

28 February 2020

Discussion Document: Accelerating renewable energy and energy efficiency

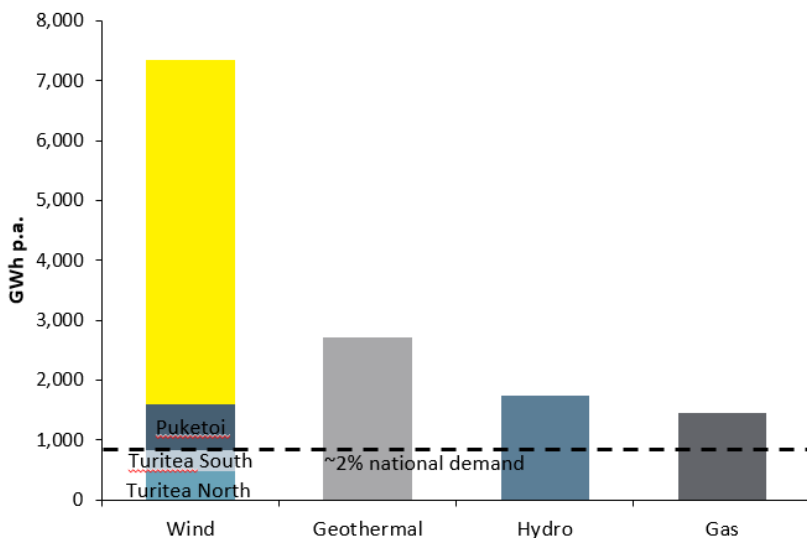
Mercury welcomes the opportunity to provide feedback on the options outlined in the Government’s proposed renewable energy and energy efficiency strategy.

Renewable electricity is critical for emissions reduction in New Zealand

New Zealand’s electricity system ranks third highest in the world for renewable electricity generation¹ while at the same time achieving excellent outcomes for energy security and energy equity, leading the International Energy Agency (IEA) to rank New Zealand’s electricity system as world class². Our abundance of high-quality wind and geothermal resource opportunities along with stable regulatory and market settings means the electricity market is well positioned to deliver New Zealand’s emissions reduction targets.

As the Interim Climate Change Committee (ICCC) has concluded, the electricity system is the key enabler of New Zealand achieving its emissions reduction targets through the electrification of transport and process heat.³ Under the ICCC’s modelling, assuming no interventions from government, the electricity market will increase the proportion of New Zealand’s renewable electricity from 82% to 92% by 2035. As Figure 1 shows, New Zealand already has a considerable amount of consented generation, which is predominantly renewable. This consented generation is enough to power the entire light transport fleet.

Figure 1: New Zealand consented electricity generation (with Mercury’s windfarm generation options for comparison)



Source: Electricity Authority – Electricity Market Information, Mercury

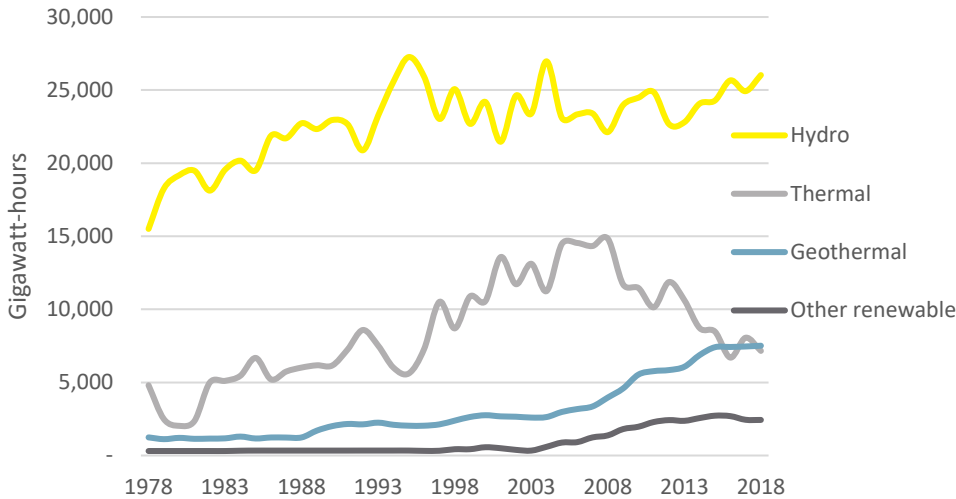
The message from the ICCC is clear: strong uptake of transport electrification and process heat electrification will deliver substantial reductions in carbon emissions, with renewable electricity being the key enabler of this transition. It is therefore vital that the government continues to support New Zealand’s world leading electricity market and avoids potentially distortionary interventions that could undermine future renewables investment.

¹ Mercury, Briefing to the Incoming Minister: Energy and Resources, based on 2015 OECD data
² International Energy Agency, Energy Policies of IEA Countries: NZ 2017 Review.
³ Interim Climate Change Committee, “Accelerated electrification: Evidence, analysis and recommendations”, available from https://www.iccc.mfe.govt.nz/assets/PDF_Library/daed426432/FINAL-ICCC-Electricity-report.pdf

The electricity market has already delivered New Zealand’s most significant emissions reduction

Figure 2 illustrates how electricity generation from thermal fuel has fallen significantly since its peak in 2008.⁴ This was primarily driven by significant investment in renewable geothermal generation which increased from around 7% in 2000 to 17% of generation in 2018 along with the retirement of relatively more expensive thermal generators and a quadrupling of the contribution from all other renewable sources (primarily wind).

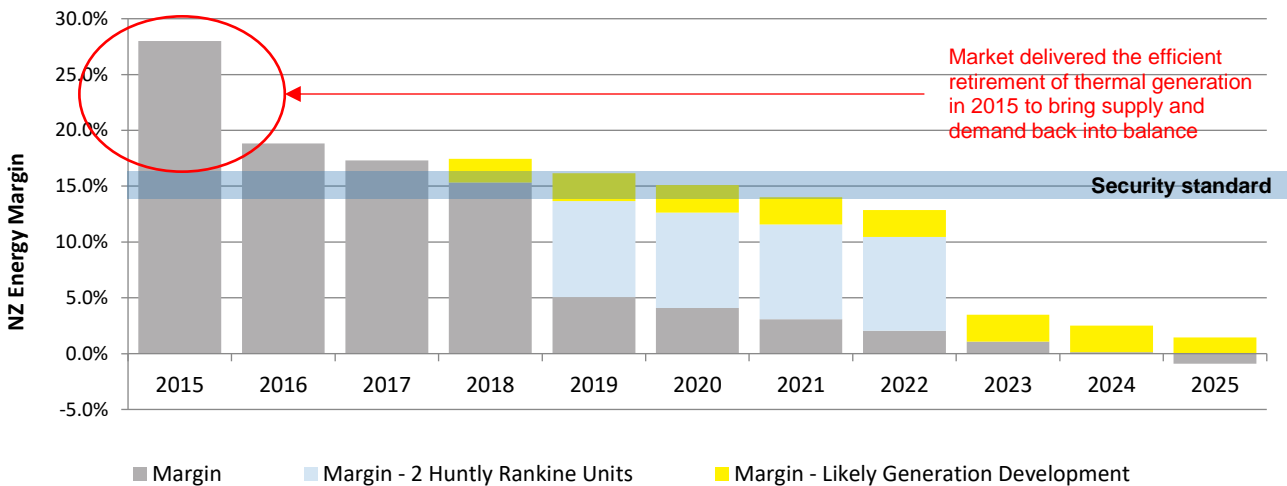
Figure 2: New Zealand historical electricity generation by source



Source: MBIE, Quarterly Electricity Generation and Consumption Data Updates

Due to flat demand growth between 2006 to 2013 and the resulting reduction in wholesale prices, a rebalancing of supply occurred with the efficient retirement in 2015 of around 450MW of thermal gas-fired generation in Auckland by both Mercury and Contact Energy (see Figure Three below). **This permanently removed 2 million tonnes per annum from New Zealand’s carbon emissions, equivalent to entire annual emissions of the aviation sector in New Zealand.** Mercury is not aware of any larger contribution to reducing New Zealand’s emissions from any sector over this period. Most importantly, this occurred through the market without the need for any government intervention, without any costs or risks to New Zealand tax payers.

Figure 3: Thermal retirement in New Zealand



Source: Transpower’s Security of Supply Annual Assessment 2017

History repeats – renewables investment is occurring once again due to market signals

The outlook for future renewable electricity investment is highly positive with the wholesale market now signalling future generation investment is economic and necessary. Electricity demand is expected to double over the period to 2050 with the electrification of the economy.

