



Submission

Pricing agricultural emissions: Consultation document.

18 November 2022

About the McGuinness Institute

The McGuinness Institute was founded in 2004 as a non-partisan think tank working towards a sustainable future for Aotearoa New Zealand. *Project 2058* is the Institute's flagship project focusing on Aotearoa New Zealand's long-term future. Because of our observation that foresight drives strategy, strategy requires reporting, and reporting shapes foresight, the Institute developed three interlinking policy projects: *ForesightNZ*, *StrategyNZ* and *ReportingNZ*. Each of these policy tools must align if we want Aotearoa New Zealand to develop durable, robust and forward-looking public policies. The policy projects frame and feed into our research projects, which address a range of significant issues facing Aotearoa New Zealand. The nine research projects are: *CivicsNZ*, *ClimateChangeNZ*, *EcologicalCorridorsNZ*, *OneOceanNZ*, *PandemicNZ*, *PublicScienceNZ*, *TacklingPovertyNZ*, *TalentNZ* and *WaterFuturesNZ*.

About the cover

This photo was taken on a farm in the Wairarapa region (2022).

Research team: Reuben Brady

1.0 Introduction

The Institute welcomes the opportunity to offer feedback on *Te tātai utu o ngā tukunga ahuwāhenua Pricing agricultural emissions* consultation document. The proposal provides a specific opportunity to price and reduce agricultural emissions, and in doing so, develop a competitive advantage to enhance Aotearoa New Zealand's export brand. More generally, the proposal makes progress towards achieving domestic emission targets, as well as improving climate-related disclosures and helping society better respond to climate risks and opportunities.

The Institute would like to thank the Ministry for the Environment, the Ministry for Primary Industries and the New Zealand Government for undertaking this work and for inviting feedback on this proposal.

This document

This submission has been broken down into two sections; Section 2.0: General observations and concerns, and Section 3.0: Answers to consultation questions. To help provide a reference point for the Institute's work in this area, Appendix 1 includes a full list of our publications that relate to climate reporting.

The opportunity

Agricultural methane and nitrous oxide emissions contribute more than half of Aotearoa New Zealand's total greenhouse gas emissions.¹ This emissions profile is unique, with the highest share of agricultural emissions in the OECD – which reflects how important the agricultural sector is to the economy.² To date, Aotearoa New Zealand's mitigation policy relies heavily on offsets through the Emissions Trading Scheme (ETS) – though agriculture is the only sector that has not been included in the scheme.³

What is clear is that Aotearoa New Zealand must reduce the intensity of agricultural emissions and thus total emissions. There are domestic targets, emission budgets and international commitments all enshrined in legislation that require this to happen. The opportunity, therefore, is how to best achieve such emission reductions, while ensuring that the agricultural sector remains economically competitive.

2.0 General observations and concerns

This section contains general insights from the Institute’s research, and raises concerns that the Institute hopes can be addressed prior to the implementation of the proposed pricing scheme.

2.1 ‘Short-term pain & long-term gain’ or ‘short-term gain & long-term pain’

In the Institute’s view, an effective agricultural pricing scheme is one that shifts our societal and economic systems towards decarbonisation. Arguably, the proposed approach minimises climate-related risks and overestimates the effectiveness of proposed solutions, delivering short-term gain but long-term pain. A cautious and considered steward should have a low-risk appetite; this would mean ensuring an adequate buffer exists in case low-probability, high magnitude events occur, and would not rely on or build in technological solutions not yet invented or tested. Prudence, discretion and precaution should drive our approach.

Generally speaking, although the scope of a ‘low emissions economy’ is future-focused, it uniquely places the onus of responsibility and accountability onto the current generation. If emissions reduction was instead reframed as: (i) full decarbonisation of our energy systems and (ii) the destocking of dairy and cattle, our pathway might become easier for people to understand and action, and less difficult to delay and resist. The public sector should not take all the risks and the private sector all the benefits of the transition. But, equally, the private sector should be engaged as it is part of the solution. A classic example of the private sector solving a public-sector problem was the creation of the COVID-19 vaccines. This means we need to be cognisant of the need to create incentives for the private sector to create short-term private rewards that deliver long-term public good benefits.

To achieve this goal of net zero emissions by 2050, we urgently need to pivot toward low (or ideally zero) emission industries – requiring extra attention to support sustainable, productive, inclusive and resilient growth in impacted sectors. In this regard, the Institute is concerned that various industries (especially agriculture) have not seriously acknowledged the fact that our social and ecological systems (which many operations are built upon) will increasingly be placed under immense pressure from climate change.⁴ Aotearoa New Zealand has a responsibility to future generations, not just in terms of delivering a zero-emissions economy, but also in terms of delivering a functioning economy – one that is able to provide social and environmental wellbeing for humans, flora and fauna. This is not easy but it is our responsibility to work towards an integrated approach that delivers a solid future. That means making hard decisions today based on quality research.

2.2 Pay farmers not to farm

To elaborate on the above, the Institute believes that relying on international carbon credits to reach domestic targets and international commitments will only deliver ‘short-term gain & long-term pain’. The Institute does not support offsetting as a strategy as it ignores emission sources and does not shift societal and economical systems toward decarbonisation. The Institute believes that coordinated and targeted action toward reducing emissions at a source level is urgently required. In practice, we would prefer to see funding remain in Aotearoa New Zealand (rather than being used for purchasing international carbon credits), which could then be used to pay farmers not to farm. It is possible that we are already too late to develop and implement technological mitigation solutions. We must socialise this liability through better reporting, exploring scenarios, defining a range of policy solutions and modelling what these solutions might deliver.

2.3 The three I’s

The Institute often uses the three I’s to analyse a system: institutions, instruments and information. This ensures questions are asked not only about each of the three components or the effectiveness of the linkages between them, but whether there are gaps, conflicts or even double-ups in the system. Using this approach to analyse a system raises the question: what new institutions, instruments and information are required and what are no longer needed? It may be that creating a dedicated agency with a clear remit and funding to deliver the targets described in the consultation could bridge the gap between policy intent and on-the-ground activity. The establishment of something like a New Zealand Emissions Reduction Agency (abbreviated as NZERA), along the lines of an expanded Energy Efficiency and Conservation Authority

(EECA) (with long-term funding certainty), might help turn existing policy problems into actionable ideas. NZERA could ideally be funded through hypothecated ETS and/or levy revenues.

