The revision of the demand forecasting methodology needs to address the challenge of integrating the orchestration of Consumer Energy Resources (CERs) into the National Energy market (NEM). The integration of this form of energy resource is defined as part of AEMO's Optimal Development Path (ODP) and so needs to be appropriately considered in the Demand Forecasting Methodology. Currently this is not the case. Addressing this incongruity between the aspiration of the ODP and the delivered information in the Demand Forecasting Methodology will allow this document to be more productive within the charter that AEMO has set for it.

To successfully do this, the demand forecasting methodology needs to revisit its concept of a committed project, it needs to be more granular in its spatial forecasting and to reconsider the impact of the solar rebound.

THE CONCEPT OF COMMITTED PROJECTS

The challenge for the demand forecasting methodology to incorporate the orchestration of CERs lies in section 5.4, with the statement that, the document is only including committed projects.

The concept of committed projects needs to be challenged by considering whether an installation of rooftop solar PV is a committed resource? The answer yes or no has important ramifications.

Section 9.2 of AEMO's 2024 Integrated System Plan (ISP) believes that rooftop solar PV is a committed resource in the statement below

> A further 16 GW in household and business energy systems – individual distributed battery and solar systems – is expected to be installed by 2030, at a rate of 3 GW per year.

In section 6.2 of the 2024 ISP it states,

> The capacity of these coordinated CER storages is forecast to rise from today's 0.2 GW to 3.7 GW in 2029-30, and then 37 GW in 2049-50 – by then making up 66% of the NEM's energy storage. Without effective orchestration of consumer batteries, around $4.1 billion of additional grid-scale investment would be needed, increasing total power system costs to consumers

If Demand Forecasting calculations are to support both the ISP and help to develop the scenarios for the Inputs, Assumptions and Scenarios Report (IASR) process, it is incumbent to include the utilisation of excess daytime production from rooftop PV into the demand forecasting calculations as committed projects.

Hence while the answer to the question, is rooftop solar a committed resource according to the ISP should be YES, the implied answer in current forecasting methodology is NO.

If the impact of this exclusion is not reviewed, then many ramifications will ensue based on the advice workflow that this document is tasked to provide and from which future developments will be structured.

- The management of the daytime surplus that rooftop solar provides will be delayed.
    - This vital resource, which is available now, will continue to be inadequately utilised. Currently proposals exist to disincentive rooftop PV production rather than to incentivise its management.
    - If however adequate consideration of the value of orchestrating rooftop PV in the calculations for demand forecasting will change this equation.

- Advice on supply risk will amplify investment costs rather than moderate them.
    - Underestimating, or not considering the value that immediate orchestration of CER brings will increase projected supply shortfalls. This will in turn project a riskier transition to Government and markets and thereby increase the requirements for large scale capital projects to secure the transition.

SPATIAL FORECASTING

With the above in mind, demand forecasting calculations would benefit the transition by increasing the granularity of spatial forecasting to understand and help to manage and fully utilise the orchestration of CER resources. The level of granularity will be directly proportional to the ability to integrate this energy source.

Calling out the addition of Distribution Networks as a key part of the changes in the 2024 ISP, this question is demands for this to be reflected in the Forecasting Predictions.

> Greater recognition of the role of consumer resources and distribution networks
> • Adding 'distribution networks' to where renewable resources are connected.
> In so doing, the ISP explicitly recognises CER as a significant resource in the transition and the contribution it makes, while also calling out more explicitly the input assumptions regarding orchestration and alternative costs if this does not occur to the level assumed.

The ISP continues to state that co-ordination of CER's would reduce investment in the transition by $4.1 billion and that it will continue to work for these benefits to be realised.

In order to achieve these aims, the Electricity Demand Forecasting Methodology needs to enable these ambitions to be counted within its proposals to the ISP. Granularity is a key consideration here as it is this focus that will reveal the potential of VPP's and their importance to the Optimal Development Path.

The granularity is importance as sub regional management of inputs into the NEM will be required due to weather conditions and the ability to predict and utilise the input of VPP's from these sub regions will be an important factor in encouraging their growth, and in coordinating their utilisation.

SOLAR REBOUND

Given the over-supply of daytime energy from rooftop PV, the consideration of the solar rebound effect is premature. While in the distant future it may be a consideration, in the current scenario the key issue should be how to utilise the daytime over-supply by installing local batteries, rather than worry about the potential for underlying household use to grow.

The fastest way to drive electrification is to produce cheaper electricity and this needs to be the consideration of the demand forecasting as the higher the price of electricity the slower will be the transition and this will impact social license. The premise of the solar rebound is that cheap electricity will increase usage. This is the premise of the transition too.

To conclude, the fastest way to impact electricity prices in our current environment is through the utilisation of rooftop solar and the co-ordination of CERs. More than anything this will drive investment in renewable energy and enable green industry to develop. To assist AEMO in the challenge of the transition, Demand Forecasting calculations should be designed to challenge existing thinking and to enable the most effective path to be fully considered.