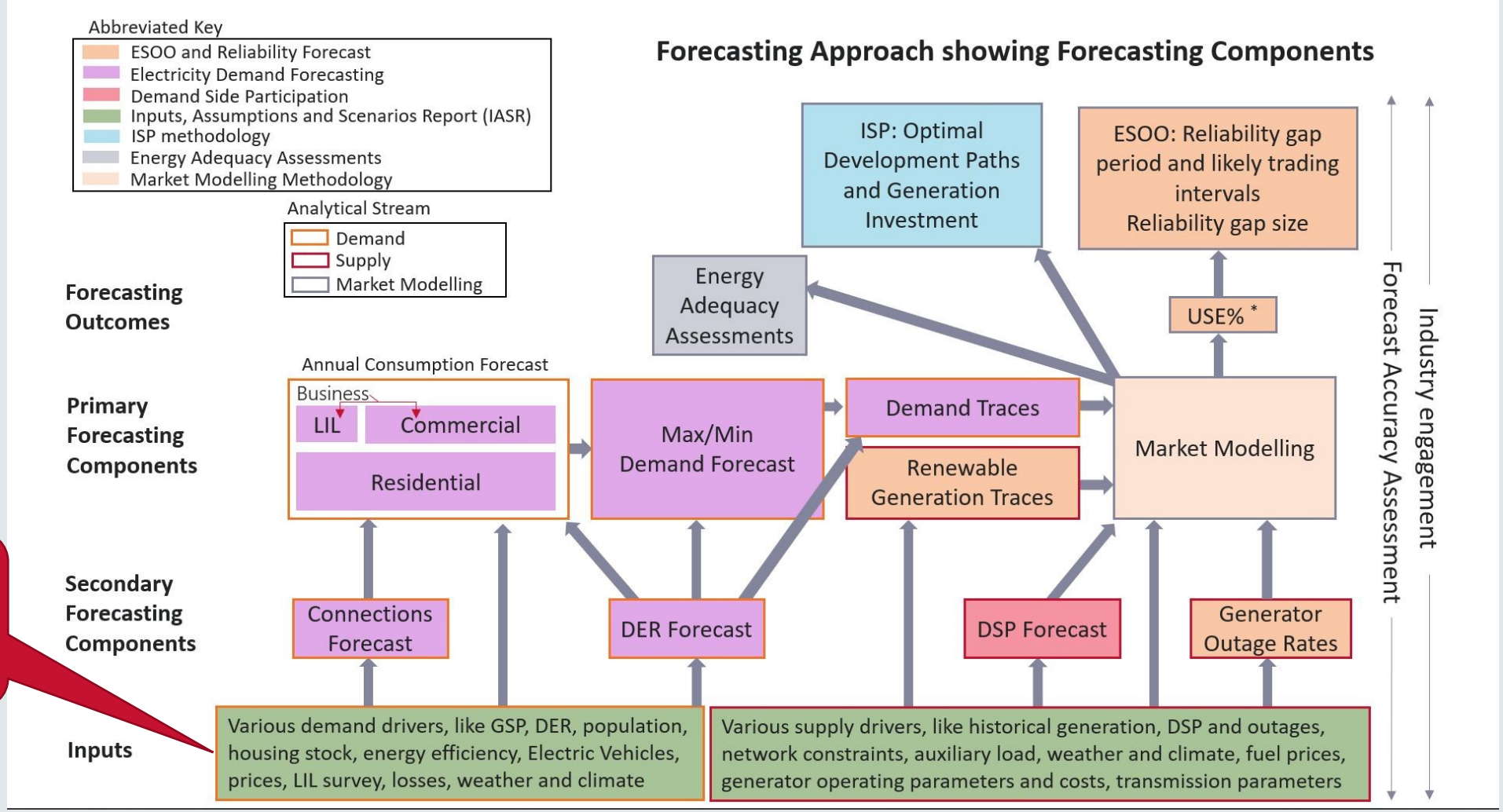
Background and Purpose

- AEMO uses an Appliance Index to represent the uptake of appliances over time.
- The purpose of today's presentation is to describe the process and seek stakeholder feedback
- Today's agenda includes:
  - Methodology
  - Example
  - Relationship with fuel switching and electrification of other sectors
  - Discussion

Timing	Appliance Index	Responsible
Mar 2020	Last time this topic was discussed	AEMO
Today	Discussion on 2021 forecasts	AEMO
May 2021	Consumption forecast (and model inputs such as Appliance Index) finalised	AEMO

Appliance indices flow into residential annual consumption and demand forecasts



Appliance indices are inputs to residential model

Appliance index process overview

Consumption/Demand modelling for AEMO reports

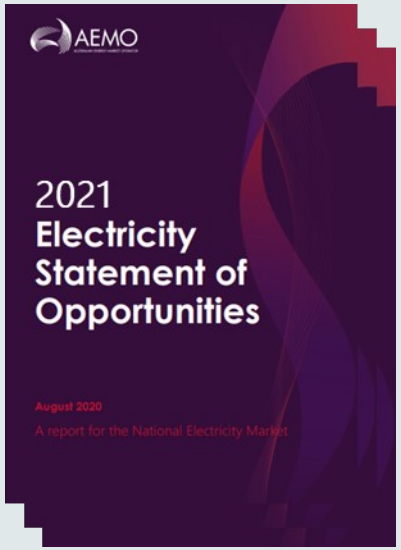
Split Residential Baseline Study (RBS) data into components:
1. Baseload
2. Heating
3. Cooling

