



Beyond the Boundaries

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Steven Bailey

Inquiry Director

New Zealand Productivity Commission

By email to info@productivity.govt.nz

Dear Steven,

RE: Low-Emissions Economy: Issues Paper (August 2017)

Introduction

1. This is a submission by Oji Fibre Solutions (NZ) Ltd (Oji FS) on the Productivity Commission's 'Low-Emissions Economy: Issues Paper' published 9 August 2017.¹

Background to Oji Fibre Solutions

2. Oji Fibre Solutions is an Australasian pulp, paper and packaging products processing business with substantial direct investment in the New Zealand economy. Oji FS exports to global markets, predominantly in Asia, with major competitors spread around the globe. Oji FS is also a substantial employer with over 1400 direct employees based in NZ.
3. Oji FS operates some of New Zealand's largest industrial sites, including the Kinleith pulp and paper mill and the Tasman pulp mill (in Kawerau), and is New Zealand's largest producer of biofuel renewable energy, with over 80% of our process energy needs derived from renewable sources. On an annual basis, we utilise over 21 PJ of energy from wood-based biomass (Kraft black liquor and wood residues), approximately 1.5 PJ of geothermal steam, and fossil fuel use amounting to approximately 4 PJ. Oji generates approximately 350 GWh per annum of electricity via cogeneration plants utilising some of this process heat, but nevertheless is one of New Zealand's largest electricity consumers, with gross load in the order of 900 GWh per annum.
4. Oji FS has two primary issues it would like the Commission to consider in this inquiry:
 - Forestry residues are the primary feedstock into the Kraft pulp manufacturing process. The two primary components of woody biomass (lignin and cellulose/hemicellulose) are separated during the Kraft pulping process. The high calorific value lignin is the primary component of black liquor, which is then burnt in recovery boilers to generate steam, which is used to generate electricity and also provide heat to the Kraft process. The cellulose fibre is converted into Kraft pulp which is exported or converted into packaging products (for export or domestic use). Approximately half the dry weight of wood used in the Kraft pulping process is utilised as black liquor, making the process a biofuel producer and bio-energy

¹ Refer web page <http://www.productivity.govt.nz/news/how-can-new-zealand-transition-to-a-low-emissions-economy> and Issues Paper URL <http://www.productivity.govt.nz/sites/default/files/Low%20emissions%20economy%20issues%20paper%20FINAL%20WEB.pdf>

user. Other countries Kraft pulping industries are financially rewarded on that basis, with implications for their competitiveness on international markets.

Oji FS believes that increasing forestry resource in the central North Island will provide not only significant carbon sequestration, it will also provide additional feedstock which can be processed domestically, provide an increased biorenewable energy source and provide increased levels of feedstock for the pulp and paper industry.

- Woody biomass, including wood waste and the black liquor produced from the Kraft pulp process can potentially be used as a feedstock for a biorefinery. The implementation of biorefinery technologies is underway at many competitor's mills, and production of biochemicals and biofuels will become an important part of New Zealand's transition to a low-carbon economy (particularly if reduced petroleum refining reduces the availability of petro-chemicals). The synergies between a Kraft pulp mill and a biorefinery are significant and provide an opportunity for future development. Wood processing supports the domestic production and use of construction timber and underpins a 'carbon-storing' activity.

Oji FS believes that it is important to develop an emissions strategy that supports the future development of a woody biomass based biorefinery in conjunction with the operation of a Kraft pulp mill.

5. Oji FS is a member of the Bioenergy Association, the Major Electricity Users Group, the Wood Processing and Manufacturers Association and the Wood Council of NZ. Oji FS also has a close association with the NZ Institute of Forestry and the Forest Owners Association. To the extent that submissions from these organisations do not contradict this submission, Oji FS supports and endorses such submissions from these organisations.

Submission Response

6. Oji FS welcomes the Productivity Commission's inquiry and supports its purpose. Oji FS has several focus areas as discussed below:

