

Guidance for FRD24C Reporting

GUIDANCE MANUAL FOR REPORTING

- **February 2008**

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1 Introduction

This *Guidance for FRD24C Reporting Manual* ('the Manual') is intended to assist Government entities (Departments and relevant Agencies) to collect, analyse and report on their office-based environmental impacts in a consistent and accurate manner, and to assist in the reporting of robust data to the Victorian Government and community. This Manual provides instructions for entities to collect analyse and report data against specific indicators of environmental performance.

There are many potential indicators for measuring the environmental performance of an organisation. Across the Victorian Government, Financial Reporting Direction 24 – 'Reporting of Office-based Environmental Impacts by Government Departments'¹ (FRD24C) specifies a core list of environmental performance indicators that must be measured and reported by Government entities implementing environmental management systems. This guidance also provides a list of relevant indicators from the Global Reporting Initiative (GRI) – a unique, multi-stakeholder organization founded on the conviction consistent, regular and comparable reporting, provides transparency and can be a powerful catalyst to improve performance.

FRD24C indicators must be reported via the entities' Annual Report (in the unaudited Report of Operations). The indicators cover consumption of office-based natural resources and related emissions. Specific reporting aspects include energy, waste, paper, water, transport and greenhouse gas emissions, as well as sustainable procurement. FRD24C establishes the minimum reporting requirements, and entities may report against additional indicators if desired.

Measuring environmental performance is an evolving process within governments and business, and hence it will be important to review and adapt this Manual over time to ensure it remains relevant to government requirements. This Manual has been designed to supersede the current *Guidance to Financial Reporting Direction FRD24B*, and incorporates relevant details previously included in that document.

Purpose

The purpose of measuring these indicators is to identify the consumption of key resources and to provide an indication of the environmental impacts of the activities of an entity, to determine how effective environmental management programs are, and to track progress over time. The indicators are generally reported in total, as well as per FTE and (for energy) per square metre format, to normalise the data and report information that may be readily understood and effectively communicated to key stakeholders. Indicators will also be useful in developing action plans to reduce the use of resources.

Objectives & Targets

The Victorian Government's commitment to sustainability in its own operations is reflected in the following key policies and strategies: *Growing Victoria Together*, *Victorian Greenhouse Strategy*, *Our Water Our Future* and *Our Environment Our Future – Victoria's Environmental Sustainability Framework*. In line with these, entities are required to disclose their ongoing performance in managing and reducing the office-based environmental impacts of their activities.

All entities are required to implement and report on an Environmental Management System (EMS) for their office-based activities.² The Victorian Government has produced an Environmental Management System Model Manual, which is modelled on the Standard *AS/NZS 14001 Environmental Management Systems*³. The EMS is the key driver of entity environmental performance, and should assist Agencies to meet their reporting requirements under FRD24C.

Consistent with broad Victorian Government objectives and targets (see Appendix 1), entities are required to establish their own objectives and targets under their EMSs, and environmental

¹ Department of Treasury and Finance (2008) 'FRD24C – Reporting Of Office-Based Environmental Impacts by Government Departments' (Department of Treasury and Finance: Melbourne Victoria), March 2008.

² *Environmental Management Systems & Environmental Reporting in Government*, Cabinet submission, Sep 2002

management programs to achieve these. A diagram of the relationship between FRD24C and entity EMS also appears in Appendix 1.

FRD24C Reporting Indicators

The FRD24C list of indicators as shown in Table 1 forms the core measures of office-based environmental performance against the key areas addressed by an entity's EMS. Data on each indicator is to be reported annually.

Table 1: FRD24C Indicators

Indicator	Unit	Pages	
Energy			
E1	Total Energy Usage segmented by primary source (including GreenPower)	Megajoules	7-10
E2	Greenhouse Gas Emissions associated with energy use, segmented by primary source and offsets	Tonnes CO ₂ -e	
E3	Percentage of electricity purchased as Green Power	% of total electricity consumption,	
E4	Units of Office Energy Used per FTE	Megajoules / FTE	
E5	Units of Office Energy Used per unit of Office Space	Megajoules / m ²	
Waste			
Ws1	Total units of waste disposed of by destination	Kilograms	11-13
Ws2	Units of office waste disposed of per FTE by destination	Kilograms/FTE	
Ws3	Recycling rate	% of total waste	
Ws4	Greenhouse Gas Emissions associated with waste disposal	Tonnes CO ₂ -e	
Paper			
P1	Total units of A4 equivalent copy paper used	Reams	14-15
P2	Units of A4 equivalent copy paper used per FTE	Reams / FTE	
P3	Percentage of recycled content of copy paper purchased	%	
Water			
W1	Total units of metered water consumption by water source	Kilolitres	16-18
W2	Units of metered water consumed in offices per FTE by usage type	Litres / FTE	
W3*	Units of metered water consumed in offices per unit of Office Space	Litres / m ²	
Transportation			
T1	Total energy consumption segmented by vehicle type	Mega joules	19-22
T2	Total vehicle travel associated with entity operations segmented by vehicle type	Kilometres	
T3	Total greenhouse Gas Emissions from vehicle fleet segmented by vehicle type	Tonnes CO ₂ -e	
T4	Greenhouse Gas Emissions from vehicle fleet per 1,000km segmented by vehicle type	Tonnes CO ₂ -e/1,000km	
T5	Total distance travelled by air	Kilometres	
T6	Employees regularly (>75% of work attendance days) using public transport, cycling, walking or car pooling to and from work or working from home by locality type.	% of total employees	
Greenhouse Gas Emissions			
G1	Total Greenhouse Gas emissions associated with energy use	Tonnes CO ₂ -e	23-24
G2	Total Greenhouse Gas emissions from vehicle fleet	Tonnes CO ₂ -e	

G3	Total Greenhouse Gas emissions from air travel	Tonnes CO ₂ -e	
G4	Total Greenhouse Gas emissions associated with waste disposal	Tonnes CO ₂ -e	
G5	Greenhouse Gas emissions offsets purchased	Tonnes CO ₂ -e	
G6*	Any other known Greenhouse Gas emissions associated with other activities	Tonnes CO ₂ -e	
Procurement			
Entities are to discuss whether and how their procurement activities are environmentally responsible and support the objectives of the Government's Environmental Procurement Policy such as: <ul style="list-style-type: none"> ▪ examples of how the entity has successfully integrated environmental considerations into procurement decision making; ▪ a list of any tenders, contracts, or products for which the entity has developed sustainability clauses or specifications. ▪ progress in achieving any procurement related Whole Of Government targets 			25

* Optional indicators

Each FRD24C theme has been colour coded throughout this Manual. The colour coding used appears below:

	Energy
	Waste
	Paper
	Water
	Transport
	Greenhouse Gas emissions
	Procurement

Additional options for internal reporting purposes to enhance behavioural change and to assist in EMS monitoring are provided in Appendix 2.

2 General FRD24C Reporting Guidance

Full Time Employee (FTE)

For the purposes of FRD24C reporting the definition of FTE is consistent with FRD 22B as reported elsewhere in the annual report i.e. an FTE is a person who received pay (i.e. is on the entity's payroll) for the final pay period in the reporting period. One FTE is equivalent to employment for a period of 38 hours per week. Part time employees are counted based on their proportion of full time hours worked (e.g. an employee working 50% of full time hours is equivalent to a 0.5 FTE). This number of FTEs must be consistent with that reported in the Annual Report, and therefore may be sourced from the Human Resource Divisions within each entity.

Small statutory entities

Where statutory entities are co-located within entity buildings, and do not report environment performance separately, these agencies should be included within each entity's targets and reports. This is aimed at reducing duplication and administrative complexity. Furthermore, if other entities associated with the operations are disclosing their environmental performance in their own annual reports, the Entity is not required to also disclose this information.

