

March 2008

Report 3

2058

Supporting Local

Government

Existing initiatives
for sustainable
development


Project 2058: Report 3

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This report forms part of *Project 2058*,
the Institute's flagship project.

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Wendy McGuinness
March 2008

Note: This report is one of a number published by the Sustainable Future Institute (now the McGuinness Institute) as part of *Project 2058*. Throughout 2013 these reports are progressively being reissued, substantially unchanged, under the McGuinness Institute imprint.

Preface

*Tell me and I'll forget.
Show me and I may remember.
Involve me and I'll understand.*

Chinese proverb

Creating a sustainable nation clearly requires a national approach. To achieve progress New Zealand will need to ensure local and central government work in unison. For a sustainable nation to become a reality, both central and local government need to lay out a persuasive case for New Zealanders to change footprint decisions, such as those relating to purchasing, waste management, transportation and farming. But to what extent have we made progress towards developing a national approach?

In the past, the key link between central and local government has been legislation, but other linkages do exist, and in our view these now require significant strengthening. Central government has put in place initiatives to progress and support sustainable development, but to date we have been unable to find a strategy that explains how these initiatives are coordinated or, more importantly, how local and central government are working in partnership to lead change across the country. Stephen Knight-Lenihan quite rightly describes our current place in the process as tackling wicked problems, coping with messy processes and accepting clumsy solutions. In order to move forward, Sustainable Future believes three things need to happen.

Firstly, local government should become more actively involved in central government initiatives. This should occur at three levels: agreeing the problem (the goal), deciding the process, and reporting back on the outcomes.

Secondly, central government, in partnership with local government and other stakeholders, should prepare a New Zealand-wide strategy on sustainable development (what the United Nations calls a National Sustainable Development Strategy [NSDS]) to outline how this vision of a sustainable nation can become a reality. For more on this, see the Institute's Report 1: *A National Sustainable Development Strategy: How New Zealand Measures Up Against International Commitments* (Sustainable Future, 2007a).

Lastly, individuals and organisations conducting central government initiatives should continue to seek the involvement of local government and the wider community.

Wendy McGuinness

Executive Summary

This paper is a stocktake of key central government information and other support mechanisms relating to the creation of sustainable development strategies, policies and programmes, all of which may impact on local government.¹ It focuses particularly on initiatives developed between 2005 and 2007.

The objective is to describe the range of sustainable development-related activities that many working in central and local government, and the wider community, may be only partially aware of. This may assist in furthering cross-sector initiatives that address environmental, social and economic needs. Some commentary on the likely efficacy of initiatives is included.

The evidence in the report indicates that central government agencies are improving data-gathering, working on identifying cross-sector goals, and developing ways to monitor progress towards them. There also appears to be a high degree of understanding about the complexity of the issues to be tackled. There is an indication of a desire to debate and identify future directions for development.

However, there remains a need to more clearly identify goals and timelines at a national level. Initiatives need to be clearly related to the overall sustainable development framework, which currently focuses on economics, families and national identity. For example, proposed National Policy Statements and National Environmental Standards may well contribute to improved levels of sustainability, but a clearer explanation as to how they sit within an overall sustainable development framework is needed.

On the other hand, it is recognised that many initiatives will arise independently and will need to be incorporated retrospectively. That is, they may be good initiatives that could subsequently become part of an evolving sustainable development strategy. Indicative of this is the setting up of the Sustainability Outcomes Team at the Ministry for the Environment. The team will look through the range of strategies, policies and programmes that have evolved as part of the government's sustainability vision to identify implicit and explicit goals and timelines.

Statistics New Zealand is set to play a central role in providing data on sustainable development trends, as well as developing indicators and monitoring systems as part of a sustainable development reporting system, with the first report due in 2009. However, further research is needed to establish the extent to which local government and communities are able to use such data.

There is reluctance at a central government level to enter more vigorously into the debate over the balance between private rights and public good. This reluctance may hamper the establishment of criteria, guidelines or standards for achieving cross-sector sustainable development goals.

There is a need to rationalise the various intergovernmental fora for discussing sustainable development outcomes. This includes the need to ensure communication occurs at the level of those implementing policies and strategies, as well as discussions at chief executive and ministerial levels. The Department of Internal Affairs should lead this process, with significant assistance from the Ministry for the Environment, the Ministry for Economic Development and the Ministry for Social Development.

The current central government sustainability framework, focusing on economic transformation, families and national identity, needs to more clearly include ecological sustainability. This would complement local government monitoring and reporting of physical and environmental trends, and the drive to identify sustainability priorities through the LTCCP process under the Local Government Act 2002. Current National Policy Statement and National Environmental Standard development will help clarify ecological goals and the means of achieving them. However, the proposed NPSs and NESs are limited in scope and may be seen as too little too late at a local government and community level.

The cost of data is an issue, although it is one that is currently being addressed to some degree. Statistics New Zealand and the newly formed (as of 2007) Geospatial Office of Land Information New Zealand are both considering what information should be made freely, or at least relatively cheaply, available. This is an important point, given that decision-making is influenced as much by what information is not readily attainable as by what is.

¹ The term 'local government', as used in this report, means regional, city and district councils, and unitary authorities.

Finally, some questions arising from this paper are:

1. What sustainable development goals are being identified at a central government level, and how do they relate to the goals being identified at a local level?
2. To what extent are local councils and communities able to address sustainable development? That is, (a) what information is available; (b) do councils and communities have the capacity to assess relevant information; (c) to what extent does, and should, central government offset the costs of accessing and processing information; (d) how does such information influence local-level decision-making, and (e) can aspirations be realised?
3. Is there better integration at a central government level, and if so, is this helping with integrated decision-making at a local level?

1. Purpose

This paper reviews key central government information support mechanisms which may directly or indirectly help local government and communities identify and realise sustainable development goals. Much of what is described below is ‘in transition’ and will evolve further over coming months.

The focus is on what information or other support might help local communities and councils deliver on *sustainability* or *sustainable development* strategies, policies or programmes, and establish ways of monitoring outcomes. The paper does not review the strategies, policies or programmes themselves, although an overview of the legislative and strategic context is given in Section 2.

Non-governmental organisation initiatives are not canvassed in detail in this paper, nor are the wide range of local or community-level sustainable development initiatives.²

The report is structured as follows:

- Why wicked, messy and clumsy?
- The legislative and strategic context.

These first two sections set up discussions for the remainder of the paper, and subsequent papers to be completed as part of the broader local government–central government critique. The balance of the paper then addresses:

- Information gathering and dissemination: this covers how information is being — or should be — gathered, and what can be done to help manage data.
- Developing information analysis support systems: once data is available, how can it be used to help identify and evaluate strategies for sustainable development?
- Local government capacity: while there may be an increase in available information, and mechanisms for analysing and strategising based on this information, is the information useful and do councils have the capacity to cope?

Reference is made to a wide range of reports and programmes, details of which can be accessed elsewhere. The purpose is to alert readers to their existence, and comment briefly on their relevance in the context of central–local government interactions necessary to progress sustainable development.

² Development can be judged to be sustainable where it achieves equitable inter- and intra-generational benefits while working within biophysical limits and opportunities. This is influenced by political and technological capacity in communities (WCED, 1987). The utility of such a concept continues to receive a mixed reception (see for example Giddings et al., 2002; Haque, 2006; Middleton et al., 1993; Wackernagel & Rees, 1996). While it can empower decision-makers to apply ecological limits to socio-political systems, its flexibility also accommodates behaviour that may well have occurred prior to the adoption of sustainable development concepts. Such terminological slipperiness can give the impression of action rather than substance.

1.1 Project 2058

The strategic aim of *Project 2058* is to promote integrated long-term thinking, leadership and capacity-building so that New Zealand can effectively seek and create opportunities and explore and manage risks over the next 50 years. In order to achieve this aim, the *Project 2058* team is working to:

1. Develop a detailed understanding of the current national planning landscape, and in particular the government's ability to deliver long-term strategic thinking;
2. Develop a good working relationship with all parties that are working for and thinking about the 'long-term view';
3. Recognise the goals of iwi and hapū, and acknowledge te Tiriti o Waitangi;
4. Assess key aspects of New Zealand's society, asset base and economy in order to understand how they may shape the country's long-term future, such as government-funded science, natural and human-generated resources, the state sector and infrastructure;
5. Develop a set of four scenarios to explore and map possible futures;
6. Identify and analyse both New Zealand's future strengths and weaknesses, and potential international opportunities and threats;
7. Develop and describe a desirable sustainable future in detail, and
8. Prepare a *Project 2058* National Sustainable Development Strategy. (SFI, 2006: 3)

1.2 The Sustainable Future Institute³

The Sustainable Future Institute is an independently funded think tank based in Wellington, New Zealand. Earlier work by the Institute has indicated that New Zealand is well behind on its international obligations to develop and implement a National Sustainable Development Strategy (NSDS) (SFI, 2007a). It is hoped that *Project 2058* will help develop dialogue among government ministers, policy analysts and members of the public about alternative strategies for the future. With this in mind, this report is a step towards the Institute's goal of preparing an NSDS for New Zealand in late 2011.

³ Since February 2012 the Institute has been known as the McGuinness Institute. See www.mcguinnessinstitute.org

2. Why Wicked, Messy and Clumsy?

Pursuing sustainable development is a wicked, messy and clumsy process, as illustrated by the recently released New Zealand energy strategy (MED, 2007) and implementation plan (EECA, 2007). These include clumsy solutions (Verweij et al., 2006) to poorly understood, or wicked, problems.⁴

This does not mean the strategy and plan have been inadequately researched or thought through, or that the solutions are necessarily bad. The terms wicked, messy and clumsy refer more to the inevitability of going through processes that are annoyingly unsatisfying, incomplete, repetitive, possibly ineffective in their first iteration, and arguably inefficient.⁵

Indeed, it is evident that the problem of energy supply and the implementation of new ('sustainable') ways of doing things are appreciated as being multi-dimensional and socially, economically and ecologically complex. As solutions are put in place, the nature of the problem becomes clearer. The process tends to be messy as it not only lacks the certainty of straightforward (or linear) decision-making but such thinking is inadequate to address the problems at hand.

The process is also influenced by having to deal with differing interpretations of whether there is a problem, what is the nature of any problem, and how to go about identifying and pursuing solutions (Verweij et al., 2006). Subsequently, research programmes focus on those areas where the funding is available. Political processes then filter scientific and policy advice from officials and independent parties, meaning what is produced may not necessarily address what is most important. This leads to debate over the detail of a strategy or plan. However, given the political realities, uncertain economic forecasts, and difficult science, this is an inevitable part of the process.

With energy, as the picture became clearer publicly — with regard to both the risk of anthropogenically induced climate change (IPCC, 2001; 2007; Stern, 2006) and the need to adapt (See for example MAF, 2006; MED, 2004; MfE, 2005a) — policy changed in response to both greater knowledge and sensitivity to voter preference. The economic implications became clearer, indicating a shift from New Zealand making money from international carbon trading, to losing money (MfE, 2005a; 2006).

A proposed carbon tax was dropped, decreasing political risk for the government, but removing a key plank of a management regime evolving through the Resource Management Act 1991 (Fallow, 2006; OECD, 2007). That is, for a policy process to work as intended, all the parts need to be operational and effective. When this does not happen, it increases the probability of unwanted consequences or failure. For example, 2005 estimates of New Zealand's exposure due to net emissions during the first Kyoto Protocol commitment period of 2008–2012 showed increasing emissions reflecting in part New Zealand's decision not to implement a carbon tax in 2005 (MfE, 2006a). All the above observations are quite apart from arguments over the validity of using sequestration by planting forests to offset emissions.

