Submission by

Z Energy

to the

He Pou a Rangi/ Climate Change Commission

on the

Draft first package of advice to the Government

28 March 2021

INTRODUCTION

1. The current core products that we sell at Z Energy account for nearly 10% of New Zealand's overall emissions, while at the same time we have long been publicly committed to being at the heart of climate change solution.

2. That paradox is our current state, a state that we have been making continuous steps to transition from, but with a perspective that the pathways for change have been uncertain and that there was a risk that silver bullets were being sought, irrespective of technical and commercial viability.

3. We therefore **commend the Climate Change Commission for the approach taken in its draft report, which focuses on actionable, technically feasible options that support a broad range of New Zealand households and businesses**, while remaining alive to the idea that a) private enterprise may move faster than government and b) that individual cities and regions will be at different stages or have different needs.

4. In particular, we strongly endorse the Commission's focus on taking immediate action by pulling the proven levers we have available to us now:

   > *"To meet the Commission's proposed emissions budgets, Aotearoa **does not need to rely on future technologies**. As new technologies develop, this will allow the country to reduce emissions even faster."*

5. When it comes to transport, we think that the right mobility option and the right fuel for the right use case is the correct strategic approach to ensure we enable broad consensus and get as many people as possible on the low carbon journey. This perspective has been shaped by many conversations and trials with a broad range of customers, from everyday households to our largest commercial transport companies.

6. To that end, our feedback on the draft report relates primarily to electric vehicles and mobility, biofuels and hydrogen. We have used the Commission's principles of Ambition, Fairness, and Technical and Commercial Feasibility in shaping our thinking and answer specific questions posed in the draft report where relevant.

7. In summary, as per *Question 14. "Do you support the package of recommendations and actions for the transport sector? Is there anything we should change, and why?"*, we generally support the suite of recommendations for the transport sector, **including the focus on systemic changes to active and public transport - the transformation of which is especially fundamental for a just transition.**

8. However, we have evidence to support our position that **we can be more ambitious on biofuels in the immediate term**. We believe that this can be done sustainably and will help enable some headroom should we find electrification to be slightly slower than anticipated.

9. We also **propose the introduction of a co-investment subsidy for EV charging infrastructure** to incentivise investment of fossil fuel industry capex into electric and divert it from inappropriate investment in potentially stranded fossil fuel assets.

10. We conclude with our position on hydrogen, the enabling changes that will be required in the electricity market, the role of mobility as a service/car sharing, our position on afforestation and, relatedly, the Emissions Trading Scheme.

11. We recognise that, while we are necessarily focused on transport in our submission, a just transition must focus on systemic change, partnerships that get us to solutions at the pace required, and the interconnectedness of environmental wellbeing and human wellbeing. We are looking forward to supporting New Zealand to do what needs to be done, urgently.

12. *Ko ngā pae tawhiti, whaia kia tata. Ko ngā pae tata, whakamaua kia tina. The potential for tomorrow depends on what we do today.*

BIOFUELS

We have the technical expertise, and we are ready to act now to support a more ambitious biofuels supply chain that delivers in the immediate term for those customers who are as yet unable to flip their fleet or have hard to decarbonise use cases, such as aviation.

Ambition

13. We encourage the Commission **to be significantly more ambitious on both the timing and recommended biofuels percentage in its final advice**.

14. In this, we are supported by the Sustainable Business Council/ Climate Leaders Coalition's submission, which submits that:

> *"[T]he biofuels target should be brought forward, particularly where there are few alternative options to de-carbonise. The target needs to consider feedstock other than biomass only (e.g. Municipal Solid Waste)…"*

15. The Commission's current recommended biofuels percentage of 3% by 2035 is based on what we posit is a conservative estimate of supply, given studies on availability of forestry residue feedstocks as well as feedstocks that exist outside of forestry, including fatty-acid methyl esther (FAME) feedstocks such as tallow (which is used by our plant at Wiri), Municipal Solid Waste, and to a lesser extent, used cooking oil and whey. Energy crops that do not compete with food production are also being actively investigated by several local organisations.

