CSIP AUS
A RETAILER PERSPECTIVE

October 2025

Non-confidential | Confidential | Strictly confidential

Key Objectives

Test the efficiency of using a shared integration pathway

Test the value pool available from the market

Test the customer response to this value / product

Is there enough benefit to make solar export curtailment worthwhile scaling up for a retailer?

Technical Integration – Utilising Shared Infrastructure

1

The foundation stones…

- SAPN's Flexible Exports launched in 2021
- CSIP-AUS was already in use in South Australia and didn't require modification
- Access to the full, "new solar" market

2

Extending the infrastructure to a retailer…

- A single, new API to the DNSP
- Curtailment signal based on a regional wholesale price trigger.
- Developed by SAPN and Engie's integration partner, SwitchDin.
- Avoids the need for each retailer to have their own integrations with inverter manufacturer 'clouds'.

3

Building the solution for the retailer…

- Reporting, curtailment price trigger points, what-if scenarios and customer interface had to be developed from scratch.
- Initially open to 50 Engie customers for a 12-month period but later expanded to 100.
- The outcome was the capability to curtail solar PV exports (from 10kW to 0kW) from Engie's participating customers within SAPNs Flexible Exports area.

Retailer Cost Savings utilising CSIP-Aus

DNSP Integration

~$140k For one integration with one DNSP covering many inverter brands.

- Approx. $90k for platform development (price trigger, developing logic / what-if scenarios etc.)
- Approx. $50k for API integration with SAPN
- Potentially 7 more DNSP variants across contestable NEM
- Cost / DNSP API could reduce if very similar (<$50k each)
- Market forces in each region will dictate when a retailer connects to a DNSP – they don't all need to be connected at the same time.
- A common retailer interface across all DNSPs could reduce costs even further

Integrating with Inverter Manufacturer Cloud

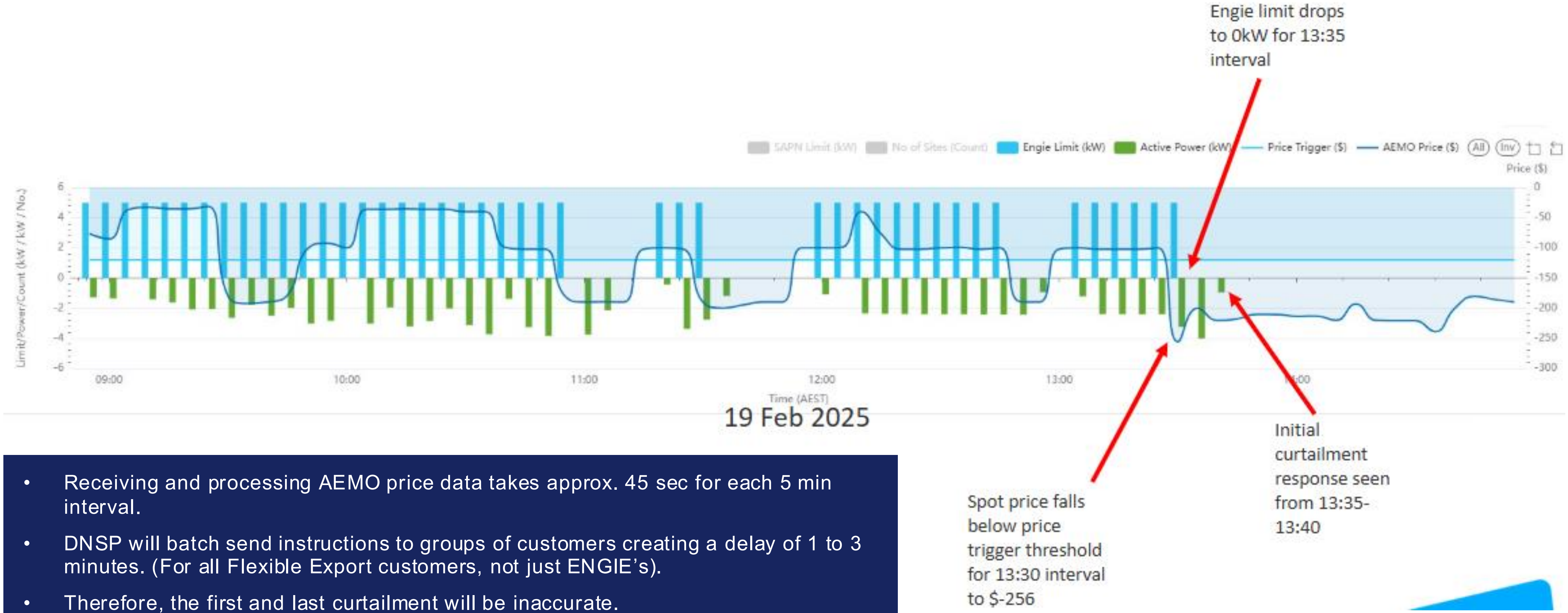
~$2.4M To match SAPN's amount of integrations, we'd require 47 separate integrations to have the same market coverage.

