Executive summary

New Zealand is one of the most dynamic economies in the OECD and has built an international reputation as a "green" country. It fares well in terms of environmental quality of life; the country's population enjoy easy access to pristine wilderness and good air quality. However, New Zealand's growth model, largely based on exporting primary products, has started to show its environmental limits, with increased greenhouse gas (GHG) emissions, diffuse freshwater pollution and threats to biodiversity.

A long-term vision for the transition towards a low-carbon, greener economy is necessary

There are likely trade-offs between continued reliance on exporting primary products and environmental and climate change mitigation goals. Expansion of dairy farming has led to more intensive use of agricultural inputs and water, nitrogen losses and higher GHG emissions. New Zealand should build on its well-developed knowledge and innovation system for exporting higher value export products and decouple growth from natural resource use. Nearly 10% of government research spending targets environmental research, the highest share in the OECD. This has helped New Zealand acquire a competitive advantage in several environmental technologies. It should continue to lead international research efforts to find solutions that reduce the environmental impacts of agriculture.

With four-fifths of power generation sourced from renewables and nearly half of GHG emissions coming from agriculture, New Zealand faces particular challenges to meet its 2030 climate change mitigation target under the Paris Agreement. The Emissions Trading Scheme, launched in 2008, will remain the cornerstone of the country's climate change policy, but it needs to be strengthened to provide a sufficiently high and stable price signal to influence investment decisions and unlock emission mitigation solutions. Pricing or regulatory measures are needed to curb GHG emissions from agriculture. Reducing transport-related emissions also demands additional efforts: freight and people travel mostly by road; the car ownership rate is the highest in the OECD; and the fleet is relatively old and inefficient. While electric vehicles can contribute to reducing emissions, there is a need for stricter vehicle standards and a coherent system of fuel and vehicle taxes and charges.

New Zealand's advanced natural resource management system could be made more effective

The 1991 Resource Management Act (RMA) is a remarkably comprehensive piece of environmental legislation. However, with more than 20 amendments since its adoption, it has doubled in size and lost some of its coherence. Some newly adopted national environmental standards and policy statements have strengthened the regulatory framework, but significant gaps remain. Local authorities have major environmental

management and land-use planning responsibilities, but have implemented the RMA requirements without national guidance in many policy areas. Resulting inconsistencies in the application of the RMA have generated an uneven playing field for economic entities and uncertainty in achieving desired environmental outcomes. New Zealand needs to conduct a comprehensive evaluation of implementation of the RMA by local authorities, establish nationally standardised requirements in several domains and provide better guidance to local authorities on how to carry out their permitting, compliance monitoring and enforcement responsibilities. It also needs to properly align the RMA with legislation on local governments and land transport infrastructure. There are ample opportunities for public participation in land-use planning and drafting environmental legislation, which need to be preserved. New Zealand needs to continue to build capacity of Maori communities to realise their consultation rights.

The much welcomed national freshwater policy reform needs to be swiftly and effectively implemented

Agricultural and urban stormwater run-off continues to put pressure on freshwater quality and ecosystems, and increased irrigation water has led to water scarcity in some areas. The adoption of the National Policy Statement for Freshwater Management in 2011 filled a long-standing policy gap; it encourages collaborative governance and stakeholder engagement and is a fundamental step to safeguard water quality and reduce water over-allocation. However, progress with implementation has been slow. Further government support is required to assist regional councils and local communities with setting ambitious goals, and to accelerate implementation of the reform to reduce investment uncertainty and the risk of further pressure on freshwater resources and ecosystems.

Economic instruments would help manage water quantity and quality more cost-effectively

New Zealand has introduced some economic instruments for water management, but there is significant scope for expanding their use. Resource rentals for water abstraction and pollution charges should be explored, as well as the wider use of trading mechanisms such as the Lake Taupo nitrogen market. Resolving Maori rights and interests in water will be necessary to move forward with the introduction of economic instruments and to improve water governance. Government grants and concessional financing for irrigation projects aim to reduce the vulnerability of pasture-based agriculture to variable rainfall patterns and to enhance water-use efficiency. However, they do not systematically consider the environmental and social costs of irrigation, and the benefits largely accrue to the agriculture and processing industries. There is a risk that financial support for irrigation further increases pressures on freshwater resources, especially if more efficient irrigation techniques simply allow an increase in irrigated volume or area. Natural capital accounting could help evaluate the costs and benefits of investment in irrigation projects and assist with resource management decisions.

New Zealand's green and liveable cities face increasing environmental pressures

New Zealand's cities feature large open green spaces, generally clean air and good water and waste services. However, population growth and urban expansion are posing increasing pressure on housing, land use, and wastewater and transport infrastructure, especially in

Auckland. With urban mobility relying heavily on private car use, congestion levels and transport-related GHG emissions are high. Further developing urban public transport systems could provide other options for commuters and improve environmental outcomes. More systematic use of user- and beneficiary-based instruments (e.g. road pricing and development charges) would help local governments finance investment in infrastructure and services, while encouraging more efficient use of resources and land, and containing urban sprawl.

Governance for sustainable urban development remains challenging

Many cities have adopted environmental performance objectives and some aim at a more compact urban development with better public transport accessibility. However, institutional fragmentation, a complex urban planning system, inconsistent local practices, policy misalignment and restrictive land-use regulations frustrate both urban growth and environmental protection objectives. In 2010, a major reform established an integrated metropolitan governance body for Auckland and required spatial planning for the region. This has helped improve institutional co-ordination and advance integrated planning for land use, housing, and transport infrastructure; it is a potential model for other cities.