16. In particular, we direct you to this study undertaken by Scion Research – the NZ Biofuels Roadmap Technical Report.

17. Scion estimates that there are currently an estimated 4 Million tonnes of forestry waste that could be extracted from forests whilst maintaining forest and soil health. **Scion submits that this material could be converted into over 700 Million litres of biofuel**.

18. Further, New Zealand is a meaningful producer of inedible grade tallow with annual production between 140,000 to 160,000 metric ton (mT). As a general rule of thumb, one mT of tallow produces one thousand litres of biodiesel, meaning there is **potential to produce approximately 140 million litres of biodiesel per annum from inedible grade tallow with the right market settings/incentivisation to keep tallow available to local producers.**

19. Tallow also has the additional benefit of supporting a circular economy. As a waste product that was previously simply buried by producers, keeping it onshore and fuelling vehicles for companies like NZ Post, that provides a key social service, would be a beneficial outcome for the Commission's intent to ensure that co-benefits arise from the energy transition, including how we use and value waste.

20. Anecdotally, Z has already seen increased activity and investor interest in local biofuels production since the announcement of the in-principle biofuels mandate and the Commission's draft advice. For example, we are already seeing early signs of the development of new biofuel manufacturing facilities that will create local jobs and increase domestic security of liquid fuels supply.

21. We note the concern raised by the Commission that the volume required to meet the Commission's biofuels target is 7x our Wiri plant (as per the Commission's modelling), which will admittedly present challenges. However, the engineering capability has advanced considerably in New Zealand since Z first started construction of its plant. **The capability now exists in New Zealand to overcome these challenges** and, from a commercial perspective, we would not plan for 7x our current plant if we were to scale up local production capability – economies of scale would dictate a single plant of 100-200ML capacity would be a better commercial option for example.

22. Whilst we endorse a focus on local production, there is also **the potential to supplement local production capability with imported biofuels** (including renewable diesel), which we currently do via Just Biodiesel in Australia to supplement the remaining stocks at our hibernated Wiri plant. While import supply chains need particularly careful consideration to ensure that life cycle GHG emissions are still lower than fossil fuels, and that feedstock is not from unsustainable sources, it is nevertheless a realistic and complementary near-term decarbonisation option for transport and producers exist at scale in the Asia/Pacific region.

Sustainable Aviation Fuel

23. In addition, we support Air NZ's position on treating Sustainable Aviation Fuel (SAF) or Biojet as a specific stream of urgent policy work – given aviation's limited decarbonisation options and economic and social criticality to New Zealand, it is essential that the importance of SAF and aviation decarbonisation is recognised and prioritised. The SAF Consortium (Air New Zealand, Scion, Z Energy, LanzaTech/LanzaJet and formerly Refining NZ) has established that there is a viable pathway to standing up a SAF industry in New Zealand, and that it would have broad-reaching social and economic benefits. With the right capital

investment and suite of enabling policies, we could have more SAF in the mix, sooner than is detailed in the Commission's modelling.

24. To this end, **we propose the immediate establishment of a detailed feasibility study to be managed by the Ministry of Business Innovation and Employment** to help confirm high level production cost estimates, quantify feedstock supply, identify necessary policy and investment settings, and quantify the greater benefits to the regions of New Zealand of standing up a SAF industry. We believe such a feasibility study will identify specific options for the public-private partnership opportunities that exist to accelerate SAF production locally by quantifying the capital investment required, such as the investment required to build a plant for example.

25. **We also propose an aviation specific public-private governance channel, like the UK's Jet Zero Council**, is set up in tandem to coordinate and develop the policies and investment settings needed to support SAF and other low carbon aviation options. In the UK, the Jet Zero Council was set up to move beyond the dialogue and start making positive changes towards getting production underway – with each meeting focused on how to identify roadblocks and accelerate production. Please see the UK Jet Zero Council Terms of Reference here.

