Developments in Electricity Pricing and implications for PV

1 June 2016

IES Advisory Services

Wholesale Pricing

How will rooftop PV take-up impact the National Electricity Market?

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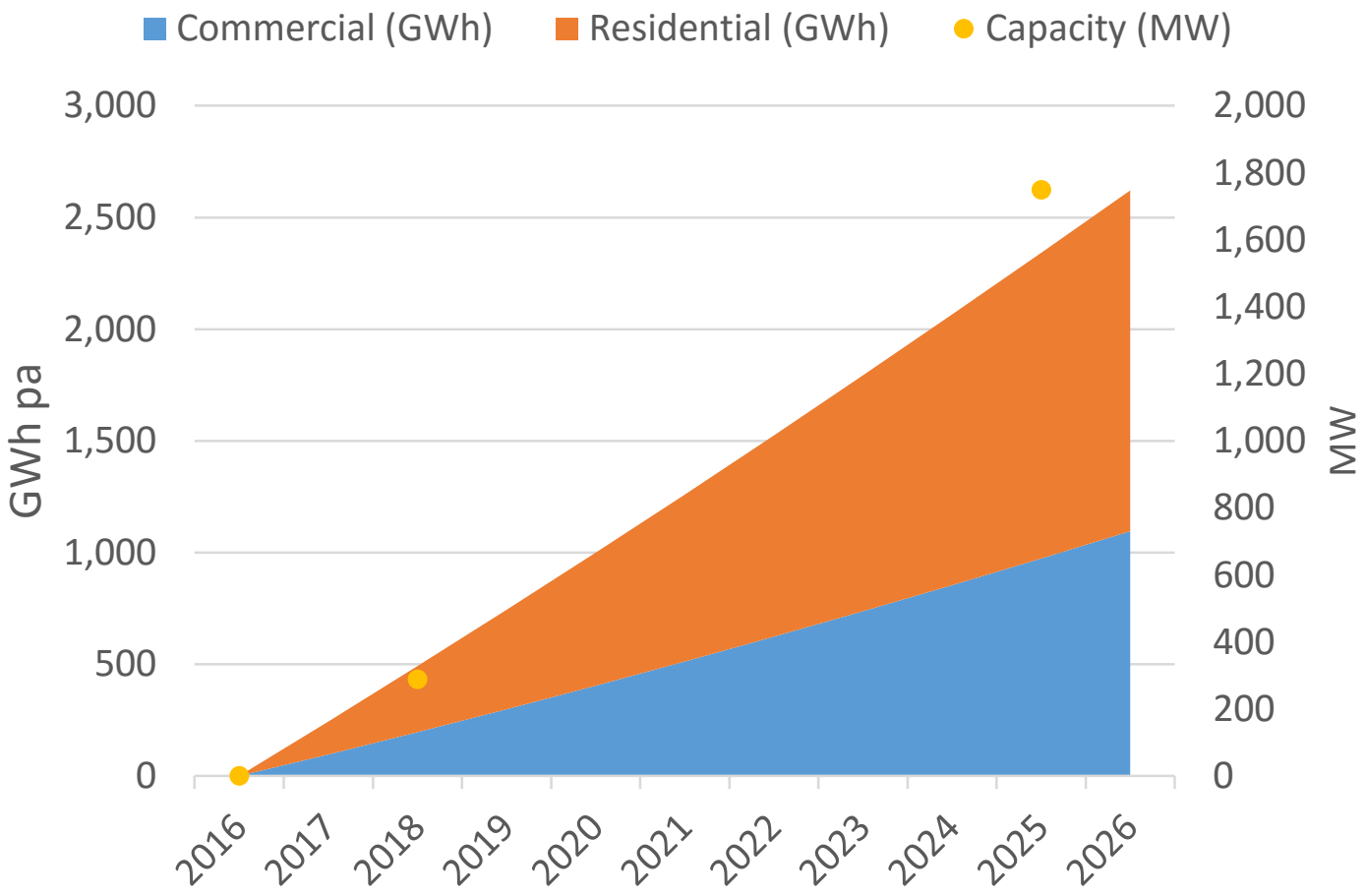
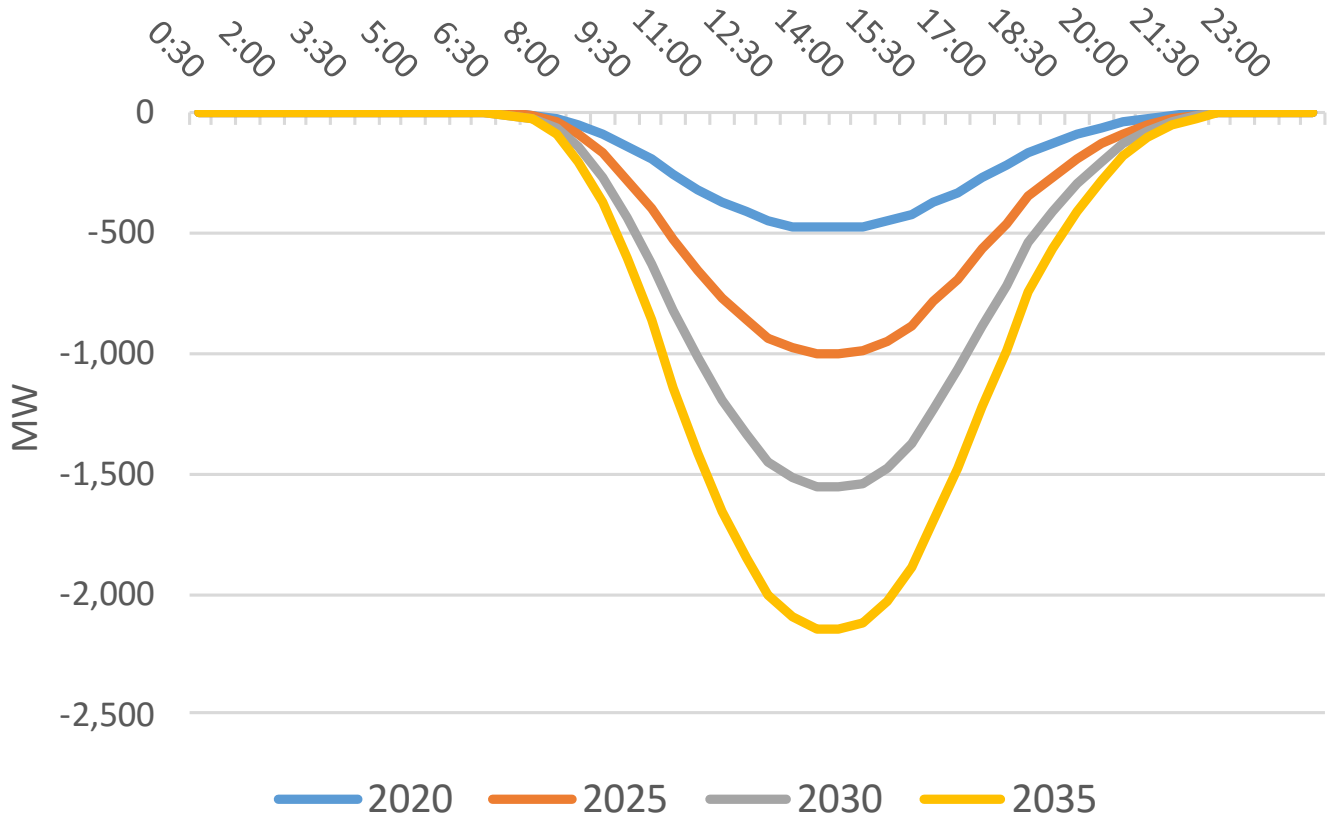
Forecasts of additional rooftop PV in NSW