2.4 Mitigation deterrence

The proposed pricing scheme does not address the systematic or structural sources of emissions and is likely to lead to mitigation deterrence. In the Institute's opinion, the lack of an integrated and targeted response to the source of agricultural emissions as well as the fact that any substantive emissions reductions are expected to occur in the second and third emission budget periods (2026–2030 and 2031–2035) may result in failure to meet domestic emissions reduction targets and our Nationally Determined Contribution (NDC). Instead, there must be intervention at a much larger and more urgent scale that actually reduces emissions fairly, transparently and effectively.

Policymakers need to be pragmatic and understand that offsetting and carbon capture through mitigation technologies and practices is a short-term fix and may pass on an even bigger problem to future generations. In this regard, as part of a wider strategy to decarbonise the economy, we support the notion of funding the agricultural sector to pivot toward regenerative agriculture and the production of less emission-intensive products. In practice, this could include direct and real action toward reducing emissions (at the source) – such as reducing herd size and shifting land use. There are existing examples of funded land-use changes that have been applied at a smaller scale. For example, the Lake Rotorua Incentives Scheme saw the establishment of a \$40 million fund to protect Lake Rotorua.⁵ The scheme 'buys' nitrogen off landowners (priced at \$400 per kg of nitrate) and has an overall aim to prevent 100 tonnes of nitrogen from entering Rotorua's waterways by 2022. A fund of \$90 million with a similar purpose was also established in Taupō a few years prior.⁶

2.5 Carbon offset information

While this insight may relate more directly to climate reporting entities (as recognised in the Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021), there are parallels that could prove useful regarding this pricing scheme. As offsetting remains part of the strategic approach toward meeting domestic emission targets (as proposed in the scheme), the Institute deems it necessary for farmers and growers using offsets to be required to disclose carbon offset information.

Carbon offset information includes information such as what types of offsets are being used (e.g. carbon credits or tree planting), where they are located (e.g. address and area in New Zealand), who has verified them (e.g. has this been verified as meeting additionality requirements, and if yes, by whom), etc. Similar disclosures have been included in the External Reporting Board's (XRB's) NZ CS 17 (see Figure 1 below). In addition to disclosures around greenhouse gas (GHG) emission targets, climate-reporting entities must also include the extent to which the target relies on offsets, whether the offsets are verified or certified, and if so, under which scheme or schemes.

Figure 1: Paragraph 23 (e)(iv) of NZ CS 1 p. 10

Targets	
23.	An entity must include the following information when describing the targets used to manage climate-related risks and opportunities, and performance against those targets (see paragraph 21(d)):
(a)	the time frame over which the target applies;
(b)	any associated <i>interim targets</i> ;
(c)	the <i>base year</i> from which progress is measured;
(d)	a description of performance against the targets; and
(e)	for each GHG emissions target:
(i)	whether the target is an <i>absolute target</i> or <i>intensity target</i> ;
(ii)	the entity's view as to how the target contributes to limiting global warming to 1.5 degrees Celsius;
(iii)	the entity's basis for the view expressed in 23(e)(ii), including any reliance on the opinion or methods provided by third parties; and
(iv)	the extent to which the target relies on offsets, whether the offsets are verified or certified, and if so, under which scheme or schemes.

Many issuers are now reporting that they are net-zero, or becoming carbon-neutral.⁸ From our preliminary review, the language used can be misleading and the offset instruments themselves may not be of sufficient quality. Issuers need to be aware of this so that they are not misled, and so they do not accidentally mislead investors. As you will be aware, there is a lot of discussion in the United States about what ‘additionality’ means and the number of non-verified registers providing low-quality offsets. A useful website that explains this is the Carbon Offset Guide, which states:

Strategies for Avoiding Lower-Quality Offset Credits

As the prior sections make clear, carbon offset credits are not a typical commodity. Although carbon offset programs provide some assurance, purchasing high quality offset credits is not as simple as buying any ‘certified’ credit issued by an offset program. It is common to tell credit buyers to ‘do their homework,’ and indeed such advice is appropriate for organizations with the time and resources to do so. In this section, we describe both thorough and simpler strategies for steering clear of lower-quality offset credits.⁹

The Institute advocates following an integrated approach toward all aspects of our transition to net-zero by 2050. The Institute will be preparing a working paper further exploring this topic in 2023.

2.6 Overreliance on non-existent technologies

The Institute is concerned that the proposed pricing scheme places too much reliance upon new mitigation opportunities and technologies that do not yet exist instead of prioritising widespread and rapid land-use changes. Again, we believe that this will lead to mitigation deterrence, increased uncertainty and ultimately delayed action toward effective emission reductions at the pace and scale required to reach domestic and international emission targets.

2.7 Lack of data to inform decision making

At a high level, the proposal does not provide enough certainty that we will achieve our domestic targets and international commitments. The quality of the data used to inform the decision making throughout this proposal is also of concern. The pricing scheme contains various technologies and practices to reduce emissions, many of which have not been quantified and therefore are very uncertain. Uncertain and unquantified proposals arise from a lack of data/information.

2.8 Emissions leakage

The Institute would like to comment on emerging dialogue around the risk of emissions ‘leakage’ that has resulted from the release of the proposed pricing scheme. Emissions leakage risk is described as follows:

Emissions leakage risk is created by the uneven implementation of climate policies around the world. Emissions pricing or other policies aimed at reducing emissions may increase costs for emissions intensive businesses and cause them to lose market share to international competitors that do not face similar costs.¹⁰

The emerging narrative is that an agricultural pricing scheme will not have an overall impact on reducing net global emissions. This is justified by the logic that higher on-farm costs will cause farmers to lose market share to international competitors (that produce more emissions-intensive products). While we appreciate that this may be a fair and logical conclusion, we are more concerned that this narrative is being pushed and morphed as an attempt to try and undermine the scheme, and targeted action on agriculture more generally. The OECD has explored this issue and found that (i) ‘forecasts of leakage assessments have overestimated the risk of leakage when compared to evidence after implementation’,¹¹ and (ii) the implementation of an emissions pricing system decreases global net emissions as long as agricultural producers have access to emission reduction technologies.¹² In the Institute’s opinion, the risk of emissions leakage through emissions pricing does not equate nor outweigh the benefits of tangible interventions to reduce emissions.

