

# Accelerating renewable energy and energy efficiency

Ministry of Business, Innovation & Employment, December 2019

Submission by Climate Justice Taranaki, 28 February 2020

## Introduction

1. Climate Justice Taranaki Inc. is a community group committed to justice, action and true solutions to our climate crisis. We raise awareness on social justice issues around climate change which impact disproportionately heavily on the under-privileged and on future generations. We advocate for policies and decisions that alleviate the impacts and empower communities. We support communities in building climate resilience.
2. We welcome the opportunity to comment on the discussion paper 'Accelerating renewable energy and energy efficiency'.

## Fundamentals

3. The Renewable Energy Strategy work programme, as with all other government policies and programmes, must acknowledge the fallacy of endless economic growth<sup>1</sup> and aim for a steady state, circular or doughnut<sup>2</sup> economy instead. We therefore do not support the statement that the energy system "*will also provide opportunities to grow out economy and exports by driving innovation in clean energy.*" (p.13 of discussion document)
4. No matter how fast we accelerate renewable energy and energy efficiency, the outcomes in terms of emissions reduction, energy sustainability, affordability and security will be compromised for as long as fossil fuel mining and emissions-intensive industries continue. The call for "*setting the right investment signals to avoid lock-in of high emissions technologies*" (p.13) in the work programme is indeed essential. We would support expanding this from 'investment signals' to 'legislative and policy barriers', to effectively deter the lock-in and perpetuation of high emissions technologies and operations.
5. Natural gas is neither renewable nor a transition fuel. Any new gas fired peaking power plants "*would rule out any hopes of getting to zero carbon by 2050 as these stations will have design lives of at least 40 years, and will need a major new gas user such as a petrochemical plant, to keep the gas flowing*", warned Jeanette Fitzsimons<sup>3</sup>. We are very concerned by the Taranaki 2050 Roadmap<sup>4</sup> and the recent Energy Transition Pathway Action Plan<sup>5</sup>, which continue to advocate for gas exploration and mining, claiming, falsely that it is an essential transition fuel. This is contrary to numerous studies<sup>6,7</sup> including full life-cycle analyses that have demonstrated that gas is just as polluting as coal.
6. However, as Aotearoa New Zealand considers accelerating the development of renewable energy, we also need to consider the full range of environmental footprints of these technologies: not just carbon, but land and water footprints, by undertaking full life-cycle assessments. The latter should include the many environmental and social impacts of the mining for raw minerals that are essential components of many renewable energy technologies<sup>8</sup>. We have the social responsibility to not exacerbate such impacts overseas just to satisfy our energy needs. The assessment also must take into account the energy needed to extract the minerals and produce the materials such as solar panels and wind turbines. Indeed, substantial investments in research and development of processes that enhance technological efficiency, and the recovery, reuse and recycling of resources, would help

to reduce the impacts and energy needs while creating employment and economic opportunities and contributing to the circular economy<sup>9</sup>.

7. We need to rethink our priorities and question the real worth of certain industries that we appear to have been reliant on. The few examples include the dairy industry with its 80 milk drying plants contributing 23.4% of our emissions<sup>10</sup>; methanol production for export which relies on natural gas as feedstock and contributes 20.3% of emissions; the aluminium smelter which contributes 7.2% of emissions, pays minimal electricity prices and fails to deal with its own contaminated wastes for years<sup>11</sup>; and urea production which contributes 3.3% of off-farm emissions and is a key driver of harmful industrial farming. To be clear, we do not support the continuation of energy intensive, fossil-fuel reliant, industrial dairying tailored for the export market. Just because these industries have been around for a long time and provided jobs and income does not mean that they will continue to do so, or that there are no alternatives which offer better social, economic and environmental outcomes.
8. A case in point, emerging food technologies have the potential to massively disrupt the economic viability of our export-dependent dairy-powder industry. *“What this really means for NZ is that over the next 5, 10, 15 years these new technologies are likely to take chunk after chunk out of NZ’s dairy ingredient exports. Dairy will no longer be our cash cow... We are going to have to focus on growing other opportunities to produce meaningful well-paid work for New Zealanders”*, explained Danielle Appleton, a dairy scientist and food technologist<sup>12, 13</sup>.
9. While this discussion document does not cover issues specific to the transport and housing sectors, it is important that cross-sectoral analyses, discussions and integrated policy planning take place if we are to realise the zero carbon goal.

