Submitted via e-mail

To: Resource Markets Policy - Building, Resources and Markets

Ministry of Business, Innovation & Employment

From: The Todd Corporation Ltd

Date: 28 February 2020

Todd Corporation welcomes the opportunity to provide feedback on the **Discussion Document on Accelerating renewable energy and energy efficiency (December 2019).**

1 About the Todd Corporation (Todd)

a) Todd is one of New Zealand's largest companies. The family owned company has grown over more than a century and now employs a team of about 1,000 people, with investments in energy, minerals, property, healthcare and technology.

b) Through Todd Energy, Todd produces about one-third of New Zealand's natural gas, from onshore natural gas fields at Kapuni, McKee and Mangahewa, and through its 26% interest in the Pohokura natural gas field. Todd also holds exploration permits in onshore and offshore Taranaki.

c) Natural gas is a very important energy source for New Zealand. It is used by industry, supplying 38% of the energy used for process heat[1], and as a feedstock in the production of methanol and urea. It provides energy to 16,000 commercial users and 265,000 New Zealand households.

d) Through Nova Energy, Todd generates electricity at its 100 MW fast-start natural gas fired peaker plant at McKee in Taranaki and at three cogeneration plants at Whareroa, Kaponga and Edgecumbe. Another 100 MW fast-start natural gas fired peaker plant is currently being commissioned at Junction Road, New Plymouth, and consents are in place to build 360 MW of capacity in the Waikato.

e) Todd has recently moved into solar power generation, through investments in Sunergise International and Sunergise NZ, an experienced supplier of commercial and industrial scale rooftop solar power. Todd is developing consents for a North Island wind farm and also holds consents for a tidal power generation site in the Kaipara Harbour, to be developed as technology matures and becomes economically viable.

f) New Zealand already has one of the highest proportions of renewable energy generation in the world. As that increases, and as New Zealand's electricity use and population increases, secure, affordable and reliable energy will be required to meet both daily demand and seasonal peaks. Todd believes that natural gas powered electricity generation has a crucial role in affordable, reliable energy supply that best enables New Zealand to increase renewable generation as we continue to transition to a low emissions economy.

g) As an integrated energy company, Todd is participating actively in the discussion on New Zealand's transition to a low emissions economy. Todd Energy's CEO is Chair of the Taranaki 2050 Lead Group, established by a partnership between MBIE and Venture Taranaki, which published the Taranaki 2050 Transition Roadmap. Todd continues to be involved in this important programme of work. Energy is one of the 12

[1] https://www.mbie.govt.nz/assets/8c89799b73/process-heat-current-state-fact-sheet.pdf

workstreams in the Roadmap and included in the energy transition plan is natural gas, hydrogen, wind, solar, wave and tidal energy.

2 Submission overview

a) Climate change policy has long-term implications economically, socially and environmentally. Todd supports the broad framework for emissions reductions that has been established by the zero carbon amendments to the Climate Change Response Act.

b) Todd considers that emissions pricing should be the primary mechanism for achieving New Zealand's emissions targets. An ETS is designed to reduce emissions in a cost-effective, market-driven manner, reducing the risk that market distortions (such as arise from subsidies) lock in inefficient technology or infrastructure or create perverse incentives.

c) The energy market is a complex system, intrinsically interwoven into the economy, adding further weight to the need for caution in designing policy frameworks. The discussion document proposes a whole range of potential measures at a time when major changes to strengthen the ETS are underway, and before these changes have had a chance to do their job. As the purpose of an ETS is to achieve lowest cost abatement, it will be undermined if policies are put in place that incentivise other – higher cost – abatement opportunities.

d) Further, while energy contributes 40% of New Zealand's total gross emissions (of which transport comprises about half), electricity generation and process heat contribute around 5% and 8% of emissions respectively. In effect, this document is concentrating on reducing emissions that comprise only 13% of NZs total emissions. Further, the majority (around 90%) of process heat emissions are produced by New Zealand's major users (less than 5% of the heat plant)[2]. These users have a direct financial interest in reducing energy use and costs, and emissions pricing signals and pressure from stakeholders will accelerate change.

e) Todd considers that both existing and new technologies have the potential to play a role in reducing emissions. The Government should not favour one form of technology over another, rather "unnecessary regulatory, informational and cost barriers should be removed to unlock least-cost abatement opportunities and encourage rapid uptake of low-emissions technologies" (as stated in page 11 of the discussion document).