2.9 Sequestration

The Institute understands that planting forests is an attractive option as it provides flexibility for meeting domestic targets and international commitments and no key player will complain. If planting forests is going to continue to be used for offsets, then it should be done in a way that provides nature-based solutions and strengthens biodiversity – where long-term carbon storage is a positive externality rather than the sole purpose of planting. We wish to reiterate the concern that the continued reliance on carbon

sinks to bring down net emissions does not address and/or motivate structural and systematic changes that drive decarbonisation. Policymakers need to be pragmatic and understand that offsetting and carbon capture through forests is a short-term solution and simply passes on an even bigger problem to future generations. Priority of investment should be given to active system change and dynamic innovation (at a macro level with flow-on effects to agriculture), which should be funded through ETS hypothecation. The same should also apply (at a more specific and target level) to agriculture – funded through the levies.

2.10 Retain the opportunity to establish a carbon tax and/or an emissions cap in the future

Given the reservations and contention surrounding the challenges/opportunities of this pricing scheme, the Institute still considers that a carbon tax would be a more appropriate mechanism for reducing emissions at the pace and scale required to meet domestic and international emission targets. A carbon tax, we believe, would be cheaper, simpler (easier for citizens to understand), easier to alter (by changing the tax rate), easier to target to specific audiences, easier to stage if need be (e.g. by changes in tax rates and by applying to different emitters) and the funds collected can be targeted for specific purposes (e.g. R&D grants made available to carbon tax payers). Operationally, a carbon tax will require independently verifiable carbon emissions data (see our recommendation in response to Question 14).

In a similar manner, the Institute is also supportive of Climate Change Minister Shaw's recommendation for the agricultural pricing system (in the long-term) to be closer in design to that of the Emissions Trading Scheme. The Institute believes that an emissions cap on agricultural emissions would deliver more certainty than the proposed pricing scheme – both in terms of meeting domestic targets and having a market-driven price that is not subject to politics.

3.0 Answers to consultation questions

Question 1: Do you think modifications are required to the proposed farm-level levy system to ensure it delivers sufficient reductions in gross emissions from the agriculture sector? Please explain.

Yes.

The Institute largely supports the Government's modified proposal as outlined on p.18 of the consultation document, but hold the following concerns:

- As stated on page 18 of the proposal, '[p]ricing agricultural emissions at farm level gives farmers and growers the autonomy and flexibility to determine the most efficient, cost-effective mitigation practices for their specific farm'. The Institute cautions that a tension exists between 'most efficient' and 'cost-effective' mitigation practices. This creates a real risk for genuine emission reduction efforts to be delayed. Furthermore, the proposal fails to adequately identify existing mitigation technologies and practices to actively reduce emissions at the scale and urgency required. This uncertainty makes it challenging for farmers and growers to anticipate what changes to their practices will feel like, while also placing too much emphasis and reliance on future mitigation practices and technologies that do not yet exist. All of this considered, the Institute is concerned that this aspect of the proposed pricing system could result in mitigation deterrence.
- The proposal also states on page 38 that the 'Government is not planning to achieve emissions reductions through widespread, rapid land use change as a result of the introduction of farm-level pricing'. We believe that this places too much emphasis and weight on achieving large-scale emissions reductions solely through mitigation practices and technologies. This also gives the agricultural sector the ability to further delay genuine efforts to reduce emissions. As mentioned in Section 2.0, we urgently need to pivot emissions-intensive industries toward low (or ideally zero) emissions-intensive industries – requiring extra attention to support sustainable, productive, inclusive and resilient growth in impacted sectors. In our opinion, the proposed pricing scheme lacks the ambition and urgency required.
- Regarding the compliance and enforcement of this system, the Institute suggests the development of robust reporting checks and balances to ensure that system can not be 'gamed' to the advantage of some farmers over others.

Question 2: Are tradeable methane quotas an option the Government should consider further in the future? Why?

Yes.

The Institute supports tradeable methane quotas and recommends the Government adopt this option as soon as possible. Methane emissions make up 44% of Aotearoa New Zealand's gross emissions,¹³ and therefore a system designed specifically to target and reduce these emissions is crucial. The Institute is confident that a tradeable methane quota will achieve this. The benefits of tradeable methane quotas are that they are volume-based rather than price-based, more easily aligned with domestic emission reduction targets and more responsive than a levy; the price is set by the market and avoids the need for price setting, which could be subject to political influence (which is proving to be very contentious). The Institute believes that for these reasons, this is the fairest option for all.

Question 3: Which option do you prefer for pricing agricultural emissions by 2025 and why?

(a) A farm-level levy system including fertiliser?

(b) A farm-level levy system and fertiliser in the New Zealand Emissions Trading Scheme (NZ ETS)

(c) A processor-level NZ ETS?

The Institute prefers option (b).

Firstly, the benefits of a farm-level pricing system outweigh the costs. Primarily, the Institute believes that under this option, farmers and growers will have more incentives to actively reduce emissions through the implementation of mitigation technologies and practices.¹⁴ The administrative costs associated with the development and implementation of the pricing system (e.g. identifying, reporting and monitoring emissions), as well as the costs associated with increasing grower and farmer capability (in this regard), should be recognised and minimised as much as possible before the scheme is implemented.

Secondly, regarding synthetic nitrogen fertiliser, the Institute is of the view that instead of incorporating it into the ETS, it should instead be phased out through taxation. Similarly to the above discussion of a carbon tax in Section 2.0, we believe, that a fertiliser tax would be cheaper, simpler (easier for citizens to understand), easier to alter (by changing the tax rate), easier to target to specific audiences, easier to stage if need be (e.g. by changes in tax rates and by applying to different emitters) and the funds collected can be targeted for specific purposes (e.g. R&D grants made available to fertiliser tax payers).

Question 4: Do you support the proposed approach for reporting of emissions? Why, and what improvements should be considered?

Yes.

The Institute supports the proposed approach of a centralised emissions calculator being managed by the implementation agency to estimate on-farm emissions. Although necessary to the effectiveness of the scheme, the Institute is pleased to see that the calculation methods will be transparent and publicly available. Further, we also agree that the simple reporting method will provide an equitable and standardised way for reporting emissions.

Regarding the development of a more detailed emissions estimation method, the Institute supports the proposed approach and agrees that this move should be made as soon as possible. Finally, we also agree that the timeline for the reporting of emissions should align with the financial statements and annual reports of farms.

