NEW ZEALAND

CONCLUSIONS AND RECOMMENDATIONS*

New Zealand's economy is highly dependent on its natural resources, which contribute to a large fraction of its exports. In order to ensure sustainable economic growth, these natural resources must be carefully managed for the benefit of present and future generations. The image of a "green and clean" country helps in the export of meat, wool, timber and fish, and attracts foreign tourists. To protect such an image, as well as the environment, New Zealand also needs to take strong measures to curb pollution, to manage the landscape and to protect its national parks and forests. This effort is made easier by the low population density, the absence of transfrontier pollution and the relative lack of old industrial zones with pollution legacies.

In the second half of the 1980s, successive governments introduced radical economic and institutional reforms leading to a more open economy with less involvement of central government, fewer regulations and fewer protectionist measures. The new environmental approach of New Zealand was introduced in 1991 and is still under development. It relies on legislation that establishes general goals to be achieved, along with principles and procedures to be applied, with clearly defined roles for central and local government. Mechanisms exist for central government to further refine the policy framework or to establish national environmental standards where these are justified. Local government has significant policy and implementation responsibilities for environmental management in New Zealand. Subnational authorities and their environmental responsibilities were both dramatically redefined in the early 1990s; these changes were an evolution of previous long-standing responsibilities for environmental management in New Zealand. Overall, environmental policies have undergone major changes and are still in transition.

The challenge of implementation of these policies lies in achieving the goals and targets New Zealand has set for itself, by mobilising the various levels of government and by using a wide array of policy instruments. Concerning international environmental issues, regional environmental interdependencies are limited but global environmental issues are very significant in New Zealand because of the importance of international trade and the strong public concern for global issues.

This OECD report sets out the baseline for assessing future environmental progress and examines the environmental performance of New Zealand in three major areas:

i) integrating environmental and economic decisions;
ii) implementing environmental policies;
iii) international co-operation.

In each of these areas, the extent to which government policy objectives are being met has been assessed. This assessment includes both domestic objectives and international commitments, and is based on environmental effectiveness and economic efficiency criteria. A number of recommendations are put forward that could contribute to further environmental progress in New Zealand.

1. Integrating Environmental and Economic Decision Making

The interface between the environment and the economy is dominated by the economic and public sector reforms that took place after a recognition in the early 1980s that the New Zealand economy was grossly over-regulated and inefficient, to the extent that credit from international financial sources was becoming increasingly expensive. The economic reforms focused on encouragement of competition through deregulation and the removal of subsidies and other government intervention on corporatisation and, in some cases, on privatisation as government withdrew from its former commercial activities. The state sector reforms focused on clarification of the roles of agencies to remove conflicting objectives within individual agencies: new agencies were formed to separate policy, regulatory, operational and commercial functions. The reforms also focused on specification of objectives and on accountability of performance.

As a result, sectors such as agriculture, energy and industry underwent major transitions and now operate principally on the basis of lightly regulated market mechanisms. Although environmental concerns had little place in the restructuring process, the resulting changes have had and continue to have both positive and negative environmental effects.

* Conclusions and Recommendations approved by the Group on Environmental Performance at its May 1996 meeting.

Integration and sustainable development

New Zealand has developed a coherent approach to safeguarding its natural resources in the Environment 2010 Strategy and the Resource Management Act (RMA), both of which focus on integrating environmental, economic and social concerns in a single process. The RMA's approach of protecting ambient environmental quality rather than regulating specific activities or pollutant discharges is fully consistent with New Zealand's emphasis on lightly regulated markets rather than extensive government control of private sector activities. The RMA places much environmental policy and planning activity with regional and local authorities. This is consistent with the principle of subsidiarity, which suggests that decisions should be made as close to the affected populations as possible. New environmental policies will further benefit from a strong tradition of local planning.

To be effectively implemented, New Zealand's ambitious overall strategy may require additional government effort. While local control is desirable for flexible, responsive environmental management, local authorities have been slow to carry out the many planning tasks that precede full implementation of the RMA. This is partly due to changes in which more than 700 local authorities were replaced by 12 regional councils, 74 territorial councils and four unitary authorities. While the ambient standards and guidelines are powerful in principle, they are also difficult to apply. In particular, they require a large amount of physical and economic data on the environment and a solid understanding of the economy-environment interface, neither of which is yet adequate in New Zealand. Consequently, many local authorities are still issuing resource consents based on technology or discharge standards. Additionally, the realisation of many environmental objectives and the internalisation of externalities depend very much on the RMA resource consent process: not only protection of water and air quality, but also biodiversity, habitat management, groundwater and climate change. In the absence of more detailed policy guidance from the central Government, local authorities may be unable to factor so many different considerations into the issuing of resource consents. The quasi-absence of quantified and dated national objectives and the many gaps in national environmental data make accountability elusive at national level.

