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To: Low-Emissions Economy Inquiry
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Submission on: Low-Emissions Economy Issues Paper

From: Federated Farmers of New Zealand

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SUBMISSION TO THE NEW ZEALAND PRODUCTIVITY COMMISSION ON INQUIRY INTO LOW EMISSIONS ECONOMY ISSUES PAPER

1. INTRODUCTION

- 1.1 Federated Farmers of New Zealand welcomes the opportunity to provide this submission to the New Zealand Productivity Commission's Issues Paper for its Inquiry into a Low-Emissions Economy.
- 1.2 Federated Farmers agrees that it is important to investigate how New Zealand can maximise the opportunities and minimise the costs and risks of transitioning to a lower net-emissions economy. The New Zealand Productivity Commission is a highly regarded and respected institution and since its establishment in 2011 it has developed a track record of high quality work. It is an ideal body to undertake such an important inquiry.
- 1.3 Federated Farmers takes the issue of climate change and policy responses seriously. In February 2017 Federated Farmers' National Council adopted an updated policy position on climate change. The position is attached as an appendix to this submission. This submission, including the answers to the consultation questions, is informed by and consistent with the updated policy position.
- 1.4 Climate change is first and foremost a global issue. While it is important to look at how New Zealand can transition to a low emissions economy, it is equally important to recognise that New Zealand food production is among the most efficient in the world, which is good for global emissions from agriculture.
- 1.5 Federated Farmers considers that the main focus for reducing emissions should be on transport, heating and industry, and greater efficiency and less waste in all sectors. Although productivity and efficiency gains have been (and are expected to continue) reducing agricultural biological emissions incrementally, it is currently not possible to significantly reduce emissions without significantly reducing agricultural production.
- 1.6 This would have severe economic impacts on farms, regional economies, and the national economy¹ yet would make no impact on global emissions. In fact, global emissions would most probably rise as New Zealand's highly efficient and less emissions-intensive agricultural production is displaced by less efficient and more emissions-intensive production overseas.
- 1.7 Therefore, the Federation considers that a 'two baskets' approach should be adopted, with agricultural biological emissions kept out of the New Zealand Emissions Trading Scheme (ETS) until cost-effective mitigation technologies are available and international trading partners include equivalent emissions in their domestic climate change policies.
- 1.8 Federated Farmers is committed to a solution to these problems and to this end it is a member of the Biological Emissions Reference Group (BERG). The Federation supports the work it is doing to collaboratively build a robust and agreed evidence-base on current and future opportunities to reduce agricultural biological emissions and the costs, benefits, and barriers or doing so.

¹ Federated Farmers has estimated the cost to livestock farming of including in the ETS methane from enteric fermentation and nitrous oxide to soil. At an assumed \$25 per tonne emissions price and emissions from these sources of 33,068,600 tonnes CO² equivalent, the cost would be \$830 million per year.

- 1.9 This submission comments on each of the Issues Paper's chapters and addresses the consultation questions within the Issues Paper.
- 1.10 Federated Farmers appreciated the meeting it had with the Commission on 21 September. We would be happy to further discuss the points made in this submission.

2. THE INQUIRY (CHAPTER 1)

- 2.1 Federated Farmers notes that the Government asked the Productivity Commission to undertake this inquiry and that it set its terms of reference (TOR). The TOR specifically excludes the Inquiry from focusing on the suitability of New Zealand's current, or any future emissions reduction target. The TOR also makes it clear that the Inquiry should also not focus on the veracity of anthropogenic climate change.
- 2.2 Instead the TOR focuses the Inquiry on two broad questions:
- What opportunities exist for the New Zealand economy to maximise the benefits and minimise the cost that a transition to a lower net-emissions economy offers, while continuing to grow incomes and wellbeing?
 - How could New Zealand's regulatory, technological, financial and institutional systems, processes and practices help realise the benefits and minimise the costs and risks of a transition to a lower net-emissions economy?
- 2.3 In answering these questions there is a substantial body of work the Commission will be draw on, and we note the long list on pages 3-4 of the Issues Paper, which in the context of the primary sector includes the BERG and the Climate Change Forestry Reference Group.

Q1. How can the Commission add most value in this inquiry?

