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Low-emissions economy  
New Zealand Productivity Commission  
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## **Submission on Low-emissions economy: Draft report**

### **Introduction**

The Taranaki Regional Council (the Council) thanks the New Zealand Productivity Commission (the Productivity Commission or Commission) for the opportunity to make a submission on the '*Low-emissions economy: Draft report*'.

The Council makes this submission in recognition of the purpose of local government set out in the Local Government Act 2002, and the role, status, powers and principles under that Act relating to local authorities. In particular, the Council's comments are made in recognition of its:

- functions and responsibilities under the Local Government Act 2002 and the Resource Management Act 1991; and
- its regional advocacy responsibilities whereby the Council represents the Taranaki region on matters of regional significance or concern.

The Council has also been guided by its Mission Statement '*To work for a thriving and prosperous Taranaki*' across all of its various functions, roles and responsibilities, in making this submission.

The Council has not yet had the opportunity to formally consider this submission. Staff will therefore advise the Commission of any changes made to the submission once the Council has considered it.

This submission makes some general comments on the draft report before focusing on aspects of the report of particular interest to the Council. The areas of primary interest to the Council are those set out in the report under land use, transport, heat and industrial processes and waste. The Government's recent announcements to end offshore oil and gas exploration activities is also commented on.

## **General comments**

The Council congratulates the Productivity Commission on a carefully balanced and thorough report which acknowledges the uncertainties and information gaps that we have and offers ways in which these can be addressed.

The Council also acknowledges the comprehensive nature of the report which covers all major aspects of climate policy – emissions pricing, law and institutions, regulation and policy and innovation and investment. The Council also acknowledges and supports the Productivity Commission’s call for a stable climate policy that promotes consistency over the long-term but which at the same time, is flexible and allows adjustments to be made as our knowledge and experience grows and technology improves.

Nevertheless, achieving a low-emissions economy will be challenging for New Zealand. As pointed out in your report on page 401:

*‘... the main risk, and the chief barrier to New Zealand grasping opportunities from change, is very human and institutional and is the same for all countries – namely, the difficulties people face in making decisions in an environment characterised by deep uncertainty about what the future will hold.’*

Good communication and community engagement that promotes an acceptance and willingness to change and a ‘can do’ attitude lies at the heart of this problem. The Council considers a public education programme and community wide engagement on the risks and opportunities of change that are achievable, flexible and are supported across the policy spectrum, will help in overcoming this barrier.

The Council notes that the Government asked the Commission to identify options for how New Zealand can reduce its domestic greenhouse gas emissions through a transition to a low-emissions economy, while at the same time continuing to grow income and wellbeing. The Council also notes the high level of engagement that the Commission has already undertaken with a wide range of interests on the issues.

## **The role of oil and gas in the transition**

A major announcement from the Government in April 2018 to end offshore oil and gas exploration in New Zealand, and potentially to bring an end to onshore oil and gas exploration, presumably came too late to be considered in the Commission’s report.

The Council is concerned that the Government’s announcement to end offshore oil and gas exploration has failed to see the substantial and significant role that the oil and gas sector will play in New Zealand’s energy future and in the transition to a low-emissions economy. Energy demand is forecast to grow in New Zealand and with the variability of renewable energy sources, the rising demand will have to be met from other more polluting sources (e.g. coal) or alternatively we run the very real risk of power cuts or blackouts, higher costs for oil and gas dependent sectors and a loss of national income. Use of natural gas (in electricity generation for example) substantially eliminates those risks by smoothing out variations brought about by dry years or when the wind is not blowing.

Natural gas, while a fossil fuel, releases about half the amount of CO<sub>2</sub> as coal and therefore provides much needed flexibility in our energy system, and potentially a significant reduction in CO<sub>2</sub> emissions when compared to coal. As you note in your report (page 320):

*'Remaining thermal generation (of electricity) mostly serves, when required, as a currently vital resource to meet demand at daily and seasonal peaks and during dry years.'*

and, at page 321 under the heading of 'Electricity':

*'Based on current technologies, almost all the scenarios considered in this chapter envisage some thermal (emissions-producing) generation remaining in 2050 to meet this demand.'*

In major industrial processes the arguments for continued use of natural gas or for fuel switching from coal to natural gas are also strong. As you note in your report (page 348) high temperature heat users such as methanol producers (who are based in Taranaki), and manufacturers that use a mix of gas as well as diesel, coal and wood, 'have no viable short-term economic abatement opportunities' (Finding 13.1, page 349). Converting to alternative, lower-carbon fuel sources would carry significant capital and operating expenses. Also as you point out, both the chemical and manufacturing sectors are exposed to international competition from firms that do not face emissions prices.