Forestry, Afforestation and Land Use

7. The transition to a low emissions economy will take decades. In order to achieve net emissions reductions, increased carbon sequestration through afforestation is essential in the short to medium term. A clear policy in relation to the contribution forestry will make in terms of this transition is crucial and required as a matter of extreme urgency.
8. It is clear that current policies have not resulted in increased afforestation. It is critical that Government formulates forestry policy to incentivise the required levels of afforestation, ideally at levels of 30,000 Ha per annum over the next 15+ years.
9. An associated issue is ensuring that all externalities associated with land use choices are integrated into land values. This includes carbon, water and other costs currently being borne by the tax payer to varying degrees. Too often, the issues are evaluated separately. Present policies that favour agricultural land use over forestry land use by exempting the former from any cost of emissions have the effect of increasing the cost of land and therefore reducing the profitability of afforestation. Such subsidies are untenable if the Paris Agreement targets are to be met and water quality objectives are to be realised. This uneven playing field is compounded by forestry not providing a steady cashflow compared to agricultural use, with forests typically harvested at 25-28 years. (Although Oji has recently initiated a pilot program to evaluate the opportunities for intensive short rotation Radiata pine forestry.) The Commission should consider how policies could create a commercial and regulatory framework that optimises land use taking into account externalities and contributions to emission reduction and sequestration.

10. In addition to levelling the playing field, there needs to be complementary measures to support forestry. Forestry is treated as neutral in the ETS i.e. you earn credits when you grow and pay when you harvest. We accept this is scientifically valid, as the forest sector is neutral in the very long term, but this does not directly encourage forestry in the transition (particularly given the increasingly changing and complex rules involved). We submit the sector will need more direct encouragement as the country transitions to a low carbon economy. A comprehensive forestry policy package should support this sector as a valuable part of our regional economy, with low risks to water quality and other environmental benefits, as well as being key to New Zealand's low carbon economy in the long term.

The Life Cycle Value of Wood Processing

11. Oji FS believes the wood processing sector is an essential part of a future low emissions economy, and policy goals to retain and improve the competitiveness of NZ's wood processing sectors in the international marketplace are essential.
12. By example, it would be more efficient for logs to be processed within NZ (rather than exported whole) and have increased residues available domestically for pulp mills and renewable energy production. The volume of logs exported whole, rather than processed in NZ, is influenced by many factors, including the value of the \$NZ. However we note that importing countries place a high value on the residue/bio-fuel value from whole logs, as evidenced by the use of tariff's and non-tariff measures.
13. Policy measures aimed at transitioning the NZ economy to a lower emissions pathway need to assume that other countries will place an increasingly higher value on wood residues as a form of bioenergy, as feed stocks for their own bio-refining industries and as wood-based carbon storage and capture within construction.
14. Every time a log is exported, a portion of renewable fuel is also exported as most of the residues used for process heat come from the waste products of sawmilling etc. A significant amount of renewable energy could readily be provided via renewable wood processing residues if domestic wood processing expanded². Conversely, any reduction in NZ's domestic wood processing sector is a reduction in NZ's ability to achieve this country's stated goal of transitioning the economy to the lower GHG emissions track.
15. An associated issue is domestic policy imposing emissions costs on pre-1990 forests and favouring non-forestry land uses (including through the exemption of agriculture from the ETS) which has resulted in deforestation and dis-incentivised reforestation. The overall result is a reduction in the supply of wood and wood residues. Projected wood shortages acts in turn to discourage investment in wood processing and associated infrastructure, with the loss of domestic customers logically feeding back into a reduced incentive on land owners to contemplate forestry investment. Again, a comprehensive approach to forestry policy is therefore needed to address these overlapping issues.

Emissions Intensive Trade Exposed EITE

16. OJI FS agrees that Emissions Intensive Trade Exposed (EITE) industries should be enabled to compete internationally with competitors from countries with no or low GHG emission costs. There is no benefit to NZ's economy or the climate from displacing NZ's emissions to another country by substituting domestic production with imports. Any policy needs to ensure that it does not unduly penalise industrial manufacturing and exporting.
17. There is an added risk in relation to the pulp and paper industry. As producers of renewable energy and a part of the wood sector, we face competition from subsidised production in many other countries. As the world transitions to low carbon policies, a simplistic or strict approach to carbon price mechanisms in New Zealand could damage the potential for New Zealand's low carbon growth by displacing the very production we need to those countries aggressively supporting the use of

² 'Future Scenarios of Wood Energy for Emission Reduction', Dr Martin Atkins and Dr Tim Walmsley, University of Waikato, May 2016.

renewable energy and biofuels. This is the time to be pragmatic and realistic about what other countries are doing to support their low carbon growth.

18. In effect, present EITE companies are at risk of being forced to subsidise agriculture if agriculture remains outside the ETS and the Crown wants the liability to be devolved to selected emitters. We accept exemption from full liability is appropriate to the extent that agriculture is similarly emissions intensive and trade exposed.