Government tenants located in non-Government buildings

Where a small number of entity staff is located in non-Government buildings with other tenants, data can be estimated based on averaging known consumption in the building using the

building's agreed shared tenancy arrangement. Where the total number of staff is less than 10FTE, consumption is not required to be reported.

Co-located facilities

Where an entity's staff are co-located with another Victorian Government entity in the same building, the entity who is the owner or primary lessee is responsible for FRD24C reporting for all staff in the building.

Baseline data

The following years are to provide baseline data for reporting:

Energy: 1999-2000

Water, paper, waste, transport fuel: 2002-03

Greenhouse gas emissions: 2007-08

Variations to the baseline may be required from time to time in response to changes in agency responsibilities, staff numbers, facilities, adoption of new technology etc. Entities should be mindful of these issues and footnote them within their FRD24C reports. Sustainability Victoria must be notified if modifications to base-year data will affect energy consumption reporting.

Explaining the context of reported data

For each aspect the following contextual clarifications must be disclosed:

- % of sites and % of whole of organisation staff represented by data;
- reason for any variation in data;
- reason for consumption/production of resource;
- changes from previous years' reporting methods, inclusions or exclusions; and
- any other material or explanatory information about the data such as office/non-office usage, nature of tenancy, and base building components that are relevant to performance

More detailed and specific recommendations for the reporting of data's context are given in the appropriate sections for each aspect.

Quality of data

At times, it may be beyond the resources of the entity to provide an exact data measure for particular indicators. Where such difficulties exist, it is important to note any issues in the context section of the relevant indicator.

Data availability

On occasions, accurate consumption data for energy, transport fuel, water and paper consumption may not be available. In such a situation, an estimate of consumption is to be made using data from the corresponding consumption period one year prior to the period in which it is missing. If corresponding data is not available then a daily average should be extrapolated.

Data falling across financial year boundaries

Billing periods often do not correspond with the commencement and completion dates for financial years, particularly for energy and water. In such situations, data should be normalised

by averaging the consumption and costs per day and pro-ratering these for the relevant number of days each side of the financial year boundary.

Minimum and recommended data

Collection of specific data is required to meet the minimum reporting requirements of FRD24C. However, there are a number of additional parameters which are recommended to be collected, in order for an entity to maintain a robust and informative record of its environmental impacts, and to contribute to their effective reduction. This data is listed in Appendix 2.

Machinery of government changes

Where an entity loses or gains staff as a result of machinery of government changes, the entity that is responsible for the staff on June 30 of the reporting year is to report all data relating to these staff and make an appropriate note in the context section of the relevant indicators. The entity that has “lost” the staff is to make the relevant data available to the entity required to report on these staff.

Performance trend reporting

For each aspect (energy, water, waste etc.) a performance trend for a chosen indicator must be reported. Trends must be reported for a minimum length of two years and can be represented in graphical or tabular form. Where data reported in previous annual reports has been affected by machinery of government or other significant changes the data may be adjusted to reflect the entities actual performance but notes must be added to explain the changes.

Target reporting

For each aspect a target must be reported. Targets must be consistent with the guidance for setting targets in ISO 14001. In addition, the entity is encouraged to include the actions required to meet targets.

Actions undertaken

For each aspect a list of actions undertaken to reduce environmental impacts or improved data management during the reporting period must be included.

More detailed and specific recommendations for the reporting of actions undertaken are given in the appropriate sections for each aspect.

3 Guidance on FRD24C Reporting by Indicator

This section provides guidance information for reporting on FRD24C indicators within the themes:

- Energy
- Waste
- Paper
- Water
- Transport,
- Greenhouse gas emissions; and
- Procurement.

Basic reporting information has been provided for each indicator, including:

- The definition of each indicator
- Data sourcing methods
- Data collection methods
- Data analysis methods, calculations and conversion factors
- A list of specified tools to use (where applicable), and
- Sources for further information.

The guidance provided in this section has been developed in collaboration with Government entity EMS Coordinators to ensure its relevance for current FRD24C reporting. A balance between best practice methods and those that are appropriate given the current resources of entities is therefore provided.

A list of additional tools and resources that may be useful to Government Entity EMS Coordinators in recording and analysing FRD24C and other internal environmental data has been provided in Chapter 4 – Tools and Resources.

ENERGY

Indicators	<p>E1: Total Energy Usage, segmented by primary source (including GreenPower) (MJ)</p> <p>E2: Greenhouse Gas Emissions associated with energy use, segmented by primary source and offsets (Tonnes CO₂-e)</p> <p>E3: Percentage of electricity purchased as Green Power (%)</p> <p>E4: Units of Energy per FTE (MJ/FTE)</p> <p>E5: Units of Energy per Unit office Space (MJ/m²)</p>
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Energy management

All entities (departments, agencies and statutory authorities as defined in the Victorian Government's *Energy Efficient Government Buildings* policy) are also required to report annually to Sustainability Victoria on implementation of the *20% energy reduction target and the extent to which their operations are covered by the 25% Green Power purchase requirement*. These entities are required to report on total building energy consumption and related greenhouse gas emissions, staff numbers and floor areas of each facility within the entity. Data collected as part of FRD24C will form a key component of this reporting. This Guidance Manual is consistent with the energy management reporting requirements of entity activities for this process.

Note: the *20% energy reduction target and the 25% Green Power purchase policy* expires in June 2010

Definitions **E1:** Total energy use is the direct energy consumed by an entity to perform its activities within the Annual Reporting period and includes energy used in base building central services, and/or light and power. . A total needs to be reported for electricity, natural gas, LPG, diesel, solid fuel, heating oil and any other fuel source for all of the entity's facilities including energy from renewable sources (for example Green Power).

Note: Entities are encouraged to breakdown their energy use to provide readers of the report with a better understanding of the entities activities and impacts. In particular the entity is encouraged to show office-based energy use and major non-office energy consumption areas separately. Further breakdown of office energy use into tenancy and basebuilding is also encouraged.

For the purpose of FRD 24 tenancy energy use includes: tenancy light and power' any supplementary air-conditioning; and any other items running of the tenancy distribution board. Base Building energy use include: HVAC system; lifts; security; core area lighting; and all other base building services

E2: Greenhouse Gas (GHG) emissions refer to green house gas emissions generated by the energy consumed by the activities of the entity. These must be reported segmented by primary source as reported under E1.

E3: Green Power is electricity supplied through a Victorian Government-accredited Green Power scheme. This indicator measures the percentage of total electricity consumed that is supplied from Green Power

E4 and E5: These indicators measure focus on office-based energy only and normalise the total energy against the number of staff and floor area of office space, to measure the efficiency of energy use.

Purpose

E2: Associated GHG Emissions provides information on the scale of greenhouse gas emissions associated with an entity's business operations, and assists in assessing the scope for reducing them.

E3: The purpose of this indicator is to identify the proportion of electricity an entity purchases that comes from renewable sources, and to track changes over time.

Context **The context of the energy consumption data presented must be clarified, including:**

- % of total sites and % of total staff represented by data;
- reason for energy consumption;
- any issues in obtaining or calculating consumption;
- whether data has been affected by machinery of government changes; and
- any other material information about the data such as office/non-office usage, nature of tenancy, and base building components that are relevant to consumption.

Actions

Undertaken Entities are to disclose activities that reflect the efforts made in managing the impacts of energy consumption or that provide other organisations with a means of replicating success.