26. As an example of the milestones being achieved by the UK Council, it announced a £15 million Green Fuels, Green Skies competition to turn materials such as forestry waste and household waste into SAF on 16 March 2021. The money is intended to enable the construction of SAF production plants.

27. We strongly encourage, along with Air NZ, that **a Jet Zero Council for Aotearoa/New Zealand be included as a specific recommendation of the Climate Change Commission's final advice to the government** – to be established immediately (and commend Air NZ's Sustainable Aviation Fuel white paper to the Commission as a piece of evidence for the number of enabling policies available for consideration).

28. We note this is also endorsed by the Sustainable Business Council/ Climate Leaders Coalition in part 5 of their submission as 'Necessary Action 4':

Accelerate the decarbonisation of aviation through a detailed feasibility study is undertaken to assess viable pathways for a local SAF industry and establishment of an aviation-specific, public-private governance channel	Necessary action 4

In-principle biofuels mandate

29. We propose that the thinking on a specific target for biofuels should be informed by the work of the cross-government group led by the Ministry of Transport and the Ministry for Business, Innovation and Employment, who are currently pulling together feedback on the in-principle biofuels mandate announced by the government in January 2021, with the overall structure of the policy to be confirmed in July 2021.

30. **We endorse a mandate and think that this is a necessary policy step** to lower the emissions of the existing fleet, but policy needs to be robust to ensure the sustainability of the feedstocks and the end product, and that the co-benefits of local production – that in turn help enable a just transition – have the best chance of being realised.

31. It is our view that a mandate needs to ensure that the harder to decarbonise area of freight is positively impacted from an emissions perspective**. Petrol vehicles are prime candidates for an electrification push, so it is our position that electrification (as well as public and active transport) should be the priority** for that segment in order to achieve the best carbon reduction outcomes. The details of the mandate should take this into account so that there is not an unintended consequence of suppliers relying only on ethanol to meet a biofuels mandate.

32. **We recommend that the Commission aligns their final advice on the timing and percentage mix of biofuels with this policy work**. Given the timing of the final advice (July 2021), we think this is another reason why the percentage and timing of biofuels can and should be brought forward in the Commission's final recommendations.

Fairness

33. Biofuels will play a role in ensuring affordability for those who cannot yet afford to flip their fleet, which underscores their criticality in the near term.

34. They will also play a part in supporting the provision of low emissions fuels to agricultural, horticultural and forestry businesses and communities who may live more remotely or have fewer options given the types of vehicles and engines they work with.

35. Local production also plays a vital role in a "just transition" – creating jobs and boosting sectors such as forestry and agriculture.

Technical feasibility and commercial viability

Systemic approach to assets and infrastructure for biofuels and other future fuels

36. We think it is **important to consider Aotearoa/New Zealand's assets and infrastructure systemically when it comes to transport and household energy**. While electricity use clearly requires this, biofuels are also a case in point.

37. For example, with respect to the existing hydrocarbon assets at Refining NZ, Refining NZ CEO Naomi James noted in their recent market disclosure that:

> *"Planning would also include looking at future opportunities to repurpose the Marsden Point site as a fuels and energy hub, with the potential to support future production, storage, handling, import and export of energy sources including biofuels, sustainable aviation fuel, hydrogen, LNG and electricity.*
>
> *"An import terminal would require a much smaller footprint than our operations today and this could open up repurposing potential for the site*

given its strategic location next to a deep-water harbour and close to New Zealand's largest population base."

38. In particular, **the existence of a hydrocracker at the Refinery is a key asset for the production of SAF and its by-product, renewable diesel** and repurposing one already in existence is more economically viable than buying or building from scratch.

39. We submit that other hydrocarbon assets should be considered in this way too and there is **a significant role for the government to play in incentivising the shift away from new investment in hydrocarbons assets** towards low carbon fuels.

40. Why? The concept that the market will enable a transition through a singular tool such as the ETS is false from our perspective.

