DUNEDIN CITY COUNCIL | kaunihera a-rohe o Ōtepoti

Tuesday 31st October 2023

Consultation: Advancing New Zealand's Energy Transition
Energy and Resource Markets
Building, Resources and Markets
Ministry of Business, Innovation and Employment
PO Box 1473
Wellington 6140
New Zealand

Kia ora koutou

DCC SUBMISSION ON ADVANCING NEW ZEALAND'S ENERGY TRANSITION

1. The Dunedin City Council (DCC) welcomes the opportunity to comment on Advancing New Zealand's Energy Transition. We look forward to working collaboratively with the Ministry of Business, Innovation & Employment (MBIE) on achieving decarbonisation goals.

2. The DCC supports an energy transition that prioritises existing and proven technology to urgently reduce greenhouse gas emissions. In particular, the DCC would like to see energy transition actions that are also equitable, provide for the needs of residents and businesses in Dunedin, and help to build resilience to the existing and unavoidable climate change effects that our communities face.

Dunedin's Climate Change Response

3. The DCC has been progressing work on climate change mitigation and adaptation since 2009. Having a high degree of exposure to sea level rise, Dunedin is particularly aware of the consequences of inaction on emissions reduction.

4. Dunedin's Environment Strategy 2016-2026, Te Ao Tūroa – The Natural World envisages a partnership approach to delivering on the city's emissions reduction ambitions. Similar commitments to reducing emissions are reflected in several other citywide strategies and plans.

5. The DCC has recently adopted a Zero Carbon Plan, to give effect to DCC's 2019 climate emergency declaration and targets for citywide emission reduction:

    a. Net zero greenhouse gas emissions by 2030 (excluding biogenic methane)

    b. Reduce biogenic methane emissions 10% by 2030 and 24-47% by 2050 relative to 2017 levels

6. The DCC Zero Carbon Plan places an emphasis on the co-benefits of shifting to a low emission future. The DCC is supportive of measures that work to alleviate energy hardship and create energy resilience alongside decarbonisation.

7. The energy chapter of the DCC Zero Carbon Plan sets out several key shifts that are required in Dunedin to meet zero carbon targets:

    a. Switch to low carbon energy sources.

    b. Improve energy efficiency of buildings and industry.

    c. Increase local renewable generation.

8. The DCC's modelling shows that while there is a long way to go to achieve emissions reduction targets, net zero emissions by 2030 is possible if key partners including the Government (and its ministries and agencies), organisations, businesses and communities in Dunedin collectively pull all the available levers as hard as possible to achieve the scale of change required.

9. The national energy transition is one of these levers. An energy transition that focusses on gross emissions reduction by utilising existing and proven solutions to immediately reduce carbon emissions is needed to transition to a low carbon future.

10. A high degree of collaboration and partnership between all government sectors, local government, industry, community, and tāngata whenua is necessary due to the degree and speed of change required.

Gas Transition Plan Issues Paper

11. The DCC is making a sustained effort to reduce and eliminate the use of Liquefied Petroleum Gas (LPG) in our own facilities. We are working to improve thermal efficiency and switching to electrified or biomass solutions for stationary energy.

12. Renewable gas fuels (including green hydrogen), imported LPG, and gas from more challenging reserves are likely to be more expensive in future than present domestic fuels. At present, many of the businesses in the city centre and industrial areas rely on a reticulated LPG network to meet their energy needs. The DCC recognises the role gas plays in meeting energy requirements but expects that in the future electricity and biomass will supply most of the present LPG users' needs. However, capital and in-house expertise are barriers for users to transition to low carbon options.

13. The DCC is highly supportive of initiatives that address these barriers, such as the Government Investment in Decarbonising Industry (GIDI) fund, Carbon Neutral Government Programme (CNGP), Community Renewable Energy Fund (CREF), and Regional Energy Transition Accelerator (RETA), which have offered sound advice and co-funding to enable decarbonisation. We hope these programmes continue and expand further to support the decarbonisation of communities and small and medium enterprises.

14. Further central government support for decarbonising residential energy use through improvements in efficiency of existing and new housing will reduce dependence on LPG in Dunedin residences, with co-benefits for health and wellbeing.

15. The DCC submits that initiatives to assist vulnerable residential and community consumers to switch to alternatives will also be important, as legacy gas assets and gas supply becomes more expensive.

16. Dunedin City Council produces and uses biogas through landfill capture and biodigestion of sewage sludges. DCC is working to capture and utilise more of this renewable fuel to meet internal energy needs. Given the lack of natural gas infrastructure and the limited scale for production, we do not think it is feasible for biogas to replace existing LPG as an energy source.