⁴ NZ Greenhouse Gas inventory 2019 page 88



As in the early 2000s, capital is responding to the signals in the wholesale market. Companies are committing to this next stage of growth. Mercury itself has committed at least \$460 million to wind generation (see Box 1 below) and several other announcements demonstrate the market is delivering a total of around \$1bn in investment with around the same amount nearing final investment decisions (see Box 2).

Box 1: Mercury's wind farm investments

In 2019 Mercury made two announcements committing to the staged construction of the Turitea wind farm in the Tararua ranges east of Palmerston North. Once construction is complete, the 60 turbine windfarm will be New Zealand's largest wind generation asset at 222MW.

Mercury has committed at least \$460 million to the construction of both stages of Turitea. Once commissioned, Turitea will meet around 2% of national demand and increase New Zealand's renewable electricity annual generation by 2%.

Mercury negotiated with Transpower and relevant land owners to construct transmission lines integrating the wind farm and connecting it to the national grid at Linton. Mercury also has a consented wind farm at Puketoi, east of Pahiatua with the necessary transmission corridor to connect it to the Turitea wind farm and national grid. The transmission infrastructure at Turitea has been future proofed, sized to accommodate the addition generation from Puketoi when developed.

In total both Turitea and Puketoi represent a capital investment of around \$1 billion in renewable electricity in New Zealand.

Box 2: Recent renewable generation announcements made in New Zealand

Company	Project	Capacity/Energy	Investment	Notes
Mercury	Turitea (Wind)	222 MW	\$460m	Construction has begun
Tilt (Genesis PPA)	Waipipi (Wind)	133 MW	\$277m	Construction has begun
Top Energy ³	Ngawha (Geothermal) Phase 1	Extra 25 MW (net)	\$160m	Construction has begun
COMMITTED TOTAL:		~ 380 MW	~ \$0.9b	

Other projects awaiting financial close

Genesis (PPA) ⁴	North Waikato solar array	300 MW	Unknown	Advanced planning discussions
MainPower ⁵	Mt Cass (Wind)	93 MW	\$200m	Financial close by July 2021
Contact ⁶	Tauhara	Up to 250 MW	Unknown	Test drilling underway
Tilt Renewables ⁷	Tararua repowering (Wind)	Extra 62 MW	\$250m	Capacity upgrade of existing windfarm
Meridian ⁸	Harapaki (Wind)	270 MW	Unknown	Investment decision mid 2020
Top Energy ³	Ngawha (Geothermal) Phase 2	Extra 25 MW	~\$160m	Likely by 2026
NEAR TERM POTENTIAL:		~ 1000 MW	~ \$2.0b (est)	

Sources:

¹ Mercury, "Mercury commits to completing NZ's largest wind farm", available from www.nzx.com

² Tilt Renewables, Waipipi Wind Farm, available from www.tiltrenewables.com

³ BusinesDesk, "Top Energy's geothermal expansion to cut lines charges", 22 March 2019

⁴ Genesis Energy, FY20 Interim Results Announcement, available from www.nzx.com

⁵ Mainpower, "Work to start on Mt Cass Wind Farm", <https://www.scoop.co.nz/stories/AK1912/S00472/work-to-start-on-mt-cass-wind-farm.htm>

⁶ Contact Energy, <https://contact.co.nz/aboutus/our-story/our-projects>

⁷ Energy News, "Tararua re-powering could triple output", 18 February 2020

⁸ Meridian, 2020 Interim Results Presentation, from www.nzx.com and www.windenergy.org.nz/tikiokura-and-hawkes-bay

Emissions Trading Scheme should be the main mechanism to promote renewables

The NZ-ETS is our key tool to reduce emissions and meet our targets. An effective emissions price is required to encourage businesses and households to reduce emissions, innovate and invest in solutions. A well-designed NZ ETS will deliver higher carbon prices which will bring forward emissions abatement opportunities in merit order. This will largely negate the need for additional measures, at least for sectors covered by the scheme.

Relying heavily on government intervention, rather than a broad-based price measure, increases the risk of poor targeting, costly abatement and unintended consequences. Government lacks detailed information on abatement costs and has limited control over or expertise in relation to innovation and investment decision-making in the process heat, energy efficiency and electricity generation sectors.



Mercury recommends the work of the independent public policy think tank the New Zealand Initiative and the analysis provided in its report “Switched on! Achieving a green, affordable and reliable energy future⁵”. The report highlights that the significant strength of the New Zealand electricity market has been the commitment by successive governments to avoid picking technological winners via distortionary interventions like subsidies or bans. This has allowed New Zealand to develop a diverse and complimentary mix of renewable and non-renewable generation technologies responsible for ensuring the country’s world leading performance in balancing the energy trilemma.

The main conclusion from the report is that the primary mechanism to promote renewable electricity should be a broad-based carbon price via the NZ-ETS. Implementing additional measures to promote renewables alongside the NZ-ETS will come at higher implementation costs and have no impact on emissions across the economy⁶. Mercury appreciates the NZ-ETS is beyond the scope of the discussion document and has made separate submissions to government on how the policy settings could be improved to better promote renewable investment in New Zealand.⁷

Caution needed on complementary measures

Market based carbon pricing is the most effective, efficient and fairest way the government can accelerate the transition to a low carbon future. Non-price measures should be reserved for those parts of the economy that are not exposed to a carbon price.

Mercury agrees that non-price measures may be appropriate in instances where market or government failures are identified particularly where they relate to unnecessary regulatory, informational and cost barriers. See our discussion below in the section on the resource planning framework.

However, many of the proposals outlined in the paper are not complementary with our ETS. Some have been implemented overseas to fill a gap left by political failures to implement an effective carbon pricing mechanism. Australia is an example where complementary measures such as Renewable Energy Certificates and solar photovoltaic subsidies have been successful in promoting renewables but have also led to concerns with system reliability/security and with regressive pricing impacts for vulnerable consumers⁸.

Transposing similar measures to New Zealand risks destabilising the existing market and undermining investment signals which currently work well. For these reasons, the government should avoid assuming risk on underwriting renewables investments that may be uneconomic and result in generation investment outside of merit order. This will crowd out capital and result in a chilling effect on investment, making New Zealand’s low carbon transition less likely. As noted by the New Zealand Initiative, one key reason for the shift towards electricity market liberalisation was uneconomic generation investment outside of merit order by Government central planning. An investigation by Treasury in 1984 found unnecessary expenditure incurred on three power stations alone cost New Zealand taxpayers up to \$3 billion in 1983 dollars⁹, or the equivalent of more than \$10 billion in today’s value. Two of these three power stations were either not used at all (Marsden B) or only rarely (Whirinaki). This type of economic wastage has been eliminated by the competitive generation market we have today in New Zealand.

Mercury sees no reason for the government to phase down thermal generation assets to be placed into strategic reserve. Genesis Energy has been transparent that it expects to stop coal generation entirely by 2030 at Huntly Power Station. The government artificially bringing this date forward might cause investors in Genesis Energy to seek compensation but could also create a security of supply issue in the electricity market. The market will deliver an efficient solution for whether any of the Huntly Rankine units are required in reserve according to expectations on their retirement age and the economic cost of retaining them. We are already seeing considerable investment and underwriting of renewable generation, including by Genesis, which will move the Rankine units down the economic merit order. At the point the units run infrequently, they will become uneconomic and close. We also note the Government has a poor record of running a ‘generator of last resort’ arrangement, which the two attempts to operate a plant at Whirinaki demonstrates.

Focus on strengthening the role of renewable electricity within the resource planning framework

Among the measures considered in the discussion paper Mercury considers the most attention should be given toward ensuring the resource planning framework and government policy statements are supporting renewable electricity development. We agree with the Productivity Commission, the ICCC¹⁰ and the outcome of the MfE/MBIE 2016 evaluation of the National Policy Statement Renewable Electricity Generation (NPSREG), all concluded the NPSREG needs to be strengthened

Mercury’s preferred approach is that Part 2 of the RMA be amended to support as matters of national importance, climate change mitigation and adaptation in a manner that is complementary to the Climate Change Response Act 2002, and the importance of infrastructure to deliver the renewable energy outcomes required to transition to a low carbon economy. The NPSREG would give effect to those national priorities.

⁵ Available from <https://nzinitiative.org.nz/reports-and-media/reports/switched-on-achieving-a-green-affordable-and-reliable-energy-future/>

⁶ Ibid – see chapter 6 for discussion. This is because the carbon price will be lower resulting in emissions permits to be taken up by other sector up to the ETS cap.