f) For this reason, Todd recommends that the Government focus should be on:

   i publication of accurate and timely information regarding the energy sector, supply and demand, and new technologies;

   ii development of skills, knowledge and capabilities needed for the transition to a low emissions economy;

   iii development of information and support material that facilitate the ability of participants new to the energy sector to participate and contribute, for example standard forms of contract.

g) Todd agrees with the Interim Climate Change Committee recommendation that accelerated electrification of transport and process heat should be prioritised over pursuing a target of 100% renewable electricity. Investment in the national grid is a pre-cursor to achieving this objective. Todd agrees with the assessment in the consultation paper that the current regulatory framework (under the Commerce Act

[2] MBIE and EECA Technical Paper: Process Heat in NZ: Opportunities and barriers to lowering emissions, January 2019 (page 9)

and the transmission pricing methodology (TPM)) is not likely to be sufficient to incentivise the necessary investment in transmission and distribution networks to support increased electrification of process heat and transport or the new generation build to support it. Todd considers this to be the most significant issue raised in the consultation paper.

h) As New Zealand seeks to electrify transport and process heat in an affordable, secure and environmentally sustainable manner, natural gas will play an important role as a lower emissions fuel than coal, and as the most cost effective means of supporting the increase in intermittent renewable generation from solar and wind generation.

i) Todd believes that solar will play an important role in reducing emissions alongside other existing and new technologies. Government has a role to play in ensuring that regulatory frameworks are fit for purpose and that there are no unnecessary barriers that stand in the way of all technologies, including solar, being able to be deployed.

The following pages contain responses to selected questions from the discussion document.

Please note, the following responses are to selected questions from the online questionnaire

Section 1: Addressing information failures

15. **Option 1.1 would require large energy users to report their emissions and energy use annually, publish Corporate Energy Transitions Plans and conduct energy audits every four years. Do you support this option?**

☐ Yes - I fully support this option

☐ I support this option in part

☒ No - I do not support this option

16. **Please explain your answer**

Todd does not support this option as it imposes high workload on industry and high compliance costs on the Government, for 5% of emissions (60% of 8%). Very large energy users have the resources to carry out reporting and are likely doing so internally already. They will have a good understanding of their energy costs given they constitute a major operating cost. For these users the emissions pricing signals create a meaningful incentive for change (where and when alternative technologies are available).

For small and medium energy users with less in-house resources, many of whom would be captured by the threshold (of $2M pa), the administrative burden will be disproportionately high. The document notes that the existing EECA programme for Large Energy User Clients is incomplete and regular audits are not conducted. Todd considers that the costs expected to be incurred implementing Option 1.1 would be better spent providing more resources to this existing programme and extending it to provide SMEs with customised advice and improved access to resources.

Todd is also concerned that this requirement would cut across, rather than align with international sustainability reporting standards.

24. **Is there any potential for unnecessary duplication under these proposals and the disclosures proposed in the MBIE-Ministry for the Environment discussion document** *Climate-related Financial Disclosures – Understanding your business risks and opportunities related to climate change, October 2019*?

☐ No

☒ Yes (please explain)

Todd does not support the Option 1.1 proposal. Todd considers that the national and international drive for climate risk reporting (particularly for large corporate entities) from shareholders and financial institutions will, and is now, leading to a strategic assessment of many climate risks, including energy efficiency.

Option 1.2: Develop an electrification information package for businesses looking to electrify process heat, and offer EECA's business partners co-funded low-emission heating feasibility studies

25. **Do you support the proposal to develop an electrification information package?**

☒ Yes

☐ No

Todd advocates that one of the Government's key roles should be to promote the dissemination of accurate and reliable information regarding available and future technologies, to assist in firms in assessing the costs and benefits of those technologies and to make the best decisions for their firm.

Large, well resourced firms (including Todd) are generally well placed to do this themselves however we believe that smaller firms have less resource and so would benefit the most from such information.

26. **Would an electrification information package be of use to your business?**

☒ Yes

☐ No

Not directly; however the information would be useful for discussions with customers in our capacity as an energy retailer**.**

27. **Do you support customised low-emission heating feasibility studies?**

☒ Yes

☐ No

As noted above – large firms should have the resources to investigate and perform their own studies. Smaller firms are far more numerous and will likely benefit from more general information being made available, including access to the consultants and experts that assist such firms.

28. **In your view, which of the components should be scaled up and/or prioritised?**

Regularly publishing information on electricity reliability for large sites

Providing information on ways to increase reliability and resilience of electrically-supplied plant and systems

Co-funding low emission heating feasibility studies for EECA's business partners

a) With respect to resilience, reliability and capacity of the national grid and distribution networks:

There is an emerging misalignment between expectations of Government and the Commerce Commission's regulation of Transpower and electricity lines businesses (ELBs) under Part 4 of the Commerce Act. These are the parties best placed to assess issues of reliability, capacity and resilience and they are the parties that will be required to invest to upgrade their transmission and distribution network assets.