This uncertainty in identifying problems, knowing what information is relevant, and pursuing solutions, exemplifies what local government and communities in New Zealand must grapple with as part of the Local Government Act 2002 (LGA). Section 3(d) of the LGA provides for local authorities to play a broad role in promoting the social, economic, environmental and cultural well-being of their communities, taking a sustainable development approach. Given the discussion above, inevitably the various initiatives both overlap and are disjointed, involve progress and setbacks, may be poorly formed or realised, and must accommodate various viewpoints. Hence the problems are wicked, the processes messy and the solutions clumsy.

This situation is reflected in the content of this report. There is no clear and logical progress towards guidance on sustainable development. However, this is not an indication of a lack of activity. Indeed, as the government intended as part of its Sustainable Development Programme of Action (SDPOA), much of what evolves will be as a result of learning-by-doing, or 'action learning' (Frame & Marquardt, 2006). Essentially this means being willing to make mistakes as well as correct decisions, and learn from them. Equally, however, it is important to ensure government agencies do not hide behind the messiness, become weighed down by processes, or use uncertainty as an excuse to do too little.

This report does not describe what the successful outcomes should be; rather, it tries to inform the reader of the processes that should, or could, lead to sustainable development outcomes.

4 Rittel & Webber, 1973; Coyne, 2005; and for one of the many web-based discussions on wicked problems and clumsy solutions, see <http://cognexus.org/id42.htm>

5 Thanks to Dr Bob Frame from Landcare Research for noting that problems are not just wicked, but processes are messy and solutions clumsy.

3. Legislative and Strategic Context

This section reviews the incorporation of sustainable development concepts into New Zealand legislation and national strategic initiatives.

3.1 Legislation

Integrative thinking in New Zealand legislation was apparent in the Soil Conservation and Rivers Control Act 1941 (MfE, 1997; Williams, 1997), while the now-repealed Town and Country Planning Act 1977 referred to the need for ecological health and integrity, and the rights of non-human organisms. However, explicit inclusion of sustainable development concepts began with the Environment Act 1986 and the Conservation Act 1987. These latter Acts recognise the importance of the objectives of preserving and protecting intrinsic ecosystem value, and safeguarding related options for future generations (Palmer, 2002).

The most influential piece of legislation in terms of both its effect on central and local government policy, planning and implementation, and its incorporation of sustainable development concepts, is the Resource Management Act 1991.⁶ The RMA requires the protection of biophysical conditions while meeting the needs of current and future generations. It covers the use of land, air and water (Williams, 1997), recognises the catchment as a necessary basis for environmental administration, and instils in ‘matters of national importance’ environmental priorities and guidance (Palmer, 2002). It requires resource consent applicants to prepare environmental effects assessments, while increasing the degree of public participation in regard to the formulation of policy statements, coastal plans, regional and district plans, and notified resource consent applications. The RMA allows the precautionary principle to be applied in the assessment of the approval of questionable activities (ibid).

More recently, the Local Government Act 2002:

... provides for local authorities to play a broad role in promoting the social, economic, environmental, and cultural well-being of their communities, taking a sustainable development approach. (LGA s3[d])

The Long Term Council Community Plan (LTCCP) provisions of the LGA (Section 91 and Schedule 10) require communities and local authorities to prioritise outcomes needed to achieve well-being. There is also a requirement to report at least every three years on progress by communities on achieving outcomes identified through the community consultation process of the LGA (s92[1]).⁷ The MfE provides a guide to promoting environmental well-being under the LGA (MfE, 2007a).

In terms of the Land Transport Management Act 2003 (LTMA), the Act’s purpose is to ‘... contribute to the aim of achieving an integrated, safe, responsive and sustainable land transport system’ (s3[1]), a clear reference to the New Zealand Transport Strategy (NZTS), which states that ‘... [t]he government’s overall vision for transport is [that] by 2010 New Zealand will have an affordable, integrated, safe, responsive, and sustainable transport system’ (MoT, 2002: 4).

The LTMA also requires Land Transport New Zealand, the country’s national transport funding agency, to take into account the objectives of the NZTS (s12A[5], inserted as part of the LTM Amendment Act 2004) which are to:

- Assist economic development
- Assist safety and personal security
- Improve access and mobility
- Protect and promote public health
- Ensure environmental sustainability. (MoT, 2002: 8)

6 The term sustainable development was explicitly not used in the RMA. During debate over its wording, the Resource Management Bill Review Group noted that ‘[o]ne disadvantage of adopting the term “sustainable development” [in the Act] is that the concept embraces a very wide scope of matters including social inequities and global redistribution of wealth. It is inappropriate for legislation of this kind to include such goals’ (MfE, c1992, citing the *Report and Recommendations of the Review Group on the RM Bill*, 1991: 6; Upton et al., 2002). However, the Act still embraces the philosophy of sustainable development, that is, working within biophysical limits while meeting human needs.

7 Provisions under the Resource Management Act 1991 (RMA) also require the monitoring of policies, rules and other planning instruments, and state of the environment monitoring is required at least every five years (RMA s35). RMA and LGA monitoring requirements will combine as part of a short- and medium-term integrated monitoring regime. See <http://www.qualityplanning.org.nz/monitoring/monitor-links.php> for discussion and examples.

These are in effect sustainable development goals. As a demonstration of the shift in emphasis, the transport sector is increasingly recognising that safety is not confined to reducing road accidents, but needs to account for human health and environmental impacts. That is, there are negative health effects associated with discouraging active transport over a human lifetime, and negative effects associated with the environmental impacts of transport related to, for example, cardiovascular disease through pollution (Fisher et al., 2002). This is reflected in the changes apparent in Land Transport New Zealand's funding criteria, which increasingly require applicants to demonstrate they are addressing the five objectives noted above, and work across different sectors.⁸

This evolution in legislation clearly demonstrates the desire to incorporate and realise sustainable development goals. Table 1 summarises the most relevant legislation in this regard, and Figure 1 summarises the convergence in requirements between the RMA, LGA and LTMA.

Table 1 Selected Examples of the Incorporation of Elements of Sustainable Development Thinking into Legislation Since 1986

Source: Updated from PCE, 2002: 92–93.

Legislation	Relevant wording
Environment Act 1986	<p>From the title, an Act to ... (c) Ensure that, in the management of natural and physical resources, full and balanced account is taken of</p> <ul style="list-style-type: none"> ix. the intrinsic values of ecosystems; and x. the values which are placed by individuals and groups on the quality of the environment; and xi. the principles of the Treaty of Waitangi; and xii. the sustainability of natural and physical resources; and xiii. the needs of future generations.
Resource Management Act 1991	<p>Section 5, Purpose</p> <ul style="list-style-type: none"> 1. The purpose of this Act is to promote the sustainable management of natural and physical resources. 2. In this Act, 'sustainable management' means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety while <ul style="list-style-type: none"> a. Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and b. Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and c. Avoiding, remedying, or mitigating any adverse effects of activities on the environment.
Forests Amendment Act 1993	<p>Sustainable forest management is defined as managing an area of indigenous forest in a way that maintains the ability of the forest growing on that land to continue to provide a full range of products and amenities in perpetuity, while retaining the forest's natural values (s2[1]).</p>

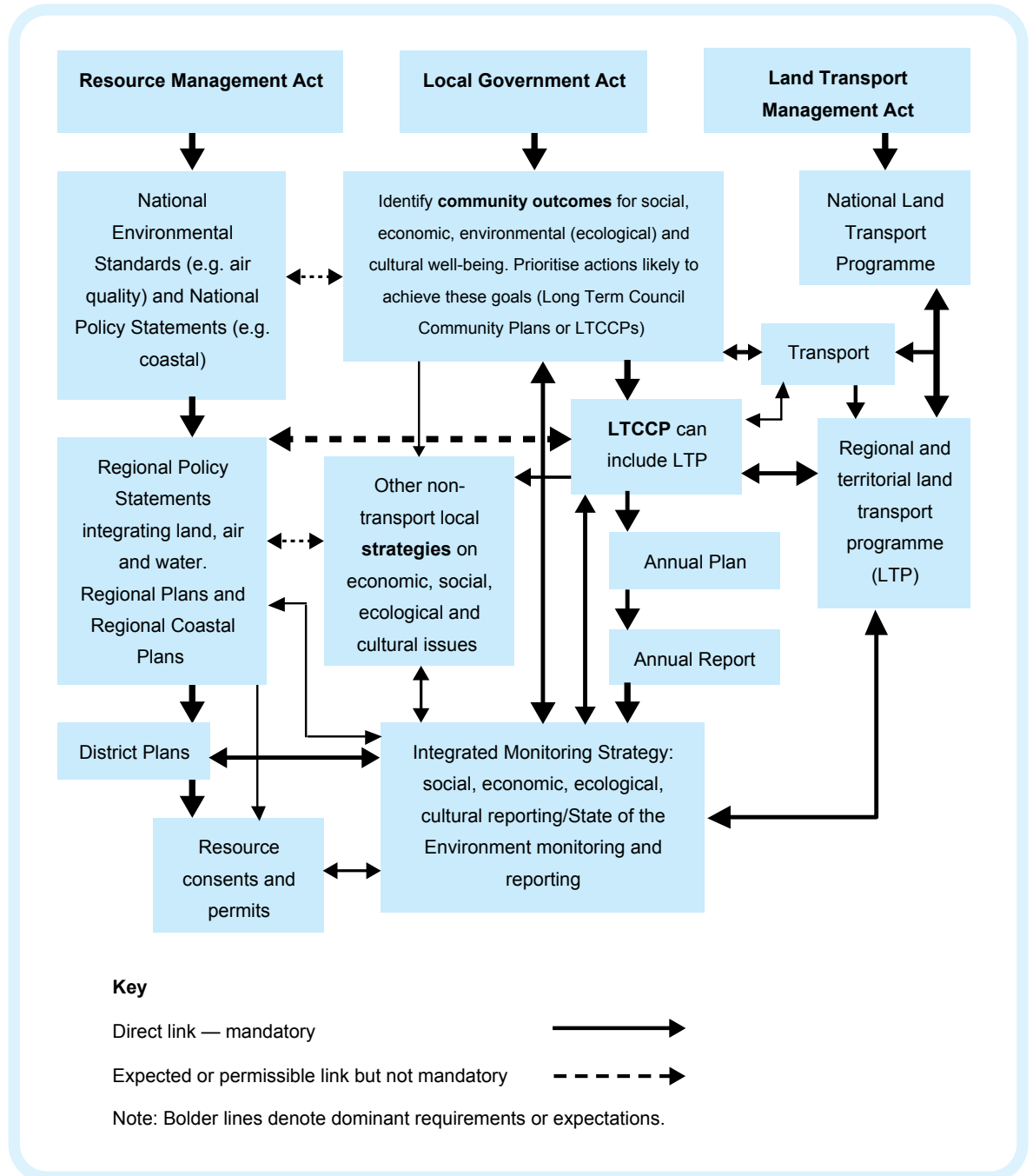
⁸ From the National Land Transport Programme 2007/2008 guidelines (<http://www.landtransport.govt.nz/funding/nltp> accessed January 2007); Land Transport NZ has now included (as of 2006) what it describes as 13 trends it wishes to promote to achieve a more sustainable and safer transport system. The 2007/08 NLTP encourages both a strategic approach and one where approved organisations develop *packages* of proposals that incorporate programmes from more than one of a group of activities, known as *activity classes*. This means, for example, combining road construction with travel demand management programmes, passenger transport strategies, regional development, and walking and cycling. Significantly, reference can be made in the packages to work being done by other agencies such as councils in terms of activities such as urban form.