⁷ ‘Reforming the New Zealand Emissions Trading Scheme: Proposed Settings’ Mercury submission to MfE

⁸ See <http://theconversation.com/electricity-market-transforming-apace-but-security-a-worry-energy-security-board-132261>

⁹ NZ Treasury, “Review of Electricity Planning and Electricity Generation Costs,” Report to the Minister of Finance and Government, 1984

¹⁰ ‘Accelerating electrification’, 30 April 2019, ICCC pg 82-83 and recommendations pg 101, 103, 105.



The reform of the RMA will take time and it is desirable to advance the review of the NPSREG as a short-term priority to address serious restraints for existing and new electricity generation activities arising from the draft NPS Freshwater Management, draft NES Freshwater and draft NPS Indigenous Biodiversity. Changes are required to all of these instruments to redress the balance between accelerating New Zealand’s renewable energy transition and appropriately managing effects on the environment. The NPSREG review should be progressed with targeted consultation with the electricity sector prior to broader consultation on any draft.

There may be specific matters that may be addressed by way of an NES that are not capable of being resolved in the RMA itself. Of most benefit would be changes creating greater certainty for existing electricity generation activities and the ability to consent any associated renewable energy use as a controlled activity. Similarly, there could be protocols for dealing with lapse dates for resource consents for unbuilt REG activities to increase certainty for the project pipeline to match supply and demand. NES’s are best suited to very specific circumstances or standards such as those relating to windfarm noise.

Mercury has reservations about the manner in which spatial planning may be applied to REG activities and sees the approach as more readily applicable to urban growth management and infrastructure required to support it. We provide further commentary in our response to questions¹¹.

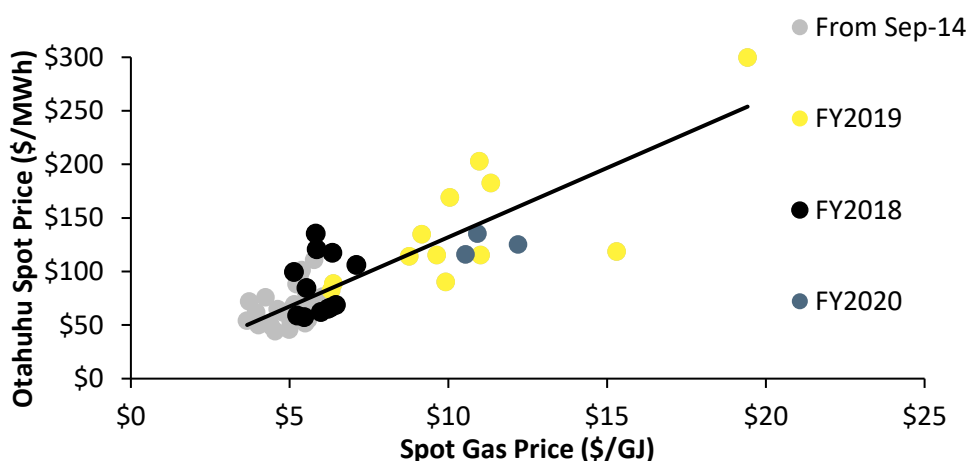
Extending hydro storage would support renewables uptake in a gas constrained future

In addition to the resource management reforms outlined above, an option that is not explored in the discussion paper is the potential to extend the consented ranges on existing hydro generation storage to provide flexibility services to support future intermittent renewable generation.

The ICCC analysis indicated that the ability to quickly ramp up electricity generation and provide energy generation for those infrequent periods when hydro storage is below average is an essential requirement to deliver New Zealand’s decarbonisation at least cost. This is because without flexibility, electricity wholesale market prices will become more volatile, expensive and make the transition to electric transport and process heat more challenging. Currently these flexibility services are provided by thermal gas and coal generators. This is why the ICCC find that delivering 100% renewable electricity generation (even in a normal hydrological year) would be prohibitively expensive compared to maintaining a very small amount of thermal generation to provide flexibility.

Figure 4 below illustrates how sensitive electricity wholesale prices have been to increasing gas costs in the last 18 months due to recent unforeseen issues with gas infrastructure. The current market outcomes support the modelling by the ICCC and are indicative of the impacts that could emerge in world where future gas supply is constrained.

Figure 4: Correlation between gas spot and electricity spot prices



Source: Mercury, Financial Results Six Months Ended 31 December 2019¹², from www.nzx.com/companies/MCY

While the ICCC report discussed the potential for pumped hydro storage, another option would be to extend the current consented ranges on existing hydro schemes to provide greater flexibility support for intermittent renewable and efficient displacement of thermal generation. We would support government giving greater consideration to the potential for this option as it develops its strategy further.

¹¹ Mercury submission to MfE and the RMA Review Panel 'Transforming the resource management system: opportunities for change', 3 February 2020.

¹² Original data based on WITS, BGIX, Enerlytica and internal information



Conclusion

New Zealand's electricity sector is world leading and, without subsidy or intervention, has delivered renewable generation investment plus the largest emissions reduction of any sector of the economy. The electricity sector will play a vital role in delivering New Zealand's future emissions reductions through the electrification of transport and process heat. This will require significant investment, with demand for electricity set to double over the period to 2050. This is equivalent to the commissioning of a project equivalent to the size of Mercury's Turitea windfarm every nine months over the next 30 years.

New Zealand has limited human and financial capital to achieve the investment task ahead and must focus on the most economic projects to ensure this outcome is achieved at the least possible cost for consumers.

The market is responding with over \$1bn in capital committed to new renewable generation projects and significant additional investment nearing final investment decisions. The challenge for the government is to maintain its long-standing commitment to supporting efficient price signals and avoiding the types of interventions and distortions that have unbalanced the achievement of reliable, least cost and environmentally sustainable outcomes in electricity markets overseas.

The most effective options for the government to pursue is to strengthen the existing New Zealand Emissions Trading Scheme and ensure resource management frameworks and policies support renewable electricity generation investment. We provide our detailed feedback on the questions to the discussion document in attachment.

Mercury would be happy to meet with officials to discuss any of the content of this submission. If you have any questions on this submission please do not hesitate to contact me at nick.wilson@mercury.co.nz

Yours sincerely,



Nick Wilson
Manager Regulatory and Government Affairs



Appendix One: Consultation Questions

Question #	Consultation Question	Mercury Response
Part A Section 1: Addressing information failures		
Q1.1	Do you support the proposal in whole or in part to require large energy users to report their emissions and energy use annually publish Corporate Energy Transition Plans and conduct energy audits every four years? Why?	Mercury supports increasing transparency of climate related information and performance from all sectors. To be meaningful and effective any requirements would need to be consistent across users to aid comparison and tracking through time, avoid duplication of existing reporting and avoid unnecessary compliance costs. We recommend consultation with stakeholders prior to imposing additional requirements. MfE recently consulted on a proposal for companies to disclose climate change information using the proposed Taskforce for Climate-Related Financial Disclosures (“TCFD”) framework. (See Mercury submission to MfE on climate related financial disclosures) ¹³ . Disclosure of emissions under TCFD and/or carbon certification schemes already require detail of energy and emission sources.
Q1.2	Which parts (set out in Table 3) do you support or not? What public reporting requirements (listed in Table 3) should be disclosed?	See our response to Q1.1.
Q1.3	In your view, should the covered businesses include transport energy and emissions in these requirements?	Mercury supports the inclusion of transport energy and emissions in any reporting regime. Note that a detailed emissions inventory aligned with ISO14064 (Greenhouse Gases) or a Level 2 energy audit in accordance with AS/NZS 3598:2015 would include transport energy and emissions either as scope 1 or scope 3 emissions as defined by the Greenhouse Protocol.
Q1.4	For manufacturers: what will be the impact on your business to comply with the requirements? Please provide specific cost estimates if possible.	No comment.
Q1.5	In your view, what would be an appropriate threshold to define ‘large energy users’?	No comment.
Q1.6	Is there any potential for unnecessary duplication under these proposals and the TCFD disclosures proposed in the MBIE-MfE discussion document on Climate-related Financial Disclosures?	Yes, See response to 1.1 above.
Q1.7	Do you support the proposal to develop an electrification information package? Do you support customised low-emission heating feasibility studies? Would this be of use to your business?	Yes, if there is evidence that lack of information is a barrier to electrification in the process heat sector. This is something EECA could fund within its current baseline.
Q1.8	In your view, which of the components should be scaled and/or prioritised? Are there any components other than those identified that could be included in an information package?	Prioritise according to likely carbon abatement.

¹³ Mercury submission to MfE on the Climate Related Financial Disclosures Discussion Document, 13/12/19.