The means by which Transpower recovers its revenue is also regulated by the Electricity Authority through their oversight over the Transpower Transmission Pricing Methodology (TPM).

In facilitating the development of the grid, a more coordinated approach to regulation of monopoly ELBs will be required to ensure that the right investments are made in a timely manner and that all parties are acting to investigate and publish information about the grid and its capacity to deliver more electricity safely and reliably. In addition, thought will need to be given to the Commerce Act Part 4 and how revenue from assets that may potentially be built with the future in mind (and are subject to risk of underutilisation) will be recovered.

Section 11 of the consultation paper deals with this issue but we would like to emphasise this as being critical to the accelerated electrification of process heat and transport and the generation required to meet that new demand.

b) With respect to EECA co funding studies regarding switching to renewable or lower emissions process heat technologies, that should only be done if:

i. the technologies are proven technically but are still in the early stages of commercialisation; and
ii. the co funder with EECA agrees to the details of the case study and its results being published in the public domain; and
iii. the projects have a broader application in New Zealand than just to the co-funding firm.

Projects involving smaller firms should also be considered.

29. **Would a customised low-emission heating feasibility study be of use to your business?**

☐ Yes

☒ No

Section 2: Developing markets for bioenergy and direct geothermal use

This is not an area in which Todd has experience, and the document notes the existing work streams underway, including the Industry Transformation Plan. We do think it worth noting that other forms of bioenergy – particularly energy from wastewater treatment and landfill gas, as well as anaerobic waste digestion should be considered and enabled.

Section 3: Innovating and building capability

Technology diffusion and capability-building

47. **Do you agree that de-risking commercially viable low-emission technology should be a focus of government support on process heat?**

☐ Strongly disagree

☐ Disagree

☐ Neither agree nor disagree

☒ Agree

☐ Strongly agree

Todd agrees that an important role that Government should play is the provision of data and information that enables consumers to make the best decisions as to investment in technologies that reduce emissions and that are in their commercial best interests. We suggest also that the need is most required for small to medium size enterprises that have less resources and capacity.

We do not support Government taking commercial risks on behalf of firms (i.e. coinvesting, providing grants or guarantees etc) except for the situations of pilot studies performed by EECA as discussed in Option 1.2 of the consultation document.

48. **Do you agree that diffusing commercially viable low-emission technology should be a focus of government support on process heat?**

☐ Strongly disagree

☐ Disagree

☐ Neither agree nor disagree

☒ Agree

☐ Strongly agree

See comments above.

49. **Is Energy Efficiency and Conservation Authority (EECA) grant funding to support technology diffusion the best vehicle for this?**

☒ Yes

☐ No

EECA already acts in a role to provide information and support through pilot projects and is the natural vehicle to expand or improve on programs regarding supporting uptake of new technologies by firms.

53. **For emissions-intensive and highly integrated (EIHI) stakeholders: What are your views on our proposal to collaborate to develop low-carbon roadmaps?**

Todd supplies natural gas to a number of emissions-intensive firms and it is critical that these firms remain internationally competitive during the transition to a low emissions economy, given their economic importance, especially in the regions in which they operate.

In principle, Todd supports greater Government/industry engagement that will lead to fit for purpose policy. However, we note that many of the EIHI companies are international and will have access to international expertise, which New Zealand (generally, as well as in the emissions-intensive sectors) can benefit from. In the development of any programme that involves partnering with EIHI firms, treatment of intellectual property and competition between firms in New Zealand must be considered.

We also note that the recently established New National Energy Development Centre is ideally placed to play a role in this, especially since they will be linking with overseas equivalent organisations (for example with the Dutch).

Section 4: Phasing out fossil fuels in process heat

57. **Do you agree with the proposal to ban new coal-fired boilers for low and medium temperature requirements?**

☐ Strongly disagree

☒ Disagree

☐ Neither agree nor disagree

☐ Agree

☐ Strongly agree

58. **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?**

☐ Strongly disagree

☒ Disagree

☐ Neither agree nor disagree

☐ Agree

☐ Strongly agree

Todd does not disagree with the intent (to phase out coal use), and we acknowledge that uncertainty about future carbon prices has likely contributed to prolonging the life of coal boilers, but we disagree with the method proposed. A ban is a blunt instrument that, as the document concedes, has the potential to be a substitute for carbon prices and reduce abatement elsewhere. The whole point of an ETS is to use a unit cap to discover the lowest cost to achieve emissions reductions. Moving away from coal would be one of the low hanging fruits, presuming that a valid and economic alternative is available.