3. LEGISLATIVE AND STRATEGIC CONTEXT

Legislation	Relevant wording
Fisheries Act 1996	<p>Section 8, Purpose</p> <ol style="list-style-type: none"> 1. The purpose of this Act is to provide for the utilisation of fisheries resources while ensuring sustainability. 2. In this Act ... 'Ensuring sustainability' means <ol style="list-style-type: none"> a. Maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations; and b. Avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment. <p>'Utilisation' means conserving, using, enhancing and developing fisheries resources to enable people to provide for their social, economic, and cultural well-being.</p>
Hazardous Substances and New Organisms Act 1996	<p>Section 4, Purpose: The purpose of this Act is to protect the environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms.</p> <p>Section 5, Principles relevant to the purpose of the Act: All persons exercising functions, powers, and duties under this Act shall, to achieve the purpose of this Act, recognise and provide for the following principles:</p> <ol style="list-style-type: none"> a. The safeguarding of the life-supporting capacity of air, water, soil and ecosystems; b. The maintenance and enhancement of the capacity of people and communities to provide for their own economic, social, and cultural well-being and for the reasonably foreseeable needs of future generations.
Energy Efficiency and Conservation Act 2000	<p>Section 5, Purpose: The purpose of this Act is to promote, in New Zealand, energy efficiency, energy conservation, and the use of renewable sources of energy.</p> <p>Section 6, Sustainability principles: In achieving the purpose of this Act, all persons exercising responsibilities, powers, or functions under it must take into account</p> <ol style="list-style-type: none"> a. the health and safety of people and communities, and their social, economic, and cultural well-being; and b. the need to maintain and enhance the quality of the environment; and c. the reasonably foreseeable needs of future generations; and d. the principles of the Treaty of Waitangi.
Local Government Act 2002	<p>Section 3(d) '... provides for local authorities to play a broad role in promoting the social, economic, environmental, and cultural well-being of their communities, taking a sustainable development approach'</p>
Land Transport Management Act 2003	<p>Section 3(1) states that the Act's purpose is to '... contribute to the aim of achieving an integrated, safe, responsive and sustainable land transport system' and s12A(5) requires Land Transport New Zealand, the country's national transport funding agency, to take into account the need to</p> <ul style="list-style-type: none"> • Assist economic development • Assist safety and personal security • Improve access and mobility • Protect and promote public health • Ensure environmental sustainability.

Figure 1 The Relationship Between The Local Government Act 2002, The Resource Management Act 1991 and The Land Transport Management Act 2003 in Terms of Provisions for Sustainable Development

Source: Adapted from MfE, 1997: Figure 4.12; Preston, 1998: 7; Robertson, 2004 and <http://www.qp.org.nz/related-laws/figure-community-outcomes.php> – New Zealand Quality Planning website accessed November 2006.



3.2 National Strategic Context

3.2.1 Evolution of sustainable development thinking

The government has put sustainability at the centre of its strategic agenda, underpinning its three priority themes for the decade through to 2017: economic transformation, national identity, and families — young and old. The government has a goal of New Zealand becoming the world's first 'truly sustainable nation' (MfE, 2007c: 7).

The current New Zealand government's focus on sustainability began by considering how to incorporate social, environmental and economic sustainability concepts into an economic development strategy (MED, 2000). Part of the momentum was also a result of New Zealand's international commitment to key United Nations agreements in 1992, 1997 and 2002, where New Zealand undertook to produce a National Sustainable Development Strategy (NSDS) by 2002, and then subsequently by 2005. These commitments are discussed in Sustainable Future's Report 1: *A National Sustainable Development Strategy: How New Zealand Measures Up Against International Commitments* (SFI, 2007a).

In 2003 a Sustainable Development Programme of Action (SDPOA) was launched (DPMC, 2003). This set out sustainability principles (Figure 2), identified areas for urgent action (urban environments, water, energy, and young people), and put in place monitoring and evaluation intentions (Frame & Marquardt, 2006) in order to change the way government works, including how it works with local government (OAG, 2007). The SDPOA was seen by many as a stepping stone towards a New Zealand NSDS, but with the completion of the SDPOA in mid-2006 it is unclear how the government is going to meet this commitment.

Figure 2 The Ten Principles of the SDPOA

1. Consider the long-term implications of decisions.
2. Seek innovative solutions that are mutually reinforcing, rather than accepting that a gain in one area will necessarily be achieved at the expense of another.
3. Use the best information available to support decision-making.
4. Address risk and uncertainty when making choices and take a precautionary approach when making decisions that may cause serious or irreversible damage.
5. Work in partnership with local government and other sectors encouraging transparent and participatory processes.
6. Consider the implications of decisions from a global as well as a New Zealand perspective.
7. Decouple economic growth from pressure on the environment.
8. Respect environmental limits, protect ecosystems and promote the integrated management of land, water and living resources.
9. Work in partnership with appropriate Māori authorities in empowering Māori in developing decisions that affect them.
10. Respect human rights, the rule of law and cultural diversity.

By 2004 the New Zealand government had introduced a Growth and Innovation Framework (GIF) coupling sustainable growth with improving the quality of life for all to '... return New Zealand's per capita income to the top half of the OECD rankings over time, which requires growth rates consistently above the OECD average for a number of years' (MED, 2004: 20). Also released that same year was the *Opportunity for All New Zealanders* report, summarising central government social policy and strategies for sustainable social development (MSD, 2004). The *Opportunity* report complemented the GIF. The *Healthy Eating Healthy Action* (HEHA) strategy was also released, aimed at improving health through nutrition and activity (MoH, n.d.).

In 2006, the economic transformation (ET) strategy was introduced (MED, 2006a; 2006c). This continued to emphasise the need for raising living standards, while addressing issues such as climate change, sustainable business, sustainable water and land management, infrastructure, and urban development (particularly the future of Auckland). The ET was coupled with the themes of national identity and families — young and old (Clark, 2007). National identity is underpinned by a strong quality-of-life dimension and a connectedness to a land that is ‘uniquely ours’ (Frame & Marquardt, 2006). Under families — young and old, the government aims to provide families with information on how to reach their full potential while making decisions based on environmental sustainability (MfE, 2007c: 7).

The SDPOA ended in mid-2006. The intention was to use the action-learning approach to provide building blocks for addressing other issues (Frame & Marquardt, 2006). The ET — national identity — families themes can be seen as providing a framework for these issues. In February 2007 the government then listed its sustainability initiatives, which aim to improve sustainability in the public service, business and households (Figure 3).

Figure 3 The ‘Six-Pack’ Initiatives

The Household Sustainability programme to raise awareness of the simple steps that householders can take to reduce the impact of climate change, improve energy efficiency, and reduce waste and water use.

The Business Partnerships for Sustainability programme to make it easier for businesses to find out about and implement sustainable business practices. It will include support for existing sustainability advisory services and the expansion of assistance to industry groups.

Through the Enhanced Eco-verification programme Government is to work with businesses and sectors to identify the standards, tools and verification infrastructure to support the development, use and export of eco-friendly goods and services.

The Government will also use its purchasing power to grow the market for environmentally friendly services and products, including paper, timber and wood products, travel and light fittings. Sustainability will be integrated into a single procurement policy.

The 34 core public service departments are to move towards carbon neutrality. A lead group of six agencies — the Ministry for the Environment, Ministry of Health, Ministry of Economic Development, Inland Revenue, Department of Conservation and the Treasury — will have carbon neutral plans in place by early 2008 with the aim of being carbon neutral by 2012.

A new drive has been announced to cut down on waste and make recycling easier. New initiatives include: (a) A network of public recycling stations. (b) Securing dedicated funding for further solid waste minimisation and management. (c) Regulation back up for product stewardship schemes, including recognition of existing industry sponsored schemes.

The lead agencies are the Ministry for the Environment and the Department of the Prime Minister and Cabinet. The six-pack operates alongside the October 2007 New Zealand Energy Efficiency and Conservation Strategy (NZEECS) (EECA, 2007) an action plan for many of the programmes in the New Zealand Energy Strategy (MED, 2007). These programmes are complementary to the Emissions Trading Scheme (MfE, n.d.[e]) in achieving emissions reductions.

The NZEECS key targets are to:

- create warmer, drier, healthier homes with reduced energy costs;
- achieve more energy efficient and competitive businesses using more renewable energy and emitting less carbon dioxide;
- halve per capita transport emissions by 2040; and
- achieve 90 per cent of electricity generated from renewable sources by 2025.

Also overlapping with the above are the New Zealand Transport Strategy (MoT, 2002) and the Sustainable Land Management and Climate Change action plan (MAF, 2006).

3.2.2 Reviews of the Sustainable Development Programme of Action

A number of reviews of the SDPOA have been completed. Our background paper to Report 1, *A Stakeholder Evaluation of the Sustainable Development Programme of Action* (Sustainable Future, 2007b) provides a stakeholder analysis of each of the five workstreams. It concludes that the SDPOA may have been a well-intentioned first attempt at designing and implementing a cohesive approach to sustainable development policy in New Zealand, but it failed to deliver on performance and on effective communication to the wider community.

What follows is a general overview of two other reviews and what the findings mean in terms of providing support for local government.

(i) Landcare Research review

This work concluded that the SDPOA ‘stimulated leverage and collaboration with other organisations’ (Frame & Marquardt, 2006: 7). It lists a range of achievements under each of the workstreams (sustainable cities, energy, water, and children and young people) as well as achievements as part of the reporting programme.⁹

The Landcare review notes that the government has worked with local government to connect the quality-of-life reports on sustainable cities with the sustainable development work programme.¹⁰ This assists in meeting the LGA requirements for local government to work with communities and other parties, including central government, to identify desired social, economic, environmental and cultural outcomes for their communities. In fact, the review notes that the Long Term Council Community Plan process of the LGA, which requires a high degree of consultation to identify cross-sector goals, is the very essence of the principles of the SDPOA.

The review raises concerns over the possible loss of momentum with the end of the SDPOA. This is particularly the case when considering the challenge sustainable development poses to the institutional arrangements involved in formulating and implementing policy. The Landcare report notes that changes of this kind need time to mature and for trust and leadership to develop. The report notes the need to address severe constraints facing New Zealand, from water allocation through to energy demand and social cohesion. It also notes the need for clear strategies that strive for a sustainable future, and for putting in place practical and appropriate mechanisms to achieve that vision.

(ii) Office of the Auditor-General review

As with the Landcare report noted above, the OAG report notes the government’s intention to use the SDPOA as a learning experience (OAG, 2007). The OAG reports officials as saying that collaborating and working together on the SDPOA contributed to better relationships between central government agencies, and between central and local government.

The Department of the Prime Minister and Cabinet also set up what the OAG called a Quality Practice initiative. This included creating learning opportunities through workshops and seminars, and supporting research. Material was posted on a DPMC intranet site.

The OAG report said collaborative ways of working were a successful feature of the SDPOA, particularly in relation to the Auckland experience, as part of Sustainable Cities. The OAG was told by those interviewed that the approach led to a better understanding by local and central government of what each sector did and how they worked. The OAG noted that this experience has supported many subsequent initiatives by central government.

While the SDPOA principles (Figure 2) were used informally, the OAG said few formal methods were used to apply the principles.

⁹ An observation on such listings is that it can be difficult quantifying the extent to which initiatives noted as being part of a workstream or reporting programme occurred as a result of the SDPOA. For example, under Sustainable Cities, the Landcare report noted that school travel plans were rolled out in the Auckland region. However, arguably the stimulation for this came through the Land Transport Management Act 2003, and associated requirements for shifting the focus of transport funding from safety and efficiency towards sustainability. On the other hand, the Sustainable Cities focus on Auckland did provide the regional council with both a mandate and funding to pursue sustainable outcomes in ways that would not have occurred without an SDPOA.

¹⁰ See the Quality of Life Project website at <http://www.bigcities.govt.nz>, accessed November 2007.

The individual workstreams relating to the SDPOA had clear governance structures; however, the OAG observed that governance of the SDPOA as a whole was less clear because of the range of agencies involved. A high turnover of staff in leadership positions made continuity more difficult.

