Energy Resources Aotearoa
POWERING A BETTER NEW ZEALAND TOGETHER

energyresources.org.nz
energyskills.org.nz
energymix.co.nz
PO Box 25259, Wellington 6140

27 June 2022

Environment Committee (Komiti Taiao)
en@parliament.govt.nz

Submission on the first Emissions Reduction Plan

Introduction

1. Energy Resources Aotearoa represents energy intensive businesses, from explorers and producers to distributors, sellers, and users of energy resources like oil, LPG, natural gas, electricity, refined products, and hydrogen.

2. This document constitutes our submission to the Environment Committee (Komiti Taiao) (**the Committee**) on the first Emissions Reduction Plan (**ERP**).[1] We would welcome the opportunity to speak to this submission.

3. Energy Resources Aotearoa supports the objective of transitioning New Zealand and the world to a net-zero emissions future. We are grateful to the Committee for the opportunity to contribute our sector's expertise and experience in its examination of the emissions budgets and ERP.

Executive summary

The ERP is a departure from an ETS-led approach to net emissions reductions, but lacks the evidence and analysis to justify this departure

4. New Zealand businesses and households will bear the costs of the low-emissions transition. These costs must be well-understood and subject to scrutiny and debate, particularly in a context of rising costs of living and costs of business. In the absence of robust analysis about its costs and benefits, the ERP risks creating a transition pathway that is more expensive and disruptive than necessary. This in turn could undermine support for emissions reduction policy.

5. An Emissions Trading Scheme (**ETS**)-led approach – underpinned by sector, fuel, and technology neutrality, and focused on net emissions – will deliver a net-zero transition at least cost to community welfare. While there is a role for additional

1 Much of our feedback echoes our March 2021 submission to consultation on the Climate Change Commission's draft advice, available here: https://www.energyresources.org.nz/dmsdocument/171

policies alongside the ETS, the 'waterbed effect' arising from a capped ETS creates a high bar for justifying them and calls for policy discipline in designing them.[2]

6. The ERP does not provide the information necessary to assess whether this bar has been met. It provides very little information on the likely abatement costs of the proposed initiatives; how they would interact with each other; and how the neutralising effect of the ETS would be addressed. For an example of how this might be done, the UK's 2011 Carbon Plan provided a comprehensive account of the net present value and abatement costs of each initiative to support a well-informed debate and ongoing monitoring and reporting of progress.

7. We appreciate the ERP has required a gargantuan effort from officials under resource and time constraints. But the public needs more information about the underlying justifications, assumptions, and impacts of the initiatives and of the whole package.

Recommendations for the Committee

8. We suggest the Committee make the following recommendations in its report:

    a. that Government publicise detailed information about the underlying assumptions of the ERP and its initiatives (particularly costs and benefits);[3]

    b. that Government commit to consistent, transparent reporting on the intervention logic, costs, and benefits of ERP initiatives, and robust evaluations, all based on best-practice cost-benefit analysis;

    c. that the gas transition plan should include thorough consideration of the potential role of carbon capture, utilisation and storage (**CCUS**), and increased substitution of gas for coal;

    d. that an evaluation of the Government Investment in Decarbonising Industry (**GIDI**) Fund's performance to date be conducted and made public before significant additional funding is committed;

    e. that any energy strategy be underpinned by an energy sector accord to codify a joint commitment to enable and promote a vibrant and well performing energy resources sector; and

    f. that Government commit to investigating regulatory barriers to CCUS in New Zealand and to establishing an enabling regulatory framework.

---

2 For more on the waterbed effect, see https://www.energyresources.org.nz/dmsdocument/202

3 See Annex B of the UK Carbon Plan here: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47617/3749-carbon-plan-annex-b-dec-2011.pdf

9. **Attachment 1** provides the Committee with suggested questions to help access the underlying analysis and assumptions in the ERP.

Overarching and framing comments

Our domestic and international targets call for net reductions

10. We support the legislated domestic target of net zero emissions (excluding biogenic methane) by 2050 as set out in the Climate Change Response Act.

11. The target strikes a balance between playing our part in the global effort to reduce net emissions, while also preserving maximum flexibility to respond to technological and economic developments. It strikes this balance in that it is a net, not gross, target.

A least-cost approach to net emissions reduction maximises wellbeing

12. The ETS puts a price on emissions (through auction and a secondary market) under a sinking quantity cap that aligns with our emissions reduction budgets and targets. It is well-established as the most efficient and effective way to reduce net emissions at least cost. Least cost simply means the least cost to community welfare.