Inclusion of Agricultural Emissions

19. Agricultural emissions are a significant component of NZ's greenhouse gas emissions. OJI FS supports the inclusion of agriculture into any emissions scheme and reducing such agricultural emissions should form a key part of New Zealand's climate change policy.
20. We believe the Commission's mandate should include identifying the most economically optimal emissions reductions opportunities (over the NZ economy as a whole) and recommending policies which prioritise these accordingly. There should be no need for an exemption and or extension of the subsidy enjoyed by agriculture as the key issue is targeting emissions reductions that impose the least cost to the economy as a whole.

Consultation Questions

21. Responses to specific questions are below.

Question 1: How can the Commission add the most value in this inquiry?

22. Oji FS believes that the Commission's inquiry has a significant role in terms of setting the scene for Government policies to achieve New Zealand's Paris Agreement targets and transition to a low emissions economy. The issues are complex, cover virtually every sector of the economy and, to a greater or lesser extent, all Government departments and agencies. Oji FS believes that, at least until an independent climate change commission is set up, the Productivity Commission is best placed to provide an independent overview and guiding strategy for climate change policy.
23. We believe the Commission's role includes clear articulation of the objectives of NZ climate policy, recommending a strategy to achieve these objectives while providing for economic prosperity, and subsequent analysis of any proposed mechanisms resulting from the implementation of Government policy.

Question 2: Chapter 3 of this issues paper mostly looks at ways to reduce emissions directly at their source. What other approaches would help identify opportunities to effectively reduce emissions?

24. While reducing emissions at their source should be the priority, recognition should be given to the life cycle of products, and ensure emissions are reduced through the lifecycle of such products (or services). The current approach to greenhouse gas emission reduction tends to look at opportunities each in isolation when a total value chain approach would unleash a wider range of opportunities. We recommend that the Commission look at the wider benefits, identifying and quantifying some of the different value chain activities, and develop targeted measures.
25. In particular, we note the value chain of wood-based products is essentially carbon-neutral. The integrated nature of wood processing ensures full value right through the value chain and has a positive economic contribution to the economy as a whole.

Question 3: To what extent is it technically and economically feasible to reliably measure biological emissions at a farm level?

26. NZ has a defined obligation associated with such emissions which needs to be translated via regulation to an incentive to reduce emissions at the farm level. The key aspect is ensuring that any obligation in relation to carbon charges creates the correct incentives on farm owners to take actions to reduce

emissions. We do note that farm owners and operators will need such incentives able to be translated to commercial benefits, so any proxy for emissions reductions needs to be able to be readily quantified.

Question 4: What are the main opportunities and barriers to reducing emissions in agriculture?

27. The primary issue around reducing emissions in agriculture is that there are presently no direct incentives on agriculture to do so. Even worse, the present mechanisms do not create sufficient incentives to convert agricultural land to carbon-sink forestry.
28. There are significant opportunities to reduce emissions in agriculture, without even considering land-use options. However, we believe a net-emissions approach should be taken. Better land management needs to be promoted – reducing erosion and contamination of waterways. In any case the principle of a market instrument is that it provides the flexibility for emitters to find the least cost abatement – i.e. the sector facing the price is irrelevant.
29. The main barrier to reducing emission in agriculture is whether the Government has the political will to ensure agriculture is exposed to the cost of agricultural emissions. Reducing the subsidies available to agriculture in the form of uncontrolled and grand parented water pollution rights under RMA, Government support for irrigation, the “Afforestation Grants Scheme” which effectively compensates landowners for poor land management, and other indirect subsidies will have a significant impact. At present the costs of agricultural emissions are imposed on the rest of the economy, effectively meaning that other industries are paying for the costs incurred by agriculture.

Question 5: What are the issues for government to consider in encouraging alternative low-emissions land uses?

30. The primary issue for the Government to consider is ensuring the fully internalised costs of production and associated emissions are allocated fairly. The differential regulation of land use creates distorted incentives and effectively discourages forestry and favours agricultural land use. Investors have reflected this bias against forestry with the consequence that afforestation rates over the last decade have been virtually zero. The lack of afforestation has significant implications for investment in wood processing and the potential displacement of climate-damaging goods and services with climate-neutral forest products.
31. Land use choices and related emissions need to be considered across the entire value chain and the economic benefit around each value chain needs to be considered. For example:
 - Land used for dairy: cows on the land produce methane, potentially damage the land and, without appropriate runoff containment, can contaminate waterways. The milk produced is collected by large trucks and taken to a processing plant, where the milk is converted to finished products. Finished products are then sold and exported, using large transport and shipped overseas.
 - Land used for forestry: trees act as a carbon sink, stabilising the land, reducing runoff and reducing any contamination of waterways. The crops are harvested once every 25 years, with the wood collected by large trucks and taken to a processing plant, which converts the wood into timber for construction, with the residues used for pulp production and as a biofuel. Pulp production produces energy as a by-product, with the process (using a modern mill) being effectively energy and emissions neutral. The pulp is then converted into packaging and/or exported, with the finished products sold and exported, using large transport and shipped overseas.
32. Although simplistic examples, each stage of the two processes generates emissions and has opportunities mitigating emissions. Both examples generate profits for the respective companies and generate GDP. Oji does not have an opinion on the best outcome for New Zealand, but would like the