Federated Farmers agrees with the list of points on page 4 of the issues paper:

- Providing an independent and robust analysis of whole-of-economy trade-offs based on sound economic analysis;
- Developing ways to assess the benefits and costs of different pathways for New Zealand to transition to a low-emissions economy (rather than, for example, providing more or different scenarios of what the future might look like);
- Taking a longer-term perspective in identifying policies and institutions that will be required to achieve a low emissions economy that enhances productivity and wellbeing;
- Describing what a low emissions economy will mean for the many different businesses and households in New Zealand;
- Developing conceptually sound but doable recommendations for change: and
- Bringing its expertise and understanding of innovation, and the development, adaptation and diffusion of new technologies, in the New Zealand economy to this task.

As mentioned above in paragraph 1.2 Federated Farmers believes the Productivity Commission is an ideal body to undertake this work.

3. MITIGATING EMISSIONS IN THE NEW ZEALAND CONTEXT (CHAPTER 2)

- 3.1 Chapter 2 of the Issues Paper discusses the impact of greenhouse gases on the climate, the global challenge of reducing greenhouse gas emissions, New Zealand's commitments to emissions reduction, New Zealand's emissions profile, New Zealand's current approach to emissions reductions, and Maori and climate change mitigation.
- 3.2 With regard to the 'global challenge', the Issues Paper discusses the 2015 Paris Agreement. The Paris Agreement has given renewed impetus to global action to reduce emissions but it is also important to recognise that the Agreement in its preamble stated that parties recognise "*the fundamental priority of safeguarding food security and ending hunger, and the particular vulnerabilities of food production systems to the adverse impacts of climate change.*"
- 3.3 New Zealand food production is geared for export² and it is heavily exposed to competitive pressures. It is widely regarded as being among the most efficient in the world, with relatively low emissions per unit of production by global standards³. Incremental productivity gains have been delivering further improvements⁴ and will continue to do so. New Zealand is and will be an important contributor to containing and in time reducing global emissions from agriculture.
- 3.4 Biological emissions of methane and nitrous oxide are products of agricultural production. Significantly reducing these emissions is impossible without significantly reducing food production and this will be so for the foreseeable future (notwithstanding developments in plant-based and synthetic food). The Paris Agreement recognises the dual challenges of controlling global temperatures and feeding a growing population. New Zealand policy makers need to recognise this too.
- 3.5 With regard to New Zealand's commitments to reduce emissions, our current targets are ambitious considering that net emissions will increase beyond 2020 due to large areas of forestry reaching harvest maturity. This will put pressure on other sectors, including agriculture, to reduce their emissions either by reducing their gross emissions or by increasing forestry offsets.
- 3.6 As the Issues Paper acknowledges, New Zealand's emissions profile is unique among developed economies. This is due to our large agricultural sector and our abundant renewable energy for electricity generation. Our population growth has also been rapid

² According to the Ministry of Primary Industries, New Zealand is the twelfth largest agricultural exporter, and it is the number one exporter of dairy products and sheepmeat. According to industry sources, 95% of dairy production is exported (Dairy Companies Association of NZ); and 80% of beef production and 95% of sheepmeat production is exported (Beef+Lamb NZ).

³ This has been acknowledged by the Parliamentary Commissioner for the Environment (PCE) in her 2016 report *Climate Change and Agriculture: Understanding the Biological Greenhouse Gases*. Other academic research includes:

+ Agriculture: Saunders, C., Barber, A., & Taylor, G. (2006), Food Miles – Comparative Energy / Emissions Performance of New Zealand's Agriculture Industry. AERU Research Report No. 285, Lincoln University.

+ Dairy: Basset-Mens, C., Ledgard, S., & A. Carran. (2005). "First Life Cycle Assessment of Milk Production from New Zealand Dairy Farm Systems". We are also aware of a 2015 NZIER/NZAGRC report for Fonterra and Dairy NZ showing the average New Zealand dairy farm is four times as efficient as the global average dairy farm.

+ Lamb: Ledgard, S.F., Liefferring, M., McDevitt, J., Boyes, M. and Kemp, R. (2010) "A Greenhouse Gas Footprint Study for Exported New Zealand Lamb"

⁴ The 2016 PCE Report cited above notes that while total biological emissions have risen by 15 percent over the past 25 years, emissions intensity of pastoral agriculture has declined 20 percent due to improvements in productivity.

compared to most developed economies. In contrast, many developed economies have dramatically reduced carbon dioxide emissions by, for example, substituting coal for natural gas for electricity generation or by the closure of heavy industry (which has often moved to developing economies) combined with low population growth or even in some cases decline. The task for New Zealand has been and will be much harder.

