Submission on *Accelerating renewable energy and energy efficiency* discussion document

Federated Farmers of New Zealand
28 February 2020

0800 327 646 | FEDFARM.ORG.NZ

SUBMISSION ON *ACCELERATING RENEWABLE ENERGY AND ENERGY EFFICIENCY* DISCUSSION DOCUMENT

TO: Energy Markets Policy
Ministry of Business, Innovation and Employment
energymarkets@mbie.govt.nz

DATE: 28 February 2020

ADDRESS FOR SERVICE

Name	Position	Phone Number	Email Address	Postal Address
Privacy of natural persons	Senior Policy Advisor	Privacy of natural persons	Privacy of natural persons	P O Box 715, Wellington 6140

OTHER CONTACTS

Privacy of natural persons	Federated Farmers Board Member	Privacy of natural persons	Privacy of natural persons	PO Box 715 Wellington 6140
Privacy of natural persons	Manager – General Policy	Privacy of natural persons	Privacy of natural persons	P O Box 20448, Christchurch 8543

ABOUT FEDERATED FARMERS

Federated Farmers of New Zealand is a membership organisation, which is mandated by its members to advocate on their behalf and ensure representation of their views. Federated Farmers does not collect a compulsory levy under the Commodities Levy Act and is funded from voluntary membership.

Federated Farmers represents rural and farming businesses throughout New Zealand. We have a long and proud history of representing the needs and interests of New Zealand's farmers.

Federated Farmers aims to empower farmers to excel in farming. Our key strategic outcomes include provision for an economic and social environment, within which:

(a) Our members may operate their business in a fair and flexible commercial environment;

(b) Our members' families and their staff have access to services essential to the needs of a vibrant rural community; and

(c) Our members adopt responsible management and sustainable food production practices.

SUBMISSION TO THE MINISTRY OF BUSINESS, INNOVATION AND EMPLOYMENT ON THE *ACCELERATING RENEWABLE ENERGY AND ENERGY EFFICIENCY* DISCUSSION DOCUMENT

1. INTRODUCTION

1.1 Federated Farmers of New Zealand welcomes the opportunity to submit to the Ministry of Business, Innovation and Employment on the *Accelerating renewable energy and energy efficiency* discussion document.

1.2 The Federation has submitted extensively on climate change policy and legislative proposals, such as the Climate Change Response (Zero Carbon) Act 2019, Climate Change Response (Emissions Trading Reform) Amendment Bill 2019 along with technical consultation documents on proposed ETS settings, the auctioning mechanism and forestry regulations.

1.3 Federated Farmers has also engaged in numerous consultations in recent years on electricity pricing, the Minerals and Petroleum Resource Strategy and Crown Minerals Act Review.

1.4 Energy is a significant and vital input into the farm business with networked electricity supply and fossil fuel-based liquid transport fuels being the few cost-effective options available at this point in time. Further, energy-use on farm is atypical for being greater than that of a residential household and often less than that of an industrial premise or national land transport carrier.

1.5 As such, it is important that in pursuing the government's renewable energy targets that energy is cost-effective for use on farms, and continues to be fit-for-purpose within both the farm and rural environments.

1.6 Our primary interest in the consultation is two-fold:

(a) Ensuring New Zealand has a renewable energy system that is fit-for-purpose and better addresses the needs and circumstances of farm businesses and rural communities

(b) Supporting the development of small and community-scale renewable electricity generation projects

1.7 We are also concerned that the discussion document expresses a preference for wind and solar renewable electricity generation, with little to no mention of water storage for hydroelectric generation. This is a significant oversight, considering hydro is the key reason why so much of New Zealand's electricity supply is produced from renewable sources.

1.8 Associated water storage for hydroelectric generation, including small-scale schemes, can also support more efficient primary production, and help rural communities become more resilient when coping with droughts, which will likely become more frequent and more severe with climate change.

2. SUMMARY OF RECOMMENDATIONS

2.1 That an electrification investment package be developed that includes consideration of electrification opportunities at the small and community-scale.

2.2 That amendments to the National Environmental Standards on Air Quality avoid adversely affecting current farming practices.

2.3 That EECA's Technology Diffusion Fund see:

- An increase in the quantum of funding;
- An increase in the number of installations of any particular technology eligible for funding; and
- Funding eligibility for small and community-scale demonstrations.

2.4 That there is support for the availability of cost-effective alternatives to fossil fuels in process heat.

2.5 That a market-based technology-neutral approach is applied to the development of incentives for low-emissions heat technologies and clean energy projects.

