Renewables sector still promising despite grid and political issues

Key points

- *Renewable energy investments in Australia still face grid stability issues and capacity constraints.*
- *The US renewable energy market is significantly further advanced and presents investment opportunities.*
- *Differences between the Australian and US markets result from varying risk-return factors and the benefits of strong bipartisan policy to support renewable energy growth.*

Funds considering investing in the booming renewable energy sector need to be cautious and weigh up a range of technical factors, although the long-term outlook remains positive.

The Australian renewable energy sector attracted almost $US6 billion in new investment last year – a fall from nearly $US10 billion the previous year – as transmission grid limitations curtailed returns.

Frontier Advisors Senior Consultant, Martin Thompson, said investors need to carefully assess grid stability and capacity constraints; technologies that mitigate grid risks such as batteries; and the impact of connection delays and additional costs on greenfield assets.

"All of these issues are surmountable, and renewables will eventually make up most of our energy mix," he said.

"So the government needs to be on board with this and indeed, there are signs that they realise this is an issue because at the end of the day, if this doesn't go ahead properly, our electricity system stops working."

Australia's National Electricity Network (NEM) is the major wholesale power generation network across the east coast, encompassing New South Wales, Victoria, Queensland, South Australia, Tasmania and the ACT. It provides a peak 57 Gigawatts (GW) of power, including contributions from hydro (8.1GW), wind (6.7GW) and grid scale solar (3.5GW). Rooftop solar alone can contribute up to an additional 9GW.

Renewable energy is typically dispatched first in the NEM, with a lower price relative to traditional power sources. But renewable energy is inherently more variable, and often located where the grid is less stable and has limited capacity to transmit electricity.

"There are actually quite a number of situations where renewables are not being allowed to transmit energy, even though they can actually do so," Thompson said, citing network constraints.

Grid operator AEMO's integrated system plan is expected to help strengthen Australia's grid, but the government could help by removing bottlenecks that slow grid development, he said.

US power not bound by Australian constraints

The situation is different in the US, where renewables are the largest and fastest growing infrastructure sub-sector thanks partly to a more interconnected energy transmission system, more transparent pricing to manage congestion, and supportive renewables legislation.

"The biggest takeaway is not all markets are created equal from a risk-return perspective. The US market is very complex and, in some ways, each individual market… can be viewed in isolation, like

a separate country," according to Capital Dynamics, Clean Energy Infrastructure Principal, Kathryn Carpenter.

Capital Dynamics, which is the second largest owner of solar energy infrastructure in the US, said Texas presented similar investment risks to the Australian renewables market while California was more attractive.

Unlike Australia, the US market has bipartisan political support for renewables at the federal level while states are also supportive and have their own renewable targets.

"A change in office at the federal level has little impact on the progression of renewable policy," Carpenter said. "Local and state legislators are typically very supportive to drive more renewables because they're cheaper, they create more jobs and promote economic growth in their state."

Clean energy jobs growth has outpaced the economy by 70% over the past five years, according to a recent letter from Senate Republicans.

Key questions the panellists answered

- *(36.55m) What are the consequences of such a high level of rooftop solar in Australia?*
- *(39.10m) Does the panel see a role for hydrogen?*
- *(40.30m) Do you have any thoughts on the levelized cost of energy, which is often used to justify the benefits of renewables?*
- *(41.25m) When will an investment in solutions such as batteries in Australia be viable?*