- 3.7 The Issues Paper correctly acknowledges that New Zealand's emissions intensity has been falling due to ongoing improvements in energy efficiency and agricultural productivity. These improvements will continue and they will help reduce emissions over time. In both cases technology step-changes (e.g., mass uptake of electric vehicles or the development of a ruminant animal vaccine) could make big differences. Whether efficiency and productivity improvements will be enough though to meet New Zealand's emissions reduction targets remains to be seen, especially if there is the expected upward pressure from large-scale forestry harvesting.
- 3.8 As the Issues Paper states, the ETS is the Government's principal response to climate change. It requires the energy, fishing, forestry, industrial processes, liquid fossil fuels, synthetic gases, and waste sectors to report on, purchase and surrender emissions units to the Government. The point of obligation is generally 'upstream' rather than 'downstream' (e.g., consumer level).
- 3.9 As with households and businesses, emissions that arise from on-farm consumption of electricity and transport fuels are managed upstream by electricity generators and fuel companies, with costs passed on to them as consumers. Biological agricultural emissions are, under current settings, reported annually by processing companies with a zero-rated emissions price on those emissions. Both of these factors necessarily limit the direct interactions of farmers with the ETS to those with emissions units allocated to pre-1990 forests on farm land, the voluntary registration of post-1989 forests on farm land, and compliance with deforestation obligations for both pre-1990 and post-1989 forests on farm land.
- 3.10 Federated Farmers agrees that Maori have a variety of interests on climate change. Maori own significant tracts of agricultural land and forestry and hold significant business assets in these sectors. Policy makers need to recognise that the ability of Maori to develop that land and generate income from it will be crucial for Maori economic development and for the economic and social wellbeing of Maori.

4. EMISSIONS SOURCES AND MITIGATION OPPORTUNITIES (CHAPTER 3)

- 4.1 Chapter 3 of the Issues Paper discusses the sources of emissions and technologies and processes that appear to offer significant opportunities to reduce emissions. In the context of agricultural biological emissions, the BERG, which includes Federated Farmers as a member, is looking closely at mitigation opportunities. We are aware that in the course of this inquiry the Commission has engaged with BERG and with its individual members.

Q2. 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?

The Issues Paper suggests that derived demand might be an alternative approach, such as looking at how production and consumption choices affect emissions and then designing interventions to reduce emissions at the downstream consumer level rather than upstream.

This approach might be problematic for export-oriented sectors, such as agriculture, where it might require tools such as border tax adjustments to implement. More fundamentally although derived demand policies could result in governments directly intervening to pick ‘winners’ (or pick-on ‘losers’), which has always been a risky proposition. New Zealand’s economic history, particularly in the years leading up to 1984, are littered with well-intentioned but often costly and ineffective interventions to control or encourage what is or what is not to be produced or consumed.

Q3. To what extent is it technically and economically feasible to reliably measure biological emissions at a farm level?

Federated Farmers considers that if agricultural biological emissions are to be included in the ETS (or other policy mechanisms), then it is preferable to make the farm the point of obligation, rather than having emissions socialised at a processor-level. Farm-level point of obligation will provide individual farmers a tangible incentive to reduce their emissions.

The challenge to such an approach is that to date it has not been feasible to measure biological emissions at a farm level. As the Commission will be aware, BERG has commissioned a report from Agresearch which will review the suitability of OVERSEER™ nutrient budgets model for farm-scale greenhouse gas reporting. The project will provide an initial assessment of whether OVERSEER™ is ‘fit-for-purpose’ as an on-farm greenhouse gas accounting tool. It will help Government understand the potential role OVERSEER™ could have in meeting our national emissions commitments, by examining how well it is aligned to the national inventory and what is required to ensure ongoing confidence in its representation of farm-scale greenhouse gas losses.

Q4. What are the main opportunities and barriers to reducing emissions in agriculture?

Federated Farmers agrees with the discussion on opportunities and barriers discussed in the Issues Paper. There are a number of potential technologies and practices that can reduce emissions but significant emissions reductions are not currently possible without reducing production which would have significant financial impacts on farmers and wider economic impacts.