It is therefore recommended that consideration be given to the following proposals:

- adopt more concrete goals and quantified targets with deadlines for environmental policy at all levels of government, taking into account pertinent data on the state of the environment;
- strengthen central government support to implementation of the RMA by providing local authorities with further policy guidance in selected areas, moving rapidly to strengthen data on the environment, and carrying out further research on the impact of human activity on the environment and how it can be minimised or mitigated;
- strengthen the effectiveness of the Parliamentary Commissioner for the Environment, for instance by increasing the number of studies carried out each year, as one way to improve implementation of the Environment 2010 Strategy;
- ensure a high degree of co-ordination and collaboration within and among all levels of government, the private sector and communities in order to make the RMA work; make greater use of multi-stakeholder decision-making processes and voluntary agreements so as to encourage constructive conflict resolution and facilitate the work of the Planning Tribunal.

Sectoral integration: energy

During the 1980s New Zealand started to take action to reduce the environmental impact of rapidly growing energy production and use. Since the early 1990s, the country has explicitly incorporated environmental protection, energy efficiency and the internalisation of environmental costs into the goals of its energy policy. It has created the Energy Efficiency and Conservation Authority and a substantial fund for encouraging household energy efficiency. For some time it has relied considerably on renewable energy sources (25 per cent); it is committed to increasing their use further by removing regulatory and institutional barriers to the use of renewables. Its air quality is generally good, except in certain areas, such as some urban centres. It has decided to ban the use of leaded gasoline from 1996.

New Zealand must ensure that these policy intentions and related actions are implemented vigorously and provide results. The results will need to be monitored and adjustment actions will need to be taken where justified. The reliance on voluntary compliance and public education may not be sufficient to move the country towards more environmentally sound energy use. Concrete actions are still required to internalise externalities in energy production and use and to eliminate remaining electricity subsidies. The lack of clearly verifiable targets and data by which to measure achievements makes it difficult to monitor progress in implementing the country's objectives. There are no environmentally based controls on vehicle emissions in New Zealand. The growth in energy intensity until recently

(the highest among OECD countries: up 39 per cent in energy supply per unit of GDP and up 26 per cent in energy consumed per unit of GDP, from 1980 to 1992) and relatively low energy prices (including the lowest electricity prices among OECD countries) leave much room for progress without significantly affecting the competitiveness of New Zealand's industry and products. Overall, much work remains on integrating environmental concerns into decisions concerning the energy sector.

It is recommended that consideration be given to the following proposals:

- continue to use and expand the use of ambitious quantitative targets for the country's environmentally related energy objectives, particularly with respect to energy efficiency, car emissions and greenhouse gas emissions; choose dates by which these targets are to be reached, specify who is responsible for achieving them and indicate how the public can verify their accomplishment;
- continue and step up efforts to improve energy efficiency in industry, transport, residences and commerce;
- pursue the wholesale electricity market reform and ensure that electricity pricing reflects all costs, including environmental costs; encourage open access to information about electricity production costs, supply and pricing;
- strengthen measures to internalise external costs of energy activities; this may involve stronger central government direction and technical assistance to regional councils to enable them to implement ambient air quality guidelines and help achieve climate change goals, and strengthened effectiveness and more openness in the use of environmental impact assessment of energy projects and programmes;
- introduce measures to control motor vehicle emissions: as soon as the two transport studies are completed, set firm dates for action to control air pollution and greenhouse gas emissions and to require drivers to assume the full social costs of their choice of transport mode.

Sectoral integration: agriculture

The impact of agricultural reform on the environment is generally considered to be positive in the short run. As a result of the elimination of most subsidies, there were reductions in the use of fertiliser, in the number of sheep and in the use of marginal land. Consequently there has been less pressure on water quality in rivers and less emission of greenhouse gases. Change in agricultural practices has led to a more diversified land use pattern through the expansion of forestry plantations and agroforestry onto farm land. The concept of sustainable land use has been promoted and widely adopted. In parallel, there has been widespread acceptance of greater individual responsibility for sustainable land management. The RMA is providing a good framework for the integrated economic and environmental management of land and water resources. Agricultural research resources have been redirected to better address environmental concerns and individuals have accepted greater responsibility for the management of risk associated with natural hazards such as droughts and floods, leading to more rational stocking rates and reduced land degradation. Export of agricultural products has not been affected by environmental concerns.