Commission and the Government to ensure that the full cost of reducing emissions is borne equally by the various industries from a holistic perspective.

Question 6: What are the main barriers to sequestering carbon in forests in New Zealand?

33. As for the two previous questions, the main barrier is that due to current subsidies, agricultural land use is preferred over forestry use. This is an economic barrier more than anything else, and can be readily addressed by removing subsidies. As identified in the preamble to this submission, cashflow associated with different land use also acts to dis-incentivise afforestation. Like any investor, forest owners' act in their commercial interests, which is generally short-term thinking. A long term strategy which provides a platform for forestry investment is required.
34. A secondary barrier is around the harvesting and sale of forestry. It is important to have sensible and pragmatic ETS methodology that smaller forestry owners can easily use. Understanding how forestry products will be used is important – eg. Whether they are processed in NZ or exported, use in pulp processes and/or utilised as a biofuel.

Question 7: What policies, including adjustments to the New Zealand Emissions Trading Scheme, will encourage more sequestering of carbon in forests?

35. As for the three previous questions, including Agricultural emissions in the ETS is the primary policy change that will encourage greater afforestation.
36. However, while inclusion of agricultural emissions in the ETS will encourage afforestation, we don't believe it will be sufficient on its own to facilitate the levels of afforestation required for NZ to meet the NDC for 2030. Complementary measures are also required.
37. To address the commercial issues, a sensible approach would be an ETS methodology whereby forestry credits are awarded through the initial growth cycle to provide a substitute for cashflow (which can be readily converted to cash by the landowner), with surrendering of credits only required if the land is **not** replanted. In addition, an overall strategy driven by the Government (and not subject to constant changes by an incoming Government) is required to provide investment certainty for growers and processors.
38. Creating greater incentives or greater certainty around domestic processing of logs is another critical component as investments along the value chain will not be made in a timely manner to get the most value out of increased afforestation.

Question 8: What are the main barriers to the uptake of electric vehicles in New Zealand?

39. The uptake of electric vehicles is primarily driven by economics, and the main barrier is the cost of new (and used) EVs. As production costs reduce, vehicle cost will also reduce, so this will improve gradually.
40. The limited flexibility and range of some types of EVs are also barriers at present. However, this will improve as the technology associated with EVs improves, particularly battery capacity and charging speeds.
41. Another barrier is the present lack of associated infrastructure, particularly the limited number of charging stations and the implications this have on travelling medium to long distances. This will improve as vehicle technology and range improves, but is still a limiting factor.

Question 9: What policies would best encourage the uptake of electric vehicles in New Zealand?

42. The initial focus on policies should be in relation to providing supporting infrastructure. This might include tax breaks on capital investment.

43. Through should be given to improving the affordability for owners of new EVs (providing a flow-on effect to the used vehicle market). Direct incentives such as low interest loans (similar to the insulation and solar water heating programmes run by EECA) should be considered.
44. Further thought should be given as to how best support large logistics companies and industrial transport. Electrification of fleet vehicles and site vehicles is an obvious first step, with the primary hurdle being site charging facilities. It is important policies should provide strong incentives for such conversions, including direct funding of charging stations.
45. Secondary issues which may help to encourage EV uptake are in relation to convenience. Access to T2/T3/bus lanes in metropolitan areas helps. As does lower road user charges.

Question 10: In addition to encouraging the use of electric vehicles, what are the main opportunities and barriers to reducing emissions in transport?

46. Oji FS is a significant user of both road and rail and welcomes further consideration of how best to reduce the costs and emissions associated with domestic freighting. Electrifying heavy road transport will be a challenge for a number of years. The use of liquid and gaseous biofuels should be encouraged, although this needs to have minimal implications on transportation cost.
47. We think further electrification of major rail routes should also be considered. We think there is significant opportunity to move from heavy trucks to electrified rail, with not only significant savings in emissions from road transport, this will lead to emissions reductions associated with repairs and maintenance to roads and have the benefit of reducing the number and consequences of vehicle accidents.