These are not easy issues to resolve. As discussed above, Federated Farmers is a member of BERG which is working collaboratively to build a robust and agreed evidence-base on current and future opportunities to reduce agricultural biological emissions and the costs, benefits, and barriers of doing so. As well as the report on OVERSEER™, BERG has also commissioned research into opportunities and barriers to reducing biological emissions. For example:

- AgFirst has been commissioned to undertake a literature review and analysis of farmer decision making with regard to climate change and biological gas emissions. The project focuses on the research and literature discussing farmers’ decision making when reducing, or thinking of reducing, their on-farm biological greenhouse gas emissions; or environmental good practice generally. The project will include an analysis of the potential social and behavioural barriers to on-farm change that produces biological emissions.
- New Zealand Agricultural Greenhouse Gas Research Centre has been commissioned to investigate mitigation potential for on-farm nitrous oxide and methane greenhouse gas emissions. The project seeks to qualitatively analyse current and future mitigation good management practices and technologies which have the potential to reduce on-farm biological emissions on an absolute basis. This includes collating mitigations from previous work which could be implemented

on different timescales, now and in the future, and examining the adoption rates and feasibility, cost, and impact on other industry objectives.

BERG is also commissioning research on other issues relating to biological emissions, which are all very relevant when considering opportunities and barriers. These include:

- Future on-farm mitigations;
- Mitigation potential of land use change;
- Offset opportunities from forestry and soil carbon;
- Trade exposure of agricultural sector and potential carbon leakage;
- Administrative and compliance costs of different policy mechanisms; and
- Economic impacts (on-farm, regional and national) of carbon price scenarios.

Q5. What are the issues for government to consider in encouraging alternative low-emissions land uses?

Federated Farmers considers that land use flexibility, which enables land to be used to its best economic return, has been a key factor behind New Zealand's competitive advantage in agriculture and its impressive productivity growth compared to the rest of the economy⁵. Productivity gains have enabled emissions to fall, especially on an intensity basis, and these gains could well have been impeded if we did not have land use flexibility.

Alternative land uses, such as forestry, are likely to have significant potential to reduce emissions, both in gross and net terms, but land use flexibility must be protected. As discussed in 4.2 above, Federated Farmers is sceptical about governments picking winners, and this includes land use. We would be open to policies or programmes to encourage low emissions land use, but they would need to be carefully considered for their costs, benefits, and risks. We would not be supportive of policies that would curtail the ability of landowners to use their land in an economically optimal manner.

Q6. What are the main barriers to sequestering carbon in forests in New Zealand?

ETS settings have been considered a significant barrier to sequestering carbon in New Zealand. Putting aside the bigger question of whether biological emissions should be included in the ETS, Federated Farmers is aware of a number of 'technical' barriers that have added uncertainty, complexity, and cost to participating and are likely to have impeded carbon sequestration in forests. These are explained in our 2016 submission on the ETS Review (Stage 2 Technical Issues), which is attached as Appendix 2.

A related bigger question that policy makers need to consider is the social and economic impacts of greater afforestation at the expense of pastoral agriculture. This includes impacts on farm employment and on services to agriculture, which flows on to population and prosperity of local rural communities.

Q7. What policies, including adjustments to the New Zealand Emissions Trading Scheme, will encourage more sequestering of carbon in forests?

The submission referred to in relation to Q6 includes a number of recommendations, which are summarised as follows:

- Government do better to educate and improve understanding of ETS obligations and the consequences of non-compliance.
- Government better resource the processing of ETS documents in a timelier manner, as well as better resource administrator support to assist scheme participants to correct minor technical issues with ETS documents.

⁵ Statistics NZ's Productivity Statistics shows that agriculture's productivity growth rate for the period 1978 to 2015 was nearly three times faster than the economy's overall productivity growth rate (2.5% vs 0.9%).

- Annual reporting of ETS performance is expanded to provide analysis of the alignment with the National Inventory.
- Annual reporting of ETS performance is extended to clarify the use by government of emission units from unregistered post-1989 forests.
- Tree weed exemptions should be given to registered efforts to control tree weeds, rather than require applications from individual landowners.
- The government have available information on the ETS status of unregistered lands.
- A review be undertaken of the appropriateness of conditions that determine eligibility of planted areas under the ETS.
- Supports in principle shifting the point of emission downstream from harvest, but further work is required on how best to account for this.

Q8. What are the main barriers to the uptake of electric vehicles in New Zealand?

No comment beyond noting that barriers to uptake are adequately covered off in the issues paper.