2.6 That amendments to the Resource Management Act 1991 avoid uncompensated takings of rights in private property.

2.7 That a workstream be established to address issues around supporting small and community-scale projects.

2.8 That government-guaranteed Power Purchase Agreements be introduced to de-risk small and community-scale renewable electricity generation projects.

2.9 That there is a preference for energy efficiency awareness-raising obligations on retailers and distributors.

2.10 That more analysis is undertaken of options for renewable energy certificates and phase-down of thermal baseload as a strategic reserve before they are pursued.

2.11 That small and community-scale projects receive a higher priority for consideration by government.

2.12 That the government express a clear and consistent position on community energy issues.

2.13 That government funding be available for pilot and demonstration stages of small and community-scale renewable electricity generation projects.

2.14 That concerns around the potential for climate change mitigation benefits to affect benefit-based transmission pricing are addressed.

2.15 That property rights considerations of affected landowners from over-build of transmission assets are addressed.

3. GENERAL COMMENTS

3.1 This discussion document touches on a number of policy issues of keen interest to the Federation and its farmer members.

3.2 Federated Farmers supports New Zealand playing its part in fighting climate change by pursuing action consistent with the goals of the 2015 Paris Agreement, including through "*Recognizing the fundamental priority of safeguarding food security and ending hunger*". However, climate change legislation, policy and related efforts to

reduce emissions have given rise to concerns among our farming members as to the continuing viability of pastoral production in the face of an eventual emissions price on livestock emissions and the loss of productive farms to blanket afforestation. It is important that measures intended to accelerate the investment in renewable energy generation and uptake of energy efficiency improvements does not adversely affect the profitability of farm production.

3.3 Similarly, developments in electricity policy in recent years has given rise to concerns around the fairness and continuing affordability of electricity pricing for rural consumers. Further there has been little attention given to self-generation and farm-scale distributed generation as alternatives to networked electricity supply on often uneconomic distribution lines. It is important that measures intended to accelerate the investment in renewable energy generation and uptake of energy efficiency improvements does not adversely affect the interests of rural consumers.

3.4 This is of particular relevance as the discussion document appears to focus primarily on measures targeting large-scale projects with little consideration given to small and community-scale projects of greater relevance to farm businesses and rural communities. Site suitability for renewable electricity projects is such that they are generally located in remote rural areas, often on productive farmland. Farmer concerns around the loss of productive land from food production is such that large-scale renewable electricity generation projects might struggle to secure the support of farmers and broader rural communities.

3.5 Also of concern is the focus the discussion document exhibits for primarily considering renewable electricity measures, with little consideration given to issues around renewable energy more broadly. Although New Zealand can boast to source ~80% of its electricity supply from renewable sources, the number is somewhat lower for overall renewable energy. The only instances where 'energy' is generally referenced in the discussion document are in relation to 'energy efficiency' with little offered in the way of specifics as to what is intended for renewable transport fuels.

3.6 The introduction clarifies that discussion of electric vehicles is specifically out-of-scope of this consultation for being pursued through its own work programme. This does, however, leave questions unanswered as to how the proposed measures account for the production and uptake of hydrogen fuel cells, as well as stage one (tallow, whey, oilseed and other crops) and stage two (woody biomass) biofuels. The Federation's concern is less about the need for government measures to support renewable energy more broadly, and more about how the proposed options in the discussion document are expected to achieve the government's renewable energy targets in the absence of discussion as to the contribution of measures related to renewable transport fuels.

3.7 It is worrying the discussion document does not address these concerns particularly well.

4. PART A: ENCOURAGING ENERGY EFFICIENCY AND THE UPTAKE OF RENEWABLE FUELS IN INDUSTRY

Section 1: Addressing information failures

4.1 The focus in this section on addressing information failures in the understanding of process heat is understandable given the priority given to process heat, but it is unfortunate that this section does not take a broader view of information failures in the understanding of renewable energy opportunities, in particular the practical

implications of pursuing such opportunities in situations beyond those solely involving large-scale industrial operations.

4.2 Option 1.2 proposes the development of an electrification information package and feasibility studies. Work of this type that addresses small and community-scale electrification opportunities would be of value to rural communities.

Recommendation: That an electrification information package be developed that includes consideration of electrification opportunities at the small and community-scale.

4.3 Federated Farmers otherwise has no opinion to offer on the proposals in this section for lack of direct relevance to the interests of farm businesses and rural households.

Section 2: Developing markets for bioenergy and direct geothermal use

4.4 The Federation would be interested in considering possible amendments to the National Environmental Standard on Air Quality. It would be of particular concern to our farming members should amendments emerge that indirectly impinge on the continuance of current farming practices unrelated to wood energy generation, like stubble and crop burning.