13. A least-cost approach has previously been equated with a 'low-quality' transition on the basis that society is complex, with many different values, and that it can create undesirable outcomes such as excessive tree planting and distributional social impacts. We disagree with this characterisation. If the ETS is delivering undesirable outcomes, then those problems should be specifically addressed through appropriate policy tools (e.g., planning policy and social welfare), rather than taken as justification for abandoning a least cost approach and adopting widespread regulatory intervention throughout the economy.[4]

14. So long as the ETS emissions cap is aligned with the emissions budgets, the least-cost way to deliver these emissions budgets will generally be discovered iteratively through the price mechanism over time. Our general view is that additional measures, such as subsidies or regulations, should be supported by robust evidence and analysis that specifically justifies them considering the ETS.

15. This analysis should make specific reference to the 'energy trilemma' – the trade-off between energy affordability, security, and sustainability. Achieving a sensible balance in this regard will support the transition by ensuring (for example) that electricity is available to support an electrified fleet on a reliable and affordable basis.

4 For more on a least-cost approach, see our June 2021 *Perspectives Series* note: https://www.energyresources.org.nz/dmsdocument/178

16. It is in the long-term interests of the transition to keep these factors in mind. If a high-cost transition means energy security is compromised, or energy becomes unaffordable, we expect firms and households will soon prioritise keeping the lights on or keeping costs down over reducing emissions. Pursuing a high-cost transition could, in this way, undermine the public's support for emissions reduction policy over the long term.

The 'waterbed effect'

17. We also note that under a capped ETS, additional measures will 'redistribute' emissions reductions within that quantity cap. Reducing emissions in one area will free up ETS units for other areas, correspondingly reducing their incentive to emit (in the same way pushing down on one part of a waterbed causes other parts to rise). Any new initiatives should be justified considering this effect, and the Government should be clear how it will be addressed.

18. Government ministers have periodically referred to the prospect of adjusting the ETS cap downward to account for the emission reductions of non-ETS initiatives.[5] There is yet little clarity about how this adjustment will work in practice, which initiatives will be accounted for, or how the relative reductions attributed to each initiative will be calculated for that purpose. More information needs to be provided.

19. Even if additional measures can be designed in a way that circumvents the waterbed effect (by linking their emission reductions to corresponding reductions in the cap), the issue remains that the same abatement could be achieved (and more cost-efficiently) by tightening the ETS cap over time. The ERP does not appear to have engaged with this counterfactual, which should also be included in the intervention logic for initiatives.

Sector, technology, and fuel neutrality

20. The ETS-led, net-reductions approach preserves flexibility for market participants to seek out ways to optimise their emissions reductions. This flexibility means the price will drive decision-makers toward the optimal emissions reduction opportunities across a wide range of opportunities – including reductions, removals, and offsets – across sectors, technologies, and fuels.

21. This sector, technology and fuel neutrality should be maintained. Mandating or banning fuels in particular applications risks locking in path-dependence by picking winners. This could close off future lower-cost options. The role of government might better be conceived as identifying barriers to the realisation of least-cost abatement through the ETS, such as, for example, ensuring the

5 Hon James Shaw, Minister for Climate Change, interviewed by Carbon News in July 2021: https://www.carbonnews.co.nz/story.asp?storyID=20625

Resource Management Act (**RMA**) is not unreasonably constraining new build of renewable generation, or overcoming coordination issues between investments in generation and transmission/distribution.

22. Lessons can be learned from the "Think Big" projects of the late 1970s to early 1980s, in which the Government of the day took a much more active role. The consequences of getting these big decisions wrong are high, including writing off (potentially) billions in misallocated public debt. This risk should be treated seriously.

The ERP demonstrates an emphasis on gross, rather than net, emissions reductions

23. The ERP states that a high reliance on emissions pricing without additional measures would fail to achieve low-cost reductions due to other barriers, and that such an approach would be "unlikely to enable us to meet our climate goals and is considered to have the highest economic cost". This is potential justification for targeted, well-evidenced interventions that genuinely complement or enable (rather than duplicate) the effect of the ETS and should not be treated as blanket rationale for wholesale intervention. Each measure must still stand on its merits.

24. The ERP signals adjustments to the ETS to incentivise "the right balance of gross and net emissions reductions", including adjustments to industrial allocations, the current stockpile of NZUs, rates of afforestation/deforestation, and the number of NZUs being auctioned. We are concerned with the normative reference to the "right" balance of gross and net emissions, for reasons we have laid out above – in short, this closes off options and restricts flexibility in meeting our net target.

25. In this context we were also disappointed by the lack of explicit reference to carbon capture, utilisation, and storage (**CCUS**). CCUS is a genuine and credible opportunity to meaningfully reduce our net emissions, but it faces regulatory barriers that require proactive work by government to address.

