Climate Change Solutions

Whole of Government
Climate Change Work Programmes

June 2006[1]

[1] Work Programmes required by CBC Min (05) 20/10 prepared by Ministry for the Environment, Department of Prime Minister and Cabinet, the Treasury, Ministry of Foreign Affairs and Trade, Ministry of Transport, Energy Efficiency Conservation Authority, Ministry for Agriculture and Forestry and Ministry of Economic Development with relevant sections withheld under the Official Information Act.

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LEADING SAFETY, SECURITY AND ENVIRONMENTAL PROTECTION

MARITIME
NEW ZEALAND

Contents

1. Glossary of Terms

Afforestation

Planting new forests on lands that historically have not contained forests.

Annex I Parties

The industrialised countries listed in Annex 1 to the UNFCCC. Under the Kyoto Protocol these countries have also accepted emissions targets for the period 2008 to 2012 and are listed in Annex B of the Kyoto Protocol. They include the 24 original OECD members, the European Union, and 14 countries with economies in transition. (Croatia, Liechtenstein, Monaco, and Slovenia joined Annex 1 at COP-3, and the Czech Republic and Slovakia replaced Czechoslovakia.)

Biofuels

Fuels derived from biomass – organic plant matter, in particular wood and biogas, either deliberately grown or from waste products.

Biomass

In the energy context, any recent organic matter originally derived from plants as a result of the photosynthetic conversion process.

Carbon dioxide equivalent

A measure used to compare different greenhouse gases based on their contribution to climate change. The UNFCCC currently (2005) uses global warming potentials (GWPs). The GWPs are calculated as the ratio of the radiative forcing of one kilogram of greenhouse gas emitted to the atmosphere to that of one kilogram of CO_2 over a period of time (100 years).

CO

Carbon monoxide, a colourless, odourless, flammable and highly toxic gas. It is a major product of the incomplete combustion of carbon and carbon-containing compounds.

CO_2

Carbon dioxide, the main greenhouse gas emitted from the energy sector.

COP

Conference of the Parties.

COP/MOP

Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol.

Deforestation

The direct human-induced conversion of forested land to non-forested land.

EECA

Energy Efficiency and Conservation Authority.

EIB

Energy-intensive businesses.

Emissions trading

A mechanism under the Kyoto Protocol through which parties with emissions commitments may trade units of their emissions allowances with other parties. The aim is to improve the overall flexibility and economic efficiency of making emissions cuts.

Energy efficiency

Defined by the EECA Act 2000 to mean a change to energy use that results in an increase in net benefits per unit of energy.

EU

The European Union, an inter-governmental and supra-national organisation made up of European countries. It currently has 25 member states.

GHG

See greenhouse gas, below.

Govt^3

A programme for government agencies to improve the sustainability of their activities. The "Govt" in Govt3 stands for "government" and the "3" stands for the "three pillars of sustainability": environmental, social, and economic.

Greenhouse gas

A gas in the atmosphere that retains more energy from outgoing infrared radiation than it gets from incoming solar radiation. These gases are responsible for causing global warming (the greenhouse effect). The major greenhouse gases are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O). Less prevalent – but very powerful – greenhouse gases are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6).

International transport

For the purpose of the national inventory, any trip (carrying passengers and freight) between countries by air or sea. It does not include operations carried out within a country by foreign operators. These are considered domestic trips and are included in that country's inventory.

IPCC

Intergovernmental Panel on Climate Change.

Kyoto Protocol

An international agreement standing on its own and requiring separate ratification by governments, but linked to the UNFCCC. Among other things, the Protocol sets binding targets for the reduction of greenhouse gas emissions by industrialised countries. The Protocol entered into force on 16 February 2005.

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Land use, land-use change, and forestry (LULU(F))

Refers to the impact of human land use – and changes in such land use – on greenhouse gas emissions. Expanding forests reduce atmospheric carbon dioxide; deforestation releases additional carbon dioxide; various agricultural activities may add to atmospheric levels of methane and nitrous oxide. These gases, however, are not part of the LULU(F) sector.

Marrakesh Accords

Agreements reached at COP-7 that set various rules for "operating" the more complex provisions of the Kyoto Protocol. Among other things, the accords include details for establishing a greenhouse gas emissions trading system; implementing and monitoring the Protocol's CDM; and setting up and operating three funds to support efforts to adapt to climate change.

NEECS

National Energy Efficiency and Conservation Strategy.

Non-Annex I Parties

Countries that have ratified or acceded to the UNFCCC and that are not included in Annex I of the Convention (ie, developing countries).

NO_X

Generic term for a group of highly reactive gases – oxides of nitrogen. Nitrogen oxides form when fuel is burned at high temperatures, as in a combustion process in vehicles. NO_2 (nitrogen dioxide) is one the compounds responsible for smog and is a health concern causing respiratory problems.

Note: Nitrous oxide (N_2O) is not a concern in regard to local air quality and is not regulated for as part of controlling vehicle toxic emissions. It is generally not considered to be part of the NO_X family.

On Track

Owner and manager of New Zealand's railway infrastructure.

Particulates

Tiny particles of solid or liquid suspended in the air. Of concern are those of 10 microns or less (PM_{10}) in diameter, which behave like a gas entering the lungs and cause respiratory problems. Also referred to as "fine particles".

PJ

Petajoule, a unit of energy equal to 1015 joules.

Reforestation

Replanting forests on land that was previously forested but subsequently converted to other use.

Reservoir

A component or components of the climate system where a greenhouse gas or a precursor of a greenhouse gas is stored. Trees are "reservoirs" for carbon dioxide.

2. A Strategic Framework for Climate Change – revisiting New Zealand's internally set goal that "New Zealand be set towards a permanent downward path for total gross emissions by 2012"

2.1 Deliverables

The deliverable is a long term, strategic framework for climate change policy that has broad community support.

Three of the anticipated elements of the strategic framework will be developed under the Strategic Framework work programme. The other elements will be developed by other work programmes as set out in Cabinet's May 2006 decisions and the Appendices to the May 2006 paper considered by Cabinet.

The anticipated elements of the strategic framework are:

(i) a set of broadly supported, long-term, challenging, workable, credible, sectoral mitigation goals for New Zealand, and milestones to track progress toward those goals (these goals and milestones will be developed by the Transport, Energy, Agriculture and Forestry work programmes);

(ii) a statement about moving towards a situation where all sectors face a price or opportunity cost for carbon emissions/sequestration (this will be developed by the Strategic Framework work programme);

(iii) a statement about preparing for sectoral engagement in international emissions trading at different levels so that New Zealand is well placed to decide, at some time in the future, if and when particular sectors should transition to engagement in international emissions trading (this will be developed by the Strategic Framework work programme);

(iv) objectives for adaptation in New Zealand (this will be developed by the Adaptation work programme);

(v) objectives for New Zealand's international engagement (this will be developed by the International work programme);

(vi) an evaluative framework for use over the immediate future as decisions are made for setting priorities and assessing the merits of different policies (this will be developed by the Strategic Framework work programme).

The Strategic Framework work programme has two distinct functions. One is to develop elements ii), iii) and vi) of the strategic framework. The second is to exercise a comparative analytical and coordination role so that:

RMU

Removal unit (generated among Annex I Parties by LULU(F) activities that absorb carbon dioxide). Commonly referred to as "sink credits" or "carbon credits".

Sink

Any process that removes a greenhouse gas from the atmosphere. The major sinks are forests and other vegetation that, through photosynthesis, remove carbon dioxide. Under the Kyoto Protocol, developed countries, in their calculation of net greenhouse gas emissions, may deduct from their totals the removal of greenhouse gases through the expansion of sinks. That may help them to meet their mandatory emissions targets. However, calculating the effects of sinks is methodologically complex and the standards for doing so still need to be clarified.

UNFCCC

United Nations Framework Convention on Climate Change.

d) lead to engagement and commitment from groups and individuals on climate change issues;

e) guide the development and implementation of climate change policies (both now and in the future);

f) identify and resolve tensions between climate change objectives and objectives for other government policies (eg energy, transport); and

g) articulate the relationship between domestic climate change policy and New Zealand's international commitments and negotiation positions.

The articulation of goals within a strategic framework is strongly supported by many industry and business interests (particularly in the energy and industrial sectors). They seek guidance for their own planning, risk management, purchasing and investment decisions.

Engagement strategies with businesses, interest groups and the wider community will be best assisted by discussing matters at a level that people will be able to relate to.

In accordance with Cabinet's May 2006 decisions, portfolio Ministers (Energy, Transport, Agriculture, Forestry) will have the primary responsibility for suggesting challenging, workable, credible, long-term goals for their sectors. MfE and DPMC will be responsible for ensuring that the sectoral goals are co-ordinated, consistent and, in aggregate, set at an appropriate level.

Many climate change policies have multiple benefits (eg, energy security, water catchment protection, biodiversity, uptake of new technologies and development of business opportunities.) To the extent possible, the full range of these benefits will be incorporated into the evaluative framework.

2.3 Scope

The strategic framework will be applied to the entire suite of government climate change programmes. This includes: emissions reductions (carbon dioxide, methane, nitrous oxide and halocarbons); enhancement of forest sinks; investigation of carbon capture and geological sequestration; preparation for and adapting to climate change; engagement with the wider public and business; priorities for research and development, and international engagement.

2.4 Indicative Content of Strategic Framework

The contents of a strategic framework will include:

New Zealand's national interest

This will cover the things that are of major importance to New Zealand and that need to be safeguarded or achieved as part of any international or domestic response to the threat of climate change. New Zealand's tourism, agricultural and horticultural industries rely on a benign climate in order to be successful. It is in New Zealand's interest for there to be concerted international action to reduce greenhouse gas emissions.

- the outputs of all the work programmes are consistent with each other and form a coordinated suite of workable, effective and credible policies;
- in aggregate, the long-term, sectoral goals and objectives position New Zealand appropriately;
- appropriate guidance is given on the types and staging of measures to achieve the long term goals and objectives; and
- policy for the near term is consistent with the long-term goals and objectives.

Once the set of sectoral goals and the objectives for adaptation and international engagement have been developed, consideration will be given to the merits of supplementing them with a single overarching climate change goal.

2.2 Context

In December 2005, Ministers requested further analysis to inform government decisions in relation to "revisiting New Zealand's internally set goal" [CBC Min (05) 20/10 refers].

New Zealand's current goal is: "*New Zealand should have made significant greenhouse gas reductions on business as usual and be set towards a permanent downward path for total gross emissions by 2012.*"

The usefulness of this goal for community engagement is questionable. Also, it is not clear that it provides a useful context for the development of durable whole-of-government climate change policy. Furthermore, the cost to New Zealand of achieving this goal may be prohibitive.

Any future goals, and milestones, need to be consistent with the government's focus as expressed in Cabinet's May 2006 decisions, namely:

- long-term (far beyond the 2012 focus of the Kyoto Protocol) and strategic;
- balancing durable efforts to reduce emissions with preparations for the impacts of a more variable climate;
- engaging with and inspiring the wider public and business to energise their willing, effective and long term involvement; and
- international engagement that advances our national interests.

These principles provide high-level guidance.

At a more operational level, the process of developing the strategic framework can:

a) set priorities for action, analyse trade-offs, and consider how to allocate the costs of action (between and within reducing emissions, enhancing sequestration and preparing for climate variability; and between and within sectors of the economy) both in the short and long term;

b) integrate policies and actions across government and between central and local government;

c) enable robust risk management by investors and others who seek long-term policy stability;

context within which actions are expected – eg, level and timing of emissions abatement and statements regarding New Zealand's interests.

It is critical that a well developed Draft Strategic Framework is available for use in the lead-up to decisions by Cabinet on several sectoral policies.

Conversely, discussion on strategic direction that occurs, with business, interest groups and the wider community within sectoral settings (forestry, energy etc.) will need to feedback into development of the Strategic Framework. To assist coordination and early guidance for other work programmes, the timeline provides for a Draft Strategic Framework prior to substantive consultation occurring on policies affecting different sectors.

Ministers have been specifically invited to consider bold goals or objectives relevant to the work programmes for which they have responsibility. Their views will be incorporated at step two, although step four also provides for feedback on goals.

Coordination will be required with the Communication and Stakeholder Engagement work programme. And steps two and four will require coordination with the timelines of other consultative processes: development of the New Zealand Energy Strategy, and the Review of the National Energy Efficiency and Conservation Strategy.

2.7 Consultation/Communication Undertaken/Required

Limited and informal consultation has been undertaken to date. This work programme has a significant consultation component involving Ministers, government departments, business, interest groups and the wider community.

2.8 Estimated Impact on New Zealand's Net Emissions in CP1

The impact on New Zealand's net emissions will be the sum of the impacts of the other emission mitigation work programmes plus some unquantifiable impact from the existence of widely supported, credible, guidance about where New Zealand's climate change policy is going in the medium and long term.

2.9 Estimated Impact on New Zealand's Net Emissions from 2013–2030

The impact on New Zealand's net emissions will be the sum of the impacts of the other emission mitigation work programmes plus some unquantifiable impact from the existence of widely supported, credible, guidance about where New Zealand's climate change policy is going in the medium and long term.

Goals and objectives

a) Long-term sectoral mitigation goals (eg, 2030 and 2050) with broad community support – the **where** (how far, how fast, intensity targets or absolute emissions targets?); an indication of the broad types of drivers/measures to achieve the goals – the **how**; and milestones along the way to those goals;

b) Objectives regarding introducing the price of carbon into the economy;

c) Objectives regarding preparing New Zealand for possible sectoral participation in international emissions trading at different levels and milestones along the way;

d) Objectives for adaptation to climate change in New Zealand and milestones along the way;

e) Objectives for New Zealand's international engagement on climate change and milestones along the way;

Evaluative framework

f) A 'balance sheet' model for assessing the contribution that alternative policies/measures would make to the range of climate change and other goals and objectives of the government;

g) A set of principles/criteria (the 'ruler') to be used over the next two years to evaluate the benefits and costs of alternative policies/measures.

2.5 Tasks, Resources and Timelines

Officials consider that the following sequence provides for constructive engagement with all interested parties to develop a strategic framework that has support across the wider community:

Step 1: Guidance from Ministers on scope and content of the Strategic Framework. (*May 2006 Cabinet paper*)

Step 2: Development of a draft Strategic Framework, including informal consultation with stakeholders, views of Ministers on goals relevant to their responsibilities and feedback from engagement with businesses, interest groups and the wider community under the Communication and Stakeholder Engagement work programme. *(Progress report to Cabinet* **[withheld under OIA s9 (2) (f) (iv)]**

Step 3: Ministers' agreement on a draft Strategic Framework for consultation. (*Report to Cabinet* **[withheld under OIA s9 (2) (f) (iv)]**

Step 4: Identify interested parties and carry out formal consultation.

Step 5: Cabinet confirmation of Strategic Framework. *Report* **[withheld under OIA s9 (2) (f) (iv)]**

2.6 Linkages/Dependencies with Other Tasks

This programme has strong links with work programmes covering particular sectors and international work. As work programmes progress, guidance will be sought (from those responsible for the different areas and also those being consulted) on the overall

3. [work programme withheld under OIA s 6(a), s 9(2)(j)]

4. Alternative Measures to the Announced Carbon Tax

4.1 Deliverable

This work programme addresses alternative measures to the announced carbon tax, including consideration of emissions trading and new, possibly voluntary, arrangements to replace Negotiated Greenhouse Agreements (CBC Min (05) 20/10, paragraph 35.3).

4.2 Context

The climate change policy package announced in 2002 contained a carbon tax on energy, industrial and transport emissions, capped at $25 per tonne of carbon dioxide equivalent (CO_2e). The carbon tax was to operate in conjunction with Negotiated Greenhouse Agreements (NGAs) for eligible firms whose international competitiveness would be placed at risk by the tax. Eligible firms were to receive full or partial relief from the carbon tax in return for moving toward world's best practice in greenhouse gas emissions management. In 2005, the government decided that the carbon tax should be initially set at $15 per tonne of CO_2e and come into effect on 1 April 2007. In CBC Min (05) 20/10, Cabinet "agreed that the government will not introduce the current carbon tax model or any other broad-based greenhouse gas tax before the end of the first Kyoto commitment period (2012). However, this decision did not "preclude putting in place a more narrowly based tax on large emitters if that was deemed appropriate".

4.3 Scope

The scope of this work programme includes the design and analysis of alternative measures to the announced carbon tax to assist in achieving New Zealand's climate change policy goals. Building on the development of a strategic framework for climate change, this work programme will investigate the features of:

- longer-term policy measures that could be used to introduce a price for greenhouse gas emissions in the New Zealand economy post-2012, such as broad-based emissions trading; and
- transitional policy measures that could prepare key sectors to face the full price of emissions over time, with a focus on large direct emitters in the electricity generation and industrial sectors (referred to in this work programme as large direct emitters).

The scope of work falls within a broader framework for the management of New Zealand's energy generation and industrial production activities, including the development of a New Zealand Energy Strategy and the review of the National Energy Efficiency and Conservation Strategy. Officials note the overlap between this work programme and the combined energy sector work programme. Officials also note that other work programmes are relevant to preparing other sectors beyond energy and industry to participate in broad price-based measures post-2012. Officials will implement this work programme in conjunction with other relevant work programmes as appropriate.