In low and medium heat industries, operational efficiencies offer limited scope to reduce process heat-related emissions. Your report notes that the dairy industry (which makes a significant contribution to the Taranaki economy) is the single largest producer of intermediate heat emissions, resulting from its use of coal and gas boilers to dry milk. The potential to use alternative fuel sources varies, depends on a number of factors 'although large potential gains are unlikely' (Finding 13.2, page 349).

Furthermore, while oil and gas is important in supplying heat and electricity for use in a wide range of domestic and industrial situations, it also plays a vital role in a modern world dependent on hydrocarbon-derived products. From the Taranaki perspective, restrictions on oil and gas production will have a major impact on methanol and urea production in particular. In the case of methanol, it could force the closure of local downstream industries (for example, the formaldehyde plant at Bell Block) thereby forcing up the price of low-grade wood by-product processing (particle board etc.) for the New Zealand market due to import replacement as well as a loss of a major export earner for New Zealand. On a global scale, it would also mean the replacement of low-emitting gas-based methanol by higher-emitting coal-based methanol.

In the case of urea, loss of local production would mean (besides the loss of a regionally significant industry), higher costs for farmers and higher emissions on a global scale because of the need to import urea as a replacement for locally produced urea.

There are therefore many reasons why New Zealand should be actively encouraging the use of natural gas over the short to medium term to ease New Zealand's transition to a low-emissions economy.

The Council is also concerned with the potential effect of the decision to end offshore oil and gas exploration, on the Taranaki economy and on the wellbeing of the community, with no meaningful consultation having occurred on how the region would transition to an economy without oil and gas. While the policy does not affect existing permits, the damage to industry confidence will see a withdrawal of investment in the sector at a time when New

Zealand needs natural gas as a vital part of its energy supply. Expertise will also be lost to the sector given the lack of long term certainty. We agree with the draft report (page 238) that there is a need 'for a smooth, just and prosperous transition' to a low-emissions economy.

As a final comment on this matter, the Council supports recent announcements by Regional Economic Development Minister Shane Jones to fund feasibility studies of a new energy development centre and a Taranaki hydrogen energy roadmap (among others) as part of the *Tapuae Roa: Make Way for Taranaki* regional development strategy (see <http://www.makeway.co.nz/> for a copy of the Action Plan that outlines these and other projects).

This Council was closely involved in the 18-month development of the Strategy and associated Action Plan which was launched by the Minister on 6 April 2018. As noted above, two projects in particular relate directly to the transition from fossil fuels to new energy forms, building on traditional strengths that Taranaki has in the oil and gas sector.

*Tapuae Roa* is an example of cooperation where local government, iwi, business and community leaders, with the support of central government, can come together in a constructive way to chart a way forward for the region.

Further comment on *Tapuae Roa* is made later in this submission.

## **Land use**

### **Agricultural emissions**

One of the main recommendations in the draft report is that agricultural emissions should be fully included in the New Zealand Emissions Trading Scheme (R10.3).

A further recommendation (R10.4, on page 258) is that to address potential effects of emissions leakage and international competitiveness resulting from including agriculture in the New Zealand Emissions Trading Scheme (NZ ETS), the Government should provide free allocation of NZU's to cover a large majority of agricultural emissions, based on their historic level. R10.4 goes on to state that the Government should withdraw these allocations over time as the stringency of agricultural emissions policies increases overseas and the availability of mitigation options increases.

The Council's concern with these recommendations is that when considered across all the emitting sectors in New Zealand, agriculture is leading international best practice in its carbon footprint. Other sectors, such as transport, with our aging vehicle fleet and lack of emission standards cannot be said to be leading international best practice in greenhouse gas mitigation. Furthermore, agriculture stands out as a major contributor to greenhouse gas emissions in New Zealand because we don't have the large industrial base that more industrialised nations have and therefore agriculture has a relatively larger slice of the overall pie for greenhouse gas emissions.

If New Zealand was to bring agriculture into the NZ ETS ahead of other countries, we would, on a global scale, be promoting more inefficient agricultural producers to meet

current and increasing demands for agricultural produce, at the expense of our own more efficient agricultural sector, thereby increasing greenhouse gas emissions.