41. Our data shows that, as a country, we currently have a significant and growing number of service stations over a widely spread geographical area: over 1380 with another seven under construction or consented, managed by over 21 brands. Many of these are at risk of becoming potentially stranded assets over the next decade as volumes decline (which notably could result in unfunded clean-up and site decontamination costs for owner-operators).

42. This example from our industry illustrates that over the last two-three years, the market has incentivised the very rapid proliferation of fossil fuel only service stations in New Zealand during a time that it has become increasingly clear that fossil fuel volumes are set to decline, and during a time that investors are actively de-risking their portfolios by divesting from or not taking on new fossil fuel only investments (this is primarily true of upstream oil and gas, as well as coal, and is not yet occurring at scale in Australasia with respect to downstream assets. Nevertheless, we include it as a material risk to our business in our TCFD disclosures in Z's annual report).

43. It is clear then that **the market has so far failed to incentivise the required change *on its own*.**

44. However, many of these assets do not have to become stranded if they were to be used to speed up the shift to low carbon fuels. As with the existing infrastructure at RNZ, if we treat the likes of service stations strategically, they can support distribution of biofuels, electric vehicle charging and hydrogen. We believe that this will require some government intervention, however, in the form of further mandates or incentivising policies. We detail how this government intervention could occur with respect to electric charging in our 'Electrification' section below.

International SAF commercial and technical momentum

45. Finally, we note the significant momentum of SAF in Europe (see https://www.iata.org/en/programs/environment/sustainable-aviation-fuels/) – further emphasising the technical feasibility and commercial viability of aviation biofuels in the global supply chain. However, as the Commission has noted, in offshore ports where SAF is being produced, its use has been supported by public

funding and other policies. **The momentum in Europe has been created by an enabling suite of policies that include sell-side mandates and capital investment**.

46. As outlined above, a detailed feasibility study is required to help identify where policy support is necessary to make SAF viable in New Zealand. An aviation-specific governance forum could play a very useful role in identifying the right policy types and mix for enabling SAF production and supply in New Zealand (again, see Air NZ's Sustainable Aviation Fuel white paper).

Other cross-submission endorsement: Sustainable Business Council/Climate Leaders Coalition and BusinessNZ

47. We would like to emphasise our support for the BusinessNZ proposal to establish a Bioeconomy Road Map that accounts for both Transport and HIP and provides further clarity on available feedstocks (refer point 51 under 'Transport' and 107 under 'Bio Economy').

48. This thinking is also reflected as part of the Sustainable Business Council/ Climate Leaders Coalition submission as 'Necessary Action 6' in parts 7 and 9 of their submission (which includes the recognition that new biofuels assets might require funding support):

Develop a comprehensive Energy Strategy, including a strategy for the bioeconomy	Necessary action 6
Provide funding support for localised biofuels generation plants (gaseous and liquid), waste generators and biomass producers to meet forecast raw product demand.	Necessary action 6

49. We believe the Road Map/Energy Strategy would support the objectives for ground and aviation fuels we describe, as they would identify where intersecting decarbonisation opportunities exist (such as in the case of bio-LPG, which can be a by-product of some renewable fuel processes) and it would give the private sector more certainty over a) how much feedstock exists and b) how feedstocks may be prioritised or allocated.

ELECTRIFICATION

We believe that we need co-investment to incentivise the provision of electric charging services and disincentivise construction of new, potentially stranded, fossil fuel assets.

Ambition

50. We support the Commission's recommendation to waste no time in accelerating electrification of the light passenger fleet, alongside ensuring safe and pleasant active and public transport options.

51. It is Z's position that **the Commission should go further when it comes to creating incentives for the scaling up of low carbon transport infrastructure**. The current

state of the market commercially incentivises investment in service stations that sell petrol and diesel. In time, this could lead to fossil fuel participants resisting the need to transition and tie valuable capital expenditure in legacy assets rather than funding the move to zero carbon.

52. We were recently alerted to the international example of Petaluma, California - a city of 61,000 residents - has become the first city in the United States to ban the construction of new fossil fuel service stations, as well as new fossil fuel pumps at existing stations. Importantly, on the demand side, this legislation also enables the process for adding more EV and other alternative fuels infrastructure to become more streamlined.