The analysis will include an assessment of potential market distortions and inefficiencies from applying different definitions to large direct emitters.

b) Defining Mitigation Objectives for Large Direct Emitters

Officials will assess potential mitigation objectives for large direct emitters in the context of New Zealand's overall climate change policy goals and the New Zealand Energy Strategy. The assessment will address two time periods: the first Kyoto commitment period (2008-2012), and a longer-term period consistent with the work programme on a strategic framework for climate change (eg, 2012-2030). The assessment will examine the linkages between setting mitigation objectives for large direct emitters, exposing them to the price of carbon over time, and maintaining the international competitiveness of New Zealand's industry. The assessment will address the contribution of large direct emitters to New Zealand's total greenhouse gas emissions and the cost/benefit analysis of greenhouse gas mitigation options in these sectors. This work will draw upon the development of sectoral abatement cost curves and associated cost/benefit analysis undertaken in other work programmes. The assessment will also address linkages between climate change policy development, the New Zealand Energy Strategy, and the National Energy Efficiency and Conservation Strategy.

c) Analysing Design Options for Broad-based Emissions Trading post-2012

In relation to Cabinet decisions regarding the strategic framework for climate change policy, officials will examine different design options for multi-sectoral or economy-wide emissions trading post-2012. Officials will address processes and criteria for identifying the sectors required to hold permit obligations; setting thresholds for holding permit obligations; setting caps on the volume of emissions to be allocated; allocating permits; measuring, monitoring and reporting emissions; establishing an effective trading registry; setting non-compliance penalties; and linking a central trading regime to offset programmes in other non-trading sectors as well as international trading regimes. Officials will identify areas where New Zealand would need to build its capacity to participate in broad domestic emissions trading and link effectively to international emissions trading. The analysis will draw upon outputs from other sectoral work programmes, and officials will consider what steps would be needed across different sectors to manage their transition into a broad emissions trading scheme over time. In particular, officials will seek to engage major emitters in comprehensive discussions on potential mechanisms for allocating permits under a trading regime. The analysis will address the nature and timing of the legislative, administrative and fiscal requirements to implement a broad domestic emissions trading regime.

d) Identifying Effective Transitional Policy Measures for Large Direct Emitters

Officials will analyse different types of transitional measures to achieve the mitigation objectives for large direct emitters, including (but not necessarily restricted to) the following:

- A narrowly-based carbon tax on emissions (eg, a tax on a subset of emitters on the basis of an emissions intensity pathway or total emissions);
- Greenhouse gas emissions trading for 2008-2012 based on either:

The work programme is based on a key assumption that Cabinet will decide on a strategic framework for New Zealand's climate change policy that can guide the development of longer-term policies to introduce a price for emissions in New Zealand. Based on that assumption, this work programme is designed to support a series of Cabinet decisions as follows:

- **Cabinet Decision 1**: Whether New Zealand should prepare its economy to face a price for carbon through a broad price-based measure at some time post-2012;[2]
- **Cabinet Decision 2:** The scope of sectoral climate change objectives for large direct emitters within the context of New Zealand's broader climate change policy goals and the New Zealand Energy Strategy from 2008-2012 and post-2012;[3]
- **Cabinet Decision 3:** The type of transitional policy measure(s) (eg, a carbon tax, emissions trading regime, voluntary agreement scheme, regulation under the RMA, or other measures) that should be applied to large direct emitters pre-2012 to prepare them to participate in the post-2012 climate change policy regime (illustrated in Annex I);
- **Cabinet Decision 4:** The detailed design features of the transitional policy measure(s) (eg, a carbon tax, emissions trading regime, voluntary agreement scheme, regulation under the RMA, or other measures) for large direct emitters; and
- **Cabinet Decision 5:** The detailed design features of the longer-term policy measure for introducing the price of emissions into the New Zealand economy (eg, economy-wide emissions trading post-2012, or other price-based measures).

The appropriate order and timing for making these decisions will depend on the development of the Strategic Framework and the New Zealand Energy Strategy. The scope and timing of the fifth Cabinet decision will depend on whether the Strategic Framework establishes a preferred longer-term climate change policy measure, and whether preliminary design decisions for the longer-term policy measure are needed up front in order to develop the pre-2012 measures for large direct emitters and other sectors.

In relation to this series of Cabinet decisions, the work programme has five elements:

a) Defining the Targeted Emissions Sources

Officials will develop an appropriate definition for large direct emitters to be covered by the proposed measures, and will consider whether coverage should be on a mandatory and/or voluntary basis. For example, a threshold could be applied on the basis of emissions or energy use on a site, business-unit, whole-of-firm, or sub-sectoral basis.

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[2] For example, this decision could direct policy development to implement a specific price-based measure (eg, economy-wide emissions trading) at some time post-2012, or could direct policy development to build the country's capacity to implement a broad price-based measure should the government wish to exercise this option in the future.

[3] For example, Cabinet could establish principles to determine when large direct emitters should be exposed to a price for carbon over time, and what type of mechanism should be used to manage that transition (eg, an absolute cap on the volume of emissions, a cap on the unit cost of emission reductions, and/or targeted improvements in emissions intensity).

climate change policy, the New Zealand Energy Strategy, and the National Energy Efficiency and Conservation Strategy once they have been further advanced.

e) Recommending Preferred Policy Measures and an Implementation Strategy

The final element of the work programme will be the recommendation to Cabinet of preferred longer-term and transitional policy measures and implementation strategies. The analysis supporting this recommendation will demonstrate how the preferred policy measures meet the sectoral mitigation objectives and are consistent with New Zealand's other policy objectives, including New Zealand's broader climate change goals, the New Zealand Energy Strategy, the National Energy Efficiency and Conservation Strategy, and other work programme outputs. The implementation strategy will include an assessment of legislative, administration, and fiscal requirements, and will address the issue of implementing agencies.

4.4 Linkages to Other Work Programmes and Policies

Officials will manage the linkages between this and other work programme areas to ensure policy consistency and complementarity. Those work programme areas include:

- purchasing and other strategies for acquiring emission units for the first Kyoto commitment period (2008-2012);
- a strategic framework for climate change (including revisiting New Zealand's internally set goal that "New Zealand be set towards a permanent downward path for total gross emissions by 2012");
- combined energy sector work programmes; and
- the need for, and future shape of, cross-sectoral incentive programmes such as the Projects to Reduce Emissions programme;
- transport;
- agriculture;
- forestry; and
- land-use change.

Officials note the potential linkages between the implementation of this work programme and consideration of the Resource Management Act, including the potential need for a National Policy Statement or National Environmental Standard (including the potential implications of the Resource Management (Climate Protection) Amendment Bill to be reported back from the Local Government and Environment Committee.

There are also linkages to the development of a domestic market for offsets from other sectors (eg, forestry) and international units.

4.5 Stage of Policy Development

Policy development for the announced carbon tax/NGA regime was fairly advanced. While past work on this policy is directly relevant, further analysis of alternative

- a cap on the volume of emissions, or
- baseline/credit trading (eg, trading of unders/overs around an emissions intensity pathway).

- New, possibly voluntary, arrangements to replace Negotiated Greenhouse Agreements; and
- Regulation, such as a national environmental standard under the Resource Management Act.

Through coordinated effort across this work programme and the combined energy sector work programme, officials will give separate consideration to large direct emitters in the electricity generation and industrial sectors. Drawing on the work on defining mitigation objectives for large direct emitters, officials will assess options for (a) setting the level of a narrow carbon tax (eg, with regard to the international price of carbon), (b) setting and allocating a cap or applying a baseline for emissions trading, (c) determining the stringency of voluntary agreements, and (d) regulating emissions under the Resource Management Act. Officials will evaluate the potential impacts of tax, trading, voluntary, and regulatory measures on the energy efficiency and carbon intensity of production, absolute emissions, economic productivity, and international competitiveness of these sectors.

The analysis will address the flow-on effects of these measures on end-users in other sectors, with particular emphasis on the pass-through of electricity price increases. Officials will consider policy mechanisms for mitigating impacts of transitional policy measures on the international competitiveness of New Zealand's industrial sector. Officials will also examine the implications of applying narrow price-based measures only to large direct emitters instead of more broadly across the economy, and will consider the tradeoffs around extending comparable price-based measures to fossil energy use beyond that of large direct emitters.

The analysis will address other implementation issues. It will identify options for recycling any revenue generated from a carbon tax or emissions trading regime, including climate change mitigation activities and general tax relief. The analysis will address options for enabling flexibility in compliance, such as through the purchase of international units or use of offsets (eg, forestry). The analysis will address the legislative, administrative and fiscal requirements to implement these measures. Officials will draw upon work in other work programmes to present a comparative assessment of using a price-based or voluntary measure versus other incentives for fuel switching and other improvements in existing and new plants. Officials will conduct this analysis for two time periods: the first Kyoto commitment period (2008–2012) and a longer-term period (eg, 2012–2030). Officials will assess the process for transitioning between different short- and long-term policy measures. A brief comparative assessment of the work required to develop options for the proposed carbon tax, emissions trading, and voluntary agreement measures is attached as Annex 2.

It is important to note that the proposed transitional measures (a narrow carbon tax, emissions trading, voluntary arrangements to replace NGAs, and regulatory approaches under the RMA) do not in themselves determine the magnitude of emission reductions achieved by large direct emitters. Each of these measures could be designed with features that affect the magnitude, distribution, cost, and certainty of emission reductions. Any decision by Cabinet to implement one or more of these measures should be made in the context of New Zealand's strategic framework for

intensive and renewable fuels for electricity generation, and additional fuel switching (including cogeneration) by industrial producers. Additional reductions would result from energy efficiency improvements.

For context, the *Review of Climate Change Policies* reported that the announced carbon tax/NGA regime would achieve emission reductions of 13.45 Mt CO_2e over the first commitment period (2008–2012). Of this reduction, 12.62 Mt CO_2e would have resulted from changes in non-transport energy (excluding a subset of NGA firms), mostly from displacement of coal generation with gas generation. A subset of large NGA firms was projected to reduce emissions by between 2 percent and 4 percent from business-as-usual from 2008 onwards, resulting in additional emission reductions from energy use and industrial processes of 0.5 Mt CO_2e over CP1. However, it is important to note that this estimate of emission reductions by NGA firms was conservative; it did not reflect the full range of firms that would potentially have been eligible for a NGA, and it was based on estimates of some firms' projected performance relative to world's best practice levels. The remainder of the emission reduction from the carbon tax would have come from the transport sector, which will be addressed in a separate work programme.

4.10 Estimated Impact on New Zealand's Net Emissions from 2013–2030

This work programme includes analyses to determine the impacts of the measures under consideration on New Zealand's net emissions from 2013 to 2030. For context, the *Review of Climate Change Policies* reported that emission reductions from the announced carbon tax/NGA regime would decline from 2.69 Mt CO_2e per year in 2010 to 1.0 Mt CO_2e per year in 2020.

measures in conjunction with stakeholder consultation is required before officials can develop a recommendation to Cabinet and proceed with policy implementation.

4.6 Tasks, Resources and Timelines

The resource requirements and timeframe for implementing this work programme will be dependent on the outcome of Cabinet decisions on the stringency of sectoral mitigation objectives and the stringency of the implementation measure. If Cabinet directs officials to implement alternative measures that build directly on the work conducted to date on the announced carbon tax/NGA regime, such as a narrow carbon tax or a baseline/credit emissions trading regime, then the timeline for implementation will be considerably shorter than if officials are directed to proceed with designing a limited cap-and-trade regime to be implemented during 2008-2012. A preliminary estimate of time frames for developing the carbon tax, emissions trading, and voluntary agreement options is provided in the table in Annex 3. Further research will be required to identify regulatory options under the Resource Management Act and assess associated work requirements. Note that the development of legislation to implement Cabinet policy could require an additional period ranging from 9-18 months. The design of an implementation measure for 2008-2012 can be completed with existing budget resources, but the detailed design of a long-term implementation measure would require new budget resources.

Officials will report back to Cabinet on their progress in implementing this work program **[withheld under OIA s9 (2) (f) (iv)]** Officials will provide a full report-back to Cabinet on alternatives to the announced carbon tax by **[withheld under OIA s9 (2) (f) (iv)]**.

4.7 Linkages/Dependencies with Other Tasks

There are close linkages between this work programme and other work programmes, as identified above. There are dependencies between decisions on alternative measures to the announced carbon tax and advancement of the strategic framework on climate change and the New Zealand Energy Strategy.

4.8 Consultation/Communication Undertaken/Required

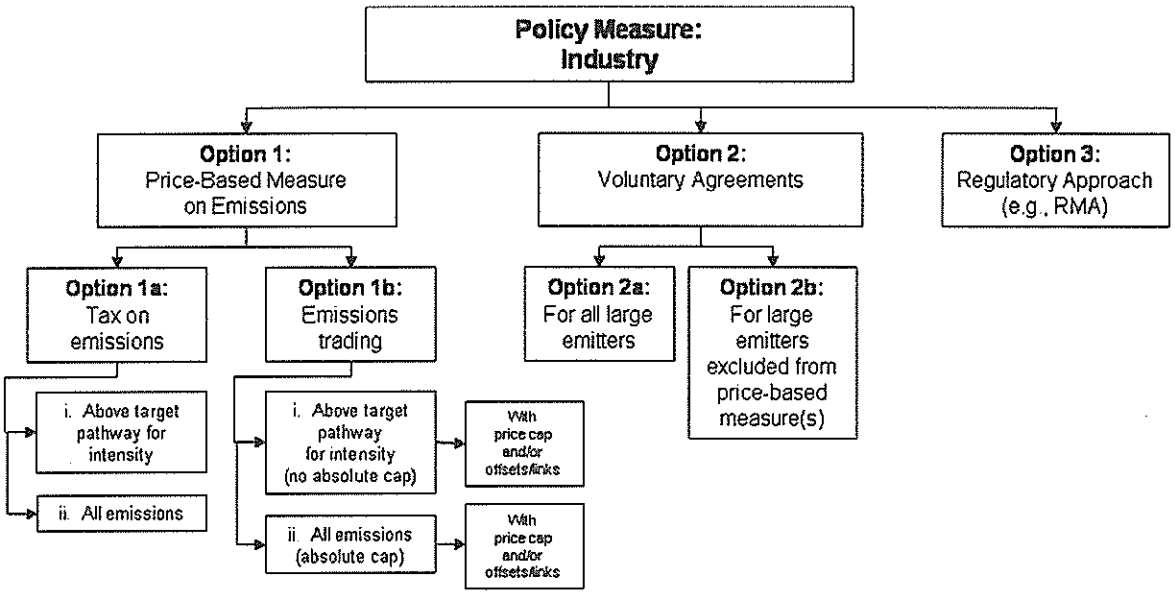
During the development of this work programme, limited discussions were held with stakeholders, particularly in the energy and industrial sectors. Extensive stakeholder consultation will be needed during the implementation of this work programme. As part of the development of the Communication and Engagement work programme, officials will develop strategies for sharing information with stakeholders and soliciting their input in policy development. To the extent practicable, consultation on the design of implementation measures for large direct emitters will be coordinated with consultation on the New Zealand Energy Strategy, the National Energy Efficiency and Conservation Strategy, and the strategic framework for climate change.

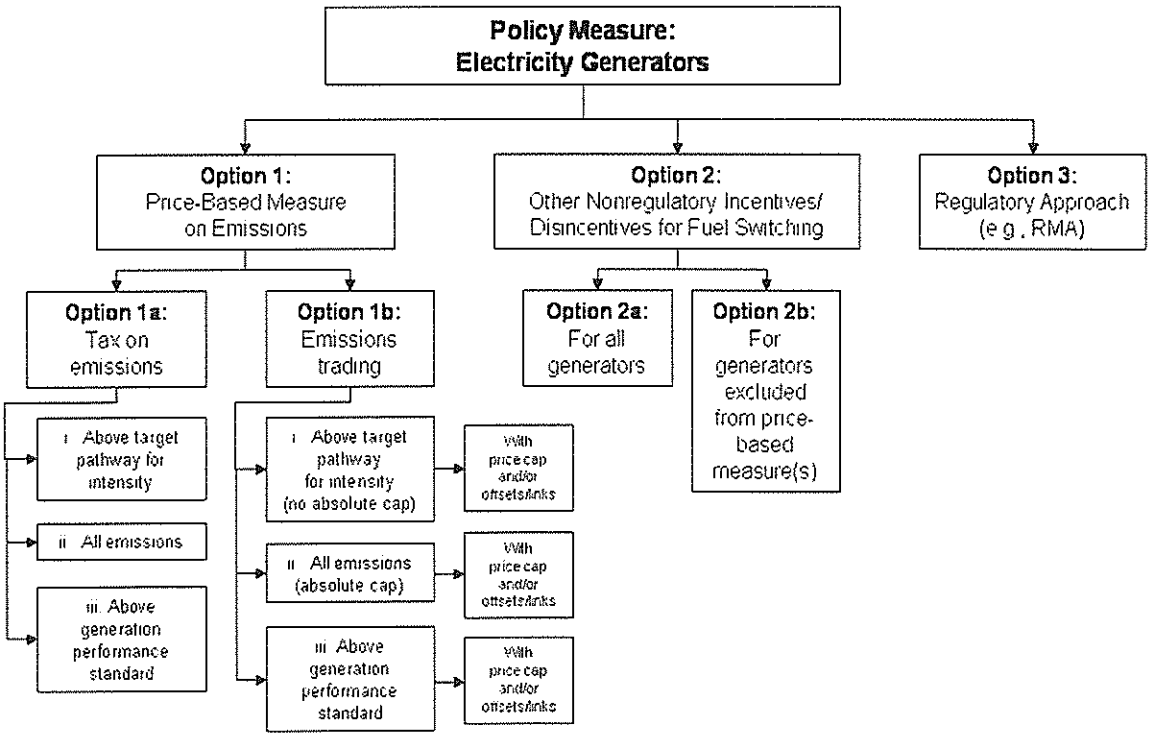
4.9 Estimated Impact on New Zealand's Net Emissions in CP1

This work programme includes analyses Zealand's net emissions in CP1. The most significant emissions abatement potential lies in fuel switching from coal to less-carbon-

Annex 1

Framework for Cabinet Decision on Policy Measures for Large Direct Emitters





Annex 2

Summary of Alternative Measures to a Broad-Based Carbon Tax: Narrow Carbon Tax, Emissions Trading, and Voluntary Agreements

	Narrow Carbon Tax (eg, WBP[4] with penalties)	Baseline/Credit Trading (eg, WBP with trading of unders/overs)	Cap-and-Trade Emissions Trading (pre-2012)	Voluntary Agreements
Basic design	Example: Set pathway from current performance to WBP benchmark, with financial penalty (tax) for emissions over pathway	Example: Set pathway from current performance to WBP benchmark, with trading of units for under/overperformance against pathway	Set quantitative cap with full allocation of units and trading	Firms voluntarily enter into agreements with the Crown to control emissions/improve efficiency
Additional design options	▪ Interchangeability of units/cash ▪ Incentive (units/cash) for overperformance ▪ Substitution of a generation performance standard for WBP standard for electricity generation	▪ Interchangeability of units/cash ▪ Link to offsets from other sectors ▪ Link to international emissions trading ▪ Price escape valve ▪ Substitution of a generation performance standard for WBP standard for electricity generation ▪ Banking of units for the next commitment period	▪ Interchangeability of units/cash ▪ Link to offsets from other sectors ▪ Link to international emissions trading ▪ Price escape valve ▪ Banking of units for the next commitment period	▪ Public reporting of performance; "name and shame" for non-performance ▪ Mandatory penalties for non-performance ▪ Financial incentives for performance or over-performance ▪ Mandatory energy audit but voluntary implementation of measures
Certainty of emission outcome	No	No	Yes	No
WTO implications	▪ Can be managed	▪ Can be managed	▪ Can be managed	▪ Can be managed

[4] WBP stands for world's best practice in greenhouse gas emissions intensity per unit of production.