In addition, the agricultural sector currently has very limited options to mitigate greenhouse gas emissions. This could mean the Government continuing to provide free allocations while at the same time, pressure is brought to bear on the industry to adopt mitigation options that do not work or are unproven, or might lead to calls for destocking, with all the attendant social and economic impacts that this would involve. Given that agriculture is a significant earner of export income for New Zealand and is sensitive to movements in international markets, we would need to be certain of the efficacy of mitigation options and that these were also being applied by our trade competitors.

On balance, the Council submits that the entry of agriculture in to the NZ ETS should be delayed until such time as proven mitigation options are available and adopted by our trade competitors.

The Council therefore supports the finding (F10.6) of the report (on page 250) that the development of effective mitigation technologies such as selective breeding and methane inhibitors or vaccines could have a significant impact on New Zealand's agricultural emissions. The Council also fully supports recommendation R10.8 (page 274) of the draft report that:

*'The Government should increase its yearly funding for research on agricultural mitigation technologies to a level that better reflects the potential value of successful outcomes. Funds could, for instance, be allocated from the proceeds of auctioning NZUs.'*

## **Riparian management**

The Council's has previously argued that the planting of streambanks under its Riparian Management Programme, should be included within the NZ ETS. The riparian management programme is a wholly voluntary, unsubsidised programme which is now the largest environmental enhancement planting scheme on privately owned in New Zealand. It is mainly undertaken for water quality enhancement purposes but has a number of other benefits such as biodiversity enhancement, improved farm amenity values, stock management advantages and climate change mitigation.

About 99.5% of the region's 1,720 dairy farms have a Council prepared riparian management plan in place. Approximately 2,700 riparian management plans have been prepared covering over 14,464 kilometres of streambank and more than 4.66 million plants have been supplied to landowners since the scheme began in the early 1990s. Over 85% of riparian plan streams have now been protected by fencing and 70% by planting where recommended.

The programme involves committed, active management with every landowner and long-term sustained investment.

The Council has argued that planting under the riparian management programme should be eligible for emission credits under the NZ ETS. This would make riparian planting more attractive and more durable by offering farmers a financial return on their investment. The

NZ ETS accounting rules should be amended to include such smaller areas of planting. New technology could allow finer-scale definition of riparian plantings for the purposes of the NZ ETS.

Similar arguments could be made for other relatively small-scale plantings or protection of vegetated areas, such as Manuka for honey production and small woodlots of exotic trees for amenity purposes or eventual timber harvesting.

In response to your Q10.2 (page 267), the Council considers that with developing technology and aggregation of smaller lots for accounting purposes, it should be technically feasible and cost-effective to include small areas of planting (such as riparian planting) within the NZ ETS.

## **Forestry**

Afforestation is another area of significant potential in Taranaki to assist in the transition to a low-emissions economy. The Council agrees with the overall findings in the draft report that the transition to a low-emissions economy will require substantial land-use change. In particular the draft report notes that between 1.3 million and 2.8 million hectares of new forest will need to be planted, mostly converted from marginally profitable beef and sheep farms. However, the economic impacts of this will need to be carefully considered.

Some Taranaki context is relevant to this discussion. In the mid-1990s, the Council introduced its sustainable land management programme with a suite of plans to address specific issues, largely to do with soil erosion and conservation issues in the inland hill country where the predominant land use is pastoral sheep and beef farming. The Council focused on the promotion and preparation of property planning services at a farm scale, backed up by information, advice and advocacy and regular contact and monitoring of plans. The programme is largely a voluntary programme with no direct government financial incentives.

Council prepared plans now cover 67% of the privately owned land in the hill country and monitoring shows over 90% of plans have been wholly or partly implemented. Recommendations typically involve the retirement of steep and erosion prone Class VII land, the conversion of pastoral land use to forestry or a combination of forestry and continued pastoral use on steeper land, and the more intensive use of flatter land for continued pastoral use. Monitoring data shows that some 54,738 hectares have been retired and 13,653 hectares have been converted to production forestry. Implementation rates have varied according to such things as log prices and dry stock returns.

However, over the years, the programme has been the platform from which to deliver subsequent government programmes to achieve land use change. Examples include a successful application to the Government's sustainable land management hill country fund established after the 2004 storm event which struck the lower North Island (delivered in Taranaki through the Council's South Taranaki Erosion Support Scheme, STRESS) and the Afforestation Grants Scheme (AGS).

