The Todd Corporation Limited

The New Zealand Productivity Commission. (2018). Low-emissions economy: Draft Report

1 Introduction

This is The Todd Corporation's submission on the Low-emissions economy Draft Report (**Report**).

2 About The Todd Corporation Limited

The Todd Corporation Limited (**Todd**) is one of New Zealand's largest companies. The family owned Company has interests in hydrocarbon exploration and production, electricity generation, energy retailing, property development minerals, healthcare and technology. Amongst Todd's subsidiaries are:

Todd Energy Limited and related companies (**Todd Energy**) hold a number of petroleum exploration and production interests:

a) 100% permit holder and operator of the Kapuni, McKee and Mangahewa onshore fields which are primarily natural gas producing fields.

b) A non-operator joint venture partner in the Maui (6.25%) and Pohokura (26%) offshore natural gas production fields.

c) Permit holder of five petroleum exploration permits in both onshore and offshore Taranaki.

Nova Energy Limited (**Nova**) is a major energy supplier in New Zealand supplying over 100,000 residential, commercial and industrial customers with gas and electricity. Its interests include:

d) Sales of natural gas produced by Todd Energy represents 28% of all gas supplied in New Zealand.

e) Ownership interests in three large cogeneration facilities that supply process heat and electricity to the Whareroa, Edgecumbe and Kapuni Lactose dairy factories and the Kapuni Gas Treatment Plant.

f) Owner/operator of the 100MW fast start gas fired peaking facility at McKee in Taranaki.

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g) Ownership of two additional sites consented for 460MW of gas fired peaking plants in Taranaki and Waikato.

This submission is made further to Todd's earlier submission on the Low-emissions economy issues paper. Todd Energy is a member of PEPANZ and Todd supports PEPANZ's submission on the Report.

3 Executive Summary

The primary points of Todd's submission are:

a) Support for the Productivity Commissions recommended policy setting: Todd supports the Report's recognition that a stable policy setting is needed to enable the private sector to plan and make long term investment decisions. Although Todd supports the recommendation that an ETS should be selected over a carbon tax, Todd does not accept the Report's representation of "fossil fuel subsidies" and does not believe that the two-baskets approach should be used to set different rules for different GHGs.

b) Natural Gas is important for a stable and effective transition: Todd would like the Report to better distinguish natural gas from other higher-emitting fossil fuels. Todd agrees with the Reports recognition that thermal generation is necessary to meet daily electricity demand and seasonal peaks during dry years. Todd believes further work should be done on CNG prior to drawing any conclusions about the suitability of gas as a transport fuel.

4 The Policy Setting for a Low-Emissions Economy

4.1 The Global Context

Todd previously submitted to the Productivity Commission that domestic outcomes are important but should not be pursued to the detriment of the New Zealand economy and its economic competitiveness. Indeed, the Report's "Terms of Reference recognise that New Zealand is "a small, globally connected and trade-dependent country".

The Report's "Terms of Reference" are to focus on emissions reductions in New Zealand. This must recognise the global context. Government policy should (a) be aligned with key competitors and trading partners; and (b) avoid a net increase in global emissions for example by carbon leakage.

4.2 The Need for a Stable Policy Setting

Todd agrees with "Key point" of the Report "At the heart of a transition to a low-emissions economy is the need for stable and credible climate policy settings. The private sector and civil society must be able to plan and take long-term decisions with confidence…" - page 15

The Todd Corporation Limited is a company investing in a diverse range of industries. Todd's investments are made after careful evaluation of opportunities taking into account the stability and predictability of a government's policy settings.

To sustain Todd's investment inside New Zealand, and to encourage other businesses to invest in New Zealand, stable climate policy settings are critical.

Stable policy should also extend to any transition away from activities generating GHG emissions. Any such change should be planned, with proper consultation and appropriate lead times so that business confidence is not undermined.

The recent Government announcement to cease offering offshore oil and gas exploration permits is an example of poor policy change. The industry had no warning of that change, announced by the Government on 12 April 2018. Subsequent documents released under the Official Information Act disclosed that the policy change was a coalition government deal without industry consultation or any normal cabinet process.[1]

Official Information Act disclosures include that preliminary to the 2018 Block Offer there was interest in New Zealand exploration acreage from a range of different sized entities including entities with a market capitalisation of >US$10 billion. The interest included 3 entities "actively seeking New Zealand country entry".[2]

Investor confidence in New Zealand has widely been reported as suffering, for example the IAGC, the Houston-based International Association of Geophysical Contractors, released a statement[3]:

"IAGC members are still considering avenues to realise a return on their significant investment in New Zealand's energy security." "The geophysical and exploration industry rely on consistent and transparent policy decisions by governments". "An arbitrary end to exploration disrupts business certainty, as major investments in New Zealand have already been made by companies with a reasonable expectation of future activities."

