

THE RENEWABLE  
ENERGY LAW  
REVIEW

THIRD EDITION

Editor  
Karen B Wong

THE LAWREVIEWS

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ENERGY LAW  
REVIEW

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# PREFACE

When the first edition of *The Renewable Energy Law Review* launched in 2018, renewable energy made up approximately 26.2 per cent of electric generation globally and has increased to nearly 28 per cent in the first quarter of 2020. Similarly to the renewable energy sector, which has grown steadily, this compendium has also grown and now covers 19 jurisdictions in this third edition.

The renewable energy industry at the time I worked on my first transaction in 1987 was nascent and relatively tiny when compared to the conventional power industry. Fast forward 33 years and, in 2020, it is projected that renewable energy will comprise 80 per cent of the new energy capacity in the United States. According to statistics published by Smart Energy International, renewable energy projects accounted for 176GW of energy capacity globally and over 70 per cent of new capacity globally in 2019, with wind and solar projects accounting for 90 per cent of that new capacity.

Since the ‘early days’ of renewable energy projects, it has been incredibly satisfying to see the exponential worldwide growth that has taken place over the past several decades. As a US-based partner at Milbank practising in the energy industry, I see different political environments, tax and other incentives in place in our 50 states and, having worked on multiple international projects on four different continents, I know that the regimes across the world are equally unique. This compendium has been formulated to provide you with a good overview of the legal framework and current status and challenges in structuring, financing and investing in renewable energy projects in the selected jurisdictions.

Whether you are already active in this sector or merely interested in learning more about the policies, legal structures and state of play in the renewable energy industry globally or in a particular country, I hope that this guide will aid you in your efforts as a participant in an exciting and continually expanding industry.

**Karen B Wong**

Milbank LLP

Los Angeles

July 2020

# NEW ZEALAND

*Anton Trixl*<sup>1</sup>

## I INTRODUCTION

New Zealand's energy policy framework has been relatively stable for the past 25 years;<sup>2</sup> however, 2018 marked the beginning of a period of substantial policy development for the renewable energy sector. The 2019 calendar year continued this trajectory with regulatory consultations on initiatives to future-proof the renewable electricity sector and address climate change.

New Zealand has a relatively high proportion of its energy use sourced from renewables and has long benefited from a high percentage of renewable electricity generated from hydropower, geothermal resources and, increasingly, from wind. In New Zealand, electricity generated from renewable sources currently comprises about 82 per cent of electricity generated.<sup>3</sup>

The government's aspirational commitment to 100 per cent renewable generated electricity by 2035 (the Renewable Electricity Target) is driving policy reform to incentivise additional investment in the renewable energy sector. While it is technically possible to achieve this target by 'overbuilding' renewable generation, it is likely to be extremely expensive and it may have an overall negative impact on New Zealand's emissions targets.<sup>4</sup> New Zealand's Interim Climate Change Committee (ICCC) has instead recommended that the government concentrate on electrification to lower process heat and transport emissions, which would have a greater net positive impact on emissions reduction.<sup>5</sup> In either scenario, however, a substantial increase in new renewable electricity generation is required to meet New Zealand's increased electricity demand and ensure security of supply.

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1 Anton Trixl is a partner at Anderson Lloyd. The author would like to thank Megan Pearce and Lyna Luo of Anderson Lloyd for their invaluable assistance in the preparation of this chapter.

2 Ministry of Business, Innovation and Employment, 'Regulatory Charter – Energy markets regulatory system' (August 2018), 10 <<https://www.mbie.govt.nz/assets/46dcfbf4e1/energy-regulatory-system-charter.pdf>>.

3 Hon. Dr Megan Woods, 'Transitioning to more affordable and renewable energy: the energy markets work programme' (19 July 2019), 4 <<https://www.mbie.govt.nz/assets/868e03d347/transitioning-to-more-affordable-and-renewable-energy-the-energy-markets-work-programme.pdf>>.

4 Interim Climate Change Committee, 'Accelerated electrification – Evidence, analysis and recommendations' (30 April 2019), <[https://www.iccc.mfe.govt.nz/assets/PDF\\_Library/daed426432/FINAL-ICCC-Electricity-report.pdf](https://www.iccc.mfe.govt.nz/assets/PDF_Library/daed426432/FINAL-ICCC-Electricity-report.pdf)>.

