

Emission Inventory Report

Emissions Inventory Report

Ministry for the Environment
Government Communications Security Bureau

Prepared by

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In accordance with Part 7.3.1 of ISO 14064 (7.3.1 p)

Date

25 October 2007

For the period

1 July 2006 to 30 June 2007 (7.3.1 c)

Note.

References which are shown in brackets e.g. (7.3.1 c) refer to the relevant section of the ISO Standard 14064. This is for reference only.

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Emissions Inventory Summary (7.3.1 e)

Type of emission	Tonnes CO ₂ -e*
Direct (Scope 1) emissions	
Petrol use	58.1816844
Diesel use	27.4180741
LPG use	29.0970900
Biomass – wood 0.0541+0.0101	0.0615344
Total Direct (Scope 1) Emissions	114.7583829
Indirect (Scope 2) Emissions	
All purchased electricity in owned buildings and leased buildings where the agency is the sole tenant	286.8051147
Purchased electricity for lighting and utility/appliance power in leased space where the agency is not the sole tenant 208.292	208.292874
Total Indirect (Scope 2) Emissions	495.0979887
Indirect (Scope 3) Emissions	
Transmission and distribution line losses for all purchased electricity	59.484139
Air travel	588.74927
Business travel in Rental cars / taxis	2.7219852
Waste to landfill	14.314347
Natural gas for base building heating in leased buildings which are multi-tenanted	64.87359272
Purchased electricity for base building power in leased buildings where the agency is not the sole tenant 67.7134	67.7134803
Total Indirect (Scope 3) Emissions	797.85681422
Total Emissions	1,407.7131859

(7.3.1 e)

Area	*CO ₂	*CH ₄	*N ₂ O	*HF Cs	*PFC' s	*S F ₆	Total CO ₂ e
Scope 1							
Petrol	57.5507020	0.3406439	0.3880598	0	0	0	58.1816844
Diesel	26.9402848	0.0310583	0.4502802	0	0	0	27.4180741
LPG	29.0030000	0.0106991	0.0856995	0	0	0	29.0970900
Wood		0.541416	0.0101184	0	0	0	0.0615344
Total	113.4939868	0.3824012	0.9240395	0	0	0	114.7583829

1. Introduction (7.3.1 p)

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 as in the process of being on the path to carbon neutrality by 2012.

2. Statement of intent

Government Communications Security Bureau is one of the 28 stage two 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 emissions¹

3. Organisation description (7.3.1 a)

Government Communications Security Bureau

Mission

The GCSB's mission is to inform and enhance the decision-making processes of the New Zealand Government in the national security, foreign policy and law enforcement areas by:

- providing critical information through the collection and reporting of Signals Intelligence (SIGINT) in response to New Zealand's foreign intelligence requirements; and
- ensuring the integrity, availability and confidentiality of official information through the provision of Information Systems Security (INFOSEC) advice and services to departments and agencies of the New Zealand Government. This function includes the protecting the critical national infrastructure against information borne threats through the Centre for Critical Infrastructure Protection.

GCSB Act April 2003

The GCSB was established by the Prime Minister under the prerogative in 1977, and remained a non-statutory agency until the enactment of the GCSB Act in April 2003. This Act establishes the Bureau in statute and defines its roles and functions.

The Act provides that the Bureau's functions are:

- To gather foreign intelligence, in accordance with the foreign intelligence requirements of the Government New Zealand.
- examine and analyse foreign communications and foreign intelligence:
- provide reports on foreign intelligence to the Minister and any person or office holder, whether in New Zealand or abroad, authorised by the Minister:

¹ The term "unavoidable emissions" should be understood to include a cost-benefit analysis of the reduction measures.

- co-operate with, or to provide advice and assistance to, any public authority or other entity in New Zealand or abroad on the protection of information that the public authority or other entity produces, sends, receives, or holds in any medium; or

Staffing and Locations

The GCSB is physically located in four locations within New Zealand and has three overseas liaison offices. GCSB's Head Office is split between the Freyberg Building and the Saint Paul's building in Wellington; there is also the two communications intercept sites located at Tangimoana and Blenheim. The total number of staff employed by the Bureau as at 30/6/07 is 319 with 238 in Head Office in Wellington, 32 and 37 at each site and 12 overseas.

4. Persons responsible (7.3.1 b)

- The Director, Bruce Ferguson, has overall responsibility for the emissions.
- Hugh Wolfensohn, the Deputy Director, Corporate, has the responsibility for approving the documents for the carbon neutral programme.
- The co-ordinator with the responsibility for the preparation of these documents, is Janet Chew.

5. Organisational boundaries included for this report period (7.3.1 d)

The Agency 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.

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

6. Emissions sources inclusions (7.3.1 e)

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 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

The factors included in the table below reflect the GCSB's emissions.

Emission source	Scope of Emission
Petrol for vehicles	Scope 1
Diesel for vehicles	Scope 1
Petrol and/or diesel for equipment	Scope 1
LPG for equipment	Scope 1
Biomass – wood	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
Business travel in employee owned 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

(7.3.1 f)

Paper generated in the one of the sites are shredded and then burnt. This creates emissions from biomass as follows:

Category	Unit	Tonnes of CO ₂	Tonnes of CH ₄ (CO ₂ e)	Tonnes of N ₂ O (CO ₂ e)
Wood	Kgs	0.833136	0.0541416	0.0101184

CH₄ and N₂O emissions are reported as Scope 1 emissions.