Question #	Consultation Question	Mercury Response
Q1.9	Do you support benchmarking in the food processing sector?	No comment.
Q1.10	Would benchmarking be suited to, and useful for, other industries, such as wood processing?	No comment.
Q1.11	Do you believe government should have a role in facilitating this or should it entirely be led by industry?	No comment.
Q2.1	Do you agree that councils have regional air quality rules that are barriers to wood energy? If so, can you point us to examples of those rules in particular councils' plans?	No comment.
Part A Section 2: Developing markets for bioenergy and direct geothermal use		
Q2.2	Do you agree that a NESAQ users' guide on the development and operation of the wood energy facilities will help to reduce regulatory barriers to the use of wood energy for process heat?	No comment.
Q2.3	What do you consider a NESAQ users' guide should cover? Please provide an explanation if possible.	No comment.
Q2.4	Please describe any other options that you consider would be more effective at reducing regulatory barriers to the use of wood energy for process heat.	No comment.
Q2.5	In your opinion, what technical rules relating to wood energy would be better addressed through the NESAQ than through the proposed users' guide (option 2.1)?	No comment.
Q2.6	In your view, could the Industry Transformation Plans stimulate sufficient supply and demand for bioenergy to achieve desired outcomes? What other options are worth considering?	No comment.
Q2.7	Is Government best placed to provide market facilitation in bioenergy markets?	No comment.
Q2.8	If so, how could Government best facilitate bioenergy markets? Please be as specific as possible, giving examples.	No comment.
Q2.9	In your view, how can government best support direct use of geothermal heat? What other options are worth considering?	Mercury endorses NZ Geothermal Association's Geoheat Strategy for Aotearoa NZ 2017-2030. The Government can ensure that any regulatory barriers for developers are minimised through strong policies in relation to geothermal energy resources at national, regional and local level. In particular, the Government could ensure that the National Policy Statement for Indigenous Biodiversity takes into account the potential impacts for

Question #	Consultation Question	Mercury Response
		geothermal development.
Part A Section 3: Innovating and building capability		
Q3.1	Do you agree that de-risking and diffusing commercially viable low-emission technology should be a focus of government support on process heat? Is EECA grant funding to support technology diffusion the best vehicle for this?	Mercury supports the Government's proposal to develop a programme that will reduce the risks and costs of deploying low emission technologies and agrees that EECA is the most appropriate vehicle to undertake this. Funding would need to be determined. Mercury does not consider an increase in the electricity levy paid to EECA would be appropriate as this would increase costs faced by electricity consumers.
Q3.2	For manufacturers and energy service experts: would peer learning and on-site technology demonstration visits lead to reducing perceived technology risks? Is there a role for the Government in facilitating this?	No comment.
Q3.3	For EIHl stakeholders: What are your views on our proposal to collaborate to develop low carbon roadmaps? Would they assist in identifying feasible technological pathways for decarbonisation?	No comment.
Q3.4	What are the most important issues that would benefit from a partnership and co-design approach?	No comment.
Q3.5	What, in your view, is the scale of resourcing required to make this initiative successful?	No comment.
Part A Section 4: Phasing out fossil fuels in process heat		
Q4.1	Do you agree with the proposal to ban new coal-fired boilers for low and medium temperature requirements?	Intervention of this nature is unnecessary if carbon is priced effectively under the NZ ETS. Higher carbon prices will bring forward emissions abatement opportunities according to their economic value merit order. This will largely negate the need for additional measures for sectors covered by the scheme. Regulation should only be adopted as a last resort measure if carbon pricing is unable to achieve the phasing out of coal fired boilers.
Q4.2	Do you agree with the proposal to require existing coal-fired process heat equipment for end use temperature requirements below 100 degrees Celsius to be phased out by 2030? Is this ambitious or is it not doing enough?	See our response to Q4.1.
Q4.3	For manufacturers: referring to each specific proposal, what would be the likely impacts or compliance costs on your business?	No comment.
Q4.4	Could the Corporate Energy Transition Plans (Option 1.1) help to design a more informed phase out of fossil fuels in process heat? Would a	Refer to our response to Q1.1. Effective carbon prices under the NZ ETS will ensure an optimal market led phase out

Question #	Consultation Question	Mercury Response
	timetabled phase out of fossil fuels in process heat be necessary alongside the Corporate Energy Transition Plans?	without disruption and will avoid unintended consequences of intervention.
Q4.5	In your view, could national direction under the RMA be an effective tool to support clean and low GHG-emitting methods of industrial production? If so, how?	There is currently a poor connection between New Zealand's climate change policy (international and domestic) and our planning system. There is also a poor relationship between policy on climate change and renewable energy. It is important that the RMA more clearly articulates values associated with the health, safety, and well-being of people and communities, as well as supporting the transition to a low carbon economy, building resilience to the effects of climate change. There are opportunities to strengthen mechanisms in the RMA to support climate change mitigation and adaptation in a manner that is complementary to the Climate Change Response Act 2002 ("CCRA"). Mercury views the ETS as the primary means of regulating air quality effects of industrial production, but the RMA could address climate change mitigation and provide policy support for activities that achieve carbon reduction.
Q4.6	In your view, could adoption of best available technologies be introduced via a mechanism other than the RMA?	Effective carbon pricing under the NZ ETS will encourage the adoption of the best available technologies.
Part A Section 5: Boosting investment in energy efficiency and renewable energy technologies		
Q5.1	Do you agree that complementary measures to the NZ-ETS should be considered to accelerate the uptake of cost-effective clean energy projects?	Mercury favours strengthening the NZ ETS so clean energy projects become economic. This would negate the need for complementary measures. If there are regulatory barriers to the uptake of clean energy projects, then these should be addressed as a priority.
Q5.2	If so, do you favour regulation, financial incentives or both? Why?	We favour non clean energy facing the cost of its emissions through the NZ ETS over regulation or financial incentives to switch to clean energy. We see other measures as a last resort because they are difficult to design in a manner that avoids unintended consequences and imposing unnecessary costs which are then passed on to consumers.
Q5.3	In your view what is a bigger barrier to investment in clean energy technologies, internal competition for capital or access to capital?	Neither of these. The biggest barrier is that energy technologies that are not clean do not face the environmental cost associated with their production. If these costs were real, the transition to clean technology would be happening.
Q5.4	If you favour financial support, what sort of incentives could be considered? What are the benefits, costs and the risks of these incentives?	Mercury does not favour financial support.
Q5.5	What measures other than those identified above could be effective at accelerating investment in clean energy technologies?	Strengthening the NZ ETS.
Part A Section 6: Cost recovery mechanisms		
Q6.1	What is your view on whether cost recovery mechanisms should be adopted to fund policy proposals in Part A of this document?	If the policy proposals in Part A were to be introduced, we would prefer cost recovery mechanisms to fund them.
Q6.2	What are the advantages and disadvantages of introducing a levy on consumers of coal to fund process heat activities?	The advantage is that the environmental cost of consuming coal would be priced, and this could encourage consumers to invest in clean energy technology as a substitute for coal. However, this could be achieved through the NZ ETS. The disadvantage is that we would

Question #	Consultation Question	Mercury Response
		have in place two policy measures that are supposed to be increasing the price of coal to change behaviour when one would be enough and involve less administration costs.
Part B Section 7: Enabling renewables under the RMA Part B Option 7.1 Amend NPS REG		
Q7.1	Do you consider that the current NPSREG gives sufficient weight and direction to the importance of renewable energy?	<p>No. We agree with the Productivity Commission, the ICCC and the outcome of the MfE/MBIE 2016 evaluation of the NPSREG, all concluded the NPSREG needs to be strengthened. We support the initiative already underway to review and strengthen the NPSREG.</p> <p>There are unnecessary barriers and policy incoherence for REG activities when the NPSREG is considered alongside other Part 2 RMA matters and other national policy instruments. There is uncertainty for hydro generators over water allocation decisions and for renewable generators over biodiversity, natural character or landscape decisions. The emergence of 'avoid' policies relating to freshwater, biodiversity, and natural character, in other national policy instruments is a significant barrier to operating and consenting REG activities. These matters require rebalancing so that appropriate weight can be given to the NPSREG¹⁴.</p> <p>There has generally not been an increase in consistency of REG provisions across RMA plans (with some exceptions, such as wind generation in the Palmerston North City District Plan), and that which exists is often no more specific than the NPSREG provisions.</p>
Q7.2	What changes to the NPSREG would facilitate future development of renewable energy? In particular, what policies could be introduced or amended to provide sufficient direction to councils regarding the matters listed in points a-i mentioned on page 59 of the discussion document?	<p>The language of the NPSREG needs to be more directive (beyond the current language of 'recognise' and 'have regard to') and address the relationship with other national instruments, including direction on the weighing of competing values, and particularly reconciling it against 'avoid' policies. This should include provisions that enable the use, development, maintenance and upgrading of REG activities.</p> <p>At a broad level, changes to the NPSREG should:</p> <ul style="list-style-type: none"> • Give specific reference to New Zealand's emissions reduction goals and climate change commitments and address the practical implications of achieving those targets. • Integrate electricity generation outcomes and the necessary resource use and protection. • Address the priority for water for existing hydro generation. • Provide specific direction to support the continuation and enhancement of existing REG activities and the ability to re-consent associated renewable energy resource use. • Enable the development of new REG activities and technologies to achieve national targets for REG. • Provide specific direction on the management of environmental effects for REG

¹⁴ Mercury submission to MfE and the RMA Review Panel on RMA reform issues options paper: "Transforming the resource management system: opportunities for change", 3/2/20.