Because many of the environmental benefits of the agricultural reform process coincided with a short-term fall in agricultural production caused by a decline in prices on world markets, the net environmental effects of the reform in the longer term are less clear. Agricultural production and fertiliser use have started to grow again. The reform has led to a reduction of public intervention to protect land from natural hazards or to manage pests. Because of intensive agriculture on lowlands and the very large livestock population, water pollution is still a serious problem in a number of areas, and half of New Zealand's emissions of greenhouse gases come from agriculture. Given the lack of targets and indicators for environmental improvement, the impact of recent achievements cannot be assessed clearly. While the RMA is not yet being fully implemented, it is essential for regional and local councils to develop interim objectives concerning sustainable land management that are focused and result-oriented. The biodiversity, habitat and conservation values of remnants of indigenous vegetation on farm land, including riparian vegetation, are still threatened and should receive greater attention. Pest control management programmes, especially for possums, are not yet fully co-ordinated in some areas.

It is recommended that consideration be given to the following proposals:

- seek further integration of environmental concerns (soil erosion, water resource management, impact of agrochemical use and animal wastes, emission of greenhouse gases, protection of wildlife habitats) into actions taken by the agricultural sector;
- increase emphasis on mitigating the environmental effects of traditional forms of land use, particularly pastoral agriculture;

- develop the use of economic and other instruments, in order to internalise damages created by polluting activities related to agriculture;
- accelerate development of indicators of land and water quality in order to monitor the results of agricultural management and assess the feasibility of new approaches to environmental management;
- reassess the research and extension process with regard to agriculture and the environment so as to improve the access of land holders and regional and district officers to technical and scientific information;
- maintain efforts in possum and rabbit control and find alternatives to the use of Compound 1080.

2. Implementing Environmental Policies

Cost-effectiveness in pollution abatement policies

In the RMA and other environmental policies New Zealand is placing emphasis on using market mechanisms to support its policies, on internalising externalities and on implementing the polluter pays and user pays principles as much as possible. The result-oriented approach has great merit from an economic standpoint and is very reasonable from an environmental standpoint, provided that results are really achieved and goals are met.

In this context, ensuring that prices reflect full environmental costs is essential if resource users are to factor in the full social costs of their resource use and consumption decisions. The reliance on market mechanisms is not likely otherwise to be adequate to manage the environment. Provision of environmental data to the public (and not only to those who buy them) is also an essential element of a democratic debate on ways to manage the environment. While public participation is a strong feature of New Zealand environmental management practice, it may be adversely affected by imposition of costs on the losing party in RMA consent disputes.

Economic instruments are a mechanism for cost internalisation; they could be used on a wider scale in New Zealand. In particular, pollution charges, water charges, energy taxes and waste charges could be strengthened. The major features of overall expenditure for pollution abatement and control in New Zealand are very poorly known, as is the source of the funding; thus it is impossible to assess whether the economic rationality of the new policy is achieved in practice. There is a need to develop concrete targets for environmental policies, with good monitoring of progress achieved as well as detailed examination of the costs involved. The current lack of targets and of economic and physical data is an impediment to pursuing cost-effective environmental policies. This approach ought to be corrected.

To further improve the cost-effectiveness of environmental policies, it is recommended that consideration be given to the following proposals:

- implement further the polluter pays and user pays principles through full application of the RMA and through use of economic instruments and appropriate water, electricity and road pricing;
- tailor environmental monitoring and reporting systems to the implementation needs of the RMA and ensure that they are nationally consistent; extend systems to include information about economic aspects of environmental policies;
- give high priority to completion of the first national state of the environment report and the development of a set of environmental indicators; appropriate Maori-inspired indicators should also be developed to support protection of Maori values;
- take additional measures to ensure that environmental organisations and community groups have opportunities to participate in environmental decision making; in particular, ensure that any costs they bear are not impediments to participation in resource planning and consent legal procedures.

Conserving nature

Among OECD countries, New Zealand has one of the highest proportions of land area (30 per cent) included within a protected area system. It is a leader in the management of parks and protected areas. Public support of and appreciation for protection of the natural environment are high and as a result there is active community participation in issues associated with the natural environment and tourism in protected areas. Logging of indigenous forests outside protected areas has been significantly reduced by reforms in the forestry sector, an amendment to the Forests Act in 1993 that requires the approval of a sustainable management plan for each property where it is intended to cut indigenous forest, and two voluntary agreements between private forestry interests and

environmental groups regarding good environmental practice in plantation forestry. There is a commitment in the Environment 2010 Strategy to prepare a national strategy to maintain indigenous forests. With reform of the agricultural sector, the withdrawal of much marginal land from productive use has reduced pressures on biodiversity. There has been considerable success in controlling some pest species (e.g. rats), and considerable efforts are being made to control other pests (e.g. possums).