Question 11: What are the main opportunities and barriers to reducing emissions from the use of fossil fuels to generate energy in manufacturing?

48. Fossil fuels, mostly gas and coal, are used intensively across the NZ economy. Convenience in terms of access to a fuel supply is the primary driver for choice of fuel – generally gas in the north island and coal in the south island. Fuel cost is a secondary issue, although creating opportunities for choice between fuel sources will assist in moving from coal to say gas or woody biomass.
49. Biomass can be used as a replacement for fossil fuels in a wide range of applications around the supply of heat, and potentially used to generate onsite electricity used in manufacturing. There is enough recoverable woody biomass available throughout New Zealand that 60% of current coal use in heat plant could be replaced by biomass fuel. There are considerable opportunities to move to a biofuels across the economy and reduce coal and gas use. The determining issue is around availability and price of such biomass.
50. One issue is around boiler type and the ability of an existing boiler to use different fuel types. We believe there is a real opportunity when companies are looking at replacing existing boilers to ensuring any new boilers are able to run on woody biomass.

Question 12: What changes will be required to New Zealand's regulatory, institutional and infrastructural arrangements for the electricity market, to facilitate greater reliance on renewable sources of energy across the economy?

51. We believe that, in general, the electricity market operates efficiently. In order to increase renewable generation, greater recognition of the greater flexibility required in the operation of many types of renewable generation (e.g. bioenergy and wind energy) and less administrative overheads associated with small generation plants.
52. We consider that it is crucial that electricity regulations (particularly in terms of the regulation of the Electricity Authority) explicitly require parties to take emissions/environmental considerations into

account when forming policy or assessing regulations and/or projects. In particular, we believe that Transmission Pricing should ensure that renewable generation is not disadvantaged. This should encompass distributed generation (e.g. potential landfill generation) and ensure that incentives remain for existing and new biomass generation.

Question 13: What evidence is there on the possible physical effects of future climate change on sources of renewable energy in New Zealand, such as wind, solar and hydro power?

53. There is clear evidence that climate change changes weather patterns – the Southern Oscillation Index (El Nino/La Nina) is a prime example. An associated issue is increased variability in weather conditions, particularly rainfall in different parts of the country. This variability can be expected to continue, and the electricity system should ensure it has sufficient flexibility to cope with both extremely dry years and extremely wet years. Although wind generation doesn't have the same variability in terms of total energy supply from year to year, a relatively low wind-generation year coinciding with a low-inflows year will have significant implications for the economy.
54. The rate of growth of biomass will be affected by changes in ambient temperature and changes in rainfall. However, in general, forestry is less impacted by these variations compared with agriculture, and if anything, increased forestry growing rates are likely.

Question 14: Apart from the regulation and operation of the electricity market, what are the main opportunities and barriers to reducing emissions in electricity generation?

55. Electricity generation is already 85%+ renewable. However, this can be further increased to close to 100% in a normal year (noting that thermal generation in a dry-year is almost certainly required). We don't believe there are any significant barriers at present, although we believe there are further opportunities.
56. The biggest opportunity we see is ensuring there are correct incentives for wood processing and thereby providing a fuel source for industrial renewable energy. This will involve improving the certainty around future fuel supplies and it is crucial that a cohesive policy around forestry and future land-use is implemented by Government to provide certainty for investment.

Question 15: What are the main opportunities and barriers to reducing emissions in industrial processes (such as the production of steel, aluminium and cement) and in product use (such as the use of hydrofluorocarbons in refrigeration and air conditioning equipment)?

57. Again, we believe there are opportunities to increase production and investment in the forestry and wood processing sectors and substitute high-emissions products with carbon-neutral products.

Question 16: What policies and initiatives would best promote the design and use of buildings that produce low greenhouse gas emissions?

58. NZ's Building Act provides for NZ building codes reflective of environmental good practice. The Building Codes should be reviewed to ensure the correct balance between climate change issues and other requirements. In particular, consideration of the benefits of wood and wood-related products in any review of the building code is encouraged, both in construction and for insulation.
59. Timber and other carbon-neutral building products should be preferred over carbon-intensive products. Specific policies should be developed around this, with a requirement to consider emissions when evaluating any legislation and/or investments.

Question 17: What are the main opportunities and barriers to reducing emissions in waste?