Recommendation: That amendments to the National Environmental Standard on Air Quality avoid adversely affecting current farming practices.

4.5 Federated Farmers otherwise has no opinion to offer on the proposals in this section for lack of direct relevance to the interests of farm businesses and rural households.

Section 3: Innovating and building capability

4.6 Rural properties are known for hosting renewable electricity generation investments, particularly wind farms. There is also the potential for farming properties to host solar farms as distributed generation, or multiple small and community-scale electricity generation types as self-generation. Understanding of the costs and benefits of these opportunities is, however, rather poor.

4.7 The Federation would support an expansion of EECA's Technology Diffusion Fund in quantum of funding, number of installations of any particular technology that can be funded, and consideration given to the funding of small and community-scale demonstrations. It is our experience, that demonstrations of practical application in a rural environment go a long way towards encouraging the support and uptake of farmers.

Recommendation: That EECA's Technology Diffusion Fund see:

- **An increase in the quantum of funding;**
- **An increase in the number of installations of any particular technology eligible for funding; and**
- **Funding eligibility for small and community-scale demonstrations.**

4.8 Federated Farmers otherwise has no opinion to offer on the proposals in this section for lack of direct relevance to the interests of farm business and rural households.

Section 4: Phasing out fossil fuels in process heat

4.9 Our farmer members rely on food processing facilities to both add value to their farm produce and market those products to customers around the world. Further, many food processing companies involve an element of supplier ownership.

4.10 As such, any moves to phase-out fossil fuels from process heat in food processing facilities must also feature support for the availability of cost-effective alternatives to minimise the risk of unintended consequences on the viability of farm businesses, employment in rural communities, and prosperity of regional economies.

Recommendation: That there is support for the availability of cost-effective alternatives to fossil fuels in process heat.

4.11 Federated Farmers otherwise has no opinion to offer on the proposals in this section for lack of direct relevance to the interests of farm businesses and rural households.

Section 5: Boosting investment in energy efficiency and renewable energy

4.12 Federated Farmers supports the conclusion reached in the discussion document that, at this stage, government would not recommend regulation to drive investment in clean energy be developed. In general, the Federated Farmers opposes the market and commercial interference that comes with regulating the pursuit of positive behaviours.

4.13 On the matter of incentives for specified low-emissions heat technologies, the Federation would prefer that the government adopt a technology-neutral approach. In general, 'picking winners' by specifying particular technologies should be avoided.

4.14 On the matter of whether a regulatory or financial incentives / market-based approach should be pursued in the consideration of measures accelerating the uptake of cost-effective clean energy projects, a market-based approach is preferred.

Recommendation: That a market-based technology-neutral approach is applied to the development of incentives for low-emissions heat technologies and clean energy projects.

4.15 Federated Farmers otherwise has no opinion to offer on the proposals in this section for lack of direct relevance to the interests of farm businesses and rural households.

Section 6: Cost recovery mechanism

4.16 The discussion document proposes to impose a levy on coal consumption, much like what is already in place for transport fuels, natural gas and electricity. It seems odd that this would be proposed when earlier proposals target the phase-out of coal for industrial use, suggesting that such a funding stream would have a very limited lifetime.

4.17 Otherwise increasing existing levies on transport fuels, natural gas and electricity would likely see energy prices rise as measures to reduce fossil fuel-based transport fuels and a progressive shift away from the use of natural gas to more renewable energy sources are implemented. While the impact on electricity prices may not be particularly significant in itself to the average consumer, it would contribute to the continuing trend towards unaffordable energy prices.

5. PART B: ACCELERATING RENEWABLE ELECTRICITY GENERATION AND INFRASTRUCTURE

Section 7: Enabling renewables uptake under the Resource Management Act 1991

5.1 Federated Farmers' primary interest in any measures pursued under this section is that the risk of impacting the rights and interests of landowners is avoided.

5.2 The siting of renewable electricity generation is more than likely to occur in rural areas, with impacts on landowners from both the hosting of renewable electricity generation and the hosting of lines, poles and towers connecting such generation to transmission and distribution networks. These impacts must continue to be allowed to be handled by negotiation between the landowner and the generation company without interference from regulations that risks resulting in uncompensated takings (where previously-negotiated property interests would be granted freely by regulation).

Recommendation: That amendments to the Resource Management Act 1991 avoid uncompensated takings of rights in private property.