## PART A: ENCOURAGING ENERGY EFFICIENCY AND THE UPTAKE OF RENEWABLE FUELS IN INDUSTRY

### Section 1: Addressing information failures

10. It would appear sensible to require large energy users to report their emissions and energy use, annually publish Corporate Energy Transition Plans and conduct energy audits regularly, such as biennially. However, there would be little impact in reducing emissions if so-called ‘emissions intensive and trade-exposed’ industries continue to receive free NZUs for 60% or 90% of their emissions<sup>14</sup>.

### Section 2: Developing markets for bioenergy and direct geothermal use

11. We agree that there is substantial potential for bioenergy to be part of the renewable energy mix needed to help reduce overall greenhouse gas emissions, contribute to energy security, with potential new employment and economic opportunities.
12. Our support for bioenergy is primarily towards biogas generation from anaerobic digestion of residue organic wastes, such as municipal wastewater, agricultural and food processing wastes, after following the waste hierarchy of minimisation, reuse and recycling<sup>15</sup>. For local domestic food scrap and green wastes, we advocate using community composting facilities<sup>16</sup>.
13. In terms of wood biomass, the Bioenergy Association of NZ estimates that there is potentially enough biomass available from plantation forestry to replace 60% of coal used in existing heat plants over the next 30 years while the rest would require new plantation forests<sup>17</sup>. It recommends a

gradual approach by growing biomass fuel supply, including plantation forestry harvest residues, agricultural and horticultural biomass and clean urban waste biomass, to meet small and medium scale heat plants first. Its proposal to provide guidance<sup>18</sup> for farm forestry to produce and process woody biomass fuel from shelter belts, riparian planting, erosion control and woodlots, as well as biomass fuel from agricultural crop residues, is worth considering. It is also really important to leave forestry cuttings on the ground in a safe and well-managed manner, to protect and build up soils, and nurture further tree growth. The common practice of clear felling, piling slash and sometimes burning is unacceptable.

14. We urge for caution however, when considering large-scale expansion of forestry, notably pine plantations for low-value commodity export. The reasons being their inherent vulnerability to climate extremes and the need for a *“landscape approach that embraces water, soil and biodiversity objectives”*, as pointed out by the Parliamentary Commissioner for the Environment, 2019<sup>19</sup>. We therefore argue that full life-cycle assessments covering not just carbon, but also land, water and other environmental footprints<sup>20</sup> and social impacts, are critical when considering further forestry expansion. Be wary of potential landuse conflict, notably competition with food production, permanent native species carbon forests and natural ecosystems for biodiversity and cultural wellbeing. Succession planting and planning should avoid mass harvest that drives prices down while increasing environmental damage. We advocate forestry moving towards small woodlots similar to traditional European systems where communities manage forests amongst their farms, supporting biodiversity, environmental protection, high value timber production and high-skilled labour industries.
15. We believe central and local governments have the role to lead<sup>21</sup>, by converting their heat plants from coal or gas to bioenergy, if/where full lifecycle analyses show substantial environmental and social benefits.

### Section 3: Innovating and building capacity

16. Option 3.1: We support expanding EECA’s grants for technology diffusion and capability-building. We suggest more support for university, research institutions and community entities to take part in both early stage R&D and capability-building in low-emissions technology and innovation.
17. Option 3.2: We do not support the allocation of funds to *“support industry to plan and develop their own viable solutions”* when the focus is on Emissions Intensive and Highly Integrated (EIHI) industries. Such industries, notably steel, cement, methanol and urea manufacturing, have already benefited hugely from government subsidies in the way of free emissions credits and tax breaks. They should fund their own process of transition, capability building and knowledge sharing. Any public money put into these industries would be money made unavailable to truly innovative, low-emissions and indigenous start-ups.
18. We are opposed to hydrogen development for numerous reasons, as elaborated in our 2019 submission<sup>22</sup> on the MBIE paper ‘Vision for Hydrogen in New Zealand’. For over a decade, the government has been told that the hydrogen energy chains *“provide little or no system-level efficiency improvement over conventional technology”* (Page and Krumdieck, 2008)<sup>23</sup>. The situation remains the same now despite industry and government hype<sup>24</sup>.
19. We certainly do not support any government funding for EIHI industries to develop hydrogen as feedstock or fuel, notably for the production of so-called ‘green urea’ which drives polluting industrial farming; or carbon capture, utilisation and storage (CCUS) which is dangerous, polluting, costly and largely a way of extending the lifespan of the coal and petroleum industry<sup>25, 26, 27, 28</sup>.