Q9. What policies would best encourage the uptake of electric vehicles in New Zealand?

New Zealand will always be a ‘taker’ of electric vehicles from overseas manufacturers. Manufacturers are already responding to signals, both market and regulatory, in key vehicle markets. Electric vehicles will grow in popularity as they become less expensive relative to conventional vehicles and as issues such as power, range, and speed of charge are resolved to the satisfaction of consumers.

The Government can best encourage uptake in this country through influencing its agencies’ purchasing decisions and through information and promotion. While we understand the rationale for exempting light and heavy electric vehicles from road user charges, Federated Farmers would not support this exemption persisting for too long lest it impact adversely on the National Land Transport Fund and the ability to adequately fund road improvement and maintenance.

Q10. In addition to encouraging the use of electric vehicles, what are the main opportunities and barriers to reducing emissions in transport?

The Issues Paper notes several other opportunities, including greater use of biofuels, hydrogen fuel cells, basing vehicle registration fees on a vehicle’s emissions, and setting fuel efficiency standards. These are all worthy of further investigation.

Moving freight off roads and onto rail and coastal shipping is an idea that has been around for a long time. While there might be some potential for mode-switch the reality is that with the exception of bulk freight that is not time sensitive, road will be by far the quickest and most cost effective mode even when rail and sea freight services are available. Furthermore, for most of New Zealand road transport is the only available option and will likely always be the case. This is especially true for farm inputs and farm outputs to and from the farm gate.

It is also true that there is potential to encourage more people to use public transport, cycling and walking, and car-share technology, but this will only really be possible in urban areas.

Federated Farmers has been concerned for some time about a squeeze in funding for rural road maintenance and improvement. We would be concerned about large increases in road users’ funds used to subsidise other modes of transport given that

those other modes cannot, and most probably will never be able to, be used by farmers and other rural people.

Q11. What are the main opportunities and barriers to reducing emissions from the use of fossil fuels to generate energy in manufacturing?

No comment although we are aware that dairy and meat processing are taking steps to reduce their emissions.

Q12. What changes will be required to New Zealand's regulatory, institutional and infrastructural arrangements for the electricity, to facilitate greater reliance on renewable sources of energy across the country?

Farmers are significant consumers of electricity. According to Statistics NZ's 2016 *Energy Use Survey of the Primary Sector*⁶, agriculture (on-farm) used 1,845 million kilowatt hours of electricity. With around 58,000 agricultural businesses in New Zealand⁷, this means the average farm would in a year use around 31,800 kilowatt hours of electricity⁸. Most farms are small businesses, but this average annual consumption is four times higher than that of the average household (around 8,000 kilowatt hours). Electricity is therefore a significant input cost for farmers.

Security of electricity supply is also crucial for farmers, especially to run plant and machinery, such as dairy sheds, milk vats, effluent systems, irrigators, shearing sheds, communications and monitoring systems, and electric fences to name but a few. Extended power outages can be extremely serious.

As the issues paper notes, New Zealand already has a high share of renewable energy thanks to hydro but the potential for new hydro is limited due somewhat ironically to environmental and conservation concerns. Solar and wind generation are both likely to continue to grow in share, but the need to ensure security of supply will make a 100 percent renewable target difficult to achieve, especially when there are 'dry years'.

Looking ahead, Federated Farmers agrees that greater uptake of distributed generation, batteries, and implications of mass uptake of electric vehicles will require changes to regulation, institutions, and infrastructure. Policy makers and the industry should be thinking about this now. In doing so they must not lose sight of the needs of rural consumers, including the agricultural sector's reliance on secure supply of electricity at reasonable cost.

Q13. 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?

No comment beyond noting that if climate change results in drier conditions in already dry areas or reduced alpine snow falls (and therefore snow melt) this could impact on hydro generation so making a 100 percent renewables target even harder to achieve.

Q14. Apart from the regulation and operation of the electricity market, what are the main opportunities and barriers to reducing emissions in electricity generation?

Road blocks caused by the Resource Management Act are a handbrake on development and this will be as true for electricity as it is for other sectors. On the other hand, landowners who host electricity infrastructure have on occasions had fractious relationships with the owners and operators of this infrastructure due to a lack of consideration, financial and non-financial. Addressing this lack of consideration, for

⁶ *Energy Use Survey: Primary Sector 2016*, Statistics NZ, October 2016

⁷ *New Zealand Business Demography Statistics*, Statistics NZ, October 2016

⁸ Some farms would use considerably more than the average, for example irrigated dairy farms which are heavy users of electricity.

example through easements and compensation, would go a long way to smoothing the way for good relationships and reducing the time and cost of new and improved electricity generation and distribution.

