

## Executive summary

Since 1996, New Zealand's GDP has grown by 30% while the population has increased by 9%. Real per capita GDP is nonetheless 11% below the OECD average. The country is dependent on international trade, with exports contributing 29% of GDP and natural resource-based exports (from agriculture, forestry, fishing and aquaculture) accounting for a large share. Services generate 66% of the value added in the economy, industry 24% and primary production 10%.

With relatively low population density, natural resource management-related issues continued to dominate the environmental policy agenda during the review period. A broad reform of environmental management institutions, which was catalysed by the 1991 Resource Management Act (RMA), overhauled the institutional framework for environmental planning and management, and continued the devolution of most policy implementation responsibilities to regional and territorial authorities (collectively known as local authorities). Concurrently, a major reform of local government consolidated the number of subnational authorities from 800 to 90. The full effects of these reforms on environmental management began to be felt only in the late 1990s, as their implementation took years.

Major sources of environmental pressure, including agriculture, transport, tourism and energy production and consumption, expanded during the review period. Energy intensity is now about equal to the OECD average, having fallen by 18% during the review period. While the intensity of water, fertiliser and pesticide use remains on the low side for OECD countries, the review period saw significant increases, with consequent growth in pressures on the environment.

To face these environmental management challenges, it will be necessary for New Zealand to i) strengthen national policy guidance, in the form of policy statements and national environmental standards, in the interest of promoting a level national playing field and improving regulatory efficiency; ii) further integrate environmental concerns into economic and sectoral decisions, particularly by using economic instruments to internalise environmental costs of economic activities; and iii) further develop international environmental co-operation.

This report examines progress made by New Zealand since the previous OECD Environmental Performance Review (1996) relative to its established domestic objectives and international commitments regarding the environment. It also reviews progress in the context of the OECD Environmental Strategy, and compared to the recommendations of the 1996 OECD review. Progress has stemmed from environmental and economic decisions and actions by central, regional and territorial authorities, as well as by enterprises, households and non-governmental organisations (NGOs). Thirty-eight\*\* recommendations are made that could contribute to further environmental progress in New Zealand.

---

### ***Implementing strengthened environmental policies...***

---

During the review period, local authorities largely assumed the additional environmental management responsibilities devolved to them under the RMA. No operational regional policy statements or regional coastal plans existed at the time of the 1996 OECD review, but by 2006 all regional authorities had issued policy statements, and all but 4 had coastal plans in place. Overall, local authorities have used the RMA-based resource consent system to manage point sources of pollution effectively. Investment in water supply and sewerage has led to better sanitation. Local councils increasingly apply user charges for landfilling and resource consent processing. A 1st set of national environmental standards (air quality) was issued in 2004; it includes 5 standards for ambient (outdoor) air quality, and 7 standards banning activities that discharge toxics into the air. Additional government funding since July 2002 and development of a robust case management system have improved the functioning of the Environment Court and halved the backlog of cases from the 2001 level. Since 2000, the central government has issued several national strategies to help guide local government in implementing the RMA, and has worked to improve public understanding of RMA processes. After the first national state of the environment report was published in 1997, a project helped define several sets of national environmental indicators. The Parliamentary Commissioner for the Environment has

---

\* The following objectives of the OECD Environmental Strategy for the First Decade of the 21<sup>st</sup> Century are covered in the Conclusions and Recommendations: maintaining the integrity of ecosystems (Section 1), decoupling of environmental pressures from economic growth (Section 2) and global environmental interdependence (Section 3).

\*\* See Annex.

provided independent, cross-sectoral analysis that has helped focus environmental sustainability efforts. Environmental expenditure (for pollution abatement and control, water supply and nature conservation) has increased in recent years, although it remains rather low (<1% of GDP).

Notwithstanding these achievements, there remains room for improvement in New Zealand's environmental management. The central government has so far provided little statutory guidance in the form of national standards and policy statements to local authorities regarding implementation of the RMA and monitoring of environmental conditions. Recent success in issuing national strategies concerning elements of environmental management is tempered by their non-binding nature, which makes their implementation vulnerable to changes in government. The Environment 2010 Strategy, adopted in 1995, was set aside a few years later. Differences in technical capacity, knowledge, skills and issues among local authorities translate into differences in environmental management, and businesses complain that the regulatory playing field within the country is not level. The policy mix remains focused on regulatory and voluntary approaches, with economic instruments underused. National-level aggregates of data and indicators on the state of the environment and environmental pressures are scarce, thus impeding efforts to strengthen outcome-oriented environmental policy-making. Despite recent progress, the polluter pays principle is not yet fully integrated into markets for environmental goods and services.

