Distributed Energy Resource ESOO 2020 Draft Forecast update

Luke Dowling

Agenda

- Background
- Updated consultant Photovoltaic (PV) forecasts comparison
- Updated consultant Battery forecasts comparison
- Updated Electric Vehicle (EV) projections, considering Step Change feedback

- Proposed approach for Distributed Energy Resource (DER) settings for each Electricity Statement of Opportunities (ESOO) scenario.

Background

February FRG
Draft consultant DER forecasts presented, with feedback sought from FRG

Draft Forecast Review
First round of feedback and quality control (QC) checks have been provided to GEM and CSIRO

March FRG
Updated forecasts presented along with proposed approach for selecting each scenario for discussion

Final Forecasts
To be presented along with half hourly charge / discharge profiles at a later date after AEMO review and QC checks (possibly April FRG)

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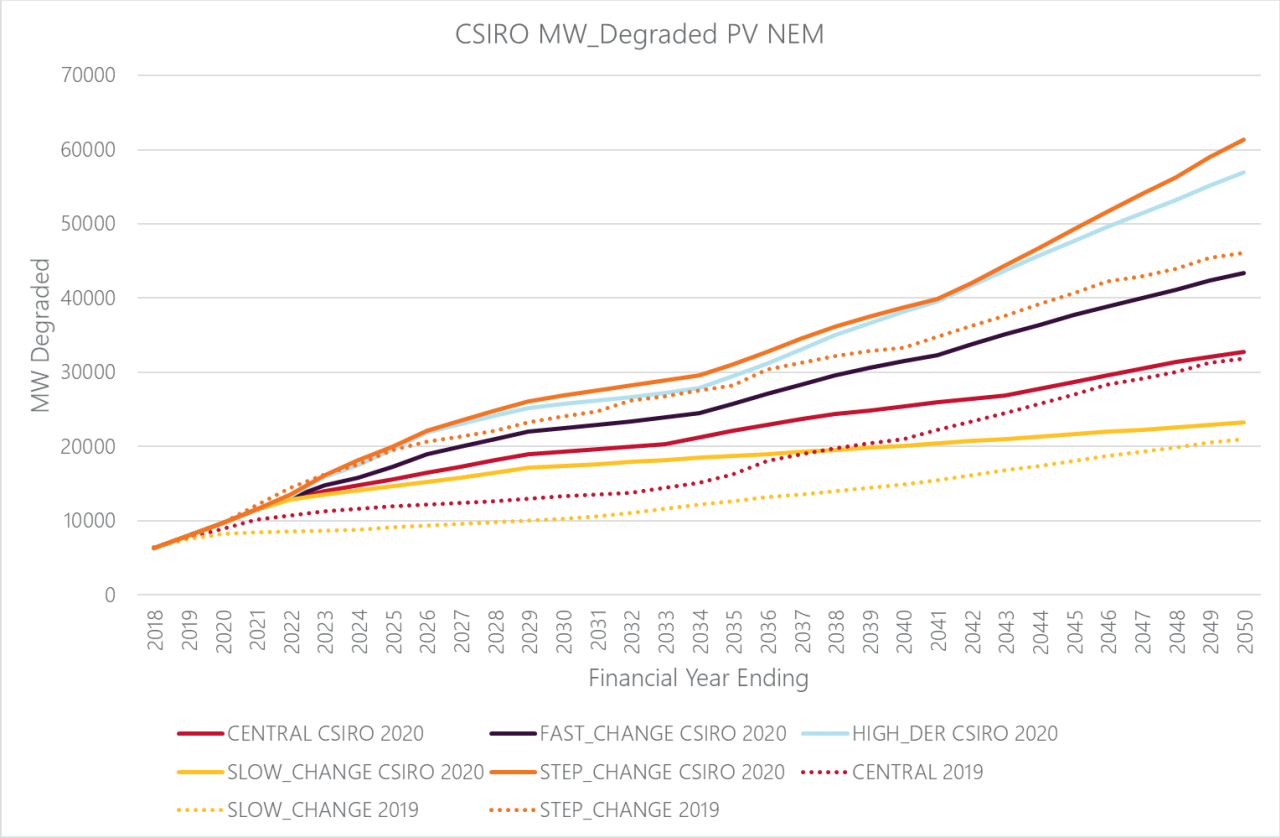
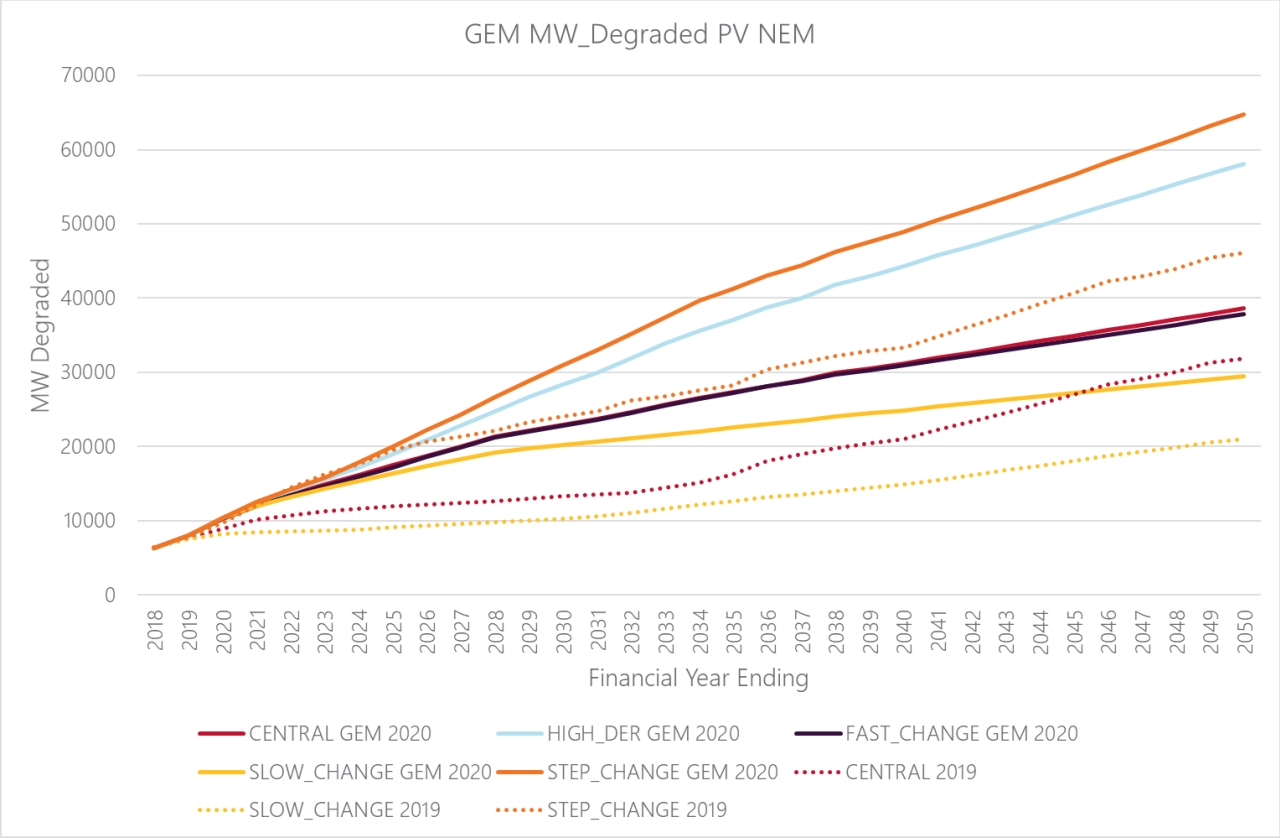
PV and Battery Projections

