



Australia, New Zealand have “green” policies but neither has reached its renewable-energy potential

Strong and consistent incentives and greater policy stability and coordination between levels of government are needed to engender green energy financing in New Zealand and Australia, according to the Asian Development Bank Institute.

New Zealand, on the face of it, looks impressive with a generating mix of over 80% renewables, but this is largely the legacy of state intervention in decades past and masks high per-capita greenhouse gas emission due to intensive agriculture. Much more could be done to encourage distributed generation—such as houses with rooftop solar panels—and electrification of transport.

Australia, however, still has a system dominated by coal, and although it has had more policies to promote renewables, their effect has been muted: renewables’ contribution stands at just 17%. The reasons: political instability and policy fragmentation between state and federal administrations. Commitment to energy transition is lacking across all parties and regulators.

The introduction of electricity markets in New Zealand in 1996 initially led to the construction of smaller plants and increased use of thermal generating units. New Zealand’s geology and location in the “roaring forties” has endowed the country with an abundance of renewable resources, including hydroelectricity, geothermal, and wind, and its forests also provide a modest supply of waste wood for generating heat, perhaps along with electricity.

New Zealand’s electricity sector remains dominated by large hydroelectric schemes, all built before 1992, which meet about 56% of total annual demand of just over 40 terawatt

hours. The construction of geothermal and wind projects since the turn of the century means New Zealand has a very “clean” energy generation system. But greenhouse gas emissions per capita are high by international standards because of agricultural and transport emissions. By developed-country standards, New Zealand has an aging and inefficient light-vehicle fleet. The country could realistically electrify transport, especially the light-vehicle fleet, and reach 100% renewable generation.

New Zealand is more politically stable than Australia but its green-energy investment is also stop and go. Wind and geothermal are the two technologies that have received investment, but it’s been cyclical due to shifting policy priorities.

Officials and regulators in Australia and New Zealand fear a “death spiral” induced by distributed generation and low prices from intermittent renewables leading to stranded thermal plants.

One of the main reasons utilities fight distributed generation such as rooftop solar and private wind turbines – is that it erodes demand for their centrally generated electricity. Reduced demand is annoying for any business, but it’s especially bad for traditional monopoly utilities. It’s especially bad because much—even most—of the cost of producing a kilowatt hour of electricity doesn’t go away if you don’t produce that kilowatt hour of electricity. These “fixed” or “non-production” costs come from multi-decade financial commitments to big pieces of infrastructure—the power plants, transmission lines, and distribution systems.

Similar death-spiral concerns were voiced in Europe over a decade ago. They represent opposition to change, yet politicians and regulators (largely through European Union policies), with their eye firmly on the public interest, pressed ahead. This imposed real costs and risks on energy utilities but has contributed to de-carbonization and innovation in the sector, without ballooning electricity costs. The need for an electricity market and industry reform is highlighted by the Australian government’s assertion in its national energy guarantee that the National Electricity Market is “no longer fit for purpose.”

Clearly, electricity industry and market reform is critical for energy transition. Electricity markets remain too concentrated, and technologies such as smart meters, distributed generation, and electric vehicles offer the possibility that electricity markets can be transformed from a group of dominant players to a broader, less concentrated network of providers.

This will involve opening markets to greater competition from distributed generation and will require market innovations such as storage markets or capacity markets.

Although Australia and New Zealand have enviable renewable-energy resources and could very well achieve a 100% renewable mix, they are far different markets for energy finance, with renewables in Australia accounting for less than 20% of generation versus 80% for its trans-Tasman neighbor. But both have employed most of the important policy tools available to promote renewables and green-energy finance, such as carbon taxes, carbon trading, a green investment bank, and a green certification market. Despite this, between 2004 and 2017 neither country met its potential to develop renewables. Both countries have lower levels of green-energy investment relative to gross domestic product per capita than many other developed countries.

Australia and New Zealand show that the success of green policies requires cross-party and regulatory commitment to energy transition and policy stability. A key issue is how to design electricity markets that support energy transition and the investment that it requires.

Political instability and market design issues in Australia contributed to a major energy crisis in 2017, with rolling blackouts plaguing the state of South Australia in particular as consumers and businesses faced soaring utilities bills.

However, that crisis, the Paris Agreement, and the associated impetus of new governments in both countries suggest green-energy investment is set to increase in the coming years.

This episode is based on [research](#) done for the Asian Development Bank Institute by Ivan Diaz-Rainey, co-director at the Otago Energy Research Centre and associate professor of finance at the Department of Accountancy and Finance, University of Otago, New Zealand; and Greg Sise, managing director at Energy Link in Dunedin, New Zealand.

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