Measures for Transition to an Expanded and Highly Renewable Electricity System

17. The DCC strongly supports increasing renewable electricity generation for the national grid. This will support the city to reach its net zero goal by 2030 and reduce emissions from energy use nationwide. Switching from fossil fuels to electricity is an important part of the DCC Zero Carbon Plan.

18. The DCC recognises that there are challenges posed by increasing electrification to enable a transition from fossil fuels in transport, commercial and residential energy use. This electrification will demand more of existing and new distribution network assets. Support to develop this infrastructure will enable emissions reduction and a just transition.

19. The DCC submits that there are also significant opportunities to meet consumers' present and future needs at lower costs through non-network solutions, including distributed generation, energy storage and demand flexibility.

20. In addition to expanding renewable generation, the DCC recommends energy efficiency initiatives also be developed to reduce overall energy consumption. The following actions would quickly improve energy efficiency:

    a. Experts from the University of Otago's Centre for Sustainability estimate that large scale shift to Light Emitting Diode (LED) residential lighting could significantly reduce peak evening energy demand. This could be enabled by providing subsidies to make LED lightbulbs cost comparative to incandescent or compact fluorescent bulbs, and by providing them free to low-income households.

    b. Expanding the eligibility of the Warmer Kiwi Homes programme to include funding for wall insulation and double glazing retrofits would result in reduced heating energy demand while creating healthier homes. This would be especially beneficial in colder climates like Dunedin.

    c. While funding for heat pumps is available, this could be expanded to include heat pump hot water heaters (and solar hot water heaters) which are highly efficient ways of heating water (a large component of most household's energy bills) and would similarly assist to cut demand during times of peak demand.

Implementing a Ban on New Fossil-Fuel Baseload Electricity Generation

21. In pursuit of gross emission reduction, the DCC further reiterates its support for greater investment in renewable energy to enable a transition away from existing (and any potential new) fossil fuel electricity generation.

22. There is currently no major fossil fuel generation over 10 MW in the South Island and the DCC has no expectation that these would be developed in our district in the future.

23. Should further major demand arise for electricity in the South Island, the DCC expects this would be supplied by existing, and new renewable energy resources. There is limited scope for gas fired generation given the lack of gas reserves and infrastructure. Many major energy users in Otago and Southland are working to reduce their use of coal for direct heating, so it would be counterproductive to use coal for electricity generation in the south.

24. The DCC does not support an exemption from the ban on new fossil fuelled baseload generation based on the use of Carbon Capture, Utilisation and Storage (CCUS) technologies. The DCC has prioritised gross emissions reduction from all sources as much as practically possible. Sequestration will play some role in mitigating the more challenging to abate emissions as an interim measure. Adding more emissions to sequester, whether directly through CCUS or offsetting does not reduce gross emissions and may hinder efforts to transition to a low carbon future.

Developing a Regulatory Framework for Offshore Renewable Energy

25. The DCC supports the development of opportunities to enable further renewable energy supply for Aotearoa including renewable marine energy resources.

26. Ōtepoti Dunedin is home to a range of marine mammals and seabirds, which require protection as threatened taonga species – for their special relationships with mana whenua and tāngata tiriti, and for the tourism value they bring to our city. We would like to see requirements for marine renewable energy developments to avoid or substantially mitigate any negative effects on wildlife.

Interim Hydrogen Roadmap

27. Hydrogen may play some part in reducing emissions from some of the harder to abate emissions sectors. However, an approach that simply substitutes hydrogen as a fuel for widespread use in transport and stationary energy may miss opportunities for co-benefits of decarbonisation that improve wellbeing.

28. Due to the energy-intensive processes of creating hydrogen, direct electrification and biomass-based energy sources seem more suitable to meet demands for energy from almost all sectors.

29. Increased funding for local road maintenance would be required if amendments to the vehicle dimension and mass land transport rules were made to allow for larger hydrogen fuelled trucks.

30. The DCC submits that investments in rail infrastructure rather than substituting hydrogen into the road freight system would have greater benefits in efficient energy use and by reducing the demand on roading infrastructure for maintenance and upgrades.

Conclusion

31. The DCC submits that local authorities with ambitious climate targets are well-placed to partner with central government to deliver climate action or pilot funded initiatives.

32. The DCC looks forward to working constructively with central government, mana whenua, partner agencies, businesses, and communities on this important transition.

33. The DCC thanks MBIE for the opportunity to comment on Advancing New Zealand's Energy Transition.