26. We discuss CCUS further in this submission, but here we simply emphasise that a chorus of credible voices both here and overseas points to CCUS as a critical part of the net zero transition. The Intergovernmental Panel on Climate Change has stated its use is "unavoidable" if countries are to achieve net zero carbon emissions, and the International Energy Agency agrees.

Contingent work creates uncertainty for investors

27. We note with some concern the wide range of proposed plans, strategies, and roadmaps – yet to be developed – signalled in the ERP. Rather than providing sectors with the stability and confidence they need to invest, these proposals create more unknowns that will not be resolved until the proposals are developed (in some cases in late 2024).

28. Here we refer specifically to the proposal to develop an energy strategy, informed by a gas transition plan and an industrial decarbonisation action plan. Our unease is compounded by comments from the Minister of Energy and Resources suggesting that some of these strategies could take a "volumetric" approach (as this suggests a prescriptive, rather than explorative, approach).

Plans and targets

29. We also note the proposed target of 50 percent of total final energy from renewable sources by 2035. This is a step in the right direction away from the target of 100 percent renewable electricity by 2030 (which should be abandoned rather than preserved as aspirational). As a general point, though, we note that targets constrain optimisation and invite rent-seeking, wherein firms may lobby government for inefficient policies or subsidies that help achieve an arbitrary goal. It is unclear what this target achieves beyond the net emissions targets in place.

30. Any quantitative target should be about low emissions (the desired result) and not renewables (one of the inputs to achieving the desired result). By way of example, this is because:

    a. not all renewable generation is low emissions (for example, some geothermal fields can produce similar emissions to gas-fired generation);

    b. all generation, including renewables, contains embedded emissions created throughout the asset lifecycle, and those embedded emissions should be considered; and

    c. hydrocarbons can be used with carbon capture and storage or other offsets.

31. As a more general point, in the context of declining investment confidence in firms and households, well-constructed strategies should be somewhat conservative and stabilising. They should re-enshrine key principles to promote confidence, by:

    a. setting the direction of travel (net zero emissions), but with a focus on credibility, stability, durability, and predictability;

    b. committing to technology and fuel neutrality, thereby preserving flexibility for private sector investment and innovation;

    c. committing to a robust public policy approach, including well-signalled policies and thorough, meaningful consultation, as distinct from arbitrary or capricious decision-making; and

    d. setting clear 'no-go' parameters for government policy, and clear triggers or parameters for regulatory intervention.[6]

6 For more, see our April 2022 *Perspectives Series* note: https://www.energyresources.org.nz/dmsdocument/212

32. In general, we can support strategies that lay out the full range of potential transition pathways consistent with our net zero target, and then focus on addressing any barriers that might prevent consumers and firms from identifying the optimal pathway iteratively over time. This contrasts with strategies that specify a pre-determined pathway – based on the incomplete and imperfect information available – and then adjust settings to achieve that pathway.

We welcomed some positive developments in the ERP

The ERP did not include a ban on new gas connections, instead opting for a Gas Transition Plan

33. We were pleased to see the Government has not accepted the Climate Change Commission's recommendation for a ban on new gas connections. This would have been an aggressive intervention that closed off potential options in a least-cost pathway to net zero. The Government has instead committed to develop a Gas Transition Plan, due by the end of 2023, which will explore pathways for the role of gas in the transition.

34. We support in concept more analysis of the potential role for natural gas through to 2050. However, the terms of reference for the plan, and commentary around it, suggest a focus on two overall scenarios: complete phase-out of natural gas, and complete substitution with renewable gas, or some combination thereof. While reference is made to exploring the role of CCUS, we emphasise that this is critical to understanding the full range of possible roles for gas through the transition.

35. <u>We suggest the Committee recommends that the gas transition plan include thorough consideration of the potential role of CCUS, and increased substitution of gas for coal.</u>

The 2030 target of 100 percent renewable electricity is now described as aspirational

36. The 2030 target of 100 percent renewable electricity is now described as aspirational and is to be reviewed, which is somewhat reassuring. In our view the target is unnecessary, given we will likely reach >95 percent by 2030 without government intervention, and pursuing it would increase the cost of energy, perversely making the low-emissions transition harder. Given the new target of 50 per cent renewable total energy by 2035, we advocate formally dropping the renewable electricity target.

The ERP commits to addressing RMA barriers to building new generation

37. We welcomed the ERP's commitment to review national direction for new renewable generation and electricity infrastructure, including whether and how resource consent processes could be improved. Forecast growth in electricity demand places security of supply pressure on the sector, so it is essential to ensure regulatory measures do not introduce any more friction than necessary.

38. By the same token, we welcomed the ERP's commitment to develop regulatory settings to enable investment in offshore renewable energy (such as offshore wind farms). Interest in offshore wind has grown, including in Taranaki, where the region's energy expertise and existing infrastructure could support the growth of this sector.