Source: AEMO 2015 NEFR

Changes to Demand Profiles

Annual average impacts on 30 minute NSW demand

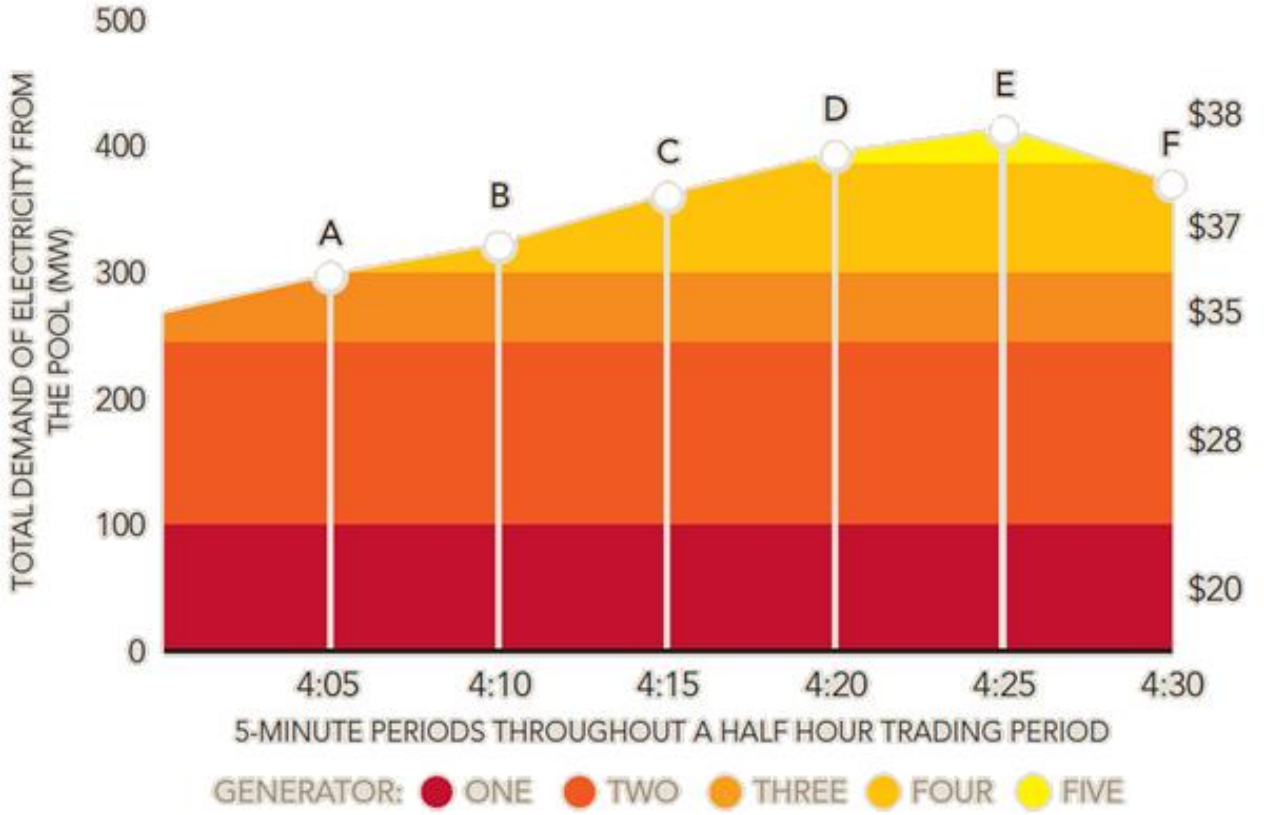


