Rooftop Solar Market update

Ric Brazzale, May 2023

Smart Energy Council - Sydney

Rewarding sustainable choices

Green Energy **Markets**

Green Energy **Trading**

Key points

1. New installations to slow as we achieve increasing saturation levels – but don't think we have passed "peak rooftop PV" yet

2. Solar to face some headwinds with value of exported electricity to resume downward trajectory which will undermine attractiveness of PV

Who we are?

Green Energy Markets

Green Energy Trading

- Drive change to decarbonise Australia’s energy sector through
  - support our clients successfully roll out clean energy solutions (solar, wind, energy saving upgrades, batteries etc …)
  - support policy and regulatory changes to drive market transformation
- Active across Renewable Energy Certificates, Energy Efficiency Certificates and Peak Energy Reduction, ACCUs and other offsets
- In business since 2007 - Offices in Sydney & Melb

National Carbon Bank of Australia

Green Energy and Carbon Management

ACXargyle

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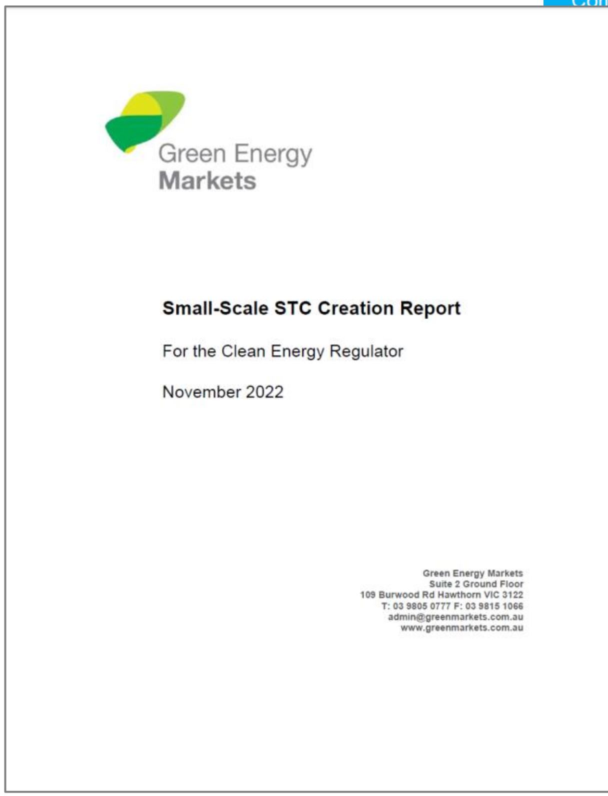
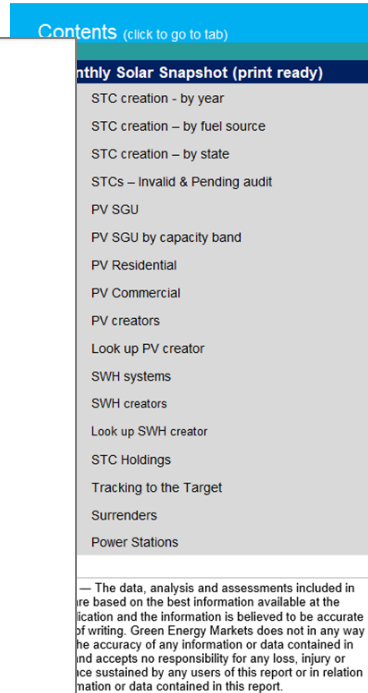
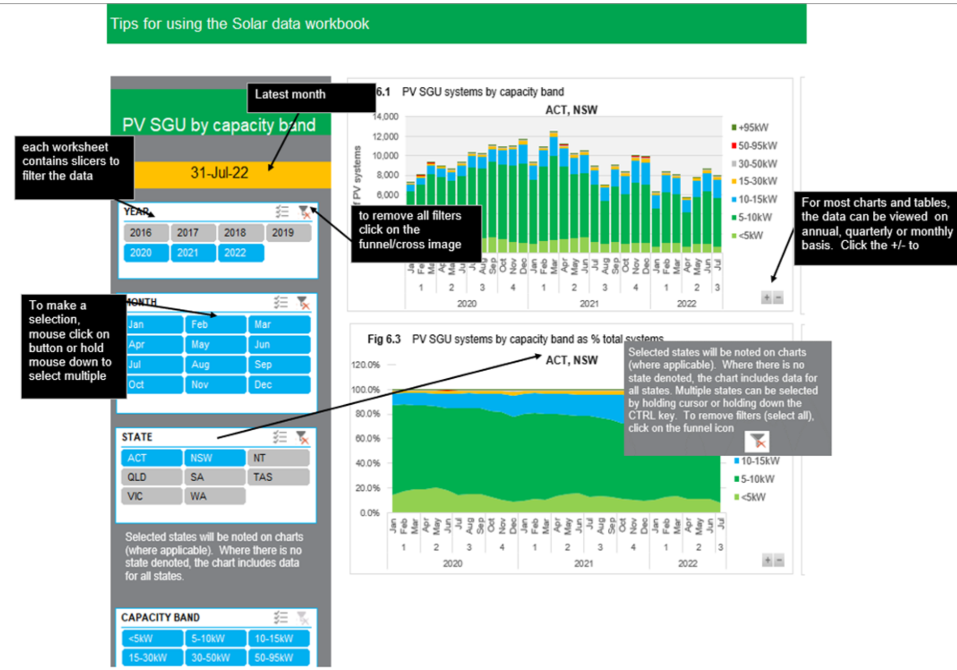
Data from following sources