Data

Source

Energy consumption data can be sourced through:

- The energy supplier or retailer
- Property, facilities, building services or other relevant personnel who receive such invoices or data directly or have direct access to this data
- Government Services Group (DTF) - where the GSG manages the building
- Reading of energy meters and/or submeters
- Data provided directly from entity sites

To obtain the most reliable data in a timely manner, it is recommended that, where possible, data should be obtained electronically from the energy retailer or supplier. All relevant energy consumption data is usually included on conventional energy invoices or electronic summaries and therefore should be able to be obtained from these. Under the Energy Retail Code, retailers are required to provide customers with billing data if requested.

Office floor area data (net lettable area) is to be sourced from:

- Government Services Group (GSG);
- Tenancy agreement; or
- Floor plans of buildings

Where data from these sources is unavailable, floor areas will have to be individually measured.

The office floor area occupied by the entity³ is *the net lettable area* (square metre) as defined by the Property Council of Australia Victoria in the *1997 Method of Measurement for Lettable Area Guidelines* (see

http://propertycouncil.gravitymax.com.au/nat/page.asp?622=270437&E_Page=17720)

Net lettable area is usually provided within tenancy agreement and other sources noted previously. Where is not available from these sources, see the PCAV website above for instructions as to how to obtain the guidelines on measurement.

³ Whether managed directly by the entity or by GSG

Data**Collection****E1, E2, E3, E4⁴, E5 Energy Consumption⁵:****1. Collect energy consumption data including:**

- Commencement and completion dates of period over which the consumption is measured.
- Energy type and consumption in the following units of measurement (as relevant):
 - Electricity (kWh) – including Green Power
 - Natural gas (MJ)
 - LPG (litres or kilograms)
 - Heating oil (litres or MJ)
 - Diesel (litres or MJ)
 - Solid fuel (type and kilograms)

2. Collect energy data from all buildings as follows:

- a. Where the entity is the sole occupant of a building, either leased or Government-owned: the entire building's energy consumption including all base-building central services such as air conditioning, lifts, external lighting and all internal light and power, car parks, etc.⁶
- b. Where the entity is a tenant or occupant in a multi-tenanted building, either leased or Government-owned: lighting and power usage for the entity's tenancy or occupied floors only.
- c. Where multiple tenants occupy a single building with common energy meter(s) for multiple tenants (including or excluding base building energy), energy consumption should be apportioned by tenancy floor area. If submetering has been installed, this data should be used.

Data**Analysis**

E1: Total energy used segmented by primary source (J) = kWh x 3.6 x 1000 (Electricity), J (Natural Gas, LPG, etc)

E4: GHG emissions (tonnes CO₂-e) = (units of energy type x GHG conversion factor)
The AGO Factors and methods workbook conversion factors are to be used to calculate E4. <http://www.greenhouse.gov.au/workbook/>

There are no greenhouse gas emissions associated with Green Power.

E5: % Green Power = (Total Green Power purchased (kWh) / Total electricity consumed (kWh)) x 100

E2: Energy used per FTE (MJ/FTE) = E1x1000 / number of FTEs

E3: Energy used per m² (MJ/m²) = E1x1000 / m² office space

Other conversion factors:

1 kWh = 3.6 MJ

1 GJ = 1000 MJ = 1 000 000 J

1MWh= 1000 kWh

Tonnes = kg / 1000 (1 tonne = 1000 kg)

Relevant Public Sector GRI indicators

- EN3 Direct energy consumption by primary energy source. (Core)

⁴ E4: The procedure for collecting FTE data is provided in Chapter 2.

⁵ To further assist with energy consumption records and analysis, Appendix 2 lists additional data categories which are recommended to be collected for each energy account.

⁶ The Government Services Group may supply and/or report on central services' consumption – this is to be arranged between the agency and the GSG.

- EN4 Indirect energy consumption by primary source. (Core)
- EN17. Initiatives to use renewable energy sources and to increase energy efficiency. EN5 Energy saved due to conservation and efficiency improvements. (Additional)
- EN18. Energy consumption footprint (i.e., annualised lifetime energy requirements) of major products. (Additional)
- EN19. Other indirect (upstream/downstream) energy use and implications, such as organisational travel, product lifecycle management, and use of energy-intensive materials. (Additional)

WASTE

Indicators	<p>Ws1: Total units of waste disposed of by destination (kg)</p> <p>Ws2: Units of office waste disposed of per FTE by destination (kg/FTE)</p> <p>Ws3: Recycling Rate (%)</p> <p>Ws4: Greenhouse Gas Emissions associated with waste disposal (Tonnes CO₂-e)</p>
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Definitions **Ws1:** Total units of waste disposed of is the amount of total waste generated from activities within the entity within the Annual Reporting period, excluding 'one off' clean outs, office relocations etc, but including recycling, compost and landfill streams, and including the following categories:

- Organic materials (compostable materials including food materials, flowers, etc)
- Recyclable materials (including paper and paper products, cardboard, glass, metal, recyclable plastics, toner cartridges, fluorescent tubes, CD's, mobile phones etc.) including co-mingled recyclable products and paper disposed of in "secure" bins.
- Waste materials which cannot be reused, recycled or composted (i.e. contributes to landfill)

Note: Entities are encouraged to breakdown their waste disposal to provide readers of the report with a better understanding of the entities activities and impacts. In particular the entity is encouraged to show office-based waste and major non-office waste disposal areas separately.

Ws2: Units of waste disposed of per FTE is the Ws1 divided by the number of FTE's employed by the entity.

Ws3: The recycling rate is the total weight of waste diverted from landfill (including organic and recyclable materials) divided by the total units of waste produced (organic, recyclables and waste to landfill)

Ws4: Greenhouse Gas Emissions refer to the emissions generated when waste is disposed to landfill

Destination – refers to the final destination of any waste streams, including landfill, recycling and composting.

Context **The context of the data presented must be clarified, including:**

- % of total sites and % of total staff represented by data;
- activities leading to the production of waste;
- method of obtaining and calculating data;
- whether data has been affected by machinery of government changes; and
- any other material information about the data such as office/non-office production and nature of tenancy that are relevant to the production of waste.

Actions

Undertaken Entities are to disclose as a minimum a full list of destinations utilised for waste disposal, and the extent that they are utilised by different locations or staff. Entities are also to report on activities that reflect the efforts in managing the impacts of waste or that provide other organisations with a means of replicating success.

Data**Source**

Data may be sourced through:

- Internal and external waste audits/assessments and associated reports
- Invoices or reports from waste and/or recycling collection agency.

Data Collection

Waste assessments should be conducted at least annually at sites covering at least 30% of total entity staff. FRD24C

The assessor will need to:

- 1) Measure the weight of total waste produced by waste stream for at least one twenty four hour period; and
- 2) Include the assessment of both landfill and recycling streams, including compost, by weight.

Waste collection agency reports and paper purchase records, where accurate, are able to be used to supplement waste assessments.

An entity must audit waste in all bins, or at least those used by 30% of total entity staff.

There is no need to do a contamination level audit of every waste stream, however a visual inspection of each waste stream can be very useful in developing communication materials to reduce contamination.

Where all waste at all locations can be measured: Entities with a small no. of FTE's in shared premises don't require a separate audit. Entities in multi-tenanted buildings should still be able to undertake a waste assessment, provided their own bins are identified.

Where resources are limited or a large number of entity locations exist, locations with higher numbers of FTEs should be audited. If one audit can be undertaken to account for 30% of entity staff then one audit will be sufficient. Otherwise, multiple audits should be undertaken to ensure that audits represent waste disposed of by at least 30% of an entity's FTEs.