5.3 On the matter of there being no definition for "small and community-scale renewable electricity generation activities", it would help for there to be a definition that is not overly-prescriptive. There is potential for farm-scale renewable electricity projects, whether mixed land-use solar farms on farming properties or other aggregated distributed generation projects across multiple farming properties. That much of this potential has yet to be realised, even as proof-of-concept, makes it difficult to offer a view on an appropriate definition or threshold of such activities at this time.

5.4 The discussion document offers very little, generally, on measures to support projects at this scale. In much the same way as projects at this scale are few, it would perhaps be best for any consideration of definition and threshold for "small and community-scale renewable electricity generation" is parked for further discussion and consideration between officials and stakeholders.

Recommendation: That a workstream be established to address issues around supporting small and community-scale projects.

Section 8: Supporting renewable electricity generation investment

5.5 Working towards achieving a target of 100% renewable energy by 2035 (with conditions) will involve a fair amount of disruption in the energy market and existing institutional and infrastructure arrangements. Government support for renewable electricity generation investment will be essential to see that happen with the least disruption to consumers. As such, Federated Farmers does not oppose the government assuming a role in pursuing measures that encourage investment in renewable electricity generation.

5.6 On the matter of the options proposed for Power Purchase Agreements in the discussion document, the Federation's preference would be for the government to de-risk renewable electricity projects through government-guaranteed contracts.

5.7 A key factor hindering the pursuit of small and community-scale renewable electricity projects is the financial risk to investors from incorporating generation at that scale into the market. The other proposed options of a contract matching service and state sector-led investment programme would fail to address the financial risks to private sector investors. Further we should be avoiding a situation where the government

effectively becomes the electricity market as would be the case under the clearing house option.

5.8 The benefits of government-guaranteed contracts for small and community-scale renewable electricity projects makes sense for ensuring the fiscal risk to the government is relatively minimal in aggregate, those projects most in need of investment security would be supported, and communities would be more likely to directly benefit from projects in their midst that would otherwise struggle to be realised.

Recommendation: That government-guaranteed Power Purchase Agreements be introduced to de-risk small and community-scale renewable electricity projects.

5.9 On the matter of introducing energy efficiency obligations on retailers and distributors, the Federation supports obligations that would better raise customer awareness of energy efficiency opportunities. A similar obligation is currently under consultation by the Electricity Authority as it relates to raising customer awareness of the Utilities Disputes Limited disputes resolution scheme and price comparison Powerswitch service.

5.10 An awareness raising obligation is preferred to an energy efficiency target approach in the absence of considered analysis of the types of energy efficiency measures and technologies that would inform such a target. This is especially relevant as it relates to the largely-unknown potential for farm businesses and rural households to achieve greater energy efficiency.

Recommendation: That there is a preference for energy efficiency awareness-raising obligations on retailers and distributors.

5.11 Federated Farmers has no opinion on the proposal to investigate regulatory and economic requirements to develop offshore wind assets for lack of direct relevance to the interests of farm businesses and rural households.

5.12 On the matter of options for renewable electricity certificates and a phase-down of thermal baseload as a strategic reserve, the Federation would need to see further analysis of these options to be able to offer a considered opinion.

Recommendation: That more analysis is undertaken of options for renewable energy certificates and phase-down of thermal baseload as a strategic reserve before they are pursued.

<u>Section 9: Facilitating local and community engagement in renewable energy and energy efficiency</u>

5.13 Small and community-scale renewable electricity projects are of particular interest to the Federation. There is potential for such projects to deliver:

- Additional revenue streams to farmers as hosts of such projects on their properties;
- Improved continuance and quality of electricity supply to rural communities for not relying on delivery over extended transmission and distribution line networks; and
- Lower-cost electricity from projects that potentially avoid the need for additional transmission investments (particularly relevant to benefit-based charging under Electricity Authority transmission pricing proposals currently under consideration).

5.14 There is the potential for small and community-scale renewable electricity projects to be co-located on farming properties in a manner that supports the generation of electricity without adversely affecting farm production. Further, small and community-scale projects are less likely to be as socially-divisive among the community for being more clearly of direct benefit to and more likely to be pursued in a manner that is more agreeable to the local community.

Recommendation: That small and community-scale projects receive a higher priority for consideration by government.

5.15 On the matter of government expressing a clear and consistent position on community energy issues, Federated Farmers supports such an approach.

Recommendation: That the government express a clear and consistent position on community energy issues.

5.16 On the matter of new initiatives to enable market access and address regulatory barriers, Federated Farmers has no opinion on the decision to allow the Electricity Authority and lines companies to complete current work programmes. It is impossible to determine at this point in time the efficacy of those work programmes to address market access constraints and regulatory barriers for distributed generation.