Exotic plants and animals endanger indigenous populations, particularly of birds such as the kiwi. Use of the RMA to achieve ecosystem management goals requires better data and skills. More effective ecosystem management would require particular attention to reinforcing the ecological viability of remnant areas, establishing and strengthening links and corridors and managing effects of external activities on protected areas. The programme to survey and identify unprotected natural areas and consequent implementation of protective measures is so slow that areas of biodiversity significance may be lost before it is completed. There has been only limited success in developing a comprehensive system of marine and estuarine protected areas. As a result of budgetary constraints and increased responsibilities, the capacity of the Department of Conservation to undertake effective management of protected areas has been affected, potentially threatening resource protection and visitor services. Recent decisions provide funding to comprehensively address these issues. Effective mechanisms to ensure that some of the economic benefits of tourism are applied to the management of protected areas have not been adequately developed. While the fisheries management programme provides a sound framework for sustainable use of fish stocks, problems still exist with some fish stocks at levels below that which will support the maximum sustainable yield.

It is recommended that consideration be given to the following proposals:

- expedite the programme for survey and assessment of unprotected natural areas and provide for more effective implementation of programmes resulting from the assessments;
- encourage effective ecosystem management irrespective of land tenure and use;
- identify and reserve an adequate and representative sample of marine ecosystems within a system of marine and estuarine protected areas;
- develop opportunities for greater Maori ownership and/or management of protected areas;
- develop a national policy statement on biological diversity;
- ensure that the total allowable commercial catches for fisheries are set to move stocks to scientifically based assessments of maximum long-term sustainable yield.

Managing water resources

Thanks to a very low intensity of water use and low overall levels of pollutant discharges from point sources, New Zealand's rivers, lakes and groundwater generally present very high water quality. A long-standing tradition of catchment-based integrated land and water management planning has been integrated with all other environmental management under the RMA. The treatment of municipal and industrial waste water appears to broadly satisfy the goal of the Environment 2010 Strategy to ensure that "aquatic life is not significantly affected" by discharges. The greater accountability resulting from environmental and local government reforms has improved compliance with resource consents. There has been good performance in protecting rivers and lakes of outstanding natural value. Over the last decade, recognition of Maori values in respect of water has increased considerably and the participation of Maori stakeholders in water management decisions has become part of normal practice, even if it is difficult at times to reconcile differing value systems.

However, clean and plentiful water resources cannot be taken for granted. Erosion from steep grazing lands and the effects of intensive agriculture on lowland streams, rivers and aquifers, involving both point and diffuse sources, necessitate an integrated response from water managers and the farming sector as proposed in the Government's recent sustainable land management initiative. Existing monitoring and reporting systems cannot provide adequate information about the results of water management activities and it is not clear whether current conditions are stable, improving or deteriorating. Water planning and management need to provide better focus for managers and stakeholders alike by setting measurable objectives and obtaining good compliance with permits. Concerning public water supplies, insufficient attention has been paid to leakage control and demand management practices (including appropriate pricing mechanisms), even in areas where supply systems are stressed during droughts. Drinking water quality is not always satisfactory, particularly for the smaller supplies.

It is therefore recommended that consideration be given to the following proposals:

- pursue recent initiatives and strengthen measures to deal with point and diffuse sources of livestock waste from intensive agriculture;
- develop receiving water standards and measurable targets (e.g. reduction of pollutant discharges, compliance with water and discharge permits) for use in water management plans;
- continue to pursue good compliance with permit conditions;
- implement demand management practices, including pricing mechanisms that respect the user pays principle, particularly where water resources are scarce;
- strengthen drinking water quality regulatory procedures;
- continue to strengthen consultation with Maori stakeholders;
- encourage greater co-operation among regional councils to enable them to share costs and expertise;
- pursue flood plain management approaches to reduce communities' vulnerability to flood damage.