The Institute provides a recommendation regarding the content of these disclosures in our response to Question 14.

Question 5: Do you support the proposed approach to setting levy prices? Why, and what improvements should be considered?

The Institute generally agrees with the proposed approach.

At a high level, we agree that the agriculture sector should not be able to set its own levy prices. Regarding both levy prices, the Institute is pleased to see that alignment has been considered in an integrated manner (e.g. the long-lived gas price linked to the NZU price and the short-lived gas price informed by domestic emission targets). While the Institute does generally support this approach, we do hold some concerns that should be considered and resolved prior to the implementation:

a. Levy prices are subject to lobbying

As with topics of this nature, the risk of lobbying always exists. The Institute is concerned that effective levy prices required for meaningful emissions reductions are subject to lobbying from politicians with

vested interests in the agricultural sector. The Institute suggests that this risk is taken seriously and checks and balances are provided to ensure that the price is influenced only by the NZU price and how we are tracking against domestic emissions targets.

b. Uncertain variance between governments/political agendas

The Institute is concerned that the lack of information about the decision-making processes for setting levy rates is reducing confidence and certainty. As the proposed price scheme currently stands, there is a lot of uncertainty around (i) what the initial levy price will be, (ii) how it will evolve over time and (iii) how the implications of this uncertainty will impact genuine efforts to reduce agricultural emissions.

While it is safe to assume that the legislation that binds this pricing scheme will be an enduring piece of policy, it is not certain whether different governments (with different agendas) will leave aspects of the same system untouched. For example, the proposed pricing scheme has already received different reactions from both sides of the equation having been labelled ‘too strong’ from the agricultural perspective and ‘too weak’ from an environmental perspective. The Institute is concerned that progress in this space has the potential to be undone subject to political influence for ulterior motives (i.e. election promises).

c. Review periods matter

The Institute believes that biogenic methane levy prices should be reviewed annually to ensure a more responsive system. The Institute’s main concern with the proposed three-yearly review period is that it will impede the ability to respond quickly, which (as mentioned in the consultation document) will provide additional challenges in achieving domestic targets. An example of this is that if the levy prices are set in 2025 (and reviewed every three years) then there will be only one chance (in 2028) to make the necessary amendments to ensure we achieve the 2030 target. The Institute acknowledges that a one-year review period may have shortcomings in terms of being able to observe the sector’s response to the set levy price, but we do not believe this outweighs the shortcomings associated with the three-year period.

If the Government decides to pursue the three-yearly review option, the Institute advocates allowing Ministers to make out-of-cycle levy adjustments in exceptional circumstances.

Question 6: Do you support the proposed approach to revenue recycling? Why, and what improvements should be considered?

Yes.

The Institute agrees with the proposed approach to revenue recycling, as well as the underlying principles of how revenue decisions are to be made. Regarding the advisory body planned to aid Ministers on the revenue recycling strategy, the Institute suggests that the Climate Change Commission (CCC) should be the body responsible for this role (instead of developing a new advisory body). This would save time and resource as the CCC is already well established and regarded. The Institute also supports the proposed decision to establish a separate fund with the purpose of supporting opportunities for and meeting the needs of Māori landowners. To this end, we agree that the most equitable way to approach this model is to set a minimum percentage of overall revenue that must go into the dedicated fund.

Question 7: Do you support the proposed approach for incentive payments to encourage additional emissions reductions? Why, and what improvements should be considered?

Yes.

The Institute supports the use of incentive payments in the short term, and believe that it is an appropriate and fair approach toward encouraging emission reductions without dramatic changes in production or land use changes (though we prefer the latter).

For incentive payments to remain consistent with the overall goal of developing an ‘effective, fair and financially sustainable system’, the Institute supports the adoption of the varied rate of reward proposal made by He Waka Eke Noa. We believe that providing a varied rate of reward for different mitigation practices and technologies based on the scale of emissions reductions is more sensible and equitable than a flat rate. There exists a trade-off between fairness and cost, and as a varied rate will be less cost-effective, mitigation practices and technologies will be available to a wider range of farmers and growers.

Question 8: Do you support the proposed approach for recognising carbon sequestration from riparian plantings and management of indigenous vegetation, both in the short and long term? Why, and what improvements should be considered?

The Institute generally supports this.

As mentioned in Section 2.0, we are concerned that the continued reliance on offsetting through sequestration to bring down net emissions does not address and/or motivate structural and systematic changes that drive the necessary decarbonisation of the agricultural sector.

With the above being said, we suggest that the proposed approach should be designed in a way that provides nature-based solutions and strengthens biodiversity – where long-term carbon storage is a positive externality rather than the sole purpose of planting. In this case, a robust system for identifying and certifying appropriate sequestration sources is required.

Question 9: Do you support the introduction of an interim processor-level levy in 2025 if the farm-level system is not ready? If not, what alternative would you propose to ensure agricultural emissions pricing starts in 2025?

Yes.

The Institute agrees that this would be an appropriate fall-back option if the farm-level system is not ready for implementation. This is because the infrastructure required to enable an interim processor-level levy is largely already in place. Also, from an administrative perspective, agricultural processors already record and report annual emission information to the Environmental Protection Agency. And while this option would not be as effective in changing on-farm practices, the revenue generated could also be reinvested back into mitigation practices and technologies at the farm-level.

With the above being said, and though the Institute does support this approach, we also stress the importance of actively avoiding any delays in implementing the farm-level pricing system (if possible). In the Institute’s opinion, we are already late in confronting the issue of agricultural emissions and therefore, there should be no reason for further delays in efforts to reduce agricultural emissions. In our opinion, relying too heavily on this fall-back option would be a missed opportunity and result in mitigation deterrence.

Question 10: Do you think the proposed systems for pricing agricultural emissions is equitable, both within the agriculture sector, and across other sectors, and across New Zealand generally? Why and what changes to the system would be required to make it equitable?

The Institute holds a number of views regarding the equity of the scheme. Our high-level comment is that inequities exist and a wide variety of transitional support should be made available, with additional resource provided to those that need it most.

Firstly, regarding the agricultural sector specifically, we believe that dairy farms have been favoured under the scheme compared to sheep and beef farms. While we understand that the method used in the scheme is based on emissions relative to revenue, we believe that this only tells part of the story. For example, dairy farms have many other environmental impacts rather than just emissions, including water use, land use, effluent pollution (degrading soil, aquifer and waterway quality), soil compaction and impacts on local

air quality.^{15,16} The Institute believes that an integrated approach must be followed when developing this pricing system, and in our view that means treating all agriculture players equally to start with. We understand that there will be disproportionate impacts on Māori, who own large parts of the sheep and beef sector, and this is an example of where additional support and resource could be provided through the establishment of the dedicated fund for Māori landowners.