5.17 On the matter of government support for pilot projects, Federated Farmers supports government funding towards pilot and demonstration stages of small and community-scale renewable electricity generation projects.

Recommendation: That government funding be available for pilot and demonstration stages of small and community-scale renewable electricity generation projects.

Section 10: Connecting to the national grid

5.18 On the matter of including the economic benefits of climate change mitigation in applications to the Commerce Commission for projects that cost over $20m, Federated Farmers would be concerned to see climate change mitigation economic benefit as an investment criteria become a factor in benefit-based charging under the Transmission Pricing Methodology.

5.19 Under the proposed pricing methodology being considered by the Electricity Authority, new transmission investments are expected to increase consumer electricity prices in those parts of the network deemed to benefit from the investment. There is potential that introducing a climate change economic benefit criteria to Commerce Commission approval of major projects will be carried across to the Electricity Authority's transmission pricing methodology, thereby seeing even greater increases to consumer electricity prices than would otherwise have been the case for no good reason.

Recommendation: That concerns around the potential for climate change mitigation benefits to affect benefit-based transmission pricing are addressed.

5.20 On the matter of shifting some of the cost and risk allocation for new and upgraded connections from the first mover, Federated Farmers opposes the government pursuing an approach that sees Transpower build larger capacity assets than is required at time of commissioning.

5.21 Farmers are often expected to host parts of the transmission network on their properties. It was our experience with the North Island Grid Upgrade Project through parts of Waikato and Auckland, that the experience of affected farmers from the construction and operation of large pylons on their farms had a significant effect on the remaining farm property. We would need to see improvements to the compensation of affected landowners hosting new lines, poles and towers on their farms, before we could support an approach that sees Transpower encouraged to over-build new line routes across private land.

Recommendation: That property rights considerations of affected landowners from over-build of new transmission assets are addressed.

5.22 Federated Farmers otherwise has no opinion on the remaining proposals in this section for lack of direct relevance to farm businesses and rural households.

Section 11: Local network connection and trading arrangements

5.23 Federated Farmers has submitted extensively on distribution pricing to both the Electricity Authority and Electricity Price Review. While we are aware of issues with distribution pricing and aspects of particular relevance to rural consumers, we have no experience of barriers to connecting distributed generation to networked electricity supply beyond those issues already under consideration by the Electricity Authority and distribution lines companies.

6. ADDITIONAL COMMENTS

Hydroelectric generation

6.1 It is with some concern that the Federation has noticed that the discussion document expresses a preference for wind and solar renewable electricity generation, with little to no mention of water storage for hydroelectric generation.

6.2 Water is a valuable resource. Water is the lifeblood for many, especially our farmer members who simply would not be able to farm without it. Localised water initiatives can also grow provincial capability to manage future adverse events and adaption to climate change, while ensuring long-term benefits flow downstream to communities. In those regions that have water storage and irrigation, we know it generates greater investment and incentives for the processor, manufacturer and farmer, creating opportunities to add value to their produce.

6.3 Drought mitigation and increased production fundamentally relies on irrigation and water storage. The same can be said for the resource and production efficiencies that come with precision agriculture, increasingly adopted by irrigators when supported by a reliable water system.

6.4 Further, Figure 16 in the *Electricity demand and generation scenarios: Scenario and results summary* of June 2019 projects that hydroelectric generation will become an increasingly significant proportion of new generation build out to 2050.

6.5 In its discussion of demand-side options, the Productivity Commission's *Low Emissions Economy* report of August 2018 makes specific mention of how increased wind and solar generation could lead to hydroelectric generation storing water and reducing the need for fossil-fuelled generation to better meet dry-year electricity demand.

6.6 It has been reported that New Zealand receives an average of 550 billion cubic metres of rain each year, of which 80 per cent flows out to sea. While some of that goes towards supporting river ecosystems and freshwater habitats, around 2% is estimated as used for irrigation and municipal use with the remaining rainfall effectively evaporating.

6.7 Associated water storage for hydroelectric dams, including small-scale schemes, can also help improve the efficiency of primary production and enable rural communities to become more resilient when coping with droughts, which will likely become more frequent and more severe with climate change. Recent situations in Northland, where water has had to be transported to parched towns, such as Kaitaia and Kaikohe, demonstrates the importance of water storage.

6.8 As such, it is particularly concerning to note the discussion document seems to ignore the broader co-benefits of water storage for hydroelectric generation, increasingly efficient primary production, and improved resilience of farm businesses and rural communities during dry periods.

ENDS