53. This tandem tightening on the supply of fossil fuel assets and streamlining of the supply of low carbon fuels, particularly electrons, has been undertaken as part of the city's plan to achieve carbon neutrality by 2030 and is in line with California's ban on the sale of new petrol and diesel vehicles by 2035.

54. Given this example, we believe it is worth considering how we approach electrification of the light passenger fleet from the demand and supply sides, and we believe that current service station sites can and should play a role in that (as noted in our 'Biofuels' section above).

EV charging co-investment subsidy

55. We propose that the Commission considers **an explicit recommendation for direct government investment that incentivises investment in electric charging infrastructure** – and diverts capex from fossil fuel infrastructure.

56. To this end, we propose **an 'open to all' co-investment subsidy** would enable the fastest network rollout and allow the market to select the most appropriate sites and assets, this could be combined with specific tenders to support investment at commercially less viable locations to increase full and deep early coverage.

57. This could be either complimentary to, or in replacement of the contestable low emissions vehicle contestable fund (LEVCF).

58. We provide further detail on the potential merits of this approach this at Appendix 1.

Fairness

Fairness in the transport sector

59. We consider a co-investment subsidy would support the goals of a just transition. It would ensure trucking routes continue to have easy and dependable access to liquid fuels, including biofuels, for ICE fleets and those who cannot afford to forego their private ICE vehicle yet. Some sites can also be converted to hydrogen once vehicles start scaling up. At the same time, it would ensure investment in vital EV charging infrastructure, particularly in areas with limited car parking so that those without private car parks have access to increased levels of public charging.

60. An 'open-to-all' co-investment subsidy would also ensure that it opens up potential for innovation and partnerships, rather than relying on a few incumbents in what can be perceived as a somewhat uncertain selection process.

61. We also support the Sustainable Business Council/ Climate Leaders Coalition submission that:

> *"We also support the introduction of feebates / incentive schemes to reduce the upfront cost of BEVs. We think such schemes should adjust prices of new vehicles to reflect their emissions contribution so as to encourage significant changes in consumer behaviour—a demand-side response."*

62. That said, **it will be important that any such scheme does not disadvantage those for whom EV affordability is out of reach**. We note commentary that a feebate scheme would result in a disproportionate impact on those least able to afford it and/or result in a consolidation of taxpayer money with those who are already privileged. While we believe electrification of the light passenger fleet is critically important and very urgent, this is a valid concern – we understand how difficult even small changes in utilities and household costs can be for many New Zealanders given our exposure to a broad cross-section of customers in commercial and retail fuel, and electricity retail.

Fairness in the electricity market

63. There are clear assumptions made in the Commission's draft report about the availability and security of electricity supply to support mass electrification across transport, process heat and household use.

64. This will require not only the infrastructure, but **also the market settings that deliver affordable electricity – both wholesale and retail**.

65. Our interest in how the electricity market intersects with the transport sector is underpinned by our recent launch of an electricity brand, Z Electric, as well as our majority shareholding in independent electricity retailer, Flick Electric.

66. We endorse Flick Electric's submission on the wholesale market structure and incentives.

67. In particular, we support their position that:

> *"The government must be confident that the regulatory environment, and coordination of policies across government, will enable timely new infrastructure investment to support NZ's transition to low emissions. Under the current market structure – with a lack of competition in the generation market – we're not confident that sufficient investment will happen in a timely manner."*

Mobility as a service/car-sharing

68. As with the economics of charging, it has been well-documented that the affordability of individual EVs can be challenging for many New Zealanders and their businesses.

69. Therefore, one option that we think could be focused on more strongly in the Commission's submission is the role of mobility as a service and/or shared fleet options such as Mevo*, which can **assist with affordability, electrifying transport demand, and reducing congestion in urban areas**. With respect to affordability, the shift of consumption economics from less affordable one-off capital expenditure to ongoing 'operational expenditure' in the form of subscription services for example, would assist those concerned about the cost of transitioning.