Todd submits that business confidence in New Zealand is undermined by sudden and unexpected policy change.

Todd supports the Reports statement "Long-term political commitment and durability is essential to the success of climate change laws and institutions. Substantial cross-party support for the core elements of statutory and institutional arrangements will help provide policy permanence regardless of the makeup of Government" - Finding 7.2

4.3 The Two-Basket Approach

The Report explains that a "two baskets" approach can refer to split GHG emissions targets on basis of sector or split GHG emissions targets on basis of gas.

Todd does not support the "two baskets" approach in either case.

Todd does not support the Recommendation that "The Government should establish separate long-term domestic gas targets for short- and long-lived gases, together with a regular series of reviews of progress against these targets." – Recommendation 8.1

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[1]Stuff - "Ardern's rush to announce oil exploration ban risks her moral high ground" 6 June 2018

[2] MBIE Memo 14 July 2018 To Block Offer Steering Group Re "Block Offer 2018 – Stages 1-3 Block Offer Selection and Justification"

[3] Upstream, The Global Oil & Gas News - "Seismic players looking at legal challenge in New Zealand" 1 June 2018

The two-baskets approach based on type of GHG will circumvent all sectors being treated the same. This will provide a justification for the Government to develop regulations favouring some sectors over others in an unbalanced way potentially for promoting a political agenda. The Report recognises that it is unusual for countries (except China) to prioritise emissions reduction of specific GHGs and in Todd's view the Government should follow this global approach (page 210-211).

4.4 ETS

Todd Supports the Recommendation for ETS over a carbon tax and the finding that the whole economy should be included - Recommendations 4.1 and 10.3

New Zealand's has a well-established ETS that has been operational for ~10 years and Todd sees little benefit in replacing this with a carbon tax.

We would argue that modifying the NZETS so it is more fit-for-purpose would provide businesses and investors greater confidence in emission prices going forwards, and thus encourage investment designed to lower emissions.

The most important factor for Todd is that the ETS incorporates clear guidance over future pricing. This will require some predictability on the future supply of NZUs (e.g. eligibility of international units, auctioning, etc.) to enable long term investment decisions to be made.

It is important for trade exposed industries to have certainty as to ETS regulation in particular the Industry Allocation mechanism. Carefully planned regulation is needed to avoid closure of trade exposed organisations or their relocation to other countries.

Todd's view is that ETS reform should seek to incentivise economic efficiency and as such all sectors should be fully included in the ETS. However, Todd recognises that emissions leakage needs to be taken into account. It is pointless for NZ to give up economic activity only for it to migrate offshore to a higher emissions regulatory environment.

Todd supports the Report's statements that no technologies should be favoured over others - for example Recommendations 12.1 and 12.2

An ETS is designed to reduce emissions in a cost-effective, market-driven way. It reduces the risk that market distortions (e.g. subsidies) lock in technology/infrastructure that prevents the adoption of alternative low-emission technology going forwards. Todd's view is that the Government should rely on the ETS to drive emission reductions and the market to choose the appropriate technology mix.

We are interested in new technologies, including carbon capture storage (CCS), and are aware that current CCS regulations are inadequate. New regulations are needed and should include amending the Crown Minerals Act to cover the permitting of underground gas storage facilities.

Todd supports the Recommendation that "New legislation should be prepared to regulate carbon capture and storage activities (CCS)" – Recommendation 13.3

Todd has submitted previously that NZETS should provide access to international credits for price discovery, liquidity and operational feasibility. However, Todd agrees with the Reports

conclusion that emissions trading credits sourced internationally should be of a high environmental integrity.

Todd strongly supports the Government working with other countries to develop new arrangements for trading credits under the Paris Agreement (p35). Todd encourages the Government to expedite these initiatives. Access to international credits is important for price discovery and liquidity in the New Zealand emissions units market.