GEM – Mthly Solar Snapshot

2022 was first time since 2015 that roof-top MW installed declined

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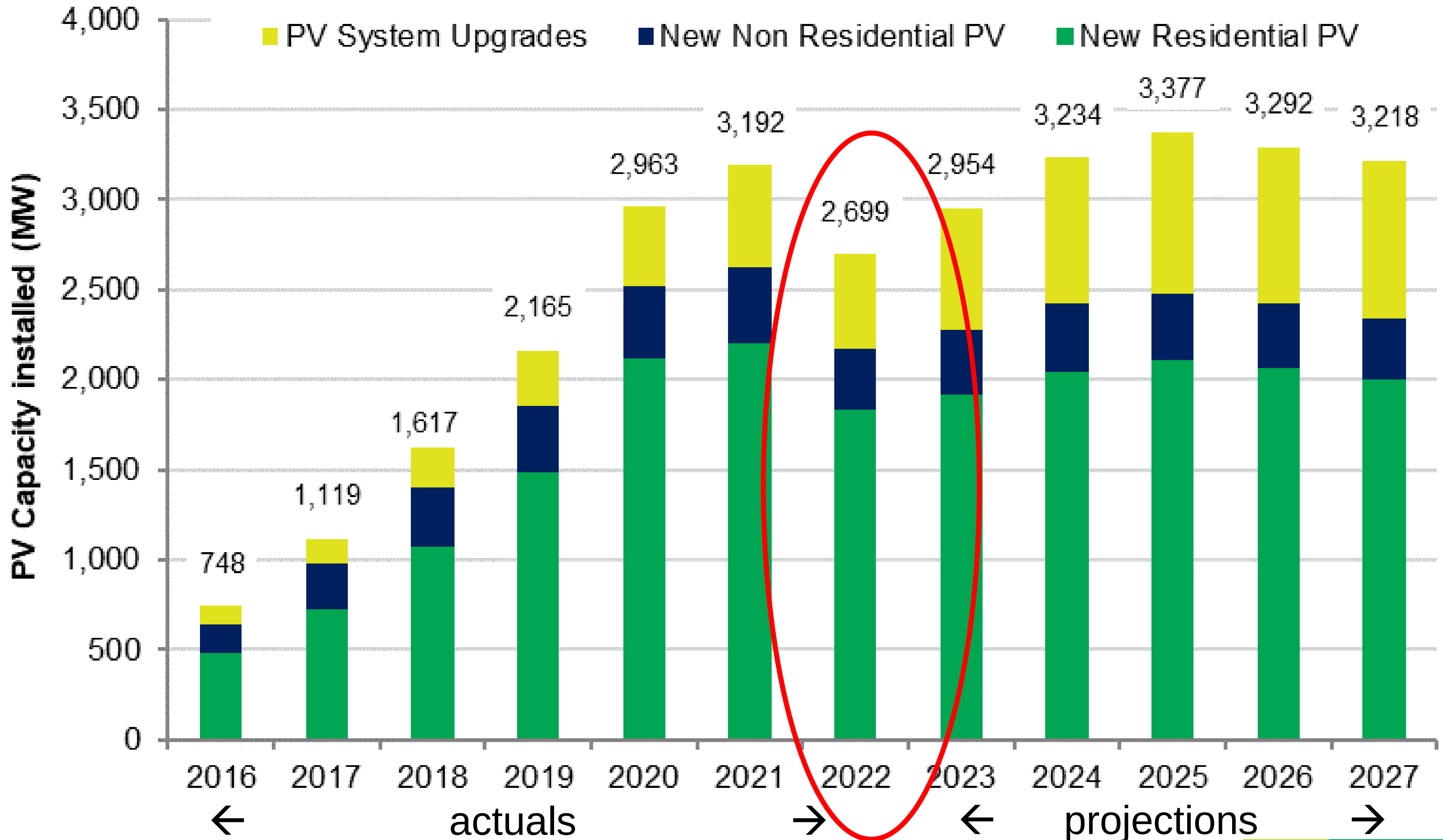

Replacement market to increase (number of installations)

