



Emission Inventory Report

Emissions Inventory Report

Ministry for the Environment
Department of Corrections

Prepared by

Adviser, Sustainability Support
In accordance with Part 7.3.1 of ISO 14064

Date

30 November 2007

For the period

1 July 2006 to 30 June 2007

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Emissions Inventory Summary

| Type of Emission | Tonnes CO ₂ -e |
|---|---------------------------|
| Direct (Scope 1) emissions | |
| VEHICLES | |
| Petrol | 2,061 |
| Diesel | 618 |
| LPG | 54 |
| BUILDINGS | |
| Natural gas in owned and leased buildings | 9,338 |
| Diesel Heating Fuel | 2,226 |
| LPG Heating | 1,418 |
| Coal | 611 |
| Biomass (Wood Slabs) | 114 |
| OTHER | |
| Livestock | 21,540 |
| | |
| Total Direct (Scope 1) Emissions | 37,980 |
| | |
| Indirect (Scope 2) Emissions | |
| Electricity in owned buildings and leased buildings where Corrections is the sole tenant | 7,314 |
| Purchased electricity for lighting and utility/appliance power in leased space where Corrections is not the sole tenant | 932 |
| Total Indirect (Scope 2) Emissions | 8,246 |
| | |
| Indirect (Scope 3) Emissions | |
| Transmission and distribution line losses for all purchased electricity | 873 |
| Air travel | 3,052 |
| Business travel in Rental cars / taxis | 379 |
| Waste to landfill | 1,373 |
| Total Indirect (Scope 3) Emissions | 5,677 |
| | |
| Total Emissions | 51,903 |

Breakdown of Scope 1 Greenhouse Gas Emissions

| Area | C0 ₂ | CH ₄ | N ₂ O | HFCs | PFC's | SF ₆ | C0 ₂ e |
|----------------|-----------------|-----------------|------------------|------|-------|-----------------|-------------------|
| Scope 1 | | | | | | | |
| Vehicles | | | | | | | |
| Petrol | 2035 | 12. | 14 | | | | 2,061 |
| Diesel | 607 | .7 | 10 | | | | 618 |
| Gas | 54 | .5 | .2 | | | | 54 |
| Buildings | | | | | | | |
| Natural Gas | 9220 | 4 | 114 | | | | 9,338 |
| Diesel | 2,187 | 2.5 | 36.5 | | | | 2,226 |
| LPG | 1413 | .5 | 4 | | | | 1,418 |
| Coal | 607 | 1.3 | 3 | | | | 611 |
| Wood | | 96 | 18 | | | | 114 |
| Other | | | | | | | |
| Livestock | | 21,540 | | | | | 21,540 |
| Equipment | 0 | 0 | 0 | | | | 0 |
| | | | | | | | |
| Total | | | | | | | 37,980 |

1. Introduction

This emissions inventory report has been prepared and written in accordance with Part 7.3.1 of ISO 14064-1 and is designed to be used in the process of being on the path to carbon neutrality by 2012.

2. Statement of intent

The Department of Corrections is one of the 28 stage two¹ core public service agencies that will be on the path to carbon neutrality by the year 2012. This programme will be broken down into three key stages which are set out below;

- Measure emissions
- Reduce emissions
- Offset unavoidable emissions²

3. Organisation description

The Department's vision is to focus on our primary outcome of safer communities by protecting the public and reducing re-offending through people-performance-quality and as a result have the New Zealand public's trust and confidence

The Department's kaupapa is Kotahi ano te kaupapa: ko te oranga o te iwi. (There is only one purpose (to our work): it is the wellness and well-being of the people).

The Department has 6,541 full time employees. It currently holds approximately 7,600 prisoners, in 20 prisons from Northland to Invercargill and is mandated by the Corrections Act 2004 to provide facilities that meet very strict standards.

4. Persons responsible

- The Chief Executive has overall responsibility for the Emissions Inventory.
- This Emission Inventory has been approved by the Departments Senior Management Team (SMT).
- These documents were prepared by Adviser, Sustainability Support.