60. Disposal of organic waste to landfill results in methane emissions which are 23 times more significant than CO₂ as a greenhouse gas. Landfills are an inefficient method of processing waste as only around 60% of methane is captured at the best designed and managed landfills. All organic waste can be processed into energy by use of proven technologies. The barrier to this occurring is not economic but by the waste management practices occurring throughout New Zealand. Best practice waste management could result in near all organic waste being used productively as a source of energy. This has been recognized by territorial authorities adopting zero organic waste to landfill policies but they need assistance on how this can be achieved.

Question 18: Policies to lower emissions from particular sources, technologies and processes can have interactions with emission sources in other parts of the economy. What are the most important interactions to consider for a transition to a low emission economy?

61. The issues around climate change are extremely complex. Previous comments in the body of the submission and in relation to questions on forestry and agriculture above apply. However, this inquiry by the Productivity Commission is the first serious attempt by Government to involve the sectors in developing a plan on how to achieve the Paris climate change targets. We suggest that an on-going reference group be established to consider cross-departmental and cross-sector issues.

Question 19: What type of direct regulation would best help New Zealand transition to a low-emissions economy?

62. We don't have an opinion on the type of direct regulation. However, we believe that the present ETS provides a good framework for providing incentives to reduce emissions.
63. We believe that the most important aspect is ensuring that there is a body that oversees Government policy in relation to climate change. Consistency in policy across Government departments is crucial in ensuring that appropriate incentives are applied and that organisations can make optimal investment decisions on the basis of such policy.

Question 20: Acknowledging the current review, what changes to the New Zealand Emissions Trading Scheme are needed if it is to play an important part of New Zealand's transition to a low-emissions future?

64. We support the work MOTU completed earlier this year on "An Effective NZ ETS: Clear Price Signals to Guide Low-Emission Investment".
65. The specific recommendations from the MOTU report are:
- Near-term supply constraint to guide price
 - Near-term price safeguards - a "Price Band"
 - Long-term signals – indicative trajectories based on a comprehensive data set
 - Independent review and advisory mechanism – independent climate commission
 - Managed access to international emission reductions
66. The recommendations from this review in relation to managing unit supply and prices in the ETS to generate more predictable price signals to guide decision making are required in order to ensure the ETS achieves what it is intended to do.

Question 21: What type of market-based instruments would best help New Zealand transition to a low-emissions economy?

67. We think the ETS provides a good framework for the transition. As suggested in our response to question 20, we think the recommendations of the MOTU report should be implemented to provide guidance for investments and other decision making.

Question 22: What type of support for innovation and technology would best help New Zealand transition to a low-emissions economy?

68. Adopting proven new technologies rapidly will be a critical aspect of maximising emissions reductions while maintaining economic growth. In this area NZ should be a fast-follower or early-adopter. Our view is that the focus on innovation and technology needs to be on the engineering and technical development of technologies rather than focused on the raw science.

Question 23: How can New Zealand harness the power of financial institutions to support a low-emissions transition?

69. Access to capital is often a significant barrier to making investments, particularly strategic investments that have a longer payback period than production based investments. However, lending institutions are developing their own policies around climate change and potentially lending for renewable energy based solutions. In particular we note Westpac's support for energy efficiency projects in terms of the Cleantech fund.
70. We also support other financial incentives which recognise that many of the benefits of greenhouse gas reduction are public good benefits for the community at large and not necessarily for the investor.

Question 24: What type of alternative approaches (such as voluntary agreements or support for green infrastructure) would best help New Zealand transition to a low-emissions economy?

71. We don't believe that voluntary agreements serve any practical purpose. The NZ economy is fundamentally a market economy with light handed regulation. In a market economy those measures able to be adopted voluntarily will be those where the 'return on investment' justifies the change regardless. Alternatively, if actions are required for the common good, well thought out regulation is appropriate, and in many case a requirement.

Question 25: In addition to "core" climate policies and institutions, what other changes to policy settings or institutional frameworks are required to effectively transition New Zealand to a low-emissions economy?

72. Climate change is a cross-departmental issue. Our view is that the overall strategy needs to have policy developed in such a manner as to ensure a consistent approach across all of Government. Setting up a climate change commission or quasi-independent body to oversee policy development is therefore the key requirement at this stage. We believe that this new organisation is potentially better placed to review policy settings and institutional frameworks.

Question 26: What are the main uncertainties affecting New Zealand businesses and households in considering investments relevant to a low-emissions future? What policies and institutions would provide greater confidence for investors?