Question #	Consultation Question	Mercury Response
		<p>activities.</p> <ul style="list-style-type: none"> Recognise that benefits of REG accrue nationally, but adverse effects manifest locally. <p>In addition, the definition of REG activities in the NPSREG includes the system of conveyance to the distribution network or national grid, but this aspect is often overlooked by councils in development of their plans. Electricity distribution or transmission for connection to REG activities should be provided for through an expanded NPSET and NESETA (i.e. not tied to the ownership of the asset) or be made more explicit through the NPSREG.</p> <p>To have greatest effect, changes to the NPSREG should be coupled with amendments to Part 2 of the RMA to elevate the importance of nationally significant infrastructure to the wellbeing of people and communities, and its effect in the displacement or reduction of greenhouse gas emissions.</p>
Q7.3	How should the NPSREG address the balancing of local environmental effects and the national benefits of renewable energy development in RMA decisions?	As noted in Q7.2, the NPSREG needs to recognise that benefits of REG accrue nationally, but adverse effects manifest locally. Priority needs to be given to national benefits, while providing scope to manage significant local effects. This needs to recognise the location of viable REG activities is limited by the location of renewable energy resources and that some localised adverse effects associated with the use and development of such resources cannot be avoided.
Q7.4	What are your views on the interaction and relative priority of the NPSREG with other existing or pending national direction instruments?	<p>The foundation of the RMA is the ‘sustainable management of natural and physical resources’; where the wellbeing of people and communities and the natural environment are intertwined. This encompasses a direction for RMA instruments, including national direction instruments, to consider the <u>use, development and protection</u> of those resources. It should be open to policy makers to address all three of these elements.</p> <p>The focus of section 6 of the RMA (matters of national importance) is on biophysical matters, which do not extend to essential social and economic needs. Express priority should be stated in the NPS REG to recognise that transitioning to an electrified economy based on renewable generation is one of the most realistic means that New Zealand can meet its greenhouse emission targets. Consequently, the policy framework of the RMA must proactively support and encourage renewable generation in relation to all matters of national significance.</p> <p>The existing and draft national policy statements have tended to involve general ‘have regard to’ policies when supporting certain essential renewable electricity development but more directive ‘avoid’ policies when protecting biophysical matters from adverse effects. Together with the application of the precautionary approach, this has resulted in an overly protectionist approach to planning and consenting, particularly for energy and infrastructure projects.</p> <p>It is important that through the national direction instruments, distinctions can be made</p>

Question #	Consultation Question	Mercury Response
		<p>between environmental values where bottom lines are absolute and those where discretion can be applied in order to provide guidance on the RMA's effects management regime. That is particularly so in the context of New Zealand's anticipated need to expand REG in order to support a future low carbon economy. The various NPS's need to make it clear how the relative priorities are to be weighed.</p>
Q7.5	<p>Do you have any suggestions for how changes to the NPSREG could help achieve the right balance between renewable energy development and environmental outcomes?</p>	<p>See response to Q7.1 to Q7.4.</p> <p>Mercury considers that given the government's climate change goals, Part 2 of the RMA needs to be amended and REG needs to be afforded priority over localised environmental effects which can still be effectively managed.</p> <p>As noted previously, the language of the NPSREG needs to be more directive (beyond the current language of 'recognise' and 'have regard to') and address the relationship with other national instruments, including direction on the weighing of competing values, and particularly reconciling it against 'avoid' policies. This may include ensuring the draft NPS Biodiversity does not act as a barrier to existing generation and future investment in renewable electricity generation.</p> <p>Two new section 6 matters of national importance should be added for reasons explained in Mercury's submission to the RMA reform Issues and Options paper 'Transforming the resource management system: Opportunities for change'. These are: <i>"The use, development, maintenance and upgrade of nationally significant infrastructure as an essential component of the health, safety, and well-being of people and communities."</i> and <i>"The need to reduce the foreseeable impacts of climate change through adaptation, mitigation and resilience, and by the displacement or reduction of greenhouse gas emissions."</i> The NPSREG should reflect these national priorities.</p>
Q7.6	<p>What objectives or policies could be included in the NPSREG regarding councils' role in locating and planning strategically for renewable energy resources?</p>	<p>A risk with centralist planning, such as spatial planning for infrastructure development, is that it inhibits market innovation and could be viewed as providing commercial advantage to some enterprises over others. It would have to be handled very carefully. In the electricity generation context, to predetermine the location of new generation is to predetermine responses to market supply and demand in electricity. In addition, spatial planning may be too slow to respond and adapt to rapidly changing technological advances. If a spatial plan was to restrict generation locations into areas 'available' for generation at the time a plan is developed, it may have a negative effect on the development of generation at other sites that become technologically feasible in the future.</p> <p>It remains important for the NPSREG to continue to recognise that REG needs to be located where the renewable energy resource is located, and that there are often logistical and technical practicalities associated with its use and development. Further, renewable energy resources may compete with other environmental values. Achieving the</p>

Question #	Consultation Question	Mercury Response
		appropriate balance will assist councils to proactively consider areas most suited to REG activities.
Q7.7	Can you identify any particular consenting barriers to development of other types of renewable energy than REG, such as green hydrogen, bioenergy and waste-to-energy facilities? Can any specific policies be included in a national policy statement to address these barriers?	No comment.
Q7.8	What specific policies could be included in the NPSREG for small-scale renewable energy projects?	No comment.
Q7.9	The NPSREG currently does not provide any definition or threshold for “small and community-scale renewable electricity generation activities”. Do you have any view on the definition or threshold for these activities?	Under the current NPSREG all REG activities are nationally significant. It is arbitrary to set a threshold for small and community scale REG development, with enabling provisions, particularly when larger scale developments (including expansions of existing REG developments) achieve greater contributions to climate change obligations, national REG targets, energy efficiency and economies of scale.
Q7.10	What specific policies could be included to facilitate re-consenting consented but unbuilt wind farms, where consent variations are needed to allow the use of the latest technology?	There could be an alternative consent variation process for nationally significant infrastructure activities where the scale and nature of effects of the (built or unbuilt) varied activity are not materially different to that originally consented. Such variations could be classified as ‘controlled’ activities with only limited notification given to directly affected persons and excluding consideration of ‘special circumstances’. Other related initiatives could be to provide for longer default lapse periods for nationally significant infrastructure, and to restrict the scope and frequency of consent reviews for nationally significant infrastructure linked to a change in an externally or predetermined threshold trigger.
Q7.11	Are there any downsides or risks to amending the NPSREG?	There will be a cost to councils if they need to update their plans, but such matters can often be dealt with through the review cycles for RMA plans. If the NPSREG amendments are poorly drafted it will create uncertainty, for example, by failing to address the weighing of competing environmental values.
Part B Proposal 7.2 Scope NES specific to renewable energy		
Q7.12	Do you think National Environmental Standards (NES) would be an effective and appropriate tool to accelerate the development of new renewables and streamline re-consenting? What are the pros and cons?	The discussion document captures the pros and cons of developing a NES to accelerate the development of REG. A NES may provide complementary measures to support amendments to the NPSREG or the RMA and should be explored further. Care is needed to ensure a NES is addressing the right issues and the right type of activities. Mercury does not believe that a NES is the right tool for the consenting of all REG activities (see response to Q7.15 for further details).
Q7.13	What do you see as the relative merits and priorities of changes to the NPSREG compared with work on NES?	Mercury considers changes to the NPSREG, and for some matters the RMA, should take priority over work on an NES.
Q7.14	What are the downsides and risks to developing	The time needed to appropriately consult with parties and develop the NES. This option