Q15. 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 use of hydrofluorocarbons in refrigeration and air conditioning equipment)?

No comment.

Q16. What policies and initiatives would best promote the design and use of buildings that produce low greenhouse gas emissions?

No comment.

Q17. What are the main opportunities and barriers to reducing emissions in waste?

Federated Farmers understands that internationally (e.g., in the United States and Europe) there has been a move towards bio-digesters for dairy farm effluent. At present most New Zealand dairy farms store effluent in ponds, which being open to the air would release greenhouse gas emissions. A bio-digester has the ability to reduce those emissions and also produce energy. The difficulty for New Zealand is that we farm under a different context, where cows are outdoors, so only a portion of effluent is captured, and also our methods of collecting it result in a diluted form. This means the Northern Hemisphere technology has not been practical for New Zealand. Further research in the New Zealand context could be warranted.

Q18. 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 transition to a low emission economy?

As the issues paper suggests the biggest interactions, given New Zealand's emissions profile, will be:

- How mass-uptake of electric vehicles will impact on electricity generation, and the need for any resulting additional generation to be renewable; and
- Land use change between agriculture and forestry.

5. POLICIES AND INSTITUTIONS (CHAPTER 4)

5.1 Federated Farmers agrees with the Commission that the key policy options are direct regulation, market-based approaches, support for innovation and technology, and others such as provision of 'green infrastructure'. As a point of principle, Federated Farmers tends to prefer the non-regulatory options.

Q19. What type of direct regulation would best help New Zealand transition to a low-emissions economy?

Federated Farmers has submitted to a number of Productivity Commission inquiries on the subject of regulation. As we have said previously, businesses and farmers are concerned about the burden of regulation and the amount and pace of change, and even officials concede that there are "many examples of legislation that has not met its intended objective, has had significant unintended consequences, and/or clearly lacks some of the key attributes of good legislation..."⁹

⁹ Regulatory Impact Statement *Regulating for Better Legislation – What is the Potential of a Regulatory Responsibility Act*, The Treasury, February 2011 (pg. 4).

Federated Farmers has always taken a strong interest in regulation and its implications for and impacts on farming businesses. We acknowledge that a level of regulation is necessary but excessive or poor quality regulation can impose significant compliance costs and other economic costs outweighing the benefits.

Federated Farmers is not keen on heavy handed 'command and control' forms of regulation which set down highly specific rules of behaviour and punishments. We are concerned not only about the administration, enforcement and compliance costs associated with such regulation, but we also question if it is the most effective way to achieve goals, in this case of reducing emissions. If a regulatory approach was desired we would prefer it to be light-handed, enabling, and outcomes-focused.

Q20. 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?

It has been argued that ETS settings have resulted in emissions prices that have been too low to change behaviour. That may have been so but looking ahead a number of changes have recently been announced to ETS settings which should over time result in higher emissions prices. This includes last year's decision to phase out the 'one for two' measure as well as more recent decisions to:

- Introduce auctioning (i.e., selling units through competitive bidding);
- Limiting participants' use of international units;
- Developing a volume-limited price ceiling to replace the \$25 fixed price option; and
- Coordinating decisions on supply settings over rolling five-year periods.

As mentioned above the uncertainty and complexity around the ETS has also made it less effective. Attention should be placed on resolving remaining technical issues, such as those identified in our submission to the ETS Review.

At this time Federated Farmers would not support bringing agricultural biological emissions into the ETS. We do not believe these emissions should be included until:

- There are cost-effective mitigation options available for farmers; and
- Other countries are including them in their domestic climate change policies.

The BERG is investigating considerable effort into researching these issues. It would be premature to advance policy proposals to include agricultural biological emissions into the ETS until this important work is complete.

Q21. What type of market-based instruments would best help New Zealand transition to a low-emissions economy?

The ETS is a key market-based instrument. Despite its shortcomings it remains a favoured approach.

Q22. What type of support for innovation and technology would best help New Zealand transition to a low-emissions economy?

There should continue to be a high priority placed on research into cost-effective mitigation options for agricultural biological emissions. This support should come from the primary industries and the Government, working in partnership.