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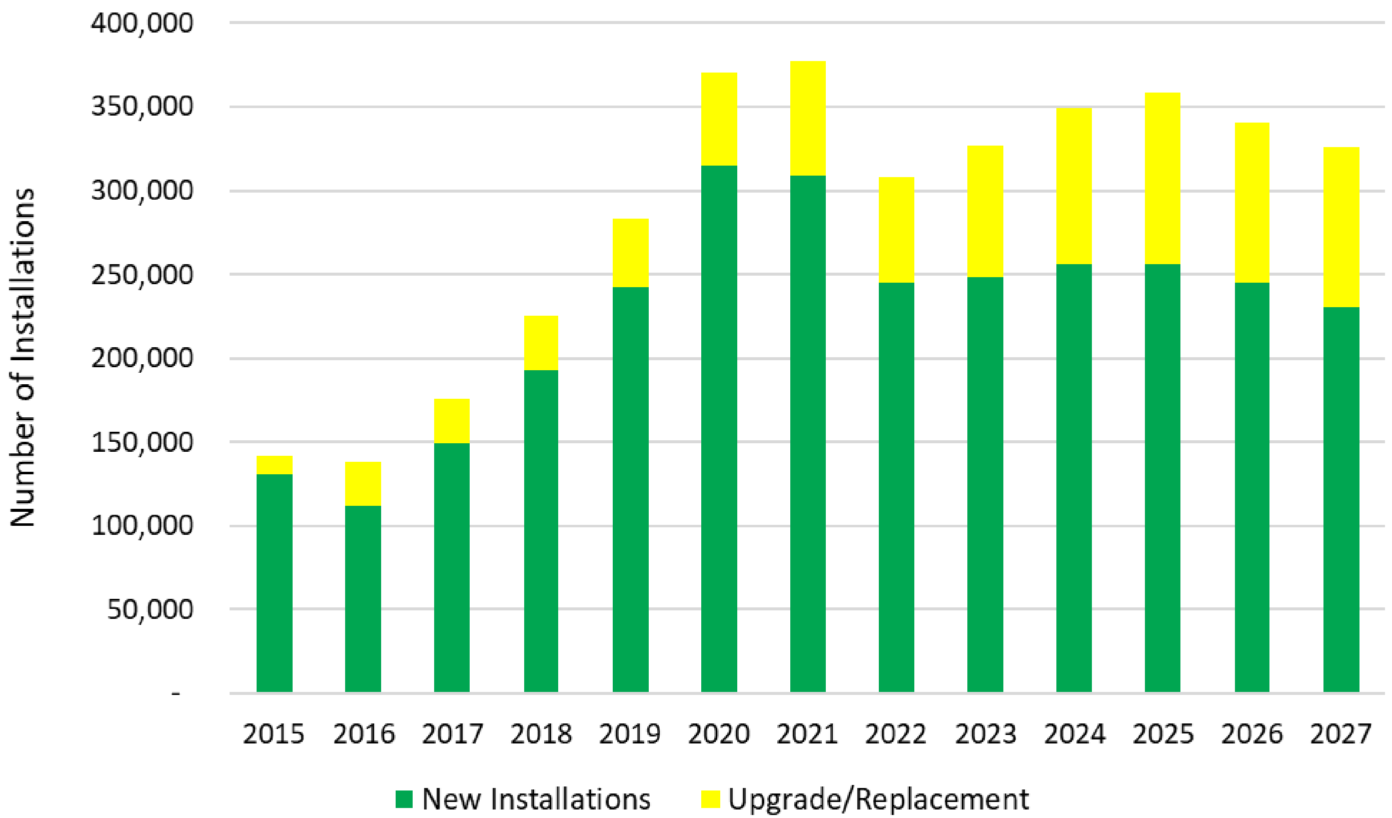
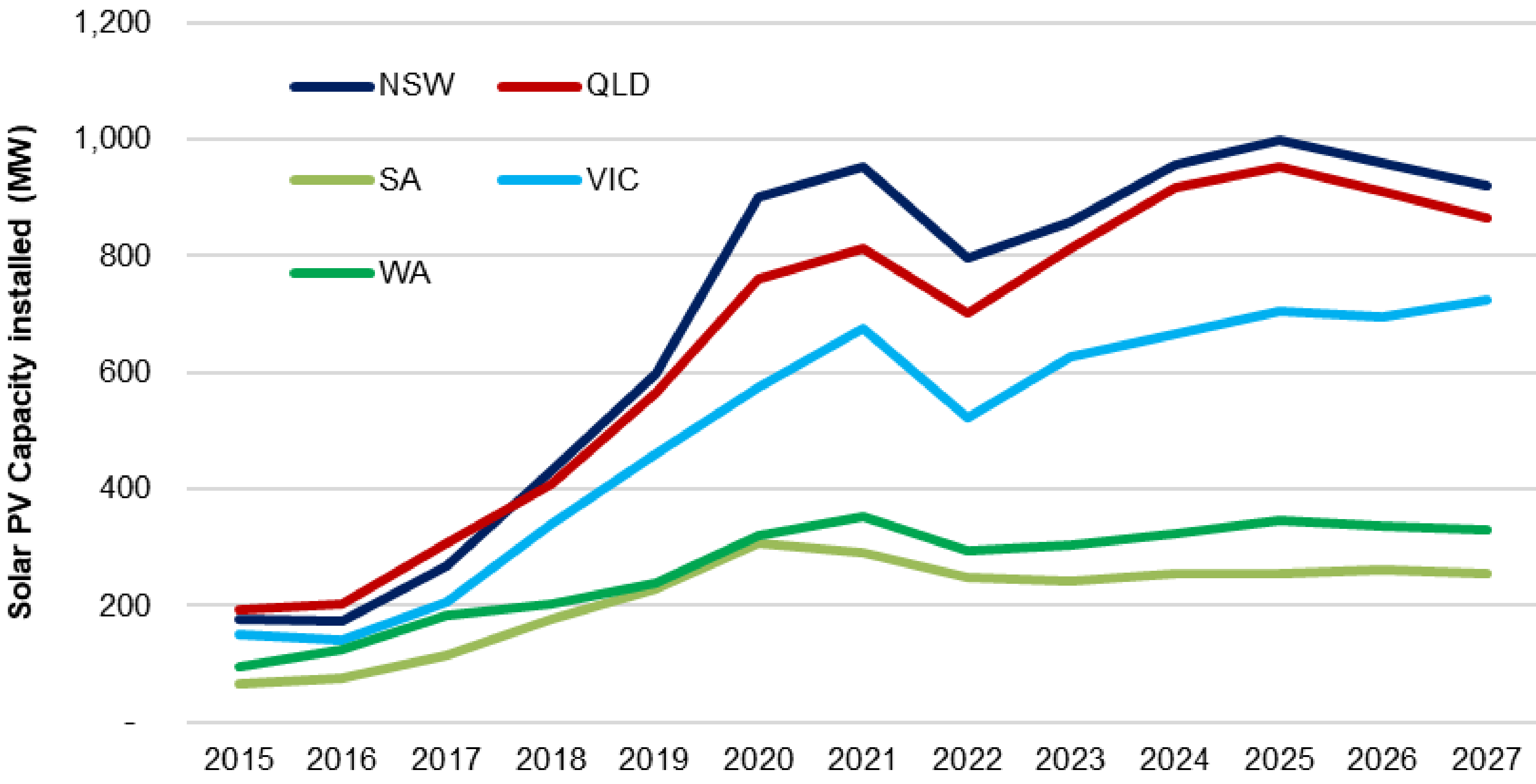


