Energy efficiency (EE) in AEMO's consumption forecasts

March 2023 FRG Meeting

Energy.Forecasting@aemo.com.au

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

Other adjustments

Business mass market – regression model

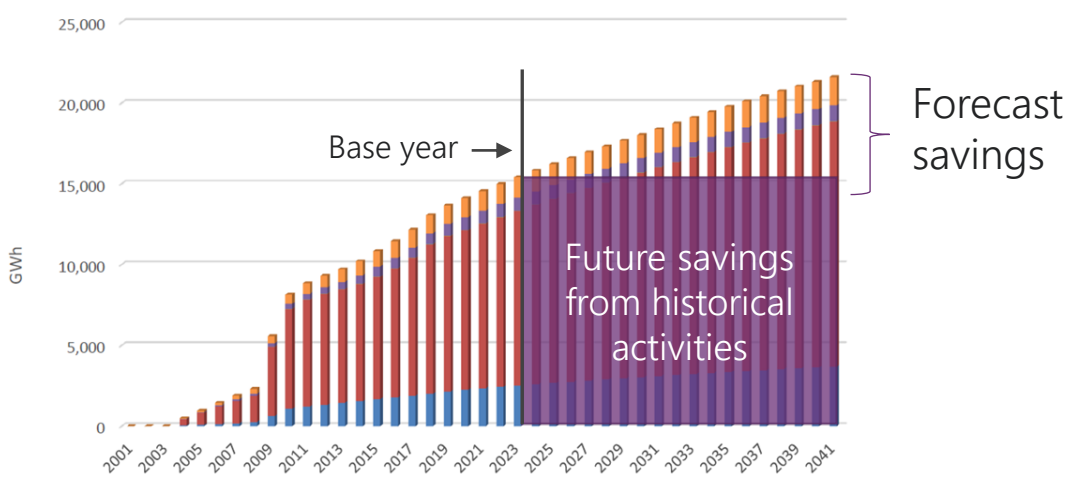
Short term model regresses consumption against weather → Long term model applies linear regression on energy intensity (energy/$) → Adjusted forecast → Adjusted final forecast

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

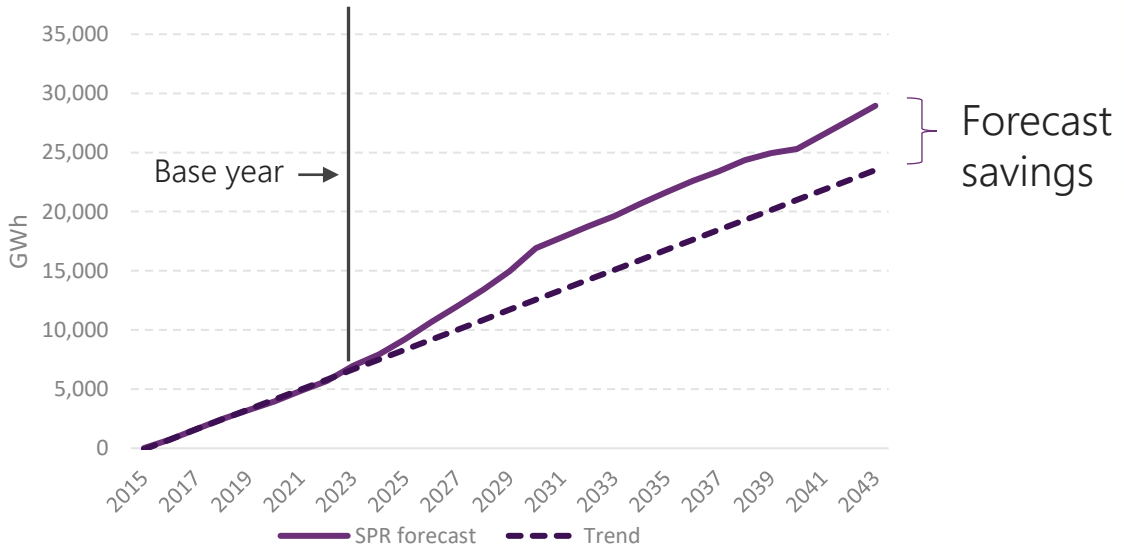
Remove savings from activities prior to the first year of the forecast

Residential EE savings



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

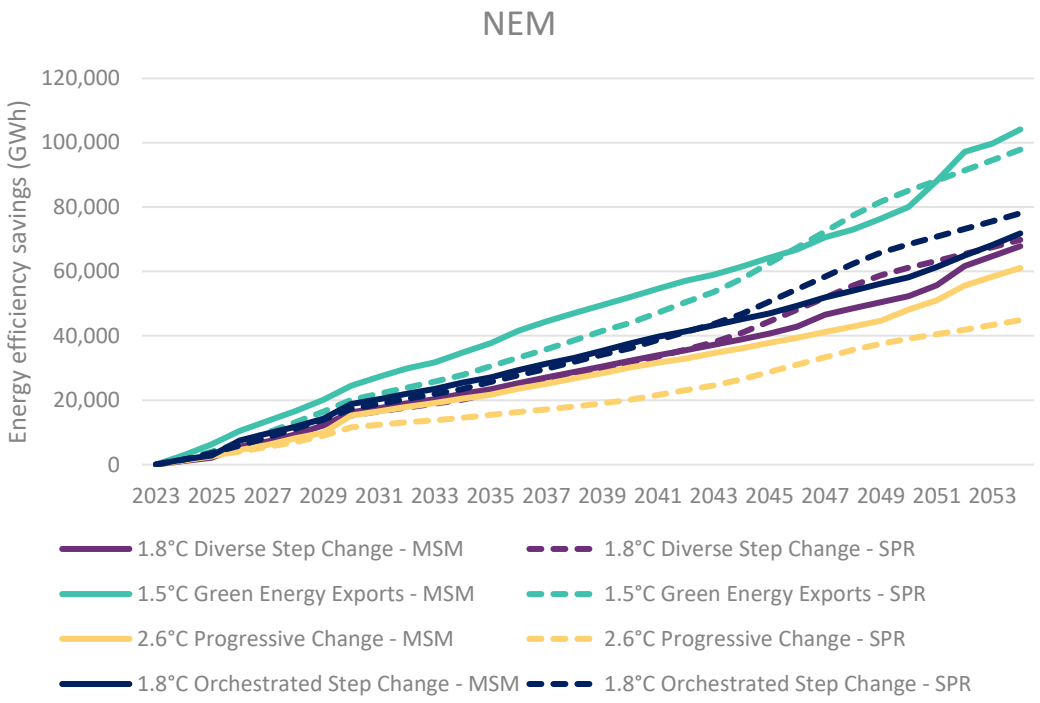
Business mass market EE savings



AEMO removes savings based on trend in 8-year period before the base year, on a cumulative basis, and applies the annualised net results to the consumption forecasts

Energy efficiency forecasts are also within multisector modelling

- SPR and multisector modelling forecasts are broadly aligned, though differ in methodology
  - SPR models individual policies
  - Multisector modelling meets emissions targets by selecting least-cost mix of technologies (energy efficiency, electrification, fuel switching, etc).
    - **2022 CSIRO and ClimateWorks Centre Multisector modelling report:** https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2022/2023-inputs-assumptions-and-scenarios-consultation/supporting-materials-for-2023/csiro-climateworks-centre-2022-multisector-modelling-report.pdf



The chart shows total savings across Residential (RES) and Business (BUS). SPR's RES forecasts are higher, while MSM has higher forecasts for BUS.