Question #	Consultation Question	Mercury Response
	NES?	should be explored but not be at the expense of delaying necessary amendment to the NPSREG.
Q7.15	<p>What renewables activities (including both REG activities and other types of renewable energy) would best be suited to NES? For example:</p> <p>What technical issues could best be dealt with under a standardised national approach?</p> <p>Would it be practical for NES to set different types of activity status for activities with certain effects, for consenting or re-consenting? For example, are there any aspects of renewable activities that would have low environmental effects and would be suitable for having the status of permitted or controlled activities under the RMA?</p>	<p>Improvements to consenting should firstly be addressed in the RMA reform (for example, expanding the requiring authority status to electricity generation and longer duration consents for REG activities) and any remaining issues be addressed by way of a NES.¹⁵</p> <p>A NES could be used to address the following specific matters:</p> <ul style="list-style-type: none"> • Statutory direction on the concept of ‘existing environment’ which explicitly recognises altered environments as the baseline for assessment of long-life REG activities. • Reclassifying applications to replace consents for REG (re-consenting and repowering) as ‘controlled’ activities, with notification only to those persons directly affected by the activity. • Provision for longer default lapse periods for new REG activities. • A non-notified ‘controlled’ activity consent variation process for nationally significant infrastructure activities where the scale and nature of effects of the varied activity are not materially different to the origin consent and/or where the variation is triggered by technology improvements or changes (this would also apply to consented but unbuilt REG activities to allow the use of the latest technology). • Restricting the scope and frequency of consent reviews for REG so they are linked to a change in an external or predetermined threshold trigger. • Prescribing standards and activity statuses for the investigation, identification and assessment of potential renewable energy resources for REG development, including but not limited to geothermal drilling and wind monitoring masts. • Prescribing standards for specific elements of REG use and development, including but not limited to geothermal drilling and wind farm noise.
Q7.16	Do you have any suggestions for what rules or standards could be included in NES or National Planning Standards to help achieve the right balance between renewable energy development and environmental outcomes?	Refer to the response to Q7.15 for the specific matters that should be addressed by a NES.
Q7.17	Would National Planning Standards or any other RMA tools be more suitable for providing councils with national direction on renewables than the NPSREG or NES?	The process to develop National Planning Standards is the same or similar to that for a NES. While National Planning Standards are used to address national consistency they are intended to be applied more broadly than a NES (such as provisions relating to all infrastructure). A NES on the other hand, is intended to be more specific by setting out standards and rules for certain specified activities, which can be applied generally or to a specified area, district or region. In addition, National Planning Standards are required to give effect to national policy statements so they are not the best mechanism to reconcile tensions and weigh competing values.

¹⁵ Ibid.

Question #	Consultation Question	Mercury Response
		Mercury is not aware of any advantages of using the National Planning Standards approach compared to greater specificity achieved through amending the NPSREG or developing a NES.
Part B Other options		
Q7.18	Are there opportunities for non-statutory spatial planning techniques to help identify suitable areas for renewables development (or no go areas)?	See response to Q7.6 above. Mercury favours a mechanism in the RMA that enables provision for longer-term infrastructure where land use decisions in the interim could compromise the efficient provision of infrastructure. The designation procedure could serve this purpose if the definition of 'requiring authority' was amended to include electricity generation and storage, under which a concept plan is first approved, followed by a more detailed effects assessment at a later planning stage.
Q7.19	Do you have any comments on potential options for pre-approval of renewable developments?	Mercury supports this option being investigated. As noted in the response to Q7.18, Mercury favours a designation process to achieve this purpose, or an equivalent two stage 'designation-like' process specifically for nationally significant infrastructure, under which a concept plan is first approved, followed by a more detailed effects assessment at a later planning stage. A downside of a pre-approval process is that it could be abused by a developer to 'land bank' potential development sites to constrain the market and drive up land prices for future REG developments. For this reason, the use of existing mechanisms in the RMA, such as the designation process (where the requiring authority status is amended to apply to electricity generation and storage), is the preferred approach.
Q7.20	Are the current NPSET and NESETA fit-for-purpose to enable accelerated development of renewable energy? Why?	The NPSET and NESETA apply only to the national grid, i.e. the assets used and owned by Transpower. REG developments cannot be achieved without connections to the electricity distribution or transmission network and, in some cases, potential REG developments may be some distance from the transmission network. As noted in the response to Q7.2, electricity distribution or transmission for connection to REG activities should be provided for through an expanded NPSET and NESETA (i.e. not tied to the ownership of the asset) or made more explicit through the NPSREG.
Q7.21	What changes (if any) would you suggest for the NPSET and NESETA to accelerate the development of renewable energy?	See response to Q7.20.
Q7.22	Can you suggest any other options (statutory or non-statutory) that would help accelerate the future development of renewable energy?	Statutory changes to the RMA to help accelerate the future development of renewable energy are addressed in Mercury's submission to MfE on reforming the resource management system (3 February 2020).
Part B Section 8: Supporting renewable electricity generation investment		
Q8.1	Do you agree there is a role for government to provide information, facilitate match-making and/or assume some financial risk for PPAs?	We are not clear on the problem to be solved here given that renewable electricity generation projects are being consented based on clear signals from the wholesale electricity market. Refer to Box 2 in our cover letter which illustrates the significant investment in a diverse range of renewable technologies occurring now with many projects

Question #	Consultation Question	Mercury Response
		<p>being delivered directly via PPA arrangements.</p> <p>Mercury does not support the government taking financial risk. PPA's are primarily a mechanism of reducing project risk to financiers of development undertakings and we see no reason for the government to take on financial risk, particularly as the market operates efficiently and is attracting investment capital. Government intervention risks crowding out private capital, chilling investment and potentially leading to less economic projects being funded. Mercury sees no reason why New Zealand taxpayers should be bearing risk on potentially uneconomic generation projects that are unable to attract more traditional funding.</p> <p>There could be potential for government to consider low cost measures to improve information provision to the market, but the benefits of a PPA platform seem likely to be outweighed by the costs. It could be years between a PPA platform being set up and used by which time any software or hosting capacity might be redundant or out of date. A lower cost option might be for MBIE to host a simple file on its website outlining open interest in PPAs on the demand side and hosting contact information of potential sellers in PPAs.</p>
Q8.2	Would support for PPAs effectively encourage electrification and new renewable generation investment?	<p>No. Mercury agrees with the discussion paper analysis that this would risk crowding out investment. Roughly \$1bn in capital is currently flowing into renewables investment in New Zealand (see Box 2 in our cover letter) via traditional financing and PPA arrangements. If government assumes risk on projects to promote alternative policy objectives, such as regional and community level development, this risks bringing forward investment that is uneconomic. In aggregate, this impact could be significant and slow down investment in large-scale renewables projects leading to higher wholesale prices which would then delay the electrification of the transport and process heat sector by making the transition more expensive. As noted by the New Zealand Initiative, the government underwriting the risks on uneconomic electricity generation resulted in a loss of around \$10bn in today's terms and led to the formation of New Zealand electricity market, which is now considered world leading (see cover letter).</p> <p>The paper discusses a range of small businesses and community groups entering into PPAs and underwriting a renewable generation project, similar to the Melbourne project. Mercury notes there are no barriers to a similar initiative occurring in New Zealand and this does not appear to require facilitation by a government built platform or by government assuming significant project risk but could proceed based on the project economics and benefits being favourable to both parties.</p> <p>Renewable electricity in New Zealand will need to double over the next 30 years in order for the country to meet its emissions reduction targets. This requires the equivalent of one Turitea -scale (Mercury's current windfarm under construction near Palmerston North – see Box 1</p>