Note: level of new home construction to exceed 100,000 pa

Capacity installed by state



Higher power prices supporting better paybacks - though unlikely to last

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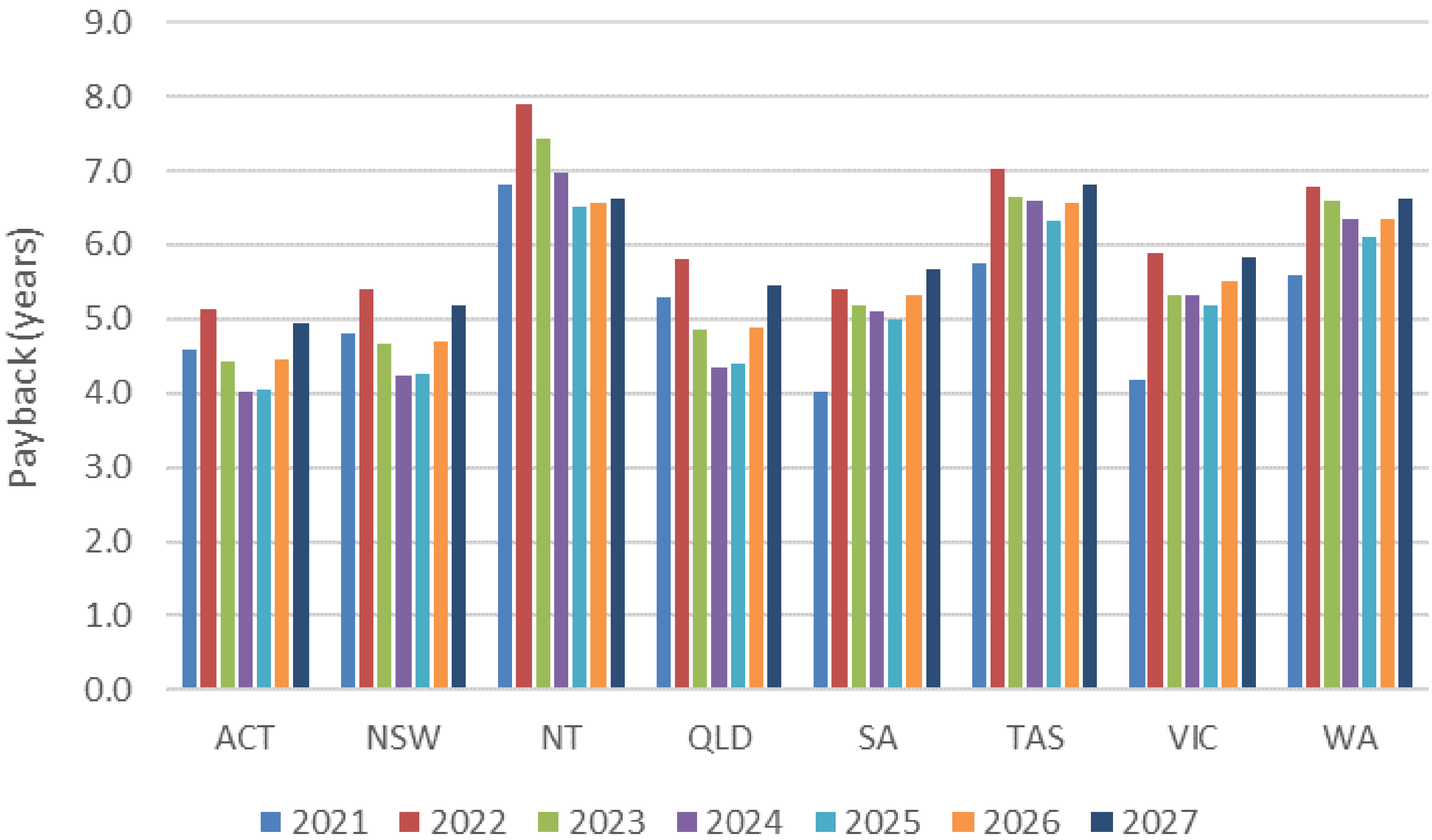
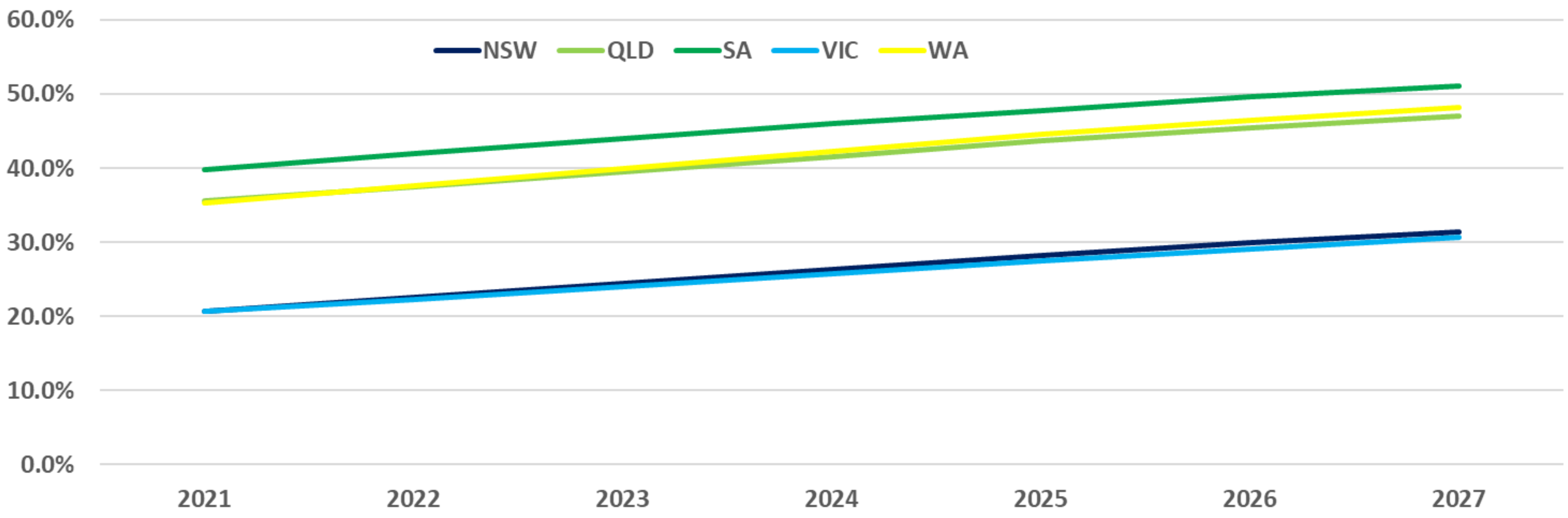


Residential PV saturation

Residential installations as proportion of detached and semi-detached homes (including rentals)



How are we going so far this year?

Monthly installs stabilising?