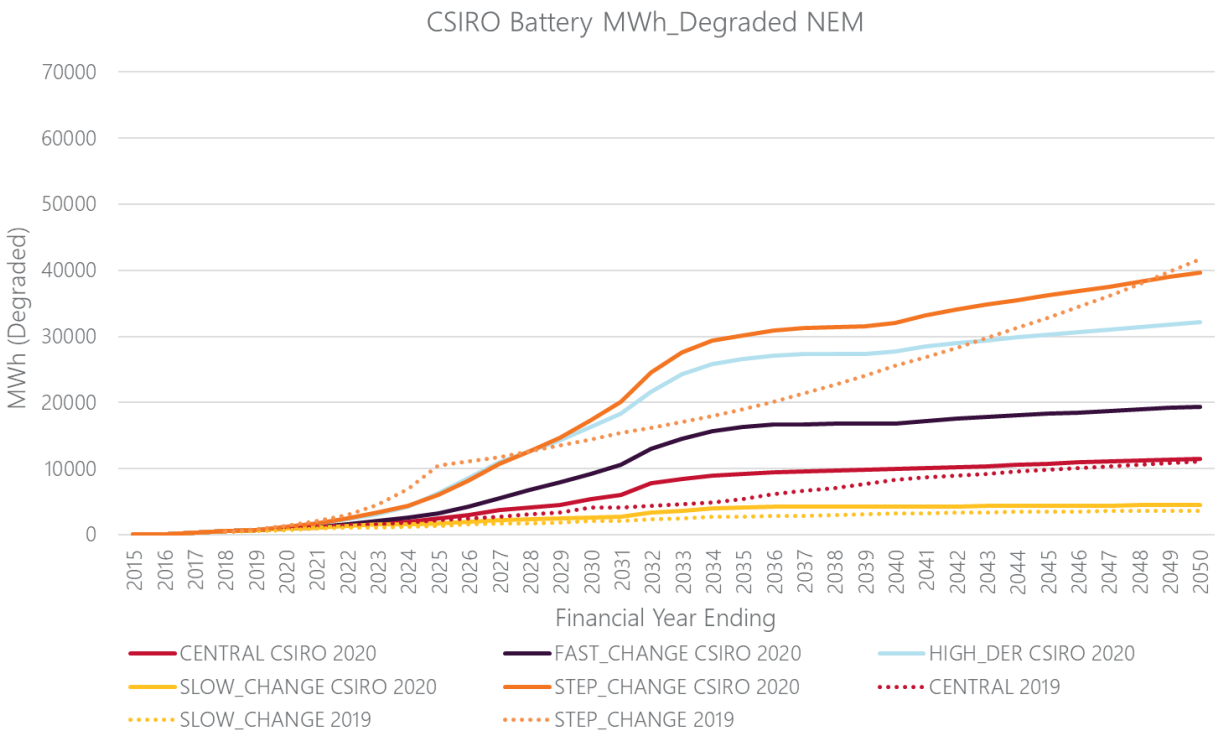
PV Forecast Comparison

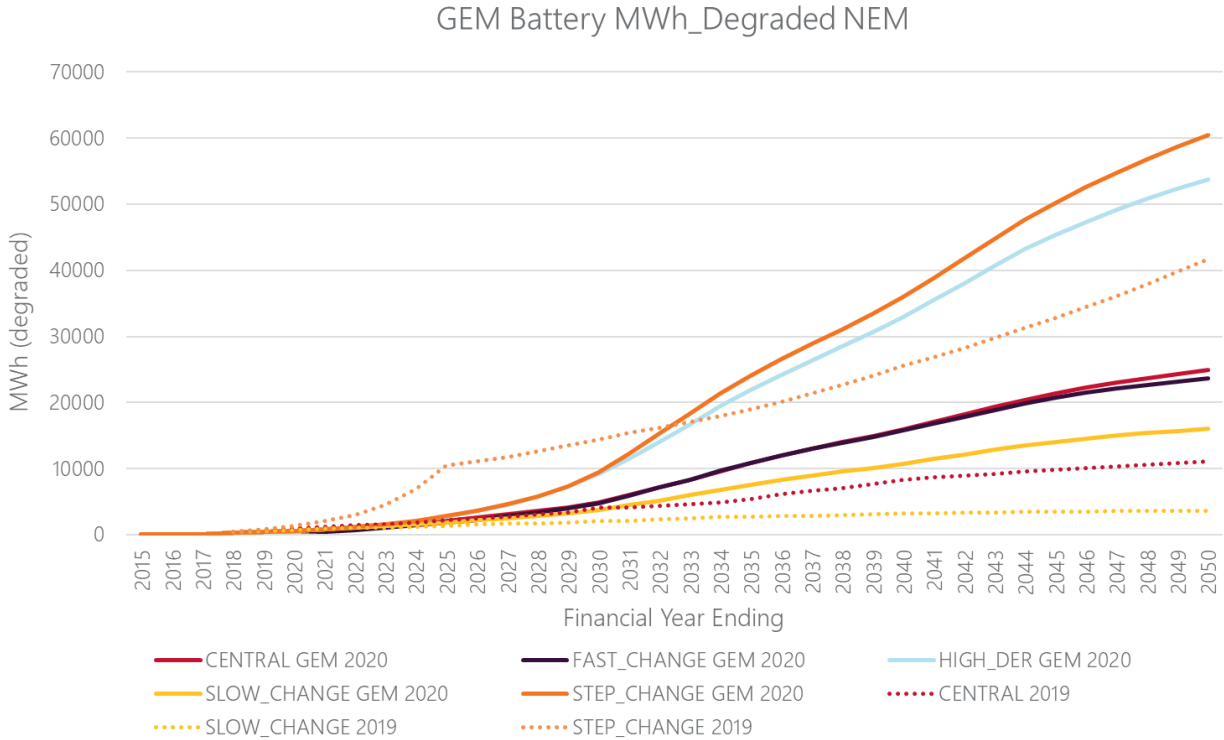




- Includes all PV Systems < 30MW
- MW Degraded is MW installed panel power rating, adjusted for loss of system efficiency over time

Battery Forecast Comparison





* MWh Degraded is battery storage capacity adjusted for battery loss of capacity over time

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Proposed Projection Selection Approach – PV and Batteries

Two Consultant forecasts covering the five ISP scenarios - How do we allocate the Consultant forecasts to the scenarios?