(iii) Some observations on the SDPOA reviews

The Landcare review reinforces the need to put in place a clear direction for achieving sustainable development nationally. It would seem a broader discussion is needed on how this should be done. The current approach remains piecemeal, which might be acceptable to a degree given the wicked and messy nature of sustainable development. However, the extent of clumsiness in the solutions could be minimised with a clearer national direction and, in particular, clearer goals and targets associated with national strategies and policies introduced as part of 'sustainable development'.

The OAG report suggests that while there is increasing coordination between sectors at a local and central level, there is still a less than optimal use of the potential to address various cross-sector goals by taking a coordinated approach locally. More simply, local programmes run by different agencies should be better integrated and jointly managed. The longer-term aims of the SDPOA would have been more fully supported by an increased focus on programme planning for the SDPOA as a whole (OAG, 2007: 8).

3.2.3 Parliamentary Commissioner for the Environment review of progress toward sustainable development

The Parliamentary Commissioner for the Environment is undertaking a 'sustainability review'. Background papers commissioned for the review are available via the PCE's website (PCE, n.d.). The topics covered are:

- Measuring real wealth
- The need for a National Sustainable Development Strategy
- Tourism
- Urban sustainability
- Case studies on creating sustainable communities
- Fisheries (including aquaculture)
- Decoupling economic growth from increased carbon dioxide emissions
- Biodiversity, including discussions on climate change impacts
- Corporate sustainability reporting
- Institutional capacity to progress sustainable development
- The relationship between the public and private sectors in terms of advancing sustainable development
- Adapting to climate change
- Sustainable development in education
- Analysing New Zealand's current situation from a sustainability viewpoint
- Sustainable housing.

The review will update a 2002 Commissioner's report which, among other things, made recommendations about how to progress sustainable development at a national and local level (PCE, 2002). The original date for the release of the review was the end of 2007, and at the time of writing the release date was April 2008.

3.3 Central Government Integration

3.3.1 Review of the Centre

In November 2001, and prior to the launch of the SDPOA noted in the previous section, the New Zealand government received the *Report of the Advisory Group on the Review of the Centre*. The report highlighted the need for better-integrated service delivery to address complex social problems involving multiple agencies. It also noted a need for better citizen-focused service delivery. More information on the Review of the Centre is contained in Report 2: *New Zealand Central Government Strategies: Reviewing the Landscape 1990–2007* (Sustainable Future, 2007c: 15–17).

As part of the broader review of the centre, an *Integrated Service Delivery: Regional Co-ordination* workstream set out to examine existing successful models of local collaboration and suggest how government agencies could work better together and with local stakeholders. A review of collaborative best-practice and regional coordination was published in 2003 (SSC & MSD, 2003).

Recommendations included a need to ensure capacity within and between government agencies, and developing appropriate organisation structures. The latter would address the inconsistency of service boundaries, fragmentation of service agencies and funding pools in the long term. Also required was greater flexibility at a local level so that managers can make decisions and allocate resources to meet local needs. There must be a description of what a whole-of-government approach means in practice at a local level, and improved monitoring and evaluation mechanisms to determine where collaboration is effective.¹¹

The whole-of-government theme recurs within and between agencies involved in sustainable development, as is discussed throughout the following sections. It was not possible to review the outcomes of the review of the centre within the scope of this report. However, informal feedback suggests the implementation of its recommendations has been less than successful. It is felt that the activities of government agencies remain fragmented, particularly at the local implementation level. This is exacerbated by poor coordination of budgets at a central government level, and a lack of coordination between different Cabinet ministers.

3.3.2 Leadership, coordination and monitoring of state services

The State Services Commission, Department of the Prime Minister and Cabinet, and Treasury are responsible for leadership, coordination and monitoring of the country's public service sector. These agencies play a key role in the evolution of whole-of-government thinking and, consequently, the creation of an integrated approach to tackling sustainable development outcomes.

It is outside the brief of this report to examine their performance to date. Their role is noted here because they, more than any other agencies, have a key influence on the setting of sustainable development goals, the funding of the implementation of actions to achieve these goals, and coordination across government.

¹¹ The *Integrated Service Delivery* report noted that while there is evidence that collaboration can improve how things are done (better service delivery and resource use, for example), there was little evidence that collaboration improved outcomes (in the context of this report, more sustainable development, for example) due to a lack of monitoring and evaluation.

4. Information Gathering and Management

The gathering and management of relevant information is fundamental to good decision-making. The following sections look at key aspects of tracking trends and managing data.

4.1 National State of the Environment Report

The Ministry for the Environment published a national State of the Environment report (*Environment New Zealand 2007*) in January 2008 (MfE, 2007e). This updates the first such national assessment, the 1997 *State of New Zealand's Environment* report (MfE, 1997). State of the environment reporting aims to provide information to answer the following questions:

- What is happening to the environment?
- Why is it happening?
- Are policies and actions having the desired effect?

The 2007 report identifies core national environmental indicators. The focus is on those areas that are under particular pressure and require priority attention. Consequently, as the report notes, much of the information will come as no surprise to decision-makers. The highlighted negative trends are well-known. What will influence environmental outcomes is how the collated and highlighted information in the report is used to inform the evolution of national, regional and local strategies, policies and plans, and associated natural resource management processes.

The national environmental indicators used in the 2007 report related to household consumption patterns, vehicle kilometres travelled, energy use, waste, air quality, greenhouse gas emissions, upper atmosphere ozone levels, land use and cover, biodiversity, soil quality and erosion, freshwater quality and use, marine fishery stocks and fishing methods, and marine reserves. Separate chapters report on trends among these groups of indicators. Significantly, the report extrapolates findings across New Zealand using ecological classification systems. This means data from a limited number of monitoring sites can be used to build a national picture of the state of the environment.

As noted earlier, the RMA also requires state of the environment monitoring locally, to assess trends and the efficacy of policies, plans and programmes put in place in response to these trends. Assisting in this process are national policy statements and environmental standards. These identify nationally significant issues to be considered when drawing up policies and plans and considering resource consents. They also provide agreed standards to manage and monitor particular activities. These are discussed further in the next section.

4.2 National Policy Statements and National Environmental Standards

A National Policy Statement (NPS) sets out objectives and policies on matters of national significance (RMA s45). In essence, NPSs help local councils decide how to balance competing national benefits and local costs (MfE, 2007b). Local authorities are required to give effect to NPSs (RMA s55 [2] [a]). A National Environmental Standard (NES) relates to providing standards for a range of biophysical aspects of the environment (RMA s43). Both NPSs and NESs are seen as key to the successful implementation of the Resource Management Act (Borrie et al., 2004; Day et al., 2003).

4.2.1 A flurry of activity

To date New Zealand has only one NPS (being the New Zealand Coastal Policy Statement; see later this sub-section) and a number of NESs relating to air quality standards. However, a number of policy statements and environmental standards were being formulated or finalised at the time of writing (MfE, 2007a; n.d.[a]; n.d.[b]). In addition, many of those statements and standards (summarised below) have linkages with MfE guidelines,¹² which although voluntary, play an important complementary role in suggesting how councils should investigate, monitor and report to the public on environmental health risks.

Water

A *National Policy Statement on Freshwater Management* is currently being drafted. In line with the Sustainable Water Programme of Action (MfE, n.d.[c]), it would provide guidance on managing increasing demands for water and improving water quality, including addressing undesirable land use effects. It would assist councils in providing for environmental, cultural and social values regarding water use. At the time of writing, a draft was expected to be available for public comment in April or May 2008.

National Environmental Standards for Sources of Human Drinking Water were gazetted in December 2007.

An NES was also being prepared covering ways to assess whether water bodies have sufficient volumes to meet community values and ensure ecosystems keep functioning. This included rivers, lakes, wetlands and groundwater. The *National Environmental Standard on Setting Ecological Flows and Water Levels* would provide regulatory controls and guidance on methods for assessing how much water should stay in a water body to provide for ecological values.¹³ A public discussion document was due for release in March or April 2008.

Standardising how to accurately and fairly manage the taking of water for such things as irrigation was being addressed through a proposed *National Environmental Standard for Water Measuring Devices* (MfE, 2006b).

Finally, wastewater was also addressed through a proposed NES on required inspection and maintenance regimes for on-site wastewater systems. A discussion document for public consultation was expected to be released in 2008 (ibid).

Flooding

A *National Policy Statement of Flood Risk Management* has been proposed, and public comment was expected to be sought during the first half of 2008.

Electricity generation and transmission

The Ministry for the Environment and Ministry for Economic Development are jointly leading the scoping of potential National Policy Statements and National Environmental Standards for electricity generation. An NPS would also cover renewable energy options and would likely include consideration of disbursed power generation such as solar panels and micro-hydro schemes.

A *National Policy Statement on Electricity Transmission* has been proposed to recognise the national significance of the electricity transmission network, and help ensure that there is balanced consideration between the national benefits and the local effects of transmission. The Minister for the Environment was considering a Board of Inquiry report on the proposed NPS at the time of writing.

In addition, two National Environmental Standards for electricity transmission are proposed. One provides a framework for managing the environmental effects of the operation, maintenance and enhancement of the national grid, excluding the construction of new transmission lines. The other relates to controlling the effects of activities on the national grid.

¹² For example, the aim of the *Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas*, June 2003, Ref ME474 (MfE, 2003b) is to assist councils and agencies to better inform their communities of the risks related to swimming. The Ministry for the Environment website notes the Ministry of Health and the Ministry for the Environment consider it very important that councils are aware of their responsibilities and that the public are informed of the health risks in a way that is consistent with these guidelines.

¹³ Note that ecological flows differ from what is termed 'environmental flows'. The latter refer to desirable flow levels for recreational, cultural or aesthetic purposes. These minimum 'environmental' flows are set regionally. Eventually NES-guided ecological flows will be a component of 'environmental' flow regimes. Regional councils already address ecological flow needs; the NES endeavours to provide best-practice methods for assessing such needs.

Telecommunications

Four National Environmental Standards for telecommunications facilities were proposed, covering roadside equipment cabinets, small antennae attached to existing roadside structures, noise limits for roadside cabinets, and radiofrequency emissions. Policy recommendations were due to go to Cabinet in 2008.

Urban design

Should New Zealand have an urban design National Policy Statement? In 2007 the Ministry for the Environment had begun scoping the desirability of such an NPS, and a decision was still to be made at the time of writing. The objective of such an NPS would be to ensure that quality urban design provisions were included in council plans across the country.

Contaminated land

The Ministry for the Environment was identifying key issues and gaps that existed in how New Zealand managed contaminated land. This fell within the NES work programme of the Ministry. Emphasis is being placed on creating a better policy framework and continuing to provide guidelines and funding support.

New Zealand Coastal Policy Statement

This was being reviewed under the direction of the Minister of Conservation, and a draft updated NZCPS was due to be released for public comment at the time of writing.

4.2.2 What happened to the biodiversity NPS?

During the 1990s, biodiversity decline was identified as New Zealand's most pervasive environmental issue (MfE, 1997), with insufficient habitat in lowland areas identified as a primary contributor, along with pest invasion and the overall decline in the quality of habitat that did remain.

In 2000, a New Zealand Biodiversity Strategy (NZBS) was released, addressing this and a range of other issues associated with biological diversity management. It included recommendations for a National Policy Statement on biodiversity. This would help clarify local government biodiversity responsibilities under the RMA.¹⁴

An August 2000 Ministerial Advisory Committee report recommended not proceeding with an NPS at that time, but to keep it under review subject to the implementation of other actions aimed at promoting biodiversity (MAC, 2000b: 50). Although a preliminary NPS was issued in May 2001, and in October 2003 the Ministry for the Environment was still publicly discussing the prospect of an NPS (MfE, 2003a), a draft was never made public. As of mid-2006, MfE officials suggested that more than one modified version of a draft NPS had gone before Cabinet since 2003.