Q23. How can New Zealand harness the power of financial institutions to support a low-emissions transition?

Financial institutions will invest (or divest) if they perceive a benefit in doing so and, as the issues paper suggests, financial institutions such as banks and insurance companies are increasingly taking account of climate change and environmental

issues. Governments should not intervene in this process, other than by providing a stable policy environment which provides certainty to investors, whether they are financial institutions, businesses, or individuals.

Q24. 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?

The examples discussed in the issues paper are all likely to have potential to assist in reducing emissions but individually they will not be sufficient on their own.

Q25. 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?

There are likely to be a lot of complementary policies and institutions. In the context of agricultural biological emissions, a prominent example will be policy for freshwater management. It is likely that there would be co-benefits between freshwater policy and climate change policy and BERG has commissioned research on assessing them.

Policymakers will need to carefully consider how different policies across portfolios and departments interact so as to minimise contradictory or duplicative policies that could cause confusion, muddled goals and objectives, and are costly to implement, administer, and comply with.

6. ACHIEVING A LOW-EMISSIONS ECONOMY (CHAPTER 5)

6.1 Federated Farmers agrees that it is useful to think about climate change issues as a 'system'.

Q26. 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?

Achieving the goal of a low-emissions economy is very much a long-term issue yet without a strong consensus on the emissions targets and, crucially, how to achieve them we risk being trapped in short-term political cycles with the potential for changing policy settings – i.e., a political football. This makes it a challenging environment for businesses and households and their investment decisions.

A lack of political consensus is a problem that is by no means unique to climate change. Trade liberalisation, monetary policy, and the retirement age have all seen breakdowns in longstanding bi-party (or even multi-party) consensus. Efforts have been made to build a cross-party consensus on climate change, such as the Vivid Economics report to the Globe NZ group of MPs, and these efforts need to continue.

As well as political consensus at home, New Zealand should seek to build a global consensus to treat biological emissions differently from carbon dioxide.

Q27. 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?

Building a durable political consensus should be a high priority. Getting high level agreement on the problem, setting long-term targets, and the direction of travel is likely to be achievable. However, we acknowledge that it will be challenging when moving onto specific policies, such as the treatment of agricultural biological emissions.

A global consensus to treat biological emissions differently from carbon dioxide would be helpful in that respect.

Q28. In New Zealand's current statutory framework to deal with climate change adequate? What other types of legislation might be needed to effectively transition to a low-emissions economy?

Federated Farmers is sympathetic with the then Parliamentary Commissioner for the Environment (PCE)'s suggestion in her recent report that New Zealand put in place a Climate Change Act similar to that in the United Kingdom which was passed almost unanimously. As the issues paper observes that Act put in place emissions targets in law and provides for five-yearly 'carbon budgets'. As always though the devil will be in the detail, especially the treatment of agricultural biological emissions.

Q29. 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?

The PCE also suggested that New Zealand borrow the United Kingdom's independent expert commission on climate change, which would recommend emissions targets and budgets. We are sympathetic to that idea too although a lot will depend on the detail of how it would work, including its powers and its membership, and what additional value it would add above and beyond existing policy and decision-makers. The Productivity Commission itself might provide a useful model.

Q30. How can adaptability best be incorporated into the system supporting New Zealand's low-emissions transition?

Federated Farmers agrees that the ability for policies to adapt to developments, external and internal to New Zealand, will be crucial. The ability for policy to be flexible will be very necessary but not to the extent that it results in arbitrary and sudden shifts that add uncertainty to businesses and individuals. This reinforces the need for getting political consensus and possibly an independent framework for climate change policy.

As an aside, Federated Farmers notes that the term 'adaptability' has an alternative meaning in that regardless of mitigation measures taken to reduce emissions, the effects of climate change (e.g., sea level rise and more severe and frequent storms and droughts) will be with us for decades to come. New Zealanders will need to adapt to these effects. Farmers, through being exposed to adverse weather events, are already among the leaders in adaptability.

Q31. What types of analysis and underlying data would add the greatest value to this inquiry?

The tools listed in the issues paper (table on pages 54-55) seem relevant but as noted they will require good data and deep understanding of interactions. We agree that there is some good data but there are plenty of gaps that make assessing policy fraught with difficulty.

BERG's key reason for existing is to fill the many gaps related to agricultural biological emissions. It is expected that BERG will have completed this research with reports published in two tranches, later this year and the middle of 2018.