Given the work currently underway to implement a credible and effective Emissions Trading Scheme (ETS) in New Zealand, it should be given the opportunity to influence and direct decisions of consumers and investors rather than diminishing its impact as happened previously, when changes were made largely in response to the global financial crisis.

The document also states (on page 43) that “there is a risk that this option encourages switching from coal to gas when there are viable lower emission alternatives, such as biomass or electricity available”. Todd would like to point out that the replacement of coal with use of natural gas (in the North Island) for process heat would bring an immediate reduction in emissions (as natural

gas produces around half of the CO_2 emissions of coal) and much of the necessary infrastructure already exists:

- Switching to biomass or electricity for process heat may not be a viable alternative for some but natural gas may be. Preventing or raising barriers to switching to natural gas risks lock-in to higher emission fuels such as coal or oil.
- Internationally natural gas is seen as a key transitional fuel and one of the primary means by which other countries are acting to reduce emissions.

63. **Would a timetabled phase out of fossil fuels in process heat be necessary alongside the Corporate Energy Transition Plans?**

☐ Yes

☒ No

As noted elsewhere in this submission, Todd considers that the ETS should be the primary driver.

64. **In your view, could national direction under the Resource Management Act (RMA) be an effective tool to support clean and low greenhouse gas-emitting methods of industrial production?**

☐ Yes

☒ No

See responses to questions 78-103 regarding the NPS. Todd considers that the focus of the Government should be enabling renewable electricity for accelerated electrification for both process heat and transport.

Section 5: Boosting investment in energy efficiency and renewable energy technologies

67. **Do you agree that complementary measures to the New Zealand Emissions Trading Scheme (NZ-ETS) should be considered to accelerate the uptake of cost-effective clean energy projects?**

☐ Strongly disagree

☒ Disagree

☐ Neither agree nor disagree

☐ Agree

☐ Strongly agree

68. **Would you favour regulation, financial incentives or both?**

☐ Regulation

☐ Financial incentives

☐ Both

☒ Neither

Todd agrees with the conclusion in the discussion document, that does not favour financial incentives so as to avoid negative interactions with the ETS. We also note that the threat of regulation and accompanying uncertainty may disincentivise investment, when it is needed most.

69. **In your view what is a bigger barrier to investment in clean energy technologies, internal competition for capital or access to capital?**

☐ Internal competition for capital

☐ Access to capital

Todd consider that some firms may defer the investment due to a number of reasons that are not limited to capital constraints. Some energy efficiency enhancements may be complex and have significant impacts on operations of a production facility. Other reasons include:

- remaining economic life of existing assets
- maintaining production output and performing efficiency enhancement work at a suitable time such as when plant facilities face major upgrade work in the normal course of business
- concerns as to the ability of new investment to meet commercial and reliability requirements.

70. **If you favour financial support, what sort of incentives could be considered?**

Consideration could be given to identifying the best mechanisms for providing financial support to consumers that are less able to access capital for energy efficiency improvements, for example home or small business owners. Existing examples include financial assistance through local government (councils) where the loans are paid back via rates, or initiatives taken by major lending institutions, to reduce interest rates for loans funding energy efficiency improvements (insulation, local generation technologies?) (see also Question 129, Section 8).

74. **What measures other than those identified above could be effective at accelerating investment in clean energy technologies?**

Year-on-year reductions in cost of renewable energy technologies is naturally (and quickly) incentivising private investors to consider renewables as a rational replacement or upgrade. Government intervention is unlikely to be required.

Section 6: Cost recovery mechanisms – coal levy

75. **What is your view on whether cost recovery mechanisms should be adopted to fund policy proposals in Part A of the** *Accelerating renewable energy and energy efficiency* **discussion document?**

Todd has no strong view on the introduction of a coal levy, although this would be consistent with levies on other fuels and on electricity. If adopted, the funds should similarly be used for EECA purposes.

Section 7: Enabling development of renewable energy under the Resource Management Act 1991

78 – 90 (Q7.1-7.11) re the scope of and weight given to NPS-Renewable Electricity Generation

Todd does not support extending the scope of this NPS to all other types of renewable energy (from renewable electricity). Todd considers that, in line with the recommendations of the ICCC, effort should concentrate on accelerated electrification, which is required not only for process heat, but for electrification of the transport fleet.