The AGS was introduced in 2008 and the Council contracted with the Government to deliver the 'regional council pool' of the scheme. In this pool, soil conservation objectives were

considered co-benefits to afforestation while the carbon credits went to the Government. During the life of the regional council pool, a total of 732 hectares of new forestry (including 60 hectares of native species) was achieved at a cost of \$1.5 million in grants. Between 2008 and 2013, while the scheme was operating only a further 225 hectares of forestry was planted without Council's direct involvement. There is no longer a separate council pool for the AGS, and it is just one 'public pool' run directly by the Ministry for Primary Industries.

The Council's STRESS programme and the current AGS scheme have increased interest in the conversion of pasture to various form of forestry, including the conversion of pasture to planted Manuka.

There are opportunities for landowners to use Government incentives under the NZ ETS to establish trees. However, most landowners in Taranaki are small forest owners and we know that the complexity of the NZ ETS has acted as a barrier to joining the scheme. This is consistent with the finding F10.15 (on page 266) of the draft report that:

*'Only a minority of eligible foresters participate in the NZ ETS. Many owners of small forests find participating in the NZ ETS costly and risky relative to the benefits afforded by earning NZUs. Simplifying administration of the NZ ETS for small forests, allowing an averaging approach to surrender obligations over time (on a voluntary basis), and providing policy certainty are all ways to encourage more forest owners to participate.'*

Recommendation R10.7 (on page 266) of the draft report then follows that:

*'The Government should continue to refine the NZ ETS for forestry to make it easier and less risky for small foresters to participate; and to provide recognition for carbon sequestered in harvested wood products.'*

The Council agrees with these findings and recommendations.

The cost and complexity to landowners in Taranaki of participating in the NZ ETS, has lead the Council to consider other avenues of assisting in seeing an acceleration of tree planting in the Taranaki hill country for sustainable land management purposes.

Our estimates are that there is approximately 80,000 hectares of land in the Taranaki hill country in pastoral grassland that would be better suited in terms of sustainable land use, to some form of forestry or vegetative cover. However, at present the information on forestry options across the range of opportunities available – whether that be exotic forestry, indigenous forestry, Manuka (honey), or carbon farming – is complex, disaggregated and contained in a number of statutes, which create significant barriers to change for traditional hill country sheep and beef farmers.

The Council has therefore applied and received funding from the Government's Provincial Growth Fund (announced at the launch of *Tapuae Roa: Make Way for Taranaki Regional Development Strategy* on 6 April 2018) to build a web portal. The portal will contain relevant information and links to other resources so that landowners can find all the information in one place to help inform their tree planting decisions.

One of the most significant barriers to actually taking land out of pastoral use and putting it into forest, is forest establishment costs and the lack of income in the early years of forest growth. The Council is therefore looking to develop a business case and funding proposal, again from the Provincial Growth Fund, for a sizeable project that will see a major acceleration of tree planting across the Taranaki hill country. This project will have considerable economic, social and environmental benefits.

Other regional councils have similar intentions and collaboration has been agreed in order to strengthen the case for government partnering with regional councils to deliver multiple objectives. The Council's sustainable land management programme with its long history of working alongside land owners in the hill country, is a sound platform to deliver an expanded operational programme to establish a significant area of new plantings.

If the Commission's recommendations on simplifying the NZ ETS for small forest owners are taken up, the Council submits that trees planted under a variety of other programmes do not face complicated or costly bureaucratic processes to enable them to earn credits under the NZ ETS.

## **Transport**

New Zealand's transport emissions have risen more than any other emission source since 1990 (draft report page 281). Rapid population growth, the growth of the economy and a decline in prices for fossil-fuel vehicles has caused the vehicle fleet to expand. The draft report notes that compared to other developed countries, vehicle ownership rates are high, public transport use is low, and the vehicle fleet is old with poor fuel economy.

The Council's does not have a significant or direct role in reducing transport emissions. However, under the Land Transport Management Act 2003, the Council must prepare a *Regional Land Transport Plan* (RLTP) under which funding bids are made to central government to fund land transport activities such as state highways, local roads, public transport and walking and cycling opportunities.

The RLTP must be consistent with the Government Policy Statement on Land Transport (GPS). This document has been recently reviewed and now includes four strategic priorities relating to safety, access, environment and value for money. Under the 'Environment' strategic priority, is a result to reduce transport's negative effects on the global climate.