	Narrow Carbon Tax (eg, WBP[4] with penalties)	Baseline/Credit Trading (eg, WBP with trading of unders/overs)	Cap-and-Trade Emissions Trading (pre-2012)	Voluntary Agreements
Large emitter/generator stakeholder views	▪ Generally good support for an approach that exempts emissions up to WBP from price measures ▪ Recognition that emission reductions from efficiency improvements would be modest, since many large firms are already close to WBP ▪ View that any additional price for electricity generators would simply be passed on to buyers without incentivising short-term fuel switching ▪ Concern about competitiveness-at-risk issues for major energy users and emitters ▪ Desire for incentives for overperformance	▪ Generally good support for an approach that exempts emissions up to WBP from price measures ▪ Recognition that emission reductions from efficiency improvements would be modest, since many large firms are already close to WBP ▪ View that any additional price for electricity generators would simply be passed on to buyers without incentivising short-term fuel switching ▪ Concern about competitiveness-at-risk issues for major energy users and emitters ▪ Small size of NZ market may not be sufficient to support effective trading (eg, market liquidity, transaction costs)	▪ Cap-and-trade scheme prior to 2012 generally perceived to be difficult and costly ▪ Recognition that setting the cap and allocating permits could be challenging; strong preference for grandparenting permits ▪ Would need to build industry capacity and infrastructure to participate ▪ Small size of NZ market may not be sufficient to support effective trading (e.g., market liquidity, transaction costs) ▪ Linkage to international trading systems could be complex ▪ View that any additional price for electricity generators would simply be passed on to buyers without incentivising short-term fuel switching ▪ Concern about competitiveness-at-risk issues for major energy users and emitters ▪ Recognition that future international and domestic policy may be moving toward broad cap-and-trade systems	▪ Generally popular. ▪ Some questioned effectiveness of voluntary agreements, while others thought genuine gains could be made through voluntary approach ▪ Support for use of public reporting as an incentive for compliance

	Narrow Carbon Tax (eg, WBP[4] with penalties)	Baseline/Credit Trading (eg, WBP with trading of unders/overs)	Cap-and-Trade Emissions Trading (pre-2012)	Voluntary Agreements
Implementation issues	▪ Level of tax ▪ Determining WBP ▪ Determining threshold for participation ▪ Measurement and reporting ▪ Treatment of fuel switching and cogeneration ▪ Treatment of contractors ▪ Treatment of conglomerates ▪ Non-compliance penalties ▪ Pass-through to consumers	▪ Determining WBP ▪ Determining threshold for participation ▪ Measurement and reporting (including trading registry) ▪ Treatment of fuel switching and cogeneration ▪ Treatment of contractors ▪ Treatment of conglomerates ▪ Non-compliance penalties ▪ Pass-through to consumers ▪ Treatment of new entrants and closures	▪ Setting and allocating cap ▪ Determining threshold for participation ▪ Measurement and reporting (including trading registry) ▪ Treatment of fuel switching and cogeneration ▪ Treatment of contractors ▪ Treatment of conglomerates ▪ Non-compliance penalties ▪ Pass-through to consumers ▪ Treatment of new entrants and closures	▪ Setting level of stringency for targets ▪ Determining threshold for participation ▪ Measurement and reporting ▪ Treatment of fuel switching and cogeneration ▪ Treatment of contractors ▪ Treatment of conglomerates ▪ Non-compliance measures
Timeframe for Cabinet approval of final policy	▪ **[withheld under s9 (2) (f) (iv)]**	▪ **[withheld under OIA s9 (2) (f) (iv)]**	▪ **[withheld under OIA s9 (2) (f) (iv)]**	▪ **[withheld under OIA s9 (2) (f) (iv)]**
Legislation requirements	▪ Depends on scheme design and large emitter buy-in ▪ Legislative approach preferable for durability, participation, and nature of penalty regime ▪ **[withheld under OIA s9 (2) (f) (iv)]**	▪ Depends on scheme design and large emitter buy-in ▪ Legislative approach preferable for durability, participation, and nature of penalty regime ▪ **[withheld under OIA s9 (2) (f) (iv)]**	▪ Possibly substantial, depending on settings ▪ **[withheld under OIA s9 (2) (f) (iv)]**	▪ No
Relative ease of transition to broad emissions trading	▪ More difficult (3)	▪ More difficult (2)	▪ Relatively easy (1)	▪ Most difficult (4)

Annex 3

Work Programme Timeline and Resources

Work Programme Task	Subtask Options	Timeline for Cabinet Decision	Resources (New/Existing)
Task 1: Determine the scope of climate change policy objectives for large direct emitters in the industrial sector, and set the basic parameters for the longer-term (post-2012) and transitional policy measures (Cabinet Decisions 1, 2 and 3)	NA	**[withheld under OIA s9 (2) (f) (iv)]**	Existing
Task 2: Design a transitional policy measure for large direct emitters in the industrial sector: 2008-2012 (Cabinet Decision 4)	**Option 2a:** Tax on emissions	**[withheld under OIA s9 (2) (f) (iv)]** (Depends on Task 1)	Existing
	Option 2b: Emissions trading: baseline/credit	**[withheld under OIA s9 (2) (f) (iv)** (Depends on Task 1)	Existing
	Option 2c: Emissions trading: cap-and-trade	**[withheld under OIA s9 (2) (f) (iv)]** (Depends on Task 1)	Existing
	Option 2d: Voluntary agreements to reduce emissions intensity	**[withheld under OIA s9 (2) (f) (iv)]** (Depends on Task 1)	Existing
Task 3: Determine the scope of climate change policy objectives for electricity generators, and set the basic parameters for the longer-term and transitional policy measures (Cabinet Decisions 1, 2 and 3)	NA	**[withheld under OIA s9 (2) (f) (iv)]** (Depends on development of the strategic framework and National Energy Strategy.)	Existing
Task 4: Design a transitional policy measure for electricity generators: 2008-2012 (Cabinet Decision 4)	**Option 4a:** Tax on emissions	**[withheld under OIA s9 (2) (f) (iv)]** (Depends on Task 3)	Existing
	Option 4b: Emissions trading: baseline/credit	**[withheld under OIA s9 (2) (f) (iv)]** (Depends on Task 3)	Existing
	Option 4c: Emissions trading: cap-and-trade	**[withheld under OIA s9 (2) (f) (iv)]** (Depends on Task 3)	Existing
	Option 4d: Other incentives/disincentives for fuel switching	Refer to Combined Energy Sector Work Programme	
Task 5: Design a post-2012 policy measure (e.g., economy-wide emissions trading)(Cabinet Decision 5)	NA	**[withheld under OIA s9 (2) (f) (iv)]**	New

Note that the development of legislation to implement Cabinet policy could require an additional period ranging from 9–18 months. Further research is required to assess the work requirements for regulatory options under the Resource Management Act.

5. Purchasing/Obtaining Kyoto Compliant Units

5.1 Deliverable

Advice on a work programme around purchasing/obtaining[5] Kyoto compliant units (rec. 35.4).

5.2 Context

New Zealand is likely to have to purchase/obtain Kyoto compliant units in order to assist in meeting its obligations for 2008–2012 under the Kyoto Protocol.

5.3 Scope

The scope of the task is to identify and analyse options (at a broad level) for Ministers to assist in decisions around purchasing/obtaining units.

5.4 Analysis of Scope

Issues that will be covered include:

- the state of the carbon market;
- a framework to establish a set of objectives for a purchasing/obtaining programme;
- options around the scale and timing of purchasing/obtaining;
- options around market segments (what types of units could New Zealand acquire);
- approaches to purchasing/obtaining (eg, direct canvassing of projects, tender approach, carbon funds, outsourcing to brokers); and
- fiscal treatment of purchasing/obtaining (eg, capital and operating implications).

The work will include the broad gambit of possibilities available in this area, including the potential for New Zealand to purchase units allocated under the Projects to Reduce Emissions programme and, potentially, units allocated under the Permanent Forest Sinks Initiative and any units allocated in the future under other initiatives.

[5] The term purchasing/obtaining is used in this work programme to reflect the variety of ways in which New Zealand could acquire units. For example, we could purchase units. Alternatively, we could sponsor specific projects under the Clean Development Mechanism, and obtain units as a result of that sponsorship.

6. Managing Deforestation, Including Reforestation (Reversion to Indigenous Forest or Replanting)

This work programme is in response to CAB Min (05) 20/10, which directed officials to report to their relevant Ministers with detailed proposals for climate change work programmes covering, *inter alia*, *"work on forestry policy options for managing deforestation and encouraging afforestation (new tree planting) and reforestation (reversion to indigenous forest or replanting)".*

This work programme covers the deforestation and reforestation components of the request. "Reforestation" is not referred to specifically since this is implicit in managing deforestation. Afforestation is being dealt with as a separate, but linked, work programme and includes the option of devolution of credits and associated liabilities post-2012.

6.1 Deliverable

- Identification of a suite of practical options for managing deforestation in the context of climate change and broader sustainable land management objectives.
- Analysis of these options against agreed criteria – including such matters as fiscal cost, economic efficiency, durability and consistency with other interventions and/or any overall climate change response strategy – culminating in a recommendation on a preferred option or options.
- An agreed budget and implementation plan for whatever option(s) government agrees, including a monitoring and evaluation plan.
- Analysis and advice, as required, on the links between forestry and agriculture policies.

6.2 Context

- Reduction in net production forest estate as a result of downturn in new planting is being exacerbated by increasing deforestation to agricultural-based land uses.
- The potential deforestation liability during CP1 is currently estimated at nearly double the existing cap set by government for CP1.
- Deforestation activities could continue at a significant rate post-CP1.
- Deforestation also has the potential to exacerbate other environmental issues including water quality and flood risk in some catchments.

[withheld under OIA s (2) 9 (i)]

5.5 'Fit' with a Coherent, Whole-of-Government Approach

Linkages exist to other objectives of government such as export objectives (eg, it may be possible to leverage off New Zealand's expertise and technology).

5.6 Stage of Policy Development

By **[withheld under OIA s9 (2) (f) (iv)]** the work will be sufficiently advanced to provide Cabinet with sufficient information to inform a decision on whether to commence purchasing/obtaining in the short term, or whether to hold off purchasing/obtaining for the immediate future. Future work would be required to determine our purchasing/obtaining strategy in detail.

5.7 Tasks, Resources and Timelines

Initial work is being funded within Treasury budgets. If government makes a decision to proceed with purchasing/obtaining then further funds (both operating and capital) will be required.

[withheld under OIA s9 (2) (f) (iv)]

5.8 Linkages/Dependencies with Other Tasks

A key issue will be determining how many units to purchase/obtain relative to the level of emission reductions that can be identified domestically. To this extent, this work stream is inter-dependent with the level of domestic emission reductions that can be identified through the other work programmes.

In the short term, it is not necessary to have a precise estimate of the level of domestic emission reductions that can be identified domestically. It is clear that New Zealand will have to purchase/obtain some units in order to meet our Kyoto target so a decision on exactly how many units will be required can be made at a later date. It is not anticipated that the volume of units involved in an initial purchase of units would be especially large relative to our net emissions position.

5.9 Consultation/Communication Undertaken/Required

Communications that outline the rationale for purchasing/obtaining and the implications of purchasing/obtaining will be required.

5.10 Estimated Impact on New Zealand's Net Emissions in CP1

It is possible to purchase/obtain as many units as required.

5.11 Estimated Impact on New Zealand's Net Emissions from 2013–2030

This work is not planning to cover the period beyond 2012.

Ministerial decisions on a shortlist of preferred options for detailed development **[withheld under OIA s9 (2) (f) (iv)]**.

- Detailed development and analysis of short-listed options, covering such aspects as delivery mechanisms, assignment of liability (if required), distributional/equity implications, efficiency implications, fit with other relevant government policy, Treaty of Waitangi issues, WTO issues, develop budgets **[withheld under OIA s9 (2) (f) (iv)]**.
- Provide advice on possible "bold goals or objectives" for the forestry sector [refer CAB (06) 18/8] **[withheld under OIA s9 (2) (f) (iv)]**.
- Ministers agree on a preferred option or options for deforestation and a preferred package of forestry initiatives incorporating deforestation and afforestation measures and an overarching goal for the sector **[withheld under OIA s9 (2) (f) (iv)]**.
- Finalise advice to Cabinet, including a recommended preferred option or options for deforestation and a preferred package of forestry initiatives incorporating deforestation and afforestation measures **[withheld under OIA s9 (2) (f) (iv)]**.
- Cabinet makes decisions and announcement on a preferred forestry package. Budget implications will also be addressed in this paper **[withheld under OIA s9 (2) (f) (iv)]**.
- Industry and stakeholder consultation on preferred package **[withheld under OIA s9 (2) (f) (iv)]**. Report back to Cabinet and final decisions **[withheld under OIA s9 (2) (f) (iv)]**

Ongoing development of operational details, completion of implementation plan – **[withheld under OIA s 9 (2) (g) (i)]**.

- Commence implementation **[withheld under OIA s9 (2) (f) (iv)]**.
- Ongoing monitoring of deforestation (using intention surveys and the Carbon Accounting System).
- Monitoring and review of effectiveness of policy and achievement of outcomes within two years of implementation.

6.7 Linkages/Dependencies with Other Tasks

- Links to work programme on alternatives to measures to the announced carbon tax.
- Closely linked to, and must be consistent with, climate change work programmes on afforestation.
- Closely linked to climate change work programme on land use and the links between forestry and agricultural policies.
- Probable links with the Water Programme of Action, particularly in relation to water quality.
- Possible links to sustainable land management and response to adverse events.

6.3 Scope

The work programme will consider a wide range of options and approaches to address deforestation. Consideration will be given to how measures to reduce deforestation best fits within a sustainable land management use framework.

6.4 Analysis to Narrow the Field: broad economic analysis, potential vs realistic outcomes, risks, etc in cases where this analysis has been done already

We will provide Ministers with further advice on the pros and cons of each of the identified approaches.

6.5 Stage of Policy Development

There is currently significant policy in place regarding managing the deforestation issue. Specifically, on 7 October 2002, Cabinet made *inter alia* the following decisions [CAB Min (02) 26/16 refers]:

- **agreed** that the government retain deforestation liabilities, provided these remain within a cap equal to 21 million tonnes of CO_2 equivalent, the carbon that would be released by the deforestation of 10 percent of the area of forest reaching maturity during the first commitment period;
- **agreed** that in the unlikely event that significant deforestation may occur at levels above expectations, the government will consider its policy options to manage emissions within the cap, including addressing issues such as:
  - how deforestation rights within the cap will be allocated;
  - how to monitor and enforce the deforestation cap; and
  - what actions the government will take in the event the cap is exceeded.

This policy was announced in October 2002 and is widely known in the forest sector.

Recently, both the National Exotic Forest Description survey for 2005 and the Manley report on deforestation intentions, strongly support the view that the threshold has been met and that, if unconstrained, deforestation is likely to breach the cap during CP1. It is therefore existing government policy to consider options to manage emissions within the cap **[withheld under OIA s 9 (2) (g) (i)].**

Advice will be provided to Ministers so that they can EITHER:

- confirm the existing policy and initiate work to implement it; OR
- rescind previous policy and consider alternative approaches.

6.6 Tasks (new and existing), Resources and Timelines

- Development and agreement on criteria against which specific options will be assessed (end of March 2006). Completed.
- Identification and analysis of options – including specific analysis of the proposal put forward by forest growers under the forestry dialogue – and possible

7. Encouraging Afforestation

This work programme is in response to CAB Min (05) 20/10, which directed officials to report to their relevant Ministers with detailed proposals for climate change work programmes covering, *inter alia*, *"work on forestry policy options for managing deforestation and encouraging afforestation (new tree planting) and reforestation (reversion to indigenous forest or replanting)"*.

This work programme covers the afforestation component of the request. Deforestation and reforestation are dealt with as a separate, but linked, work programme.

7.1 Deliverable

- Identification of a suite of practical options for encouraging afforestation and the generation of forest sinks before, during and potentially beyond CP1.
- Analysis of these options against agreed criteria – including such matters as effectiveness in improving sustainable land management, fiscal cost, economic efficiency, durability and consistency with other interventions and/or any overall climate change response strategy – culminating in a recommendation on a preferred option or options.
- An agreed budget and implementation plan for whatever option(s) government agrees, including a monitoring and evaluation plan.
- Advice to Ministers that may allow the early confirmation of the Permanent Forest Sink Initiative (PFSI) and agreement to proceed with the legislation necessary to facilitate the PFSI.
- Analysis and advice, as required, on the links between forestry and agriculture policies.