---

### ***...and integrating better environmental concerns in economic decisions***

---

Integration of environmental concerns into economic planning and development progressed during the review period. New Zealand has weakly decoupled its emissions of major air pollutants (SO<sub>x</sub>, NO<sub>x</sub>, NMVOCs) from its economic growth, and has lowered the energy intensity of its economy by 18% since 1996. Cross-subsidisation of electricity has been eliminated and higher end-user prices have strengthened incentives for conservation. Renewable energy sources constitute 30% of the energy supply, higher than in most OECD countries. Standards for motor vehicle fuel quality, issued in 1988, were recently revised. Environmentally harmful subsidies in the agriculture and fishery sectors are among the lowest in the OECD. The management of fisheries through a system of individual transferable quotas has helped avoid stock collapses and served as an example for other OECD countries. The 2003 Sustainable Development Programme of Action defined a national approach to sustainable development and set out overarching principles and goals, thus giving needed guidance to territorial authorities. Supporting objectives were formulated in several national strategies (e.g. on biodiversity, waste, energy efficiency) issued since 2001. Codes of practice established by business associations in several sectors (e.g. tourism, fisheries, forestry) are facilitating best-practice sharing.

Despite this progress, New Zealand faces a number of challenges in integrating environmental concerns into economic activities. No strong decoupling of environmental pressures from GDP growth has been observed. Air emissions from power plants and mobile sources increased significantly during the review period. The use of nitrogenous fertiliser has outstripped GDP growth since 1996, with consequent increases in run-off to surface waters. The rate of car ownership has grown very rapidly, and is now one of the highest among OECD countries; little has been done to manage demand for private road transport in favour of less polluting modes. Although still good overall, air quality has deteriorated in some urban areas, due mostly to emissions from motor vehicles, home heating and industry. Economic and fiscal instruments (e.g. taxes, charges, deposit-refund programmes) are little used to internalise the external environmental costs of sectoral activities, although the country's commitment to using market-based solutions is deep rooted. Sustained growth in demand for electricity has led to increased use of fossil fuels for power generation, with consequent increases in greenhouse gas (GHG) emissions

---

### ***International commitments met...***

---

New Zealand continues to give high priority to international co-operation for environmental protection, both to reduce pressures on shared natural resources and to maintain a level playing field in the context of expanding international economic integration and competition. Since 1996, New Zealand has ratified and begun implementing a number of international conventions related to marine issues, as recommended in the previous OECD review. It has also worked actively to promote international co-operation for the conservation of biodiversity and seabirds. A range of measures has been introduced to comply with the UN Fish Stocks Agreement regarding flag state control of fishing vessels on the high seas, and the industry has initiated negotiations with the central government to ban destructive fishing practices in one-third of New Zealand's offshore waters. The country has met all of its port state control requirements under the Tokyo Memorandum of Understanding. Concerning ozone-depleting substances, New Zealand has complied fully, and often before international deadlines, with phase-out timetables established under the Vienna Convention's protocols. Surveillance at the borders for illegally transported CITES-protected items is strong, although fines and sanctions are sometimes too low to be dissuasive. Within the South Pacific region, New Zealand has provided technical assistance on trade and environment and marine conservation issues. Environmental considerations are systematically taken into account in official development assistance projects. Concerning the Antarctic, New Zealand produced the first state of the environment report of the Ross Sea Region and worked with the

United States to establish the first Antarctic Specially Managed Area. Regulatory requirements for seabird scaring devices on fishing boats have helped reduce seabird mortality, although more than 5 000 seabirds per year are still killed as by-catch in New Zealand waters.