The Council is currently in the process of undertaking a mid-term of its RLTP. There are a number of policies that are targeted to climate change issues including the greater use of electric vehicles and alternative fuels; encouragement of alternative modes of transport (such as walking and cycling, public transport and rail); promotion of energy efficiency in land transport; and promotion of land use planning the reduces the need for travel.

The draft report concludes that the adoption of electric vehicles (EVs) represents the most significant opportunity to reduce transport emissions in New Zealand (draft report, page 281). However, the draft report identifies a number of barriers to the more rapid uptake of EVs and recommends the Government introduce a price 'feebate' scheme for vehicles entering the fleet (R11.2, page 302) where high emission vehicles would incur a fee, while low emission vehicles would receive a rebate. The draft report also recommends the

Government provide financial support for charging infrastructure projects to support the uptake of EVs in areas not attractive to the private sector (R11.3, page 303).

The Council generally supports the findings and recommendations on EVs. The Council is looking into the potential use of EVs in its own vehicle fleet.

However, the Council notes that the current state of technology means that EVs have a somewhat limited travel range with relatively few charging stations and are generally not suited to heavy vehicles (although we note that some cities have electric bus fleets). They are also more expensive and price is therefore also a barrier to widespread uptake. Advances in technology may overcome some of these barriers.

The rapid uptake of EVs would also lead to a rise in demand for electricity raising questions about our security of supply if natural gas or other fossil fuels are not to be part of New Zealand's energy future (see earlier comments under 'The role of oil and gas in the transition').

The draft report also comments on the role of other low-emission vehicles such as hydrogen fuel-cell vehicles. There are several advantages of hydrogen fuel-cell vehicles, but also a number of challenges to their uptake in New Zealand, as described in the report (pages 304-305).

At the recent launch of *Tapuae Roa: Make Way for Taranaki* regional development strategy mentioned earlier in this submission, central government funding was approved for a feasibility study of the potential to establish a hydrogen-based energy ecosystem in Taranaki. This would look at the potential for the demonstration of zero emission transport solutions for heavy transport, renewable energy storage solutions, industrial feedstock and heating and the export of renewable energy and would build on the traditional and transferable skills that the region has in the oil and gas sector. Work is underway to progress this study.

## **Waste**

One of the findings of the draft report is that good quality data on waste is lacking (F14.2, page 375). The draft report concludes that there is an urgent need to improve waste data if we are to successfully transition to a low-emissions waste sector. The finding is based on a view that much data is out of date, inconsistent or incomplete. As a result, there is limited ability to clearly identify or quantify opportunities to reduce emissions.

In Taranaki we have a Solid Waste Management Committee which oversees solid waste management across the region. The Committee is made up of representatives from the regional council and the three district councils in the region. We have very good databases on solid waste sources, recycling of waste and waste disposal to landfill. All landfills in the region hold resource consents issued by the Taranaki Regional Council and the conditions of consent require the supply of information on waste types, recycling tonnages and disposal etc.

The Council also has good data on rural waste. We have completed rural waste surveys and run several rural waste collections. We also undertake annual monitoring and inspections of

all dairy farm treatment and disposal systems as well as all solid and liquid waste streams from industrial sites that do not use district council landfill. We have programmes to promote rural wastes recycling.

We think it would be a reasonably straight-forward exercise to calculate emissions from waste treatment and disposal facilities.

## **Conclusions**

The Taranaki Regional Council again thanks the New Zealand Productivity Commission for the opportunity to comment on the Commission's draft report '*Low-emissions economy*'.

The report is a thorough, comprehensive and clearly set out report.

The Council agrees with the Commission that substantial changes in land use will be needed if New Zealand is to transition to a low-emissions economy by 2050. However, the economic impacts of this need to be carefully considered.

The Council considers that agriculture should not be brought into the NZ ETS until there are viable, practical mitigation options that can be implemented on-farm. Afforestation offers excellent opportunities for mitigation but more attention is required on overcoming the barriers to small forest owners to joining the NZ ETS. The Taranaki Regional Council is looking to ways in which an acceleration in tree planting in the Taranaki hill country can be achieved, and is looking to the Provincial Growth Fund to help with this task.

Yours faithfully

A handwritten signature in blue ink, appearing to read 'B G Chamberlain', written in a cursive style.

B G Chamberlain  
**Chief Executive**