Todd Supports the Report's recognition that international credits may contribute to emission reduction targets - page 35 Box 2.3 and Finding 4.6

4.5 "Fossil Fuel Subsidies"

We refer to PEPANZ's submission on fossil fuel subsidies and we endorse PEPANZ's views. We submit that the vast majority of what the Report has classified as "fossil fuel subsidies" are simply rebates for fuel-excise taxes which address what would otherwise be an inequity.[4]

Todd does not support the Recommendation that "The Government should phase out all subsidies that support the ongoing production and use of fossil fuels" – Recommendation 5.1

5 Todd Promotes a Recognition of the Importance of Natural Gas for Transition to a Low Emissions Economy

5.1 Distinguishing Natural Gas as a Lower Emitting Fossil Fuel

Todd has both an upstream and a downstream natural gas business. Todd's upstream business Todd Energy employs more than 250 staff and a similar number of contractors and has invested billions of dollars in development of its primarily natural gas assets in New Zealand. It produces natural gas and sells it to its downstream business Nova who generates electricity and sells the gas to other buyers for electricity generation and Methanex for methanol production.

Todd notes that there is no definition of "fossil fuels" in the Report including under the "commonly used terms". Natural gas has half the carbon footprint of coal. The report recognises the different emissions profile of natural gas in some of the later chapters, however there is limited differentiation between "fossil fuels" in the Report.

Todd requests that the Report includes a section on the types of "fossil fuels" and their different CO2 emissions profiles.

The Report states that the world cannot afford to burn all the known reserves of fossil fuels and meet emissions targets (page 137). This is misleading as it doesn't take into the account the potential benefits from substituting natural gas for the higher emitting fossil fuels. Many of the world's existing fossil fuels reserves are coal or petroleum. Globally significant amounts of electricity are generated by coal fuelled power stations (approximately 40% globally) and they are still being constructed. Coal fuelled methanol plants are also still being constructed.

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[4] PEPANZ Submission, page 4 and APEC Peer Review on "Fossil Fuel Subsidy Reforms in New Zealand" pages 63-66

Our internal modelling has predicted that without stable and balanced legislation, post 2023 it is likely New Zealand will be importing higher carbon emitting fuels. This fuel supply gap from 2023 can be mitigated if the government recognises the value of natural gas in the mix of fuels enabling New Zealand to reach "net zero".

5.2 Thermal Electricity Generation

We agree with the Report's assessments that New Zealand already has a highly renewable electricity supply profile and as such there are limited opportunities for GHG emissions from this sector compared to other countries internationally and to other parts of the New Zealand economy.

Todd supports the Key point that New Zealand already has a low-emissions electricity system with up to 85% of electricity generated from renewable sources. Remaining thermal generation mostly serves, when required, as a currently vital resource to meet daily demand and seasonal peaks and during dry years – page 320

The Report recommends a path to a low emissions economy which includes measures that drive conversion from fossil fuels based light transportation and process heat to electricity that can be primarily sourced from renewable generation sources – page 351 and Finding 13.3.

We believe that this proposed increased reliance on electricity will require a reliable and economically sustainable electricity supply. This can be provided by a mix of renewable generation and thermal generation.

The Report rightly highlights the challenges of managing security of supply with existing available technologies with primarily renewable but intermittent electricity generation and that some thermal backup supply will most likely be required. That is consistent with Todd's view that New Zealand will continue to need some thermal generation to continue to support a highly renewable electricity generation system. In a recent report[5] regarding New Zealand's energy future, Transpower has concluded that:

a) Exposure to supply shortages in winter and dry years is expected to grow from 4 TWh today, which is comfortably covered by hydro storage and existing thermal generation capacity, to 9 TWh by 2030 and 12 TWh by 2050.

b) There is a "winter supply gap" due to New Zealand's peak demand profile in winter that is not consistent with the summer based profile of solar PV or what other renewable forms of generation can provide.

c) Several potential technical solutions have been identified but none appears to be definitely feasible and economically attractive.

d) Additional gas fired peakers would have to be built to ensure demand is met.

The Transpower report references uncertainty of domestic gas supply reserves to fuel peaking plants as a concern. Todd believes that the question of reserves adequacy is more of an economic question than one of technical adequacy and in any event, the import of LNG or conversion of peaking facilities to alternative fuels such as diesel or distillate means this should not be an issue and the risk of asset stranded is very low.

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[5] https://www.transpower.co.nz/resources/te-mauri-hiko-energy-futures

It should be also noted that by 2050, today's existing thermal plants will almost certainly have been replaced by newer, more efficient facilities which provides the opportunity to incorporate not only technical efficiency gains to reduce emissions but also the potential for CCS.

