



**TCF Submission to MFE on the second emissions reduction plan  
21 August 2024**

**Introduction**

1. Thank you for the opportunity to respond to the consultation on New Zealand's second emissions reduction plan.
2. This submission is made on behalf of the New Zealand Telecommunications Forum (TCF) Climate Change Working Group. The TCF is the telecommunications sector's industry body which plays a vital role in bringing together the telecommunications industry and key stakeholders to resolve regulatory, technical and policy issues for the benefit of the sector and consumers. TCF members include providers of fixed line (fibre and copper) and mobile networks, retail service providers, wireless ISPs and tower companies. Member companies represent 95 percent of New Zealand telecommunications customers.
3. Our comments focus on the role the telecommunications industry can play in helping to reduce emissions, and more specifically the role that telecommunications will need to play in some of the proposed policies and actions. We also touch on some of the barriers that stand in the way of telecommunications operators providing the connectivity needed to help New Zealand reach its emissions reductions goals.
4. We recommend the second emissions reduction plan notes the enabling role of telecommunications and digital technology more broadly, and that the Government takes action to help remove barriers to providing the necessary connectivity.

**Telecommunications, digital technology and emissions reduction**

5. While infrastructure such as telecommunications contributes to emissions (mainly through its energy use) it is also an enabler of emissions reduction.

### *Telecommunications and emissions*

6. As a sector we are committed to improving the efficiency of our networks and infrastructure by replacing legacy technologies with modern alternatives that have lower emissions profiles. For example, the copper withdrawal programme is enabling the copper network and legacy equipment to be replaced with more energy efficient fibre. An entry level fibre plan (operating at 50 Mbps) is up to 41 percent more efficient than internet access using copper lines (VDSL)<sup>1</sup>.
7. With the majority of telco emissions coming through electricity usage, the sector can also decarbonise by supporting the transition to 100 percent renewable energy. It is also an enabler of distributed energy sources, such as smart EV chargers and solar, that are connected to the internet (discussed further below).

### *Telecommunications as an enabler of emissions reduction*

8. A recent study<sup>2</sup> found that digital technology as an enabler of a variety of actions could collectively reduce annual emissions 7.2 Mt by 2030 - the equivalent of 42 percent of Aotearoa New Zealand's current emissions budget targets. We think this makes the case for digital technology being integrated into climate change mitigation and adaptation planning as a key enabler of New Zealand's long-term climate goals. This includes the second national Emissions Reduction Plan.
9. The connectivity (internet access and voice calling) provided by telecommunications companies enables:
  - a. **more people to work, study and do business from home**, helping to reduce transport emissions. This goes beyond connecting people virtually. It also enables secure remote access to systems and services, monitoring of physical assets, and access to data that informs decisions. The average New Zealand office worker who spends one day a week working from home will save 4.2kg in carbon emissions per day, compared to commuting into the office every day<sup>3</sup>.
  - b. **other sectors to take their business models in a more climate friendly direction**. Examples include precision agriculture, smart logistics, and 3D printing in advanced manufacturing that avoids the need for international shipping.

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<sup>1</sup> Sapere, [Assessing the Emissions Footprint of the Fibre Networks Relative to Other Fixed Broadband Options: A report for Chorus, Northpower Fibre Limited, Tuatahi First Fibre and Enable Networks Limited](#), 2021. Section 4.1 refers.

<sup>2</sup> [Meeting the Climate Challenge through Digital Technology](#): Research from Spark and Thinkstep-anz. Page 10 refers.

<sup>3</sup> <https://media.one.nz/vodafone-think-step-carbon-emissions-research>

- c. **smart technology, such as smart thermostats, heat pumps, and water heaters.** When deployed widely, these can significantly reduce energy demand not just for individual households but also for public institutions such as schools or hospitals. Connectivity also enables demand management technologies to support grid decarbonisation and reduce peak demand by controlling and coordinating energy heavy activities such as EV charging.
- d. **smart cities technology that will help cities tackle climate change.** Smart cities technology can be used for traffic management, optimising refuse collection, monitoring pollution, optimising street lighting, ride sharing, energy metering, and switching on devices at times to optimise energy use. Smart city technologies for reducing emissions rely on sensors and telecommunications networks to record and relay data.

### **Telecommunications and the proposed policies for the second Emissions Reduction Plan**

10. Several of the actions and policies proposed for the second national Emissions Reduction Plan will rely on telecommunications. This includes:
  - a. **The target to have 10 000 electric vehicle chargers by 2030,** with people being able to charge wherever they are in New Zealand. With public charging stations requiring the use of an app, this policy will have rural connectivity dependencies and limitations.
  - b. **The policy on lowering agricultural emissions** by giving farmers access to tools and technology. Many of these tools will require connectivity and the use of internet of things (IoT) technology, particularly for monitoring and data collection.
  - c. **The policy on better public transport,** which will reduce congestion and travel time, and optimise services through demand management tools. Connectivity and IoT will be required for this, and to enable innovation with new transport-as-a-service offerings.
11. The consultation document also talks about adaptation and supporting resilience at the sector level, which will flow through to businesses, communities and households. Like other critical infrastructure telecommunications is at risk from the natural hazards caused by climate change. Our members are doing climate scenario analysis and investing in resilience, but government support is needed to remove barriers (considered in the next section).

## **Barriers**

12. There are policy and regulatory barriers that get in the way of telecommunications as an enabler of emissions reduction. These barriers are in the resource management system. Government rural connectivity policy is also a factor.

### *Resource management*

13. The telecommunications industry needs to engage with the resource management system in order to be able to install, maintain and upgrade the network infrastructure (such as fibre optic cables, cell towers, poles and antennas) needed to get connectivity around the motu. We engage with several aspects of the resource management system to make this happen, including consents, designations and planning processes. Delays, regional variations and complications in the process can make it difficult for us to provide the services that New Zealanders and businesses rely on.
14. The National Environmental Standards for Telecommunications Facilities (NESTF) have not kept up with urban intensification and technology changes, which limits our ability to make connectivity upgrades and resilience improvements. This includes:
  - a. the rollout of 5G upgrades and IoT networks across the country which will enable future innovation to drive productivity, efficiency and emissions reductions
  - b. expanding coverage to more areas, and
  - c. increasing the capacity of telecommunications networks to enable future innovation using technologies such as AI, which will unlock future productivity opportunities.
15. A comprehensive update of NESTF is needed as part of phase two of the resource management reforms.

### *Rural connectivity policy*

16. Government investment in rural connectivity in remote parts of New Zealand where it is not economic for telecommunications companies to invest in network improvements is a factor to consider. There are no government plans currently on the table to partner with the sector in uneconomic areas. This will, for example, limit the location of EV charging stations, and access to technology on farm, and the ability for people living in remote parts of New Zealand to use technology that can help reduce emissions.

17. Allocation of spectrum to support improvements in rural connectivity would also remove barriers to telecommunications companies offering improved coverage and services in these areas. This includes spectrum in the 600Mhz band.
18. The Commerce Commission's recently released Telecommunications Annual Monitoring Report highlights the importance of continued investment into modern services in rural areas so rural customers are able to access the same services as their urban counterparts. The full benefits of technology as an enabler of emissions reduction cannot be realised until all households have access to modern telecommunications solutions. This cannot happen until we have transitioned away from legacy technology.

**We are happy to discuss further**

19. The TCF is happy to answer any questions the Ministry may have about the views set out in this submission. Please contact [kim.connolly-stone@tcf.org.nz](mailto:kim.connolly-stone@tcf.org.nz) in the first instance.