Question #	Consultation Question	Mercury Response
		<p>in cover letter) being commissioned every nine months until 2050. This is a significant challenge and means we have to focus the country's limited human and financial capital on the most economic prospects.</p> <p>To demonstrate, a medium sized 100MW windfarm operating at a 40% capacity factor at a PPA price of \$80/MWh would expect to recover at least \$28,000,000 <u>per annum</u> in revenue. Mercury doubts the viability of even a significant proportion of small-medium businesses funding such a project or that there would be any benefit of such an arrangement versus a traditional off-take PPA arrangement, such as the deal between Genesis and Tilt for Genesis to offtake the power to be generated by Tilt's Waverley windfarm.</p> <p>Mercury considers that the more appropriate role for the government is to create demand for electrification through demand-side policies such as stimulating the electric vehicle market, starting first with the low hanging fruit of converting the government fleet to electric vehicles. This would have a far greater impact on accelerating renewable uptake than the government funding projects via PPAs.</p>
Q8.3	How could any potential mismatch between generation and demand profiles be managed by the Platform and/or counterparties?	Mercury agrees this risk is material and illustrates the why the government should not expose taxpayers by underwriting uneconomic generation development. Wind generation output for example is highly volatile over a day-to-day basis but is largely consistent and over a year. Integrated generator retailers can manage this volatility through investing in a complimentary portfolio of flexible generation and by signing contracts directly with customers or through other financial contracts. These risks are then carried on the balance sheets of those entities. In comparison, the government will not have the ability to manage these risks through such a portfolio approach (it neither owns generation or retails to consumers) and instead will be exposed to the compounded project risk of each individual project. The government will also have no natural counter-party to offset that risk with due to the fact that the project was likely uneconomic or otherwise would have attracted capital from the market. For this reason, Mercury does not support the government underwriting PPAs in the competitive market.
Q8.4	What are your views and preferences in relation to different options A to D above?	Mercury does not favour any of the mentioned options as we do not consider there is a material problem to address (refer to previous questions above).
Q8.5	For manufacturers: what delivered electricity price do you require to electrify some or all of your process heat requirements? And, is a long-term electricity contract an attractive proposition if it delivers more affordable electricity?	Not applicable.
Q8.6	For investors / developers: what contract length and price do you require to make a return on an investment in new renewable electricity generation capacity? And, is a long-term electricity contract an attractive proposition if it delivers a predictable	Mercury notes the market is delivering a number of developments with a diverse range of capital and contractual structures and with different risk management approaches. This is the ideal outcome will continue to happen without the need for intervention.

Question #	Consultation Question	Mercury Response
	stream of revenues and a reasonable return on investment?	
Part B Option 8.2 Demand-side participation and demand response		
Q8.7	Do you consider the development of the demand response (DR) market to be a priority for the energy sector?	No. Mercury believes a demand response market will develop organically in New Zealand and notes Transpower and the Electricity Authority are already active in this area.
Q8.8	Do you think that DR could help to manage existing or potential electricity sector issues?	Demand response will contribute but this needs to be market oriented with clear real-time pricing for demand participants. In New Zealand the primary use of demand response has been management of peak loads. For decades distribution networks have operated hot water relays for this purpose. On networks which have high peak periods there might be some scope for larger users being compensated to reduce demand (such as irrigators), but we are aware of Transpower already seeking to develop a market for these services.
Q8.9	What are the key features of demand response markets? For instance, which features would enable load reduction or asset use optimisation across the energy system, or the uptake of distributed energy resources?	Demand response markets are most likely to succeed where participating users are compensated for reducing their consumption. This may require compensation above and beyond what they could expect by not reducing demand in the first place: an industrial user for example would need to receive an economic benefit greater than or equal to covering the foregone revenue or normal operating costs from operating.
Q8.10	What types of demand response services should be enabled as a priority? Which services make sense for New Zealand?	Mercury supports Transpower and the Electricity Authority's ongoing development of demand response market.
Part B Option 8.3 Deploy energy efficiency resources via retailer/distributor obligations		
Q8.11	Would energy efficiency obligations effectively deliver increased investment in energy efficient technologies across the economy? Is there an alternative policy option that could deliver on this aim more effectively?	Mercury strongly opposes this being imposed on electricity retailers and distributors. Mercury is focussed heavily on building customer loyalty in a highly competitive market through offering innovative services that help customers manage their electricity consumption. This includes our Good Energy Monitor product which provides bill estimates to customers with suggestion on how to save energy. We have also recently partnered with an energy solutions company to develop an online tool for our customers to get advice on the costs and savings of installing energy efficiency products and linking them to available local and central government subsidy schemes like Warmer Kiwi Homes. These initiatives are happening through the market and there is no need for additional cost and complexity of regulated obligations.
Q8.12	If progressed, what types of energy efficiency measures and technologies should be considered in order to meet retailer/distributor obligations? Should these be targeted at certain consumer groups?	Mercury supports the energy efficiency initiatives of EECA which, for example, have done an excellent job sharing the efficiency benefits of energy efficiency improvements.
Q8.13	Do you support the proposal to require electricity retailers and/or distributors to meet energy efficiency targets? Which entities would most effectively achieve energy savings?	No. See response to Q8.11.

Question #	Consultation Question	Mercury Response
Q8.14	Could you or your organisation provide guidance on the likely compliance costs of this policy?	Without clearer detail on the proposal we aren't able to provide an estimate but would expect the costs to significant and deliver less benefits than what Mercury is already delivering for its customers. See Q8.11 for detail.
Part B Option 8.4 Developing offshore wind assets		
Q8.15	Do you consider the development of an offshore wind market to be a priority for the energy sector?	No. Provided the regulatory landscape is sufficiently clear, offshore wind market will develop naturally according to wholesale market price signals. The current onshore wind energy potential and large existing consented pipeline (see figure 1) mean on-shore wind options will to be developed first in the near term. Once lower cost wind (and other generation) potential has been exhausted is it possible offshore wind projects could become viable as the costs become better understood.
Q8.16	What do you perceive to be the major benefits and costs or risks to developing offshore wind assets in New Zealand?	The most beneficial step the Government can take on this is to ensure the regulatory landscape is clear for potential future developers of offshore wind farms. The discussion paper provides a good summary of existing regulatory barriers, we note these are significant and may take some time to address. Mercury's strong preference is that government prioritise removing existing regulatory barriers for onshore renewable electricity generation as detailed in our response to the questions in section 7 and our submission to MfE and the RMA Review Panel.
Part B Option 8.5 Renewable electricity certificates and portfolio standards		
Q8.17	This policy option involves a high level of intervention and risk. Would another policy option better achieve our goals to encourage renewable energy generation investment? Or, could this policy option be re-designed to better achieve our goals?	Mercury does not support this option. We note that it is generally used internationally in countries with low or poor uptake of renewable energy, not a country like New Zealand where we are already at 83% renewable and have over \$1bn committed in new renewable generation projects (see box 3). There is simply no problem to address through a RPS. We also note the costs and risks identified in the report and find it difficult to see how the potential benefits would outweigh these.
Q8.18	Should the Government introduce RPS requirements? If yes, at what level should a RPS quota be set to incentivise additional renewable electricity generation investment?	Mercury does not support this option.
Q8.19	Should RPS requirements apply to all retailers and/or major electricity users? What would be an appropriate threshold for the inclusion of major electricity users (i.e. annual consumption above a certain GWh threshold)?	Mercury does not support this option.
Q8.20	Would a government backed certification scheme support your corporate strategy and export credentials?	Mercury does not support this option.
Q8.21	What types of renewable projects should be eligible for renewable electricity certificates?	Mercury does not support this option.
Q8.22	If this policy option is progressed, should retailers and major electricity users be permitted to invest in energy efficient technology investments to meet	Mercury does not support this option.

Question #	Consultation Question	Mercury Response
	their renewable portfolio standards? (See option 8.3 above on energy efficiency obligations).	
Q8.23	Could you or your organisation provide guidance on the likely administrative and compliance costs of this policy?	Mercury does not support this option.
Part B Option 8.6 Phase down thermal baseload and place in strategic reserve		
Q8.24	This policy option involves a high level of intervention and risk. Do you think that another policy option could better achieve our goals to encourage renewable energy generation investment? Or, could this policy option be re-designed to better achieve our goals?	The most fair, effective and efficient method of achieving the goals described in this section would be to materially increase the current price of carbon in New Zealand. This would also facilitated a smooth transition balance and security issues for the electricity sector. We refer to a paper by the NZ Initiative that thoroughly canvasses these issues. ¹⁶
Q8.25	Do you support the managed phase down of baseload thermal electricity generation?	No. Mercury favours a market led approach to policies in the electricity sector.
Q8.26	Would a strategic reserve mechanism adequately address supply security and reduce emissions affordably during a transition to higher levels of renewable electricity generation?	No. It risks distorting wholesale market price signals but providing a cap on prices that undermines future investment and therefore the achievement of the government's renewables and emission reduction goals.
Q8.27	Under what market conditions should thermal baseload held in a strategic reserve be used? For example, would you support requiring thermal baseload assets to operate as peaking plants or during dry winters?	Mercury does not favour either the mandated phase out of thermal plant or imposing operating conditions on when such plant could or should operate. The New Zealand Government previously attempted to operate a diesel 'generator of last resort' at the Whirinaki site in Hawkes Bay under a Reserve Generation Capacity Agreement. This plant was used sparingly and cost taxpayers tens of millions of dollars before being sold to Contact Energy. The Reserve Generation concept was also discarded under previous energy sector reforms and there have been no credible calls for it to be reimplemented.
Q8.28	What is the best way to meet resource adequacy needs as we transition away from fossil fuelled electricity generation and towards a system dominated by renewables? Accelerating renewables uptake and encouraging changes in industrial energy use	The electricity market is already delivering on these goals with no other interventions required. One way to accelerate these would be to enhance the ETS. To quote from the NZ Institute paper referred to above (Q8.24): <i>"Consider this discovery process from the perspective of a coal generator that is part of the 5% thermal generation. Like all generators, the coal plant earns revenue from the sale of electricity on the wholesale market. Every year, the coal station's manager must purchase and then surrender emissions units equal to the number of tonnes emitted by the plant – a substantial cost when units are trading at \$75/tonne. Over the years, as the carbon price gradually increased to its current level, the other coal and gas plants found they could not keep up with their low-carbon competitors. One by one, thermal stations exited. However, the manager of one of the last remaining thermal generators has been able to find buyers willing to pay a good price for firming and peaking capacity her generators can offer in dry years. For those buyers, alternative sources of dry year capacity (as well as large-scale storage and demand response technologies) are even</i>

¹⁶ 'Switched on! Achieving a green, affordable and reliable energy future'. Matt Burgess, NZ Initiative, 2019.