39. Both are clear examples of additional (non-ETS) measures that could create opportunities for cost-effective emissions abatement. For the same reason we also advocate developing regulatory settings to enable investment in CCUS (discussed later in this submission).

Responses to the Committee's specific questions

Are the emissions budgets achievable, and if not, what additional actions or changes to the key actions in the ERP would make it more likely the budget was achieved?

40. The emissions budgets are net, which implies a wide range of ways to meet them using a combination of reductions, removals, and offsets. Given the ETS quantity cap is set to align with these budgets, the market will seek out an optimal combination of these three levers. The budgets should, on this basis, be achievable. The question is how to do so, and what mix of costs and benefits New Zealand is willing to incur to meet them.

41. Achieving the first three emissions budget targets, but at the expense of energy affordability or security, may make it harder to reach our longer-term target of net zero by 2050, or might mean doing so at a higher cost than is necessary. This highlights the importance of robust information about the costs of meeting the emissions budgets and the suite of initiatives in the ERP. We discuss this further in the next section.

Any analysis of the costs and benefits of the actions in the ERP, the adequacy of the costs and benefits analysis, and any gaps

A meaningful cost-benefit analysis is impossible on the information available

42. The ERP is sparse on detail about its potential costs and benefits. This makes it impossible to assess its relative merits against a counterfactual pathway.

43. The documents include a high-level aggregate estimate (low and high) of the ERP's emissions impact by sector across each emissions budget period, but do not break these figures down to the initiative-by-initiative emissions benefits.[7] Neither the

7 See Table 1 of the Technical Information Annex: https://environment.govt.nz/assets/publications/Files/Aotearoa-New-Zealands-first-emissions-reduction-plan-Technical-information-annex.pdf

ERP nor the technical annex substantively deal with the abatement cost of policies (the ERP never mentions 'abatement cost').

44. Contrast this to the 2011 UK Carbon Plan, which contained supplementary data on the expected aggregate net present value of the package of policies, as well as the net present value of each initiative within that package. It also provided a measure of cost-effectiveness (marginal abatement cost) for each initiative.[8] An illustrative excerpt is copied below, but we highly recommend the Committee review the full Annex B (linked in footnote below).

Table B6: Net present value and cost effectiveness of non-traded sector policies by measure (£ million 2011)[55]

Policy (positive = benefit)	Net present value (£ million)	Cost effectiveness (£/tCO$_2$e non-traded)
Transport		
8% of transport fuel from renewable sources by 2020	820	0
EU new car average fuel efficiency standards – CO$_2$ mid-term target (130gCO$_2$/km)	14,310	−136
Additional impact of further new car efficiency improvements to 95g/km	−13,870	118
EU new van CO$_2$ regulations	1,440	−6
Low carbon emissions buses	1,430	−73
EU new car complementary measures	−2,380	108
Local Sustainable Transport Fund (LSTF)	1,810	−224

Source: UK Carbon Plan

45. We are not suggesting the analysis in the UK's Carbon Plan is perfect. Any such analysis is inherently limited by the information available and the difficulties in predicting the future. The point is this analysis was made public, so it could be scrutinised and inform a constructive debate about the merits of the initiatives proposed.

46. We encourage the Committee to press for more details about the underlying assumptions of the ERP. It could use the UK's 2011 Carbon Plan as an indication of what this might look like. As a general principle, it ought to be possible for all parties to engage in an informed debate about the ERP based on sound, robust evidence of:

    a. the impact its initiatives are expected to have (emissions and otherwise);

    b. the costs of realising those benefits, and who bears those costs; and

    c. how these compare to counterfactual scenarios or pathways.

8 See the 2011 UK Carbon Plan's Annex B here: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47617/3749-carbon-plan-annex-b-dec-2011.pdf

47. This information will be useful for the Climate Change Commission in holding Government to account on progress (indeed, we do not believe it be able to do so without this information).

A general approach to assessing the costs and benefits of emissions reduction initiatives

48. To date – in the ERP, but also more generally – there has been inconsistent communication of the impact of emissions reduction initiatives. This does not lend well to analysis or comparison and will make it more difficult to ensure they are cost-effective.

49. Best practice in cost-benefit analysis calls for assessment of emissions reduction initiatives on the following basis:

    a. the abatement cost of initiatives should be calculated as the non-carbon net present value of the initiative over its lifetime, divided by the net present value of the projected emissions savings over its lifetime. It is insufficient, for example, to report only the gross projected emissions reductions without discounting, and without the associated costs;

    b. the abatement cost should be based on additional emissions savings – that is, emissions abatement that would happen without the initiative should not be included in the calculation;

    c. the costs and benefits of initiatives should always be calculated and presented on an 'NZ Inc' basis, rather than (or at least in addition to) 'cost to government' and 'cost to private sector'; and

    d. where possible, analysis should incorporate computable general equilibrium (CGE) economic modelling (or similar) which reflects as completely as possible the national economic costs of initiatives (such as, for example, the flow-on costs faced by consumers in higher fuel costs).