Todd's subsidiary Nova Energy currently has a 100MW fast start gas fired peaking station based in Taranaki and is in the process of developing a further 100MW near New Plymouth. Nova also has consents for up to a further 360MW of gas fuelled peaking capacity in the Waikato. Contact currently has 350MW of fast peaking capacity and Genesis a further 40MW of peaking capacity excluding their more significant baseload coal and gas facilities at Huntly.

In total the 400MW of existing fast start peaking capacity can generate approximately 2 TWh over a 6 month period and the additional consented projects would add a further 2 TWh which would be adequate to cover the existing 4 TWh of hydro shortfall in a dry year. If additional peaking plant is required as is suggested by Transpower then this only confirms the importance of accommodating natural gas fired peaking plants in the future given the increased reliance on electricity in the future New Zealand economy.

5.3 Transport and the potential role for natural gas

Chapter 11 of the Report "Transport" classifies vehicles as "fossil fuel vehicles" or "low-emissions vehicles". Notably, the Report classifies hybrid and natural gas vehicles as "fossil fuel vehicles" - page 283 Box11.1.

The Report only deals briefly with the role that natural gas may play in reducing GHG emissions from heavy transport and largely dismisses it on the basis that "reductions in tailpipe emissions from using these vehicles are largely eroded by the fugitive emissions involved in generating the gas" - page 305. The Report also references a study performed by Concept Consulting in 2015[6] that concluded that emissions from natural gas fuelled vehicles were not materially different to or were worse than standard internal combustion engines.

We note that assessment is not correct in two ways:

a) The report referred to in concluding that tailpipe emissions benefits were eroded by fugitive emissions from gas production is with respect to gas production in the United States and is not relevant in the New Zealand context.

b) Concepts 2015 report does state that the case for 'return to base' heavy transport vehicles appears prospective. The report also states that CNG as a fuel for light transport would not likely be favoured over the shift to electric vehicles.

Todd believes that technological innovation is accelerating due to international efforts to reduce GHG emissions as well as improve air quality standards. For example, pure methanol is being trialled as a fuel for marine transport resulting in significant emissions reductions (also noted as being prospective in the Concept 2015 report) and CNG storage containment systems using carbon fibre to improve weight/distance metrics for CNG vehicles and container transport.

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[6] http://www.concept.co.nz/publications.html. Concept Consulting: February 2015: Possible commercialisation options for new gas discoveries.

Todd requests the Report's conclusion is revised - that natural gas fuelled vehicles are not worth considering - page 305. Todd believes further work should be done on CNG prior to drawing any conclusions about the suitability of gas as a transport fuel.

Todd has been investigating the feasibility of CNG as a transport fuel or as a fuel for process heat and we believe that there will be opportunities for CNG to assist in emissions reductions in areas where the Commission has said that there are few viable alternatives. This will come about with rising carbon prices and with internationally driven technology improvements.

Our investigations have also highlighted that the heavy vehicle engines designed to use CNG and the equipment used to refuel CNG vehicles can be repurposed for hydrogen as a fuel and as such CNG can potentially play a role as an effective, efficient and economic transitional fuel as a stepping stone between fossil fuels and hydrogen for heavy transport in the longer term. An area in which the Report has identified limited opportunity for alternatives and as such should feature as potential means for reducing GHG emissions not to mention the added advantages of lower particulate emissions, better air quality and improved balance of payments for the country in the form of reduced oil imports.

The main barrier to New Zealand being able to deploy CNG technology today is not one of economics, but the obsolescence of standards as to safety and transport of CNG. Currently New Zealand's regulations governing the transport of hazardous substances (including CNG and other fuels such as hydrogen) are pegged to international standards at a particular point in time (2017 currently). Those international standards have already changed and will continue to change in response to developments in technology as other countries deploy this technology. The issue associated with standards changing in the face of changing technology does not only apply to natural gas and is one that may impede progress for other green technologies and may prove to be a barrier to the uptake of new technologies as they become available.

Todd believes that there needs to be developed appropriate mechanisms to ensure that international standards adopted or referred to in New Zealand regulations and codes are updated or replaced in a timely fashion. Currently, the process in New Zealand for changing an obsolescent standard relies upon a party making applications for amendments at its own cost which can prove to be a barrier to investment – especially as the initial party gains no commercial advantage over other parties that may also benefit.

6 Closing

Todd thanks the New Zealand Productivity Commission for its full and thorough consideration of all submissions. We request that Todd remains listed as a stakeholder and included in any future consultation.

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