---

**...and to be met.**

---

Despite these achievements, there is a need for further progress on several fronts. The GHG intensity of the New Zealand economy is the fourth highest in the OECD, and GHG emissions continued to grow during the review period. A domestic target for 2000, concerning reduction of CO<sub>2</sub> emissions, was not met. Carbon sequestration in forests, a key factor in New Zealand's GHG accounting since 1990, is likely to diminish over time as planted forests reach maturity, and government retention of forestry carbon sink credits may have contributed to the weakening of incentives to expand plantations. The suspension of the climate change policy package in 2005 (including its planned carbon tax) has created great uncertainty about how New Zealand will meet its Kyoto target. The country has acquired relatively little experience using Kyoto flexible mechanisms, although their use will likely be required to meet the Protocol target. The energy intensity of the industrial sector is high, and the carbon intensity of the electricity supply, although still low, is increasing. Low taxation of motor vehicle fuels (or nonexistent in the case of diesel) translates into relatively low prices at the pump, giving little incentive for fuel conservation. To meet the phytosanitary requirements of importing countries, New Zealand still depends heavily on methyl bromide (a strong ozone-depleting substance) for the fumigation of export forest products and strawberries. Development of a national ocean policy has been slow, and the management of some high seas fish stocks remains challenging. Consideration should be given to increasing domestic or international protection of certain endemic insect species which are heavily affected by international trade.

To purchase the **OECD Environmental Performance Review of New Zealand** and other OECD publications, visit the OECD Online Bookshop at <http://www.oecd.org/bookshop> or send an email to [sales@oecd.org](mailto:sales@oecd.org). The conclusions and recommendations are also available in Dutch.

For more information about the OECD's series on countries' environmental performance, contact :  
Christian Avérous, Head, Environmental Performance and Information Division, Environment Directorate  
Email - [christian.averous@oecd.org](mailto:christian.averous@oecd.org); Fax : +33 1 45 24 78 76

For more general information about the OECD Environment Programme, 2001-2002, visit our website at:  
<http://www.oecd.org/environment> or send an Email to [env.contact@oecd.org](mailto:env.contact@oecd.org)

Annex: 38 Recommendations\*

<b>Environmental Management</b>	<ul style="list-style-type: none"> <li>▪ accelerate the establishment of <u>national environmental standards</u> (e.g. for freshwater, waste and contaminated land) and <u>national policy statements</u> (e.g. on coastal waters and freshwater);</li> <li>▪ review systems for <u>charging users for waste and waste water services</u>, identifying opportunities to strengthen economic incentives for resource conservation and efficiency;</li> <li>▪ reinforce the commitment to <u>outcome-oriented environmental policies</u>, ensuring that information and data needed to assess policy effectiveness and efficiency are regularly collected and analysed;</li> <li>▪ strengthen <u>monitoring of air and water quality, and waste generation and treatment</u>, assuring baseline consistency of methods used at local level to facilitate data aggregation and periodic reporting of key environmental indicators at national level;</li> <li>▪ assure the effectiveness of <u>voluntary agreements</u>, requiring clear environmental performance targets, regular reporting and third-party auditing.</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>▪ issue a <u>national policy statement on freshwater quality</u>, establish <u>national environmental standards</u> for drinking water sources, and strengthen national approaches for protecting receiving water quality;</li> <li>▪ introduce <u>market-based instruments</u> to internalise the environmental costs of non-point source discharges from agriculture (e.g. run-off of fertilisers, urine from grazing stock);</li> <li>▪ strengthen and expand the use of <u>water demand management measures</u> (e.g. volumetric metering, pricing for full recovery of water management costs, water efficiency standards);</li> <li>▪ further expand the <u>knowledge base concerning sustainable abstraction levels</u> of key aquifers, and strengthen regulatory control of total allowable abstraction;</li> <li>▪ consider introducing <u>cap-and-trade systems</u> and other regulatory and market-based instruments to rationalise the allocation of water abstraction rights in water-stressed regions.</li> </ul>
<b>Waste</b>	<ul style="list-style-type: none"> <li>▪ develop national regulations specifically concerning the <u>management of hazardous waste</u> and introduce mandatory and comprehensive systems for tracking its transport, treatment and disposal;</li> <li>▪ expand and upgrade <u>waste treatment and disposal facilities</u> (e.g. landfills, hazardous waste platforms, waste water treatment plants), promoting co-operation among territorial authorities where this will lead to economies of scale, and applying the polluter pays principle;</li> <li>▪ increase regulatory support for <u>recovery or recycling</u> (including deposit-refund systems) of priority waste, such as end-of-life vehicles and electronic goods, building on the extended producer responsibility principle;</li> <li>▪ clarify liability arrangements for the <u>remediation of contaminated sites</u>, and develop financing mechanisms that apply the polluter pays principle as fully as possible.</li> </ul>
<b>Nature and Biodiversity</b>	<ul style="list-style-type: none"> <li>▪ issue <u>national policy guidance concerning conservation of biodiversity</u> on private land, and ensure that nature conservation objectives are fully reflected in spatial and coastal plans;</li> <li>▪ reinforce protection of <u>wetlands and freshwater ecosystems</u> and consider introducing economic or fiscal instruments to curb pressures from agriculture and urbanisation;</li> <li>▪ strengthen and harmonise <u>monitoring of major pressures on biodiversity and ecosystems</u>, both within and outside protected areas;</li> <li>▪ further develop partnership approaches to conserving <u>biodiversity on private land</u>, prioritising conservation of ecosystems that are under-represented in public conservation lands and waters;</li> <li>▪ develop and implement measures to mitigate <u>environmental pressures associated with increasing tourist numbers</u> and tourism concessions on conservation lands and waters.</li> </ul>
<b>Integration environment economy</b>	<ul style="list-style-type: none"> <li>▪ strengthen and extend measures to <u>decouple environmental pressures</u> from economic growth, where possible using market-based approaches to ensure that environmental costs are reflected in prices;</li> <li>▪ further develop <u>economic and regulatory measures</u> to reduce diffuse water and air pollution from agriculture, tourism and transport;</li> <li>▪ further strengthen measures to promote <u>energy efficiency</u> in the transport, energy and industrial sectors (e.g. energy taxation and pricing, product standards, building codes);</li> <li>▪ augment measures to encourage improved <u>emission performance of motor vehicles</u> and to internalise the environmental costs of road transport (e.g. fuel taxes, fuel quality standards, inspection of in-use motor vehicles, road user charges);</li> <li>▪ ensure that <u>national sustainable development objectives</u> are reflected in territorial development plans and resource consents.</li> </ul>
<b>Integration environment-agriculture - forestry</b>	<ul style="list-style-type: none"> <li>▪ further apply <u>sustainable land and forest management</u> approaches (e.g. environmental farm planning, nutrient budgeting, application of sustainable forest management practices) and assess their effectiveness in reducing pressures on the environment;</li> <li>▪ strengthen compliance with the <u>environmental conditions set in resource consents and permits</u> (e.g. concerning disposal of dairy effluents, timber harvest in private indigenous forests) through increased inspection and enforcement;</li> <li>▪ define and implement measures to reduce net <u>GHG emissions from the agriculture and forestry sectors</u>, prioritising those that also meet other environmental objectives (e.g. flood protection, nature conservation) so as to capture “win-win” opportunities;</li> <li>▪ assure independent evaluation of the <u>effectiveness of voluntary agreements and covenants</u> in reducing environmental pressures from agriculture and forestry activities.</li> </ul>