50. Treasury's CBAx tool provides a consistent and robust methodology for identifying the costs and benefits of initiatives. This should be routinely applied, and its findings made publicly available for scrutiny. By the same token, all initiatives in the ERP should be subject to rigorous ex post evaluation (and, where practicable, interim evaluation to inform iterative improvement along the way).

Ensuring large subsidy schemes deliver value-for-money

51. To illustrate the points above, it is worth considering the expansion of the Government Investment in Decarbonising Industry (**GIDI**) Fund, which has received a further $678 million.

52. The GIDI Fund has already allocated $69 million to large process heat users to subsidise energy efficiency and fuel-switching projects. To our knowledge, no interim evaluation has been conducted on the effectiveness of this. We need this analysis to tell us about:

    a. the additionality of the subsidy, i.e., how many (if any) of these projects would have happened anyway, or how many of the expected emissions reductions within any given project would have happened anyway; and

    b. the cost-effectiveness of the policy, i.e., the cost of abatement.

53. Our recommendation is that an evaluation is conducted and made public before significant amounts of the new $678 million are committed. This could include desktop analysis of all projects based on information provided by applicants, as well as assessment of any projects that have been implemented.

54. A best-case scenario is that evaluation reveals the subsidy is highly additional and recommends ways to tweak the subsidy to maximise its positive impact. The worst-case scenario is that evaluation reveals the subsidy has been a direct wealth transfer from taxpayers to large businesses to do what they would have done anyway (or at least, could have done on commercial grounds alone). Either way, an answer is instructive and in keeping with best-practice policy. We suggest the Committee recommends an evaluation of the GIDI Fund is undertaken, and made public, before significant additional funding is committed.

55. We also note that the Ministry of Transport undertook two scrappage pilot projects in 2007 and 2009, targeting vehicles that had or were likely to fail a Warrant of Fitness. The 2009 Wellington and Christchurch schemes were not cost-effective. The earlier 2007 Auckland scheme was a success, because its benefits exceeded the costs, but note this scheme was low-cost: it offered only $400 in train or bus tickets per vehicle.[9] Early indications are that the new scrappage scheme announced in Budget 2022 will offer potentially $10,000 per vehicle (25 times the earlier pilots) but we await further detail on this.[10]

56. Far from 'polluters paying' for these initiatives, as has been suggested in public commentary, it is ultimately consumers and taxpayers that bear the costs. They will do so both directly, through the ETS component of goods and services (including energy and fuel), and through the opportunity cost of this public investment.

---

9 https://www.transport.govt.nz/about-us/what-we-do/queries/vehicle-scrappage-trials/

10 This initiative has been described as "equity-focused", which suggests its primary objective is to address inequity. Regardless, comparing its abatement cost with other emissions reduction initiatives helps to establish any opportunity cost of this investment in the context of the ERP. It should also be compared with other options to address inequity (such as general welfare policy) to establish whether it is good value-for-money against its implied primary objective.

What tools or initiatives would help implement the key actions in the ERP and why?

An energy sector accord to implement the energy strategy

57. Notwithstanding our concerns about an energy strategy, we can support one if it is developed in line with our key principles laid out earlier in this document (see paragraph 31 above). Beyond that, implementing the strategy means establishing energy sector buy-in.

58. Our suggestion is that an energy strategy should be complemented by an energy sector accord. Having developed the appropriate goals, the Government should work with the energy resources sector to develop an accord between energy sector participants and the Government. An accord would codify a joint commitment to work together to enable and promote a vibrant and well performing energy resources sector while delivering emissions reductions in line with our net zero target.

59. We distinguish this from a top-down energy strategy, and it would be in the spirit of a collaborative approach like the Construction Sector Accord. This would provide for the close industry input and commitment needed to ensure enduring and orderly change.

60. An accord, properly developed, would create a framework and platform for government and industry to collaboratively work together to consider and address key challenges in the sector. These could include security of supply, affordability, environmental sustainability including emissions, regulatory environment, and skills and training. This list itself highlights the complexity in the sector and the corresponding need for genuine cooperation between businesses and government.

61. If an accord is reached, a subsequent work plan could be developed to deliver the outcomes agreed upon, perhaps timed broadly through the emission budgets to promote action on three fronts:

    a. actions from businesses;

    b. actions from government; and

    c. joint actions requiring involvement and commitment from both businesses and government.

