Energy efficiency in AEMO's consumption forecasts

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How does AEMO forecast consumption?

Residential – structural model

Base year per connection by load type* → Forecast per connection by load type* → Adjusted forecast per connection by load type* → Adjusted final forecast

*baseload, heating and cooling

Energy Efficiency
Other adjustments
(Slides 3-4)

Other adjustments

Business mass market – regression model

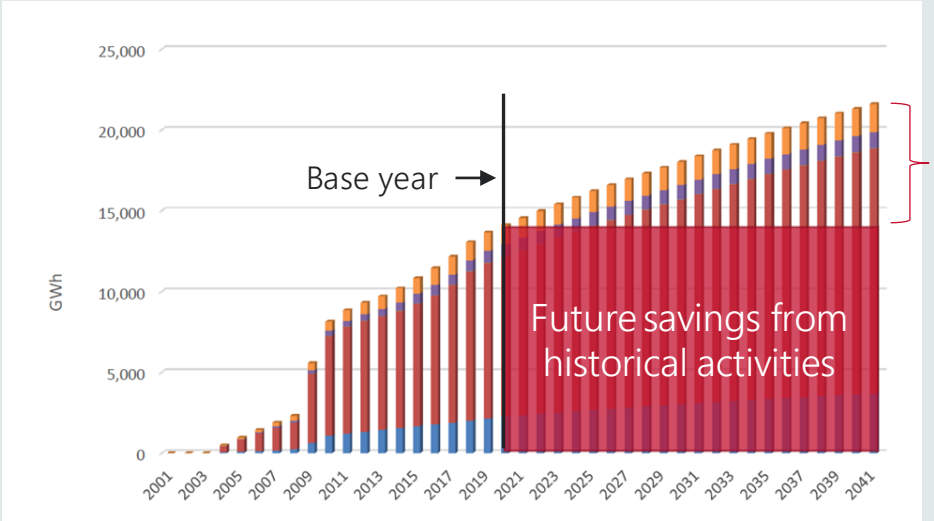
Short term model regresses consumption against weather → Long term model applies linear regression on energy intensity (energy/$) → Adjusted forecast → Adjusted final forecast

Transition from 100% short term model in Year 1 to 100% long term model in Year 6

AEMO uses different methods to apply energy efficiency in the residential and BMM consumption forecasts

Step 1: Remove savings from activities prior to the first year of the forecast

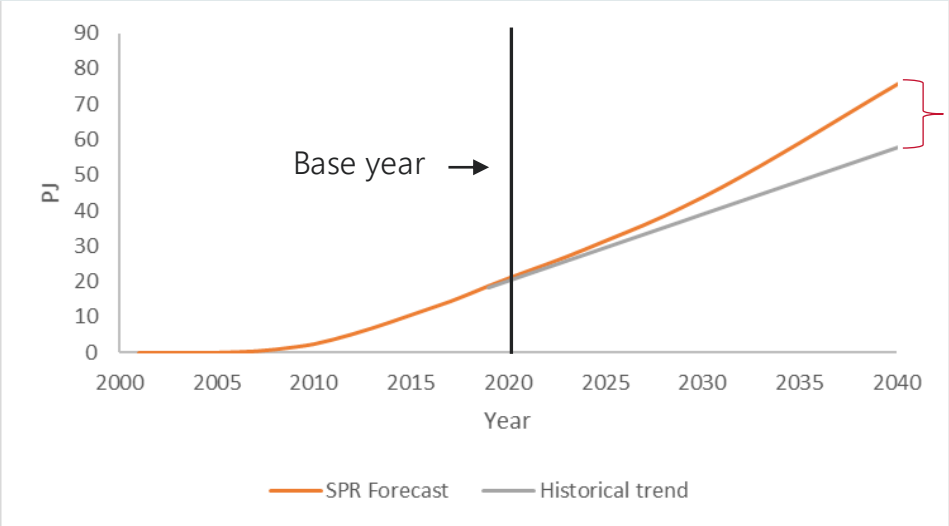
Residential



Forecast savings

AEMO removes savings in the base year and applies the net result to the consumption forecasts

Business mass market



Cumulative Forecast savings

AEMO removes savings based on trend in 5-year period before the base year, on a cumulative basis, and applies the annualised net results to the consumption forecasts

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Step 2: Apply discount to forecasts

- AEMO has previously applied a discount factor (20% in 2019 and 2020) to account for:
  - Non-realisation of estimated savings from policy due to modelling limitations, low compliance, etc
  - Non-additionality between policies
  - Rebound effect, which reduces expected gains because of behavioural responses (e.g. lower energy bills may increase energy consumption)

- SPR has considered these effects more thoroughly in their forecasts in 2021

- AEMO seeks stakeholder feedback on whether to reduce or remove the discount factor