In April 2007, the government released a statement of national priorities for the protection of rare and threatened native biodiversity on private land (MfE & DoC, 2007). Ministry for the Environment officials say this is in lieu of a National Policy Statement. The focus of the statement — biodiversity on private land — complied with recommendations from various reviews (Green & Clarkson, 2005; Walker et al., 2005; 2006). In essence, there remains a high risk of a continued net decline in indigenous biodiversity unless private land is successfully incorporated into an overall biodiversity management scheme.

The statement provides guidance for local authorities on how to prioritise land for protection for biodiversity purposes, by bringing together information from a range of sources. This includes a synthesis of the science behind four recommendations:

1. protecting indigenous vegetation associated with land environments that have 20 per cent or less remaining in indigenous cover;¹⁵
2. protecting sand dune and wetland systems;
3. protecting originally rare ecosystems vegetation;
4. and protecting habitats of acutely and chronically threatened indigenous species.

¹⁴ The New Zealand Biodiversity Strategy Action Plan Objective 1.1 Action (d) registered the need to 'prepare a national policy statement and related material to provide guidance to local authorities on implementing provisions of the Resource Management Act relevant to conserving and sustainably managing indigenous biodiversity' (NZ Bio, 2000). See also Green & Clarkson, 2005.

¹⁵ 'Land environments' are areas categorised as having similar characteristics. The term is based on the national mapping project *Land Environments of New Zealand* (Leathwick et al., 2002; 2003).

The statement provides what the government sees as a better framework for decision-making about biodiversity on private land, and there is an expectation that the priorities will be used to support and inform local councils' biodiversity responsibilities under the RMA (MfE & DoC, 2007). This is very much a step back from a National Policy Statement, which would require regional councils to give effect to the national priorities.

This reluctance to establish a binding national policy on biodiversity may have several causes. One is likely to be a genuine belief that the best path is to continue providing financial incentives and advisory support. This would further enhance recent significant increases in voluntary landowner protection and enhancement of biodiversity values.¹⁶ It is also recognised that local councils need to decide how best to pursue biodiversity goals. Some may incorporate the 'national priorities' in policies and plans through the RMA process, while others might not see such a prescriptive approach working. An NPS might be seen as acting against such flexibility.

However, it is also possible that not pursuing an NPS is a symptom of a reluctance to open up a debate over private property. The 2000 Ministerial Advisory Committee initially noted that private property was 'not an absolute concept, but merely a bundle of rights and obligations that evolve over time' and that compensation for those affected by any change was discretionary (MAC, 2000a: 19). By the time the final report on biodiversity and private land was released in August 2000 the issue had been significantly reframed:

Property rights and the sanctity of a Crown grant are eroded where society decides that certain attributes on a property are of sufficient significance to warrant directing the owner on how that attribute should be managed. This is in total contradiction to most people's concept of the spirit and intent of the freehold title. Private property is so-named to reinforce the practice as well as the concept of privacy, security and — above all — surety. (MAC, 2000b: 6)

In other words, things had evolved to a point where freehold title to land conferred greater rights, or expectation of rights, than a strict legal interpretation might suggest. The report noted that imposing requirements on landowners would exacerbate existing tensions, and risked generating costs greater than landowners could bear. This final report concluded the approach should be a partnership between central and local government to assist private landowners through incentives, local accords, better information flows, and good-practice guides, while avoiding regulation (MAC, 2000b).¹⁷

That this approach was the correct one politically was reinforced by consequent challenges to the assumption and operation of private property rights. These included: a debate over ownership of the foreshore and seabed surrounding claims that Māori traditional ownership of this public property was never legally extinguished (Stavenhagen, 2006); rural land rights versus claims of the public right to access such areas as riparian zones; the re-emergence of an on-going Waitangi Tribunal claim over the patenting of living organisms (Wai, n.d.), and debate over how to tax different sectors of the community fairly for atmospheric carbon emissions.

Therefore, while the focus of the government's priority statement may be, correctly, private land, there remains one primary issue not addressed. That is, that voluntary private landowner involvement in indigenous biodiversity protection and management has failed to deliver the degree of private property–public reserve integration required to achieve the 2000 NZBS goals (Green & Clarkson, 2005). Unless there is better integration, indigenous biodiversity will continue to decline (Green & Clarkson, 2005; Walker et al., 2005). The priority statement includes an intent by central government to more vigorously promote the support landowners can already access to protect indigenous biodiversity; however, this may not be enough.

The story of how a proposed biodiversity NPS did not eventuate is illustrative of one of the difficulties in realising sustainable development outcomes, namely the clash between private rights and public good. It is possible the government's statement of national priorities for the protection of rare and threatened native biodiversity on private land is preferable to an NPS. However, having the debate conducted more publicly may have illuminated the reasons why this might be so, thereby leading to a greater willingness to find a more effective solution.

¹⁶ A 'green renaissance' has occurred, associated with the apparently historically high number of community-led or private initiatives involving the protection, management or restoration of indigenous biodiversity (Green & Clarkson, 2005).

¹⁷ The report also reflected on-going tension between economic liberalism, calls for less government, and respect for private property rights, coupled with global and local pressure for ecological protection (Connor & Dovers, 2004; Memon & Perkins, 2000; Palmer, 2002; Rainbow, 1993).

4.2.3 Too little too late — or making a start?

NPSs and NESs influence the anticipated environmental outcomes of policies and plans, and mechanisms for managing and monitoring local activities. State of the Environment Monitoring and Reporting (SoEM&R) (RMA, s35) tracks trends against such anticipated outcomes. SoEM&R provides background data for formulating such things as regional water plans, and allows for a full realisation of, for example, the maintenance and enhancement of environmental quality (RMA, s7). SoEM&R also means that resource consents can be granted with conditions informed by a better knowledge of the existing ecological situation, and monitored accordingly.

A question that arises from the list above is, why these particular areas for NPSs and NESs? Information provided to date shows little evidence of a prioritisation process having been undertaken to identify NPSs and NESs. A lack of discussion over biodiversity may be symptomatic of an ad hoc approach. Further research is required into how NPSs and NESs were selected in the context of sustainable development, if indeed this was the case.

Local Government New Zealand (LGNZ)¹⁸ says generally speaking the NPS/NES topic areas covered are useful, but not necessarily the proposed mechanisms, content or, in particular, likely costs. For example, LGNZ sees the proposed urban design NPS as being potentially problematic for its members if it is too prescriptive and fails to account for local variation.¹⁹ On the other hand, the proposed flood management NPS has wording that was worked out to the mutual satisfaction of both central and local government.

LGNZ also comments that if NPSs and NESs had been put in place in the early to mid-1990s, following the introduction of the RMA, this might have been more acceptable. It would then have guided local authorities when they were drafting their first round of policies and plans under the new legislation. Most councils are now drafting their second-generation policies and plans, having identified priorities and methods of addressing issues. Introducing NPSs and NESs now may create problems for councils. It could also negatively affect the Long Term Council Community Plan (LTCCP) process by putting in place new requirements on top of what councils and communities may have already identified.

Overall, movement on NPSs and NESs is to be welcomed, given the lack of progress to date (OECD, 2007). However, they may be poorly targeted and prioritised, and may meet some opposition at a local government level. Meanwhile, another key plank for advancing sustainable development locally — gathering and disseminating good national data — is also being addressed.

4.3 Statistics New Zealand

Statistics New Zealand collects and presents data from across all sectors. Therefore it has a fundamental role in providing relevant information for sustainable development-oriented decision-making at a central and local level. This section describes how the agency is evolving to become a repository and supplier of such information.

4.3.1 Official Statistics System

The Statistics New Zealand-led Official Statistics System (OSS) includes coordinating information flow between government agencies. The OSS contributes to the three government themes of economic transformation, families — young and old, and national identity.

The OSS is a relatively new process, and Statistics New Zealand identifies as one of its outcomes that business, communities and citizens use environmental, economic and social statistics to inform debate, research and decision-making (Stats NZ, 2007a). Emphasis is placed on providing information about the economy and factors affecting it, social conditions, and demographic and related issues (*ibid.*: 4.). There is no direct reference to ecological sustainability at this higher strategic level, although as described below, Statistics New Zealand is exploring ways of collecting, storing and distributing environmental data. In addition, the economic transformation theme includes environmental sustainability action/action-areas that incorporate sustainable land use, climate change, energy, sustainable water management, and sustainable industry.

¹⁸ Local Government New Zealand (<http://www.lgnz.co.nz>) describes itself as representing the national interests of the country's 85 regional and territorial (city and district) councils.

¹⁹ An Urban Design Protocol was published by the Ministry for the Environment in 2005 (MfE, 2005b). However, this is voluntary, so while providing guidance on desirable urban features, it can at best be described as influencing only those who are signatories.

4.3.2 Selecting statistics

One issue to be tackled is deciding what information will be made available free of charge. The government recently increased funding for Statistics New Zealand to make information more readily available. Given that what information is available influences how communities perceive their local environmental, economic and social issues, deciding what to make more readily available will have significant implications.

Nationally, the Minister's Advisory Committee on Official Statistics (ACOS) advises the Minister of Statistics, Statistics New Zealand and all other government departments on selecting the right set of official statistics relating to their respective areas (Stats NZ, 2007a). Set up in 2005, ACOS represents those using statistics. One task for ACOS is to review 'tier 1' statistics. Tier 1 statistics are the key performance measure for New Zealand. These:

- are essential to central government decision-making
- are of high public interest
- meet public expectations of impartiality and statistical quality
- require long-term continuity of the data
- provide international comparability in a global environment (Stats NZ, 2007a: 7)

In terms of getting the right statistics from each sector, Statistics New Zealand is guided by the Advisory Committee on Economic Statistics, and the Programme of Official Social Statistics Advisory Group. There is currently no environmental advisory committee; however, Statistics New Zealand and the Ministry for the Environment are working on an Environmental Domain Plan to address this matter (see below).

Users of statistics will be able to feed back to the department through an Official Statistics Performance Survey.

4.3.3 Domain plans

In relation to creating links across sectors, Statistics New Zealand is developing domain plans. These address cross-agency or cross-sector statistical collections, and seek to:

- develop a long-term picture of what is required rather than reacting to issues;
- develop a coordinated plan, rather than tackling issues on a piecemeal basis; and
- work in partnership with other agencies to obtain agreement on priorities, rather than taking a single-agency view.

An example is the energy domain plan released in October 2006 (MED, 2006b). A family domain plan has also been completed. This was based on research on issues and trends overseas, and public consultation within New Zealand:

The plan revealed that New Zealand has a solid base of official family statistics built on the long-standing Census of Population and Dwellings, a more recently established programme of household surveys, and a set of standard statistical classifications of families and households. Nevertheless, there are a number of significant information gaps and shortcomings that need to be addressed to ensure the ongoing relevance of this body of statistics. In particular, the classifications of families and households need updating to ensure that they adequately reflect the growing diversity of family structures, particularly around step-families and children who reside in more than one household. (Stats NZ, 2007a: 23)

4.3.4 Environmental Domain Plan

Statistics New Zealand and the Ministry for the Environment are leading the development of an Environmental Domain Plan covering the sustainability of the natural environment. A series of workshops have begun to identify key topics upon which to gather statistics (Stats NZ, 2007a: 23).

4.3.5 New Zealand Geospatial strategy

Using visualisation tools helps disseminate information to non-statistical audiences, and Statistics New Zealand is investigating ways of doing this over the next three years (2007–2010). This is part of a developing geospatial strategy:

This strategy looks at ways to make use of emerging technologies to present statistical information. The proposed strategy will also provide the opportunity to link statistical information with geospatial information at a more accurate level. It will improve the quality of existing standards by providing users with a framework within which to search, access, use and analyse statistics alongside geospatial information. (Stats NZ, 2007b: 20)

This will be aligned with the *New Zealand Geospatial Strategy*, an all-of-government initiative led by Landcare Research, as discussed in Section 4.4 below.