Todd does support amendments d – g of the discussion document (page 59) regarding facilitating renewal of lapsing or existing consents, upgrades of existing facilities, and catering for the need to develop transmission and distribution infrastructure. The latter is likely to be one of the most significant changes that will need to be made (see also Question 171, Section 10).

It is also important that any national direction needs to acknowledge that projects that support the transitions, including transmission (as noted above) but also batteries, solar, peaker-plants etc.

91 – 102, 105-106 (Q7.12-7.17) re national environmental standards for renewable energy

Todd agrees with the concerns expressed in the document about the complexity and time taken to develop national environmental standards, particularly for "renewable energy" – which covers a range of diverse activities.

103. **Are there opportunities for non-statutory spatial planning techniques to help identify suitable areas for renewables development (or no go areas)?**

☒ Yes

☐ No

In general, Todd does not support a split approach to resource management planning, however Todd would give qualified support to developing a process to facilitate the identification of corridors for electricity transmission and distribution grids. This is due to the cross-boundary characteristics, and the requirement for coordination of investment by investors. Such corridors or regions should be co-located with areas that have or are expected to have high electricity demand and/or new generation.

Section 8: Supporting renewable electricity generation investment

Todd does not agree with some of the analysis presented in the consultation paper in support of the options presented.

In particular, investors in generation plant (renewable or otherwise) do not rely upon a period of high sustained spot prices to justify investment. Spot prices are the output of short term operational decisions of all generators in the market, reflecting short term supply and demand, and plant operation costs. Spot prices, which are highly volatile, are not the best guide to long run future prices. Investors in generation will be looking forward over the lifetime of their plant and the prices that the market will likely deliver, taking into account long run supply and demand fundamentals. In part this will also likely consider such metrics as medium term price indicators such as the ASX futures market forward curve, electricity contracts disclosed by retailers as required by the Electricity Industry Participants Code.

Other factors that will weigh on investors decisions will include:

- The demand for electricity and the probability of closure of the Tiwai smelter.
- The probability of closure of older thermal generation plant such as TCC (already signalled) and Huntly.

- The probability of existing consented projects being developed (e.g. Contact's Tauhara geothermal plant).
- The capacity of transmission infrastructure, and the ability to avoid the risk of material price and or generation constraints.
- Risk of regulatory intervention in the electricity market to artificially supress wholesale prices or to interfere in contractual arrangements in order to redirect energy supply.

Power Purchase Agreement (PPA) Platform

108. **Do you agree there is a role for government to provide information, facilitate match-making and/or assume some financial risk for PPAs?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree
Provide information	○	○	○	☒	
Facilitate match-making	○	○	☒	○	○
Assume some financial risk	☒	○	○	○	○

Todd notes that there are already a number of parties who are active in this space including:

- firms such as Simply Energy who provide a matching service between small generators and commercial and industrial consumers or retailers;
- Energylink and OMF who provide brokering services to generators; and
- Major Electricity Users Group who have launched a process to stimulate renewable generation developments to be underwritten by longer term PPAs with their members

Government entry into this space will likely crowd out these and other firms that are active.

While a low cost, low involvement role may exist in facilitating availability of information as to standard PPA forms, more direct involvement including underwriting contracts or developments should be left to the direct participants who are better placed to assess and manage financial risk.

119. **For investors / developers: what contract length and price do you require to make a return on an investment in new renewable electricity generation capacity?**

Todd looks at investment returns over 10-20 years when making decisions; the price/return required is dependent on the risk profile.

121. **Do you consider the development of the demand response (DR) market to be a priority for the energy sector?**

☐ Yes

☒ No

Demand response is a market mechanism – if the market values this service then it will become a bigger part of the energy puzzle. Systems are mature in this sense, and do not need additional priority.

Transpower and other participants are already active in the demand response market although not in a broad application. Todd agrees with the consultation paper that technology developments will likely be required to stimulate a broader application of demand response. Technology developments on the horizon will likely include a combination of artificial intelligence with smart appliances (including EVs),

batteries and distributed generation, but time will be required for those technologies to develop to a level of maturity that supports a broad penetration into the market at price points that are affordable.

How intermediaries interact with ELBs will be an important aspect of how these technologies are deployed in the future and that is an area of concern for Todd given the natural monopoly position those firms hold and their ability to either holdup technology deployments or attempt to capture a commercial benefit

Another important aspect that will likely be integral to the development of the future demand response market will be transmission and distribution price signals. This is already a part of the Electricity Authority work programme. No additional activity should be required in this space at this time.