7.2 Context

- Under the Kyoto Protocol New Zealand generates 'sink credits' from forests established since 1990 on land that was non-forested as at 31 December 1989 (so-called Kyoto forests). When these forests are harvested New Zealand must 'repay' most of the sink credits generated since the carbon stored in the forest is assumed to be released to the atmosphere.
- New Zealand will not generate credits from forests established prior to1990[6], and subsequently faces no liabilities for these forests provided they are replanted after harvest (so-called non-Kyoto forests).
- In October 2002 Cabinet agreed to retain all sink credits from Kyoto forests and their associated liabilities, at least for CP1.
- The rate of new planting has steadily declined since 1994, predominately due to market factors, and is now historically very low. The current rate of new planting

[6] This is an in principle decision by Cabinet, to be reviewed in 2007. Even if New Zealand did seek to claim credits from pre-1990 forests, the number of credits that can be claimed is severely restricted by the rules of the Protocol.

6.8 Consultation/Communication Undertaken/Required

- The existing deforestation policy has been consulted widely (in May 2002) including a nationwide series of consultation meetings, hui and a national hui.
- Officials have also recently briefed key Treaty of Waitangi claimant groups in the Central North Island on existing policy and the government's decision to consider alternative options to the existing policy.
- Officials have also discussed deforestation issues with a joint government-forest industry dialogue that ran between June 2005 and November 2005.
- Policy options in this area should be developed and analysed in close collaboration with MfE and the Treasury. Other key Crown agencies include MFAT, TPK and the Office of Treaty Settlements.
- Key sector stakeholder organisations like NZ Forest Owners Association, NZ Farm Forestry Association, Federated Farmers, FoMA and other Maori Forestry representatives, CNI claimant groups, and Institute of Forestry need to be consulted once a preferred option or options has been identified **[withheld under OIA s9 (2) (f) (iv)]**. Ongoing consultation with these groups would be needed as operational details of the agreed option(s) are worked through.

"As assessed against the policy criteria, the current policy package does not send appropriate climate change signals to land managers regarding the benefits and costs of land-use change."

This section of the Review also concluded that:

- uncertainty about the LULU(F) rules beyond 2012 is a major impediment to developing a resilient domestic policy;
- for equity and efficiency reasons, it is preferable that climate change policies are land-use sector neutral and do not distort investment decisions;
- forestry can assist New Zealand in the transition towards a more climate-friendly economy because it buys time;
- the benefits of forestry must not be divorced from the liabilities associated with harvesting and deforestation;
- options that send positive afforestation and reforestation signals could be used to maximise other co-benefits associated with forestry, such as:
  - reduced agricultural emissions;
  - improved soil conservation, catchment management and water quality, and biodiversity outcomes;
  - enhanced ability to produce substitute materials for more emission-intensive products;
  - a potential source of bioenergy.

7.6 Tasks (new and existing), Resources and Timelines

- Development and agreement on criteria against which specific options will be assessed (end of March 2006). Completed.
- Preparation of advice to Cabinet on the Permanent Forest Sink Initiative (PFSI), noting the option of Cabinet confirming the PFSI (advice in **[withheld under OIA s9 (2) (f) (iv)]**).
- Continue implementation of PFSI, if appropriate, including: drafting of Supplementary Order Paper for the CCRAB; final decisions on remaining implementation issues; development of regulations; communication with stakeholders; and negotiating covenants with landowners once legislation is passed (from **[withheld under OIA s9 (2) (f) (iv)]**).
- Identification and analysis of options other to encourage afforestation – including specific analysis of the proposal put forward by forest growers under the forestry dialogue – and possible Ministerial decisions on a shortlist of preferred options for detailed development. **[withheld under OIA s9 (2) (f) (iv)]**
- Detailed development and analysis of short-listed options, covering such aspects as delivery mechanisms, distributional/equity implications, efficiency implications, fit with other relevant government policy, Treaty of Waitangi issues, refinement of budgets. **[withheld under OIA s9 (2) (f) (iv)]**
- Provide advice on possible "bold goals or objectives" for the forestry sector [refer CAB (06) 18/8] **[withheld under OIA s9 (2) (f) (iv)]**
- Ministers agree on a preferred option or options for encouraging afforestation and a preferred package of forestry initiatives incorporating deforestation and

means the net sink credit balance (ie, credits from growing Kyoto forests minus liabilities from harvesting Kyoto forests) turns negative slightly earlier, much deeper and for about 10 years longer, than would be the case if New Zealand was planting 30,000 hectares of new forest annually. The Kyoto forest credit balance turns negative in about 2022.

- Afforestation has considerable potential to assist in broader sustainable land management objectives including improving water quality, erosion control, flood mitigation and biodiversity enhancement.

7.3 Scope

- The work programme will consider a wide range of options and approaches to address afforestation. Consideration will be given to how measures to increase afforestation best fits within a sustainable land management use framework.

7.4 Analysis to Narrow the Field: broad economic analysis, potential vs realistic outcomes, risks, etc in cases where this analysis has been done already

- The work programme will include analysis of identified approaches and a range of options under them to encourage afforestation.

7.5 Stage of Policy Development

There is currently significant policy in place regarding managing forest sinks. Specifically, on 7 October 2002, Cabinet made *inter alia* the following decisions [CAB Min (02) 26/16 refers]:

- retain all sink credits from Kyoto forests and their associated liabilities, at least for CP1;
- assign a proportion of credits (or an equivalent value) to provide incentives for establishing and enhancing sinks;
- retain deforestation liabilities for the non-Kyoto forests, provided these remain within a cap equal to 21 $MtCO_2$ equivalent; and
- establish a mechanism to encourage the establishment of permanent protection sinks (the Permanent Forest Sinks Initiative).

In 2004 Cabinet further clarified this policy by confirming that:

- owners of Kyoto forests will not face any harvesting of deforestation liabilities where the Crown has retained the forest sink credit asset; and
- if credits are devolved in future, liabilities will be devolved in the same proportion as credits.

The recent *Review of Climate Change Policies* for a number of deficiencies with the current policy settings. Specifically, section 4.6 of the Land Use, Land-Use Change and Forestry, states that:

- Policy options in this area should be developed and analysed in close collaboration with MfE and the Treasury. Other key Crown agencies include MFAT (WTO), TPK and the Office of Treaty Settlements.
- Key sector stakeholder organisations like NZ Forest Owners Association, NZ Farm Forestry Association, Federated Farmers, FoMA and other Maori Forestry representatives, and Institute of Forestry need to be consulted once a preferred option or options has been identified **[withheld under OIA s9 (2) (f) (iv)]**. Ongoing consultation with these groups would be needed as operational details of the agreed option(s) are worked through.

afforestation measures and a overarching goal for the sector **[withheld under OIA s9 (2) (f) (iv)]**.

- Finalise advice to Cabinet, including a recommended preferred option or options to encourage afforestation and a preferred package of forestry initiatives incorporating deforestation and afforestation measures **[withheld under OIA s9 (2) (f) (iv)]**.
- Cabinet makes decisions and announcement on a preferred forestry package. Budget implications will also be addressed in this paper **[withheld under OIA s9 (2) (f) (iv)]**.
- Industry and stakeholder consultation on preferred forestry package **[withheld under OIA s9 (2) (f) (iv)]**. Report back to Cabinet and final decisions **[withheld under OIA s9 (2) (f) (iv)]**.

  Ongoing development of operational details, completion of implementation plan – **[withheld under OIA s (9) (2) (g) (i)]**
- Commence implementation **[withheld under OIA s9 (2) (f) (iv)]**
- Monitoring and review of effectiveness of policy and achievement of outcomes within two years of implementation.
- Early stages of analysis will be carried out with existing resources; comprising departmental staff and some external contractors (funded via MfE). Design and administrative costs associated with implementation of a preferred option or options will need to be met from additional resources secured as part of Cabinet decisions in **[withheld under OIA s9 (2) (f) (iv)]**

7.7 Linkages/Dependencies with Other Tasks

- Links to work programme on alternatives to measures to the announced carbon tax.
- Closely linked to, and must be consistent with, climate change work programme on deforestation.
- Closely linked to climate change work programme on agricultural emissions, including any work on land use and the links between forestry and agricultural policies.
- Closely linked to climate change work programme on adaptation (especially adaptation for severe adverse weather events) and to sustainable land management.
- Possible links to work programme on bioenergy.
- Probable links with the Water Programme of Action, particularly in relation to water quality.

7.8 Consultation/Communication Undertaken/Required

- The existing policy on forest sinks has been consulted widely (in May 2002) including a nationwide series of consultation meetings, hui and a national hui.
- Officials have also discussed these issues with a joint government-forest industry dialogue that ran between June 2005 and November 2005.

8. Land-Use and Links between Forestry and Agriculture Policies

8.1 Deliverables

This work programme consists of three parts:

- Incorporation of land-use change elements in the three work programmes focusing on land-based climate change policies: agriculture, afforestation and deforestation.
- Advice and input to all other climate change work programmes where they may influence land use policies.
- Monitoring and assessment of the impacts for climate change policy of other cross-government land-based programmes and policies.

Most of the deliverables in this work programme will form part of the agriculture, afforestation and deforestation work programmes of which land-use and its change are an integral part. Each of the above mentioned work programmes contain specific reference to the need to consider the linkages between policy options and various land-uses.

While most of the deliverables in this work programme will form part of the agriculture, afforestation and deforestation work, an additional focus of this programme will be to monitor other ongoing programmes as identified below and ensure that the links between land-use and forestry and agriculture are addressed within these.

The deliverables from this component of the work programme will consist of briefings, reports and contributions to Cabinet papers.

Ongoing programmes to be monitored include:

- The roles of policies being developed by industry e.g. Dairying Strategy with its 3 percent annual gain in productivity target;
- The current role of land-use controls through the RMA and their impact on rates of land-use change;
- Water Programme of Action;
- Sustainable Land Management initiatives;
- Dairying and Clean Streams Accord;
- Various Industry Strategies e.g. Dairy 21, FIDA;
- Lake Taupo Enhancement programme; and
- National Energy Efficiency and Conservation Strategy Review (Biofuels).

8.5 Stage of Policy Development

Land-use change and the links between forestry and agriculture is a new work area, as central government does not currently have a policy on land-use (except on land under DoC stewardship). This was devolved to regional and local government under the RMA. Although it is a new area, as described below many key issues related to land-use change and the links between forestry and agriculture are dealt with under existing work areas within MAF and MfE.

8.6 Tasks, Resources and Timelines

New work programme areas

The following areas have been covered superficially in the *Review of Climate Change Policies* and additional policy work is warranted.

Development of national strategies ie, Forest Industry Development Agenda and National Climate Change Action Plan for Agriculture

Impacts of the action plan for agriculture on land-use change between forestry and agriculture.

Price based measures: investigation of the likely impacts

The role of incentives and taxes on agriculture and/or forestry including afforestation (PFSI) and deforestation on land-use change.

The impacts of an input cap and trade system for nitrogen on land-use change ie, Lake Taupo.

Non-price measures: investigation of the likely cost-effectiveness of voluntary measures

Impacts of non-price measures for climate change on land-use between forestry and agriculture.

8.7 Linkages/Dependencies with Other Tasks

Many key issues related to land-use change and the links between forestry and agriculture are dealt with as part of MAF and MfE's work under climate change. There are also close linkages with other work programmes across government as well as industry strategies. These include:

- Water Programme of Action;
- Sustainable Land Management initiatives;
- Dairying and Clean Streams Accord;
- Various Industry Strategies e.g. Dairy 21, FIDA;
- Lake Taupo Enhancement programme; and
- National Energy Efficiency Strategy review (Biofuels).

8.2 Context

Land-use impacts are an integral part of many of the climate change work programmes. We will assess these links as a key criteria under the work programmes on afforestation, deforestation and agriculture.

It is possible that in the longer-term government may wish officials to develop an overall policy framework for addressing issues of exposing decision-makers to certain externalities when society recognises such externalities provide a benefit or create a cost.

Some recent examples of important (but newly recognised) externalities include:

- cost of nitrogen pollution of waterways;
- cost of greenhouse gas emissions;
- benefits of CO_2 sequestration;
- costs of denuded land allowing accelerated erosion; and
- costs of water intensive activities where society may now have a higher value use for that water.

This body of work is a critical area of public policy, but has implications far wider than climate change. We therefore recommend that should government wish to further consider these issues, it do so in a wider context than climate change.

We note that under current legislation, Regional Councils can have significant impact on land-use under the requirements of the RMA. Any policy development in this area will therefore need to consider the role of local authorities in addressing such issues.

8.3 Analysis of Scope of Activities Covered

The scope of this work programme includes the animal sectors dairy, sheep, beef and deer.

It excludes horticulture and cropping as these represent only a small proportion of the total land area change, although some policy measures may also influence these sectors. Extension of urban areas has also been excluded.

8.4 Fit with a Coherent Whole-of-Government Approach

The key work programmes where land-use will be assessed include:

- The forestry work programme on both afforestation and deforestation – agriculture and forestry are competitors for land with land price and profitability being key factors.
- The needs for, and future shape of cross-sectoral incentive programmes, and their impacts on land-use change.
- Incentives for renewable energy (eg, biofuels from agriculture) and disincentives for fossil fuel based electricity. Significant movement into biofuels could impact on future land-use in agriculture and be a competitor for both agriculture and forestry.
- Treatment and reduction of agricultural emissions including research.

9. Combined Energy Sector Work Programmes

9.1 Deliverables

Due to the overlapping and interlinked nature of the Climate Change Review energy sector report backs, the climate change work programmes related to the energy sector have been combined into a single work programme through the parallel work streams developing the New Zealand Energy Strategy ("NZES") and the National Energy Efficiency and Conservation Strategy replacement ("NEECS"). Taken together, the NZES and the NEECS will address:

a) Opportunities to reduce energy emissions generally, including through development of the National Energy Strategy and energy research and priorities;

b) The option of a narrow carbon tax (or other price based measure, such as emission trading) on electricity generators;

c) Incentives for renewable energy or disincentives for fossil fuel based electricity generation; and

d) Review of the National Energy Efficiency and Conservation Strategy.

9.2 Context

As a subset to the NZES, the replacement NEECS will need to take account of and be consistent with the broader organisational principles developed in the NZES that have an impact on energy efficiency and renewable energy sources. Similarly the NZES will recognise and be consistent with the direction Ministers may wish to take for climate change policy.

The Minister Responsible for Climate Change Issues has recommended to Cabinet that the focus be on:

- Being long term and strategic (far longer than the five years under Kyoto);
- Balancing durable efforts to reduce emissions with preparations for the impacts of a more variable climate;
- Engaging with and inspiring the wider public and business to energise their willing, effective and long term involvement; and
- International engagement that advances our national interests.

Ministers were also asked to consider bold goals or objectives as part of their ongoing work programme responsibilities.

a) New Zealand Energy Strategy

As part of the Sustainable Development Programme of Action, the Minister of Energy released the report *Sustainable Energy* outlining the government's view of a sustainable energy future for New Zealand. In response to discussion with key stakeholders and broader public debate about challenges, particularly in the long term, the government announced it would develop a NZES.

8.8 Consultation/Communication Undertaken/Required

The consultation will be part of the normal consultation process for other parts of the work programmes in agriculture, afforestation and deforestation.

The Minister of Energy has announced his decision to replace the NEECS. The process to develop a replacement NEECS is being lead by the Energy Efficiency and Conservation Authority (EECA). Officials note that the Minister has emphasised the need for some focus on electricity usage and transport in the replacement NEECS.

9.3 Analysis of Scope

The combined energy sector work programme will likely reflect the scope of the NZES and the requirements for the NEECS.

With regard to current government policy on the gas, transport, industrial and electricity sectors, and renewables and energy efficiency, the NZES would provide the principles for energy policy.

The scope of the NZES is potentially very extensive but its development will include:

- raising awareness about the issues facing New Zealand's energy future;
- exploring future energy scenarios and assessing transition paths to identify key values on a long-term vision for the delivery of energy services and energy use;
- establishing strategic priorities for achieving the long-term vision, i.e. developing a carbon abatement strategy for the energy sector; and
- identifying and developing the new actions and measures that lead energy sector developments towards achievement of strategic priorities.

It is likely to undergo further development and refinement through the consultation process about key energy issues and as stakeholders provide input into the development of the draft NZES.

Broad modelling exercise of various energy market futures:

- Model scenarios (eg, BAU, vigorous renewables incentives policy, increased reliance on coal, rapid increase in energy efficiency technology) to consider range of possible outcomes (supply/demand balance, security, prices, environmental impacts and emissions profile) for New Zealand energy markets.
- Scenario analysis to highlight opportunities for emissions reductions, risks to energy outlook, critical decisions (ie, decisions that broaden or narrow options or contingencies).

NZES scenarios' assumptions will include investigation of:

- potential and new energy sources (ie, stationary and transport fuels, energy conservation/energy efficiency);
- different combinations of energy sources; and
- technological innovations and developments.