4.3.6 Statisphere

This is a portal providing information on New Zealand's official statistics (<http://www.statisphere.govt.nz>). It links through to the inaugural list of Tier 1 statistics noted above. These are statistics grouped under the following headings:

- Population
- Births, deaths and marriages
- Culture and identity
- Education
- Health and safety
- Housing
- Justice and the law
- Labour market
- Incomes
- National economy
- Agriculture, forestry and fisheries
- Manufacturing, retail and wholesale trade
- Energy production and consumption
- Tourism
- Communication, science and technology
- Building and construction
- Business demographics
- Prices and inflation
- Exports and imports
- Environment
- Financial sector.

However, the Statisphere records all statistics collected by government, not just the Tier 1 statistics.

4.3.7 Establishing and monitoring sustainable development indicators

The Statistics New Zealand initiatives would be expected to contribute to the work on sustainable development indicators.

In 2002 and 2003, Statistics New Zealand published *Monitoring Progress Towards a Sustainable New Zealand* (Stats NZ, 2002a) and *Review of the Monitoring Progress Towards a Sustainable New Zealand* (Stats NZ, 2003). Statistics New Zealand is looking to update this work, using among other things information resulting from the International Working Group on Statistics for Sustainable Development (WGSSD). The WGSSD aims to progress statistics on sustainable development, with the drivers being international comparability and a common approach (Stats NZ, 2007b).

Statistics New Zealand aims to produce a sustainable development statistical framework by 2009.²⁰ The objective is to establish indicators to monitor progress towards sustainable development in ways that are complementary to the current social, economic and environmental reporting systems. A particular component of the report would be to provide useful data sets for local government monitoring and reporting. The project aims to achieve the following:

- Integrated information from across the economic, environmental, social and cultural domains of sustainable development that results ultimately in a broader measure of progress;
- Improved accessibility to information on sustainable development;
- Enhanced coordination in the approach to informing decisions on sustainable development in New Zealand that develops networks within both the public sector and relevant interest groups;
- A measurement framework and publication that is valued by many sectors of New Zealand society and useful for informing policy within the public sector;
- Foundation-setting for future regular sustainable development reporting; and
- Produced statistics that align with best practice, and are comparable internationally.

This would seem to tie in with the reporting requirements of the LGA, RMA and LTMA (Figure 1). It also overlaps with work being done by the New Zealand Centre for Ecological Economics, as discussed below (Section 5.4).

The Ministry for the Environment is leading the development of sustainable development indicators and reporting for the sustainability 'six-pack' covering business, households and government (Section 3.2.1). This is being done in close consultation with the Ministry of Economic Development, Statistics New Zealand, Treasury and the Energy Efficiency and Conservation Authority.

The government's intent is to assess performance, reinforce and learn from successful actions and programmes, and contribute work to engage the public on sustainability. It would also contribute to the development of national environmental and sustainability indicators. The OECD is working on internationally comparable sustainability indicators, but these are not expected to be available until about 2009. Statistics New Zealand, the Ministry for the Environment and the Ministry of Social Development are examining what these will mean for New Zealand (Benson-Pope, 2007: paras 22, 23).

4.3.8 Linked indicators

In connection with sustainable development monitoring, Statistics New Zealand describes how the indicators it is working on are linked to a number of information-gathering projects being undertaken by other agencies (Stats NZ, n.d.). One aim is to link socio-economic indicators with the ecological indicators being established by the Ministry for the Environment.²¹

Statistics New Zealand is also developing natural resource accounts (Stats NZ, 2002b) which, as of August 2007, were intended to be linked to the indicator projects. These accounts describe the total available stock of a given natural resource at a point in time, and the supply and use of the resource in economic activity.

²⁰ This led to the 2009 report *Measuring New Zealand's Progress Using a Sustainable Development Approach: 2008*, the full set of indicators and principles of sustainable development can be found at www.stats.govt.nz/sustainabledevelopment

²¹ The establishment of environmental (ecological) performance indicators has had a chequered history, with the programme started by the MfE in 1996 (Williams & Mulcock, 1996), but coming to a halt in 2003. MfE has now developed what it is calling a core set of indicators, which benefited from this previous work, but are described as being more focused. The 2007 New Zealand state of the environment report, released in January 2008, includes a description of these indicators (Section 4.1 of this report).

4.3.9 Regional stocktakes

In March 2007, Statistics New Zealand and the Department of Internal Affairs released the first regional stocktake (Stats NZ & DIA, 2007). This collates sub-national data to make it easier to access for a range of purposes, including monitoring. Data sets cover a wide range of topics, such as water use, building consents, education, crime, and data from the Quality of Life Project.²² The spreadsheets will be updated periodically.

In addition to the work being done by Statistics New Zealand in coordination with other agencies, Land Information New Zealand has developed the *New Zealand Geospatial Strategy* (LINZ, 2007a).

4.4 New Zealand Geospatial Strategy

Geospatial information describes the location and names of features on, above and below the earth's surface. Geospatial information influences the management of emergency services, national defence, utilities, resource management, biosecurity, environmental protection, economic development, elections, land transactions, social services and Treaty of Waitangi settlements (LINZ, 2007b).

The *New Zealand Geospatial Strategy* was approved in April 2007, and aims to better coordinate information collected by government agencies (LINZ, 2007a). For example, Statistics New Zealand anticipates contributing its data and expertise to the process (Stats NZ, 2007a: 21), while there are links to various government strategies including the Growth and Innovation Framework, the Review of the Centre, e-Government and the Digital Strategy. A New Zealand Geospatial Office has been set up, as of 2007, to drive delivery on the strategy.

Emphasis is placed on making geospatial techniques widely available and their potential understood. In particular, there is a need to ensure data-gathering and storage techniques are 'interoperable' — that is, easily comparable. This will improve such things as the ability of different agencies to use each other's data in order to avoid duplication and improve outcomes. This applies particularly in the social sector, relating to such things as health, education and emergency services.

Making data-management techniques more readily available to a wider audience will influence how people make decisions on ecological, social and economic issues. An example of how this might work is when Land Information New Zealand made its topographical information available at cost four years ago. This brought the cost down to several hundred rather than several hundred thousand dollars, essentially freeing up the data. The effect was that many more organisations made use of this intellectual property.

This has been complemented by people becoming more familiar with geospatial technologies such as Geographic Information Systems (GIS) or, more popularly, Google Earth.

This is a similar phenomenon to that associated with increasing the finance available to Statistics New Zealand to make more information freely available to the public. In essence, rather than concentrating on making money out of a product by selling it, the government may be moving more towards seeing the value of products such as information-management systems in boosting overall economic productivity and improving ecological and social outcomes to the community as a whole.

Other tools contributing to the *Geospatial Strategy* include MfE's Land Cover Database (LCDB) (MfE, n.d.[d]), Landcare's Land Environments of New Zealand (LENZ) (Leathwick et al., 2002; 2003) and NIWA's River Environment Classification (REC) (Snelder & Hughey, 2005) and Marine Environments Classification (MEC) (NIWA, n.d.). These modelling systems contribute to monitoring land and water systems over time and space, thereby helping with state of the environment monitoring and the identification of locally relevant resource consent conditions that also relate to wider ecoregional or bioregional needs.²³

²² The Quality of Life Project was begun in 1999 to measure social, economic and environmental conditions in urban centres (<http://www.bigcities.govt.nz> accessed November 2007). It has identified a number of social, economic and environmental indicators for monitoring, and conducts household surveys every two years.

²³ An ecoregion is an area containing geographically distinct assemblages of natural communities that (a) share the majority of their species and ecological dynamics, (b) share similar environmental conditions, and (c) interact ecologically in ways that are critical for their long-term persistence (Dinerstein et al., 2000). Bioregions are areas containing one large or several nested ecosystems. They are characterised by landforms, vegetative cover, human culture and history, as identified by local communities, government and scientists (Miller, 1996).

4. INFORMATION GATHERING AND MANAGEMENT

LCDB, LENZ and REC in particular can allow for a degree of transfer of analysis between different areas based on basic environmental characteristics where on-the-ground research is lacking. In essence, assumptions can be made about ecosystem behaviour associated with development activities.

The National State of the Environment Report (*Environment New Zealand 2007*, see Section 4.1) makes use of such an approach, using five ecological classification systems that include the LCDB, LENZ and REC systems, as well as a Coastal and Marine Habitat and Ecosystem Classification System (which will incorporate MEC, but did not do so for the 2007 report), and a Demersal Fish Community Classification System.

Again, this raises the issue of what communities, and local government, should pay in terms of accessing information. LENZ and REC are marketable products developed by Crown Research Institutes. The CRIs are required to make a return to the taxpayer on investment. However, in order to improve the uptake of these products, it will be necessary to substantially offset the costs to local government and communities of using them. What is being done in this regard is not reviewed in this report, and remains an area needing investigation.

The *Geospatial Strategy* could contribute to:

- identifying what sustainable development-oriented data is already being collected and where the gaps are;
- establishing what data can be compared for the Statistics New Zealand sustainable development monitoring project; and
- identifying how information relevant to sustainable development issues is disseminated to local councils and communities to assist in feedback mechanisms that (a) identify priority areas to be addressed and (b) identify mechanisms for monitoring progress.

One issue touched on above is the comparability of data sets. This is discussed further in Section 4.5.

4.5 Aligning Environmental Information Data Bases

A Ministry of Research, Science and Technology project is looking at how to integrate environmental data collected for a range of purposes in order to improve decision-making. This is part of the Roadmaps for Science programme (MoRST, 2007). The Environmental Research strand of the programme is predicated on the realisation that:

Environmental management decisions increasingly require an understanding of whole system processes and a multidimensional approach, including linking biophysical, socio-economic and health research. More integrated and systems-based approaches can offer environmental managers and decision-makers answers to many of the questions they are facing. (MoRST, 2007: 3)

The objectives are to improve the integration of knowledge across disciplines, the transfer and uptake of information, and the management of data bases. Six broad areas are identified as posing ‘significant challenges’:

1. Predicting climate change scenarios and how New Zealand can adapt.
2. Better integration of land, water and coastal research, including getting relevant information to environmental managers.
3. Urban design and hazards associated with emergency and civil defence services.
4. Biosecurity management, particularly in the area of integrating services across sectors.
5. Biodiversity management, with an emphasis on ecosystem-level modelling and maintaining a balance between descriptive and predictive research.
6. Ocean systems in order to identify the key ecological questions needing to be answered.

One of the areas being addressed is the comparability of data between for example Crown Research Institutes, and between CRIs and regional councils. Data may be gathered for a variety of purposes using a variety of methodologies, therefore subsequent attempts to use potentially complementary data sets — for example, land and water management — may be difficult. Additionally, data may be held in a variety of media (electronically and in hard copy), or in different formats in the same media, again compromising attempts to use data sets in combination. ‘Future-proofing’ data collection will be looked at as part of this project. Also being addressed is how scientific information influences decision-making in local authorities in order to improve the ability to predict trends and undertake adaptive management.

MoRST says that once implemented, the Environmental Roadmap will make a difference by:

- Equipping environmental managers with integrated research results and tools which will help them avoid, remedy or mitigate future environmental problems.
- Enhancing New Zealand’s potential as a test bed and world leader for new innovations and business developments in environmental technologies.
- Improved predictions of and responses to natural hazards events.
- Improved responses to climate change.

The Roadmap does not include targets or timelines. Rather, it is put forward to guide research investment decisions by the Foundation for Research, Science and Technology (FRST), the Marsden Fund and the Health Research Council.

