

In Confidence

Office of the Minister for the Environment

Chair

Cabinet Economic Growth and Infrastructure Committee

Environmental Reporting Framework

Proposal

1. In August, Cabinet agreed to issue drafting instructions for an Environmental Reporting Bill providing for reporting on pressures and states of the specified domains. I now seek agreement to broaden the scope of reporting to include clearly defined areas of impacts on the significant uses and benefits New Zealanders derive from the environment in the following areas:
 - Ecosystem integrity
 - Public health
 - Economic benefits and resource utilisation
 - Culture and recreation
2. I also propose that reporting of the impacts of changes in the state of the environment on those areas be subject to three criteria for the selection of topics to be reported: significance; statistical rigour; and evidence for a causal link.
3. Finally, I wish to advise Cabinet of my intention to ensure environmental reporting is substantively representative of the position in New Zealand as a whole.

Executive summary

4. Cabinet has agreed a new approach to environmental reporting in New Zealand. The scope of this reporting will include:
 - The **state** of the following domains: air, atmosphere and climate, fresh water, marine, and land. Biodiversity and ecosystems are cross-cutting aspects that will be considered in the relevant domains;
 - **Changes in state** over time;
 - **Pressures**, both natural and anthropogenic, driving changes in state.
5. Expanding this scope to include measures of the **impact** that the state of the environment, and changes in the state, have on the uses and the benefits New Zealanders derive from the environment is important because:
 - Impact indicators put information about the state of the environment into context. They answer the "so what?" questions about the environment – what are the consequences of changes in the state for the New Zealand economy and society?

- Impact measures better inform the public about the significance of the state of the environment, to allow New Zealanders to engage in debate about what the management objectives for our environment should be.
 - Impact measures provide the connection between the environment and the use we make of it and, as such, are the measures most suitable as green growth indicators. They will inform the Business Growth Agenda and align with international practice (e.g., OECD Green Growth indicators).
6. The legislation will include requirements for the Secretary for the Environment and the Government Statistician to adhere to best practice principles, including the requirement to be satisfied that all reports are **substantively representative of the topic they aim to report on**.
 7. Consistent with previous Cabinet decisions, the Minister for the Environment and the Minister of Statistics are accountable for agreeing *which* impacts are reported on and for recommending that regulations be promulgated setting this out. The Government Statistician and the Secretary for the Environment will be responsible for developing the indicators in relation to the impacts as part of the independent environmental reporting system.

Background

8. On 5 August 2013, Cabinet agreed that drafting instructions be issued for an Environmental Reporting Bill [CAB Min (13) 26/6 refers] setting out:
 - roles and responsibilities for reporting
 - scope of reporting
 - timing of reporting
9. The Secretary for the Environment and the Government Statistician will be required to report on the environment to the public of New Zealand. The Parliamentary Commissioner for the Environment's (PCE) existing mandate will be strengthened by explicitly reinforcing the key role the PCE will play in the new environmental reporting regime in providing independent commentary at her discretion.
10. Cabinet agreed that the scope of reporting will include:
 - The state of the following domains: air, atmosphere and climate, fresh water, marine, and land. Biodiversity and ecosystems are cross-cutting aspects that will be considered in the relevant domain;
 - Changes in state over time;
 - Pressures, both natural and anthropogenic, driving changes in state.
11. As part of the decisions on environmental reporting, Cabinet delegated joint power to the Minister for the Environment and the Minister of Statistics to recommend that regulations be promulgated specifying further detail around what is to be reported.
12. The Bill will legislate for a three-year reporting cycle, with a domain report (for one of five domains – air, atmosphere and climate, land, fresh water and marine) being released every six months. A synthesis report summarising trends

across all environmental domains will be required by the legislation to be produced once every three years and will be released within the first six months of the term of a new government.

13. The EGI paper preceding the Cabinet decisions also included "*impacts on the range of economic, social, cultural and ecological values New Zealanders hold about the environment*" in the proposed scope of reporting. After discussion at the Committee the recommendation was removed from the paper and the remainder of the Environmental Reporting Bill agreed by Cabinet.