Data Analysis

Ws1⁷: kg waste disposed of = (kg waste disposed of over 24 hours x 250 (making a total of 250 work days in 1 year))

Ws2: kg waste produced per FTE = (kg waste produced over 24 hours x 250 (making a total of 250 work days in 1 year) / number of FTEs at location(s) assessed

Ws3: recycling rate = [(kg of recyclable materials + kg organic material) / (kg of total waste)] %

Ws4: AGO notes that where methane from waste biomass is recovered and flared or combusted for energy, the CO₂ emitted is not counted as an emission but regarded as part of the natural carbon cycle. The total amount of CH₄ (methane) recovered is therefore regarded as saved (not emitted) so long as it does not enter the atmosphere as CH₄.

The AGO conversion factors for Municipal Solid Waste are to be allocated to the waste going to landfill (or use the relevant conversion factors for different components of landfill waste if measured). AGO conversion factors are to be sourced from: <http://www.greenhouse.gov.au/workbook/>

No GHG emissions are to be reported for the organic or recycling streams.

⁷ NB: Waste audits are frequently conducted using a headcount of FTE's present on the day at the location and reported as such for internal purposes. For FRD reporting purposes, FTE reported must be consistent with FTE reported in the Annual Report.

Further Information

For information on waste assessment see:

<http://www.sustainability.vic.gov.au>
www.dse.vic.gov.au/sustainabilityatwork

Relevant Public Sector GRI indicators

- EN1. Total materials use other than water, by type. (Core)

Provide definitions used for types of materials. Report in tonnes, kilograms, or volume

- EN2. Percentage of materials used that are wastes (processed or unprocessed) from sources external to the reporting organisation. (Core)

Refers to both post-consumer recycled material and waste from industrial sources. Report in tonnes, kilograms, or volume.

- EN11. Total amount of waste by type and destination. (Core)

“Destination” refers to the method by which waste is treated, including composting, reuse, recycling, recovery, incineration, or landfilling. Explain type of classification method and estimation method.

- EN31. All production, transport, import, or export of any waste deemed “hazardous” under the terms of the Basel Convention Annex I, II, III, and VIII. (Additional)

PAPER

Indicators	P1: Total units of A4 equivalent copy paper used (reams)
	P2: Units of A4 equivalent copy paper used per FTE (reams / FTE)
	P3: Percentage of recycled content copy paper purchased (%)

Definition **P1, P2 and P3:** For the purposes of FRD24C, total units of copy paper used and units of copy paper used per FTE refers to the amount of paper *purchased* by an entity within the Annual Reporting period.

For these indicators copy paper is defined as white and coloured A4 and A3 office paper used for printing, photocopying and similar processes. Entities may also choose to report on other sizes or types of paper (see Appendix 2).

P3: Is to be reported as percentages of copy paper purchased in the following categories:

- 0-50% recycled content;
- 50-75% recycled content; and
- 75-100% recycled content

Context **The context of the data presented must be clarified, including:**

- % of total sites and % of total staff represented by data;
- activities leading to the use of paper;
- method of obtaining and calculating data;
- whether data has been affected by machinery of government changes; and
- any other material information about the data such as office/non-office consumption that are relevant to the consumption of paper.

Actions

Undertaken Entities are to disclose activities that reflect the efforts made in managing the impacts of paper consumption or that provide other organisations with a means of replicating success.

Data

Source Entity stationary suppliers and / or procurement records.

Data

Collection The following data is to be collected from stationary suppliers or procurement records on at least an annual basis for FRD24C reporting purposes. To enable tracking of consumption over time, monthly or quarterly collection is recommended.

For each stock keeping unit (SKU)⁸ of paper, collect:

- Paper Size (A4, A3)
- Unit supplied in (ream, carton, bulk, etc)
- Number of sheets in unit (e.g. 500 for ream, 2500 for carton, etc)

Data

Analysis

P1, P2:

1 A3 = 2 x A4 sheets of paper

⁸ SKU is the standard unit used by stationary procurement officers.

1 A5 = 0.5 x A4 sheets of paper

P2: Units of paper used per FTE = reams of paper purchased / number of full time employees

Relevant Public Sector GRI indicators

- EN1. Total materials use other than water, by type. (Core)
 Provide definitions used for types of materials. Report in tonnes, kilograms, or volume
- EN2. Percentage of materials used that are wastes (processed or unprocessed) from sources external to the reporting organisation. (Core)
 Refers to both post-consumer recycled material and waste from industrial sources. Report in tonnes, kilograms, or volume.
- EN33. Performance of suppliers relative to environmental components of programmes and procedures described in response to Governance Structure and Management Systems section (Section 3.16). (Additional)
- EN33. Performance of suppliers relative to environmental components of programmes and procedures described in response to Governance Structure and Management Systems section (Section 3.16). (Core)
- EN15. Percentage of the weight of products sold that is reclaimable at the end of the products' useful life and percentage that is actually reclaimed.
 "Reclaimable" refers to either the recycling or reuse of the product materials or components.

WATER

Indicators	W1: Total Units of metered Water consumed by water source (kilolitres)
	W2: Units of metered Water Consumed in offices per FTE (kilolitres/FTE)
Optional:	W3: Units of metered water consumed in offices per unit of Office area (kilolitres per m²)

Definition **W1: Water consumed refers to the amount of water (in kilolitres) consumed by an entity associated with its activities during the Annual Reporting period.** Entities are encouraged to breakdown their water use into different water sources to provide readers of the report with a better understanding of the entities activities and impacts. In particular the entities are encouraged to show office-based water use and major non-office water consumption areas separately. Further breakdown of office water use into domestic water and cooling tower water is also encouraged

W2 and W3 measure the office component of W1 against the number of staff and floor area to measure the efficiency of water use.

For the purposes of the FRD24C, water sources include the following which are to be reported separately:

- Domestic water consumption (metered potable water from a town water supply);
- Metered rainwater collection consumption (where available),
- Metered alternate supply consumption (e.g. river, stream, aquifer, bore etc.)⁹; and
- Metered reused water consumption (e.g. grey or black water)¹⁰

Context **The context of the data presented must be clarified, including:**

- % of total sites and % of total staff represented by data;
- activities leading to the use of water;
- method of obtaining and calculating data;
- whether data has been affected by machinery of government changes; and
- any other material information about the data such as office/non-office usage, nature of tenancy, and base building components that are relevant to the usage of water.

Actions Undertaken Entities are to disclose activities that reflect the efforts made in managing water consumption or that provide other organisations with a means of replicating success.

Data Source Water consumption data can be sourced through:

- The water supplier or retailer
- Property, facilities, building services or other relevant personnel who receive water invoices or data directly or have access to it
- Government Services Group
- Reading of water meters and/or submeters
- Data provided directly from entity sites

To obtain the most reliable data in a timely manner, it is recommended that, where possible, data should be obtained electronically from the water retailer or supplier.

⁹ Likely only to be useful for facilities where external use occurs, and only if metering is available

¹⁰ Likely only to be useful for facilities where external use occurs, and only if metering is available

Data Collection

All relevant information is usually included on conventional water invoices or electronic summaries and therefore should be able to be obtained from these. Suppliers must be contacted if any is missing and be asked to provide it.

Collect water consumption data including:

- Commencement and completion dates of period the consumption is measured for
- Water consumption (kL)

Collect water data from all buildings as follows:

The entire building's water consumption, including base building central services and tenancy are to be reported. These should be reported separately where possible.

In the case where there is only one water meter per building, water consumption is to be apportioned according to the net lettable area occupied. This will include base building water consumption.

In the case of a multi-tenanted building where separate metering for base building and tenancies exist, apportion both the tenancy water usage and base building water usage as a percentage of the net lettable area that your entity occupies.