Overall, the intent appears to be to improve the ability of decision-makers to cope with complex issues over longer time-frames as a result of more collaborative research across different sectors. This complements efforts by Statistics New Zealand, the Ministry for the Environment and Land Information New Zealand to identify ways of monitoring using indicators from across different sectors, and what framework could be used to manage such data.

There remains a question over a lack of clarity over goals and targets. These may be identified at a local level through the LTCCP and planning processes of the RMA, and guidance is evolving with the economic transformation, national identity, families themes and the six-pack, along with the evolving energy/carbon emissions strategy, and associated land use considerations. However, it would be useful to have clarity over what the integrated goals across these sectors are, in order to help identify relevant indicators and hence track progress. Assistance may come from a newly established Sustainability Outcomes Team at the Ministry for the Environment.

4.6 Sustainability Outcomes Team

In July 2007 the Ministry for the Environment set up a Sustainability Outcomes Team to address the following:

1. What are New Zealand’s national sustainability goals?
2. Are we moving in the right direction to achieve these goals?
3. How do we measure progress?

The Outcomes Team will be identifying the implicit or explicit goals evident in the range of sustainability-related national strategies, including energy, transport, water, urban form, carbon neutrality, business sustainability and waste minimisation (Section 3.2). The aim is to provide meaningful information to track New Zealand’s progress towards environmental sustainability.

This work will not establish all integrated goals across the social-economic-ecological sectors, as it is focused on environmental sustainability. However, it will contribute to work being done by Statistics New Zealand on identifying national and regional sustainable development indicators (Section 4.3).

4.7 Interface Facilitation Team

The Department of Internal Affairs facilitates contact between central and local government agencies involved in Community Outcome Processes (COPs). These in effect refer to identifying priorities as part of a sustainable development approach at a local level.²⁴

The department has set up an Interface Facilitation Team to liaise with local authorities and government agencies around the community outcomes process. The team's role is to:

- provide information about community outcomes processes to local authorities and central government agencies;
- connect central government agencies with each other and with local authorities to work effectively on community outcomes;
- encourage central government agencies to align their planning with local priorities for community outcomes; and
- collect information about the community outcomes process and good practice, and share this information through the LocalCentral website,²⁵ annual workshops and other means.

The Interface website is being updated to improve access to information on best practice around the community outcomes process, and improve access to (and information about) central government. There will also be more information about local authorities, which may be used by central government when considering the impact of its planning and national level strategies on local areas.

In the longer term, the Interface Facilitation Team may include links to non-governmental services as well as government services.

4.8 Coordination of Central Government Initiatives

The initiatives outlined above suggest a need for regular contact within and between agencies involved in aspects of sustainable development. Indeed, inter-agency discussions have always occurred, and recently there has been a flowering of more formal fora for this process. However, there does appear to be some need for rationalisation.

Local government currently discusses issues through channels which include:

- the Central Government/Local Government Forum (Cabinet ministers and the National Council of LGNZ);
- the Chief Executives Environment Forum (regional council chief executives, LGNZ and central government chief executives), and
- LGNZ zone meetings (all councils within a region and central government senior officials).

In addition, the government has said that a more targeted interaction with stakeholders is needed; that is:

Sector reference groups made up of local government representatives (particularly from city and district councils), business and/or other stakeholders will be established for each ['six-pack'] initiative as required, to help to refine the initiatives, test the proposals against the objectives, and advise on any issues that may be raised for their sectors. (Benson-Pope, 2007: 31)

²⁴ In November 2004 the New Zealand Cabinet identified the Department of Internal Affairs as the lead agency for facilitating central government engagement with local authorities around community outcomes. This followed the Cabinet Policy Committee noting that opportunities existed under the Local Government Act 2002 for central government agencies to work with local authorities and communities to define and promote community outcomes. See <http://www.localcentral.govt.nz> accessed November 2007.

²⁵ The website contains a directory of central government agencies (http://www.localcentral.govt.nz/COPwebsite.nsf/vw_Wellbeing?OpenView accessed November 2007) to, among other things, help local authorities contact central government agencies about the community outcomes process and their communities' outcomes.

Specifically in the context of climate change, but also more generally, the primary approach to encouraging behaviour change is via:

- government leadership through a call to action and changes to the government's own practices;
- encouraging uptake of sustainable practices across New Zealand by promoting the practicalities and benefits of being more sustainable;
- recognising and giving impetus to the good work already being done in communities, local government and business; and
- the use of partnerships to promote change.

Inquiries made with the Ministry for the Environment while preparing this paper failed to identify any sector reference group as having been established.

A chief executives sustainability group has been formed to provide leadership of the package and coordinate with other sustainability issues across government. It has been convened by the Department of the Prime Minister and Cabinet, and includes the Ministry for the Environment, Ministry for Economic Development, the State Services Commission, the Treasury and the Ministry of Agriculture and Forestry. The group is 'charged with taking forward the overall sustainability programme' (DPMC, 2007).

In addition, the Central Government Interagency Group (CGIG) is a forum where central government agencies can discuss the contribution they make to the community outcomes process at a local level. Initiated in March 2005, the CGIG provides a venue for officials to identify opportunities and barriers to supporting the community outcomes process.

The CGIG membership consists of central government departments, ministries and crown agencies with an interest in central/local government engagement in community outcome processes. Local Government New Zealand (LGNZ) and the Society of Local Government Managers (SOLGM) are represented on the committee. All agencies are expected to understand what sustainability is and how it influences (or should influence) their work.

However, the CGIG is a stand-alone entity; that is, information goes back to individual ministries and departments to go up and down various hierarchies. Therefore, there is a risk that useful information may not get to other relevant cross-sector groups, such as the chief executives sustainability group.

Overall, these opportunities to swap information on what various arms of central and local government are doing are welcome, but would benefit from better coordination. The Ministry for the Environment is said to be managing a whole-of-government communications plan to support the sustainable development themes and various initiatives. It aims to ensure the messages are 'coherent, consistent and reinforced', and to help overcome the current lack of centralised coordination between government agencies with sustainability initiatives (Benson-Pope, 2007). One job it might consider is supporting the Department of Internal Affairs to coordinate discussions at a central government level, and between central and local government, with significant assistance from the ministries of Environment, Economic Development and Social Development.

5. Exploring Sustainable Development Outcomes

This section looks at research being conducted on systems and processes aimed at providing ways for local government and communities to explore sustainable development outcomes. The work is largely funded by central government, primarily through the Foundation for Research, Science and Technology. Much of the work is being led by Landcare Research.

5.1 Futuring

This involves identifying and exploring future scenarios, which in turn can guide day-to-day decisions. It is essentially an extension of strategic planning, but involves exploring a range of options. There are a number of related strands of research looking at working with central and local government agencies, and communities, to identify a range of possible scenarios and ways to achieve (or avoid) them.

The NZ Centre for Ecological Economics is developing modelling techniques to simulate preferred futures identified by various sectors in society and business.²⁶ Multi-media interactive displays will allow users to visualise various alternative options, an approach similar in intent to that of the geospatial strategy (Section 4.3.5). They can also experiment to see what various changes would bring about in terms of outcomes. In summary, the aim is to use computer models to:

- help users set up ‘what if’ scenarios and display results;
- help users compare different scenarios for spatial areas;
- show users all the model logic, assumptions and input data; and
- display a wide range of factors through visual dimensions.

In May 2006 Environment Waikato (the Waikato Regional Council) embarked on a four-year project called Choosing Regional Futures.²⁷ The project brings community workers and stakeholders together with social, environmental and economic researchers.²⁸ The project has two specific objectives:

1. Developing processes to enable evaluation, deliberation and choice of alternative social, environmental, economic and cultural changes through the use of scenario analysis.
2. Developing a spatial decision support system (SDSS) that:
 - integrates key economic, environmental and social/cultural components;
 - quantitatively forecasts plausible future scenarios of regional development as part of long-term integrated planning; and
 - helps monitor progress towards achieving long-term sustainable community goals and outcomes.

The tools to be developed through the project are intended to expose links and trade-offs between economic, environmental and social/cultural outcomes, including cumulative effects over space and time. The information, knowledge and tools from the project can be widely used and applied to the council’s (and other organisations’) planning and decision-making.

The Choosing Regional Futures project is in line with and could benefit from the work being done on improving national data sets by Statistics New Zealand (Section 4.3) and the *New Zealand Geospatial Strategy* (Section 4.4). It aims to integrate research and data sets across several community outcomes. This should allow for improved assessment and representation of consequences and trade-offs to the community of proposed policies or strategies.

²⁶ http://www.nzcee.org.nz/pages/research_projects/sustainable_pathways/futuring_default.asp accessed September 2007.

²⁷ <http://www.choosingfutures.co.nz> accessed September 2007.

²⁸ These come from the Crown Research Institutes of Landcare Research, AgResearch, the National Institute of Water and Atmospheric Research (NIWA) and Scion (formerly the Forest Research Institute), as well as the New Zealand Centre for Ecological Economics, the University of Waikato, and the Netherlands-based Research Institute for Knowledge Systems, the University of Maryland, and France’s Université de Versailles Saint Quentin-en-Yvelines.

As an example of the approach, Landcare Research describes its contribution to the project as helping to identify trade-offs among the four well-beings in the Local Government Act 2002 (social, cultural, environmental and economic), and the consequences of actions across a range of spatial and temporal scales (Landcare, n.d.[a]). This could include a range from single, broad-scale events (e.g. tsunamis) to the cumulative effects of many fine-scale decisions (e.g. urban sprawl).

Landcare has also developed a ‘Futures Game’ (Landcare, n.d.[b]) for government and business to promote long-term thinking and increase understanding of the requirement for, and implications of, sustainable development. Game users include the Tourism Industry Association of New Zealand, Local Government New Zealand, the Public Health Association, Ministry of Transport, Department of Conservation and the Ministry for the Environment.

The CRI has also created a downloadable participative ‘game’ called 100% Pure Conjecture (Landcare, 2008). This uses four contrasting future possibilities for New Zealand since 2004 to stimulate a future choices debate.

5.2 Strategy and Policy Development

Closely connected to the work outlined above, and overlapping with it, is research related to the question: What makes sustainability strategies effective for the government and the public? (Landcare, n.d.[c]). In brief:

- Accounting frameworks and sustainability assessment (Landcare, n.d.[d]). This research investigates how sustainability assessment tools are applied in practice. These tools enable decision- and policy-makers in the public and private sectors to understand the impacts of different development pathways on all dimensions of sustainable development.
- Integrated assessment framework for sustainable development (Landcare, n.d.[a]). This explores relationships and feedbacks among aspects of culture, economy, environment, and society through the development of integrated assessment frameworks that allow one to explore the future and ask ‘What if ...?’
- Policy development (Landcare, n.d.[e]). This research focuses on governance issues and decision-making processes that link together growth, innovation and sustainability.
- Sustainable communication and social marketing (Landcare, n.d.[f]). This focuses on sustainable communication and social marketing processes that promote issues of sustainable consumption to the general public.
- Sustainable futures (Landcare, n.d.[b]). This investigates long-term sustainable development policies in New Zealand and overseas, researching ways to enable change towards sustainability, and developing tools and methods to support this.

5.3 Sustainable Consumption and Production

Landcare Research conducts research into the drivers and barriers to sustainable consumption and production (Landcare, n.d.[g]). It aims to understand what makes sustainability strategies; how business can become more intimately involved in biodiversity management; working with central and local government and the private sector on mitigating against, and responding to, climate change; improving sustainability levels in film and television; improving the adoption of sustainable technologies; increasing the adoption of international environmental management system standards; sport and sustainability; and helping exporters to meet and anticipate international environmental standards.

