Supercharging Australia's Clean Energy Transformation

How far has Australia come in clean energy transition since 2018?

In short

Future Super commissioned UTS to show that between 2018 and 2020, the amount of total electricity generated by renewables in Australia grew from 21% to 24%. Achieving the target of 100% renewables still seems far away. But the falling costs of renewable energy, improved energy efficiency, and more funds available mean it's now more feasible than ever before to make the transition to 100% renewables by 2050. An aggressive catch-up would be needed by 2030 to make this happen.

Background

In 2018, Future Super and 350.org worked with the Institute for Sustainable Futures (ISF) to collaborate and tell a bigger story about how Australia's transition to a 100% renewable energy system could be funded by a proportion of the nation's retirement savings. ISF combined its energy modelling expertise[1] with data on Australia's forecasted future superannuation funds, to define the proportion of Australia's retirement savings that would be needed to support the transition to 100% renewables by 2050.

Three years have passed with some major events impacting the climate debate, from the School Strike 4 Climate movement and new net zero commitments by major emitters, to an increase in extreme weather events around the world, and a global pandemic.

Future Super and ISF revisited the research after 3 years to investigate how these major shifts have impacted Australia's clean energy transition, and whether our trajectory to clean energy can still be effectively funded with the nation's retirement savings.

How have we fared so far?

Australia was unable to keep up with the ideal renewable energy generation trajectory required from 2018 onwards. There remains a high reliance on non-renewable energy generation, where 77% of total energy was generated via non-renewable means, as opposed to the target of 58% by 2020[2]. In short, Australia now has work to do to achieve a clean energy transition.

What does this mean for the future?

Despite the poor performance in the past three years, however, it has become even more feasible for Australia's clean energy transition to be funded by the nation's retirement savings.

ISF's 2021 update has shown that 7.2% ($302B) of total funds ($4.2T) would need to be invested by 2030 to meet 100% decarbonization of power generation. This is in contrast to the previous projection of 7.7% ($305B).

The outlook has improved even more for the long term. To meet the goal of 100% decarbonization (including transport and industry) by 2050, the 2021 study has shown that just 9.5% ($754B) of total Super funds would need to be invested in renewables, as opposed to 12.4% ($811B) previously projected in 2018.

What has caused this change?

Falling costs of renewable energy, **improved energy efficiency** and **improved projections** for total super funds available have made the long-term transition goals much more feasible, even when the goals have not been met in the last three years.

In the past three years, the cost of solar PV (photovoltaic) technology dropped faster than predicted by over 23%. Improved energy efficiency means that we need 9.3% (32.6 TWh/a) less energy generated by 2030 than previously projected in 2018. Finally, the total funds under management (FUM) for superannuation has increased by 6.0% ($394B) by 2050 compared to previous projections.

Further information

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[1] Teske, S., Dominish, E., Ison, N. and Maras, K. (2016) 100% Renewable Energy for Australia – Decarbonising Australia's Energy Sector within one Generation. Report prepared by ISF for GetUp! and Solar Citizens, March 2016

[2] Reliable data was available only to 2020 at the time of this study.

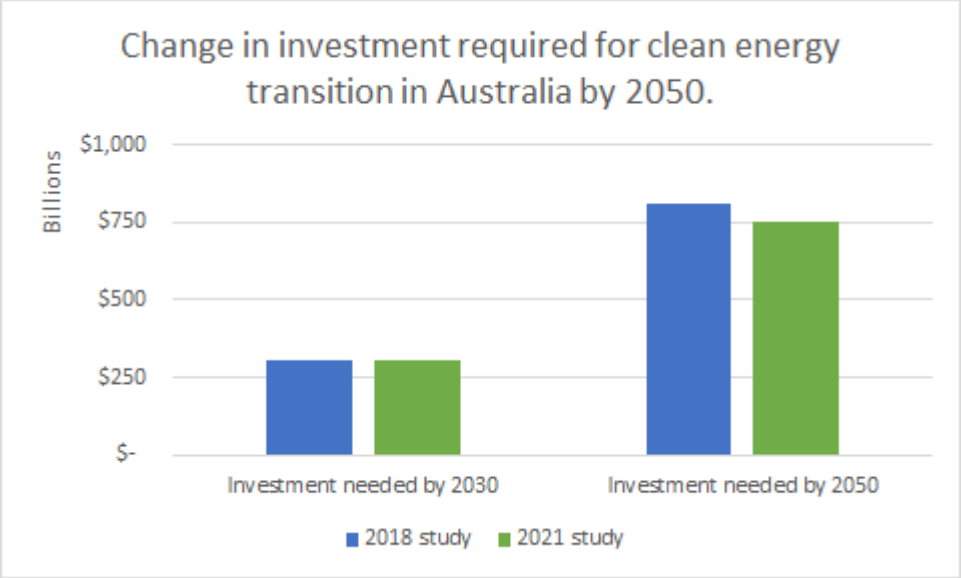
Key Results

Similar investment trajectory to 2030 but noticeably less demanding transition to 2050:

- ❑ **$2.8B less** is needed by 2030 for 100% transition to renewables compared to 2018 study.
- ❑ **$57.7B less** is needed by 2050 for full transition.

	2018 study	2020 study	Net change
Investment needed by 2030	$305B (7.7%)	**$302B** (7.2%)	$2.8B less
Investment needed by 2050	$811B (12.4%)	**$754B** (9.5%)	$57.7B less

All figures in 2020 Australian dollars.



Frequently Asked Questions

Q: Are SMSFs included in calculating the total fund figures?

A: No, the total funds do not include self managed super funds.

Q: What's so important about 2030 and 2050? Can we achieve the goals earlier?
A: We have aligned our analysis timeline with the Paris Agreement, which has two milestones in 2030 and 2050 respectively.

Q: Can the goals be achieved any earlier?

A: Achieving the goals depends on many factors, including

- Policy
- Population and the economy
- Technology costs
- Public attitudes and perceptions
- New technologies and business models

A change in any of these factors could accelerate or decelerate the pace in which we will achieve the goals.