Shows only additional rooftop PV

Wholesale Market Simulation

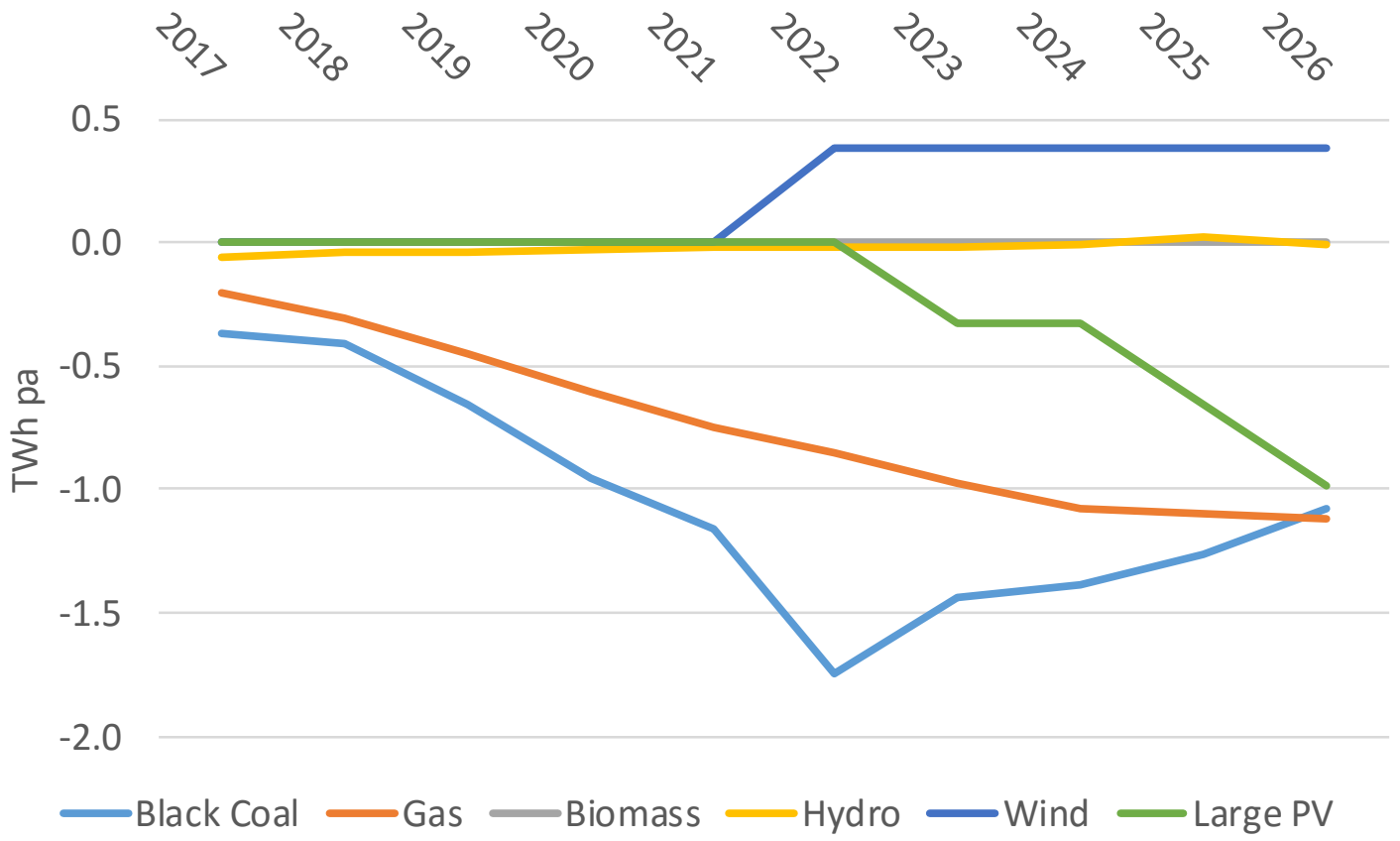
IES modelled two scenarios:

One with new rooftop PV take-up and one without



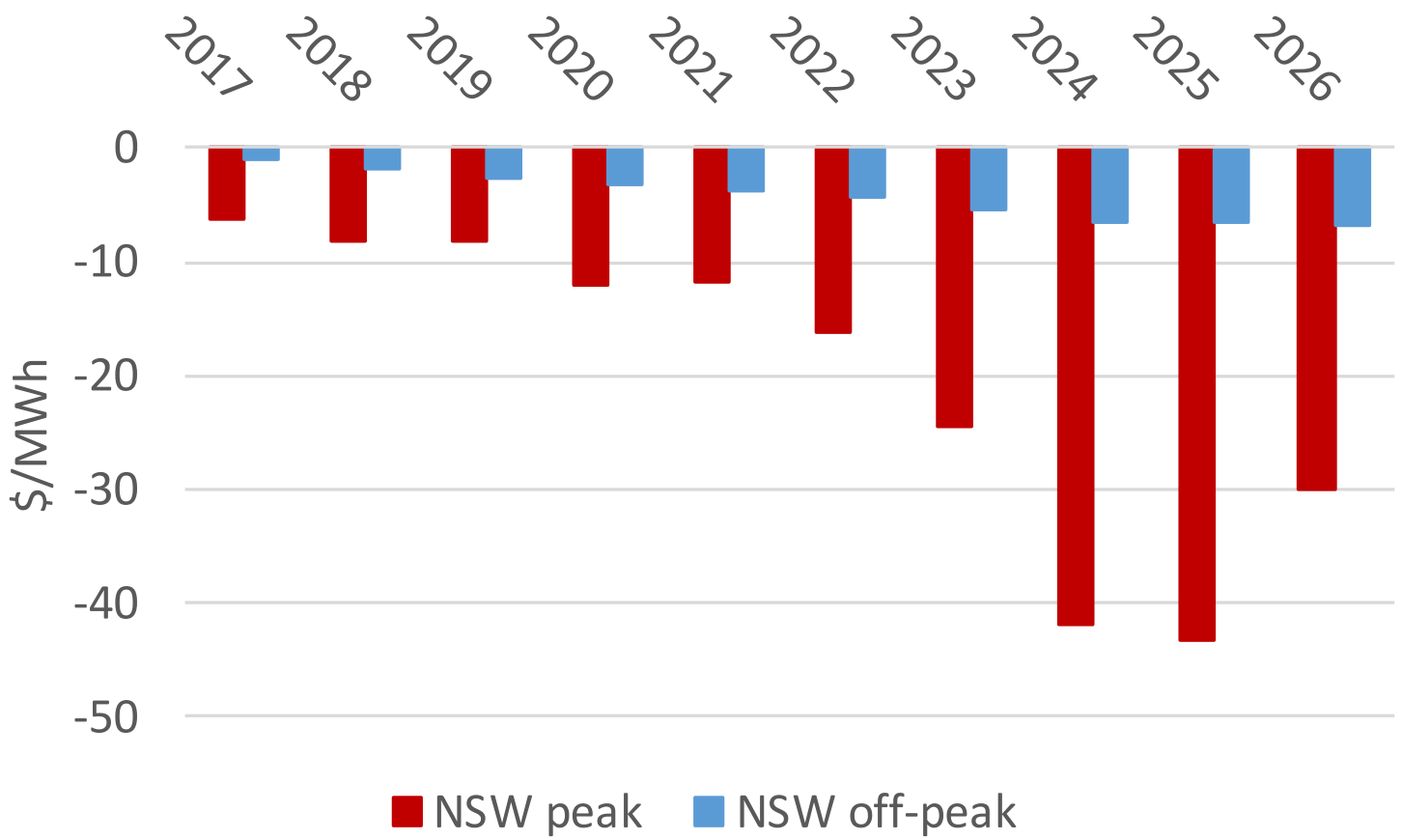
Source: AEMO

Results: Changes to NSW dispatched generation



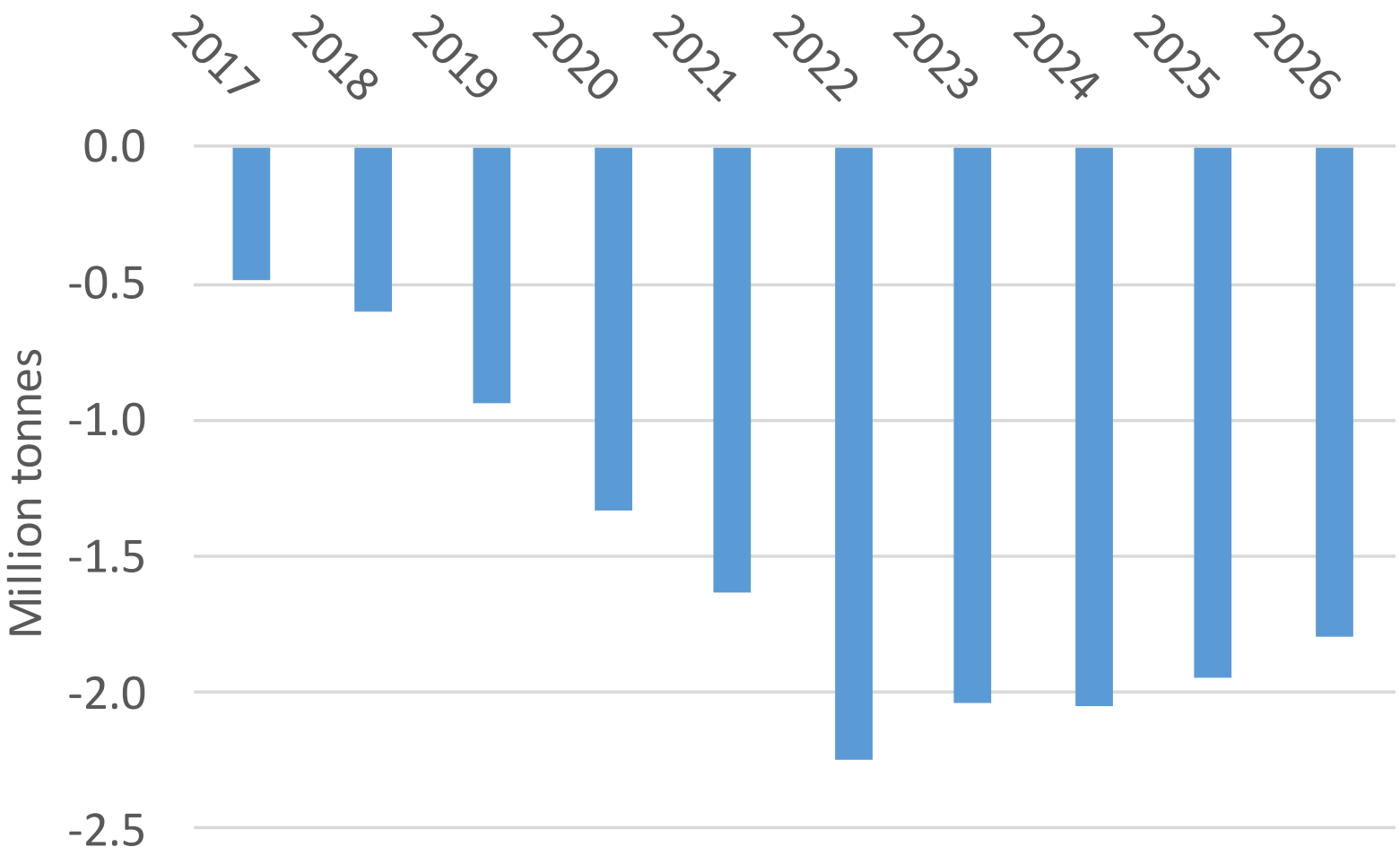
Coal and gas generation are dispatched less due to reduced demand. More wind capacity and less large PV capacity are built, changing the dispatch outcomes.

Results: Wholesale Price Impacts



$ 2016 real

Results: NSW Emissions Impacts



What About Storage?

IES INSIDER

ISSUE 21 MAY 2016

How will energy storage impact the National Electricity Market?

Bill Nixey (Lead Consultant) and Philip Travill (Market Analyst), IES Advisory Services

In this edition of IES Insiders we consider what impact energy storage will have on the National Electricity Market (NEM) over the next fifteen years. The focus of our analysis is on storage systems installed at residential and commercial premises. Take-up forecasts of energy storage are modelled in a wholesale market simulation tool. The results show the impacts that energy storage will have on

energy to either store or export energy, especially since the average installed capacity of new PV systems is now over 5 kW per site[ii]. With the roll-off of many state based feed-in tariffs, customers will have a greater incentive to store, rather than export their locally generated energy. There is more value in displacing retail consumption tariffs than there is in receiving a small feed-in tariff from a retailer

Available at www.iesys.com/news

Distribution Network Pricing

Federal Court decision on the SA Power Networks residential PV tariff

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Federal Court Ruling: AER v SAPN

Clause 6.18.4 of the NER:

(1) retail customers should be assigned to tariff classes on the basis of one or more of the following factors:

(i) the nature and extent of their usage;

(ii) the nature of their connection to the network;