20. The EHI industries are already in an advantageous position, by being well established in terms of infrastructure, market availability and access to governments. In some cases, their relationships with government authorities and regulators are too close, resulting in intense lobbying, substantial conflict of interest, and 'regulatory capture' to the detriment of the physical and regulatory environments<sup>29</sup>. The fact that the CEO of Todd Energy also chairs the Taranaki 2050 Lead Group charged with formulating Taranaki's transition pathways is a case in point<sup>30</sup>.

## Section 4: Phasing out fossil fuels in process heat

21. Option 4.1: We support the proposed introduction of a ban on new coal-fired boilers for low and medium temperature requirements.
22. We call for an extension of the proposed ban to include all new coal-fired process heat equipment, including those with high temperature requirements, as well as any new natural gas dependent installations.
23. Option 4.2: We support the proposed requirement of existing coal-fired process heat equipment for low temperatures (below 100°C) to be phased out by 2030.
24. We call for an expansion of the proposed requirement to also include existing coal-fired process heat equipment for medium temperatures (100-300°C) to be phased out by 2030; and equipment for high temperatures (>300°C) to be phased out by 2040.
25. We ask that central and local governments take the lead by phasing out their infrastructures that are coal or gas dependent. Notably, over half of the country's heat plants are government owned, 13% of which are coal fired heat plants.

## Section 5: Boosting investment in energy efficiency and renewable energy technologies

26. Q5.1: We agree that complementary measures to the NZ-ETS must be considered and implemented. The ETS is flawed, and ineffective as a tool to reduce emissions, as explained in our recent submission on the Climate Change Response (Emissions Trading Reform) Amendment Bill<sup>31</sup>.
27. Q5.2: We support introducing or strengthening regulations to help accelerate the phasing out of high emissions industries/equipment and the transition or uptake of low or zero emissions alternatives. We strongly object to handing out NZUs to these industries. Trade competition and fuel reliance should be no excuse. The true costs of their unsustainable businesses are passed onto the community and our planet and they have been carried by us for far too long. They should shut down or be made to transition fast like everybody else.
28. Q5.2: We are opposed to financial incentives, especially for established, high emitting industries. For far too long, the real environmental and social costs of such industries have been externalised and companies have reaped millions of dollars from this. If financial incentives are considered, they should be provided to community-owned initiatives or small start-ups that conserve and reduce energy and resource use while increasing the recovery, reuse and recycling of such resources.

## Section 6: Cost recovery mechanisms

29. Q6.1: We support the introduction of a levy on consumers of coal to fund process heat activities, as long as it does not affect public services such as hospitals that are already struggling financially.

30. We strongly urge that the government ends and redirects all fossil fuel subsidies to finance urgent transition to zero carbon. Between 2009 and 2016, NZ government subsidies to the oil and gas industry in the form of “*supports, incentives and fiscal benefits*”, increased from \$40.5 million to \$87.6 million (Loomis, 2017)<sup>32</sup>. Over the past ten years, \$237m of taxpayer money has gone into special treatment for the fossil fuel industry<sup>33</sup>. This must end and budget reallocation done to support the transition off fossil fuel-based process heat.
31. We also call for a wealth tax, such as on individuals with over \$5 million of net wealth<sup>34</sup>, to raise revenues for transition initiatives, and to assist low income earners who are disproportionately impacted.

## PART B: ACCELERATING RENEWABLE ELECTRICITY GENERATION AND INFRASTRUCTURE

32. Ending government subsidies, special treatment and incentives for the fossil fuel industry as explained above (pt. 30) will help to level the playing field and help accelerate renewable electricity generation and infrastructure.
33. Stop issuing any new coal or petroleum exploration and mining license, including onshore Taranaki, and no more extension of expiring licenses. We are strongly opposed to all fossil fuel exploration and mining.
34. Major efforts at all levels from governments to industries, businesses and households, are needed to reduce our energy consumption. This is first and foremost, without which renewable energy will never be enough to meet our demands, and the environmental and social costs involved in sourcing and producing the renewable technologies and energy will not be acceptable for an environmentally and socially responsible nation.

### Section 7: Enabling development of renewable energy under the Resource Management Act 1991

35. We strongly object to broadening the scope of the National Policy Statement for Renewable Energy Generation (NPSREG) to cover hydrogen, including green hydrogen (See our earlier points 18-19).
36. Bioenergy from organic wastes such as municipal wastewater and industrial food processing and/or agricultural wastes should be considered under the NPSREG.
37. We ask for greater weighting or priority for small and community-scale renewable electricity generation and distribution activities in the NPSREG. These activities avoid energy losses via transmission from distant infrastructures. They help to build community resilience for extreme weather, support local skills development, offer jobs and potentially more affordable electricity than large-scaled commercial systems.