Further information on topics to be reported and set out in regulations

14. Cabinet has agreed that, within the legislative framework, the topics to be reported will be determined by the Minister for the Environment and the Minister for Statistics and set out in regulations. The Secretary for the Environment and the Government Statistician will then be responsible for identifying and developing indicators, at arm's length from government, which will allow reporting on the topics prescribed in regulation. Appendix 1 provides an overview of the contents of the primary and secondary legislation and the level of focus for the underlying indicators.

15. 9(2)(f)(iv)

Proposal to include 'impacts' in the scope of reporting

16. The scope of environmental reporting approved by Cabinet for incorporation into legislation captures only the **state** and **trends** of each domain, and the **pressures** exerted on the state. To provide a comprehensive picture, I propose that this scope should also include the **impacts** which the state, and changes in state, across each domain have upon the significant benefits and uses New Zealanders derive from the environment.
17. It is critical that the topics selected for environmental reporting through regulations established under this Bill are kept well focussed on objective, quantifiable and nationally relevant measures. To that end, I propose a "**two gate**" **process** for selecting the impact topics to be included in the new reporting framework.
18. Impacts will be selected first by **category**. This constrains the range of potential topics to four defined areas. Within each of these categories, potential topics will then be assessed against three **selection criteria**. **Both** these "gates" must be passed in order for a topic to be included in the framework. This approach will provide assurance that reporting will remain tightly focussed over time.

First gate – categories of impact to be reported

19. I propose that reporting on impacts be limited to significant benefits and uses in the following four categories:

- **ecosystem integrity** – this provides an indication of the impact of the state of a domain on the biota living there and the resilience of the system. This category could include topics such as threatened species;
- **public health** – this would cover the impacts of the environment on physical and mental health and include topics such as respiratory effects arising from air quality;
- **economic benefit and resource utilisation** – this would include economic services (e.g. tourism) as well as such things as efficiency of extractive activity;
- **culture and recreation** – feedback on the draft topics has shown strong support for the inclusion of widely recognised social impacts. This category could include such topics as swimming, recreational fishing, access to green spaces and Mahinga Kai.

These categories are intended to cover the key ecological, social and economic impacts of changes in the state of the environment.

20. The benefits that New Zealanders derive from the environment extend beyond these areas to include such things as non-use benefits (e.g. existence value) and personal spiritual benefits. National environmental reporting will acknowledge this wider set, but will limit analysis to those areas where quantifiable objective measures can be developed.

Second gate – criteria for topic selection

21. To further ensure that reporting is confined to topics for which objective, quantifiable and relevant measures can be developed, I propose three criteria for the selection of pressure, state and impact topics:

- Significance (in terms of magnitude, spatial extent, widely recognised impacts and fastest changing pressures)
- Statistical rigour
- Evidence for a causal link

These criteria will be included in legislation and used to select the topics included in the regulations. Topics must meet all three criteria to be included.

22. The pressures and impacts reported should be the most **significant** ones. National environmental reporting does not aim to catalogue all possible pressures influencing the state of each of the domains – topics chosen for reporting should focus on the largest, most significant, or fastest changing pressures. Similarly, the topics reported on within the impact categories (ecological integrity, population health, economic benefit and resource utilisation, and culture and recreation) should focus on the most widely recognised uses and benefits New Zealanders derive from the environment.
23. The topics to be reported should be able to be quantified in a **statistically robust** manner. This doesn't mean that we have all the data today; it does mean that any topic selected should be *able* to be empirically quantified with a statistically robust indicator. Paragraphs 30-34 below set out the approach I intend to take to deal with the challenge of variable data quality.

24. There should be strong evidence for a **causal link** between the pressure, state and impact variables reported. Strong evidence would include peer reviewed New Zealand research into specific environmental links and relationships and/or peer reviewed international research on causal relationships between pressure, state and impact variables relevant to the New Zealand context.

Why include impacts?