(Slide 5)

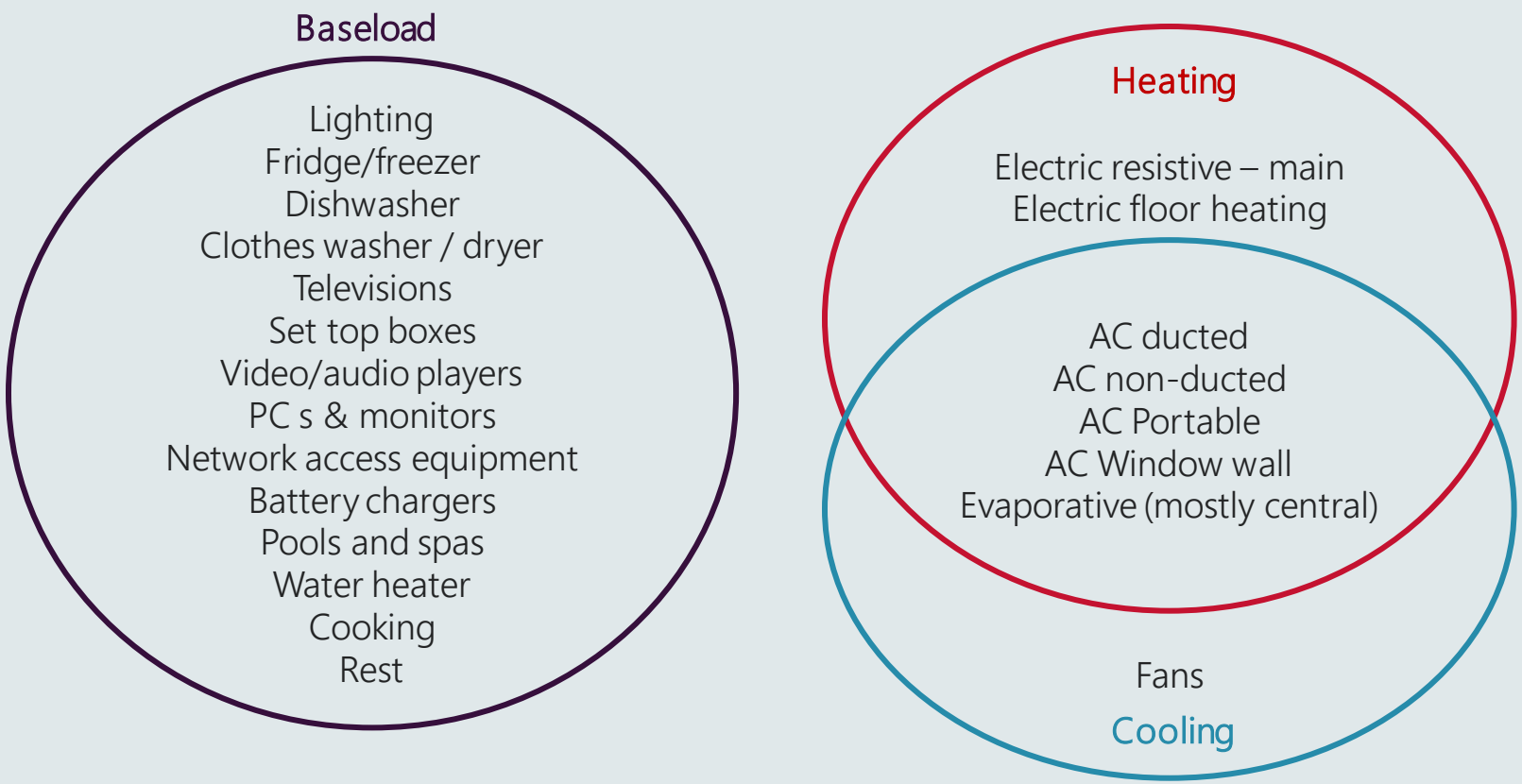
Calculate regional component index relative to the base year.

(Slide 6)

Customise for use in scenarios via household income per capita spread as a proxy for the appliance uptake spread.