128. **Would energy efficiency obligations effectively deliver increased investment in energy efficient technologies across the economy?**

☐ Yes

☒ No

The question relates specifically to obligations on retailers and distributors. Todd considers that these are not the right parties to bear the obligation. ELBs generally do not have direct relationships with consumers and Todd does not believe that it is appropriate for retailers to direct consumers as to their consumption behaviour or their investments. It would also potentially undermine Government efforts to improve competition and competitive market outcomes as well as issues associated with administration and compliance with such requirements.

129. **Is there an alternative policy option that could deliver on this aim more effectively?**

☐ No

☐ Yes (please specify)

Options that could be considered include facilitating financial support to consumers that are less able to access capital for energy efficiency improvements (see also Question 70, Section 5) and the development of improved efficiency standards for housing (for disclosure to prospective buyers).

132. **Do you support the proposal to require electricity retailers and/or distributors to meet energy efficiency targets?**

☐ I support the proposal

☒ I do not support the proposal

See reasons as noted above.

135. **Do you agree that the development of an offshore wind market should be a priority for the energy sector?**

☐ Strongly disagree

☐ Disagree

☒ Neither agree nor disagree

☐ Agree

☐ Strongly agree

Consistent with the position stated previously, Todd's position is that the Government should not be picking (and backing) particular technologies. Government should put in place an enabling and streamlined consenting regime for all renewable electricity (and associated infrastructure).

141. **Should the Government introduce Renewable Portfolio Standards (RPS) requirements?**

☐ Yes

☒ No

Todd does not support renewable electricity certificates and portfolio standards. Evidence from reviews of electricity market pricing structures in Australia[1] and the UK[2] point to the upward pressure on costs as a result of the requirement for renewable obligation certificates.

151-157 **Feedback on an option to phase down thermal baseload and place it in strategic reserve.**

Government should not regulate for thermal fuel phasedowns or strategic reserves as it results in protection of those assets and creates a disincentive for displacement of those facilities through the orderly functioning of competitive markets. It will also likely lead to higher costs than would otherwise have occurred, which ultimately would be borne by consumers. For example, in 2003 the Government invested in diesel-fuelled reserve capacity at Whirinaki which cost ~$150M to build. The power station never operated to any great extent and was sold to Contact Energy for ~$33M a few years later.

There is no evidence that supports the requirement at this stage for a "strategic reserve" and published reports by major generators indicate that in the coming years baseload thermal plant are being decommissioned and replaced, to the extent necessary, by fast start peaking plants that better support increased renewables. The ETS will send the right price signals for thermal plants (Huntly can run on either coal or gas) and how often they operate.

New investments have been committed to including a new fast peaking plant at Junction Road (Todd) and new wind farms (Mercury and Tilt/Genesis) despite there being no immediate signs of significant demand growth. These investments and others that may be made in the near future will likely drive either the retirement of the low efficiency/high cost thermal plants or see them operate less frequently.

While there are no immediate issues associated with security of supply, regulators should continue to monitor security of supply adequacy and if necessary, consider developing a capacity market arrangement to facilitate the investment in and operation of dispatchable generation.

158. **Do you have any views regarding the options to encourage renewable electricity generation investment that we considered, but are not proposing to investigate further? (See pages 90 - 92 of the *Accelerating renewable energy and energy efficiency* discussion document).**

Todd agrees with the conclusion drawn in the document; we do not support the additional options identified.

[1] June 2018 report: https://www.accc.gov.au/system/files/Retail%20Electricity%20Pricing%20Inquiry%E2%80%94Final%20Report%20June%202018_0.pdf

[2] June 2016 report: https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf

Section 9: Facilitating local and community engagement in renewable energy and energy efficiency

159. **Should New Zealand be encouraging greater development of community energy projects?**

☐ Yes

☐ No

Todd agrees that while community energy projects have benefits, the small scale of the projects means that they are unlikely to be significant contributors to lowering New Zealand's overall emissions and may not represent the best use of capital available to be deployed by community organisations. Larger commercial organisations typically have access to the skills, resources and financial capital to ensure the efficiency of invested capital and are exposed to scrutiny of financial markets to ensure financial discipline is maintained.

We note that some community organisations have partnered with larger commercial enterprises to make significant investments in generating assets. Examples of community owned electricity line businesses who have invested in power generation are Eastland Energy, and iwi trusts that have partnered with Mercury and Contact Energy for major geothermal developments. Todd is optimistic that community schemes will develop organically and considers that government involvement (including direction or subsidies) may disrupt that, crowd out independent parties and lead to inefficient capital investment.