5 See footnote 4.



## II THE YEAR IN REVIEW

The Ministry of Business, Innovation and Employment (MBIE)<sup>6</sup> is reviewing submissions in response to its discussion paper released in December 2019, which sought feedback on a range of options to accelerate the use and supply of renewable energy and energy efficiency technologies. The options and analysis set out in the paper built on and incorporated feedback from a series of government-initiated reviews into the energy sector undertaken between 2018 and 2019.<sup>7</sup> Submissions in response to the paper will guide the government's renewable energy strategy and influence the focus of future regulatory and policy change in New Zealand's renewable energy sector.

In October 2019, the government responded to certain recommendations following the Electricity Price Review (EPR), an independent review of New Zealand's electricity market commissioned in April 2018. The EPR recommendations included improvements to ensure the widest possible participation in the spot market for independent generators, aggregators of storage and controllable demand.<sup>8</sup> The government is progressively implementing a number of the EPR recommendations.

In November 2019, the government passed the Climate Change Response (Zero Carbon) Amendment Act (the Zero Carbon Legislation), which codified New Zealand's target to reduce all greenhouse gases (except biogenic methane) to net zero by 2050.<sup>9</sup> Parliament is currently considering amendments to the Resource Management Act 1991 (RMA) in the Resource Management Amendment Bill, which will require local governments to consider climate change issues when making planning and consent decisions. Notable reforms to New Zealand's emissions trading scheme (NZ ETS) also received the royal assent on 22 June 2020.

The past year saw renewable energy projects starting up again after almost a decade of limited activity. Construction began on the Matiri hydro scheme at Murchison and the Upper Fraser hydro scheme was completed. Improving freshwater quality remains a broad public concern, but there are concerns that the current National Policy Statement for Freshwater Management 2014 (NPS FM) will see regional councils amend current consents to reduce hydro generation output.<sup>10</sup>

Two major wind farm developments began construction at the end of 2019. Located in the Tararua Ranges near Palmerston North, Mercury New Zealand's Turitea wind farm

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6 MBIE is the regulatory steward of New Zealand's energy markets regulatory system and is responsible for developing regulatory policy in the energy sector.

7 These reviews include the New Zealand Productivity Commission, 'Low-Emissions Economy report' (August 2018), <[https://www.productivity.govt.nz/assets/Documents/4e01d69a83/Productivity-Commission\\_Low-emissions-economy\\_Final-Report.pdf](https://www.productivity.govt.nz/assets/Documents/4e01d69a83/Productivity-Commission_Low-emissions-economy_Final-Report.pdf)>, Interim Climate Change Committee, 'Accelerated electrification – Evidence, analysis and recommendations' (30 April 2019), <[https://www.iccc.mfe.govt.nz/assets/PDF\\_Library/daed426432/FINAL-ICCC-Electricity-report.pdf](https://www.iccc.mfe.govt.nz/assets/PDF_Library/daed426432/FINAL-ICCC-Electricity-report.pdf)>, and Ministry of Business, Innovation and Employment and the Energy Efficiency and Conservation Authority, 'Process Heat in New Zealand: Opportunities and barriers to lowering emissions' (January 2019), <<https://www.mbie.govt.nz/dmsdocument/4292-process-heat-in-new-zealand-opportunities-and-barriers-to-lowering-emissions>>.

8 New Zealand government, 'Electricity Price Review – Final Report' (21 May 2019), <<https://www.mbie.govt.nz/assets/electricity-price-review-final-report.pdf>>.

9 New Zealand's Zero Carbon Legislation also sets a goal to reduce emissions of biogenic methane within the range of 24–47 per cent below 2017 levels by 2050, including to 10 per cent below 2017 levels by 2030.