Managing waste

Waste management is mostly the responsibility of regional and local authorities, which have issued policy statements in this area. These bodies are committed to the waste hierarchy. The Ministry for the Environment has produced environmental guidelines for improving waste management. Recycling of post-consumer waste is organised in most cities. Waste minimisation is being sought through voluntary agreements (e.g. in the oil industry and for packaging) and increased composting of green waste. Strong efforts have been made to identify contaminated sites, and initial work is under way to clean up most hazardous sites.

New Zealand lacks comprehensive legislation dealing specifically with both waste and hazardous waste. However, clear responsibilities for this are set down in recent legislation. The whole area of waste management does not seem to be a priority for the Government. As a result, waste issues are poorly analysed and, in many cases, disregarded. Waste disposal relies almost exclusively on landfills and there are no adequate dedicated facilities for the treatment of most hazardous waste. Waste management policies and programmes are hampered by a lack of reliable, comprehensive information on sources of waste and waste generation at national level. Regional efforts need to be co-ordinated and harmonised. Efforts are also needed to assess: i) the environmental costs associated with improper waste disposal, and ii) methods for better monitoring and regulation of landfill disposal practices.

It is recommended that consideration be given to the following proposals:

- develop a national waste information database, including definition and classification of different kinds of waste;
- increase the involvement of the central Government in assisting regional authorities with guidelines on waste management practices, especially regarding assessment of environmental effects;
- implement specific legislation for the control, treatment and disposal of hazardous waste; take steps to facilitate the sitting of dedicated treatment facilities within the country and negotiate disposal agreements with other OECD countries, as need be;
- promote cleaner production and recycling, including waste reduction at source, creation of recycling facilities within the country or promotion of exports to other countries, by securing markets for recycled products;
- improve landfill disposal practices by tightening disposal standards, providing for the collection and treatment of leachate and closing substandard landfills;
- introduce disposal charges, taking account of present real and future landfill costs;
- clean up those contaminated sites that present the highest risks of contamination to waterways and aquifers.

3. International Co-operation

New Zealand's international environmental policy has improved considerably in the past ten years. This policy, which takes into account both resources and pollution issues, has been conducted and co-ordinated with the involvement of many ministries and has achieved good results. New Zealand has promoted full protection of Antarctica and of whales and marine mammals in the South Pacific Ocean. It has worked towards bans on drift-net fishing and supports sustainable management of straddling fish stocks. It has taken many domestic measures to protect endemic species, indigenous forests and sites of international significance. Concerning protection of the sea, New Zealand has supported bans on dumping of radioactive waste, as well as further international co-operation on land-based marine pollution. To enforce international safety rules, all relevant ships are now inspected. Imports of

ozone-depleting substances have been banned in line with international commitments. Net emissions of greenhouse gases are declining. Co-operation with South Pacific island states has been strengthened and official development assistance to those states has increased while the environmental component of aid has been reinforced, taking into account differences in cultural and environmental characteristics. Economic instruments have been used to promote phasing out of CFCs, inspection of ships and building up of oil spill response equipment.

These significant achievements have for the most part been accomplished rather recently, and will require further efforts for full implementation and funding. In particular, much work remains to be done on marine resources, marine pollution and maritime transport matters. The policy of setting up a nuclear free zone in the South Pacific has taken time to be entirely effective. Emissions of CO_2 are growing at a fairly high rate and there are still many unanswered questions on the actual amount of enhancement of carbon sinks. Projected gains in energy efficiency do not appear very significant. Official development assistance has been declining and as a percentage of GNP is below the OECD average. Despite considerable success in altering production patterns in agriculture by eliminating most subsidies, price distortions remaining in the energy and transport sectors affect, among other things, the effectiveness of climate change policies. As a result of unchanged consumption patterns, pressure on the environment is likely to grow, especially in urbanised areas.

It is recommended that consideration be given to the following proposals:

- ratify and rapidly implement international conventions related to protection of the marine environment (see Annex III);
- fund activities aimed at protecting coastal waters and marine resources and at ensuring oil spill preparedness;
- increase the role of the Ministry for the Environment concerning protection of the marine environment;
- examine more closely the fate of existing CFCs in the domestic context and advance work on methyl bromide;
- introduce the foreseen carbon tax if New Zealand will not achieve its commitments without further policy measures and start preparing additional legal measures to implement its climate change policy, including, as need be, a national policy statement on climate change;
- work out ways and means in New Zealand to promote experimenting with joint implementation in the area of climate change and to monitor closely trends in emissions and sink enhancement;
- develop a national biodiversity action plan;
- increase the level of environmental aid to South Pacific countries;
- give full recognition to the polluter pays principle, the user pays principle and the precautionary principle as basic principles of domestic environmental law.