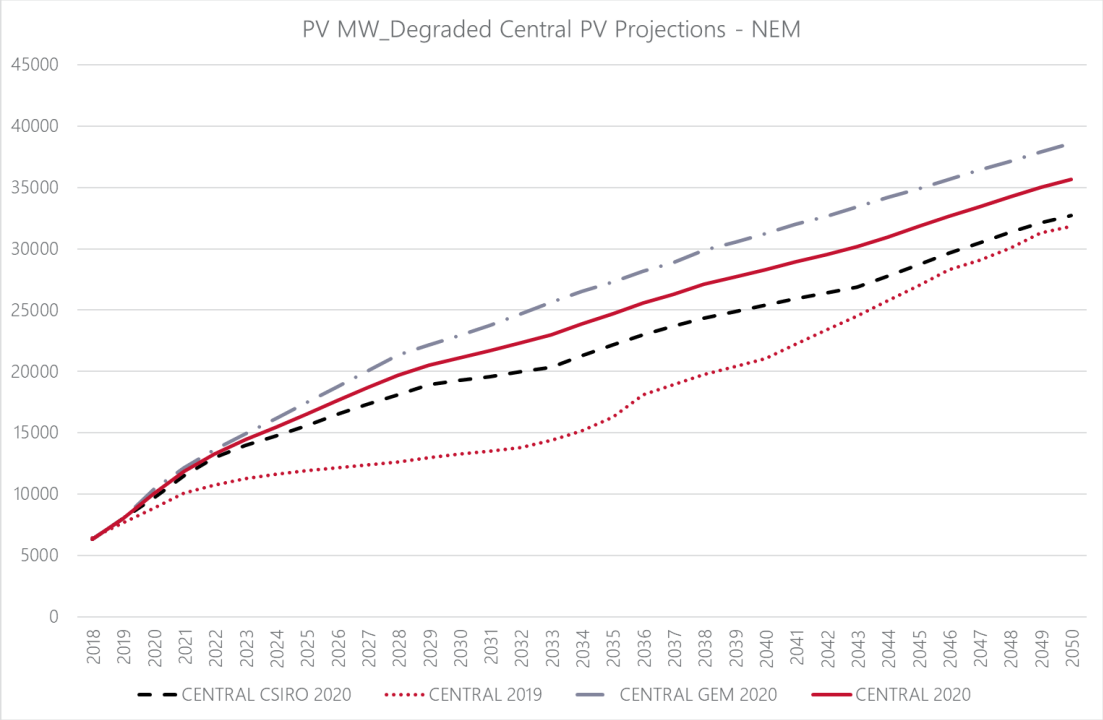
Proposed approach:

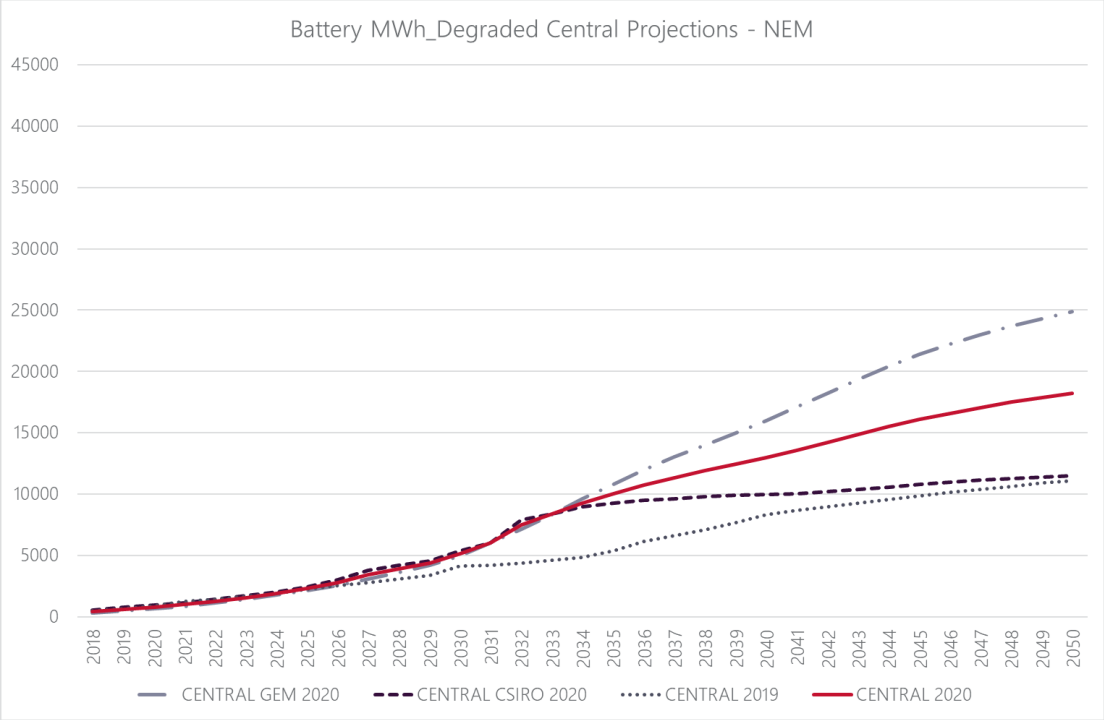
- **Central Scenario** – Equally weighted average of GEM and CSIRO forecasts.
  - Positive: Gives a balanced view between the two expert opinions
  - Negative: Some input assumptions become opaque