70. We are yet to develop a position on incentives for this, but encourage the Commission to engage with Mevo's recently published white paper, which uses the government fleet as an example (https://assets.mevo.co.nz/articles/2021-03-10-Mevo-Govt-EV-Whitepaper.pdf).

Technical feasibility and commercial viability

71. Given the clear signals of a mass move to EVs, we believe the business case for service stations and/or fuel industry participants supporting charging infrastructure stacks up in the long term.

72. However, **the economics currently remain challenged on an unsubsidised basis due to lack of current scale in the EV fleet**. Public charging infrastructure currently lacks full coverage, capacity, reliability and awareness/visibility that people are used to with liquid fuelled vehicles. Research commissioned after the publication of the Commission's draft report shows that the perception (correct or not) is that there is a lack of infrastructure. This could be a negative influence on the decision to "go EV".

73. We also note the increasing need for urban and destination charging solutions, particularly to assist those who live in apartments or in areas with no off-street parking to take the step to electric.

74. We believe a co-investment subsidy as proposed above would enable the industry to make investment choices that support solutions for both 'range anxiety' and urban and destination charging.

Other cross-submission endorsement: BusinessNZ

75. We support BusinessNZ's point that the uncertainty around EV supply to Aotearoa/New Zealand could be better recognised in the Commission's advice. We don't think this should be a handbrake on ambition for the EV fleet, but believe it could be a material commercial viability barrier, so think it is important to note.

76. We also support BusinessNZ's proposal to give further consideration to tax reform initiatives that could remove a barrier to the adoption of EV uptake.

*Disclosure: we are minority investors in car sharing company, Mevo

HYDROGEN

As detailed in Z's Hydrogen House View, hydrogen is technically ready, and manufacturing scale-up can occur if market conditions are right.

77. As the Commission has noted, hydrogen currently has significant economic and affordability challenges, but depending on the pace of battery technology advances, is likely to be needed for the hardest use-cases to decarbonise.

78. For transport, this is long-haul heavy freight, shipping and aviation. While we see biofuels as helping to decarbonise these sectors in the near-term, hydrogen or its derivatives are likely to be needed for New Zealand to get to net zero. We note that hydrogen may not play a significant role within this budget period, however we submit it is something that should be revisited during each budget period as new evidence of commercial viability comes to light.

79. In addition, as outlined in the SAF roadmap in Appendix 2, the pathway to decarbonising aviation may need to include e-fuels, also called "power to liquids", a process that combines green hydrogen with captured or recycled carbon to manufacture a drop-in aviation fuel.

FORESTRY

80. Our submission on the Commission's draft forestry recommendations is aligned with that of the Sustainable Business Council/Climate Leaders Coalition submission and is also informed by our partnerships with Trees That Count, Permanent Forests NZ and Drylands Carbon.

Native afforestation

81. We support the focus on new native forests. The **climate crisis is inextricably linked to New Zealand's biodiversity crisis and native forestry has a huge role to play** the conservation of our indigenous species and ecosystems.

82. We agree that extra incentives are required over and above the ETS to incentivise landowners to use native afforestation to capture carbon. Incentives should take into account the additional biodiversity and ecosystem benefits that native forests provide, in addition to carbon. To this end we look forward to further supporting the work of our partners Trees That Count and Permanent Forests NZ.

Exotic afforestation

83. We agree that exotic forests provide one of the most cost-effective ways to capture carbon in the **short to medium term** (10-30 years) and have the potential to provide additional long-term reduction through storage in timber used for construction or by substituting fossil fuel energy sources with biomass fuel.

84. We support the Commission's suggestion that **social factors, such as employment and equity outcomes, need to be carefully considered** when looking at exotic forestry incentives.

NEW ZEALAND EMISSIONS TRADING SCHEME

85. Z supports the continued role of the NZ ETS as a key market based-policy measure to drive low emission choices, including an increasing carbon price over time. Z also supports the recent introduction of auctions for emission units and a cost containment reserve that will operate through the auctions.