To support the ability of community-based energy schemes the most effective role for Government to play is in reducing the regulatory burden, reducing or removing barriers and providing information that communities and developers can use (for example standardised contracts).

The most relevant area that Government regulatory bodies will have a role in is in enabling access to distribution networks (and the transmission grid) for new technologies (regardless of who the investor is but including community investors) and ensuring that barriers to access are as low as practicable. It is likely that some standards will be required regarding access to ensure safe and reliable performance of the grid.

Section 10: Connecting to the national grid

171. **Please select the option or combination of options, if any, that would be most likely to address the first mover disadvantage.**

☐ **Option 10.1**. – Encourage Transpower to include the economic benefits of climate change mitigation in applications for Commerce Commission approval of projects expected to cost over $20 million

☒ **Option 10.2** - Put in place additional mechanisms to support or encourage Transpower, first movers and subsequent customers to agree to alternative forms of cost sharing arrangements by contract

☒ **Option 10.3.1** - Optimise asset valuations under the Commerce Commission's regime in circumstances where demand is lower than originally anticipated because expected (subsequent) customers do not eventuate

☒ **Option 10.3.2** - Provide for Transpower to build larger capacity connection asset or a configuration that allows for growth, but only recover full costs once asset is fully utilised, with the Crown covering risk of revenue shortfall

☐ None of the options above

☐ Other (please specify)

Todd agrees with the assessment in the consultation paper that the current regulatory framework that governs transmission and grid investment and the recovery of costs (Part 4 of the Commerce Act and regulations pertaining to Transpower's Transmission Pricing Methodology (TPM)) is not likely to be sufficient to incentivise the necessary investment in transmission and distribution networks to support increased electrification of process heat and transport or the new generation build to support it.

ELBs face oversight from regulators regarding the investments they can make and how they can recover the costs of those investments. The main issues will be:

- incentivising investment in network infrastructure where there are risks of underutilisation of new capacity;
- addressing uncertainty as to cost recovery;
- providing certainty as to costs to be borne by investors seeking higher capacity or new electricity connections (demand side as well as supply side).

Ultimately, regardless of the solution selected, the Government will likely need to consider underwriting risks and/or costs associated with grid investment as it is an absolute pre-cursor to accelerated electrification of transport and process heat energy demand and the development of new generation to support that new demand. Of all the issues raised in the consultation paper – this is the most significant.

176. **Would introducing a requirement, or new charge, for subsequent customers to contribute to costs already incurred by the first mover create any perverse incentives?**

☐ No

☒ Yes (please specify)

An issue that will need to be considered is that subsequent customers may not have the same quality/security requirements as the initial party so any subsequent cost sharing arrangements should take that into account.

178. **Do you think that there is a role for government to provide more independent public data?**

☒ Yes

☐ No

179. **Is there a role for Government to provide independent geospatial data (e.g. wind speeds for sites) to assist with information gaps?**

☒ Yes

☐ No

180. **Should MBIE's Electricity Demand and Generation Scenarios (EDGS) be updated more frequently?**

☐ Yes

☒ No

Triennially appears sufficient for a capital intensive industry, which moves slowly.

181. **Should MBIE's EDGS provide more detail, for example, information at a regional level?**

☒ Yes

☐ No

Understanding regional transmission constraints alongside new generation, demand and transmission capacity developments will be useful for decision making processes and engagement with regulators and lines businesses with respect to future plans and opportunities.

184. **Would you find a users' guide (on current regulation and approval process for getting an upgraded or new connection) helpful?**

☒ Yes

☐ No

Although not of direct benefit to Todd, such information would be of benefit to others.

187. **Do you think that there is a role for government in improving information sharing between parties to enable more coordinated investment?**

☐ Yes

☒ No

We believe that the problem is overstated as presented, although there is an issue that is not explicitly recognised.

Investors in new generation facilities will need to take into account transmission capacity and the impact of their investment on marginal spot prices prior to making their investment. Having quality EDGS information as to national and regional level will assist in that. It is appropriate for this risk to sit with the investors as they are the best party to manage the risk through whether they invest or not and what actions they can take to encourage or support transmission investments. An item that is more difficult for investors to manage is the impact of subsequent investors to develop demand or generation projects that may have a negative impact on their investment. Currently in New Zealand there is no transmission capacity contract mechanism available to manage this risk. While Financial Transmission Rights exist, they are not a suitable risk management instrument as:

- they are not a firm right and are subject to scaling if the loss and constraints rentals are insufficient;
- FTR terms are too short (monthly) compared to the 10 - 20 year timeframes over which investors manage risk.