9.4 'Fit' with a Coherent, Whole-of-Government Approach

The NZES will be a whole-of-government process and closely integrated with the development of a replacement NEECS; domestic climate change policy work programmes, especially those looking at renewables incentives, energy efficiency, and

The general objective of the NZES is to provide long-term direction and leadership for the transition to a low carbon energy sector, with increasing renewable sources of energy and energy efficiency as key priorities. To do this the NZES will focus on some key questions to identify the strategic directions and priorities in the face of uncertain events and developments:

- To what extent can New Zealand reduce its dependency on oil (or fossil fuels) by 2030?
- Whether non-transport energy should be 100% renewable or carbon neutral over the long term?
- What is the scope to reduce primary energy demand by 2030 while meeting the needs of a growing economy?
- To what extent can renewable (stationary and transport) energy meet primary energy demands by 2030?
- What role should coal play in the transition to more sustainable energy sources?
- What are the pros and cons of different options to fill an indigenous gas supply gap and what if any are the dynamic implications of such choices for New Zealand's domestic oil and gas exploration over time?

b) A Narrow Carbon Tax (or alternative measures, such as emission trading) on Electricity Generators

These options will be examined as part of the NZES and will be coordinated with the work led by Ministry for the Environment on alternatives to the announced carbon tax and Negotiated Greenhouse Agreements.

c) Incentives/Disincentives for Electricity Generation and Industrial Processes (including heat)

These options will be examined as part of the NZES and NEECS.

d) Review of the National Energy Efficiency and Conservation Strategy

As a subset of the NZES, the replacement NEECS will need to take account of and be consistent with broader strategic settings that impact on energy efficiency and renewable energy sources developed in the NZES. In addition, the Energy Efficiency and Conservation Act 2000 requires the (replacement) NEECS to state:

- government's policies in relation to promotion in New Zealand of energy efficiency, energy conservation, and use of renewable sources of energy;
- the objectives to be pursued to achieve these policies;
- targets to achieve the policies and objectives (being measurable, reasonable, practicable and considered appropriate by the Minister);
- the means by which those policies, objectives and targets are to be achieved; and
- such other matters necessary to achieve the promotion of energy efficiency, energy conservation, and the use of renewable sources of energy in New Zealand.

transparent process that encourages engagement with stakeholders at appropriate stages of development is expected to include:

- Early publicity of the single energy sector work programme and links with wider climate change policy work programmes to promote engagement and elicit feedback on scope and process.
- A series of interactive workshops to allow for stakeholders' input into the development of policy. Topics could include scenarios and long-term goals, security of supply, role of thermal fuels, renewables and energy efficiency, and energy innovation.
- A wide consultation on draft policy, with a formal submission process.

9.9 Estimated Impact on New Zealand's Net Emissions in CP1

The estimated emissions reductions in CP1 depends on the specific nature of any actions/interventions that are agreed in the final NZES and NEECS.

9.10 Estimated Impact on New Zealand's Net Emissions from 2013–2030

The strategies will include a strategic horizon out to 2050.

the development of an energy research roadmap; and the New Zealand Transport Strategy.

9.5 Stage of Policy Development

Cabinet has agreed the Terms of Reference for the development of the NZES. A proposed public framework paper for a replacement NEECS is to be presented to Cabinet as a noting paper. EECA is also leading a quantitative modelling workstream to assess the costs and benefits of potential NEECS policy and programme interventions. Once the NEECS framework has been approved, a phase of comment-seeking for NEECS and upfront engagement for the NZES will get underway.

9.6 Tasks, Resources and Timelines

Financial and staff resources have been allocated by the Ministry of Economic Development and EECA. Appendix 1 maps the phases of development of the NZES and NEECS and provides an indicative timeframe for key tasks. To the extent practicable (especially given the statutory requirements applying to the development of a replacement NEECS) processes, including consultation and timelines, are coordinated. There are risks of some slippage in the timelines set out in Appendix 1 due to:

- A delay in public communications about climate change policy development as announcements on the NZES are sequenced to follow these; and
- The need to engage extensively with stakeholders as input to the development of the strategies may entail additional time than currently allowed.

Appendix 1 also provides a brief description of potential actions that might be undertaken in each phase. Ideally the NZES, NEECS replacement and strategic framework for climate change policy (at least for the energy and industry sectors) will be aligned to the extent practicable.

9.7 Linkages/Dependencies with Other Tasks

As noted in 9.4 above, the development of both the NZES and replacement NEECS are to be a whole-of-government processes, due to the strong inter-relationships between energy policy and other policy areas. In respect to the NZES:

- Energy Outlook to 2030 is intended to lay the groundwork for the NZES scenario analysis.
- Obvious connections between policies and measures to support renewables and energy efficiency will be provided in the NZES and the replacement NEECS.
- Need to take into account, and be consistent with, climate change policies and strategic directions when developing energy sector policies and measures.

9.8 Consultation/Communication Undertaken/Required

Realisation of a coherent and enduring long-term vision for energy, consistent with climate change objectives, will require strong buy-in from the community. A robust and

Appendix 1

Phase/Timing	NZES Tasks	NZES Comment	NEECS Process
Phase 1 **[withheld under OIA s9 (2) (f) (iv)]**	Develop terms of reference Establish project team	Develop and finalise TOR (Cabinet approval). Public announcement and initial engagement with stakeholders to launch process for developing strategy. Opportunity to provide feedback.	Cabinet to note proposed framework for development of the replacement NEECS.
Phase 2 **[withheld under OIA s9 (2) (f) (iv)]**	Hold workshops with stakeholders for input into draft strategy Develop draft strategy	MED officials lead an inter-agency consultative officials' process to develop a draft strategy based on research, environmental scan and input from key stakeholders. Workshops for stakeholder input into developing the draft strategy. Decisions on climate change goals and strategic framework needed to inform NZES. Draft available for Ministerial/Cabinet comment and Cabinet approval for release.	Seek comments from specified groups, as required by the Act, as input to a replacement NEECS – based on the approved framework for development of the replacement NEECS. Prepare draft replacement NEECS. Submission to Minister/Cabinet for approval to release of draft replacement NEECS for public comment.
Phase 3 **[withheld under OIA s9 (2) (f) (iv)]**	Formal consultation process	Test the draft strategy against private sector and other stakeholders before being finalised. Formal wide consultative process with stakeholders and interested parties. Involve a call for written submissions (including internet), workshops, seminars (and hui) in the main and regional provincial centres.	Eight week period for written submissions on the draft replacement NEECS, supplemented with meetings in main centres.
Phase 4 **[withheld under OIA s9 (2) (f) (iv)]**	Finalise initiatives to implement New Zealand Energy Strategy	Summarise submissions. Finalise initiatives and strategy. Report to Minister and Cabinet.	Prepare report summarising and analysing submissions. Prepare final replacement NEECS for Cabinet approval.
Phase 5 **[withheld under OIA s9 (2) (f) (iv)]**	Publish final New Zealand Energy Strategy		Publish final replacement NEECS.
Phase 6 **[withheld under OIA s9 (2) (f) (iv)]**	Implement strategy initiatives	New initiatives required to implement the strategy need to be considered as part of the 2007 budget.	Implement replacement NEECS initiatives – which will probably require funding from the 2007 budget.

10. Treatment and Reduction of Agricultural Emissions Including Research

10.1 Deliverables

The deliverables will consist of a series of reports, briefing and contributions to Cabinet papers providing practical options for emissions reduction. The programme will be delivered over the period to **[withheld under OIA s9 (2) (f) (iv)]**. It will include assessment of the options against agreed criteria such as fiscal cost, impacts on greenhouse gases, durability, timing and consistency with other policies. The following areas will be covered:

- The role and impact of price based and non-price based measures on the agricultural sector during CP1 and beyond.
- Approaches to encourage the uptake by farmers of emission reduction technologies including engagement requirements at the farm level.
- Processes to ensure New Zealand can measure and capture the full benefits of these technologies in the annual National Greenhouse Gas Inventory.
- The adequacy of current research efforts and funding to develop technologies and approaches to reduce on-farm emissions, including the ongoing role of the Pastoral Greenhouse Gas Research Consortium (PGGRC) and its funding.
- The impacts of adaptation to climate change by agriculture and the links with mitigation policy.
- The development of a National Climate Change Action Plan for agriculture based around the two themes of mitigation and adaptation, supported by research and development, and communication and awareness and linked with industry strategies.
- Advice on the impacts of the agriculture work programme on land-use and the links with forestry and agriculture policies.
- Analysis of how various policy options fit with other agricultural policy activities including management of water quality and soil erosion.
- Options for engaging/consultation with the agricultural sector and managing expectations.

10.2 Context

Nitrous oxide and methane emissions from animal based agriculture represents just under 50 percent of New Zealand's total greenhouse gas emissions. Increases in animal productivity, the shifting animal balance from sheep to dairy and ongoing production technology adoption and farm intensification will continue to increase emissions from agriculture in the absence of any mitigation technologies.

10.6 Tasks (new and existing), Resources and Timelines

Existing Work

Contribution of research to mitigation in the agricultural sector

- The current policy for agriculture is the joint government/industry research programme formalised through a Memorandum of Understanding between the government and key agricultural industry organisations, and administered through the Pastoral Greenhouse Gas Research Consortium (PGGRC), which expires in June 2007. The Ministry of Agriculture and Forestry is an associate member of the PGGRC and monitors the research conducted and progress being made. An annual report of progress is presented to Ministers. The Climate Change Review has identified that research resources are currently not sufficient to make rapid progress. The ongoing role for the PGGRC and its funding will be assessed.

Agricultural inventory and mitigation incorporation

- Reviews and assessment of the previous agricultural inventory research programme has identified areas when improvement can be made in the current agricultural inventory. For example:
  - Estimating nitrous oxide emissions from hill country;
  - Developing a New Zealand emission factor for nitrogen fertiliser;
  - Review of the emission factor for ruminant animals.
- Greenhouse Gas reductions are only recognised once incorporated into National Inventory reporting and accounting. Justification for incorporation into the National Inventory of any mitigation technologies needs to be scientifically robust and acceptable to international expert review. Coupled with this is the need to ensure that greenhouse gas measurement technologies are sensitive enough to measure the adopted mitigation practice. This represents an area where identifiable improvements can be made.

New Work Programme Areas

The following areas have been covered superficially in the Climate Change Review and additional policy work is warranted.

Development of a national climate change action plan for agriculture

- Based around two themes: mitigation and adaptation, supported through research and development, and communication and awareness seeking stakeholder buy-in and input.
- This plan could link closely with other government and industry strategies and plans being formulated at present.
- Timeframe: **[withheld under OIA s9 (2) (f) (iv)]** with widespread consultation.

Price based measures: investigation of the likely effectiveness of the following policy instruments

By 2010 emissions are projected to be 7.64 million tonnes per annum above 1990 levels creating a liability to the Crown of $315 million over the First Commitment Period (at the current Treasury price of carbon dioxide of NZ$8.25/tonne).

There is a direct link between nitrous oxide emissions and nitrate pollution of waterways. Better management of nitrate will have broader benefits for sustainable agriculture beyond climate change objectives.

10.3 Analysis of Scope of Activities Covered

The scope of this work programme includes the animal sectors **dairy, sheep, beef and deer**. It excludes horticulture and cropping as these represent only a small proportion of emissions, although some policy measures may also influence these sectors.

It includes only the greenhouses gases **methane and nitrous oxide**, and excludes carbon dioxide ie, energy and soil carbon impacts. Energy in agriculture is covered in other areas, as is soil carbon emissions as carbon dioxide.

The analysis will incorporate both price-based and non-price-based measures drawing on international experience and experience from other programmes within New Zealand.

10.4 Fit with a Coherent, Whole-of-Government Approach

The key linkages are with the following climate change work programme areas:

- The Forestry work programme on both afforestation and deforestation – agriculture and forestry are competitors for land with land price and profitability being key factors.
- The needs for, and future shape of cross-sectoral incentive programmes, and whether methane and nitrous oxide should be included in these programmes.
- Land-use and links between forestry and agriculture policies.
- Incentives for renewable energy (eg, biofuels from agriculture) and disincentives for fossil fuel-based electricity.
- An extension of the existing work programme to help New Zealand prepare for and adapt to the impacts of climate change.
- These areas have prime links with the agriculture programme although many other work programmes will also be important, as the dominance of agriculture and forestry in the New Zealand context means that many other policies have a direct or indirect influence.

10.5 Stage of Policy Development

The existing work programme below identifies areas where officials have a sound knowledge of the issues and the policy directions desired as at 20 June, 2006.

The new work programmes identify areas where officials consider as at 20 June, 2006, further work needs to be done to determine policy directions.

Usual by 2020. Estimates of gains through additional inventory improvement suggest this could be increased to approximately 2.0 million tonnes without affecting productivity.

10.10 Estimated Impact on New Zealand's Emissions from 2013 to 2030

This will be dependent on breakthroughs from the research programmes, either domestically or internationally. Various scenarios will be assessed.

There will also be pressure on agricultural land from forestry in the presence of schemes that aid forest planting.

[withheld under OIA s (9) (2) (g) (i)]

This will be largely in hill country and so result in lowering stock numbers with their associated methane and nitrous oxide emissions.

Summary of Programmes, Timelines and Resource Needs

Title	Timeline	Resources
Current Programmes		
Contribution of research to mitigation in the agricultural sector	Advice by **[withheld under OIA s9 (2) (f) (iv)]**.	In-house and in conjunction with MoRST/FRST
Agricultural inventory and mitigation incorporation	Completed **[withheld under OIA s9 (2) (f) (iv)]**.	$1 million/annum for two years – external research contracting. Dependant on successful budget bid
New Programmes		
Action plan	Report on and discussion document by **[withheld under OIA s9 (2) (f) (iv)]**.	Consultation requirements $50,000 consultation/ publicity material
Price-based Measures	**[withheld under OIA s 9 (2) (g) (i)]** In conjunction with WPoA. Report by **[withheld under OIA s9 (2) (f) (iv)]**.	In-house resources in conjunction with WPoA
Non-price measures	**Report on the following approaches:**	
	Awareness and communication actions and approaches. Information provision and enhanced technology transfer mechanisms. By **[withheld under OIA s9 (2) (f) (iv)]**.	Contracted external $25,000
	Assessment of effectiveness of demonstration farms of BMPs for greenhouse gas mitigation. By **[withheld under OIA s9 (2) (f) (iv)]**.	In-house
	Voluntary GHG reporting programme. Report on effectiveness by **[withheld under OIA s9 (2) (f) (iv)]**.	In-house

[withheld under OIA s (9) (2) (g) (i)]

- Cap and trade schemes on nitrogen emissions in conjunction with WPoA e.g. Lake Taupo.

[withheld under OIA (2) (g) (i)]

Non-price measures: investigation of the likely effectiveness of voluntary measures

- Awareness and communication of actions and approaches.
- Voluntary GHG reporting programme.
- Demonstration farms of Best Management Practices (BMPs) for greenhouse gas mitigation. Assessment of the effectiveness and costs of this approach.
- Information provision and enhanced technology transfer mechanisms.

10.7 Linkages/Dependencies with Other Tasks

There are also close linkages with other work programmes across government as well as industry strategies. These include:

- Water Programme of Action;
- Dairying and Clean Streams Accord;
- Lake Taupo Enhancement programme;
- Various Industry Strategies eg, Pasture 21;
- PGGRC Research Strategy and its position post-2007; and
- Deforestation and afforestation work programmes.

10.8 Consultation/Communication Undertaken/Required

The introduction of any measures would require widespread consultation with the agricultural sectors, as will the development of the Agricultural Sector Climate Change Action Plan.

10.9 Estimated Impact on New Zealand's Net Emissions in CP1

More detailed estimates will be made in discrete known mitigation areas such as:

- Inventory improvements and changes in emission factors;
- Mitigation of methane using new products eg, alternative feed supplements ie, maize silage, palm kernel waste; and
- Mitigation of nitrous oxide using nitrification inhibitors.

Nitrification inhibitors are considered the best prospect. Best current estimates presented in the "with additional" measures estimate of the draft National Communication to the UNFCCC were 1.6 million tonnes reduction from Business As

11. Transport

11.1 Deliverable

A transport sector work programme focused on incentives or disincentives for purchase and use of transport modes and vehicle efficiency.

11.2 Context

In New Zealand, our transport system reflects a small population which is distributed over two main islands with a combined length of 2,000 kilometres. A significant amount of trade occurs through shipping and air transport, building on early port settlements. Our towns generally developed alongside motorised transport, allowing for greater distances between home and destinations. The transport system underpins the country's economic prosperity by enabling the movement of people and goods and providing connections to international markets in the world economy. It contributes to the well-being of society by providing basic freedom of movement and access. However, the negative impacts of transport on environmental and human health are increasing.

Transport in New Zealand runs almost entirely on fossil derived oil and in 2003 the transport sector generated 45 percent of energy sector emissions of carbon dioxide. (This equates to around 18 percent of New Zealand's total greenhouse gas emissions when other gases such as methane are included.) Transport sector emissions are growing strongly, at an average rate of around 4 percent a year, with emissions currently closely linked to economic growth.

The climate change challenge for transport is to reduce carbon dioxide emissions by ensuring the most efficient use of fossil fuels, managing demand for transport and facilitating a transition to renewable sources of energy. These are key features of a sustainable transport system and, although they support international climate change commitments, they are also desirable in their own right.

The November 2005 *Review of Climate Change Policies*[7] concluded that there were no obvious "big wins" available for transport emission reductions in the short term. But, there are a number of actions that could have beneficial effects over a longer time scale. Many positive actions are already being taken, although not on a scale large enough to ensure emission reduction gains are not outstripped by the ongoing growth in oil-based transport.

The Ministry of Transport is the government's principal transport policy adviser. The work of the Ministry, and its associated transport Crown entities, is guided by the five integrated objectives set out in the New Zealand Transport Strategy. The Strategy's objectives seek to give effect to the government's vision of an affordable, integrated, safe, responsive and sustainable transport system.

[7] http://www.climatechange.govt.nz/resources/reports/policy-review-05/index.html

11.4 Analysis of Scope

Projects within the work programme are at different stages of development. A period of research/analysis will be required to ensure that there are no unintended consequences, unacceptable impacts, or risk of loss of momentum in current work areas that are starting to gain traction. It is also important to recognise that policy development for the transport sector requires an incremental, "building block" approach where each policy builds upon the last. Over time this will lead to a series of broad based, connected transport interventions.

To enable this approach, projects that make up the building blocks have been categorised as follows:

Category 1: Existing initiatives funded out of current allocation, which can be developed in the short-term.