### Section 8: Supporting renewable electricity generation investment

38. Option 8.2: We support encouraging greater demand-side participation and developing the demand response market, to encourage demand reduction, especially during peak periods, and potentially optimise energy use. However, we caution the potential emphases on technology, artificial intelligence and cost savings, and neglect for real social and behaviour change which is much needed to truly drive down our energy consumption and inequality.

39. Option 8.3: We support the proposal to require electricity retailers and/or distributors to meet energy efficiency targets.
40. Option 8.4: We do not consider the development of an offshore wind market to be a priority, considering the significant scale, costs and technical demands from offshore wind energy development, and potential conflict with Te Tiriti o Waitangi and Marine and Coastal Area Act. Such developments could potentially become excuses for offshore oil and gas infrastructure to be left in place and shifting the massive decommission costs and liability onto the new owners.
41. Option 8.5: Renewable Portfolio Standards (RPS) and Renewable Electricity Certificates (RECs) seem like good tools, as long as they don't result in rising electricity prices which become unaffordable to low income earners. We do not support the development of hydrogen production and export, whether 'green, blue or brown', and none should be eligible for RECs (See pts. 18-19 above).
42. Option 8.6: It is of critical importance to phase down baseload thermal generation and setting aside a strategy reserve alongside the phase down. Use in emergencies, over a transition period, would appear prudent.
43. We call for the introduction of feed-in tariffs for households, schools or community premises that generate renewable energy to incentivise renewable energy production.

## Section 9: Facilitating local and community engagement in renewable energy and energy efficiency

44. We should definitely support community renewable energy projects for the numerous social and environmental benefits outlined in the document. A clear and consistent government position aligned across policies and work programmes will be essential.
45. Government support for pilot community energy projects would be helpful, especially if longer term technical inputs and advice is also available directly and through some kind of network.
46. Community energy projects may be fostered through or integrated into broader transition<sup>35</sup> initiatives for more sustainable and holistic outcomes.
47. Of particular relevance in the New Zealand context would be community energy projects focussing on Māori communities such as marae and papakainga such as Parihaka<sup>36</sup>, and building on mātauranga and other traditional values.
48. In the NZ rural landscape, integrated landuse that incorporate coppicing woodlots, livestock and poultry farming, food production, tree crops and bioenergy generation would provide good opportunities for community energy projects.

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<sup>1</sup><https://surplusenergyeconomics.wordpress.com/?fbclid=IwAR2AGV6DLnEoAkDvXI2MXmmqZgfYw5BbwE1ByEnqREn5khxKJkW5-xJawnA>

<sup>2</sup><https://www.kateraworth.com/doughnut/>

<sup>3</sup><https://thespinoff.co.nz/business/29-11-2019/a-modest-proposal-for-the-future-of-tiwai-point/?utm=presspatron-post-email-3-dec-2019>

<sup>4</sup><http://about.taranaki.info/taranaki2050>

<sup>5</sup><http://about.taranaki.info/Taranaki2050/Energy-TPAP.pdf>

<sup>6</sup>[http://www.terrenceloomis.ac.nz/uploads/5/3/3/3/5333337/ffarn\\_paper\\_-\\_gas\\_not\\_a\\_transition\\_fuel\\_v.2.pdf](http://www.terrenceloomis.ac.nz/uploads/5/3/3/3/5333337/ffarn_paper_-_gas_not_a_transition_fuel_v.2.pdf)

<sup>7</sup><https://science.sciencemag.org/content/361/6398/186>

<sup>8</sup><https://earthworks.org/publications/responsible-minerals-sourcing-for-renewable-energy/>