10 New Zealand Wind Energy Association, 'The year in review / Membership year 2019/2020' (March 2020), <<http://www.windenergy.org.nz/store/doc/NZWEA-2019-2020-year-in-review.pdf>>.

will be New Zealand's largest wind farm, with 60 turbines, a total capacity of 222MW and producing 840GWh annually.<sup>11</sup> Tilt Renewables' Waipipi wind farm near Waverly in South Taranaki will consist of 31 turbines with a total capacity of 133MW and 455GWh of annual output.<sup>12</sup> MainPower has also started pre-construction site works for its 93MW Mt Cass wind farm in North Canterbury.<sup>13</sup>

Geothermal generation will increase when the 31.5MW geothermal power station to the north of Ngawha Springs settlement in Northland is commissioned in late 2020. Drilling of four appraisal wells at the Tauhara geothermal field also began in 2019, with an investment decision expected in 2020.

Commercial solar has become increasingly popular in New Zealand: the past year saw several commercial solar projects commissioned, including the 672-panel installation at Northlands Shopping Centre and New Zealand's largest rooftop solar array at Mainfreight's Auckland distribution centre.<sup>14</sup> Construction also began at Marsden Point Oil Refinery on a 31-hectare solar plant that is expected to supply around 10 per cent of the refinery's electricity needs when commissioned.<sup>15</sup> Genesis Energy has also recently announced that it is in advanced discussions for a 300MW solar plant in north Waikato, approximately 100km south of Auckland.<sup>16</sup>

Following the ban on new offshore oil and gas exploration in 2018, the government has worked to develop New Zealand's hydrogen industry. It has put aside NZ\$27 million to establish the National New Energy Development Centre in Taranaki, which will research clean energy options, including hydrogen. The H2 Taranaki Roadmap sets out how the public and private sectors will work together to establish a low-emissions hydrogen sector in the Taranaki region.<sup>17</sup> Taranaki's first green hydrogen project was confirmed in 2019 and will see the construction of four wind turbines to power electrolyzers to produce high-purity hydrogen for use in ammonia urea or supplied as transport fuel.<sup>18</sup>

The wholesale market for electricity was volatile during 2019, partly driven by low inflows into hydro catchments at different points throughout the year.<sup>19</sup> The variability of water inflows continues to be a key risk for New Zealand's electricity market, given that hydro

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11 <<https://www.mercury.co.nz/news/20191112-mercury-commits-to-completing-new-zealand>>.

12 <<https://www.tiltrenewables.com/assets-and-projects/waipipi-wind-farm/>>.

13 See footnote 10.

14 Meridian Energy, 'Integrated Report 2019', <<https://www.meridianenergy.co.nz/assets/Investors/Reports-and-presentations/Annual-results-and-reports/2019/91eab4a432/2019-Integrated-Annual-Report.pdf>>.

15 <<https://www.nzx.com/announcements/343459>>.

16 <<https://www.newstalkzb.co.nz/on-air/early-edition/audio/marc-england-genesis-energy-planning-new-zealands-biggest-solar-farm/>>.

17 Venture Taranaki, 'H2 Taranaki Roadmap', <<https://about.taranaki.info/Taranaki2050/Work-Group-Files/H2-Taranaki-Roadmap.pdf>>.

18 <<https://ballance.co.nz/Kapuni-hydrogen-project>>.

19 Genesis Energy, 'Annual Report 2019', <[https://gesakentico.blob.core.windows.net/sitecontent/genesis/media/new-library-\(dec-2017\)/about\\_us/investor/pdfs/2019/fy19%20results/genesis-energy-2019-annual-report.pdf](https://gesakentico.blob.core.windows.net/sitecontent/genesis/media/new-library-(dec-2017)/about_us/investor/pdfs/2019/fy19%20results/genesis-energy-2019-annual-report.pdf)>.

generation contributes 55–60 per cent of the electricity supply.<sup>20</sup> This risk is likely to increase with electricity demand projected to increase anywhere from 18 per cent to 78 per cent by 2050 and with the retirement of ageing baseload thermal capacity.<sup>21</sup>

A decision on the potential closure of the Tiwai Point aluminium smelter is imminent. In 2019, the owners of the Tiwai Point aluminium smelter announced that they were considering exiting New Zealand. The smelter is directly connected to the Manapōuri hydropower station and is New Zealand's single largest electricity consumer, consuming about 14 per cent of total electricity demand.<sup>22</sup> If the smelter is decommissioned, the electricity it currently consumes would be redirected into the national grid and electricity prices would be expected to drop. However, it could take three years and cost NZ\$110 million to build the infrastructure necessary to deliver electricity from the Manapōuri hydropower station to the rest of the South Island.<sup>23</sup> Therefore, it is unlikely that electricity supply will increase immediately after the smelter is decommissioned. Further, if the smelter closes, 3,300MW less capacity needs to be built between now and 2035, which could result in delays to new generation projects.<sup>24</sup>