5. Organisational boundaries included for this report period

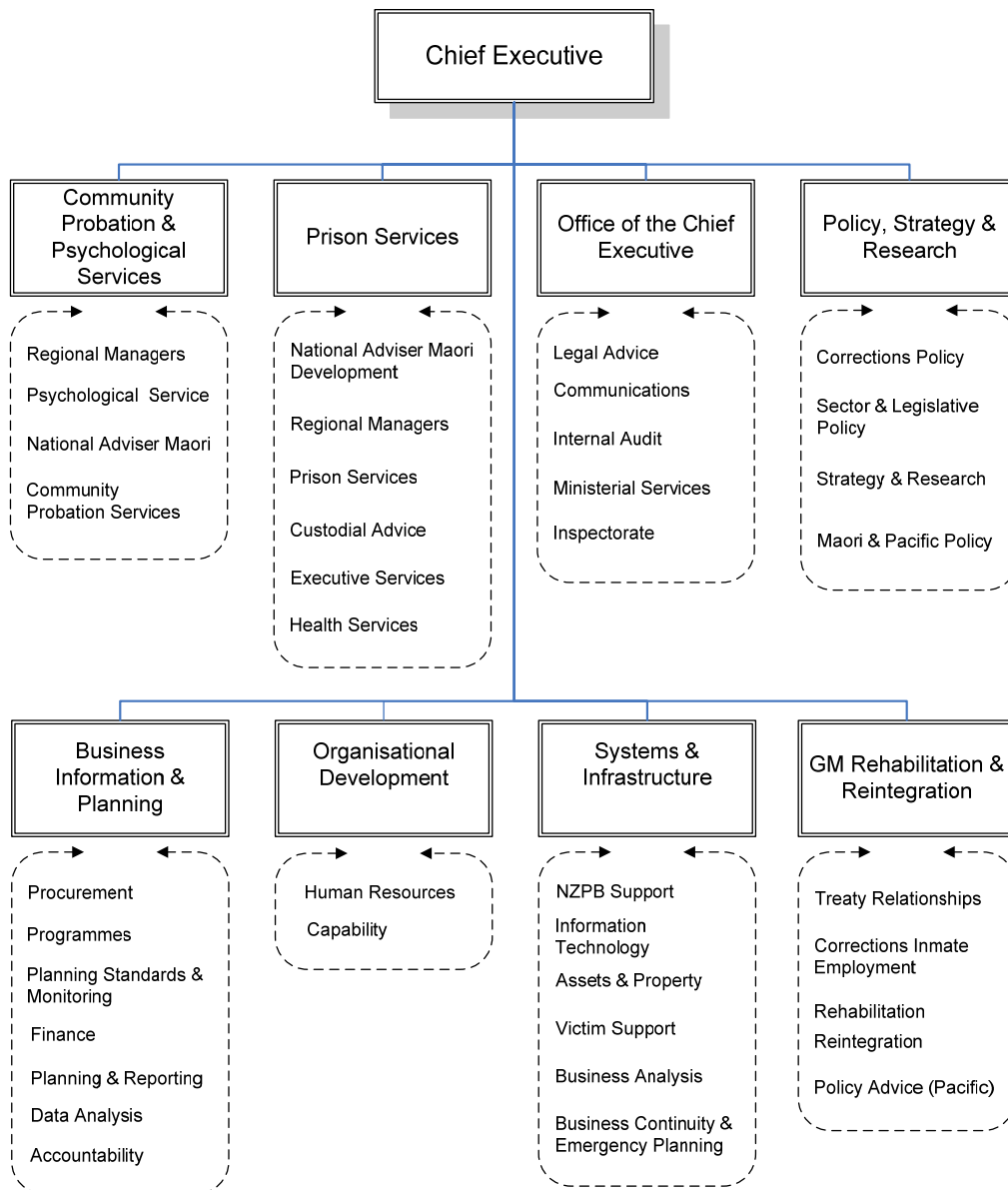
The Department uses the financial control based approach to defining organisational boundaries. Due to the legally prescribed nature of the core public service, the application of either the control or equity approach is likely to have the same effect, as government agencies do not have subsidiaries, associate companies in the same manner that private sector companies have group structures, or complex lease arrangements.

¹ Stage One agencies will lead the way in achieving carbon neutrality by the year 2012 and include Treasury, Department of Conservation, Inland Revenue Department, Ministry for the Environment, Ministry of Economic Development and Ministry of Health. Stage Two agencies will be on the path to carbon neutrality by 2012.

² The term "unavoidable emissions" should be understood to include a cost-benefit analysis of the reduction measures

The organisational boundaries of an agency are defined by statute and for the purposes of the Greenhouse Gas (GHG) inventory include core agency activities only.

Organisational Chart of Corrections



6. Emissions sources inclusions

Emission sources were identified with reference to the methodology described in the GHG Protocol and the ISO 14064-1 (2006) standard. Identification of emissions sources was achieved using the specific guidance on Scope 3 factors included in the Cabinet Paper POL (07) 131: Towards a Sustainable New Zealand: Carbon Neutral Public Service. Further guidance was obtained from the Ministry for the Environment.

These emissions have then been classified into three categories. The definition of each has been adapted from the Greenhouse Gas (GHG) Protocol; the three types of emissions are;

- Direct emissions (Scope 1): emissions from sources that are owned or controlled by the agency.
- Indirect emissions (Scope 2): emissions from the generation of purchased electricity consumed by the agency.
- Indirect emissions (Scope 3): emissions that occur as a consequence of the activities of the agency, but occur from sources not owned or controlled by the agency. Inclusions of these are determined on case by case basis, and relate to the agency's aims of the programme.

