LCANZ Position Statement on Climate Change Commission's Draft Advice

LCANZ welcomes the Climate Change Commission's Draft Advice as a very important step towards reducing our country's greenhouse gas (GHG) emissions and reaching our climate change targets by 2050.

From a life cycle perspective, there are four matters that we would like the Climate Change Commission to consider:

Production-based vs consumption-based carbon targets. The draft advice is recommending emission reduction priorities using a GHG production-based accounting lens and does not include explicit consideration of the complementary consumption-based accounting perspective. As a result, the GHG emissions from the manufacturing and distribution life cycle stages of imported products may be overlooked when considering mitigation actions. Furthermore, some climate change mitigation approaches are also omitted from consideration i.e. those focused on demand side reduction. Use of a consumption-based accounting perspective changes the focus from supply to demand, providing information about the GHG emissions associated with consumption choices and how to better manage products along their life cycles (i.e. from cradle to grave). Examples of its use include: government bodies developing policy about use of plastics in the economy (e.g. Office of the Prime Minister's Chief Science Advisor, 2019) and buildings (e.g. MBIE Building for Climate Change Programme), companies developing new product designs, and product rating schemes for consumers (e.g. Environmental Choice New Zealand Programme). Developing policies and programmes to guide these choices, utilising a consumption-oriented policy framework, has potential to contribute to climate change mitigation just as much as production-oriented initiatives and policies.

LCANZ recognises that a production-based accounting approach is necessary and required to meet our commitments under the Paris Agreement, which are territorial, and a consumption-based accounting approach might not be as accurate due to data challenges. However, Statistics NZ has recently released a first set of consumption-based GHG accounts (Statistics NZ, 2021), and this provides a starting point for developing more accurate datasets that are based on Life Cycle Assessment (LCA). Furthermore, both the recent MfE Planetary Boundaries report (Anderson et al., 2020) and Chandrakumar et al. (2020) provide production- and consumption-based accounting results for the climate change impact of New Zealand's economy. Consumption-based perspective could be used to provide additional guidance to a production-based advice to policy. Otherwise, there is a risk of unintended consequences, such as the substitution of materials that are currently manufactured in New Zealand by imported materials with a greater climate change impact over their life cycles. In this scenario, and following a production-based approach, the materials' GHG emissions would be invisible in New Zealand's current national GHG accounting system – and yet would still be contributing to increasing global GHG emissions.

Currently, use of a consumption-based perspective is not separately identified in the draft advice, although it does underpin suggested actions in several sections of the report (e.g. Section 6.1.2 on heat/industry/power, Section 6.1.5 on waste, Section 6.2.2 on behaviour change). A coherent suite of initiatives and policies utilising a consumption-based perspective can complement those utilising a production-based perspective. Therefore, we recommend the following actions:

- Production- and consumption-based accounting perspectives are clearly differentiated in the final report. [Relates to Consultation Question 20]

- Consumption-oriented policies and programmes are given more consideration, including a recommendation to develop a more robust New Zealand consumption-based GHG accounting system [Relates to Consultation Question 20]

Increase LCA skilled labour. Life Cycle Assessment (LCA) is a robust approach to obtain science-based evidence on the environmental impacts (including climate change) of activities and products. It has been used for the last 30 years in many countries around the world to support decision-making (Hellweg and Mila i Canals, 2014). In New Zealand, support for training and professional development of LCA specialists is needed to mainstream this systems-based approach, and to provide more robust datasets to support climate change mitigation strategy and actions. Having accredited LCA specialists within all public bodies (government, councils, ministries, crown-owned entities, etc.) would send a clear signal to industry on the expected standards as well as develop a pool of skilled labour. Therefore, we recommend the following actions:

- Support tertiary education institutes that provide LCA courses. For example, this could be via grants to those enrolling on a postgraduate LCA course. [Relates to Consultation Question 13]
- Support continuing professional development (CPD) training of Environmental Sustainability Managers so that they can develop LCA skills. For example, this could be via grants awarded to professionals to undertake a CPD LCA course. [Relates to Consultation Question 13]

Not only focus on (near to) available technologies. Some of our members have pointed out that the draft recommendations might not be ambitious enough and rely too heavily on current or near-to-market technologies. Further consideration of a wider range of emerging technologies with potential to significantly reduce the cradle-to-grave GHG emissions associated with products/services should also be included in the advice in order to set an agenda that incentivises innovation alongside the "safer" proposed solutions. Examples of these emerging technologies include: use of negative emission technologies (NETs) such as biochar (McLaren et al., 2019), disruptive agricultural production techniques such as vertical farming, and cultivation of alternative crops that can displace products with higher GHG emissions (e.g. hemp-based building materials, plant-based milks, biofuels). Therefore, we recommend the following action:

- Include consideration of, and an intention to support, a wider range of emerging technologies with potential to significantly reduce the cradle-to-grave GHG emissions associated with products/services. [Relates to Consultation Questions 1 and 12]

Equivalent presentation of biogenic and long-lived emissions. While we understand the point of distinguishing between biogenic methane and long-lived GHGs, using different units to show the emissions and proposed reduction curves is not helpful to wider public understanding. Therefore, we recommend the following action:

- Methane emissions are presented in tonnes CO_2e as well as tonnes CH_4, both in the Executive Summary and throughout the final report. [Relates to Consultation Questions 2 and 3]

We would be pleased to provide further detail about our recommendations.

References:

Anderson, L.S., Gaffney, O., Lamb, W., Hoff, H., & Wood, A. 2020. *A safe operating space for New Zealand/Aotearoa. Translating the planetary boundaries framework.* Report commissioned by NZ MfE. Potsdam Institute for Climate Impact Research, Stockholm Resilience Centre, and the Mercator Research Institute on Global Commons and Climate Change.

Chandrakumar, C., Malik, A., McLaren, S.J., Owsianiak, M., Ramilan, T., Jayamaha, N.P. & Lenzen, M. (2020). Setting better-informed climate targets for New Zealand: the influence of value and modeling choices. *Environmental Science and Technology*, 54, 4515-4527. https://dx.doi.org/10.1021/acs.est.9b06991

Hellweg, S. & Milà i Canals, L. 2014. Emerging approaches, challenges and opportunities in Life Cycle Assessment. *Science,* 344, 1109.

McLaren, D.P., Tyfield, D.P., Willis, R., Szerszynski, B. & Markusson, N.O. (2019). Beyond "net-zero": a case for separate targets for emissions reduction and negative emissions." *Frontiers in Climate,* 1:4. doi: 10.3389/fclim.2019.00004

Office of the Prime Minister's Chief Science Advisor (OPMCSA). 2019. Rethinking Plastics In Aotearoa New Zealand. OPMCSA.

Statistics NZ. 2021. https://www.stats.govt.nz/methods/about-consumption-based-greenhouse-gas-emissions-statistics Accessed 24 March 2021.