Further, competing firms are subject to appropriate regulatory constraints under the Commerce Act with respect to how they may coordinate their investment activities. Such coordination could well lead to less competitive outcomes and higher prices for consumers. Note that this does not prevent regulatory bodies publishing information so that competing firms can make good investment decisions, to ensure that capital is allocated efficiently within the economy and that investment risk is born by investors instead of taxpayers.

188. **Is there value in the provision of a database (and/or map) of potential renewable generation and new demand, including location and potential size?**

☒ Yes

☐ No

There is quite a lot of information in the public domain already with respect to this information including that from regulatory bodies, public and private firms and service provider firms/ consultants (including Energylink, Energynews). However, Todd supports regulatory authorities working to improving the quality and breadth of information that they already provide.

189. **Should measures be introduced to enable coordination regarding the placement of new wind farms?**

☐ Yes

☒ No

This is the role of the competitive market. Central coordination may result in reduced competition and higher prices for consumers.

Section 11: Local network connections and trading arrangements

193. **Have you experienced, or are you aware of, significant barriers to connecting to the local networks?** Please describe them.

Todd (through Nova Energy) has not directly experienced significant barriers to connecting to distributors' networks.

195. **Should the option to produce a users' guide (see Option 10.6 on page 110) also include the process for getting an upgraded or new distribution line?**

☒ Yes

☐ No

A users guide would be useful, if for no other reason it is worth documenting the processes involved and that will help identify potential 'choke points' in terms of establishing new DERs, an area which we expect to be subject to tension between distributors and connecting parties in the future.

197. **Do the work programmes outlined on pages 118 - 122 cover all issues to ensure the settings for connecting to and trading on the local network are fit for purpose into the future?**

☐ Yes

☒ No

There are several aspects of ELB ownership and governance structures that are not being addressed. The Electricity Pricing Review failed to recognise the impact that allowing the current regime of 29 ELBs to continue will have on the market as the scope for increased distributed generation and demand expands:

a) The ELBs Asset Management plans should include 'heat maps' that provide consumers and generators with a clear picture of areas in their networks that are occasionally, or expected to become, constrained. Not all EDBs have the capacity to do this.
b) ELBs should be publishing voltage statistics on the far extensions of their low voltage networks. Such data is available from AMI meters, and it would help inform providers of DER with an indication of whether their generation may be constrained, or if there are stability issues. This can be an issue for solar PV inverters for instance.
c) In the event that networks have attached multiple significant points of generation and demand, ELBs need to be operating with significant capability and capacity in their control rooms. Many EDBs

do not have the scale to provide adequate service levels, yet still insist on operating on a stand-alone basis.

d) Other jurisdictions, e.g. Australia, have a total ban on ELBs participating in generation and retailing. While most ELBs do not become involved in competitive activities, the regulations invite distrust and lack of cooperation between the competitive part of the electricity market and the ELB. This is non-productive and can lead to perverse outcomes. In cases where there is a clear benefit from additional generation in lieu of expanding a distribution network it is important that the decision processes are fully transparent, and the market has an opportunity to meet the demand. Transpower is very good at working through such processes, but the smaller companies in particular don't have the resources or market exposure to engage in such arrangements. This can include justification for large battery investments or even batteries behind the meter in lieu of network investments.
e) Increase in generation or demand. If a line is built specifically for the purposes of one customer, and that customer is expected to pay the cost of that line over time, then it should have a right to protect its interests in the line (but not a right to completely block additional network connections).

199. What changes, if any, to the current arrangements would ensure distribution networks are fit for purpose into the future?

As the response to question 11.3 suggests, there is good reason for ELBs to amalgamate their operations to achieve both economies of scale, and to have the capacity to respond to new complex demands on their networks. It is acknowledged that forced amalgamation may attract strong local resistance from parties with vested interests, but there may be sufficient benefit to justify offering community trusts a financial benefit from amalgamation. A thorough analysis could be undertaken to investigate the costs and benefits of such a proposal. The experience of the Aurora Network, which needs to increase its lines maintenance programme by $400 million over three years, provides a measure of the impact of ELBs decision making (Energy News 19 Nov 2019).

It is revealing to also note Aurora is quoted as saying in Energy News (5 Nov 2012) "Given the already high degree of transparency and disclosure that exists under the existing regulatory regime, it is questionable whether the proposed increase in disclosure and compliance requirements will make a material improvement for stakeholders and consumers." Clearly in this case the disclosure requirements were still not adequate to recognise the underlying under-investment problems earlier.