



**TCF Submission to the Climate Change Commission
On its draft advice to government on the second emission reduction plan
20 June 2023**

Introduction

1. Thank you for the opportunity to comment on the Climate Change Commission's draft advice to the Government concerning the second emissions reduction plan.
2. This submission is provided by the New Zealand Telecommunications Forum (TCF). 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 member companies represent 95 percent of New Zealand telecommunications customers.
3. The TCF supports the general approach taken by the Climate Change Commission (the Commission) in its draft advice. Our comments focus on the role the telecommunications industry can play in helping to reduce emissions, and the barriers we face in doing this.

Telecommunications as part of the solution

4. Chapter eight of the Commission's draft advice (on the built environment) notes that while infrastructure contributes to emissions, it is also part of the solution to reducing emissions and adapting to climate change. Telecommunications infrastructure is an example of this. The connectivity our members provide (internet access and phone) enables:
 - a. Work and study from home, helping to avoid transport emissions from cars and planes. This goes beyond connecting people virtually, and also includes enabling secure remote access to systems and services, monitoring physical assets, and access to data that informs decision making. A consequential life

cycle assessment was undertaken in 2022 to measure how working from home one day a week affects the size of an employee's carbon footprint. [This study](#) found that the average New Zealand office worker who works one day a week working from home will save 4.2kg in carbon emissions per day, compared to commuting into the office every day.

- b. The “digitisation of the economy” (referred to in the Commission’s paper) by providing the internet access that a number of sectors are relying on to innovate and 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.
 - 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. For example, enabling greater use of digital twins that can inform decisions about infrastructure such as roading. Smart cities technology can also 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.
5. [A recent study](#) 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 next national Emissions Reduction Plan.
 6. International evidence demonstrates that technology roadmaps are an important tool to reduce emissions. Several comparable countries to New Zealand have reduced their carbon emissions while also growing their economies, with technology roadmaps or equivalents leading contributors. Examples include Denmark, Finland, Ireland and Switzerland.
 7. We note that work is underway, coordinated by [NZTech](#) and its members, to scope a technology roadmap for Aotearoa New Zealand. This initial work is to connect and

establish a foundation for industry collaboration, including focus areas and specific actions for industry and government. This work is intended to establish the foundations for a full technology roadmap. We encourage the Commission to include support of a technology roadmap in its advice to government.

8. As a sector we are also committed to improving the efficiency of our networks and infrastructure, replacing legacy technologies with modern alternatives that have lower emissions profiles. For example, by replacing the copper network with more energy efficient fibre. [This report](#) shows that an entry level fibre plan (operating at 50 Mbps) is up to 41 percent more efficient than internet access using copper lines (VDSL).
9. With the majority of telco emissions coming through electricity usage, the sector can 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.

But there are policy and regulatory barriers

10. There are currently policy and regulatory barriers that get in the way of telecommunications as an enabler of emissions reductions. These barriers are in the resource management system, which the Commission has identified as an issue in recommendation 10 of its draft advice.
11. 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. We are therefore supportive of proposed changes in the resource management Bills before Parliament, but have concerns that critical updates to telecommunications standards will not be built into the new National Planning Framework soon enough.
12. Like the Commission, we are concerned about the lack of integration in the planning system. The key issue for us is integrating infrastructure with land use development. Too often developments go ahead without any thought as to connectivity requirements. We also need to see roads treated as shared infrastructure corridors, making it easier to co-locate infrastructure with less environmental impact.
13. An approach to infrastructure funding that includes developers, and provides access to funding for both public and privately owned infrastructure is also needed. The

pace of housing development means it is not possible for network utility operators to fund new infrastructure in all places.

14. We therefore support the Commission's recommendations and findings concerning the planning system, including:
 - recommendation 10, to implement an integrated planning system
 - the conclusion that well integrated policy, planning and funding frameworks related to the built environment can help meet the second emissions budget and enable New Zealand to achieve its longer-term climate targets
 - the suggestion that transport and development projects for urban areas be implemented on a consistent and coordinated basis - as opposed to standalone corridors
 - the recommendation to integrate finance structures for infrastructure projects, with access to all four types of funding mechanisms: central government, local government, private and novel government funding mechanisms.

Climate change data and information

6. The Commission's draft advice notes that data and information are critical enablers to meeting emissions targets. We agree, and note that the high cost of accessing climate data and information is a barrier. We recommend the Commission advocate for more affordable access.

Ensuring resilience policies don't make climate change worse

7. We note that the Commission's policy framework (referenced in the draft advice), includes a role for the Commission in identifying policies that are not in alignment with Aotearoa New Zealand's climate goals, so that they can be amended or replaced.
8. Recent extreme weather events in the North Island have raised interest in the resilience of telecommunications infrastructure as a lifeline service. Although damage to telecommunications sites was limited, the extent of damage to electricity networks, and the time taken to restore mains power, meant many sites were down.
9. This has raised the profile of energy backup capacity, particularly battery storage, at telecommunications sites. Beyond telecommunications, as electrification will be a driver of decarbonisation across multiple sectors, we will become increasingly reliant on a single source of energy, and increasingly vulnerable, to prolonged outages.

10. We believe that an uncoordinated approach, with individual businesses investing in individual energy backup solutions, is unlikely to be the most economically or environmentally efficient solution, nor the most effective. A coordinated approach to infrastructure resilience, including investment in grid resilience and coordination of distributed energy resources (DER) could benefit all users and support resilience and decarbonisation in parallel.
11. The TCF is happy to answer any questions the Commission might have on the views set out in this submission. Please contact kim.connolly-stone@tcf.org.nz in the first instance.