Are there other key actions which can better achieve the emissions budgets than those in the Emissions Reduction Plan, what are they, and why are they more likely to succeed?

Establishing an enabling legislative regime for CCUS

62. The ERP commits to exploring new sources of emissions removals beyond forestry, pointing to examples such as storing peatlands and direct air capture. We support this because it is critical to explore all options available to us, including removals. But CCUS (e.g., capture at point of use) is not mentioned in the ERP (besides a glossary entry).

63. We welcomed a recent report from Ara Ake[11] identifying the potentially significant emissions removal opportunity presented by CCUS in New Zealand and calling for Government to consider establishing an enabling regulatory regime for its development. Ara Ake's report adds to a growing chorus of calls to enable CCUS to help New Zealand reach its net zero goals, including:

    a. the Productivity Commission's 2018 *Low-Emission Economy* report;[12]

    b. recommendations from the BusinessNZ Energy Council;

    c. the Infrastructure Commission's 30-year Strategy;[13]

    d. the Aotearoa Circle's Low Carbon Energy Roadmap;[14] and

    e. the New Zealand Initiative's *Pretence of Necessity*.[15]

64. CCUS technology is so important that the Intergovernmental Panel on Climate Change has stated its use is "unavoidable" if countries are to achieve net zero carbon emissions, and the International Energy Agency affirms it is a critical part of achieving net zero goals.

65. CCUS is already used in many overseas jurisdictions. The world's biggest CCUS project is at the Gorgon LNG project in Western Australia, storing six million

---

11 https://www.araake.co.nz/assets/Uploads/Ara-Ake-Report-Carbon-Dioxide-Removal-and-Usage-in-Aotearoa-New-Zealand.pdf

12 See chapter 14: https://www.productivity.govt.nz/assets/Documents/4e01d69a83/Productivity-Commission_Low-emissions-economy_Final-Report.pdf

13 https://media.umbraco.io/te-waihanga-30-year-strategy/1sfe0qra/rautaki-hanganga-o-aotearoa-new-zealand-infrastructure-strategy.pdf

14 https://www.theaotearoacircle.nz/low-carbon-energy-roadmap

15 https://www.nzinitiative.org.nz/reports-and-media/reports/pretence-of-necessity/

tonnes of CO_2 since it started in mid-2019. Another large CCUS project is under construction at Moomba in South Australia – it will store 1.7 million tonnes of CO_2 per year at an expected cost of only US$24 per tonne.[16]

66. We strongly encourage the Committee to recommend exploring regulatory barriers to CCUS in New Zealand and, if deemed appropriate, to establish an enabling regulatory framework. Two of the key barriers to CCUS are:

    a. environmental regulatory treatment of physical storage of captured carbon (detailed in Attachment 2); and

    b. lack of clarity about the treatment of CCUS under the ETS.[17]

67. Given the number of regulatory barriers CCUS faces (see Attachment 2 and above), what's required is an active work programme to address these barriers.

68. This is an example of the kind of enabling policy that does have a clear role alongside the ETS. Removing regulatory barriers such as this ensures that the market can explore all cost-effective options to reduce, offset and remove emissions. Other examples include addressing regulatory barriers for offshore wind and enabling purchase of credible international offsets.

What type of monitoring and reporting would enable you to be confident that the key actions in the Emissions Reduction Plan are being implemented, and that emissions are falling in line with the emissions budgets?

Making core policy documentation publicly available

69. We suggest the Committee recommend all initiatives include the following, made publicly available, as a basis for monitoring and reporting:

    a. a clear intervention logic, which identifies the market failures/barriers the initiative will address and how it will address them;

    b. options analysis, which identifies the range of options to achieve the stated objective and demonstrates why the preferred initiative is superior;

    c. clear performance measures, which align with the outcomes sought – in almost all cases this must include additional emissions reductions;

16 https://www.appea.com.au/all_news/speech-appea-chair-ian-davies-delivers-the-opening-address-of-the-2022-appea-conference-exhibition/ and https://www.santos.com/wp-content/uploads/2022/05/CEO-Speech-APPEA-2022.pdf

17 We note the ERP commits to exploring nature-based carbon removal and storage, some of which is not currently well-understood. We suggest that CCUS – which is already being used and commercially proven in many applications overseas – warrants similar attention.

d. a pre-implementation assessment of estimated net present costs and benefits over the lifetime of the initiative;

e. a commitment to independent evaluation of the initiative (this should include interim evaluations for particularly large and/or expensive initiatives); and

f. a commitment to cancel initiatives that are failing to deliver as expected, or at the very least to materially redesign them to address shortcomings identified in evaluation.