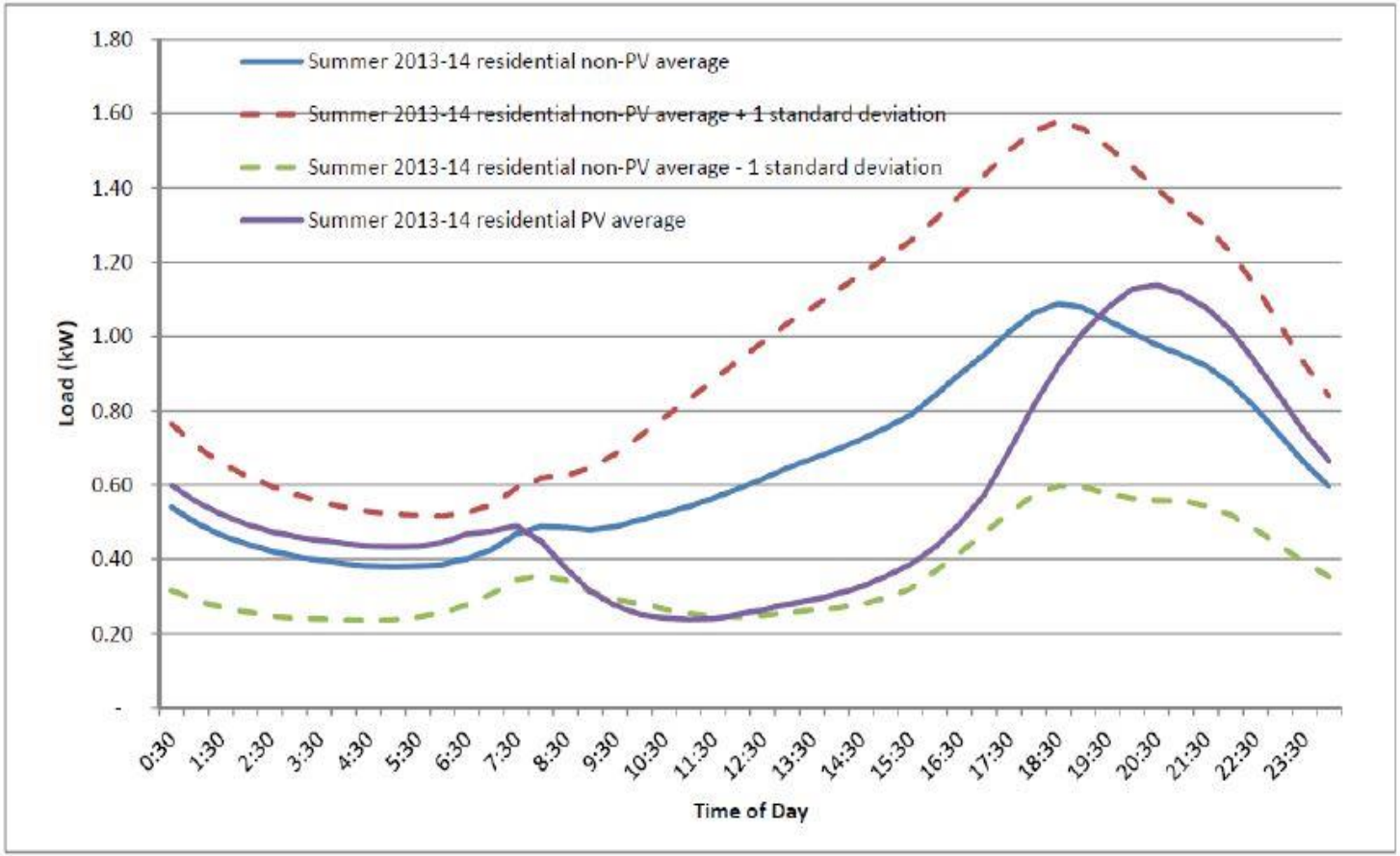
(iii) …

(2) retail customers with a similar connection and usage profile should be treated on an equal basis;

(3) however, ***retail customers with micro-generation facilities should be treated no less favourably than retail customers without such facilities but with a similar load profile***;

Similar but different?

Chart 1 Comparison of average summer 2013-14 PV and non-PV load profiles



What the Federal Court said

- Tariff, load profile, and similar load profile are not defined.
- Creation of a solar tariff is a new tariff class. Therefore 6.18.4(a) applies.
- it is therefore necessary to have regard to the "load profile" as measured at the (collective) customers' connection points to the network.
- that the load profiles of PV and non-PV customers "could be considered similar" does not demonstrate the imposition of an onus of proof.
- there is necessarily a judgment to be made about the concept of dissimilarity or similarity and … because the "families" of shapes vary over time.

Summary

What does this mean for cost reflectivity

- Tariffs can only be established based on nature and extent of usage
- Rooftop PV and other residential customers should be treated in the same way

Other considerations

- Implications for storage and electric vehicles
- Tariff component setting and LRMC

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