Secondly, regarding how this scheme fits into the bigger picture of economic transition toward net-zero across all sectors, we are of the view that the special treatment provided to the agricultural sector has historically been inequitable (especially given that over half of emissions are from this sector). Generally, other sectors have been held accountable for the agriculture sector's emission-intensive and environmentally degrading business practices, and have since been required to shift towards reducing emissions to align with domestic targets. We consider that it is now more than fair for agriculture to be treated equally to other sectors – again reinforcing the integrated approach.

Finally, regarding New Zealanders generally, the Institute agrees that this will present a range of challenges and opportunities across many areas of the economy but believe that this will unevenly impact rural communities. We agree with the proposed interventions as highlighted in the consultation document. Though, to ensure the effectiveness of proposed solutions, we suggest that necessary checks and balances are established to ensure Government is held accountable to action.

Question 11: In principle, do you think the agricultural sector should pay for any shortfall in its emissions reductions? If so, do you think using levy revenue would be an appropriate mechanism for this?

Yes.

If this pricing scheme does not reduce agricultural emissions at the pace and scale required to meet domestic and international targets, the Institute agrees that the agricultural sector should be responsible for funding additional abatement required. We also agree that using the levy to front these funds would be an appropriate place to start. If Aotearoa New Zealand fails to meet domestic targets and its Nationally Determined Contribution (NDC) because of shortfalls, then the gap will need to be covered either by other sectors or at a fiscal cost to the Government (through purchasing offshore mitigations). The Institute believes that, as agriculture is responsible for half of Aotearoa New Zealand's total emissions (and that it has been excluded from the ETS), then it is only fair that the sector is held accountable for shortfalls. Furthermore, this requirement adds another incentive for more genuine emission reduction efforts. We hold the concern that if too much leniency is given, mitigation deterrence will occur at a large scale and intergenerational burdens will increase.

Question 12: What impacts or implications do you foresee as a result of each of the Government's proposals in the short and long term?

Generally, the Institute believes that the proposed scheme will widen the inequality gap across the agricultural sector. Namely in that richer farmers will be better positioned than poorer farmers to navigate and adjust to on-farm changes resulting from the proposed scheme. This will have compounding impacts for poorer farmers. Furthermore, the Institute understands that the scheme will have disproportionate impacts on Māori. See the Institute's answer to Question 10 for further discussion on this matter.

Question 13: What steps should the Crown be taking to protect relevant iwi and Māori interests, in line with Te Tiriti o Waitangi? How should the Crown support Māori land owners, farmers and growers in a pricing system?

Generally, the Institute believes that the Government should constantly undertake genuine engagement with iwi and Māori throughout the design process of this system. It is important to uphold and honour Te Tiriti o Waitangi to understand and acknowledge how the impacts of this scheme will disproportionately effect iwi and Māori. Again, this points toward the need for an integrated approach guiding Aotearoa New Zealand's climate response with the inclusion of mātauranga Māori as well as prioritising Māori perspectives and wellbeing.

Question 14: Do you support the proposed approach for verification, compliance and enforcement? Why, and what improvements should be considered?

The Institute largely agrees with the proposed approach for the verification, compliance and enforcement of the pricing scheme. We support the approach because of the principles that underline the proposal as well as the alignment with existing and planned farm-audit systems. In reference to the annual report component of the audit and verification processes, the Institute would like to make the following suggestion.

Regarding the 'minimal annual reporting requirements' as mentioned in the consultation document, we believe there is an opportunity to improve the quality of climate-related information in the public arena. While we appreciate that the main purpose of the pricing scheme relates more directly to emission and abatement disclosures, we believe that farmers and growers could also/instead disclose the following information in their annual reports.

- 1. Climate change risks:** Any possible impact that climate change may have on the future of the entity, country and/or world.
- 2. Emission metrics:** Existing emissions data stated in tonnes, percentages or CO₂/m² produced and/or abated.
- 3. Emission costs:** Existing carbon emission offsets stated in financial figures and/or the number of carbon units used (usually found in financial statements).
- 4. Emission controls:** Reference to existing measures that were put in place to control or abate emissions.
- 5. Emission targets:** Specific goals to reduce future carbon emissions. Emission targets refer to a specific numerical value (in contrast to initiatives, which are broader and less specific).
- 6. Climate change initiatives:** A statement, reference to an action, or similar that shows the entity is taking action or planning to take action to curb its emissions or reduce its vulnerability to climate change risks (or the vulnerability of a country or the world).

Across the Institute's research, we have observed a large gap in the extent to which climate-related information is available within the public arena. Exploring options that can be given to reporting entities to enable the consistent and timely delivery of climate-related disclosures is a key priority. And while farmers and growers don't fit the usual mould of a reporting entity, it is fair to assume that there would be a wide audience of interested users of the above information. This is especially true given the transitional period that all sectors across the economy are in as we strive toward a net-zero economy.

If we wish Aotearoa New Zealand to become a climate-intelligent country, we need to not only create climate-intelligent markets, but also enable all to become climate-intelligent. Ensuring equality and ease of access to climate-related information (through annual report disclosures) is one way we can facilitate the early identification of stranded assets, and contribute to a just transition.

Question 15: Do you have any other priority issues that you would like to share on the Government's proposals for addressing agricultural emissions?

Yes. Please refer to Section 2.0 of this submission to view what other issues the Institute deems important to consider and address prior to the implementation of the pricing scheme.