Emissions leakage

70. Emissions leakage is not covered in detail by either the ERP or the Climate Commission's final advice. It is critical that New Zealand does not lose sight of emissions leakage as a key issue and monitors the extent to which it is occurring. The risk is that New Zealand achieves 'decarbonisation by deindustrialisation' – shutting down its energy intensive sectors and exporting their production (and jobs) for no global emissions reduction (or even an increase in global emissions).

71. We think this issue should have more prominence in the discussion about emissions reduction because:

a. the first emissions budget will significantly be met via the closing down of the Marsden Point Refinery, which will artificially reduce New Zealand's gross emissions but with no global reduction;

b. the natural gas sector – which underpins affordable and reliable electricity through the transition – is reliant on demand from manufacturers exposed to global markets, e.g., chemicals (Methanex New Zealand, Ballance Agri-Nutrients) and metals (New Zealand Steel), where marginal global supply is likely to be met by more emissions-intensive sources; and

c. the industrial allocation regime has been flagged for review, with officials exploring long-term alternatives such as a carbon border adjustment mechanism.

Recommendations and concluding remarks

72. To recap, we suggest the Committee makes the following recommendations in its report:

    a. that Government publicise detailed information about the underlying assumptions of the ERP and its initiatives (particularly costs and benefits);[18]

    b. that Government commit to consistent, transparent reporting on the intervention logic, costs, and benefits of ERP initiatives, and robust evaluations, all based on best-practice cost-benefit analysis;

    c. that the gas transition plan include thorough consideration of the potential role of CCUS, and increased substitution of gas for coal;

    d. that an evaluation of the GIDI Fund's performance to date be conducted before significant additional funding is committed;

    e. that any energy strategy be underpinned by an energy sector accord to codify a joint commitment to enable and promote a vibrant and well performing energy resources sector; and

    f. that Government commit to investigating regulatory barriers to CCUS in New Zealand and to establishing an enabling regulatory framework.

73. We welcome the Committee's review of the ERP because it will have consequences for all sectors of the New Zealand economy, including households.

74. The ERP signals an extensive list of activities, initiatives, subsidies, plans, strategies, roadmaps, and reports. It provides an aggregated assessment of the estimated impacts of these initiatives by sector – but it is opaque as to how each initiative contributes to those impacts and is silent on the costs of the package.

75. We appreciate the ERP has required a gargantuan effort from officials under resource and time constraints. But the public needs more information – much of which we are sure exists – about the underlying justifications, assumptions, and impacts of the initiatives and the whole package.

18 See Annex B of the UK Carbon Plan here: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47617/3749-carbon-plan-annex-b-dec-2011.pdf

Attachment 1: Suggested questions the Committee could ask of officials

In the spirit of supporting the Committee in its inquiry, we suggest below some questions that would help to illuminate key details and insights we have not been able to draw from the ERP as released. These questions largely reflect the comments and concerns we have raised in our submission.

The role of the emissions trading scheme (ETS) and the 'waterbed effect'

- Given the cap in the ETS will be aligned with the emissions budgets, what is the evidential basis for the claim that the ETS alone is insufficient to achieve these targets?
- How have officials accounted for the 'waterbed effect' in developing the suite of initiatives in the ERP, and in estimating their net impact on emissions over the first three budget periods?
- What are the expected impacts on the ETS price path of the full package of initiatives in the ERP, relative to the baseline scenario?

Cost – benefit analysis

- How do the costs of the ERP's initiatives compare to the costs of purchasing offsets to compensate any emissions budget shortfalls under the baseline scenario?
- Will all initiatives be subject to quantitative evaluation (where possible), including assessment of their estimated (pre-implementation) and actual lifetime emissions reductions, and the additionality of these reductions?
- Will all initiatives be required to report on their estimated and actual cost of abatement, on a lifetime net present value/cost basis?
- If an initiative's estimated or actual lifetime net present cost of abatement is well above the shadow carbon price, will the initiative be redesigned or deferred/cancelled?
- Has, or will, modelling be undertaken to estimate the likely cumulative economic impacts of the full package of initiatives proposed in the ERP, so this can be weighed against the economic impacts of the baseline scenario?

Emissions impact estimates of initiatives in the ERP

- The Technical Information Annex[19] lists estimated emissions impacts (low and high) for the ERP by sector. Please provide the low and high emissions impact estimates for each initiative in the ERP (where this was calculated).

19 See Table 1 here: https://environment.govt.nz/assets/publications/Files/Aotearoa-New-Zealands-first-emissions-reduction-plan-Technical-information-annex.pdf

- How, and where, have officials accounted for overlaps between initiatives to avoid double-counting, such as where emissions in a sector or sub-sector are proposed to be subject to regulations and subsidies to decarbonise the same activity?