Data Analysis¹¹

W1: Total units of metered water consumed (kL) consumed by usage type

W2: Units of metered water consumed by offices per FTE = total litres of water consumed / number of full time employees

W3: Units of water consumed by offices per m² = total litres of water consumed / office area

W2: Buildings without metering should not be reported and the data from other buildings not extrapolated. Appropriate notes about the % of sites and staff covered by the data available should be noted in the context section.

W1: total consumption of the entity segmented by usage type including office usage

W2: equivalent to average calculated data for all sites at which metered data is available

W3: equivalent to average calculated data for all sites at which metered data is available

Relevant Public Sector GRI indicators

- EN5. Total water use. (Core)
- EN20. Water sources and related ecosystems/habitats significantly affected by use of water.

Include Ramsar-listed wetlands and the overall contribution to resulting environmental trends. (Additional)

- EN21. Annual withdrawals of ground and surface water as a percent of annual renewable quantity of water available from the sources. (Additional)

Breakdown by region.

- EN22. Total recycling and reuse of water. (Additional)

Include wastewater and other used water (e.g., cooling water).

¹¹ Note that a benchmarking study of water use in commercial office buildings is currently underway. Once completed, this will assist departments to assess the accuracy of the information they currently have access to.

- EN32. Water sources and related ecosystems/habitats significantly affected by discharges of water and runoff. (Additional)
Include Ramsar-listed wetlands and the overall contribution to resulting environmental trends. See GRI Water Protocol.

TRANSPORTATION

Indicators	<p>T1: Total Energy Consumption by operational vehicles segmented by vehicle type (GJ)</p> <p>T2: Total vehicle travel associated with entity operations by vehicle type (km)</p> <p>T3: Greenhouse Gas Emissions associated with operational vehicle fleet (Tonnes CO₂-e) by vehicle type – Total and per 1,000 km</p> <p>T4: Total distance travelled by aeroplane (km)</p> <p>T5: Percentage of employees regularly (>75% of work attendance days) using public transport, cycling, walking, or car pooling to and from work or working from home by locality type.</p>
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Definitions **Energy consumption (T1), trip km (T2), associated GHG emissions (T3), and aeroplane km (T4)** refer to the amount of energy consumed, distance travelled, GHG emissions produced by entity vehicles and km travelled in an aeroplane annually by employees of an entity during the Annual Reporting period.

Vehicle type: each fleet type is to be broken-down by the different types of vehicles within the fleet (e.g. 4 cylinder, 6 cylinder, 6 cylinder LPG, hybrid, AWD, 2WD etc. or unleaded, E10, LPG, diesel etc.)

Employees regularly using public transport, cycling, walking or car-pooling to and from work or working from home (T5) refers to the number of employees who use these modes of transport more than 75% of work attendance days for commuting to or from work purposes. Where statistics are broken down into different locality types (CBD, metro, regional) these should be reported separately as well as an overall total

Energy consumption includes all petrol, E10, diesel and LPG consumed when in use for entity activities including any approved growth.

Operational vehicle use includes all trips utilising:

- Passenger vehicles, including vehicles such as: AWD, people movers, vans and buses;
- Entity vehicles, including vehicles from the State Government vehicle pool (VicFleet hire cars);

Operational vehicle use does not include the following but these are encouraged to be reported separately where data is available:

- Executive vehicles including salary packaged and chauffeur driven vehicles but not novated lease vehicles¹².
- Commercial vehicles less than 3.5 tonne not used primarily for passenger transport;
- Commercial vehicles greater than 3.5 tonne such as tractors and bulldozers, and those that do not run on a road, such as trains, water vehicles and aircraft; and
- Taxis

Context **The context of the data presented must be clarified, including:**

- The total size of the vehicle fleet and the mix of vehicle types within each fleet type;
- activities leading to the use of vehicles;

- method of obtaining and calculating data;
- whether data has been affected by machinery of government changes;
- whether the entity has any “approved growth” (although approved growth is to be included in the indicators the extent of approved growth may be reported separately) and
- any other material information about the data relevant to consumption.

Actions

Undertaken Entities are to disclose activities that reflect the efforts made in managing transport impacts or that provide other organisations with a means of replicating success.

Data

Sources

T1 – T2: Data must be collected and collated from three sources:

1) The State Government Vehicle Pool (VicFleet) provides data on the kilometres travelled by vehicles and associated fuel consumption of vehicles leased from it by individual entities.

2) The lease invoice data for the vehicles

3) Each entity’s Internal Fleet Manager provides data related to:

- Fuel consumed by all other vehicles (from fuel purchase records / contact records from fuel suppliers, e.g. Shell card records)
- Kilometres travelled by all other passenger vehicles (from log books)

T4: Data must be collected and collated from travel service provider.

T5: Data should be sourced from a survey completed by entity employees.

Data

Collection

T1 – T2: The data on fuel consumption and kilometres travelled is to be collected monthly or quarterly from the sources above and can be compiled annually for the purpose of FRD24C reporting.

T5: A survey of staff should be completed once per annum by each entity. The survey must identify for a normal working day (preferably a Wednesday in Spring or Autumn) what percentage of staff used the following modes of transport to travel to or from work as a minimum:

- public transport
- cycling
- walking
- car pooling
- working from home

In addition to these questions respondents should identify which locality type they belong to: CBD; metro; or regional.

It is noted that these surveys might be used for collecting other useful data such as barriers to selected modes or attitudes on other environmental matters and this should be encouraged.

Data

Analysis

T3: All greenhouse emissions are to be calculated using the conversion factors in the Australian Greenhouse Office factors and methods workbook.

<http://www.greenhouse.gov.au/workbook/>

T1-T2: Two methods of analysis are able to be used for determination of these indicators:

- Method 1 - where comprehensive distance travelled and fuel usage data are available calculation of indicators must be from the available data;
- Method 2 - where there are concerns about the completeness of available usage data distance travelled must be derived from annualised km travelled using odometer readings at the end of the vehicle life and converted to fuel

usage using the Australian Design Rule (ADR) 80/01 fuel economy figures for each vehicle based on make, model.

Method 1

T1 – T2: Total consumption and kilometres travelled, for each fuel source, should be calculated by simple addition.

Method 2

T2: kilometres derived from odometer readings taken at the end of each vehicle lease or as available on lease invoice:

- annualised km/day = [(final odometer reading – initial odometer reading)/total days of lease]
- Kilometres travelled in year of annual reporting period = annualised km/day x days vehicle in service during the annual reporting period.

T1: litres of fuel used is to be derived from the kilometres travelled by each vehicle based on the Australian Design Rule (ADR) 80/01 fuel economy figures for each vehicle’s make and mode. The litres of fuel can then be converted to megajoules using the energy content conversion factors in the AGO factors and methods workbook (<http://www.greenhouse.gov.au/workbook/>)

T5: Survey should be for five days of travel, however data should be based on one selected day out of five, with the preferred day being a Wednesday, pending no extreme events fall on that day that would influence travel behaviour. Survey may cover to work, from work or both. Each mode of transport must be expressed as a percentage of the total.