25. Impact indicators put information about the state of the environment into context. They answer the “so what?” questions about the environment – what are the consequences of changes in the state for the New Zealand economy and society?
26. Economic and environmental impacts are central to the concept of green growth used by the OECD. Green growth aims to foster economic growth and development, while ensuring that natural assets are used sustainably, and continue to provide the resources and environmental services on which the growth and well-being rely (OECD, 2011). It is growth that is efficient in its use of natural resources and clean in that it minimises pollution and environmental impacts (World Bank, 2012).
27. The Business Growth Agenda Progress Report on Natural Resources (Dec 2012) charges the Ministry for the Environment with investigating the development of indicators to measure progress toward greening economic growth. Including impact indicators in the framework for environmental reporting provides a means to give effect to the environmental elements of green growth reporting.
28. Impacts are included in a number of the leading international models for environmental reporting:
- The European Environmental Agency uses a Driving Force – Pressure – State – Impact – Response (DPSIR) model;
 - The Economics of Ecosystems and Biodiversity analysis (the ‘TEEB’ report) recognises the plurality of values people hold for nature.
29. The benefits and uses derived from natural resources are also frequently discussed in the New Zealand context:
- The Business Growth Agenda Progress Report on Natural Resources recognises ecological, recreational and cultural, and conservation values;
 - The National Objectives Framework developed under the freshwater reform programme of work is entirely based on the values and uses which communities obtain from our freshwater resource.

Including impact measures in the framework allows environmental reporting to be integrated with this work.

30. Note that ‘responses’ are not included in the framework. The impact measures help the New Zealand public have a conversation about what the management objectives for the environment might be and, once management objectives are determined, whether the environmental management system as a whole is delivering outcomes. However the framework does not include assessment, evaluation or commentary on the effectiveness of individual policy responses as

it may be difficult to report on policy in a way that is perceived as politically neutral.

Level of confidence in the representativeness of reporting

31. In undertaking their responsibilities for environmental reporting, the legislation will include requirements for the Secretary for the Environment and the Government Statistician to adhere to best practice principles, including the requirement to be satisfied that all reports are **substantively representative of the topic they aim to report on**.
32. Requiring that reporting be *fully* representative of the state of the environment or domain across New Zealand is not feasible. That would require impractically high levels of monitoring and be prohibitively expensive. Data sets are always somewhat imperfect, and my approach to dealing with this is as follows:
 - Where possible we will work to ensure that reporting is based on good information that is systematically collected in a representative way across different geographic parts of New Zealand;
 - Where there are data gaps (which will be the case for a number of important things we want to know) gaps in monitoring networks can be addressed by combining monitoring data with **modelling** (being more than simple extrapolation), in line with international best practice;
 - Where data is insufficient to allow modelling, selected case studies, appropriately interpreted, may be presented to gain insights;
 - In cases where data will be unavailable or of insufficient coverage or quality the topic should be not be reported at all (rather than being reported with a range of caveats).
33. This means that not all topics included in regulation will be able to be reported on immediately. It is important, however, that all significant topics of importance to New Zealanders are included in the regulations as this will drive work to improve data quality and representativeness over time.
34. Detailed guidance on what 'substantive representativeness' means in practice will be set out in regulations along with other best practice principles. Data presented should meet or exceed a minimum standard and the level of confidence in the data should be clear and communicated in a way that they public can readily understand.
35. An example of how this approach might work in practice is reporting on suitability of rivers for swimming. An indicator which is substantively representative would include data from a statistically valid set of sites which are *actually* used (or desirable) for swimming by New Zealanders. This test would avoid the bias in reporting which may arise from poorly designed monitoring networks – through either the inclusion of problematic sites which are not in demand for swimming, or the exclusion of pristine sites (which are not currently monitored because there is no appreciable health risk).

Consultation

36. Statistics NZ, the Treasury, the Ministry for Business, Innovation and Employment, the Ministry for Primary Industries, the Department of Conservation, Land Information New Zealand, the Ministry of Health, the Ministry of Transport, the Ministry of Justice, Te Puni Kokiri, Regional Council Representatives, The Sustainable Business Council, and Landcare Research have been consulted on the paper. The Department of Prime Minister and Cabinet has been informed.

Financial implications

37. There are no financial implications arising from this proposal.

Human rights, gender implications and disability perspective

38. There are no human rights, gender or disability implications arising from the proposals in this paper.

39.

9(2)(f)(iv)

Regulatory impact analysis

40. The regulatory impact analysis requirements do not apply to this proposal, as it will have no or only minor impacts on businesses, individual or not-for-profit entities.