New Zealand's renewable energy sector has not been exempt from the global impact of the covid-19 pandemic. The government-imposed nationwide lockdown saw an inevitable decline in electricity demand and delays to renewable energy projects under construction, including the Turitea and Waipipi wind farms. At this stage, we have yet to gauge the scale of the impact covid-19 will have on the sector, including the medium-term impact on electricity demand, the electricity price, government incentives and private sector investment.<sup>25</sup>

### **III THE POLICY AND REGULATORY FRAMEWORK**

#### **i The policy background**

As the government approaches the end of its existing energy strategy,<sup>26</sup> there has been a notable shift in policy from developing all New Zealand's diverse energy resources (including oil, gas and coal), to an emphasis on accelerating investment in renewable energy generation, including the electrification of transport and process heat to help reduce New Zealand's energy-related emissions.

In November 2019, the Zero Carbon Legislation codified New Zealand's target to reduce all greenhouse gases (except biogenic methane) to net zero by 2050.<sup>27</sup> In the interim, New

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20 Ministry of Business, Innovation and Employment, 'Energy in New Zealand 19 – 2018 Calendar Year Edition' (October 2019), <<https://www.mbie.govt.nz/dmsdocument/7040-energy-in-new-zealand-2019>>.

21 Ministry of Business, Innovation and Employment, 'Electricity demand and generation scenarios: Scenario and results summary' (July 2019), <<https://www.mbie.govt.nz/dmsdocument/5977-electricity-demand-and-generation-scenarios>>.

22 See footnote 4, 52.

23 <<https://www.stuff.co.nz/business/117012855/rio-tinto-turns-up-the-heat-over-aluminium-smelter>>.

24 See footnote 4, 52.

25 <<https://www.teslaforecast.com/wp-content/uploads/2020/04/Forecasting-Power-Demand-Under-the-Lockdown-Energy-News.pdf>>.

26 New Zealand government, 'New Zealand Energy Strategy 2011–2021 – Developing our Energy Potential' (August 2011), <<https://www.mbie.govt.nz/assets/55f3c6780c/nz-energy-strategy-lr.pdf>>.

27 See footnote 9.

Zealand has issued its first nationally determined contribution under the Paris Agreement to limit emissions to around 600 million tonnes of carbon dioxide equivalent (MtCO<sub>2</sub>e) over the period 2021–2030.<sup>28</sup> The government also set its Renewable Electricity Target.

The ICCC<sup>29</sup> recently reported to the government on its Renewable Electricity Target and on the potential to decarbonise industry and transport. It suggests that a transition to 100 per cent renewable electricity by 2035 requires natural gas generation to be replaced by more geothermal, wind and large-scale solar. Such a transition would require significant investment in renewable generation capacity or ‘overbuilding’ wind and solar generation to supply about 23 per cent of total generation in 2035 (which would be four times more generation from wind and 15 times more generation from rooftop and large-scale solar than was being generated as at April 2019).<sup>30</sup>

The primary driver of investment in renewable energy projects in New Zealand remains the NZ ETS. The NZ ETS incentivises investment in renewable energy ahead of fossil fuels by requiring thermal generators to purchase and surrender emissions units to match their plants’ emissions. In April 2020, units on the NZ ETS have traded at around NZ\$24<sup>31</sup> per tonne of carbon emitted, compared to approximately NZ\$2.50 in January 2013,<sup>32</sup> and this increased cost has been driving the thermal generators to consider moving away from thermal generation.

The Climate Change Response (Emissions Trading Reform) Amendment Bill introduced in October last year (the ETS Bill) proposed notable amendments to the NZ ETS, including the introduction of an overall cap on units available under the scheme and a phase-down of all industrial allocations from 2021. The amendments proposed by the ETS Bill have now been codified into law in the Climate Change Response (Emissions Trading Reform) Amendment Act 2020.<sup>33</sup>

The renewable energy sector in New Zealand is not otherwise subject to any sector-specific support or fiscal mechanisms (including feed-in tariffs or renewable portfolio standards). While the government continues to champion the NZ ETS as a primary component of New Zealand’s strategy to drive the renewable energy sector, the industry and the government has recognised that it cannot be the only driver.