73. We don't believe that voluntary agreements serve any practical purpose. The NZ economy is fundamentally a market economy with light handed regulation. In a market economy those measures able to be adopted voluntarily will be those where the 'return on investment' justifies the change

regardless. Alternatively, if actions are required for the common good, well thought out regulation is appropriate, and in many case a requirement.

Question 27: What approaches, such as regulatory frameworks or policy settings, would help embed wide support among New Zealanders for effective reduction of domestic greenhouse gas emissions?

74. Government leadership and integration of climate policies across all regulatory areas and having a government that appeared serious about climate change would assist achieve wide support amongst New Zealanders. The present hands-off approach does very little towards achieving our Paris Agreement obligations.

Question 28: Is New Zealand's current statutory framework to deal with climate change adequate? What other types of legislation might be needed to effectively transition towards a low-emissions economy?

75. We don't believe the current statutory framework is sufficient in order to address the complex climate change issues. Some kind of overriding principle needs to be embedded within the regulatory framework and ensure such regulations are applied consistently across Government. We also believe that the issues related to agriculture and forestry as already discussed earlier in this submission need to be better addressed.

Question 29: Does New Zealand need an independent body to oversee New Zealand's domestic and international climate change commitments? What overseas examples offer useful models for New Zealand to consider?

76. What is required is for a properly funded body with a serious mandate to develop and implement a plan for how the Paris targets are to be achieved. This body can also advise on the appropriate targets that could be achieved. This could be a Crown Agency, but does need to be non-partisan and have some structure that gives it a degree of independence from Government but is still able to give effect to the guiding strategy and Government policy.

Question 30: How can adaptability best be incorporated into the system supporting New Zealand's low-emissions transition?

77. It is clear that policy settings, including the ETS, will need to adapt over time. The key aspect is ensuring that policy changes are well signaled and the inputs into policy decisions are well understood.
78. Some of these key inputs might include:
- Observed atmospheric greenhouse gases, and associated observed and predicted climate changes
 - Climate change policies of NZ trading partners
 - Availability and cost of new technologies
 - Extent of NZ emissions reductions over time
 - NZ domestic economy changes.

Question 31: What types of analysis and underlying data would add the greatest value to this inquiry?

79. We note that the Commission has already identified gaps in data and associated analysis. We don't have any specific comments other than establishing a consistent approach and baseline for analysis is an important starting point.
80. Oji FS, as a major emitter, would be more than happy to meet with the Productivity Commission to discuss our emissions and opportunities for emissions reductions.

Question 32: What should be the mix, and relative importance of, different policy approaches (such as emissions pricing, R&D support, or direct regulation) in order to transition to a low-emissions economy?

81. We don't have any specific comment on the mix and relative importance of different policy approaches. We do acknowledge that there will need to be a mix, and the Productivity Commission, and any climate change commission once established, will be in a better position to determine the optimal mix and relative importance of such policies. Different sectors face different issues, and in our opinion the most important thing is that the costs associated with moving to a low-emissions economy are fairly distributed.

Question 33: What are the main co-benefits of policies to support a low-emissions transition in New Zealand? How should they be valued and incorporated into decision making?

82. There are several co-benefits to policies supporting a low-emissions economy. These potentially include regional economic development, increased employment and the achievement of other environmental outcomes.
83. We believe that externalities or aspects that aren't able to be easily quantified should at least be identified and acknowledged as benefits (or costs) to the extent possible. While assigning a value might prove problematic, externalities are important in understanding the implications and potential added benefits in addition to the quantified benefits.
84. Specific benefits to be considered might include:
 - Forestry related benefits – reduced soil erosion, improved water quality, increased domestic wood processing and associated investment.
 - Electric Vehicles – improved air quality and associated health benefits
 - Technology implementation - increased job numbers and better qualified workforce

Question 34: Who are the most important players in driving forward New Zealand's transition to a low-emissions economy?

85. The most important player in driving NZ's transition is the Government. Leadership from Government and a serious will to achieve the Paris Climate Change targets by reduction of greenhouse gases is the single most important action that can be done in order to achieve the targets.
86. Other key groups will be industry bodies, such as forestry owners, Federated Farmers, WPMA and large exporters (eg. Fonterra, Pacific Aluminium, NZ Steel and Oji FS).

Question 35: What measures should exist (and at what scale and duration) to support businesses and households who have limited ability to avoid serious losses as a result of New Zealand's transition to a low-emissions economy?

87. There are two issues regarding support for businesses. The first is ensuring that policy and the implications and timeframes around implementing policy are clearly signaled so that businesses and households can make appropriate and efficient decisions.
88. The second issue is ensuring that EITE businesses are not unfairly disadvantaged in terms of international competitiveness and that inefficient carbon leakage does not occur.

