



Climate change management continues to be a key focus. Last year the independently established Climate Change Commission provided advice to government on New Zealand's emissions budgets for the next 15 years. The sector is now waiting for the Government to release its plan to reduce emissions in May 2022. This work includes the development of an energy strategy, an integral part of reducing emissions.

Policies to address emissions are likely to result in changes to regulations and impact current market mechanisms creating increased uncertainty over **market design and regulations**. Changes to oil and gas regulations are already underway with tightening around the management and decommissioning of assets. In electricity, several reviews have been conducted over recent years to ensure the market operates efficiently.

Renewable energy and energy efficiency were both identified as action priorities that could contribute to emissions reductions now. In 2021 we saw continued investment in renewable electricity generation. Contributions from wind and solar generation increased significantly in 2021. (Energy Quarterly, MBIE). This trend is set to continue with nearly 500MW of wind, solar and geothermal generation expected to be commissioned between now and 2026 (Energy in New Zealand, MBIE).

Energy efficiency continues to be a powerful tool. The government has committed to decarbonise the public sector by 2025. Initiatives include the replacement of fossil-fuelled boilers in hospitals and schools, replacing vehicle fleets with electric vehicles and installing energy efficient cooling and lighting (Public Sector Decarbonisation, EECA). It has also committed co-funding for private businesses with projects that address energy efficiency and enable fuel switching to reduce carbon emissions (Industry decarbonisation, EECA).

Electric Storage Innovation will be key to backing up increasing renewables and maintaining energy security. It is identified as a critical uncertainty, and an action priority. Last winter was a reminder of the importance of energy security with lower hydro generation and tight gas supply leading to higher coal imports.

The government is investigating long term storage options to address the risk of future dry years. Alongside a potential pumped hydro scheme, options include; biomass, biogas and biofuels; geothermal energy; hydrogen or other green vectors; compressed or liquid air; and flow batteries. (NZ Battery Project, MBIE)

There are opportunities for transport, but the future of fuels is still uncertain. Transport accounts for 47% of total domestic CO₂ emissions so **Innovative Transport** solutions are another option to help us reduce emissions. The Ministry of Transport have identified three key focus areas; changing the way we travel, improving our passenger vehicles and supporting a more efficient freight system. (Transport Emissions: Pathways to Net Zero, MoT).

Hydrogen could be a possible electric storage solution, or a future fuel for heavy transport. Local businesses are exploring potential projects and partnerships with international organisations. However, uncertainty remains high with respondents mixed on hydrogen's potential impact.

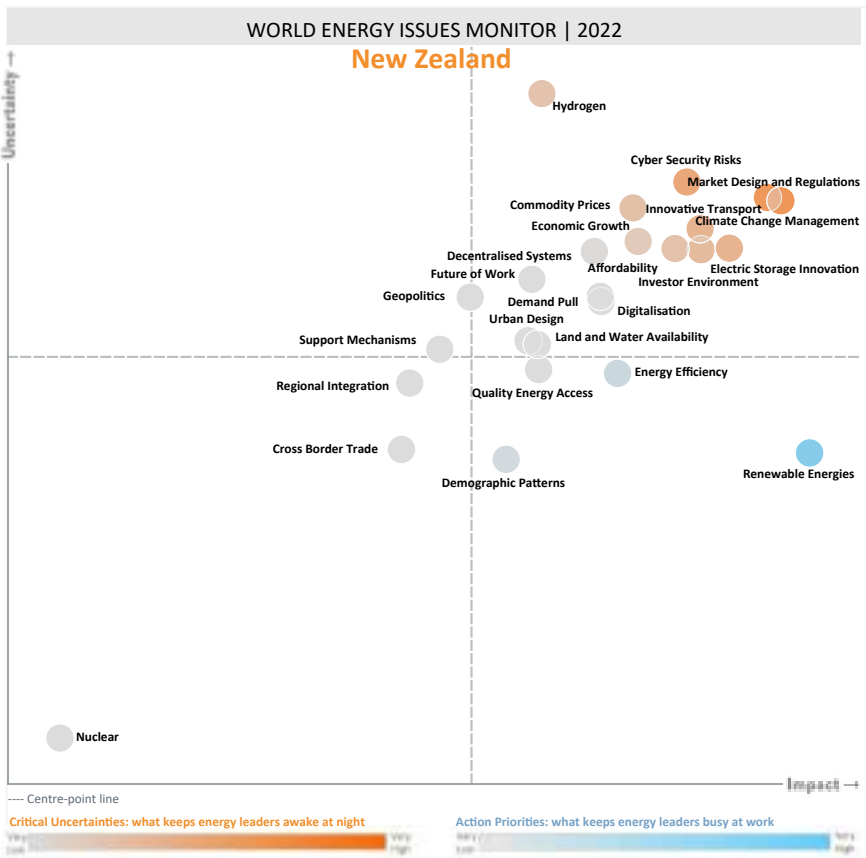
Humanising Energy is a focus– keeping in mind the people who produce it and the people it is for. Energy leaders continue to keep an eye on **quality energy access**, working to ensure security and affordability as we increase sustainability. With high prices in the Northern Hemisphere this winter, energy access and affordability remain front of mind. Government and businesses are seeking new ways to engage with communities to ensure a just energy transition.

Demographic patterns were identified as an action priority this year, potentially driven by the impact of travel restrictions during Covid, and issues accessing skilled staff. Future of work also ranks highly as new skills will be needed with increasing digitalisation and decarbonisation in the energy sector.

TESTING PERSPECTIVES WITH THE WEC LEBANON MEMBER COMMUNITY

The results of the World Energy Issues Survey were discussed with WEC New Zealand members in February 2022. During the discussion, the key findings regarding Action Priorities and Critical Uncertainties were confirmed and the following were highlighted:

1. Climate Change provides the imperative to act on energy efficiency, and renewable energy and energy efficiency were both identified as action priorities. These are the opportunities we can implement today to start reducing emissions. However, uncertainty remains around what steps we should take next in our Climate Change Management approach. Many are hoping the government's emissions reduction plan will help provide some certainty over next steps.
2. Getting market design and regulations right will be critical to identify and implement the best opportunities to decarbonise first, we need to get the market design right. Markets will be critical to provide certainty for investing in new assets, but rules must also allow for the maintenance of existing assets required during the energy transition.
3. With an already high contribution of renewable energy sources New Zealand is at the cutting edge of this issue, tackling questions like; how can our markets provide good price signals and induce investment in a world of abundant renewables? How can our rules ensure the flexibility to smooth intermittent renewable energy and maintain secure supply? The electricity regulator is investigating how the wholesale electricity market might operate under a 100% renewable electricity supply (Price Discovery Project, EA).
4. On the other hand, we must ensure the system remains affordable, even as we transition to a more sustainable future. Energy leaders should keep energy access and affordability front of mind. Addressing climate change challenges offers an opportunity to engage with consumers.
5. An opportunity to transform the way we travel: Covid has forced us to sit still and take stock, giving us the opportunity to rethink the way we travel. The transport sector has the potential to be transformed, not just by the introduction of new technologies, but also new business models that allow access to all.



WORLD ENERGY COUNCIL

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