The Zero Carbon Legislation and the ETS Bill have formed part of the government’s renewable energy work programme that also included the release of the MBIE 2019 discussion paper.<sup>34</sup> Some of the options presented by the paper included the introduction of renewable

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28 Government projections show New Zealand is on track to overshoot this target by about 200MtCO<sub>2</sub>e. See footnote 4, 9.

29 The Interim Climate Change Committee is an independent committee established as a precursor body to a proposed permanent Climate Change Commission to be established pursuant to the Zero Carbon Legislation.

30 See footnote 4, 48.

31 <<http://www.carbonnews.co.nz/pagearchive.asp?id=4028816251243FTS>>.

32 <<https://www.carbonforestservices.co.nz/carbon-prices.html>>.

33 <[https://www.parliament.nz/en/pb/bills-and-laws/bills-proposed-laws/document/BILL\\_92847/climate-change-response-emissions-trading-reform-amendment](https://www.parliament.nz/en/pb/bills-and-laws/bills-proposed-laws/document/BILL_92847/climate-change-response-emissions-trading-reform-amendment)>.

34 Ministry of Business, Innovation and Employment, ‘Discussion document: Accelerated renewables uptake and encouraging changes in industrial energy use’ (December 2019), <<https://www.mbie.govt.nz/dmsdocument/10349-discussion-document-accelerating-renewable-energy-and-energy-efficiency>>.

electricity certification, portfolio standards and a power purchase agreement (PPA) platform (acknowledging the greater role the government has to play to increase access to PPAs for new electrification projects, particularly for small to medium-sized businesses).

## **ii The regulatory framework**

MBIE acts as the regulatory steward of New Zealand's energy regulatory system and is responsible for developing regulatory policy in the energy sector. The Electricity Authority (EA) oversees the efficient operation of the electricity industry, undertakes market facilitation measures and monitors and enforces compliance with electricity market rules. The EA is also responsible for the Electricity Industry Participation Code 2010 (the Code).

New Zealand's Commerce Commission promotes competition in New Zealand markets and is responsible for the economic regulation of natural monopolies, including Transpower and other electricity lines services under the Commerce Act 1986 (the Commerce Act).

New Zealand's renewable energy environment is governed by a series of regulations designed to ensure security of supply, encourage renewable generation and keep renewable energy assets safe. The central regulatory tools governing the operation of New Zealand's renewable energy system are the Code, the RMA and the NZ ETS.

The Code governs the operations of electricity market participants. Each person who buys or sells electricity on the wholesale spot market, or who sells electricity to end users in the retail market, must register with the EA as a market participant and comply with the Code.

New Zealand's electricity system consists of the following key participants:

- a* Transpower owns and operates New Zealand's national grid. Transpower acts as 'system operator' and has the role of coordinating the real-time transmission of electricity as a contracted service provider to the EA.
- b* Contact Energy, Genesis Energy, Mercury NZ, Meridian Energy and Trustpower (together, the large 'gentailers') collectively own and operate 179 power stations that produce about 90 per cent of New Zealand's electricity.<sup>35</sup> There are 40 other companies that own and operate about 90 other power stations; these are mostly distributed generation.
- c* There are 29 local electricity distribution businesses (EDBs) that transport electricity from the national grid, or from distributed generation, to end users. Significant restrictions prevent EDBs from also engaging in retailing or generation of more than 250MW of electricity directly connected to the national grid (among other restrictions).<sup>36</sup>
- d* About 30 electricity retailers sell electricity to end users. However, about 90 per cent of end users buy their electricity from the five large gentailers.

Generators and retailers are required to participate in the spot market for wholesale supply and purchase of electricity administered by the EA.

The RMA plays a central role in regulating the development of renewable energy generation in New Zealand.

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35 See footnote 4, 31.