- SAPN has 47 integrations, encompassing between 50-100 manufacturers that could participate in the Flexible Exports.
- Some will use a 3rd party integrator to ensure compliance and an ongoing presence in the marketplace.
- Integrations need to be maintained and updated and may become obsolete.

Utilising CSIP Aus vs Manufacturer
A saving of between $1.9M and $2.2M

Interface latency impacts commercial performance

Neither a CSIP-AUS nor a direct integration provide 100% accuracy when curtailing.

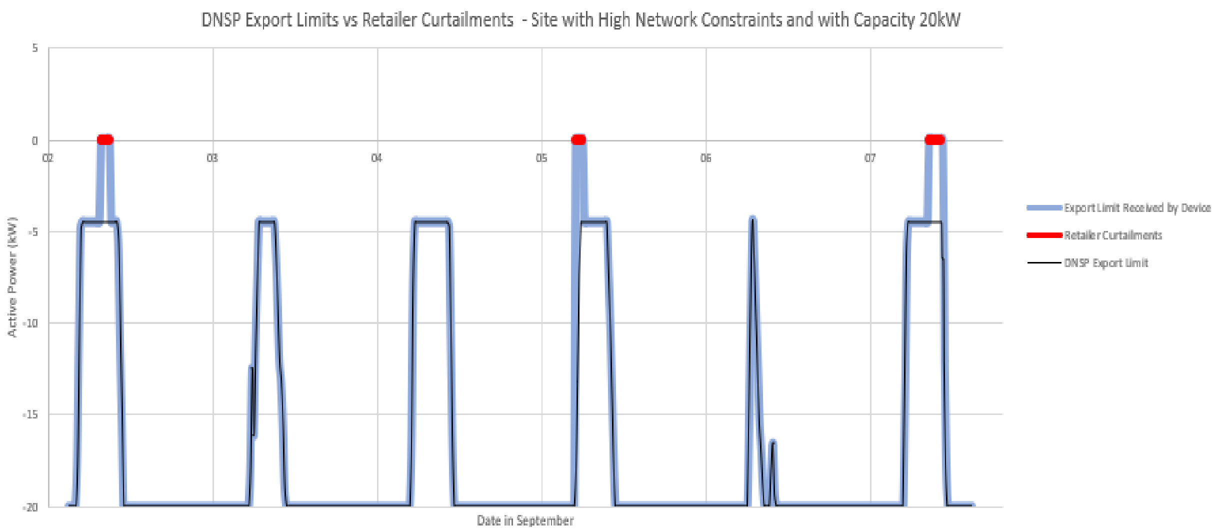


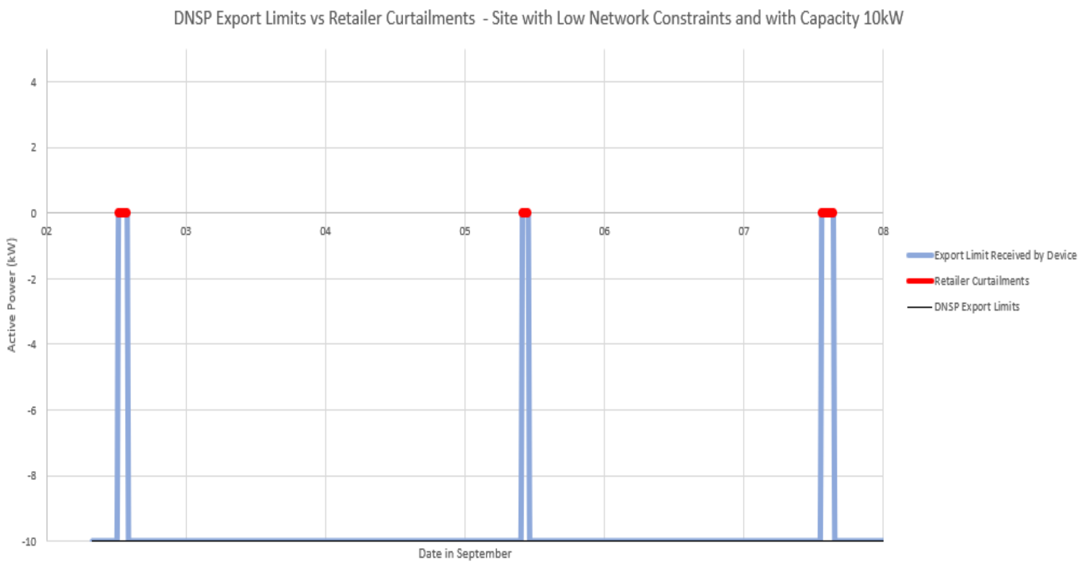
- Receiving and processing AEMO price data takes approx. 45 sec for each 5 min interval.
- DNSP will batch send instructions to groups of customers creating a delay of 1 to 3 minutes. (For all Flexible Export customers, not just ENGIE's).
- Therefore, the first and last curtailment will be inaccurate.
- In Q1 2025, 25% of all ENGIE's curtailments were outside of their intended 5-minute intervals. (The prices in those intervals are however still likely to be negative).