Q32. What should 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?

Generally speaking, Federated Farmers prefers the use of market based instruments (as opposed to direct regulation), complemented by support for innovation and development and diffusion of technologies to reduce emissions.

In terms of agricultural biological emissions, we do not favour including these in the ETS until cost effective mitigation technology is available that would reduce emissions without impacting adversely on the viability of farming. We therefore believe the focus should be on support for innovation and development and diffusion of technologies to reduce emissions.

Q33. 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?

Federated Farmers would be particularly supportive of policies that will not only encourage the reduction of emissions but will also help improve the productivity and competitiveness of farming and the New Zealand economy as a whole.

Q34. Who are the most important players in driving forward New Zealand's transition to a low-emissions economy?

Ultimately, the decisions and behaviours of 4.8 million New Zealanders. Science and innovation and the adoption of it will be crucial.

Q35. 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?

At the present time the cost to farmers of meeting large reductions in agricultural biological emissions would be crippling. It will be important to keep agricultural biological emissions out of the ETS until (a) cost-effective mitigation technologies are available and (b) other countries are including their equivalent emissions in their domestic policies. If in time agricultural biological emissions are included in the ETS a transition period would be needed.

As with the 1980s reforms, other policies that would reduce input costs and compliance costs for farmers or that would boost their incomes would also help with any transition. For example, commitment and more importantly action to reducing the burden of regulation, pursuing free trade agreements, and cuts in income tax and/or company tax rates.

Q36. What are the essential components of an effective emissions-mitigation strategy for New Zealand that will also be economically and politically sustainable?

As the Issues Paper states there are many different strategies and pathways to getting to a low-emissions economy. New Zealand has to choose the approach that best suits its unique circumstances, particularly an emissions profile dominated by agricultural biological emissions.

It is telling that issues paper quoted the Intergovernmental Panel on Climate Change's 2014 comment that the focus for long-term carbon neutrality should be on fuel shifting (electrification) in transport, heating and industry, and greater efficiency and less waste in all sectors.

Federated Farmers agrees with this focus. Although we need to find long-term solutions to agricultural biological emissions, we are concerned that an obsessive focus on these emissions by environmental NGOs and some politicians will make it harder to gain consensus and therefore an approach that will be economically and politically sustainable.

New Zealand should seek to build a global consensus to treat biological emissions differently from carbon dioxide.

Q37. 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?

Yes, Federated Farmers agrees that long-lived gases, such as carbon dioxide, should be treated differently to short-lived gases, such as methane. We would support setting different emissions objectives and targets for long-lived versus short-lived gases. This would be consistent with our response to Q36 above.

New Zealand should seek to build a global consensus to treat biological emissions differently from carbon dioxide.

Q38. How should the issues of emissions leakage influence New Zealand's strategy in transitioning to a low-emissions economy?

This is a critical issue for New Zealand as a world-leader in agricultural production. Our farmers and processors make New Zealand one of the most efficient food producers in the world, including in terms of greenhouse gas emissions, and they are continually improving their efficiency.

However, because our agricultural exporters are 'price-takers' there would be major economic costs from facing a higher carbon price than international competitors. As a result, if New Zealand agricultural exports were to fall then this production will be picked up by other countries. These countries' food producers will in most cases be lower cost but nowhere as efficient – and in many cases they will be subsidised and/or protected by their governments. This 'leakage' will only serve to increase global emissions.

This is one of the key reasons why Federated Farmers believes that agricultural biological emissions should be kept out of the ETS (or other domestic climate change policies) until such time as other countries include their equivalent emissions in their domestic climate change policies.

New Zealand should seek to build a global consensus to treat biological emissions differently from carbon dioxide.

Q39. What do you see as the main benefits and opportunities to New Zealand from a transition to a low-emissions economy?

Fuel shifting (electrification) in transport, heating and industry, and greater efficiency and less waste in all sectors could result in a much more productive and competitive economy and higher incomes for New Zealanders. Additionally, if cost-effective mitigation solutions can be found for agricultural biological emissions then this could further boost agricultural productivity and profitability.

Q40. 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?

Federated Farmers' vision in this respect is that New Zealand has a strong economy that has met its emissions targets while becoming more competitive and productive through development and adoption of technology and best practice.

New Zealand should also be a country that is resilient to the impacts of climate change and able to adapt to changes in climate that may occur.