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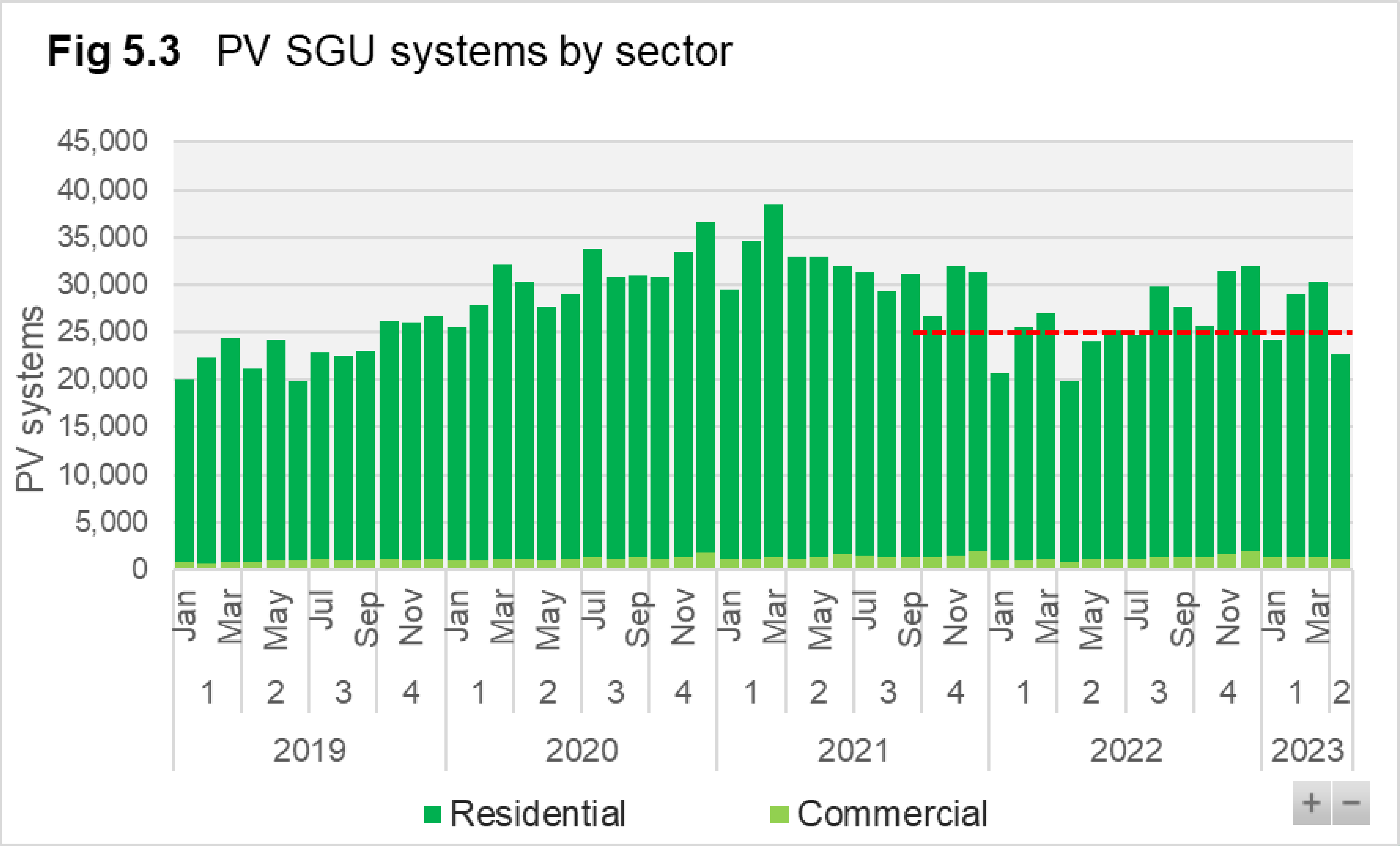

Tracking to 2020 levels – what happened in April ??

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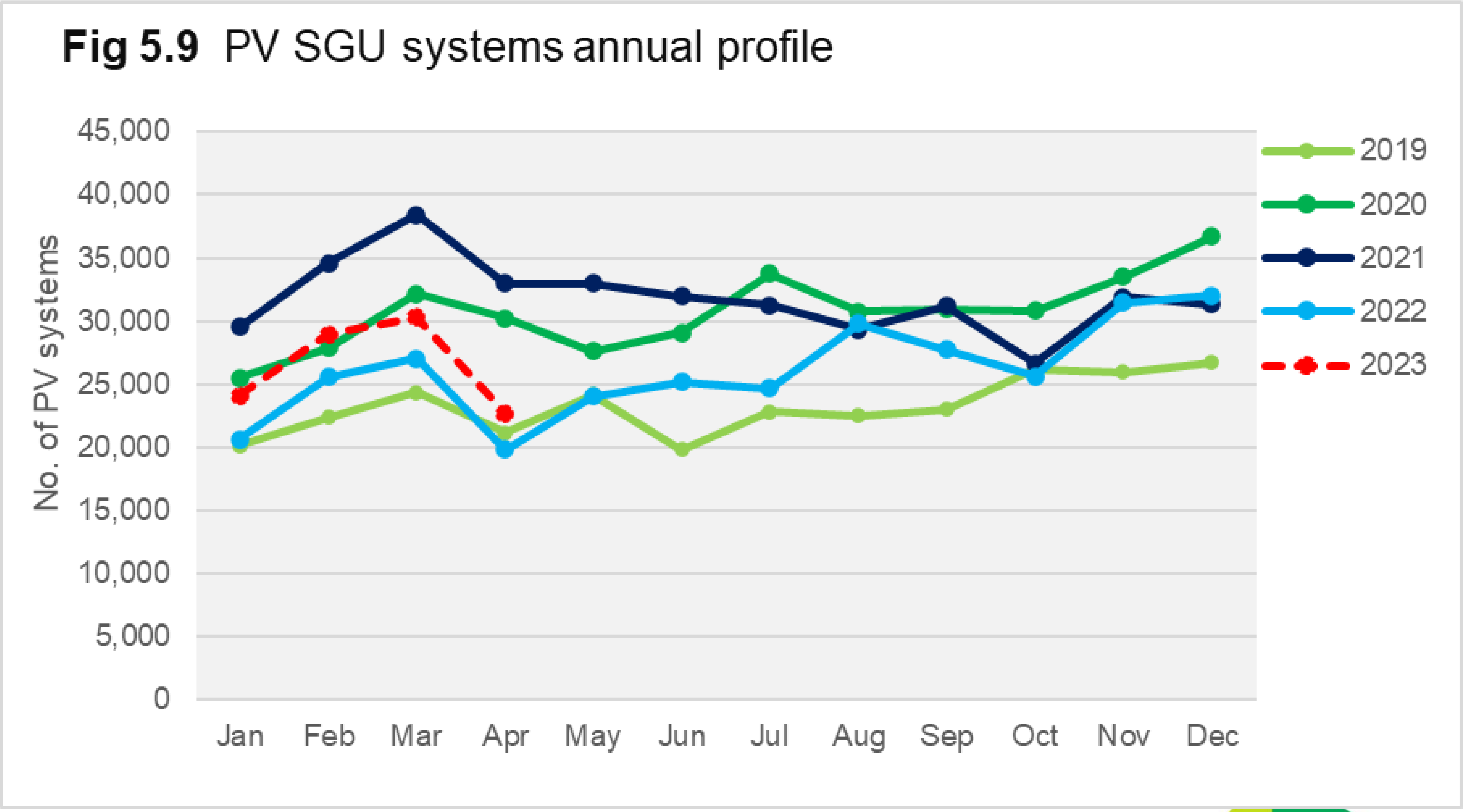