- **Slow Change and Step Change** – these scenarios set forecast boundaries, so potential to select lowest Slow Change and highest Step Change respectively to capture maximum forecast spread, however:
  - This should be applied consistently to PV and Battery projections.
  - Where one consultant has higher relative PV projections and the other has higher battery projection (such as in Step Change) an equally weighted average may be a better approach.

- **Fast Change and High DER** – these scenarios do not set boundary conditions, so propose equally weighted averages of GEM and CSIRO forecasts, unless there is good reason to think that one forecast is a better representation of a given scenario than the other.

Proposed Projection Selection Approach – PV and Batteries





Includes all PV Systems < 30MW

Scenario	Proposed Approach[1]
Slow Change	CSIRO
Central	Average
Fast Change	Average
High DER	Average
Step Change	Average

1.These may be subject to change prior to finalisation of the DER forecasts.

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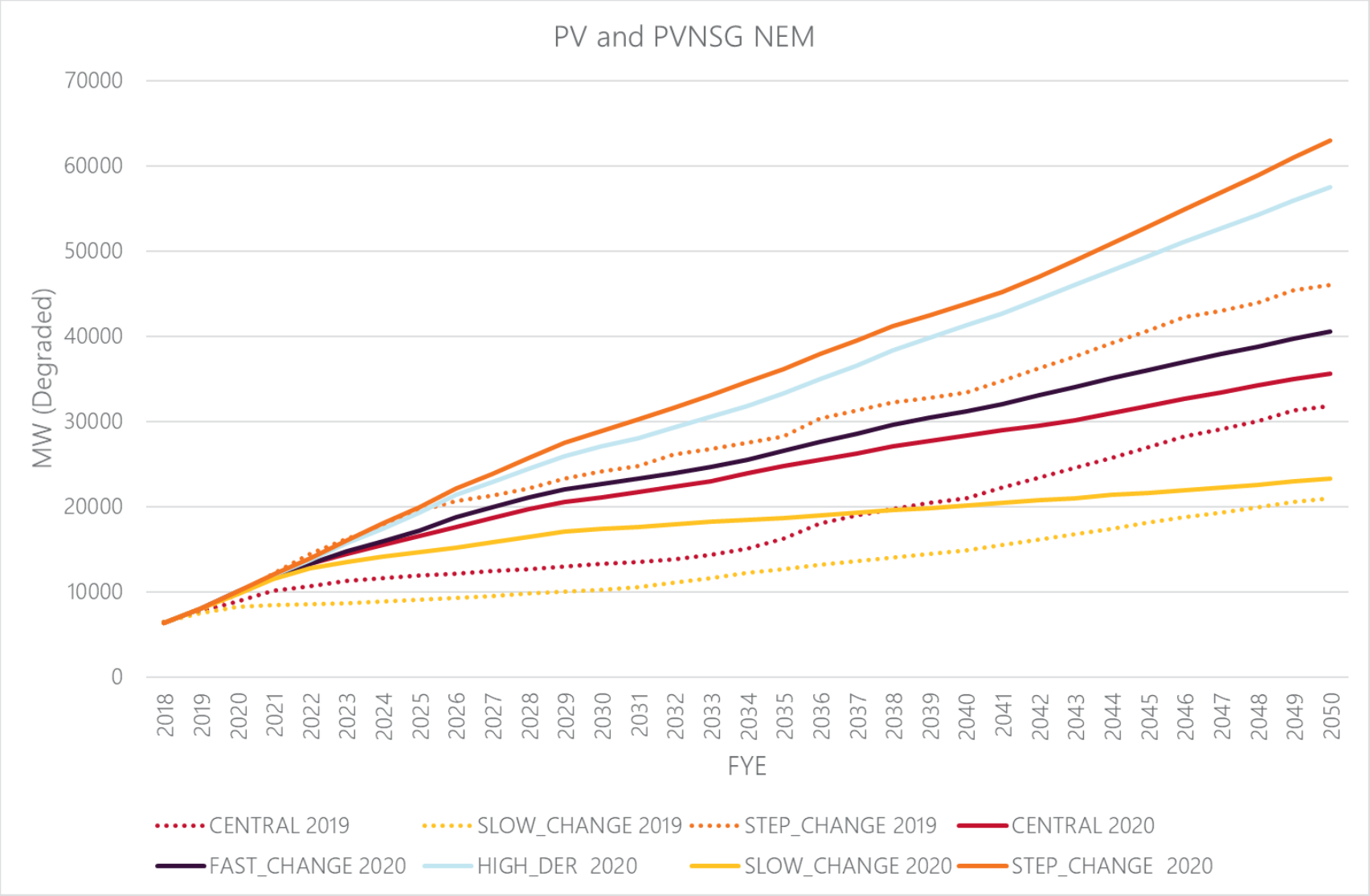
Proposed Projection PV and PVNSG