Actual emissions

| Emission source | Scope of Emission |
|--|-------------------|
| Petrol for vehicles | Scope 1 |
| Diesel for vehicles | Scope 1 |
| LPG for vehicles | Scope 1 |
| Petrol and/or diesel for equipment | Scope 1 |
| LPG for equipment | Scope 1 |
| Natural gas in owned buildings and leased buildings where the agency is the sole tenant | Scope 1 |
| Livestock | Scope 1 |
| All purchased electricity in owned buildings and leased buildings where the agency is the sole tenant | Scope 2 |
| Purchased electricity for lighting and utility/appliance power in leased space where the agency is not the sole tenant | Scope 2 |
| Transmission and distribution line losses for all purchased electricity | Scope 3 |
| Domestic air travel | Scope 3 |
| International air travel | Scope 3 |
| Taxi travel | Scope 3 |
| Business travel in rental cars | Scope 3 |
| Waste to landfill | Scope 3 |
| Natural gas for base building heating in leased buildings which are multi-tenanted | Scope 3 |
| Purchased electricity for base building power in leased buildings where the agency is not the sole tenant | Scope 3 |

NB. Biomass (firewood slabs) are used at Tongariro Prison and the CH₄ and N₂O emissions from this are included in Scope 1 but the CO₂ emissions are excluded.

7. Emission sources exclusions

The following sources of emissions have been excluded:

- Chubb – prisoner transport. We do not currently have a measure of kilometres travelled.
- Cleaning – Corrections Inmate Employment (CIE) through internal agreements provides industries and employment for inmates, most being on a semi-commercial basis. CIE are also responsible for the management of central kitchens, central laundries and cleaning. Head Office uses a

separate cleaning contractor. The number of Full Time Equivalent (FTE) cleaners for each prison site / Head Office is currently unknown.

- IT Services – a small portion of IT Services are outsourced but the equivalent number of FTE is currently unknown.
- Refrigerant emissions will be calculated for future emission inventory reports.
- Staff commuting to work in personal cars is considered to fall under the personal carbon foot print of the employee as the agency has little control over where people choose to live; therefore this is outside the scope. Work will be undertaken to produce travel plans to help reduce this effect under a further scheme.

| Emission Source | Emission Level Scope |
|--|----------------------|
| Chubb Prisoner Transport | Indirect (Scope 3) |
| Cleaning | Indirect (Scope 3) |
| IT Services | Indirect (Scope 3) |
| Refrigerant emissions | Indirect (Scope 3) |
| Staff commuting to work in personal cars | Indirect (Scope 3) |

8. Base year selected

This is the Department of Corrections' first report. The chosen base year calculated for this report is the year from 1 July 2006 to 30 June 2007.

9. Data collection quantification of methodologies

The table below details the sources of the relevant data and the emission factors which have been used. All the factors have been approved by the Ministry for the Environment. The amount of CO₂e has been calculated by multiplying the activity data sourced by the agency by the relevant emission factor. As this is the first year that the agency has produced these figures there have not been any changes in methodology to report. (7.3.1 k)

| Emission or Removal Source | Data Collection Unit | Emission or Removal Factor | Factor Source |
|----------------------------|----------------------|----------------------------|---------------|
| All Emissions | M f E | | |

10. Emission reductions and removals

Department of Corrections has achieved no significant emissions reductions for this reporting period as this is the first reporting period and established Department of Corrections' baseline year emissions.

Department of Corrections will have a management plan in place for managing and reducing emissions by early 2008 with the aim to being on the path to carbon neutrality by 2012.

11. Uncertainties

There needs to be a description of the impact of uncertainties on the accuracy of the GHG emissions and removals data.

| Emission Scope | Emission Source | Uncertainties |
|----------------|------------------------------|--|
| Scope 3 | Domestic flights | It is assumed that records supplied by Orbit Travel are complete and accurate |
| Scope 3 | Taxis & Rental Cars | Info supplied by Taxi Charge, Avis etc |
| Scope 1 | Biomass Wood Fuel | Wood slabs are delivered by truckload. Not weighed or moisture tested |
| Scope 3 | Purchasing Card for Taxi Use | A small percentage of taxi trips are made by Pcard and not included in this report. |
| Scope 1 | Vehicle Fuel | It is assumed that Fleet Card information supplied by GSB is complete and accurate but up to 25% of vehicle and farm equipment fuel may be purchased by other means. |

12. Verification of the GHG Inventory (7.3.1 q)

This GHG emissions inventory report has not been verified by a third party independent auditor as this is not a reporting requirement this year.