NSW market stabilising at 6000 to 7000 installs per month

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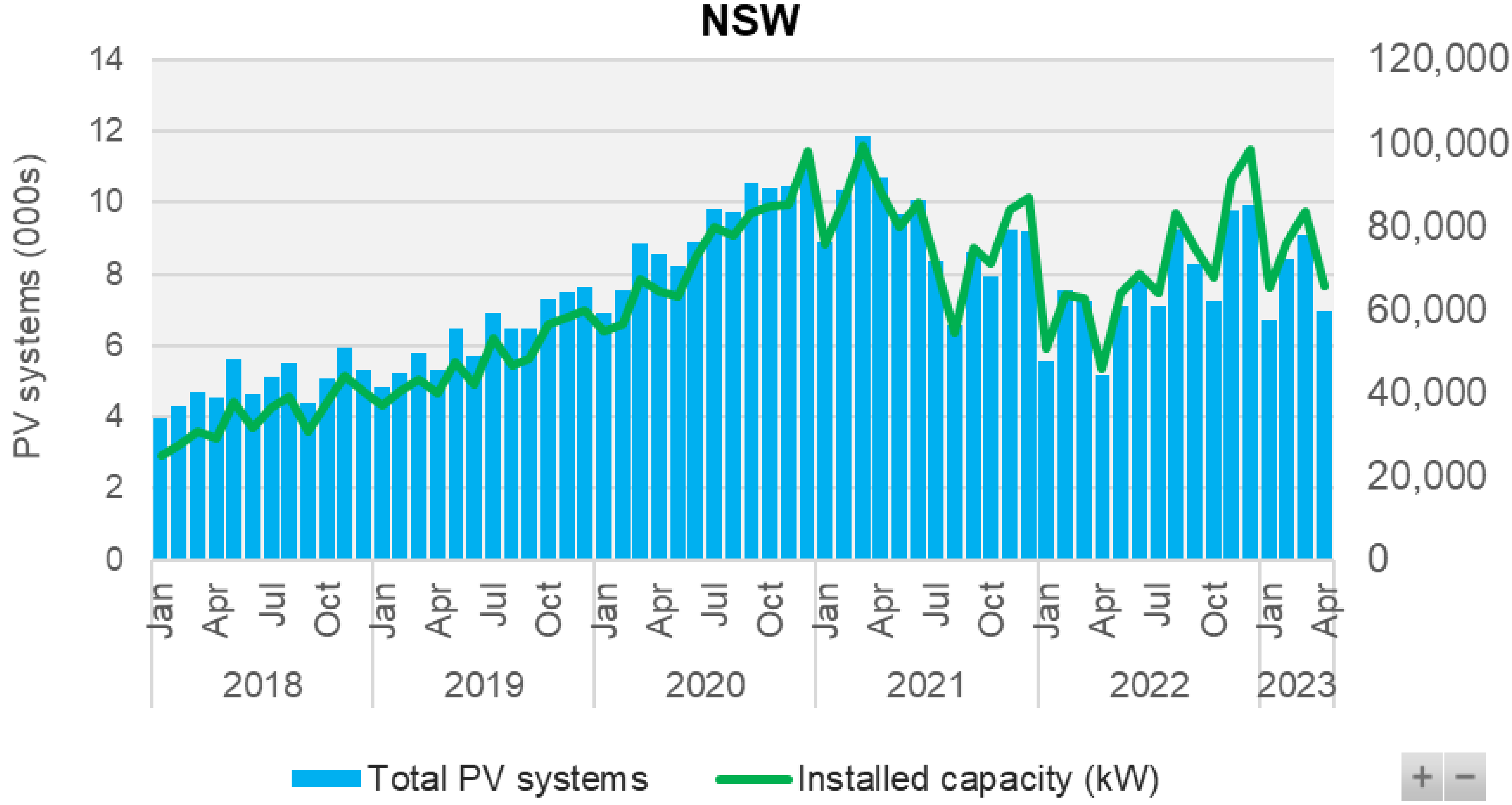
Fig 5.7 PV SGU systems and installed capacity



Managing coming headwinds

Solar causing demand to fall across all states

Figure 7 Lowest Q1 NEM minimum demand since Tasmania joined NEM in May 2005

NEM Q1 minimum operational demand

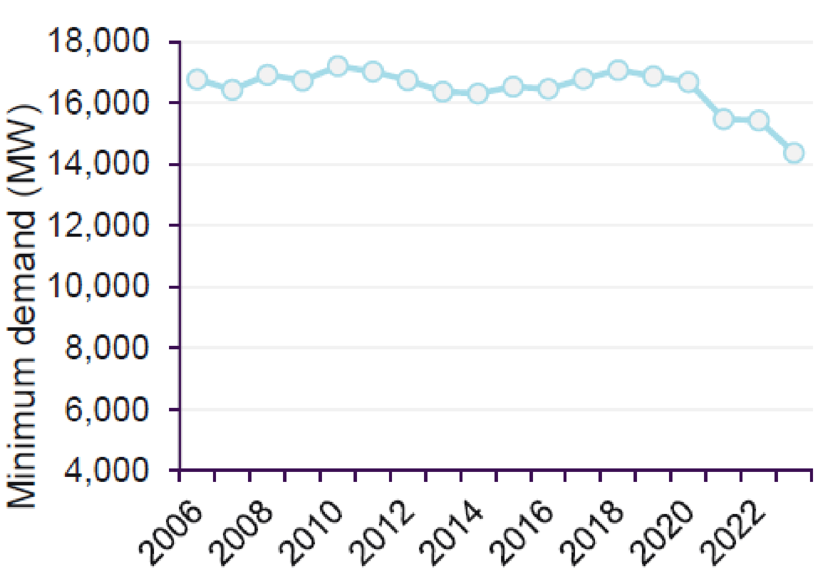
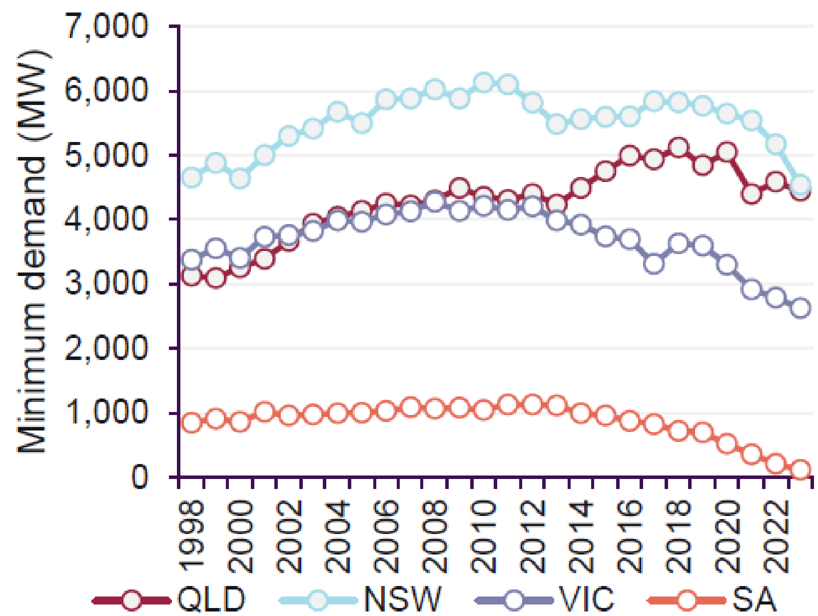