\* These Recommendations were formally approved by the OECD Working Party on Environmental Performance.

<b><i>Integration environment-social</i></b>	<ul style="list-style-type: none"><li>▪ expand availability of quantitative indicators and time series data related to <u>environmental quality</u>, assuring policy relevance and public access;</li><li>▪ develop and implement a national <u>environmental health plan</u> (as called for in the national Health Strategy), setting quantified targets for reducing related public health costs and for minimising differences in exposure among various population groups;</li><li>▪ expand measures to reduce health risks associated with <u>poor indoor air quality</u>, substandard housing and unsafe heating;</li><li>▪ strengthen measures to prevent human exposure to <u>harmful levels of pesticides</u> through pesticide spray drift, residues in food and improper disposal;</li><li>▪ continue to promote the integration of <u>environmental education</u> in school curricula and in occupational training.</li></ul>
<b><i>International co-operation</i></b>	<ul style="list-style-type: none"><li>▪ adopt and implement a clear and comprehensive <u>package of climate change policy measures</u> (e.g. economic instruments, flexible mechanisms) to meet New Zealand's international commitments, giving consideration to setting sectoral targets; develop strategies for future climate protection commitments in line with guidelines of the Intergovernmental Panel on Climate Change;</li><li>▪ give consideration to allocating <u>carbon sink credits</u> and liabilities to forest owners, and ensure that the agriculture sector reduces its GHG emissions through low-cost practice changes and efficiency gains (e.g. energy efficiency improvements, increased biogas recovery);</li><li>▪ review and adjust fines and sanctions for smuggling of <u>CITES-protected species</u> or derived products, to ensure that they are dissuasive relative to the potential gains from smuggling;</li><li>▪ finalise and implement the <u>ocean policy</u> and pursue the further expansion of marine reserves and the strengthening of regional co-operation for the management of <u>high seas fish stocks</u>;</li><li>▪ increase levels of <u>official development assistance</u> and continue to mainstream environmental concerns into ODA.</li></ul>