Relevant Public Sector GRI indicators

- EN1. Total materials use other than water, by type.
Provide definitions used for types of materials. Report in tonnes, kilograms, or volume. (Core)
- EN2. Percentage of materials used that are wastes (processed or unprocessed) from sources external to the reporting organisation. (Core)
Refers to both post-consumer recycled material and waste from industrial sources. Report in tonnes, kilograms, or volume.
- EN3. Direct energy use segmented by primary source. (Core)
Report on all energy sources used by the reporting organisation for its own operations as well as for the production and delivery of energy products (e.g., electricity or heat) to other organisations. Report in joules.
- EN19. Other indirect (upstream/downstream) energy use and implications, such as organisational travel, product lifecycle management, and use of energy-intensive materials. (Additional)
- EN7. Description of the major impacts on biodiversity associated with activities and/or products and services in terrestrial, freshwater, and marine environments. (Core)
- EN8. Greenhouse gas emissions. (Core)
(CO₂, CH₄, N₂O, HFCs, PFCs, SF₆). Report separate subtotals for each gas in tonnes and in tonnes of CO₂ equivalent for the following:
 - direct emissions from sources owned or controlled by the reporting entity
 - indirect emissions from imported electricity heat or steam
 See WRI-WBCSD Greenhouse Gas Protocol.
- EN10. NO_x, SO_x, and other significant air emissions by type. (Core)
Include emissions of substances regulated under:
 - local laws and regulations
 - Stockholm POPs Convention (Annex A, B, and C) – persistent organic pollutants
 - Rotterdam Convention on Prior Informed Consent (PIC)

- Helsinki, Sofia, and Geneva Protocols to the Convention on Long-Range Trans-boundary Air Pollution

- EN30. Other relevant indirect greenhouse gas emissions. (Additional)
(CO₂, CH₄, N₂O, HFCs, PFCs, SF₆). Refers to emissions that are a consequence of the activities of the reporting entity, but occur from sources owned or controlled by another entity Report in tonnes of gas and tonnes of CO₂ equivalent.
- EN33. Performance of suppliers relative to environmental components of programmes and procedures described in response to Governance Structure and Management Systems section (Section 3.16). (Additional)
- EN34. Significant environmental impacts of transportation used for logistical purposes. (Additional)
- EN35. Total environmental expenditures by type. (Additional)
Explain definitions used for types of expenditures.

Further

Information

Contact: Vicfleet, Department of Treasury and Finance.

[Contact](#): Sustainable Transport Programs, Department of Transport

GREENHOUSE GAS EMISSIONS

Indicators:

G1: Total Greenhouse Gas emissions associated with energy use (Tonnes CO₂-e)

G2: Total Greenhouse Gas emissions associated with vehicle fleet (Tonnes CO₂-e)

G3: Total Greenhouse Gas emissions associated with air travel (Tonnes CO₂-e)

G4: Total Greenhouse Gas emissions associated with waste disposal (Tonnes CO₂-e)

G5: Greenhouse Gas emissions offsets purchased (Tonnes CO₂-e)

G6: Any other known greenhouse gas emissions associated with entity activities (Tonnes CO₂-e)

Definition **G1, G2 and G4:** These should come from the previous sections (E4,T3 and Ws4).
G3 Greenhouse gas emissions associated with air travel undertaken by the entity in the annual reporting period must be disclosed as a minimum.
G5: A greenhouse gas emissions offset is a project or activity that reduces greenhouse gas (GHG) emissions or sequesters carbon from the atmosphere that is used to compensate for GHG emissions from another project, activity, or business.
G6: Any quantified Greenhouse Gas emissions from other entity activities should be disclosed here.

Context **The context of the data presented must be clarified, including:**

- % of total sites and % of total staff represented by data;
- activities leading to the emissions;
- method of obtaining and calculating data;
- whether data has been affected by machinery of government changes; and
- any other material information about the data such as office/non-office consumption that are relevant to the emissions.

Actions Undertaken Entities are to disclose activities that reflect the efforts made in managing greenhouse gas emissions or that provide other organisations with a means of replicating success.

Data Source **G1, G2 and G4:** These should come from the previous sections (E4, T3, and Ws4).
G3: Data will come from indicator (T3).
G5: Purchasing records for offsets.

Data Analysis It is recommended that all data analysis be performed in line with the GHG protocol (<http://www.ghgprotocol.org>). Where available AGO factors and methods workbook emission factors and methodologies must be used (<http://www.greenhouse.gov.au/workbook/>). In their absence (eg air travel related emissions) EPA methodologies should be adopted. (<http://www.epa.vic.gov.au/greenhouse>).

Greenhouse Gas Emission offsets

When purchasing offsets the following must be considered:

- offsets must be accredited;

- offsets must be independently verified;
- technical documentation must be reviewed to determine the above; and
- the cost, additional benefits and alignment with government and organisational priorities must be considered.

For further information of offsets refer to - <http://www.carbonoffsetguide.com.au/>

Relevant Public Sector GRI indicators

- EN8. Greenhouse gas emissions. (Core)
(CO₂, CH₄, N₂O, HFCs, PFCs, SF₆). Report separate subtotals for each gas in tonnes and in tonnes of CO₂ equivalent for the following:
 - direct emissions from sources owned or controlled by the reporting entity
 - indirect emissions from imported electricity heat or steam
 See WRI-WBCSD Greenhouse Gas Protocol.
- EN9. Use and emissions of ozone-depleting substances. (Core)
Report each figure separately in accordance with Montreal Protocol Annexes A, B, C, and E in tonnes of CFC-11 equivalents (ozone-depleting potential).
- EN10. NO_x, SO_x, and other significant air emissions by type. (Core)
Include emissions of substances regulated under:
 - local laws and regulations
 - Stockholm POPs Convention (Annex A, B, and C) – persistent organic pollutants
 - Rotterdam Convention on Prior Informed Consent (PIC)
 - Helsinki, Sofia, and Geneva Protocols to the Convention on Long-Range Trans-boundary Air Pollution
- EN30. Other relevant indirect greenhouse gas emissions. (Additional)
(CO₂, CH₄, N₂O, HFCs, PFCs, SF₆). Refers to emissions that are a consequence of the activities of the reporting entity, but occur from sources owned or controlled by another entity Report in tonnes of gas and tonnes of CO₂ equivalent. See WRI-WBCSD Greenhouse Gas Protocol.

PROCUREMENT

Indicators:

PR1: Entities are to discuss whether and how their procurement activities are environmentally responsible and support the objectives of the Government's Environmental Procurement Policy such as:

- i) examples of how the entity has successfully integrated environmental considerations into procurement decision making;**
- ii) a list of any tenders, contracts, or products for which the entity has developed sustainability clauses or specifications.**
- iii) progress in achieving any procurement related Whole Of Government targets**

The current FRD24C requirement in relation to procurement is for entities to:

- discuss whether and how their procurement activities are environmentally responsible and support the objectives of the Government's Environmental Procurement Policy
- discuss progress in achieving any procurement related Whole Of Government targets
- provide examples of how you have successfully integrated environmental considerations into procurement decision making; and
- provide a list of any tenders, contracts, or products for which the entity has developed sustainability clauses or specifications;

Context

The context of the data presented must be clarified, including:

- % of total sites and % of total staff represented by data;
- method of obtaining and calculating data;
- whether data has been affected by machinery of government changes; and
- any other material information about the data such as office/non-office production that are relevant to procurement.

General:

The Victorian Government Procurement Board (VGPB) has an environmental procurement, which requires entities to:

- Incorporate environmental procurement in procurement planning and tender procedures; and
- Consider the environmental impact in the selection of goods and services.
- Key ref <http://www.vgpb.vic.gov.au/>

4 Tools and Resources

In this section, two types of tools have been included. Table 2 is a list and descriptions of the tools that are recommended for use within FRD24C and EMS reporting. Table 3 contains the tools and resources developed by EMS coordinators to assist them in their data recording, analysis and reporting FRD24C and EMS reporting, and to promote behavioral change within entities. The tools in Table 3 are for general information and assistance, and are not endorsed or quality assured for use.