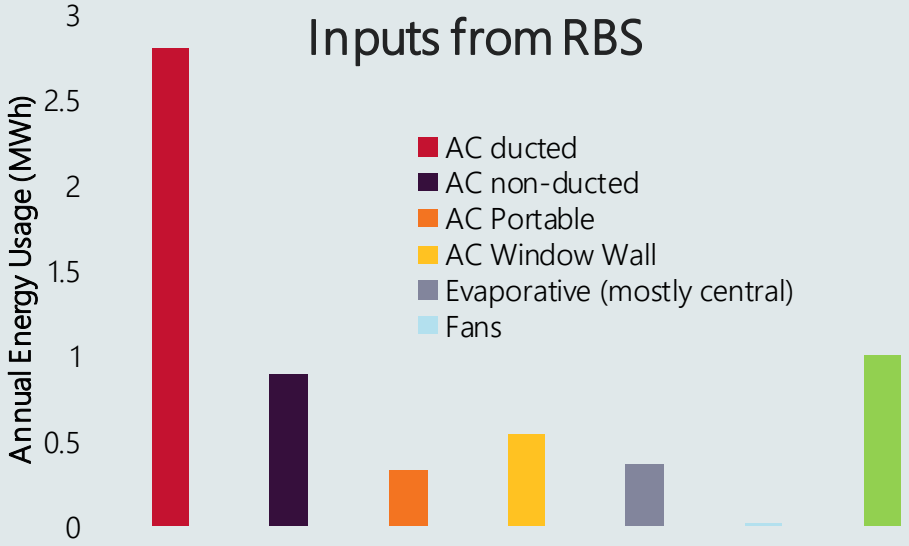


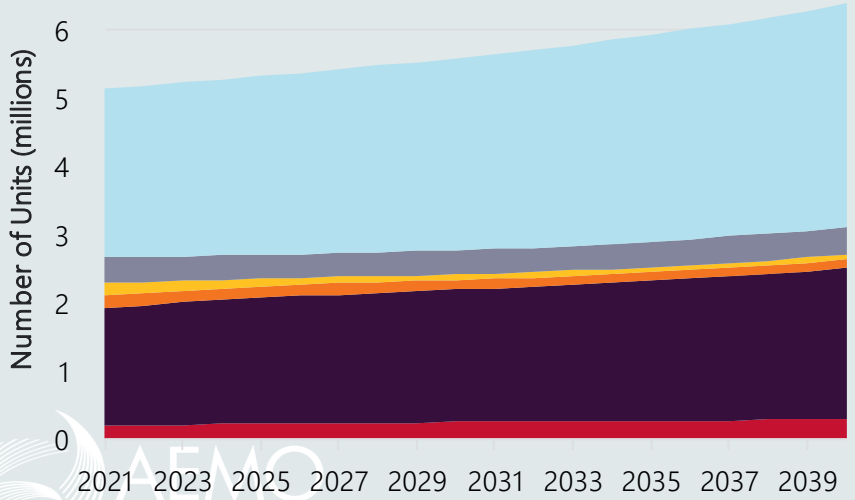
Index includes baseload, heating & cooling components



Appliance Index calculation by region (Victoria cooling example – uptake rises slower than household increase)

Inputs from RBS

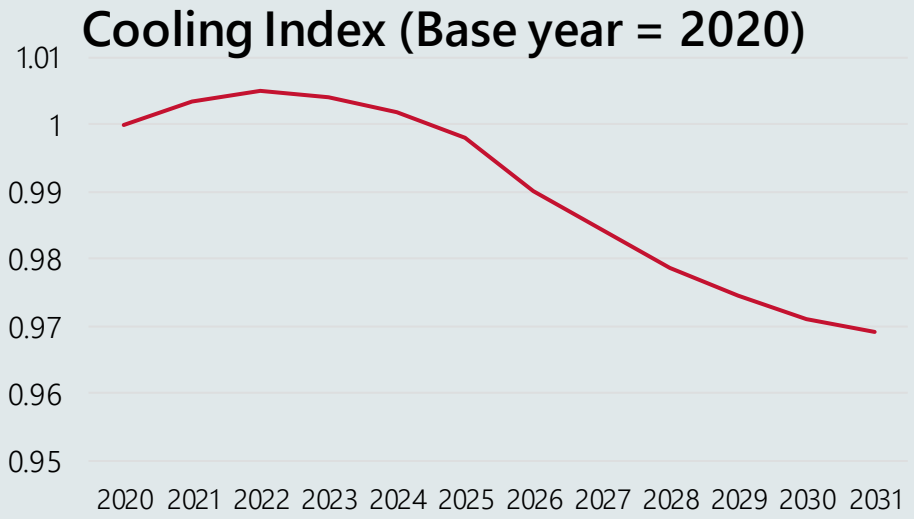




Process

- Multiply usage by stock
- Divide by households
- Index to 1 for Base year

Output



Further context: limitations and opportunities

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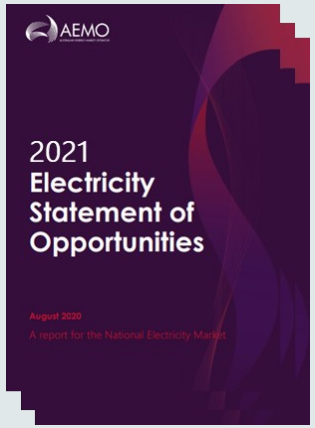

Limitation:
Raw appliance uptake data is from 2015.

Likely to be available in 2021-22.
AEMO is in contact with DISER regarding availability of updated appliance stock data.

Opportunities to accommodate:
- Gas to electricity fuel switching
- Electrification assumptions (Presentation 3)
- Potential policy changes (Federal and State)

Stakeholder discussion

What other data can be used that is updated more often?

Do you have any suggestions to address the limitations?

What other considerations should we include in the future?