Includes all PV Systems < 30MW

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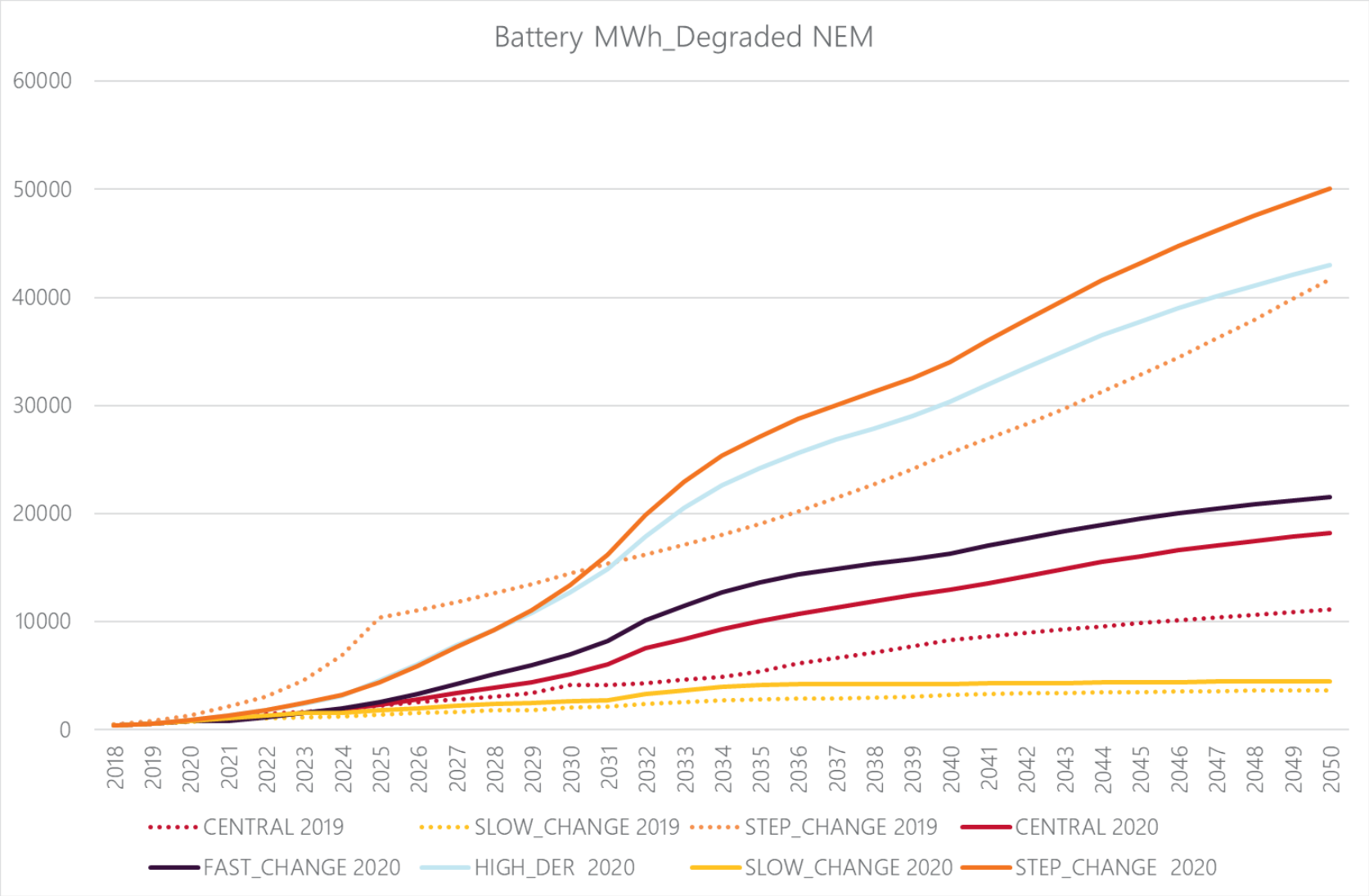
Proposed Projection - Battery