Table 2: Recommended Tools

Theme	Name	Description	Source
Energy	Utility Tracker	May be used to collect, report and analyse energy data	http://www.sustainability.vic.gov.au/www/html/1938-energy-and-greenhouse-management-toolkit.asp
	AGO Factors and Methods workbook	Document outlining the emission factors and methods for reporting on GHG emissions from energy usage	http://www.greenhouse.gov.au/workbook/
	Energy and Greenhouse Management Toolkit	Has a range of tools to assist in reducing energy usage.	http://www.sustainability.vic.gov.au/www/html/1938-energy-and-greenhouse-management-toolkit.asp
	OSCAR	Online System for Comprehensive Activity Reporting.	http://www.climatechange.gov.au/oscar/index.html
Waste	Sustainability Victoria waste wise office kit	Provides ways to engage and motivate staff and solve common workplace problems. Included are a variety of posters, tips and other resources supported by facts and case studies.	http://www.sustainability.vic.gov.au/www/html/1891-waste-wise-office-kit.asp?intSiteID=4
	Sustainability at Work	Provides further tools and fact sheets on reducing and auditing waste	http://www.dse.vic.gov.au/sustainabilityatwork
Water	Utility Tracker	May be used to record and analyse water data – produced by SEAV	http://www.sustainability.vic.gov.au/www/html/1938-energy-and-greenhouse-management-toolkit.asp
Transport	Figtree	Tracks kilometres travelled and all fuel usage	Fleet management Data Collection System
	TravelSmart employer pack	Employer pack, case studies and the survey that entities have been using.	www.travelsmart.vic.gov.au

Table 3: Optional Tools (developed and used by EMS Coordinators)

Name	Use	Features	Origin
FRD All Indicators Data Spreadsheet	To record all FRD indicator data for one report	All indicators and parameters appear.	DSE
Energy			
Tenants Electricity Billing Summary DET	To keep track of multiple tenancy energy use	Storage of all energy related information for a range of buildings.	DEECD
EDaM	Energy and water data collection, management and reporting for large numbers of sites	All remote sites can input data through internet. Processed, reported and administered centrally. Comprehensive range of reports produced.	DSE/DPI
Detailed Electricity Spreadsheet	To keep track of detailed energy usage over multiple locations through time	Peak electricity tracked	EPA
Waste			
What waste goes where	Report common items found in landfill, and types of waste produced		DOI
Waste Assessment Guidelines	To guide waste audits in line with Ecorecycle guidelines	Robust and detailed outline of a waste audit procedure	EPA
Comprehensive Waste Audit Spreadsheet and Graph	To track all waste data and communicate results	Very good summary and individual spreadsheets of waste types	DIIRD
Consolidated Waste Audit Spreadsheet	To record data on waste from a variety of locations	Consolidates waste data from multiple locations	EPA
Paper			
Reams of paper over time	Graphed outline of reams of paper used over time	Visual representation of data over time	DOI
Paper reporting and communications	Reams of paper over time	Detailed breakdown of paper used for a variety of purposes. Converts data into no. of trees.	DIIRD
Transport			
Transport Emissions DOI	Graphed outline of transport emissions over time	Visual representation of data over time	DOI

NB: These tools are available in the electronic folder accompanying this Manual. Tools have not been assessed for quality and accuracy, and are provided as a means of information sharing and general assistance.

Detailed Tool Descriptions

Utility Tracker (GEM Tool)

Description & use:

Sustainability Victoria has developed an easy-to-use Government Energy Management (GEM) Tool called Utility Tracker. It is a software package that assists organisations to track and report their energy use. It allows users to readily enter and edit energy data for various facilities. A range of reports typically required is built-in, including comparisons to the benchmarking database.

Utility Tracker is freely available to all Victorian entities and downloadable from the website above. It runs under MS Access, although it is not necessary for users to know how to use Access to be able to use the software.

OSCAR

Use:

Required for reporting internally within the entity and for compiling whole-of-government reports.

Description:

OSCAR is a resource reporting system to be used by all Government Departments and Agencies to enable the entering and submitting of data online. EDGAR provides an internet based user interface to a SQL server database system. EDGAR will be used to collect energy information for the purposes of reporting in the Report of Operations (in the Annual Report).

Features:

- Enter data directly on the web;
- Enter data against a hierarchy of entities created that represents the structure of the entity;
- Determine who can view the data its use;
- Enter data progressively throughout the year (i.e. enter each bill as its received, typically monthly);
- Only view the end use categories and fuel types that are relevant to the entity; and
- Validate data to provide information of how it compares to previously entered data and against expected intensity ranges.

Contact for further information: Sustainability Victoria.

Email: ben.stephenson@sustainability.vic.gov.au.

Appendix 1 - Government EMS Program and Relationship with FRD24C, and Whole of Government Targets

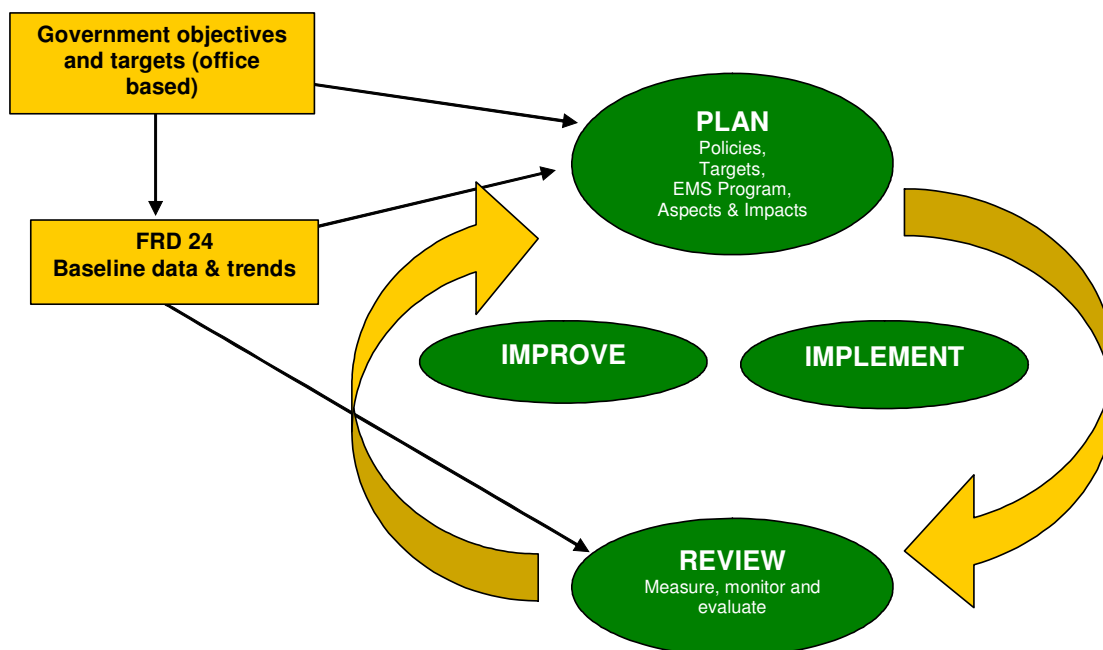


Table 1A: Whole of Government Targets

Whole of Victorian Government Issue	Whole of Victorian Government Goals	Key Whole of Victorian Government Targets / Objectives
Energy	Increase proportion of renewable energy sources in government buildings	By 2010/11, use of electricity from Green Power in Government buildings ⁴ will be increased to 25%
	Reduce energy consumption in Government buildings	By 2010/11 energy consumption per square metre in Government buildings ¹³ will be reduced by 20%
	Improve air quality	See energy targets above Reduce greenhouse gas emissions from agency vehicle fleet by 10% by 2005/06
Transport	Encourage increased use of public transport	Increase the proportion of trips taken on public transport in Melbourne from 11% to 20% by the year 2020.
Waste / (Paper)	Increase waste recycling and effective waste management	Reduce the quantity of solid waste generated and increase the amount recovered for reuse, recycling and energy generation
Water	Reduce water consumption (per capita)	Reduce Melbourne's water usage by 15 per cent per capita by 2010

¹³ Government buildings include offices, hospitals, schools, police stations, prisons, etc. These targets are to be achieved by each department or agency. Provided the targets are met across departments or agencies, they do not have to be achieved by any one particular building type, such as offices.