Question #	Consultation Question	Mercury Response
		<i>more expensive. Buyers were willing to write long-term contracts to purchase energy at a price high enough to cover the coal plant's costs, including buying emissions units. Managers in the other remaining gas and coal plants went through similar processes with their buyers. This is how an ETS, or a carbon tax, solves the problem of how much thermal generation to retain.”¹⁷</i>
Q8.29	Should a permanent capacity market which also includes peaking generation be considered?	Mercury considers the current market arrangements will deliver the Government's goals without the need for significant intervention. While there may be merit in considering the implications of a capacity market it is important to bear in mind that while such markets have been used in other jurisdictions such as the UK the market conditions there are materially different to NZ. ¹⁸ Government backed capacity contracts would likely shift investment decisions away from the electricity sector to officials and ministers with potentially negative implications for future investment.
Q8.30	Do you have any views regarding the above options to encourage renewable electricity generation investment that we considered, but are not proposing to investigate further?	No. We would reiterate that the electricity market needs to grow in order to help New Zealand meet its climate objectives and that the current market is rated as world class in balancing affordability, sustainability and efficiency. Many of the interventions proposed in the paper may compromise that rating.
Part B Section 9: Facilitating local and community engagement in renewable energy and energy efficiency		
Q9.1	Should New Zealand be encouraging greater development of community energy projects?	Mercury support community development and notes the significant contribution renewable electricity projects have played to support regional growth and Maori economic development, particularly through the growth of geothermal generation over the past decade. Mercury welcomes the aspiration to support community energy projects. Renewable electricity in New Zealand will need to double over the next 30 years in order for the country to meet its emissions reduction targets. This requires the equivalent of one Turitea-scale (Mercury's current windfarm under construction near Palmerston North – see Box 1 in cover letter) being commissioned every nine months until 2050. This is a significant challenge and means we must focus the country's limited human and financial capital on the most economic prospects. The electricity market has been highly efficient at delivering generation investment at least cost. The question therefore is not whether we should support one development over another but whether those projects are economically viable and therefore should proceed on their own merit.
Q9.2	What types of community energy project are most relevant in the New Zealand context?	No comment.
Q9.3	What are the key benefits and downsides/risks of a focus on community energy?	No comment.
Q9.4	Have we accurately identified the barriers to	No comment.

¹⁷ Ibid pg 33.

¹⁸ Ibid pg 31 and footnote 83 referencing Dieter Helm's examination of the UK experience, 'UK Cost of Energy Review'.

Question #	Consultation Question	Mercury Response
	community energy proposals? Are there other barriers to community energy not stated here?	
Q9.5	Which barriers do you consider most significant?	No comment.
Q9.6	Are the barriers noted above in relation to electricity market arrangements adequately covered by the scope of existing work across the Electricity Authority and electricity distributors?	No comment.
Q9.7	What do you see as the pros and cons of a clear government position on community energy, and government support for pilot community energy projects?	No comment.
Q9.8	Any there any other options you can suggest that would support further development of community energy initiatives?	No comment.
Part B Section 10: Connecting to the national grid		
Q10.1	Which option or combination of options proposed, if any, would be most likely to address the first mover disadvantage?	Mercury has not found the 'first mover disadvantage' described in the paper to be a concern in practice. While it may be a theoretical issue, our view is that high quality generation projects, such as Mercury's Turitea investment, have found market solutions to transmission issues. Mercury specified a transmission asset for its Turitea windfarm in anticipation of future generation from its Puketoi wind development option. Mercury would negotiate in good faith with any third party wanting to connect to its transmission asset on an appropriate cost sharing access arrangement.
Q10.2	What do you see as the disadvantages or risks with these options to address the first mover disadvantage?	<p>We do not agree there is a first mover disadvantage in practice. Mercury's view is that high quality generation projects will find market solutions to transmission issues without further regulatory intervention.</p> <p>Mercury supports the enhancement of information about transmission opportunities provided the costs justify the benefits and that it does not compromise commercially sensitive information. This enhanced information would allow developers of transmission assets to consider building for additional capacity or subsequent users of the assets.</p> <p>We are also open-minded about including climate change mitigation as part of the Commerce Commission's assessment of Transpower's major capex investments, but this should be carefully phrased to limit the imposition of complex modelling requirements on Transpower (we also note this is currently done to an extent by Transpower by using fuel costs in current Commerce Commission proposals).</p> <p>For the same reason Mercury does not support the government underwriting PPAs we caution against underwriting the risks of transmission investment. The Commerce Commission's current regime strikes an effective balance between allowing for investments in the national grid while insulating consumers from inefficient grid</p>

Question #	Consultation Question	Mercury Response
		investments. Cost sharing arrangements may compromise that balance or incentives in the market and may encourage political interference in the transmission space. Mercury would welcome further work on this before proceeding to a decision.
Q10.3	Would introducing a requirement, or new charge, for subsequent customers to contribute to costs already incurred by the first mover create any perverse incentives?	While we welcome further analysis on this, per our responses to Q10.1 and 10.2, we think the current market arrangements are delivering satisfactory outcomes.
Q10.4	Are there any additional options that should be considered?	No.
Q10.5	Do you think that there is a role for government to provide more independent public data? Why or why not?	Mercury supports the provision of better information provided there is a positive cost-benefit ratio and confidential information is retained.
Q10.6	Is there a role for Government to provide independent geospatial data (e.g. wind speeds for sites) to assist with information gaps?	Refer to our response to Q10.5
Q10.7	Should MBIE's EDGS be updated more frequently? How often?	No comment
Q10.8	Should MBIE's EDGS be more granular, for example, providing information at a regional level?	No comment
Q10.9	Should the costs to the Crown of preparing EDGS be recovered from Transpower, and therefore all electricity consumers (rather than tax-payers)?	No comment
Q10.10	Would you find a users' guide helpful? What information would you like to see in such a guide? Who would be best placed to produce a guide?	Refer to our response to Q10.5
Q10.11	Do you think that there is a role for government in improving information sharing between parties to enable more coordinated investment? Why or why not?	Mercury supports the provision of better information provided there is a positive cost-benefit ratio and confidential information is retained.
Q10.12	Is there value in the provision of a database (and/or map) of potential renewable generation and new demand, including location and potential size? If so, who would be best to develop and maintain this? And how should it be funded?	Refer to our response to Q10.11
Q10.13	Should measures be introduced to enable coordination regarding the placement of new wind farms?	No comment.
Q10.14	Are there other information sharing options that could help address investment coordination issues?	No comment.

Part B Section 11: Local network connections and trading arrangements

Question #	Consultation Question	Mercury Response
Q11.1	Have you experienced, or are you aware of, significant barriers to connecting? Are there any that will not be addressed by current work programmes outlined above?	Mercury supports the ongoing work of the Electricity Authority which is looking at issues related to connecting to local networks. This includes work through the Innovation and Participation Advisory Group as well as the recommendations coming out of the recent Electricity Price Review.
Q11.2	Should the section 10 option to produce a users' guide extend to the process for getting an upgraded or new distribution line? Are there other section 10 information options that could be extended to include information about local networks and distributed generation?	No comment.
Q11.3	Do the work programmes outlined above cover all issues to ensure the settings for connecting to and trading on the local network are fit for purpose into the future? Are there things that should be prioritised, or sped up?	No comment.
Q11.4	What changes, if any, to the current arrangements would ensure distribution networks are fit for purpose into the future?	No comment.

¹¹Mercury Investor Presentation, available from <http://nzx-prod-s7fsd7f98s.s3-website-ap-southeast-2.amazonaws.com/attachments/MCY/345660/313602.pdf>