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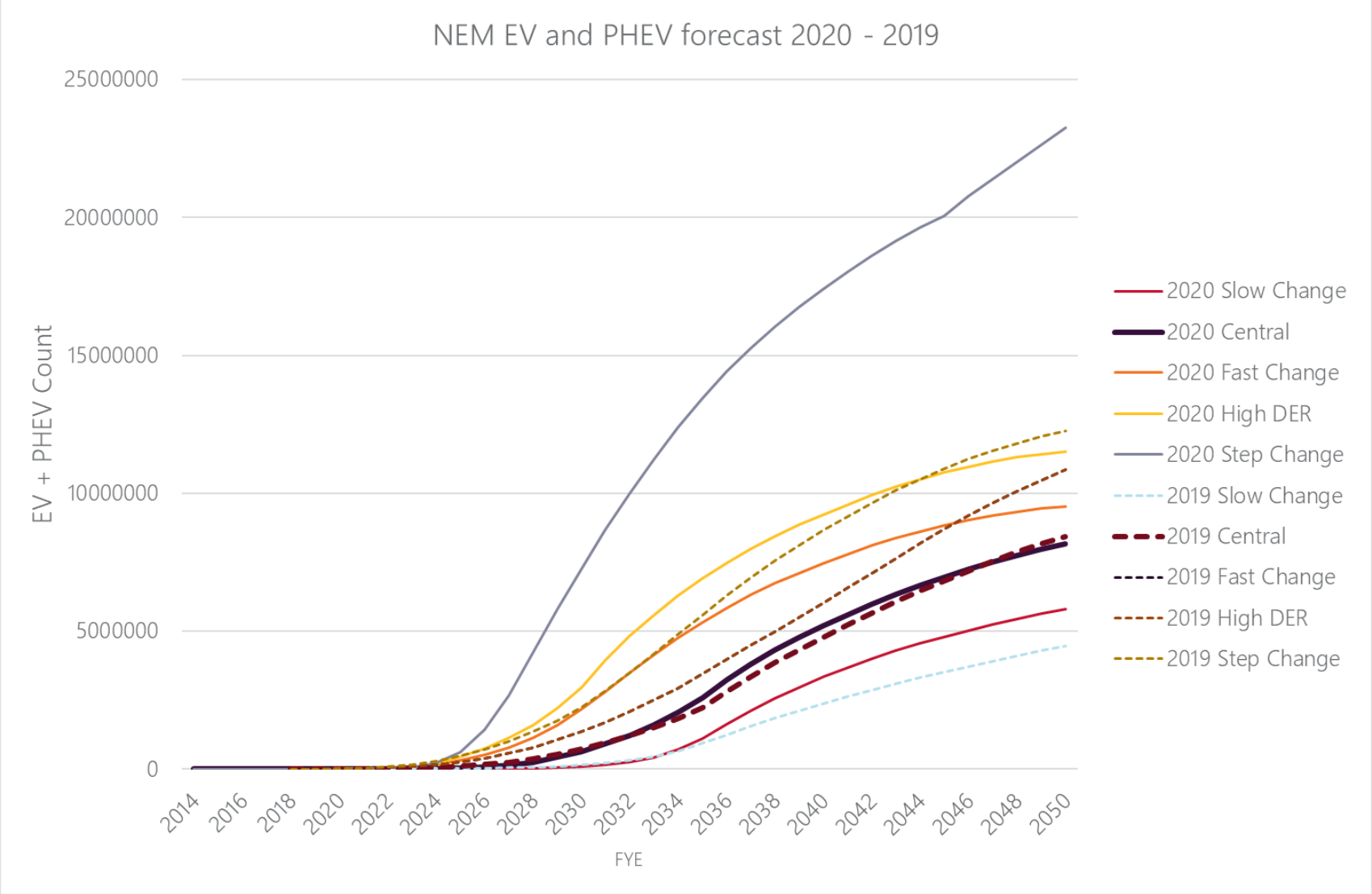
EV Projections