Figure 8 Record Q1 minimum demand in New South Wales, Victoria and South Australia

Q1 minimum operational demands for mainland regions



Source: AEMO Quarterly Energy Dynamics Q1 2023

Lower daytime prices

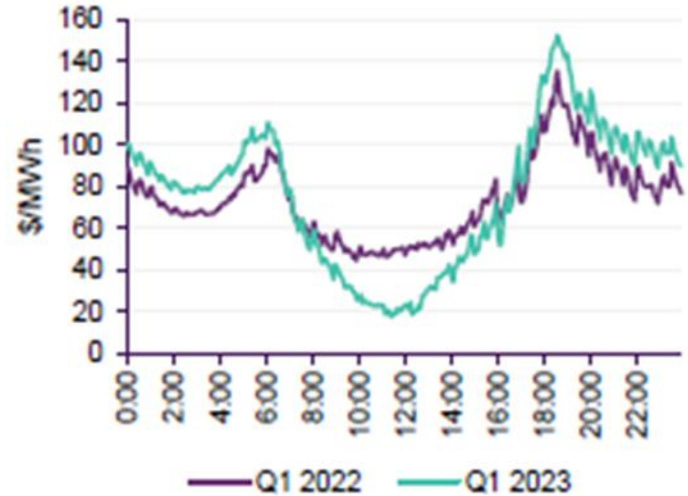
How much is my solar energy worth?

In 2023-24, IPART forecasts that the value of solar exports will be 7.7 to 9.4 c/kWh. This guide could help you work out whether your retailer is offering a reasonable feed-in tariff for your solar exports. You can compare rates on the Commonwealth Government Energy Made Easy website.

Time period	2022-23 (c/kWh)	2023-24	% of solar exports
6 am to 3 pm	5.6 to 9.7	7.2 to 8.7	91.0
3 to 4 pm	7.7 to 14.3	9.9 to 11.7	6.15
4 to 5 pm	12.3 to 24.8	12.2 to 14.9	2.22
5 to 6 pm	11.1 to 20.0	12.1 to 15.3	0.41
6 to 7 pm	16.3 to 27.4	23.2 to 27.3	0.04
7 to 8 pm	9.9 to 16.5	14.9 to 17.5	0.01
8 pm to 6 am	6.3 to 10.5	11.2 to 13.2	0.15

Figure 12 Lower daytime prices

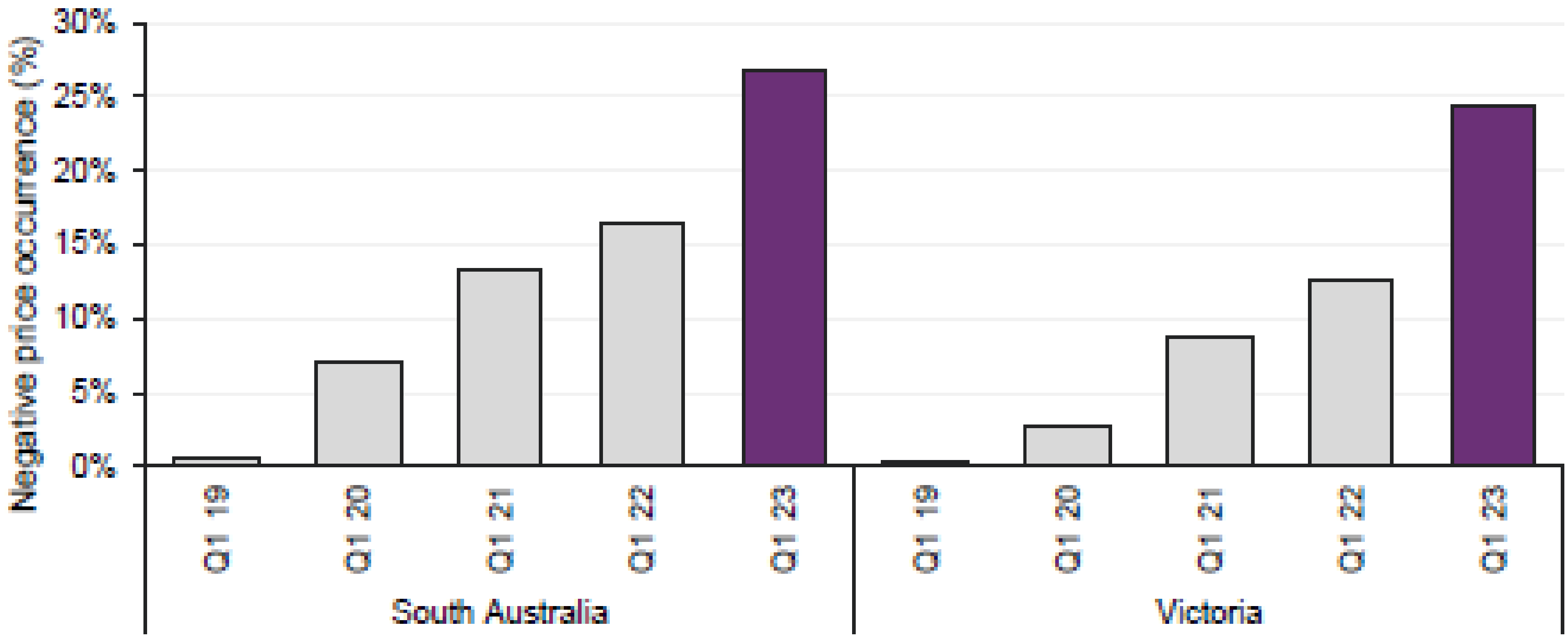
Average NEM energy prices by time of day – Q1 2023 vs Q1 2022