36 Electricity Industry Act 2010, s 75.

The RMA aims to ensure that natural and physical resources such as soil, air, water and buildings are managed sustainably. The RMA does this by restricting activities that interfere with those natural and physical resources and that are not otherwise permitted by rules or standards developed pursuant to the RMA.

Renewable energy projects will require resource consents from consenting authorities<sup>37</sup> to undertake activities that are not permitted under those rules or standards. The RMA regulates the process for obtaining a resource consent.

In making resource consent decisions, consenting authorities are required to consider the environmental impacts of allowing the activity, any mitigating or offsetting proposals and the relevant provisions of statutory planning documents, including national and regional policy statements and regional and district plans.

There are a number of common hurdles to obtaining resource consents for renewable energy projects in New Zealand. The inherent sensitivity of the sites proposed for renewable energy developments such as wind farms or hydro generation, together with the public participatory regime of the RMA, means that projects often attract significant opposition and this can result in protracted hearing and appeal processes. For example, in respect of wind farm developments, objections have focused on factors such as landscape effects and visual impacts, blade reflections, turbine noise and ecology.

The RMA also requires particular consideration of Māori values and interests when determining applications for resource consents. Decision makers are required, when exercising functions and powers under the RMA, to recognise the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, *wāhi tapu*<sup>38</sup> and other *taonga*,<sup>39</sup> as a matter of national importance; to have particular regard to *kaitiakitanga*,<sup>40</sup> and to take into account the principles of the Treaty of Waitangi.<sup>41</sup> Consents for renewable energy projects have been refused following court assessments of the proposed land use considered against the adverse effects the proposal would have on Māori values, interests and the relationship to their ancestral land.<sup>42</sup>

Of particular relevance to the renewable energy sector is the role of the National Policy Statement for Renewable Electricity Generation 2011 (NPS REG) in resource consents. As discussed above, consenting authorities are required to have regard to any relevant national policy statements (NPSs) when making consent decisions. NPS REG came into

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37 Consenting authorities are predominantly regional and district councils.

38 *Wāhi tapu* means a sacred place, sacred site or a place subject to long-term ritual restrictions on access or use (e.g., a burial ground, a battle site or a place where *tapu* objects were placed).

39 *Taonga* means treasure or anything prized and is a term often applied to anything considered to be of value including socially or culturally valuable objects, resources, phenomenon, ideas and techniques.

40 *Kaitiakitanga* means the exercise of guardianship.

41 The relationship between the Crown and Māori is founded on the Treaty of Waitangi. Investigations of claimed breaches of the Treaty are provided for under the Treaty of Waitangi Act 1975. Settlement of Treaty claims is a process between Māori and the Crown and involves both acknowledgement of and apology for breaches. It also sets out mechanisms to provide redress. Redress may involve vesting of Crown land or statutory acknowledgements or deeds of recognition in relation to Crown land or water bodies. Statutory acknowledgements apply to areas or sites with which iwi have a special relationship and will be recognised in any relevant proceedings under the RMA.

42 *Unison Networks Ltd v. Hastings District Council* [2011] NZRMA 394 (HC).

effect on 13 May 2011<sup>43</sup> and has played a significant role in promoting renewable energy developments. The NPS REG sets out the objectives and policies for renewable electricity generation under the RMA and requires recognition of the benefits of renewable electricity generation activities. Notably the NPS REG acknowledges that decision makers should have particular regard to the need to locate the renewable electricity generation activity where the resource is available and the connection to existing infrastructure, especially the national grid, is viable.

There is potential for tension between competing policies in NPSs. Policymakers are currently considering revisions to the NPS REG and NPS FM to ensure consistency and that appropriate consideration is given to the benefits of hydro generation when setting limits on water use.

As discussed above the Resource Management Amendment Bill currently passing through Parliament recommends the removal of statutory barriers to considering the effects of activities on climate change under the RMA. Should the Bill pass in its current form, the amendments will place positive obligations on local and regional councils to consider climate change matters when preparing or changing their plans and considering consent applications, which we expect will be positive for renewable energy project development.

## **IV RENEWABLE ENERGY PROJECT DEVELOPMENT**

### **i Project finance transaction structures**

Limited recourse project financing has been relatively limited in the New Zealand renewable energy market. The large gentailers have historically been responsible for the majority of new renewables developments and they have primarily financed these projects on a corporate-financed or 'on-balance-sheet' basis.