Category 2: Medium-term initiatives that can be completed within the next two to five years, subject to the provisions of adequate funding. The first stage is to scope the options.

Category 3: Long-term initiatives requiring reports to Cabinet in **[withheld under OIA s9 (2) (f) (iv)].**

Identification of short-, medium- and long-term initiatives allows for a phased approach to be taken with new and long-term initiatives, while retaining momentum and continuity of existing work programmes.

A proposed principle for the work programme is that if an economic instrument is applied within the transport sector, either all, or a significant portion of any revenue raised should be recycled within the transport sector in a transparent manner. This will leverage further opportunities for carbon dioxide emission reductions. For example, this could include policies such as feebate schemes.[12]

11.5 Tasks, Resources and Timelines

11.5.1 Projects within work programme

Category 1: Existing initiatives funded out of current allocation (projects that are unconditional).

- Improving the fuel efficiency and reducing the harmful emissions of the government's vehicle fleet – the transport component of the Govt[3] Programme to be progressed jointly with the Ministry for the Environment
- Further development of the Vehicle Fleet Emissions Model – specifically the greenhouse gas component – to more accurately determine the effectiveness of policy interventions to affect the vehicle fleet
- Extension of the advertising and education campaign, begun around the visible smoke test and other measures to reduce harmful emissions, to include

[12] Feebate schemes include those where fuel-inefficient vehicles pay a larger fee at registration and this fee is then used to provide incentives for registration of fuel-efficient vehicles.

The work programme presented in this document covers the development of policy and therefore for the most part it describes the work of the Ministry of Transport. It does not exclude the strategic policy advice and/or operational delivery of other agencies,[8] but it is focused on Ministry-led activities at this time.

Achieving transport sector outcomes within the Climate Change Policy work programme will require long-term commitment from Government. It will require the Ministry to show leadership and innovation in policy development and also ensure a high degree of coordination and interaction with the wider transport and energy sectors.

11.3 Scope

The work programme, particularly the existing initiative, gives priority to road transport (both vehicles purchased and choice of transport modes). This recognises the large proportion of transport carbon dioxide emissions from road use and the gains available from addressing energy consumed by passenger transport. The means of powering transport modes is also part of the work programme because energy sources vary in the fossil derived emissions that are produced. In particular, biofuels[9] are recognised as having climate change benefits.

The *Review of Climate Change Policies* outlined a policy framework with four generic policy categories which have been used in the development of the work programme[10]:

- vehicle technologies/efficiency
- pricing of transport activities and fuels
- energy sources (including fuels)
- networks and transport infrastructure (covering all modes).

The effect on carbon dioxide emissions of policies is a product of the influence of the policy (ie, how broadly across the transport sector the policy applies) and the impact of the policy (ie, how deeply the policy impacts on the emissions of the policy area targeted). This distinction is useful when considering the likely short-term and longer-term effect of policies and was used in the development of the work programme.

The scope of the work programme also includes development of tools and methodologies to quantify transport sector carbon dioxide emission reductions. An improved modelling capacity will be required to monitor and audit the effectiveness of current and future policy interventions. Work is focused on the redevelopment and improvement of the Ministry of Transport's Vehicle Fleet Emissions Model, as a macro-level policy analysis tool. In addition, ongoing updates of the Surface Transport Costs and Charges report[11] will provide supporting data on the costs and charges associated with the road and rail networks.

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8 Including Land Transport New Zealand, Transit New Zealand, Energy Efficiency & Conservation Authority (EECA), Ministry of Economic Development and Ministry for the Environment.

9 Biofuels are produced from plant and animal fats and oils rather than fossil fuels.

10 Ministry for the Environment. (November 2005) pp. 295–296.

11 http://www.transport.govt.nz/surface-transport-costs-and-charges/

- By **[withheld under OIA s9 (2) (f) (iv)]** – Report on project scope for controls and incentives to influence the import of fuel efficient vehicles (see under Category two above) and a progress report on transport communication and stakeholder engagement
- By **[withheld under OIA s9 (2) (f) (iv)]** – Report on project scope for economic instruments, Fleet Operators' Commitment Programme, Offset Schemes, and progress report on transport communication and stakeholder engagement (see under Categories two and three above).

Additional reports are timeframes for the transport work programme include:

- By **[withheld under OIA s9 (2) (f) (iv)]** – Report to Ministers on the development of 'bold goals' and other possible cross-government initiatives (to coincide with expected progress with the New Zealand Energy Strategy and other climate change work programmes affecting transport)
- By **[withheld under OIA s9 (2) (f) (iv)]** – provide Ministers with a review of transport climate change policies including options for wider transport sector engagement through the business planning and statement of intent cycles.

11.6 Linkages/Dependencies with Other Tasks

The work of the Ministry is guided by five integrated objectives under the government's New Zealand Transport Strategy:

- Assisting economic development
- Assisting safety and personal security
- Improving access and mobility
- Protecting and improving public health
- Ensuring environmental sustainability.

These objectives seek to maximise the benefits of transport while reducing, or where possible eliminating, negative effects. The objective of ensuring environmental sustainability is of direct relevance to the development of the climate change work programme.

The transport sector is complex and the integration of multiple objectives means a large number of internal and external linkages in this work programme. There are now second-tier rail and walk/cycle strategies under the New Zealand Transport Strategy and the recently developed *Transport Sector Strategic Directions Document 2006/07*[13] is embedding environmental sustainability and a commitment to integrating transport and land-use planning within the transport sector.

The New Zealand Energy Strategy and the review of the National Energy Efficiency and Conservation Strategy, both part of the whole-of–government development of climate change policy, **[withheld under OIA s9 (2) (f) (iv)]**. Discussion around long-term 'bold goals' for transport and consultation with interested groups and the public on transport initiatives will be coordinated.

[13] http://www.transport.govt.nz/assets/NewPDFs/transportSectorStrategicDirections.pdf

messages on fuel efficiency, improved vehicle maintenance and greater use of public transport

- Scoping of the next phase of work to improve the uptake of biofuels, building on the mandatory sales target policy
- Development of fuel consumption information for consumers with EECA leading voluntary vehicle labelling of new cars and the Ministry of Transport providing support (e.g. provision of data from the fleet registry).

Category 2: Medium-term initiatives that can be completed within the next two to five years, subject to the provision of adequate funding. The first stage is to scope the options.

- Import controls or incentives to enable the uptake of more fuel efficient vehicles into the vehicle fleet
- Fleet Operators' Commitment Programme (including fuel efficient driving practices and driver training
- Offset Schemes whereby the carbon component of transport fuel could be offset through consumer action (eg, link to planting schemes and/or programmes to reduce emissions from other sectors).

Category 3: Long-term initiatives

- Use of economic instruments to affect purchase and/or use of transport (eg, differential pricing based on fuel economy).

Where scoping of policy initiatives is required, overseas examples and experience will be analysed.

11.5.2 Criteria to Determine Priorities

In determining priority work areas and options, as initiatives are scoped, a transparent assessment process will be required. As a starting point, the following criteria are proposed:

- Contribution to longer term climate change objectives and strategies
- Certainty of delivery
- Cost-effectiveness – favoured option(s) should represent value-for-money
- Effectiveness at assisting New Zealand meet its international commitments
- Capability to deliver and implement (including assessing whether an initiative is time-critical)
- Fit with, and contribution to, other government priorities.

11.5.3 Timeline

Cabinet has identified a timeline for reports, of which the following are relevant to the transport work programme:

- By **[withheld under OIA s9 (2) (f) (iv)]** – Interim progress report on all work programmes

Future engagement with the industry will build in that which has already occurred, for example around reducing harmful vehicle emissions, biofuels and Auckland road pricing options.

11.8 Estimated Impact on New Zealand's Net Emissions in Commitment Period 1 (CP1)

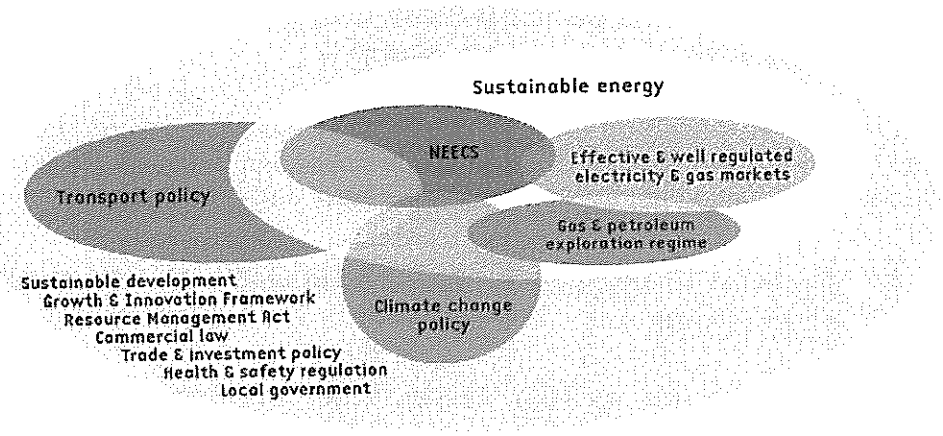
Initial estimates, based on existing data and modelling tools, suggest a 1–5 percent reduction in transport sector carbon dioxide emissions in the period up to 2012. (Note: a 5 percent reduction equates to around 4.3 Mt of carbon dioxide.)

11.9 Estimated Impact on New Zealand's Net Emissions from 2013–2030

The estimated impacts on New Zealand's net emissions from 2013 to 2030 are possibly greater than 5 percent.

The interrelationship of transport energy issues is best illustrated by a diagram used in *Creating a Sustainable Energy System for New Zealand – Discussion Paper* (2004).[14]

FIGURE 11 Relationships of key policies with sustainable energy



This interrelationship of policies means that ownership of transport sector outcomes extends beyond the core government transport sector, including the Ministry for the Environment, Ministry of Economic Development, the Energy Efficiency and Conservation Authority (EECA) and regional and local government.

The work programme has been developed on the understanding that New Zealand's economic growth will continue. However, in order to get a substantial reduction in transport emissions, aggressive policies will be required and some tradeoffs may be necessary. If there are to be consequential impacts on the ability of people to access services and be mobile, then policies to lessen and address these impacts will need to be developed.

The philosophy of this work programme has been to focus attention on what can actually and realistically be delivered. It is intended that that work to achieve reductions in fossil fuel use build on existing initiatives.

11.7 Consultation/Communication Undertaken/Required

Ministry of Transport policy groups have been consulted in the preparation of the work programme. There has also been close liaison with Land Transport NZ, Transit NZ and EECA.

As the work programme progresses and new initiatives are scoped, discussion with the wider transport industry will be required. Opportunities to combine discussions within the wider context of the New Zealand Energy Strategy will be useful. In addition, more focused discussion will be required.

[14] http://www.med.govt.nz/templates/MultipageDocumentTOC____10124.aspx

12. Climate Change Research and Technology Investment Priorities (excluding agriculture and energy)

12.1 Deliverable

A climate change work programme to provide further analysis on climate change research and technology investment priorities

12.2 Context

The Cabinet Business Committee (CBC Min(05) 20/10) noted the requirement for analysis, further to the Climate Change Review Report, to inform government decisions on appropriate research and technology investment priorities excluding agriculture and energy.

Research and technology has been identified as a critical component in:

- allowing informed decision-making
- providing cost-effective means for mitigation and adaptation
- reducing uncertainty around climate change impacts.

The current and on-going underpinning work programme, mostly carried out by MfE, is outlined in Annex I.

12.3 Scope

Climate change research and technology is taken to include science and technology capacity, data collection, original research, international engagement, tools and technology and end-user uptake. Specific research programmes addressing emissions from agriculture and the energy sector are covered in separate work programmes (see 'links' section).

With government climate change policy becoming more closely defined, research and technology needs can be set more systematically. A more strategic approach to prioritising research and technology investments will determine:

- The *current high priority gaps* in our operational science capacity that need to be filled within the next five years in order to directly inform climate change policy decisions over that time;
- The critical *research and technology needs beyond the next five years* and the research and technology programmes that must start now if they are to produce the essential future deliverables; and
- The *mechanisms* that will facilitate effective delivery and uptake of these climate change research and technology priorities.

12.7 A Work Programme to Address Research and Technology Priority Setting

It is critical that the priorities for research and technology have support across government and all affected parties. To this end we propose four work programmes that will develop coherent and robust priorities.

1. Identifying and prioritising

Following agreement on the identification and prioritisation mechanism, a programme to *identify and prioritise* the gaps in our current research and technology and transmit decisions to relevant funders. This includes linking with other existing initiatives (MoRST roadmaps, NSSCCC strategy update, options for other external advisory bodies on climate change science) and identifying critical capacity issues and international linkages.

2. How to get it done

Identify the *optimal mechanisms* to fill operational and longer term research and technology gaps, including mechanisms to engage the private sector and the fit of these mechanisms with other climate change policies

3. How to get it used

Examine how best to ensure *up-take* of research outcomes and their transfer as appropriate to technology in the market, including mechanisms that ensure platform technologies are developed and implemented where they are necessary to allow the import of other technologies from overseas. All work will be done in co-operation with MORST and will take cognizance of the work they are currently doing.

12.8 Resources

This work will involve consultation with interdepartmental and external stakeholders and will require of MfE approximately 2 FTE for 6 months. It will be completed within current baseline.

12.9 Timelines

The work will be reported back to Ministers in **[withheld under OIA s9 (2) (f) (iv)]**.

12.10 Attachments

ANNEX 1: Ongoing Work Programme Elements

ANNEX 2: Indicative list of short-term operational research priorities that underpin immediate policy development

12.4 Analysis

While at a global level, large investments in research and technology development are being directed at the issue of climate change, there remain gaps in the knowledge and technology needed to safeguard New Zealand's future. Policy development over the past few years has already highlighted some of these gaps.

It is clear that some of these gaps will be addressed through the global research efforts, whereas for other research areas New Zealand will have to lead to ensure the resulting knowledge and technologies meets its national needs. The key questions are:

- Do current frameworks provide adequate mechanisms for prioritising short-term and long-term gaps in our research and technology investment?
- What mechanisms are needed to ensure that the research and technology strategy is transparently and legitimately integrated into government decisions?
- What policy measures can facilitate engagement by the private sector in research and technology development and uptake?
- How do existing and possible future climate change policies fit with private sector requirements to stimulate research and technology development and uptake?
- What frameworks can assist in determining areas where NZ needs to assume a leading position to ensure nationally relevant research and technology is being carried out? Where should NZ focus on ensuring a rapid and efficient uptake of technology that is predominantly developed overseas?

12.5 'Fit' with a Coherent, Whole-of-Government Approach

The research and technology work programme described below has been developed alongside work programmes covering future scenarios, strategic plans, energy, agriculture, and impacts and adaptation. In some cases the assignment of particular elements of work into the different programmes has been arbitrary.

The detailed climate change work programme will require further development in consultation with MoRST, MAF (agricultural policy), MED (energy; New Zealand Energy Strategy), and EECA (NEECS).

12.6 Stage of Policy Development

A number of research frameworks and programmes for technology uptake are already in place or are being developed through separate processes, (eg, the Environmental Research and Energy Research road maps being developed under the leadership of MoRST). The climate change work programme will not duplicate these but will consider if and where climate change presents a special case that may warrant special treatment.

Some work on identifying priority needs has already been done in the course of the current work programme. Appendix II contains a preliminary set of these short-term operational research needs identified by officials. Longer-term research and technology development can only be occur through a broader discussion with relevant stakeholders and in the context of existing and developing environmental research strategies.

ANNEX 1: Ongoing Work Programme Elements

The following work programme outlines the government's current engagement with climate change research and technology. It is proposed that this work programme continue as it forms the basis for the additional work programme proposed here, as well as underpinning other climate change policy work programmes (in particular agriculture, adaptation, international). Most of this work is carried out by MfE. The established and ongoing research and technology work programme obliges MfE to:

Communicate fundamental science developments

- Raise awareness and appreciation of the reality of climate change and response options in stakeholders and the general public, using sound scientific information and technology options.
- Keep abreast of new scientific and technology developments in New Zealand and overseas and inform government, decision-makers and the general public of developments relevant for New Zealand.
- Facilitate international contacts by New Zealand scientists in research areas of national importance.

Act as liaison point between government, science funders, and scientists

- Liaise with science funders and key research organisations to ensure the Ministry's views on priorities and effective outcomes are reflected in research programmes and dissemination of results.
- Represent the Ministry's interests in working groups and cross-government programmes with a climate change science component.
- Act as trusted point of contact for scientists seeking an improved understanding of climate change policies and Ministry work areas.
- Develop MfE position on climate change science and technology priorities.

Provide information and guidance on climate change impacts and adaptation

- Work with science providers and technical experts to develop and disseminate relevant information about the likely impacts of climate change and options to adapt to those changes.

Support NZ's international engagement and strategic domestic policies

- Ensure NZ's full participation in, and use of information from international science bodies and key conferences.
- Represent NZ perspectives in lead reviewers meetings and international reviews of national GHG inventories.
- Provide strategic and science input to international climate change policy fora (UNFCCC, OECD, CCAP, relevant expert workshops).
- Provide strategic and science input to domestic policy development (SOSG, Sust. Energy Framework).

ANNEX 2: Indicative short-term operational research priorities

- Development of economic modelling tools for policy assessment. To be used in the first instance to determine the expected cost of climate change to New Zealand and how much any proposed expenditure on adaptation is expected to reduce that cost. (In this context "cost" should include economic, social and environmental costs to the national economy, to particular regions, to particular industries, to particular communities, and to particular species.)
- Determination of domestic sectoral abatement cost curves and international abatement cost curves (This information is required to make sound decisions about:
  - a strategic framework for New Zealand climate change policy;
  - either a new (quantitative) internal goal or new international commitments;
  - economically efficient levels of sectoral abatement (in the absence of an economy-wide price measure);
  - the efficient focus of any cross-sectoral incentives;
  - a purchasing strategy for CP1.)
- Assessment of the costs of climate change mitigation policies.
- Examination of the short- and long-term "returns on investment" for various domestic mitigation measures.
- Construction of plausible scenarios of the structure and output of the economy, the sources of energy and net emissions for 2030 and 2050.
- Collation of data required to assess implications of future obligations.
- Examination and development of mechanisms for further public engagement in climate change policies.