Question 36: What are the essential components of an effective emissions-mitigation strategy for New Zealand that will also be economically and politically sustainable?

89. The primary issue for an effective strategy will be ensuring this is well articulated and communicated. The present environment has a lack of certainty, with parties deferring investment. Improved regulatory certainty will then facilitate appropriate investment and encourage emissions reductions.
90. However, essential components of any strategy need to include the following:
 - Increased afforestation as a transition mechanism, with such forestry providing increased resources for the wood processing industry and bio-renewable energy
 - Ensuring the costs of the transition are shared fairly across the economy
 - Continuing to drive energy efficiency and greater levels of renewable energy
 - Conversion of a petroleum based transport system to an integrated EV and biofuels based transport system.

Question 37: Should New Zealand adopt the two baskets approach? If so, how should it influence New Zealand's emissions reductions policies and long-term vision for the future?

91. The two basket approach is not supported. A key criteria of any policy should be that it is simple to understand and use. Already the NZTS is too complex and not understood by most interested parties.
92. We consider that a two-basket approach is likely to create perverse incentives which undermine the goals of climate change policy. In particular:
 - It is inappropriate for Government departments to presume optimal economic investment and market demand.
 - It imposes the climate and other environmental costs of the agricultural sector onto taxpayers, distorts patterns of investment and imposes a higher-than-optimal cost of NZ's proposed reductions onto other sectors, measured as a cost to the economy as a whole.
 - It would perpetuate the lack of incentive (at even the 90% rebated EITE level) on agriculture to adopt emissions reductions, even where opportunities are clearly present.
 - It reduces the incentive on agriculture to adopt emissions-reducing behaviours thereby making other Government expenditure into agricultural emissions reduction ineffective.

Question 38: How should the issue of emissions leakage influence New Zealand's strategy in transitioning to a low-emissions economy?

93. The policies adopted in New Zealand should not be too out of line with other countries. It is crucial that NZ exporters are not disadvantaged by carbon-leakage and consider that the EITE should continue to be a part of NZ's climate change policy until our trading partners and competitors adopt similar policies, or at least mechanisms that have a similar impact on those competitors.

Question 39: What do you see as the main benefits and opportunities to New Zealand from a transition to a low-emissions economy?

94. A transition to a low emissions economy helps NZ to be self-sufficient in terms of our climate change obligations and less reliant on international carbon prices. It also gives an opportunity to sell carbon savings on the international market if the value of doing so is high enough.
95. Furthermore, NZ's size and level of emissions provides us with opportunities to develop technologies and developments which could be sold or developed further internationally.

Question 40: What does your long-term vision for a low-emissions economy look like? Could a shared vision for New Zealand be created, and if so, how?

96. A long term vision for a low emissions economy covers several factors:
 - Increased afforestation as a transition mechanism, with such forestry providing increased resources for the wood processing industry and bio-renewable energy
 - Ensuring the costs of the transition are shared fairly across the economy
 - Continuing to drive energy efficiency and greater levels of renewable energy
 - Conversion of a petroleum based transport system to an integrated EV and biofuels based transport system.
97. We believe that a paradigm shift is required. Adopting new technologies is a critical aspect, and in this area NZ should be a fast-follower or early-adopter. We believe NZ's size and isolation provides a solid platform for NZ to be self-reliant in terms of meeting its emissions obligations, and that a net-zero emissions economy is entirely feasible. We believe that there are even opportunities for NZ to provide global leadership and to sell technologies and developments internationally.
98. A shared vision for a low carbon economy fits with the vision of a Clean Green New Zealand. The community already embraces this vision which can be strengthened by adoption by government of the policies outlined in this submission. We believe that the community already supports the principle of a Clean Green Economy and believe a clearly articulated climate change vision will engender similar support.

Recommendations

99. Oji FS has several recommendations in relation to the present Inquiry:
 - Agriculture needs to be included and treated the same as other sectors in terms of climate change policy.
 - A climate change commission should be established to ensure climate change policy is non-partisan and is applied consistently across all sectors and Government departments.
 - Policy in relation to increasing afforestation needs to be determined and implemented as soon as reasonably possible to provide the maximum benefits to both net emissions and the NZ economy as a whole.

Please feel free to contact me if you have any questions regarding this submission. Oji FS is more than happy to meet with the Commission to discuss any specific questions or clarify any points made in this submission.

Yours sincerely,

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