Appendix 1: List of McGuinness Institute reports that discuss climate reporting

Year	Month	Type of Publication	Publication Title	Project	Link
2022	Oct	Working paper	Working Paper 2022/15 – Reviewing Voluntary Reporting Frameworks Mentioned in 2018–2021 Annual Reports from NZSX-listed companies	ReportingNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/11/20221103-0336pm-WP-2022-15.pdf
2022	Sep	Working paper	Working Paper 2022/14 – Reviewing TCFD information in 2017–2021 reports of NZSX-listed companies	ReportingNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/11/20221117-230pm-WP-2022-14.pdf
2022	Jun	Working paper	Working Paper 2022/06 – Strategy Maps: Copies of All Strategy Maps Found in Government Department Strategies in Operation as at 31 December 2021	StrategyNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/05
2022	Jul	Working paper	Working Paper 2022/05 – Best Practice: Guidance for policy analysts preparing government department strategy documents	StrategyNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/07/20220711-0444pm-Best-Practice-black.pdf
2022	Jul	Working paper	Working Paper 2022/03 – Scoring Tables Collating and Ranking Government Department Strategies in Operation as at 31 December 2021	StrategyNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/07/20220708-1113am-WP-2022-03-Scoring-Tables- converted.pdf

Year	Month	Type of Publication	Publication Title	Project	Link
2022	Jul	Working paper	Working Paper 2022/02 – Complete Lists of Government Department Strategies Between 1 July 1994 and 31 December 2021	StrategyNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/08/20220819-3pm-WP-2022-02-Lists.pdf
2022	Aug	Submission	Reclassifying stewardship land on the West Coast	StrategyNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/08/20220823-McGuinness-Institute-Submission-Reclassifying-stewardship-land-on-the-West-Coast.pdf
2022	Jul	Submission	Water Services Entities Bill – Three Waters Reform Programme	StrategyNZ, ReportingNZ ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/09/20220906-McGuinness-Submission-Water-Services-Entities-Bill.pdf
2022	Jun	Submission	Te mahere urutaunga ā motu (tuhinga hukihuki): Draft National Adaptation Plan and the Adapt and Thrive – Managed Retreat document	ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/06/20220616-McGuinness-NAP-submission-FINAL.pdf
2022	May	Submission	Submission in Response to People and place: Ensuring the wellbeing of every generation: Consultation on the topic for the Ministry for the Environment’s Long-term Insights Briefing 2022	StrategyNZ, ReportingNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/05/20220523-0507pm-Submission-People-and-place.pdf
2022	May	Submission	Submission in Response to Strategy and Metrics and Targets Consultation Aotearoa New Zealand Climate Standard 1: Climate-related Disclosures (NZ CS 1)	StrategyNZ, ReportingNZ ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/05/20220531-2pm-XRB-submission-by-McGuinness-DRAFT.pdf

Year	Month	Type of Publication	Publication Title	Project	Link
2022	May	<i>Working paper</i>	<i>Discussion Paper 2022/02 – New Zealand King Salmon Case Study: A financial reporting perspective</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/05/20220525-330pm-NZKS-.pdf
2022	May	<i>Working paper</i>	<i>Working Paper 2022/10 – New Zealand King Salmon key documents 2012–2022</i>	<i>OneOceanNZ, ReportingNZ ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/05/20220513-0353pm-WP-2022-10-NZKS.pdf
2022	May	<i>Discussion paper</i>	<i>Discussion Paper 2022/01 – Future for Local Government Workshop</i>	<i>ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/06/20220601-5pm-Future-for-Local-Government-Workshop-paper.pdf
2022	Apr	<i>Submission</i>	<i>Proposed changes to regulations for the New Zealand Emissions Trading Scheme 2022</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/05/202205503-Submission-Proposed-changes-to-regulations-for-the-New-Zealand-Emissions-Trading-Scheme-202210.pdf
2022	Mar	<i>Submission</i>	<i>Improving Aotearoa New Zealand’s environmental reporting system</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/03/20220230-McGuinness-MfE-Submission-Improving-Aotearoa-New-Zealand-FINAL-FOR-WEBSITE.pdf
2022	Mar	<i>Submission</i>	<i>Te Ara Paerangi – Future Pathways Green Paper</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/03/20220225-4pm-McGuinness-Future-Pathways-Green-Paper-Submission-Final-For-website.pdf
2021	Dec	<i>Working paper</i>	<i>Working Paper 2021/04 – Reviewing Voluntary Reporting Frameworks mentioned in 2018 – 2020 Annual Reports (work in progress)</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2021/12/20211210-430pm-WP-2021-04.pdf

Year	Month	Type of Publication	Publication Title	Project	Link
2021	Dec	Working paper	Working Paper 2021/09 – Analysis of Climate Reporting in the Public and Private Sectors	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2021/12/20211210-445pm-WP-2021-09.pdf
2021	Nov	Working paper	Working Paper 2021/15 – Looking for a taxonomy for Aotearoa New Zealand’s oceans	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/02/20220201-0301pm-WP-2021-15-Interactive.pdf
2021	Nov	Working paper	Working Paper 2021/14 – The Role of Water Temperature in Climate Change Policy – A New Zealand King Salmon Case Study	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/02/20220201-0253pm-WP-2021-14-Interactive.pdf
2021	Oct	Discussion paper	Discussion Paper 2021/04 – An Accounting Dilemma: Does a commitment to purchase offshore carbon credits create a requirement to disclose that obligation in the financial statements of the New Zealand Government?	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/02/20220202-0947am-DP-2021-04-Interactive.pdf
2021	Oct	Working paper	Working Paper 2021/13 – Analysis of Priorities mentioned in Minister of Finance Budget speeches since 2006	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/02/20220201-0248pm-WP-2021-13-Interactive.pdf
2021	Sep	Working paper	Working Paper 2021/11 – Analysis of Donations and Political Donations in 2020	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2022/02/20220201-0245pm-WP-2021-11-Interactive-1.pdf