More negative prices

Figure 16 Negative price occurrence in South Australia and Victoria increases

South Australia and Victorian negative price occurrence – Q1's



Export charges coming

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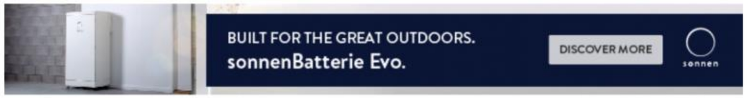
Clean Energy News and Analysis



Here comes the sun tax: The export tariffs proposed for households with rooftop PV

Mark Byrne 14 December 2022 43

Export tariffs

	Tariff name and type	**Basic export level (BEL)**	**Export pricing parameters**	**Tariff (for exports above BEL)**	**Transition strategy**
Ausgrid	*Export tariff* Time of use energy (kWh)	3 kW*	Charge: 10 am-3 pm Rebate: 4 pm-9 pm	Charge: 1.18 c/kWh Rebate: 2.19 c/kWh	Existing customers and new and upgraded connections: From July 2024: opt in From July 2025: default or opt out
Essential Energy	*Sun Soaker two-way* Time of use energy (kWh)	1.5 kW	Charge: 10 am-3 pm 2 bands: <3kW, >3 kW Rebate: 5-8 pm	Charge: 61 c/kW/month for 1.5-3 kW 70 c/kW/month for >3 kW/month Rebate: 13.6 c/kWh	Existing customers: By July 2028: opt out New and upgraded connections: From July 2024: opt in From July 2025: opt out
Endeavour Energy	*Prosumer* Seasonal time of use energy (kWh) OR Seasonal time of use demand (kW)	2 kW	Charge: 10 am-2 pm Rebate: 4-8 pm	Charge based on export LRMC.** Rebate based on import LRMC.**	Existing customers: From July 2024: opt in. New and upgraded connections: From July 2024: opt in From July 2025: opt out

All export tariffs assume smart meters; pass-through by retailers unknown.

** While Ausgrid's BEL is claimed to be equivalent to 3kW, it's billed as a kWh block structure. So it's applied in retailer billing as 6.85 kWh per the number of days in the billing period.*

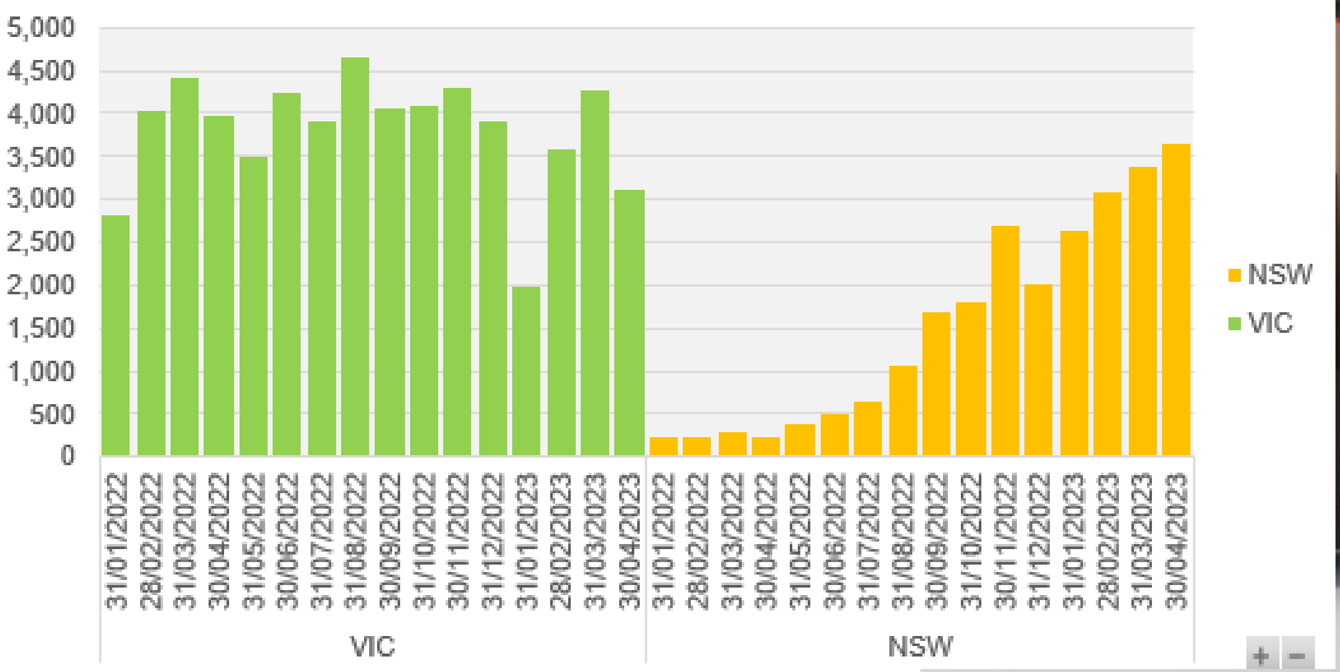
*** LRMC = long run marginal cost*

Batteries to become more important

- Expect that PV will be more attractive with batteries in the not too distant future
- Expect that benefits of storage to be progressively recognised
- NSW - support through Peak Demand Reduction Scheme means this could be by end of this year

Heat Pump Water Heaters

HPWH systems creating STCs per month



- 3648 HPWH systems created STCs in April 2023 in NSW
- Most of these will have replaced an electric WH and would be eligible to create ESCs and if commercial will also be eligible to create PRCs

Thank you

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