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- <sup>9</sup> <https://climatejusticetaranaki.files.wordpress.com/2019/09/cjt-submission-on-mbie-resource-strategy-consultation-sep19-main-body-final.pdf>
- <sup>10</sup> <https://www.eeca.govt.nz/assets/Resources-EECA/research-publications-resources/Options-to-Reduce-New-Zealands-Process-Heat-Emissions.pdf>
- <sup>11</sup> <https://www.rnz.co.nz/news/national/409412/rio-tinto-behaviour-outrageous-environment-minister-david-parker-says>
- <sup>12</sup> <https://www.rnz.co.nz/national/programmes/insight/audio/2018709853/milk-shake-why-the-future-of-dairy-looks-scary>
- <sup>13</sup> <https://medium.com/@danielleappleton/confessions-of-a-dairy-industry-insider-2cdc1a1b3fef>
- <sup>14</sup> <https://climatejusticetaranaki.files.wordpress.com/2020/01/cjt-submission-on-climate-change-response-ets-reform-17jan20-final.pdf>
- <sup>15</sup> <https://www.biogas.org.nz/documents/resource/Information-Sheets/IS47-Role-of-biogas-in-transition-to-low-carbon-economy.pdf>
- <sup>16</sup> <https://www.stuff.co.nz/environment/climate-news/118544309/three-new-community-composting-hubs-to-be-created-in-wellington>
- <sup>17</sup> <https://www.bioenergy.org.nz/resource/is48-GHG-reduction-using-wood-energy>
- <sup>18</sup> <https://www.bioenergy.org.nz/resource/is46-actions-to-reduce-use-of-fossil-fuels-for-process-heat>
- <sup>19</sup> <https://www.pce.parliament.nz/publications/farms-forests-and-fossil-fuels-the-next-great-landscape-transformation>
- <sup>20</sup> <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019EF001428>
- <sup>21</sup> <https://www.mbie.govt.nz/assets/346278aab2/nzeecs-2017-2022.pdf>
- <sup>22</sup> <https://climatejusticetaranaki.files.wordpress.com/2019/10/cjt-submission-on-mbie-hydrogen-green-paper-oct19-v3-final.pdf>
- <sup>23</sup> <https://www.sciencedirect.com/science/article/abs/pii/S0301421508007003>
- <sup>24</sup> <https://reneweconomy.com.au/hydrogen-holy-grail-for-100-renewables-or-hype-85164/>
- <sup>25</sup> <https://pubs.rsc.org/en/content/articlelanding/2019/ee/c9ee02709b/una#!divAbstract>
- <sup>26</sup> <http://shalegas-bg.eu/download/ccs/100106-Health-Risks-CCS.pdf>
- <sup>27</sup> <https://www.newscientist.com/article/dn21954-earthquake-risk-for-carbon-capture-and-storage-schemes/>
- <sup>28</sup> <https://www.inderscience.com/info/inarticle.php?artid=103341>
- <sup>29</sup> <http://www.terrenceloomis.ac.nz/latest-publication.html>
- <sup>30</sup> <http://about.taranaki.info/Taranaki2050/Energy-TPAP.pdf>
- <sup>31</sup> <https://climatejusticetaranaki.files.wordpress.com/2020/01/cjt-submission-on-climate-change-response-ets-reform-17jan20-final.pdf>
- <sup>32</sup> [http://www.terrenceloomis.ac.nz/uploads/5/3/3/3/5333337/govt\\_subsidies\\_update\\_report\\_2017-3.pdf](http://www.terrenceloomis.ac.nz/uploads/5/3/3/3/5333337/govt_subsidies_update_report_2017-3.pdf)
- <sup>33</sup> [https://www.stuff.co.nz/environment/climate-news/119750244/climate-crisis-means-ending-government-fossil-fuel-support?fbclid=IwAR0vpeA8aj-13-FYQPcO8CGleaq137J0X48b1\\_4ai0VzmFJCr4UiKFRqXSg](https://www.stuff.co.nz/environment/climate-news/119750244/climate-crisis-means-ending-government-fossil-fuel-support?fbclid=IwAR0vpeA8aj-13-FYQPcO8CGleaq137J0X48b1_4ai0VzmFJCr4UiKFRqXSg)
- <sup>34</sup> [https://www.stuff.co.nz/business/opinion-analysis/118534770/why-an-increasingly-unequal-new-zealand-needs-a-wealth-tax?fbclid=IwAR1R\\_zpMV0LwkPBhmqf23PNSaJdzE0mlk4\\_OQhdw0k-XcM\\_U2m43Cv2KWK0](https://www.stuff.co.nz/business/opinion-analysis/118534770/why-an-increasingly-unequal-new-zealand-needs-a-wealth-tax?fbclid=IwAR1R_zpMV0LwkPBhmqf23PNSaJdzE0mlk4_OQhdw0k-XcM_U2m43Cv2KWK0)
- <sup>35</sup> <https://transitionnetwork.org/>
- <sup>36</sup> <https://parihaka.maori.nz/taiepa-tiketike/>