Year	Month	Type of Publication	Publication Title	Project	Link
			<i>Annual Reports by NZSX-listed companies</i>		
2021	Jul	<i>Submission</i>	<i>Submission in response to the International Financial Reporting Standards Foundation (IFRS)</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2021/12/20210808-McGuinness-Institute-NZ-Submission-in-response-to-IFRS-FINAL.pdf
2021	Jun	<i>Working paper</i>	<i>Working Paper 2021/06 – Reviewing TCFD information in 2017–2020 Annual Reports of NZSX-listed companies</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2021/12/20211214-1207pm-WP-2021-06-Interactive.pdf
2021	May	<i>Submission</i>	<i>Submission on the Financial Sector (Climate-related Disclosures and Other Matters) Amendment Bill</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2021/10/20210528-FINAL-25-June-Financial-Sector-Amendment-Bill-Submission-McGuinness-Institute-5-Oct-1.pdf
2021	Mar	<i>Submission</i>	<i>Submission on the He Pou a Rangi Climate Change Commission 2021 Draft Advice for Consultation</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2021/06/20210328-McGuinness-CCC-Submission-updated-cover.pdf
2020	Jun	<i>Working paper</i>	<i>Working Paper 2020/05 – Reviewing Voluntary Reporting Frameworks mentioned in 2019 Annual Reports</i>	<i>ReportingNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2021/08/20210722-10.22am-WP-2020-05-Interactive-2.pdf
2020	Jun	<i>Working paper</i>	<i>Working Paper 2020/04 – Analysis of Climate Reporting in the Public and Private Sectors</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2021/08/20210729-9.01am-WP-2020-04-Interactive-2.pdf
2020	Jun	<i>Working paper</i>	<i>Working Paper 2020/03 – Reporting Requirements of Five Types of Entities</i>	<i>ReportingNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2021/09/20210914-2.55pm-WP-2020-03-Interactive.pdf
2020	May	<i>Working paper</i>	<i>Working Paper 2020/02 – The Role of a Directors’ Report: An</i>	<i>ReportingNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2021/08/20200611-WP-2020-02-Interactive-3-.pdf

Year	Month	Type of Publication	Publication Title	Project	Link
			<i>analysis of the legislative requirements of selected Commonwealth countries</i>		
2019	Dec	Submission	<i>Submission on Climate-related financial disclosures: Understanding your business risks and opportunities related to climate change</i>	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2020/02/20200226-FINAL-McGuinness-Institute-Climate-related-financial-disclosures-Submission.pdf
2019	Dec	Survey	<i>Survey Insights: An analysis of the 2019 Task Force on Climate-related Financial Disclosures (TCFD) survey</i>	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2019/12/20191218-Survey-Insights-An-analysis-of-the-2019-TCFD-survey.pdf
2019	Oct	Discussion paper	<i>Discussion Paper 2019/01 – The Climate Reporting Emergency: A New Zealand case study</i>	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2019/11/20191114-Discussion-Paper-FINAL.pdf
2019	Oct	Blog post	<i>TCFD Workshops: Practical steps for implementation (Auckland and Wellington)</i>	ReportingNZ	https://www.mcguinnessinstitute.org/reportingnz/tcf-d-workshops-practical-steps-for-implementation/
2019	Sep	Think piece	<i>Think Piece 32 – Exploring Ways to Embed Climate Reporting in the Existing Framework</i>	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2019/10/20191014-Think-Piece-32-.pdf
2019	Sep	Working paper	<i>Working Paper 2019/06 – Analysis of Climate Change Reporting in the Public and Private Sectors</i>	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2019/10/20191003-Working-Paper-201906-FINAL.pdf
2019	Oct	Working paper	<i>Working paper 2019/05 – Reviewing Voluntary Reporting Frameworks Mentioned in 2017 and 2018 Annual Reports</i>	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2020/06/20191003-Working-paper-2019.05-FINAL.pdf

Year	Month	Type of Publication	Publication Title	Project	Link
2019	Aug	Submission	Oral Submission to Select Committee on Climate Change Response (Zero Carbon) Amendment Bill	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2019/09/20190905-McGuinness-Institute-Oral-Submission-FINAL.pdf
2019	Jul	Submission	Submission to Ministry for the Environment on the Climate Change Response (Zero Carbon) Amendment Bill	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2019/09/20190912-Climate-Change-Response-Zero-Carbon-Amendment-Bill-Submission-FINAL.pdf
2018	Oct	Think piece	Think Piece 30 – Package of Climate Change Reporting Recommendations	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2018/11/20181108-Think-Piece-30-%E2%80%93-Package-of-Climate-Change-Reporting-Recommendations.pdf
2018	Sep	Working paper	Working Paper 2018/04 – Legislation Shaping the Reporting Framework: A compilation	ReportingNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2018/10/20181010-Working-Paper-2018%E2%80%A204-%E2%80%93-5.30-pm.pdf
2018	Jul	Submission	Submission to Ministry for the Environment on the Zero Carbon Bill	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2018/07/20180723-McGuinness-Institute-submission-on-the-Zero-Carbon-Bill.pdf
2018	Jul	Submission	Submission to Productivity Commission on a Low-emissions Economy	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2018/07/20180724-Submission-to-the-Productivity-Commission-on-Low-emissions-Economy.pdf
2018	Jul	Working paper	Working Paper 2018/03 – Analysis of Climate Change Reporting in the Public and Private Sectors	ReportingNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2018/10/20181029-Working-Paper-2018%E2%80%A203-cover-4.30-pm.pdf
2018	May	Submission	Submission to the Tax Working Group on the Future of Tax	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2018/05/20180510-Tax-Working-Group-Submission-McGuinness-Institute-FINAL.pdf
2018	Mar	Working paper	Supporting Paper 2018/01 - Methodology for Working Paper 2018/01	ReportingNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2021/07/20210719-Supporting-Paper-2018-01-Methodology-FINAL.pdf

Year	Month	Type of Publication	Publication Title	Project	Link
2018	Mar	Working paper	Working Paper 2018/01 – NZSX-listed Company Tables	ReportingNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2018/10/20181008-Working-Paper-201801-%E2%80%93-Final-WEB.pdf
2018	Mar	Survey	Users' Survey: Attitudes of interested parties towards Extended External Reporting (published in collaboration with the XRB), 29 May–21 August 2017	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2018/03/20180312-Users-Survey-Results-Booklet-FINAL.pdf
2018	Mar	Survey	Preparers' Survey: Attitudes of the CFOs of significant companies towards Extended External Reporting (published in collaboration with the XRB), 10 April–3 July 2017	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2018/03/20180312-Preparers-Survey-Results-Booklet-FINAL.pdf
2018	Mar	Survey	Survey Highlights: A summary of the 2017 Extended External Reporting Surveys	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2018/03/20180313-ReportingNZ-Project-Survey-Highlights-Final-3.50-pm.pdf
2018	Mar	Survey	Survey Insights: An analysis of the 2017 Extended External Reporting Surveys	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2018/10/20181008-Survey-Insights-FINAL-WEB.pdf
2017	Dec	Submission	Submission on NZX Listing Rule Review	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2017/12/20171220-NZX-Listing-Review-Submission-Final.pdf
2017	Apr	Submission	Submission on disclosing non-GAAP financial information	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2016/08/20170424-Submission-on-Disclosure-of-non-GAAP-financial-information-final-1.pdf
2016	Oct	Submission	Submission on the NZX Corporate Governance Best Practice Code	ReportingNZ and ClimateChangeNZ	https://www.mcguinnessinstitute.org/wp-content/uploads/2016/08/20161125-NZX-McGuinness-Insitute-Submission-FINAL.pdf

