

# Emission Inventory Report

Emissions Inventory Report

Ministry of Defence

Prepared by

Susan Jane  
Assistant Secretary (Corporate)  
In accordance with Part 7.3.1 of ISO 14064 (7.3.1 p)

Date

9 November 2007

For the period

1 July 2006 to 30 June 2007 (7.3.1 c)

John McKinnon  
Secretary of Defence

User notes.

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 and no further action is required by the agency.

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## Emissions Inventory Summary (7.3.1 e)

Type of emission	Tonnes CO <sub>2</sub> -e*
<b>Direct (Scope 1) emissions</b>	
Petrol use	N/A
Diesel use	N/A
LPG use	N/A
Natural gas in owned buildings and leased buildings where the agency is the sole tenant	N/A
Coal use	N/A
<b>Total Direct (Scope 1) Emissions</b>	N/A
<b>Indirect (Scope 2) Emissions</b>	
All purchased electricity in owned buildings and leased buildings where the agency is the sole tenant	N/A
Purchased electricity for lighting and utility/appliance power in leased space where the agency is not the sole tenant	58.71699
<b>Total Indirect (Scope 2) Emissions</b>	58.71699
<b>Indirect (Scope 3) Emissions</b>	
Transmission and distribution line losses for all purchased electricity	5.531921146
Air travel	183.4475
Business travel in Rental cars / taxis	8.0423343
Waste to landfill	7.51764
Natural gas for base building heating in leased buildings which are multi-tenanted	25.33085346
<b>Total Indirect (Scope 3) Emissions</b>	229.870
<b>Total Emissions</b>	288.5872

The factors included in the table above reflect the organisation's circumstances.

## **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**

The Ministry of Defence 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 emissions<sup>1</sup>

## **3. Organisation description (7.3.1 a)**

The Ministry of Defence is a small public service department which supports the Government's defence policy in its roles of: policy advice, acquisition of major items of equipment and audit and assessment. It has approximately 60 permanent staff located mainly in Wellington. There are five small temporary offices located in Melbourne, Marseilles, Texas, Alabama and Edmonton Canada which oversee specific acquisition projects. Because of the temporary nature of these offices and the costs of collecting the emissions data, it is excluded from this inventory.

## **4. Persons responsible (7.3.1 b)**

The Secretary of Defence, John McKinnon, is the Chief Executive of the Ministry of Defence.

This Inventory has been compiled by Susan Jane, Assistant Secretary (Corporate) utilising data collected from Capital Properties (Landlord), Business Direct (travel service provider) Taxicharge and Avis Rentals, and New Zealand Defence Force.

## **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.

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

***This inventory includes emissions relating to the Ministry's premises in Wellington, which contain approximately 60 staff.***

## **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**

<b>Emission source</b>	<b>Scope of Emission</b>
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

'No biomass is used in [Ministry of Defence](#) operations and therefore no emissions from the combustion of biomass are included. (7.3.1 f)

## 7. Emission sources exclusions (7.3.1 h)

Emission Source	Emission Level Scope
Staff commuting to work in personal cars	Indirect (Scope 3)
Temporary offshore project offices in Edmonton, Alabama, Marseilles, Texas and Melbourne	Direct (Scope 1) and Indirect (scope 2 and 3)

**Justification:** 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. Work will be undertaken to produce travel plans to help reduce this effect under a further scheme.

Justification: These offices are temporary in nature (by the time of the next audit it is likely that the number will have decreased), and are staffed by one Ministry employee only. Accordingly the costs and practicalities of collecting this data would outweigh the benefits of reporting it.

For further information see the document 'Carbon Neutral Public Service Emission Inventory Preparation Guidance'

## 8. Base year selected (7.3.1 j)

This is the Ministry of Defence'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 CO<sub>2</sub>e 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
International travel	Km	0.00011	2007 Carbon Neutral Public Service Emission Inventory Preparation Guidance – Appendix 4
Domestic travel	Km	0.00018	" "

Emission or Removal Source	Data Collection Unit	Emission or Removal Factor	Factor Source
Purchased electricity – transmission and distribution line losses	KWh	0.0000197	“ “
Purchased electricity	KWh	0.0002091	“ “
Taxi travel	Km	0.0002373	“ “
Rental cars	Km	0.0002373	“ “
Waste to landfill	Tonne	0.8787	
Natural gas	KWh	0.0001873	“ “

## 10. Emission reductions and removals (7.3.1 g)

The Ministry of Defence has achieved no significant emissions reductions for this reporting period as this is the first reporting period and established the Ministry of Defence's baseline year emissions.

The Ministry of Defence 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 (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 2	Electricity	Electricity has not been measured for 10% of leased buildings because the data was not available. Accordingly an extrapolation basis was used for that 10%.

## 12. Verification of the Green House Gases (GHG) Inventory (7.3.1 q)

This inventory has not been verified.