13. Report on Cross-Sector Incentives

13.1 Deliverable

This report provides an outline of the proposed analysis to inform government decisions on "the need for, and future shape of, cross-sectoral incentive programmes such as the Projects to Reduce Emissions programme".

13.2 Scope

The scope of a cross-sector incentives programme will be determined by the objectives for the programme and by the extent to which measures in other areas of the work programme contribute to these objectives. Consistent with the direction from Cabinet, the work will include:

a. Analysis across sectors of sources of emissions, the potential for reductions from these sources, and the costs of such reductions;

b. Assessment of the extent to which policies and measures in other parts of the climate change work programme will deal effectively with these emissions; and

c. Assessment of what type of intervention is appropriate to achieve the potential for reductions in sectors not dealt with effectively in other parts of the work programme.

Officials note that there is the potential for overlap or duplication between a cross-sector incentives programme and measures in other parts of the work programme such as transport and agriculture. The work will be done in close conjunction with other areas of the work programme to ensure that incentives for additional abatement complement other abatement measures in specific sectors and that duplication is avoided.

The work programme is designed to inform Cabinet and Ministerial decisions on climate change policy for cross-sector abatement. These include:

d. Objectives for, and coverage of, an incentive programme. For example, the programme could incentivise emissions reductions in sectors that that are not covered (or not fully covered) by other measures (ie, a residual approach). Alternatively, a programme could apply to all sectors (similar to the PRE) to complement other measures;

e. Type and form of intervention. Options include incentives and disincentives, regulation, and provision of information;

f. Stringency of a test to ensure the value (or amount) of emissions reductions exceeds any associated cost.

In relation to these decisions, the work programme has the following elements:

a. Potential for emissions reduction – this work will identify emissions sources and trends across sectors and will review known emissions reduction technologies applicable across sectors. Work required to assess the potential of these technologies to achieve emissions reductions (including the likely scale and costs

- incentives for renewable energy
- opportunities to reduce emissions generally (including through the New Zealand Energy Strategy)
- review of the National Energy Efficiency and Conservation Strategy
- treatment and reduction of agricultural emissions
- incentives or disincentives for purchase and use of transport modes and vehicle efficiency.

13.4 Tasks, Resources and Timelines

Cabinet decisions on priorities within the overall work programme will determine some tasks and timelines. It is estimated that current staff resources will be sufficient but some tasks will require external assistance (consultants). No provision has yet been made in the operational budget for such expenditure. No estimate is yet available for the costs of implementing any policy for cross-sector measures.

13.5 Linkages/Dependencies with Other Tasks

It is expected there will be links with other areas of the work programme (outlined at para 13.3 above). These links will be more clearly identified through the cross-sector incentives work to identify opportunities for emissions reduction, determines the scope of interventions, and review known abatement measures and technologies, and evaluate marginal abatement costs. An assessment of these links will help avoid duplication between different intervention programmes, or where overlaps occur, ensure these do not result in inefficient outcomes.

Officials will coordinate work on incentives in other areas of the work programme including forestry, renewable energy, agriculture, and transport to be consistent with a cross-sector programme.

13.6 Consultation/Communication Undertaken/Required

Consultation will be carried out with relevant stakeholders, including businesses and industry organisations in sectors that an intervention programme would target. Consultation would occur in at least three phases of the work:

- during the analysis phase of the work programme in relation to information gathering and exchange,
- during the policy design phase to secure broad based support for a policy, and
- during the implementation phase as a check on effectiveness of incentives and to fine-tune the programme if required.

13.7 Estimated Impact on New Zealand's Net Emissions in CP1

The impact of any cross-sectoral incentives on NZ's net emissions in CP1 would depend on parameters such as the scope of the cross-sectoral incentives, the level of those incentives and the costs of abatement for activities to which the incentives apply.

of abatement) will be scoped. If such an assessment is feasible, this work will be carried out and reported.

b. Coverage of cross-sector incentives – this work will consider other elements of the work programme and the extent to which these deliver the full potential for emissions reductions. The work will identify any gaps in the coverage of other programmes and whether incentives (or another form of intervention) are appropriate to fill such gaps. The work will also address two time periods – the first Kyoto commitment period (2008-2012) and a longer term period consistent with the work on a domestic climate change goal for New Zealand.

c. Appropriate types of intervention – this work will review the full range of interventions that might be used, including incentives, disincentives, regulatory options and provision of information, together with their associated financial structures and cost-effectiveness. Incentives could be in the form of a tender (such as PRE) with emission units or cash as the incentive, as well as loans, grants, tax measures, and product subsidies. This work will also examine possible sources of funding for cross-sector incentives. These could include revenue recycled from a tax or trading scheme, or contributions from businesses as a means of complying with emissions-reduction obligations.

d. Lessons learned from PRE – this work will examine experience with PRE. Particular attention will be given to the design features of the programme and the project selection criteria to determine how well these have worked and what might be done differently to make a cross-sector programme more effective. Consideration will also be given to the advantages of integrating into any new programme a more systematic and transparent due diligence process with a role for external verification of reductions.

e. Recommendations for a preferred policy and implementation strategy – the final part of the work programme will be a recommendation to Ministers with a preferred policy and implementation strategy. The recommendation will be supported by the analysis described above to:

   - demonstrate how the preferred policy meets the objectives agreed by Cabinet for cross-sector emissions reductions and technology investment;
   - take account of the links between the climate change policy goal and objectives for other areas of the work programme, including the New Zealand Energy Strategy;
   - describe how the policy would be implemented, including any legislative, administrative and fiscal requirements;
   - describe how (and when) the performance of the policy would be assessed and reported against the objectives.

13.3 'Fit' with a Coherent, Whole-of-Government Approach

A cross-sector incentive programme will need to be consistent with other elements of the climate change work programme. Officials will manage issues of consistency across the climate change work programme and other work areas including:

- revising New Zealand's internally set goal
- alternative measures to the announced carbon tax
- forestry policy options

14. New Zealand's International Interests

14.1 Deliverable

Cabinet has directed officials to report to relevant Ministers by 3 March 2006 with detailed proposals for climate change work programmes. MFAT is to report to the Minister of Foreign Affairs on "continuation of work to ensure that New Zealand's international interests in climate change are protected and advanced". [CBC Min (05) 20/10, recommendation 35.14].

14.2 Context

Intergovernmental discussions on climate change will accelerate in 2006. There is growing international consensus, stemming from greater scientific evidence, that climate change poses significant risks and that further steps are needed to tackle the issue. National economic and development interests (both short and long term) are to the fore in countries' consideration of this matter. The UN Framework Convention on Climate Change (UNFCCC) sets an overall framework for intergovernmental efforts to tackle climate change.

The Kyoto Protocol, as part of the UNFCCC, commits developed countries to individual, legally binding emission reduction targets for the period 2008 to 2012. The Protocol will however only achieve limited reductions in greenhouse gas emissions, since major emitters are either not party (like the US and Australia) or are not required to take on legally binding targets (all developing countries, including China, India and Brazil).

International efforts to tackle climate change are at a watershed. Despite years of political discussions, there is no agreement on an equitable burden sharing formula. The most recent intergovernmental meeting – the UN Climate Change Conference held in Montreal in November/December 2005 – opened several new work streams to look at future action, under both the UNFCCC and its Kyoto Protocol. These work streams will stretch over a number of years. The outcomes are expected to have significant implications for New Zealand; and we will be expected to bring to the negotiating table what New Zealand is prepared to offer by way of action to address climate change.

New Zealand's net position with respect to the Kyoto Protocol's first commitment period is forecast to be in deficit.

[withheld under OIA s 6(a), 9(2)(j), s 9(2)(g)(i)]

Equally, we are vulnerable to the impact of climate change.

Protecting and advancing our national interests, including the special circumstances which differentiate us from other developed countries, in the pre-negotiating phase and eventual negotiations on a post-2012 climate change regime will require: work to expose a more detailed "NZ Inc" position on future action; for New Zealand to have a

Determining the scope of any cross-sectoral incentives is included in the work programme. Good estimates of sectoral abatement potential are not currently available and developing these is included in the scope of the work. Until better information on these major parameters is available, any quantification of likely benefit is speculative.

13.8 Estimated Impact on New Zealand's Net Emissions from 2013–2030

Reliable estimates of the impact of cross-sector incentives on NZ's emissions during 2013–2030 are not available at this point and will depend on the outcome of work outlined in para 13.3 above.

14.6 Stage of Policy Development

New Zealand's generalised position on future action to address climate change needs now to be fleshed out in more detail, through the whole-of-government process led by MfE.

[withheld under OIA s 6(a), s 9(2)(j), s 9(2)(g)(i)]

This will be important to define New Zealand's negotiating positions under both the Kyoto Protocol and the UNFCCC.

14.7 Tasks (New and Existing), Resources and Timelines

Work led by MFAT (with involvement of other Departments)

- Build capacity within MFAT to deal with the increased international workload. In particular establishment, and bedding in of, a New Zealand "Climate Change Ambassador" position, plus a team of (two) officials to support that role.
- Develop approaches for negotiation to best protect and promote New Zealand's position in the evolving international architecture, according to the "NZ Inc" position.
- Implement those strategies, including through the establishment of a senior level dialogue with key contacts in developed and developing countries on climate change issues.

[withheld under OIA s 6(a), s 9(2)(j)]

- Represent New Zealand interests at *existing* negotiations within or outside the UN framework, including the 12th meeting of Parties to the UNFCCC and 2nd meeting of the Parties to the Kyoto Protocol (**November 2006**), and meetings of the UNFCCC and Protocol subsidiary bodies (**May and November 2006**).
- Represent New Zealand interests in the *new* UNFCCC and Protocol workstreams on future action, as follows:
  - The UNFCCC Dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention will involve all countries.

    [withheld under OIA s 6(a), s 9(2)(j), s 9(2)(g)(i)]

    Up to four workshops to be held in 2006 and 2007. Parties are invited to submit **by 15 April 2006** initial views on the issues to be discussed.
  - Consideration by Kyoto Parties of further commitments beyond 2012 for developed country Parties to the Kyoto Protocol. An open-ended ad hoc working group has been established, reporting to the annual meeting of Kyoto Parties. The group will meet for the first time in conjunction with the subsidiary body meetings in May 2006. Parties are invited to submit **by 15 March 2006** their views on this issue.
  - Preparation for a mandated review of the Kyoto Protocol. Submissions on the review are due in **September 2006**.
- Continue engagement with the Pacific on climate change, including through New Zealand's $5 million Voluntary Commitment expenditure for 2006 (NZAID, MFAT and MfE).

strong, constant and coordinated presence at the negotiation table; and for our position to be regularly and effectively injected into international discussions.

MfE leads the whole-of-government process to develop New Zealand's domestic and international position on climate change. MFAT leads in representing this position at formal international meetings, and provides information, primarily through its network of Posts, on the positions of other countries. MFAT also chairs an "international sub group" of officials.

14.3 Scope

Existing components of our international work are expected to continue in 2006:

- Representing New Zealand's interests in formal meetings of the Parties to the UNFCCC, its Kyoto Protocol, subsidiary body meetings and technical processes;
- Engaging with key countries

  [withheld under OIA s 6(a), s9 (2)(j)]
- Expenditure of New Zealand's Voluntary Commitment; and
- Participation in (or following) parallel processes

  [withheld under OIA s 6(a), s 9(2)(j)]

  and the work of various think tanks.

  In addition, significant preparation work is needed to come to a more detailed "NZ Inc" view on key domestic post-2012 issues (work led by MfE).

  [withheld under OIA s 6(a), s 9(2)(j)]

  At this early stage the full extent of work required to service the new work streams agreed in Montreal is not clear. It will certainly entail active participation in new workshops and an open-ended ad hoc working group, as well as written submissions.

  [withheld under OIA s 6(a), s 9(2)(j)]

14.4 Analysis of Scope

N/A.

14.5 'Fit' with a Coherent, Whole-of-Government Approach

Contribute to the further development of a "NZ Inc" international position on climate change (led by MfE).

[withheld under OIA s 6(a), s 9(2)(j)]

Ensure that domestic policy is consistent with New Zealand's international obligations, for example the World Trade Organisation agreements, through contributing to the development of New Zealand's climate change policy by domestic agencies (across a number of work programmes).

14.9 Estimated Impact on New Zealand's Net Emissions in CP1

N/A.

14.10 Estimated Impact on New Zealand's Net Emissions from 2013–2030

N/A.

- Where possible, track relevant parallel offline processes on future action.

Work led by MfE (with involvement of other Departments)

While being fully engaged in the work led by MFAT (above), current and new workstreams within MfE also contribute to the continuation of work to ensure that New Zealand's international interests in climate change are protected and advanced, including the further development of a "NZ Inc" position on future action to address climate change. This work includes the following:

- Building capacity and data resources to evaluate the impacts of possible future commitments (including modelling and frameworks for analysis).
- Engagement at the technical level in international meetings to give shape and substance to New Zealand's international profile and influence[15].
- "Rapid response" capability to assess options for future commitments and rules, as well as ensuring that New Zealand meets its ongoing reporting commitments under the UNFCCC and the Kyoto Protocol.

Linkages/Dependencies with Other Tasks

Closely linked to the direction of domestic climate change policy development, including the development of a strategic framework.

[withheld under OIA s 6(a), s 9(2)(j)]

Linkages exist with New Zealand's obligations, for example the World Trade Organisation agreements.

[withheld under OIA s 6(a), s 9(2)(j)]

14.8 Consultation/Communication Undertaken/Required

A debrief for domestic stakeholders on the UN Climate Change Conference in Montreal was held on 13 February 2006. Stakeholders were given an opportunity to provide their views on the consideration of further commitments beyond 2012 for Annex 1 (developed country) Parties to the Kyoto Protocol.

Specific engagement with key stakeholders is envisaged in the further development of New Zealand's position on future action to address climate change. For example, in keeping with past practice, we envisage a stakeholder briefing would be held in the lead up to the next major meetings, in November, of the UNFCCC and Kyoto Protocol.

[15] These meetings include: OECD Annex I Experts Group and other OECD fora, Center for Clean Air Policy, Intergovernmental Panel on Climate Change, and Group on Earth Observations (GEO). In addition there is a range of other technical fora related to climate change issues where ongoing engagement from New Zealand is useful eg International Energy Agency, working group meetings of the Carbon Sequestration Leadership Forum, and the International Partnership for the Hydrogen Economy.

15. Helping New Zealand Prepare for and Adapt to the Impacts of Climate Change

15.1 Deliverable

The programme in the first instance needs to recognise the breadth of work required to help New Zealand prepare for and adapt to the impacts of climate change in the long term (30–40 years). A focussed work programme is required to acknowledge existing efforts, prioritise (or in some instances reprioritise), sequence and resource specific outputs to enable business, local government, departments and the community to prepare for and adapt to the impacts of climate change. The work programme will build on existing initiatives rather than develop new science.

It is envisaged that this work programme will outline initiatives for five or more years into the future. Targeted consultation will be required with stakeholders in the formulation and implementation of the work programme. The outcome of this work is about communicating the information we do have and engaging with decision makers (central and local government, business and infrastructure providers) about how to make use of this information in a pragmatic way that makes sense to them. It will seek to integrate consideration of climate change impacts into existing decision making frameworks.

15.2 Context

Many New Zealanders ask the question: "why worry about climate change now?" However, there is little doubt that New Zealand's climate will become more unstable in the years ahead. As a biologically based economy, we need to put far more effort into assessing the impacts and preparing for a changing climate. Our native biodiversity could also be threatened and coastal land is at risk of erosion from sea-level rise.

The purpose of adaptation is to reduce risks and increase opportunities arising from the unavoidable effects of climate change on New Zealand.

We are already doing a lot of work and an extension of the existing adaptation work[16] would focus on helping and informing decision-makers in the public and private sectors to proactively prepare for expected future climate in planning, policy and investment decisions. Education about the impacts and opportunities leads to individual responses and also builds an understanding of need to reduce global GHG emissions.

The impacts of climate change extend beyond environmental impacts and can include socioeconomic impacts on New Zealand (such as immigration and major trading/market disruptions because of climate change impacts in other countries).

[16] Annex 1 contains a list of current impacts and adaptation work.

- identifying critical gaps in knowledge and resources
- identifying new work programmes for funding
- clarifying timelines for delivery

Work has already commenced in a range of areas (see Annex 1 for details).

Infrastructure providers are also key decision makers, and as they are involved now in future proofing New Zealand and making up for current infrastructure deficit, it will be increasingly important that government roles and activities are rational and coherent. In this regard, an important part of the work programme will also be to develop more effective partnerships with key influencers (in particular infrastructure providers) outside central and local government. The end goal will be to encourage personal action, as to be successful at preparing for and adapting to climate change impacts we need to decentralise effort and gain ownership by the broader community, business etc. People should be armed with information to assess their own liability issues for the future (eg. LIM warnings). In addition other large scale business, such as primary productions sectors, will need to consider their long term position in adapting, such as in relation to energy planning. However, engagement with this group is potentially problematic with dispersed interests over long time scales.

Work on adaptation should consider:

- sustainable land management
- future scenarios for agriculture
- pest management
- flood management
- sustainable water management (especially droughts)
- appropriate infrastructure investment
- disaster risk and resilience management
- risk/cost allocation between individuals/government (central and local)
- planning frameworks for natural hazard management (eg, coastal planning)

15.4 'Fit' with a Coherent, Whole-of-Government Approach

The climate change impacts and adaptation work programme is aligned with and supports wider Government objectives, such as the Growth and Innovation Framework, and the Sustainable Development Programme of Action. Within MfE these connections include the review of flood risk management, the sustainable water programme of action, the sustainable energy framework, oceans policy, and biosecurity and biodiversity management.