Correlation between DNSP and Retailer Curtailment

Is the retailer and DNSP coincidentally tackling the same network issues?

Yes and No is the answer. It really depends on the location of the site and amount of exports within the network.





Regular interventions by SAPN to curtail solar exports, Engie coincidentally curtailing 3 times (in red).

No interventions by SAPN to curtail solar exports, Engie curtailing 3 times (in red).

The value pool

Engie now has data to value the contribution on curtailment

What we know (based on how the trial is going):

- We require **210 x 10kW** inverters to curtail 1MW of solar exports.
- The value of that 1MW (avoiding negative prices) is **approximately $10k p.a.** (SA, 2024/25).
- The equivalent benefit per customer is approximately **$47 per year.**
- Min **break even** at approx. **1,000 customers**
- (Assuming 3-year system payback and ENGIE pays customer FiT as if exporting and keeps 100% of market value – not so compelling for customer!)
- For alternate approach, break even at **17,000 customers**
- (Note: approx. 27k new systems a year, so need big market share!)

Keeping integration costs to a minimum is key if solar export curtailment is to continue into the future.

Solar Inverter Size	Percentage of Curtailment vs Inverter Size	Customers required per 1MW of curtailment
10kW	48%	210
8.25kW*	44%	275
5kW	53%	379
2kW*	40%	1245

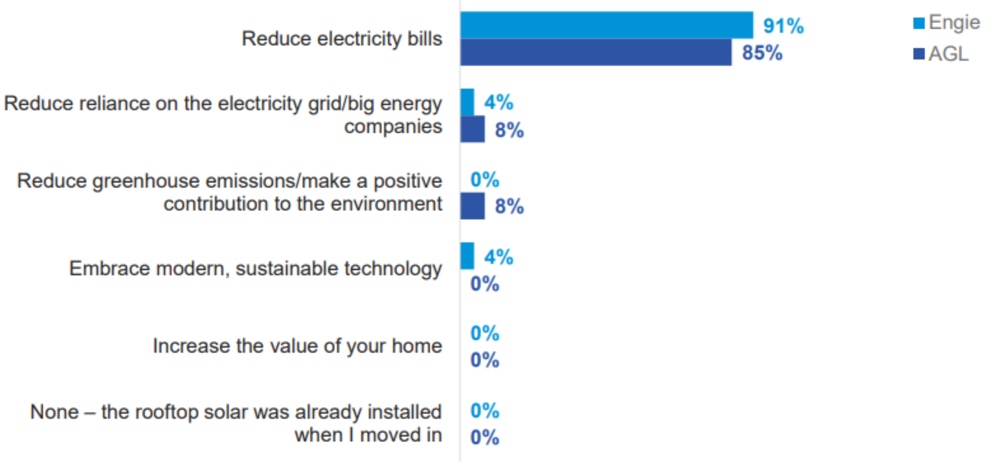
Economic benefit is a key driver of participation and perception of solar curtailment

As part of the trial, customers have been surveyed.

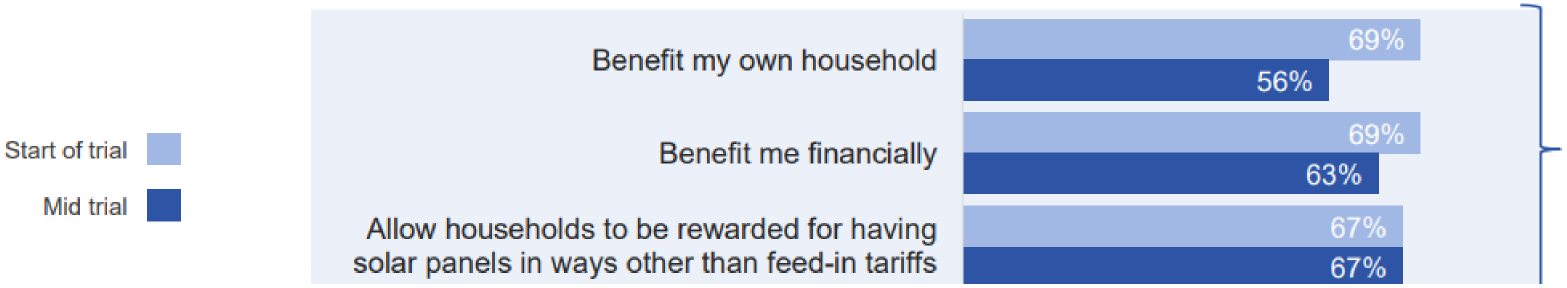
The latest items of key feedback from customers is:

- **56%** of customers are satisfied with the trial and a similar amount knew how the trial worked.
- **50%** understood how solar curtailment impacted them
- **56%** felt they knew how they would benefit from participating in the trial.
- Only **38%** felt the bill credits received were a fair incentive for curtailment experienced ($10/mth for 100hrs of curtailment/yr, or equivalent to 12c/kWh if exporting at max. capacity)

Benefit of installing rooftop solar



Perceived trial benefits (% agree)



81%
agree they can see at least one **personal/ financial** benefit
(on par with 75% at start of trial)