86. We have two observations on the current NZ ETS recommendations: 1) on the liquidity of the NZ ETS market and 2) on the use of afforestation controls in the NZ ETS.

Liquidity risk

87. We encourage the Commission to **consider the price signals they are sending the NZ ETS market in their final advice**.

88. The Commission's recommendation to "*increase the cost containment reserve trigger price to $70 as soon as practical and then every year by at least 10% plus inflation*" combined with "*immediately increase the auction reserve trigger price to $30 as soon as practical, followed by annual increases of 5% plus inflation per year*" could send the market a very steep rising NZU price signal. These price control settings will inevitably act as market price anchors.

89. The law of unintended consequences could see such a price signals for NZUs result in market behaviours such as the stockpiling of units or constraint on supply of NZUs and consequent reduction of liquidity in the ETS market with potential outcomes including:

    (a) The penalty regime introduced through the NZ ETS Reform Bill sets the cost of failure to surrender a unit at three times the carbon price, with unit surrender still required;

    (b) This in turn drives a "buy at any cost" approach to ensure compliance.

Recommendation to address liquidity risk

90. Z strongly recommends that the recommended market governance regime is expanded to evaluate market liquidity, in consultation with mandatory participants.

Afforestation controls through the NZ ETS

91. We encourage the Commission to reconsider including afforestation controls through the NZ ETS due to the potential impact on the ability of market participants to meet their ETS obligations. For example, it **could create a context whereby participants are unable to secure enough non-forestry NZUs**.

92. Instead, we support the 'top of the funnel' approach to afforestation control to realise gross carbon reduction potential, as well as social and biodiversity co-benefits. Such 'top of the funnel' approaches could include use of the RMA, the consenting process or land classification. These types of mechanisms would build

in incentives to afforest in line with the Commission's goals at *the initial investment phase*, not once the investment is already made and some reliance is placed on the ability to supply NZUs.

APPENDIX 1 – FURTHER INFORMATION ON RATIONALE FOR A CO-INVESTMENT SUBSIDY FOR CHARGING INFRASTRUCTURE

Why a co-investment subsidy? We acknowledge that the low emissions vehicle contestable fund (LEVCF) is planned to greatly increase in scale to $20m pa, and scope to include biofuels for example.

However, Z's perspective of the current process is that it can be piecemeal – or tactical rather than strategic - and can occur as uncertain.

To illustrate: If, as Z we were to make a strategic call to invest in electric charging, we would assess our options against three primary criteria:

- The lowest cost to operate;
- An optimised, future-proofed network; and
- Best customer experience

The way in which charging subsidisation is set up now does not deliver these in tandem. For example, the lowest cost option would most likely be to incrementally invest over a number of years at the 50/50 level using the LEVCF. But this would result in a subscale network and therefore poorer customer experience. To invest on an unsubsidised basis can be commercially disadvantageous.

However, if we take away the contestability of the LEVCF, and just make it a simple subsidy with cash paid on completion of a project, it de-risks the complexities and uncertainties and enables a more rapid scaling up of charging infrastructure that meets a variety of customer needs.

If there was a situation where there were too many applicants, there could be a mechanism such as a yearly cap on 'first in' basis.

If there are network gaps or subeconomic investment desired (such as in remote areas) then we suggest EECA could tender for those separately given the premise should be to bring forward infrastructure investment at scale, rather than continuing at what has largely been a 'demonstration' pace (which we recognise as a structural issue).

International evidence

One country that has run a similar process for scale up EV charging infrastructure is Germany.

In June 2020 they announced a "green stimulus" with significant subsidies for EV charging (amongst other things). Our understanding of the policy is that they are offering a cash subsidy on installation via the state-owned bank, as well as using tenders for specific needs or use cases.

German federal states and cities are then complementing this with their own cash subsidy programs.

Furthermore, California has an array of support for charging infrastructure, including up to 75% of project cost basis for DC fast charging.

APPENDIX 2 – SAF 2050 Road Map

[attached as a separate file]