It will be necessary to provide an overview of other major central government work programmes that are somehow dependent on future climate conditions, to identify priority areas where integration of climate change impacts information appears necessary and to ensure these work programmes achieve sustainable outcomes.

Key departments with possible roles in adaptation include MfE, EECA, MAF, DOC, MED and MCDEM/DIA.

Section 35.15 of CBC Min (05) 20/10 calls for "*an extension of existing work to help New Zealand prepare for and adapt to the impacts of climate change.*" This work builds on that already agreed to by Cabinet in 2002 (CAB Min (02) 13/12) that is:

- assessing the economic impacts of climate change
- providing guidance to local government in adapting to climate change
- increasing the understanding and awareness of business opportunities and risks arising from climate change effects, and promoting collaborative research to that effect.

15.3 Scope (and Analysis of Scope)

Most of the work to date has focused on identifying impacts where sufficient information is available to undertake some form of assessment, and engaging specifically with local government as a key stakeholder. However, uncertainties in climate projections and specific impacts make the potential cost of these impacts and optimum response strategies difficult to assess.

Even though a number of critical knowledge gaps remain, it is envisaged that the scope of the work programme will build on existing work with reference to and analysis of overseas experience (e.g. UK DEFRA National Adaptation Programme, Australian Greenhouse Office National Climate Change Adaptation Programme, and UNFCCC guidance), rather than reinventing new initiatives.

The scope of the work will substantially increase current efforts, moving from a mainly reactive to a more strategic approach to preparation and adaptation. Partnership with local government will be a core feature. In doing so, the central and local government needs to consider the following:

- Where are the most significant impacts (economic/social/environmental) going to occur, on either a national, regional, or sectoral basis?
- Which of the above impacts, on a national, regional or sectoral basis, need to be addressed *in the short term* to minimise future costs and lost opportunities? Which impacts can be addressed in slower time as climate change impacts become clearer? Where is more information needed before a decision can be made either way?
- Where adaptation response is needed in the near term, what is the decision-making context for those decisions, who are the key stakeholders, and what information do they need to enable them to integrate climate change into strategic decision-making?

Potential outcomes of the work will include:

- inserting climate change issues into existing central and local government work programmes
- delivering priorities for the work, including reprioritising and sequence existing work to provide a coordinated government response
- identifying adaptation priorities and responsibilities between different agencies (such as is being achieved through the "lifelines" project)
- providing targeted and scale-relevant information and tools to industry sectors and the community

15.9 Estimated Impact on New Zealand's Net Emissions from 2013–2030

In the longer term, climate change itself could affect New Zealand's greenhouse gas emissions through changing availability of hydro lake storage, summer and winter temperatures influencing heating and cooling demand, and changes in agricultural productivity influencing greenhouse gas efficiency of the agricultural sector. These impacts have not yet been quantified and also depend on possible adaptation measures.

15.5 Tasks, Resources and Timelines

Clarification of the work on the work programme will be completed by **[withheld under OIA s9 (2) (f) (iv)]**. Recommendations will be made to government in **[withheld under OIA s9 (2) (f) (iv)]** on priorities, resources, and any areas that may require or benefit from a coordinated government response. Work related to the scoping of the strategic framework can be done within agencies' existing budgets. Targeted engagement with stakeholders will be necessary in formulation of the details and strategies for the work programme.

15.6 Linkages/Dependencies with Other Tasks

Adaptation is a complementary strategy to reduction of GHG emissions. This work programme has linkages to: "*Appropriate research and technology investment priorities (excluding agriculture and energy)*", and "*Continuation of work to ensure that New Zealand's international interests in climate change are protected and advanced*" and the agriculture and forestry work streams.

15.7 Consultation/Communication Undertaken/Required

All work elements require consultation with key other government departments that deal in some way with climate issues, including officials within MfE, MAF, MED, EECA, MCDEM, and DOC. Interaction with the research sector requires consultation with MoRST and FRST. Early development of partnerships with regional councils, territorial authorities, the International Council for Local Environmental Initiatives (ICLEI), and LGNZ is a must for success.

Useful engagement with business to increase their understanding and awareness of the potential impacts of climate change, and of collaborative research opportunities, is also necessary to allow all relevant parties to maximise their capacity to adapt to the impacts of and opportunities provided by climate change.

Development of the work programme and recommendations will require limited and targeted external stakeholder consultation at this stage eg, key infrastructure, industry and professional bodies. For example, consultation with the science sector concerned with climate change projections and impacts assessments would be necessary to identify options and time frames for reducing critical knowledge gaps.

15.8 Estimated Impact on New Zealand's Net Emissions in CP1

Likely to be small. Adaptation is primarily in response to climate change as an exacerbator of natural hazards, and in doing so it can reduce some cost e.g. through flood protection, rather than deliver abatement (although there are some possible synergies eg, planting trees to reduce erosion, more resilient and energy efficient housing). There are some synergies and trade-offs between adaptation and mitigation to climate change, especially in the land-based sectors. These links should be considered to maximise stakeholder buy-in from those sectors to the government's overall approach to climate change.

ANNEX 1

Current Impacts and Adaptation Work Programme

Existing Staff Resources

- total staff resources on impacts/adaptation in MfE: approx. 1 FTE spread across several teams
- approx MfE opex budget on impacts/adaptation: $100k–$200k pa
- total staff resources on impacts/adaptation across government: estimated at a total of 2 FTEs dedicated to preparing for climate change impacts and adaptation work (through MfE, MAF, MED, EECA, MCDEM, and DOC).

Climate Change Adaptation Programme Elements to Date have Included:

- commissioning occasional technical and scientific reports on specific issues (eg, ocean circulation, drought risk)
- giving presentations at range of professional body meetings, conferences, stakeholder meetings (mostly local government)
- providing input to activities and guidance to external stakeholders who want to develop guidance and information for their members (again, main focus is local government and work with LGNZ)
- considering and responding to requests by stakeholders for additional guidance from central government
- working with science providers to help them shape their research programmes in policy-relevant ways
- raising awareness and fostering collaboration on climate change impacts and adaptation with other central government departments (but without an overarching framework or agreed critical areas, outcomes or outputs).

Examples of Existing Central Government Work Programmes that can be Linked with Future Work:

- Review of the New Zealand Coastal Policy Statement [DOC]
- Flooding review [MfE]
- Sustainable Water Programme of Action [MfE/MAF]
- NEECS review [EECA]
- Quality Planning Website [MfE]
- Communities for Climate Protection New Zealand (CCP™-NZ) [MfE funded]
- Lifelines [MCDEM]
- National CDEM Plan [MCDEM]
- Regional or local hazard risk reduction initiatives and guidance [MCDEM]
- Urban design protocol [MfE]
- Building code review [DBH]

16. Climate Change Communications and Engagement Programme

16.1 Deliverable

The required outcome is well-informed and well-motivated sectors positively and effectively contributing to the progression of climate change policy and its implementation.

Engagement

The Climate Change Communications and Engagement Programme will engage with key stakeholders, using a variety of communications tools and initiatives, on the government's long-term strategic approach regarding climate change and its impact on New Zealand.

Process

It is important that the consultation process is recognised as being credible and genuine by stakeholders. Reasonable expectations should be set in advance that all viewpoints will be properly considered.

Feedback

The Communications and Engagement Programme will seek feedback on the work programmes so that they, and resulting policy, can be coordinated and more closely aligned with the strategic direction, economic transformation and other related policies/initiatives (such as energy, water quality, soil erosion).

16.2 Context

The issue of climate change is often considered within a short-term global context rather than explored as a long-term domestic threat and opportunity within the context of sustainable land use.

A number of short term issues have the potential to impact on the buy-in to messages about the long-term picture. The Kyoto Net Position, government review of climate change policies, discontinuation of the proposed Carbon Tax and disagreement with forestry owners over carbon credits have recently distracted New Zealand from addressing the most serious long-term environmental issue the country has ever faced.

While aiming for common understanding and shared purpose, there is a need to recognise that there are tensions that might not be able to be resolved and will require choices/decisions to be made. Involving stakeholders/public in the process leading to these decisions will help with understanding whatever decisions are finally taken.

It is vitally important to engage with industry partners, stakeholders, and the wider public about how climate change will impact on them, involve them in the development of New Zealand's long-term climate change goals and solutions, and get their feedback on how we can all best move forward with a common understanding and shared purpose.

- We all leave a footprint; we all have a role to play in reducing emissions and our impact on the environment.
- Addressing climate change globally requires broad and balanced participation in solutions, including by the world's major emitters.
- New Zealand has an opportunity to be a world leader in addressing climate change responsibly, consistent with its size and national circumstances.
- There are bold yet realistic options being developed to reduce emissions.

General messages

- New Zealand stands to be significantly affected by climate change: on a national and a local level.
- The need to address climate change is now accepted by many of the world's leaders, scientists and commentators.
- The Kyoto Protocol has provided a good early step towards international action on climate change and NZ remains resolved to meet its commitments. It is also vitally important to look beyond Kyoto to what lies ahead and how we can best prepare for a changing climate.

16.3 Scope (and Analysis of Scope)

The development of the Communications and Engagement Programme will occur from **[withheld under OIA s9 (2) (f) (iv)]**. The report back to Cabinet will consist of a comprehensive, researched and long-term communications programme. It will include three components:

1. Provision of communications support for a series of high-level Ministerial meetings with leaders of the various sectors (eg, agricultural), with a view to explaining the government's long-term approach and desire to work together on climate change-related issues.
2. Coordination of communication material to enable stakeholders to engage effectively, and in a timely manner, on the specific work programmes led by relevant departments. Each department will develop specific communications and engagement plans appropriate for the issues and audience (supported by MfE).
3. Delivery of a comprehensive, well-researched and long-term Communications and Engagement Programme to Cabinet in **[withheld under OIA s9 (2) (f) (iv)]**. The programme will in the longer-term engage with stakeholders, businesses, scientists, interest groups and the general public as part of the wider conversation with New Zealanders on our climate change response. These proposals will include a programme for raising public awareness and understanding of the short- an- term government strategy on preparing for the effects of climate change and reducing emissions.

The communications approach is to outline a visionary and inspiring future for New Zealand, rooted firmly in the context of the huge challenges we, as a nation, face in coming to grips with the impacts of climate change on our lives and on our country's economic and social future.

The approach is to as much as possible emphasise the positive and the practical, not be based on 'scare and fear'. However, the impacts of climate change must be

It is also vitally important that those conducting the engagement programme be very clear about the objectives, the process, and the timeline for engagement.

Most, if not all stakeholders are waiting for the government to engage with them; and may be expecting the process to be more advanced (ie, that decisions will be announced on emissions trading and carbon reduction programmes).

The communications initiatives outlined in this initial stakeholder engagement paper will provide stakeholders with a clear understanding of the government's position on climate change – that it is not a short-term issue, but a long-term opportunity.

It will provide clear messages on the government's expectations of stakeholders in the period between **[withheld under OIA s9 (2) (f) (iv)]** and an opportunity for them to have their say on the proposed work programmes which will inform future climate change policies and the overarching Climate Change Communications and Engagement Programme to be delivered to Cabinet in **[withheld under OIA s9 (2) (f) (iv)]**.

Key Objectives

1. For the people of New Zealand to:
   - understand that the effects of climate change are here; that there are national and local implications for us all;
   - shift their thinking towards longer-term action (buy-in) on reducing greenhouse gas emissions;
   - begin preparing for the effects of climate change.
2. To place NZ climate change policy on the centre stage nationally and internationally in terms of its vision and innovative approach; that is, to show leadership while stressing the importance of acting at all times in New Zealand's interest.
3. To ensure that policy development and decisions are well informed.

Key Messages

- Preparing for the impact of climate change will enable us to protect and enhance our economy, our communities, our environment, and our way of life. It is in our national interests that New Zealand rises to the challenge.
- The government recognises climate change as an issue that requires a long-term vision, durable policies and initiatives that are in New Zealand's best interests, and responsible action.
- New Zealand's long-term economic viability is inextricably linked to a changing climate.
- Climate change is an issue that affects everyone. The government wants to involve everyone in a wider conversation on New Zealand's climate change response.
- By addressing climate change now we will be better able to take advantage of potential domestic opportunities that may arise.

Organisation of high level face-to-face meetings [withheld under OIA s9 (2) (f) (iv)]

Meetings will be scheduled between Minister Parker and/or lead Ministers and relevant leaders within each sector (including NGOs). Chief Executives of appropriate departments may act on behalf of Ministers if and where required. The purpose of the meetings is to explain the government's long-term approach, desire to work together on climate change responses and to set the scene for more detailed engagement with officials regarding the specific work programmes.

2. Coordination of communications material on specific work programmes

Published Policy Statement and Work Programme [withheld under OIA s9 (2) (f) (iv)]

Two documents for stakeholders, interest groups and the general public will be developed to (i) explain the issue of climate change and strategic direction and (ii) work programmes, and key milestones. These would be easily accessible booklets that MfE could distribute widely, including on the Climate Change website. They would also provide a useful resource for the subsequent Communications and Engagement Programme, to be more widely implemented from **[withheld under OIA s9 (2) (f) (iv)]**.

E-communication [withheld under OIA s9 (2) (f) (iv)]

The Ministry for the Environment's Climate Change website (www.climatechange.govt.nz) will be used as a tool to communicate with a broader range of stakeholders who want to be engaged on the issues. The website requires a review (and update) of its content and its hosting arrangement before new information on the government direction is added. The public awareness programme and accompanying media strategy will promote the updated website.

The updated website will provide a forum for giving feedback on the proposed climate change work programmes. The Published Policy Statement and Work Programme will be available on the website for downloading, and a central email address for providing feedback or requesting further information will also be available. This email address will be hosted by MfE and people providing feedback will be connected to the relevant work programme and department where appropriate. A regular (and simple) e-newsletter to stakeholders could also be developed as a means of providing up-to-date information and as another way of engaging with stakeholders

3. Delivery of detailed Communications and Engagement Programme strategy

Analysis of sector-specific views

As part of the development of the Communications and Engagement Programme strategy, sector-specific views expressed by stakeholders will be collected, compiled and analysed, in order to gain a snap-shot of commonly-held opinions on climate change, as well as gain a 'litmus test' for specific work programmes. In particular, MfE will seek views on how various sectors wish to engage in the programme.

Market research

stressed as a reason and motivation to be prepared for climate change and to take action to reduce greenhouse gas emissions.

In general, the approach will be a demonstration of leadership and responsiveness. All communications will be honest, clear and concise, two-way, engaging, informative and relevant to industry partners and stakeholders.

16.4 'Fit' With a Coherent, Whole-of-Government Approach

To demonstrate government leadership, it is crucial all communications initiatives emphasise the whole-of-government approach being taken to address climate change. Therefore, all communications initiatives for climate change will be developed with a whole-of-government approach to ensure there is integration of key messages.

MfE will develop and implement a cross-government information, awareness-building and engagement process about the government approach on climate change to ensure that whole-of-government communications will have one understanding, one vision, and one voice.

16.5 Tasks, Resources and Timelines

To allow transparency and encourage open, two-way dialogue with industry partners and stakeholders on the issues, a number of communications activities will be undertaken by officials. The tasks will flow out of the three main components of the strategy, as discussed in the scope of the work programme. These are:

1. Ministerial engagement with stakeholders.
2. Coordination of communication material on specific work programmes.
3. The delivery of the detailed Communications and Engagement Programme strategy.

The Ministry for the Environment will lead and co-ordinate the following tasks and delegate resourcing to relevant departments if and where required.

1. Ministerial engagement with stakeholders

Identification of appropriate sector groups [withheld under OIA s9 (2) (f) (iv)]

Broadly, the stakeholders to be engaged by sector will include:

- Local Government
- Primary (Forestry, Agriculture)
- Energy/Industry (including Transport)
- Environment/Community
- Central Government Agencies
- Science

MfE will need to work with Minister Parker's office and other relevant lead Ministers' offices to identify the best opportunities for engagement with these stakeholders over the next few months (eg, relevant forums can be used or special meetings organised).

Ongoing market research will be undertaken to gauge public opinion on climate change issues. This will provide a benchmark of the public's current views on climate change and enable changing views and actions to be tracked. Qualitative research will be undertaken immediately to form a more detailed picture of the public's views and to help refine the best way to communicate messages.

Particular attention will be paid to uncovering awareness, attitudes and opinions about climate change, identifying potential barriers to the desired behaviours and testing of concepts.

Analysis of engagement models

The Ministry for the Environment has extensive experience in engaging with stakeholders (eg, working groups, partnership models, roadshows and dialogue forums). MfE will also be drawing from the stakeholder engagement experience and models of other departments (both from New Zealand and overseas). MfE will access these opportunities and recommend the most appropriate options for different stakeholder groups recognising that other departments also have extensive experience of engaging with specific sectors.

Development of Public Awareness Programme

Based on the above analysis, MfE will develop a long-term awareness raising programme. A range of options and opportunities will be explored (including synergies with related programmes such as the Water Programme of Action). The result will be a comprehensive long-term approach that will enable Ministers to decide the size and rate of investment.

Peer review of strategy

MfE recommend that input and feedback is sought from key government departments and stakeholder representatives. This is to ensure the Communications and Engagement Programme strategy delivered to Cabinet in **[withheld under OIA s9 (2) (f) (iv)]** accurately reflects the long-term strategic vision of the government on climate change issues, as well as meeting the needs of stakeholders and the community.

16.6 Linkages/Dependencies with Other Tasks

This programme has close links to all climate change work programmes, as it will enable relevant government departments to communicate directly about the programmes with industry partners and stakeholders.

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