7. Emission sources exclusions (7.3.1 h)

The following are sources of GHG emissions or sinks which have not been included.

Emission Source	Emission Level Scope
1. Staff commuting to work in personal cars	Indirect (Scope 3)
2. Overseas Staff commuting to work in agency cars	Indirect (Scope 3)
3. Land leased to farmers who use it for livestock	Indirect (Scope 3)
4. Purchased diesel for generator in Head Office	Indirect (Scope 3)
5. Corporate waste - disposal of PCs and furniture	Indirect (Scope 3)
6. Combustion of plastic diskettes / metal (with information on them)	Scope 1

Justification for exclusion:

1. This 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
2. Agency cars were recently purchased for overseas posted staff to assist with the high cost of transportation for these staff commuting to and from work and also when Head Office staff visits. It is considered that relatively, these costs are minimal and retrospective collation of statistics is not warranted. Discussions will be held with these staff to ascertain practicality and cost effectiveness of statistical collation of business trips as opposed to personal work/residence commuting trips.
3. Deloitte's advice is to exclude any emissions from this source as GCSB has no control over the land leased to the farmers.
4. There is a 500 litre generator for building emergency services and GCSB's essential services in Head Office. This is tested once a month. Usage of the diesel is considered minimal – about 10 litres per year.
5. Where possible, these are 'reused/recycled' or disposed to places where they can be 'recycled'. Work is being undertaken under sustainable procurement to reduce this effect.
6. Approximately 40 kgs of hard disks etc with information on them are taken to be destroyed (burnt) on an annual basis. This is a mixture of plastic and metal – proportion unknown for 06/07 year. MfE was contacted for assistance with emission factors, however information was unavailable at time of contact.

8. Base year selected (7.3.1 j)

This is Government Communications Security Bureau's 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 (7.3.1 l and n)

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 CO ₂ -e	Factor Source
Petrol Regular	Litre	0.0023154	1
Petrol Premium	Litre	0.0023666	1
Diesel	Litre	0.0026512	1
LPG- Equipment	Litre	0.0029997	1
Purchased electricity	kWh	0.0002091	1
Transmission and	kWh	0.0000221	1

distribution line losses for all purchased electricity			
Domestic air travel	Km	0.00018	3
International air travel	Km	0.00011	3
Taxi travel	Litre	0.0023263	1
Rental cars	Km	0.0002373	4
Business travel in employee owned cars	Km	0.0002373	4
Waste to landfill	Kg	0.9	5
Natural gas	kWh	0.0001897	1
Biomass - wood	Kg	0.0541416 & 0.0000248	2

References for emission factors

The following references are used in this emissions inventory report to identify where the factors were sourced.

1. New Zealand Energy Greenhouse Gas Emissions 1990-2006 (Ministry of Economic Development, 2007).
2. CO₂ emission factor sourced from: New Zealand Energy Greenhouse Gas Emissions 1990-2006 (Ministry of Economic Development, 2007).
CH₄ and N₂O emission factors sourced from: Calculation Tool for Direct Emissions from Stationary Combustions Calculation worksheets, Non-CO₂ Emission Factors Worksheet (WBCSD/WRI GHG Protocol Initiative - available from the GHG Protocol website).
3. Mobile Combustion CO₂ Emissions Calculation Tool, Emissions based on distance Worksheet (WBCSD/WRI GHG Protocol Initiative - available from the GHG Protocol website).
4. New Zealand Energy Greenhouse Gas Emissions 1990-2006 (Ministry of Economic Development, 2007). Fuel economy rate sourced from Ministry of Transport (2007).
5. Emission factor methodology from Ministry for the Environment. Based on data from: New Zealand's Greenhouse Gas Inventory 1990-2005 (Ministry for the Environment, 2007).

10. Emission reductions and removals (7.3.1 g)

Government Communications Security Bureau has achieved no significant emissions reductions for this reporting period as this is the first reporting period and established Government Communications Security Bureau's baseline year emissions.

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

11. Uncertainties (7.3.1 o)

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 1	Petrol	Petrol use has not been measured for Head office vehicles for the 06/07 year period. Accordingly an extrapolation basis was used based on 3 months usage in the first quarter of 2007/08. Usage reports will be available for 2007/08 year and onwards.
Scope 3	Electricity for base building power in multi-tenanted building	Dollar figures provided by landlord are for the whole of the building. These dollar figures are converted to kWh using known (electricity) and guesstimate (gas) conversion rates. Use is then proportioned accordingly by percentage tenancy of the premises.
Scope 3	Gas for base building heating in multi-tenanted building	
Scope 3	Business travel in rental cars	Dollar figure from financial records is divided by an estimated \$1.60 per litre
Scope 3	Waste to landfill	Waste for two weeks is weighed and extrapolated to a year based on 50 weeks

12. Verification of the GHG Inventory (7.3.1 q)

This inventory has not been verified.

Signed by

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 Bruce Ferguson
 Director
 Government Communications Security Bureau