Year	Month	Type of Publication	Publication Title	Project	Link
2014	Apr	<i>Submission</i>	<i>Submission on the Environmental Reporting Bill</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2020/01/20140424-McGuinness-Institute-Submission-on-the-Environmental-Reporting-Bill.pdf
2013	Jul	<i>Submission</i>	<i>Submission to the International Integrated Reporting Councils' (IIRC) Consultation Draft of the International Framework</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2016/08/20130716-McGuinness-Institute-Submission-on-Consultation-Draft.pdf
	Feb	<i>Submission</i>	<i>Submission on the Public Finance (Fiscal Responsibility) Amendment Bill 2012</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2016/08/20130218-Public-Finance-fiscal-responsibility-Ammendment-Bill-2012-McGuinness-Institute.pdf
2011	Dec	<i>Submission</i>	<i>Submission on the International Integrated Reporting Committee Discussion Paper</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2016/08/SustainableFutureInstitute_IIRC_Submission.pdf
	Jan	<i>Survey</i>	<i>Integrated Annual Report Survey of New Zealand's Top 200 Companies: Exploring Responses from Chief Financial Officers on Emerging Reporting Issues</i>	<i>ReportingNZ and ClimateChangeNZ</i>	https://www.mcguinnessinstitute.org/wp-content/uploads/2018/11/20180410-One-integrated-report.pdf

Endnotes

- ¹ OECD. (n.d.) New Zealand's plans for agricultural emissions pricing. Retrieved 17 November 2022 from <https://www.oecd.org/climate-action/ipac/practices/new-zealand-s-plans-for-agricultural-emissions-pricing-d4f4245c/>
- ² OECD. (n.d.) New Zealand's plans for agricultural emissions pricing. Retrieved 17 November 2022 from <https://www.oecd.org/climate-action/ipac/practices/new-zealand-s-plans-for-agricultural-emissions-pricing-d4f4245c/>
- ³ OECD. (n.d.) New Zealand's plans for agricultural emissions pricing. Retrieved 17 November 2022 from <https://www.oecd.org/climate-action/ipac/practices/new-zealand-s-plans-for-agricultural-emissions-pricing-d4f4245c/>
- ⁴ See The Aotearoa Circle. (n.d.). Marine. Retrieved 29 November 2021 from <https://www.theaotearoacircle.nz/marine>
- ⁵ See Rotorua Te Arawa Lakes Programme. (2017). What's in place to clean up Lake Rotorua?. Retrieved 29 November 2021 from <https://www.rotorualakes.co.nz/what-s-in-place-to-clean-up-lake-rotorua>
- ⁶ See Joy, M. (26 September 2016). Mike Joy: The heavy price of our waterways pollution. *Stuff*. Retrieved 29 November 2021 from <https://www.stuff.co.nz/national/politics/opinion/84656186/mike-joy-the-heavy-price-of-our-waterways-pollution>
- ⁷ See External Reporting Board (XRB). (15 December 2022). NZ CS 1 Climate-related Disclosures. Retrieved 15 December 2022 from <https://www.xrb.govt.nz/standards/climate-related-disclosures/aotearoa-new-zealand-climate-standards/aotearoa-new-zealand-climate-standard-1/>
- ⁸ See McIlraith, B. (14 November 2021). The most carbon-conscious companies and what they are doing to reduce emissions. *Stuff*. Retrieved 30 October 2022 from www.stuff.co.nz/business/126924574/the-most-carbonconscious-companies-and-what-they-are-doing-to-reduce-emissions
- ⁹ See Carbon Offset Guide. (n.d.). Strategies for Avoiding Lower-Quality Offset Credits. Retrieved 30 October 2022 from <https://www.offsetguide.org/avoiding-low-quality-offsets/>
- ¹⁰ See He Pou a Rangi The Climate Change Commission. (May 2022). *Advice on Agricultural Assistance: Technical Annex 1: Risk of Emissions Leakage*, p. 1. Retrieved 1 November 2022 from <https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Advice-on-Agricultural-Assistance/AA-Report-Technical-Annex-1.pdf>
- ¹¹ See He Pou a Rangi The Climate Change Commission. (May 2022). *Advice on Agricultural Assistance: Technical Annex 1: Risk of Emissions Leakage*, p. 4. Retrieved 1 November 2022 from <https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Advice-on-Agricultural-Assistance/AA-Report-Technical-Annex-1.pdf>
- ¹² See Henderson, B., & Verma, M. (October 2021). *Global Assessment of the Carbon Leakage Implications of Carbon Taxes on Agricultural Emissions*. OECD, p. 3. Retrieved 1 November 2022 from <https://www.oecd-ilibrary.org/docserver/fc304fad-en.pdf?expires=1668721875&id=id&accname=guest&checksum=6C54C6D9AE198D5115AC40D081118F69>
- ¹³ See Statistics New Zealand. (October 2022). New Zealand's greenhouse gas emissions. Retrieved 14 November 2022 from <https://www.stats.govt.nz/indicators/new-zealands-greenhouse-gas-emissions>
- ¹⁴ See Leining, C. (13 August 2019). *Action on Agricultural Emissions: Discussion Document from the Ministry for the Environment*. Motu. Retrieved 14 November 2022 from <https://www.motu.nz/assets/Documents/our-work/environment/climate-change-mitigation/shaping-new-zealands-low-emission-future/2019-08-13-Action-on-Agricultural-Emissions-Leining-submission.pdf>
- ¹⁵ See Hutching, G. (25 August 2018). Milking it: The true cost of dairy on the environment. *Stuff*. Retrieved 17 November 2022 from <https://www.stuff.co.nz/business/farming/106546688/milking-it-the-true-cost-of-dairy-on-the-environment#:~:text=Dairying's%20impacts%20are%20chiefly%3A%20the,greenhouse%20gases%20that%20cattle%20emi>
- ¹⁶ See Cooper, S. (2022). This chart shows dairy milk has a massive impact on the environment. *The Manual*. Retrieved 17 November 2022 from <https://www.themanual.com/food-and-drink/environmental-impact-of-different-types-of-milk/>