CSIRO EV Forecast



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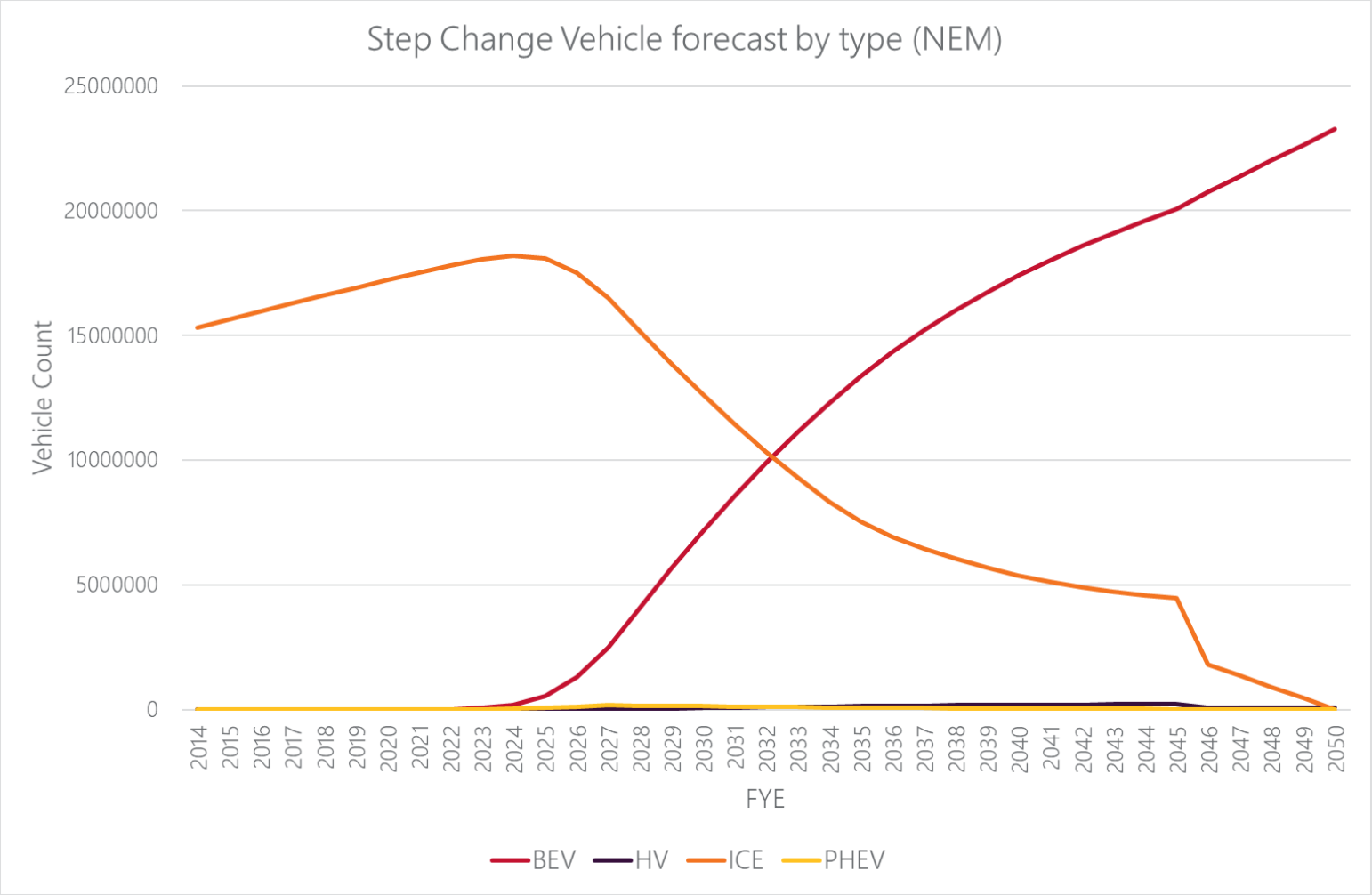
Step Change by technology type

Vehicle types covered include:

- Battery Electric Vehicles (BEV)
- Hydrogen vehicles (HV)
- Internal Combustion Engine (ICE)
- Plug-in Hybrid Electric Vehicle (PHEV)



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Path forwards to complete DER forecasts

March FRG
Updated forecasts presented along with proposed approach for selecting each scenario for discussion

Consultant Final Forecasts
Final forecasts provided by consultants to AEMO

April FRG
Potential update on forecasts and scenario selections

Final Forecasts
Included in 2020 ESOO

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