Recommendations

41. The Minister for the Environment recommends that the Committee:
1. **note** that, on 5 August, Cabinet agreed that the scope of national environmental reporting to be provided for in legislation will include the state and trends in five environmental domains and the pressures driving changes in the state [CAB Min (13) 26/6]
 2. **agree** that the scope of reporting in legislation will also include the impacts that the state of the environment, and changes in the state, have on the significant uses and benefits New Zealanders derive from the environment in the following areas:
 - a) Ecosystem integrity
 - b) Public health
 - c) Economic benefits and resource utilisation
 - d) Culture and recreation

3. **agree** that selection of topics to be included in regulations and reported on meet the following criteria:
 - a) the pressures and impacts reported should be significant in terms of magnitude, spatial extent, widely recognised impacts or fastest changing pressures
 - b) it should be possible to empirically quantify each topic with a statistically robust indicator
 - c) there should be strong evidence for a causal link between the pressure, state and impact variables reported
4. **note** that, in undertaking their responsibilities for environmental reporting, the legislation will require the Secretary for the Environment and the Government Statistician to adhere to best practice principles and protocols (including the requirement for them to be satisfied that all indicators reported are substantively representative of the topic they aim to cover) and that details of these best practice principles and protocols will be included in the regulations
5. **invite** the Minister for the Environment to issue drafting instructions to the Parliamentary Counsel Office to implement the proposals in 2, 3 and 4 above
6. **note** that, consistent with the decisions in CAB Min (13) 26/6, the Minister for the Environment and the Minister for Statistics are accountable for agreeing which impacts are reported on and the Government Statistician and the Secretary for the Environment are responsible for developing the indicators in relation to the impact topics



Hon Amy Adams
Minister for the Environment

16 / 10 / 13

Appendix 1: Contents of primary legislation and secondary legislation

	Contents
<p>Primary legislation</p> <p>Environmental Reporting Bill</p>	<p>Roles and responsibilities – Minister for the Environment and Minister for Statistics responsible for regulations setting out topics to be reported; Secretary for the Environment and Government Statistician responsible for indicator development and reporting at arm's length from government; Parliamentary Commissioner for the Environment to provide independent commentary</p> <p>Domains to be reported – air, atmosphere and climate, land, freshwater, marine (with ecosystems and biodiversity included in relevant domains)</p> <p>Reporting products – domain and synthesis reports, including high level detail of the reporting contents</p> <p>Timing and frequency – three-yearly cycle with a report every six months</p> <p>Quality standards – requirement to be bound by best practice principles and protocols, including representativeness</p> <p>Scope of reporting – state, trends, pressures, impacts*</p> <p>Criteria for topic selection*</p> <ul style="list-style-type: none"> ▫ pressure and impacts reported should be the most significant ones ▫ topics should be able to be empirically quantified with a statistically robust indicator ▫ should be strong evidence for a causal link between the pressure, state and impact variables reported
<p>Secondary legislation</p> <p>Regulations to be recommended by the Minister for Environment and Minister of Statistics</p>	<p>Topics to be reported on within each domain, for example:</p> <ul style="list-style-type: none"> ○ concentrations of particulate matter (state of air) ○ home heating emissions (pressure on air quality) <p>Best practice principles and protocols for reporting, including representativeness standards and criteria for indicator selection</p>
<p>Indicators</p> <p>Developed and approved by Secretary for the Environment and Government Statistician</p>	<p>Measures used to report on the topics – sometimes we will have direct measures. In other cases use of proxies may be appropriate. For example:</p> <ul style="list-style-type: none"> ○ annual average concentration of PM10 ○ percentage of homes with coal or wood burning fires as a primary heating source <p>Will include Tier 1 environmental statistics – a subset of indicators that represent the most important and enduring measures of New Zealand's performance and are subject to the highest standards of rigour.</p> <p><u>Note</u> – the full indicator set will be larger than the set reported on in early domain and synthesis reports. The indicator set needs to include both 'known and available indicators' and 'new indicators' in order to drive prioritisation of investment.</p>
<p>Data</p> <p>A wide range of sources</p>	<p>Raw numbers are generated by a range of agencies – regional councils, central government departments, CRIs, etc. Some data is currently available and some can be accessed relatively easily. However there will also be data gaps. Any given report will draw on the best available data and acknowledge limitations and data gaps. In the medium term the environmental reporting system will drive data improvement and increase the topics we can report good indicators for.</p>

* Inclusion dependent upon EGI agreement

Appendix 2:

9(2)(f)(iv)