To the extent that there has been project financing of renewables projects in New Zealand, it has been driven largely by independent developers. Independents have found it relatively difficult to get renewables projects banked over the past decade because of difficulties creating projects of sufficient scale; difficulties attracting offtakers that will offer a sustained and satisfactory price; and the distance of the renewables projects from the national grid. However, the past few years have seen an increasing number of renewables projects banked on a limited recourse basis, mostly geothermal and wind projects.

The principal developers of project financed renewable energy projects have been:

- a* in wind, solar and hydro projects, independent energy companies and developers, such as Tilt Renewables, Nova Energy, Pioneer Energy, Ventus Energy, and EDBs such as MainPower and, recently, Refining NZ, with its captive solar project; and
- b* in geothermal projects, Maori land settlement trusts that have ownership of or access to geothermal resources (often in partnership with the large gentailers) and TOP Energy in Northland.

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43 National Policy Statement for Renewable Electricity Generation 2011 (Gazette notice 14 April 2011, in force 12 May 2011), <[www.mfe.govt.nz/publications/rma/nps-renewable-electricity-generation-2011/docs/nps-reg-2011.pdf](http://www.mfe.govt.nz/publications/rma/nps-renewable-electricity-generation-2011/docs/nps-reg-2011.pdf)>.

The lenders most active in New Zealand renewables energy project financings have been three of the four 'major' New Zealand banks: ANZ Bank New Zealand, Bank of New Zealand and Westpac New Zealand. However, the recent Waipipi wind farm financing saw international banks project finance a wind project in New Zealand for the first time.

The primary offtakers of power generated from renewable energy projects in New Zealand have been the large gentailers. They have been the offtakers under PPAs or counterparties on hedging contracts in the wholesale market. The recent Refining NZ solar project was, to our knowledge, the first non-large-gentailer PPA to be used to support the financing of a renewables project in New Zealand in recent times.

Documentation for the project financing of renewables projects in New Zealand largely follows international norms. The key documentation includes:

- a* a PPA or hedge contract to fix long-term pricing for the output from the project;
- b* an engineering, procurement and construction contract for the construction of the project. However, we are beginning to see disaggregated construction arrangements with the project bearing a greater degree of integration risk (for example, the construction contracts for the Waipipi wind farm were split between turbine supply, civil balance of plant and electrical balance of plant contracts);
- c* a long-term operation and maintenance agreement, particularly for wind and geothermal projects;
- d* land rights agreements, which often take the form of leases or easements, depending on the nature of the project;
- e* a transmission services agreement (TSA) and a connection works agreement each with Transpower, to allow connection to the national grid and transmission of output from the projects; and
- f* a resource consent for the project.

Security structures generally follow international standards with security being held by the financier directly or (where there are multiple financiers) by a security trustee under a security trust structure. Security typically comprises 'all-asset' security provided by the project vehicle (including over rights under project contracts, interests in land and consents and licences) and 'share' security given by the holding entity. In addition, financiers will normally have the benefit of direct deeds with project contract counterparties.

Bank debt tenors for project financings of renewables projects in New Zealand over the past few years have typically been in the range of three to seven years, with most around five years.

As project financing of renewable energy projects is not a standard practice in New Zealand, as in many other countries, each project tends to have its own unique features. We highlight below some impediments new renewables projects may face:

- a* Under the Code, it not possible to enter into a TSA with Transpower until the project is connected to the national grid (which is usually well after financial close). The Code addresses this issue by requiring Transpower to offer a default transmission agreement to the project, which is found in the regulations. In addition, Transpower does not generally agree to enter into direct deeds.
- b* A renewable energy project will require resource consents (as described above). Depending on the level of local opposition, it can take a prolonged period to obtain suitable resource consents and this must be factored into any project programme.



- c* Where the project involves land that is not registered under New Zealand's Torrens land registration system (such as Māori land) or is not held privately (such as land owned by government entities or utilities), obtaining the necessary land rights to conduct the project, and formulating and registering an appropriate security package for the particular land, can be complex and time-consuming.
- d* Geothermal projects rely on access to the geothermal resource, which is often held by Māori land settlement trusts. Care needs to be taken when structuring security arrangements so that the project will be able to access the geothermal resource after the security has been enforced.