Carbon capture, utilisation, and storage (CCUS)

- We noted a recent report from Ara Ake calling for Government to consider establishing an enabling regulatory regime for CCUS. We also noted the apparent omission of any action on CCUS in the ERP. Will the Government/officials commit to a work programme exploring and addressing regulatory barriers to CCUS?

Attachment 2: Commentary on barriers to carbon capture and storage (CCS)

Summary

1. Currently, there is no law that specifically stops an entity from performing CCS. Conversely, there is no legislation that sets out a CCS regime or specific consenting process. Indeed, CCS is barely mentioned in current legislation.

2. This uncertain and ill-defined framework means that CCS operators could theoretically fall back on usual methods to store materials under the ground, i.e., a resource consent under the RMA (for onshore CCS). However, it's unlikely that the RMA regime is equipped to deal with the nuances of CCUS. A Waikato University paper states CCS "is probably not actually possible at all under the existing law".[20]

3. Even if there was wriggle room under the RMA, it's unlikely that any regional Council would issue a resource consent for CCS, especially given the issues mentioned in the below analysis, particularly the recommendation that a new bespoke CCS Act take CCS consenting outside of the RMA and EEZ regimes.

Analysis

4. The Productivity Commission report[21] and the University of Waikato paper both recommend an overhaul of current legislation to deal with CCS, including, as mentioned above, a bespoke CCS Act.

5. The Waikato University paper states:

> *"A close analysis of the RMA, the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act), and the Crown Minerals Act 1991 produces the conclusion that none of those Acts is capable, either in its detail or its general architecture, of delivering the legal framework that is required for CCS".*

6. CCS is a 'removal activity' under the Climate Change Response Act (**CCRA**). That means the removing entity (i.e. a petroleum operator) could receive 1 ETS credit for every tonne of CO2 removed and stored (s64(1), CCRA).

7. However, that only applies where the capture and storage is related to the relevant operators' activities. So, if an operator were to store carbon on behalf of a third party, then the operator could not currently claim ETS credits. It is less clear whether the third party that captured and provided the CO_2 to the operator for storage could receive ETS credits, but we argue the legislation is wide enough to allow it, i.e. the CCRA doesn't rule out an emitter/capturer of CO_2 utilising a third party like a petroleum operator to provide storage facilities.

---

20 https://researchcommons.waikato.ac.nz/handle/10289/8530

21 See chapter 14: https://www.productivity.govt.nz/assets/Documents/4e01d69a83/Productivity-Commission_Low-emissions-economy_Final-Report.pdf

8. One of the Productivity Commission's recommendations (R14.7) is to change the ETS Act so that an entity performing CCS (including capture) can receive ETS credits, regardless of whether that entity was the source of the CO_2.

9. Like the Commission's R14.7 recommendation, the Waikato University paper recommends that the definition of 'removal activity' be wider than currently stated for CCS, i.e., that CCS be a removal activity "whether or not the CO_2 is from an activity that is required to surrender units".

10. The Productivity Commission considers that the combined effect of the RMA, EEZ Act and Crown Minerals Act is not capable of delivering the legal framework required for CCS. In particular, the RMA was singled out for not being fit-for-purpose for CCS. For example, the RMA is not equipped to deal with the long-term liability required for CCS operations – regional councils are limited in their ability to take into account the net positive impacts of CCS, but can consider negative impacts; and inconsistent rules between regional councils.

11. The Waikato University paper aligns with the Commission's findings on the RMA, stating:

> *"The overall consequence appears to be that the positive effect of CCS on climate change cannot be taken into account (it is not a renewable energy project), but its possible negative effects on the environment more broadly can be. This could make it practically impossible to get consent for a CCS project..."*

12. To deal with this issue, the Productivity Commission recommends (R14.6) that a whole new piece of legislation, a CCS Act, be drafted to regulate CCS.

13. The Waikato University paper also prefers a new CCS Act. To clarify the interplay between any new CCS Act and current regimes like the RMA and EEZ Acts, the paper states:

> *"We conclude that new legislation should be enacted that specifically regulates the injection of CO2 for permanent sequestration, any subsequent leakage or migration, and exploration for storage formations. We propose that those matters will be removed from control under the RMA and EEZ Act and will not require permits under them."*

14. Further to the last point, the Waikato University paper (page 57) recommends any new CCS Act apply only to the injection and storage aspects of CCS operations, but other CCS activities would likely still be covered by the RMA.

15. The Waikato University paper (page 49) concludes that permits for CCS cannot be issued under the Crown Minerals Act, as CCS is outside the definition of 'mining'. The University notes that the CMA does not prohibit CCS.