5.4 Ecology and Economics

The New Zealand Centre for Ecological Economics and Landcare Research²⁹ collaborate on research into:

- material and energy flows in coupled socioeconomic and environmental systems (societal metabolism) as part of the Sustainable Pathways programme (NZCEE, n.d.[a]);
- analysis of life-cycle impacts of primary industries as part of the Ecological Footprint Plus programme (NZCEE, n.d.[b]);
- development of sustainability indicators (e.g. the Genuine Progress Indicator);
- assessment of Climate Change Impacts on New Zealand Infrastructure (CLINZI) projects for local government (NZCEE, n.d.[c]);
- valuation of ecosystem services; and
- interdisciplinary analysis of resource and environmental issues (e.g. water allocation in Canterbury).

5.5 Collaborative Learning

Landcare Research examines the integration of different types of knowledge, such as scientific and community-based, as part of a decision-making process (Landcare, n.d.[h]). This research includes looking at the communication between different groups with varying backgrounds, including the place of indigenous knowledge and values; adaptive management and policy-making; education for sustainable development; monitoring and evaluation techniques involving local communities; social learning and behaviour change and the context in which information is provided and shared at a community level; and research into creating systems that lead to the participation of the different stakeholder groups in programme design, implementation, monitoring and evaluation.

²⁹ The NZCEE is a joint venture between Landcare Research and Massey University. There are research links with the Market Economics research group, the International Global Change Institute (IGCI), Lincoln University's Tourism Recreation Research and Education Centre (TRREC), NIWA, AgResearch, Scion, Environmental Science and Research and Canesis. Internationally, there are links with Australian research organisations including the Land and Water Policy and Economic Research Unit at the Commonwealth Science and Industrial Research Organisation (CSIRO) and the University of Sydney's Centre for Integrated Sustainability Analysis.

6. Local Government Capacity

A question arising from the above is whether local government can take advantage of the apparent surge in research, information and support available on sustainable development.

The question echoes concerns over the failure to realise the potential of the RMA. In short, the RMA experience suggests limited local capacity (Borrie et al., 2004) was coupled with, and a contributor to, an over-reliance on resource-consent conditions as a means of controlling such difficult problems as cumulative ecological impacts (OECD, 1996; Snelder & Hughey, 2005).³⁰ Additionally, central government failure to implement key parts of the RMA (see Section 4.2 on National Policy Statements and Environmental Standards) (OECD, 2007) and the underfunding of key central government agencies (Borrie et al., 2004) did not help.

A survey of councils to test the assumption that implementation of the RMA resulted in sustainable management of the environment indicated:

1. Most regional and district council plans struggled to fulfil the ambitious expectations of the RMA;
2. The good to very poor quality of plans and policy statements was due to lack of sufficient government funding of its implementation agencies, that is, MfE and DoC, which in turn failed to adequately resource councils and train staff to fulfil their RMA functions;
3. Consents tend to rely on a small range of traditional techniques for environmental management;
4. Conversely, when capacity increases through such things as staff experience and training, there is an increase in the range of techniques used for implementing resource consents;
5. Not surprisingly, given the above, there has been a substantial gap between the environmental management techniques advocated in district plans, and those being applied in resource consents.³¹ Generally speaking, the lower the council capacity and plan quality, the greater the implementation gap; and
6. Where there was low to medium capacity and where the range of environmental management techniques was conservative (and the two phenomena tend to be related) there is a low likelihood of a significant move towards the goal of sustainable management of natural and physical resources. (Day et al., 2003)

The Planning Under Co-operative Mandates (PUCM) research concluded that council reliance on traditional measures was due to:

1. A lack of central government guidance, especially the lack of national policy statements and/or standards;
2. Poor plan quality, particularly inconsistencies between policies and rules;
3. Vaguely written policies and little practical guidance on how to implement policies in practice;
4. Inconsistencies between policies and rules;
5. Lag-time between the adoption of new concepts in policies in the plan and the development of techniques to implement them; and
6. Limited council capacity to consider alternatives and test, modify and promote new environmentally robust techniques. (ibid)

The above observations and conclusions refer to planning undertaken largely through the 1990s and early 2000s. LGNZ says second-generation plans are a great improvement on earlier efforts and that the RMA is only one of a number of statutes and functions that councils must deliver on. On the other hand, what the PUCM team was highlighting was the need to ensure councils had both the commitment to undertake good planning and the capacity to do so, something PUCM termed the council's overall capability (Ericksen et al., 2001: 17; 2003: 3, cited in Borrie et al., 2004: 10). This is not a criticism of councils, but rather reflects the need to ensure there is the wherewithal at a local level to realise the ambitious goals of

³⁰ The resource consent process has led to improvements: for example, there are signs that better controls on point source discharges have improved freshwater quality. However, there remains an overall decline in lowland freshwater quality (Scarsbrook, 2006) indicating a management gap related to the intensification of land use, particularly for agriculture (OECD, 2007).

³¹ Resource consents in residential urban amenity and storm water management were assessed. Note that the relationship between policies and plans and state of the environment monitoring (RMA s.35), as a measure of implementation, was not assessed.

any national initiative, whether through the RMA, Local Government Act 2002, or any other piece of legislation, strategy, guideline or policy.

The PUCM team observed that the level of commitment to issues in plans influenced funding and resources, political priorities, and the political understanding of the district planning process (Day et al., 2003). They also suggested commitment may significantly influence the highly variable levels of ‘information quality’ in consents. In other words, ‘it appears a substantial number of consents are being granted without clear or detailed information, due in part to pressures for time-compliance as commitment to economic growth — often to obtain more funding through rates to fulfil functions — prevails over environmental protection and enhancement’ (ibid.: xii). While these observations may be dated, the issues outlined above still need to be addressed.

Regardless of the quality of the information provided, if local councils lack the capability to respond, progress will be stymied. The Department of Internal Affairs has begun a review of local government legislation and other issues facing local government (DIA, 2007: 26). This will touch on capacity issues relating in particular to how local government is funded, as well as evaluating local government legislation, a process that is expected to continue through to 2013.

7. Conclusion

It is clear from the above that central government agencies are focusing on improving sustainable development-related information gathering and dissemination. Improvements are in the areas of data-gathering, working on identifying cross-sector goals, and developing ways to monitor progress towards them. Such efforts will benefit community attempts to become more sustainable.

There also appears to be a high degree of understanding about the complexity of the issues to be tackled. There is an indication of a desire to debate and identify future directions for development.

However, there is a lack of clarity over goals and timelines at a national level. Initiatives need to be clearly related to the overall sustainable development framework, which currently focuses on economics, families and national identity. For example, proposed National Policy Statements and National Environmental Standards may well contribute to improved levels of sustainability, but a clearer explanation as to how they sit within an overall sustainable development framework is needed.

On the other hand, it is recognised that many initiatives will arise independently and will need to be incorporated retrospectively. That is, they may be good initiatives in their own right, and could subsequently be incorporated into an evolving sustainable development strategy. Indicative of this is the setting up of the Sustainability Outcomes Team at the Ministry for the Environment. The team will look through the range of strategies, policies and programmes that have evolved as part of the government's sustainability vision to identify implicit and explicit goals and timelines.

Statistics New Zealand is set to play a central role in providing data on sustainable development trends, as well as developing indicators and monitoring systems as part of a sustainable development reporting system, with the first report due in 2009.

However, further research is needed to establish the extent to which local government and communities are able to use such data. Council capacity and political commitment will influence how sustainable development-related information and programmes are taken up locally. For example, the cost of data is an issue, one that is currently being addressed to some degree. Statistics New Zealand and the newly formed Geospatial Office of Land Information New Zealand are both considering what information should be made freely, or at least relatively cheaply, available. This is an important point, given that decision-making is influenced as much by what information is not readily attainable, as by what is.

There is reluctance at a central government level to enter more vigorously into the debate over the balance between private rights and public good. This reluctance may hamper putting in place criteria, guidelines or standards for achieving cross-sector sustainable development goals.

There is a need to rationalise the various intergovernmental fora for discussing sustainable development outcomes. This includes the need to ensure communication occurs at the level of those implementing policies and strategies, as well as discussions at chief executive and ministerial levels. The Department of Internal Affairs should ideally lead this process, with significant assistance from the Ministry for the Environment, the Ministry for Economic Development and the Ministry for Social Development, reflecting the three pillars of sustainability.

The current central government sustainability framework, focusing on economic transformation, families and national identity, needs to more clearly include ecological sustainability. This would complement local government monitoring and reporting of physical and environmental trends, and the drive to identify sustainability priorities through the LTCCP process under the Local Government Act. Current development of National Policy Statements and National Environmental Standards will help clarify ecological goals and the means of achieving them. However, the proposed NPSs and NESs are limited in scope and may be seen as too little too late at a local government and community level.

7. CONCLUSION

Questions arising from this paper that need to be addressed, are:

1. What sustainable development goals are being identified at a central government level, and how do they relate to the goals being identified at a local level?
2. To what extent are local councils and communities able to address sustainable development? That is, (a) what information is available; (b) do councils and communities have the capacity to assess relevant information; (c) to what extent does, and should, central government offset the costs of accessing and processing information; (d) how does information influence local-level decision-making; and (e) can aspirations be realised?
3. Is there better integration at a central government level, and if so, is this helping with integrated decision-making at a local level?

Abbreviations

Abbreviations	
ACOS	Advisory Committee on Official Statistics
CEO	Chief Executive Officer
CGIG	Central Government Interagency Group
CLINZI	Climate Change Impacts on New Zealand Infrastructure
COP	Community Outcomes Process
CRI	Crown Research Institute
CSIRO	Commonwealth Science and Industrial Research Organisation
DIA	Department of Internal Affairs
DoC	Department of Conservation
DPMC	Department of the Prime Minister and Cabinet
ET	Economic Transformation Strategy 2006
FRST	Foundation for Research, Science and Technology
GIF	Growth and Innovation Framework
GIS	Geographical Information System
HEHA	Healthy Eating Healthy Action Strategy
IGCI	International Global Change Institute
IPCC	Intergovernmental Panel on Climate Change
LCDB	Land Cover Database
LENZ	Land Environments New Zealand
LG	Local Government
LGA	Local Government Act 2002
LGNZ	Local Government New Zealand
LINZ	Land Information New Zealand
LTCCP	Long Term Council Community Plan
LTMA	Land Transport Management Act 2003
LTP	Land Transport Programme
MAC	Ministerial Advisory Committee
MAF	Ministry of Agriculture and Forestry
MEC	Marine Environments Classification
MED	Ministry of Economic Development
MfE	Ministry for the Environment
MoRST	Ministry of Research, Science and Technology
MoT	Ministry of Transport
MSD	Ministry of Social Development
NES	National Environmental Standard

Abbreviations	
NIWA	National Institute of Water and Atmospheric Research
NLTP	National Land Transport Programme
NPS	National Policy Statement
NZBS	New Zealand Biodiversity Strategy
NZCEE	New Zealand Centre for Ecological Economics
NZCPS	New Zealand Coastal Policy Statement
NZEECS	New Zealand Energy Efficiency and Conservation Strategy 2007
NZTS	New Zealand Transport Strategy
OAG	Office of the Auditor-General
OECD	Organisation for Economic Co-operation and Development
OSS	Official Statistics System
PCE	Parliamentary Commissioner for the Environment
PUCM	Planning Under Co-operative Mandates
REC	River Environment Classification
RMA	Resource Management Act 1991
SDPOA	Sustainable Development Programme of Action
SDSOG	Sustainable Development Senior Officers Group
SDSS	Spatial Decision Support System
SoEM&R	State of the Environment Monitoring and Reporting
SOLGM	Society of Local Government Managers
SSC	State Services Commission
TRREC	Tourism Recreational Research and Education Centre (Lincoln University)
WCED	World Commission on Environment and Development
WGSSD	International Working Group on Statistics for Sustainable Development

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* These can now be found at http://www.mcguinnessinstitute.org/Site/Publications/Project_Reports.aspx

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