## **ii Distributed and residential renewable energy**

Distributed solar energy and storage is beginning to play a greater role in New Zealand's energy mix,<sup>44</sup> but it is starting from a relatively low base, particularly compared to Australia.<sup>45</sup> Until recently, in large parts of New Zealand, solar energy alone was not economic as peak electricity demand tends to fall in the evening and in winter when solar energy is not available. However, with the addition of battery storage and the increasing use of electric and hybrid vehicles, that position is rapidly changing.

We noted some recent large distributed solar projects in Section II and we expect to see increasing numbers of these rooftop solar projects over the medium term, both at a commercial level and among residential users.

Structures for rooftop solar projects range from standard supply and installation packages where end users connect to the distribution network as a distributed generator to fixed-price solar and battery packages with no upfront costs but a long-term fixed-price commitment.<sup>46</sup>

Key participants in this market include Mercury NZ, Solarcity NZ, Vector Powersmart, Sky Solar, Harrison's Energy Solutions and CPS Solar.

## **iii Non-project finance development**

Most renewables projects in New Zealand are funded by the large gentailers on balance sheet using corporate-financed structures. We have, however, seen some hybrid structures under which a form of limited parent guarantee or underwriting has been provided to ensure the project is bankable.

One recent financing development has been Contact Energy's sustainability-linked loan with Westpac New Zealand. Contact Energy has secured financing that includes a right for it to receive a discounted interest rate on the loan if Contact Energy meets certain environmental, social and governance ratings, as determined by an independent rating agency.

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44 17MW of new rooftop solar capacity was installed in 2018, bringing the total rooftop solar capacity to 75MW, see footnote 20.

45 Australia has almost 14,000MW of installed solar capacity as at September 2019, <<https://pv-map.apvi.org.au/analyses>>.

46 <<https://www.solarcity.co.nz/solarzero>> and <<https://powersmartsolar.co.nz/fixing-costs>>.

## **V RENEWABLE ENERGY MANUFACTURING**

On a global scale, New Zealand has a small renewable energy manufacturing sector. The manufacture of renewable energy products in New Zealand today is limited to discrete small to medium-sized business that tend to focus on the development of novel product technologies and intellectual property, as opposed to mass-scale manufacturing.

In recent years, New Zealand's limited manufacturing sector has suffered some key losses. In 2017, HydroWorks, which specialised in the design and manufacture of water turbines and pumps for hydro generation, was put into liquidation by its major shareholder. In addition, Windflow Technologies, a publicly listed company manufacturing two-bladed wind turbines, was delisted in 2018 and put into liquidation at the end of 2019.<sup>47</sup>

The government does not offer any sector-specific subsidies for the manufacture of renewable energy products in New Zealand. Although the government continues to emphasise the importance of growth in New Zealand renewable energy generation and investment in emerging renewable energy technologies, the role of New Zealand renewable energy product manufacturers has not generally been a major consideration.

In 2019, the government established New Zealand Green Investment Finance Limited. While the focus of this NZ\$100 million fund is to accelerate low emissions investment in New Zealand, the entity has a broad mandate that could capture early-stage companies looking to develop renewable energy products, particularly in the areas of transport, process heat and agriculture.

New Zealand is presently a party to 10 free trade agreements with several countries and does not impose any specific tariffs on renewable energy equipment from its trading partners.

## **VI CONCLUSIONS AND OUTLOOK**

The government has recognised that significant investment in New Zealand's renewable energy generation capacity is required if New Zealand is to maintain energy security, affordability and environmental sustainability while pursuing the government's ambitious renewable electricity and climate change goals.

While ambitious goals have been set, there is presently a lack of robust government incentives to drive investment in renewables generation. The government's response to recent submissions on the MBIE's December 2019 discussion paper will provide a clearer indication of future policy reform, which, in conjunction with the Zero Carbon Legislation and the NZ ETS, will play a key role in accelerating New Zealand's future development of renewable energy.

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<sup>47</sup> <<https://www.stuff.co.nz/business/118409446/wind-turbine-maker-windflow-technology-put-into-liquidation>>.

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