Appendix 2 – Optional reporting

In addition to reporting on FRD24C indicators, most Victorian Government entities are also reporting on a number of aspects of the five themes of energy, waste, paper, water and transport to monitor progress toward EMS targets and objectives, and to encourage internal behavioural change.

These reporting objectives will sometimes require the data and information collected as part of FRD24C to be expressed in ways that either provide more detail to create action plans, or to communicate the positive impacts of environmental sustainability in more descriptive terms to capture the interest of the range of entity employees.

This section provides suggestions for additional data which entities may choose to collect and record which will supplement the minimum data required for FRD24C reporting, and help to make the entire data set more meaningful and useful for further reducing entities' environmental impacts. FRD24CFRD24C

Energy

Detailed suggestions

Data reporting on energy measurements

It may be desirable to measure the following:

- Peak electricity (kWh)
- Off-peak electricity (kWh)
- Total cost for each unit, and whether or not this is GST free

To assist in ensuring the accuracy of data records, the following energy data may also be collected and recorded for each billing period:

- (i) Actual and charged electricity demand (where relevant) – kW or kVA
- (ii) Account number
- (iii) Site address and contact details of energy manager
- (iv) Meter and site address as shown on energy invoices
- (v) Contact details of energy supplier (where different, the electricity retailer and network provider are to be recorded)
- (vi) Meter number (where different from account number)
- (vii) It should be noted whether peak and off-peak electricity consumption are inclusive or exclusive of the Green Power consumption

Waste

Detailed suggestions

Recycling stream

Collecting the breakdown of the recycling stream will assist in the development of action plans for reducing use of materials. It may also assist with reporting on procurement.

Reporting on the breakdown of the recycling stream can be undertaken by carrying out occasional detailed assessments of the recycling stream. The following can be determined in per staff and total figures:

- kg paper recycled;
- kg paper products and cardboard recycled;
- kg glass recycled;
- kg metals recycled (can be broken down by individual categories if required);
- kg organic waste recycled;

- kg recyclable plastics recycled;
- No. of toner cartridges recycled (should also be in kg);
- No. and kg of toner cartridges sent for re-manufacturing;
- No. of Fluorescent tubes recycled
- Kg other products recycled (to be specified by entity)

The amount of *waste reused* is also a useful indicator to report, as action plans may be developed to further reduce amount of waste going to landfill and recycling.

Measuring the *volume* in addition to the weight of waste reduced is also considered useful by some entities for internal communication purposes. The volume of waste can be a helpful communication tool to enable people to visualise the amount of waste that is being produced.

National Packaging Covenant

Definitions

*Consumer packaging – means “all packaging products made of any material, or combination of materials, for the containment, protection, marketing or handling of retail consumer products. This also includes distribution packaging.”

*Distribution packaging – means “packaging that contains multiples of products (the same or mixed) intended for direct consumer purchase, including:
 Secondary: packaging used to secure or unitise multiples of consumer product, e.g. cardboard box, shipper, shrink film overwrap.
 Tertiary: packaging used to secure or unitise multiples of secondary packaging e.g. pallet wrapping stretchfilm, shrinkfilm, strapping.

*Recyclable packaging for a product means, reasonably able to be recovered in Australia through collection or drop-off systems and able to be reprocessed and used as a raw material for the manufacture of a new product. In 2005, “non-recyclable” consumer and distribution packaging included: plastics coded (4) to (7), non-recyclable paper packaging, non-recyclable cardboard packaging and some types of composite packaging (i.e. packaging made from more than one material type hence requiring separation prior to recycling e.g. plastic and cardboard).

*Definitions from National Packaging Covenant (2005), available at:
<http://www.deh.gov.au/settlements/publications/waste/covenant/pubs/covenant.pdf>

As a signatory to the National Packaging Covenant, the Victorian Government has committed to undertaking audits of the amount and proportion of packaging in the waste and recycling streams of Government premises.

Paper

Detailed suggestions

Paper stationary items

Collecting data on paper stationary items will assist you in the development of an action plan for reducing use of materials. It will also assist with reporting on procurement. It may also be helpful to keep records of the following:

- Whether the paper is white or coloured
- Cost per unit
- Total cost

- Percentage of recycled content
- Density gsm
- Stock code or other indicator
- Type
- Recycled content
- Brand

To report on the number of paper stationery items purchased per staff member and the proportion of these items purchased with recycled content:

- Select the five most significant stationery items (number of items purchased); and
- Track procurement of these including the proportion of product purchased with recycled content.

Kilograms of paper used in external documents

It is also useful to report on the amount of paper used in the production of brochures/documents and the proportion of recycled content paper used. To report on these:

- When having brochures/documents printed, request that the printer provide you with a figure (kg) for the amount of paper used (including waste paper) and identify the proportion of recycled content paper used.
- To report on the kilograms per FTE and total kilograms (annually) for other paper consumed by your entity:
- Identify other paper (such as newsprint and advertising material) leaving your entity by undertaking a detailed assessment of your landfill and recycling streams.

Water

Detailed suggestions

Recommended data to be recorded for Water Accounts include:

- Account number
- Site address
- Contact details of site water manager (if relevant)
- Meter and site address as shown on water invoices
- Contact details of water supplier

It may also be useful to measure:

- Sewage disposal (kL) and cost
- Total water cost, and whether or not this is GST free

GRI public sector supplement environmental performance indicators:

Core Indicators	Additional indicators
Materials	
EN1. Total materials use other than water, by type. Provide definitions used for types of materials. Report in tonnes, kilograms, or volume.	EN17. Initiatives to use renewable energy sources and to increase energy efficiency.
EN2. Percentage of materials used that are wastes (processed or unprocessed) from sources external to the reporting organisation. Refers to both post-consumer recycled material and waste from industrial sources. Report in tonnes, kilograms, or volume.	EN18. Energy consumption footprint (i.e., annualised lifetime energy requirements) of major products. Report in joules.
EN3. Direct energy use segmented by primary source. Report on all energy sources used by the reporting	EN19. Other indirect (upstream/downstream) energy use and implications, such as organisational travel, product lifecycle

organisation for its own operations as well as for the production and delivery of energy products (e.g., electricity or heat) to other organisations. Report in joules.	management, and use of energy-intensive materials.
EN4. Indirect energy use. Report on all energy used to produce and deliver energy products purchased by the reporting organisation (e.g., electricity or heat). Report in joules.	
Water	
EN5. Total water use.	EN20. Water sources and related ecosystems/habitats significantly affected by use of water. Include Ramsar-listed wetlands and the overall contribution to resulting environmental trends.
	EN21. Annual withdrawals of ground and surface water as a percent of annual renewable quantity of water available from the sources. Breakdown by region.
	EN22. Total recycling and reuse of water. Include wastewater and other used water (e.g., cooling water).
Biodiversity	
EN6. Location and size of land owned, leased, or managed in biodiversity-rich habitats.	EN23. Total amount of land owned, leased, or managed for production activities or extractive use.
EN7. Description of the major impacts on biodiversity associated with activities and/or products and services in terrestrial, freshwater, and marine environments.	EN24. Amount of impermeable surface as a percentage of land purchased or leased.
	EN25. Impacts of activities and operations on protected and sensitive areas. (e.g., IUCN protected area categories 1-4, world heritage sites, and biosphere reserves).
	EN26. Changes to natural habitats resulting from activities and operations and percentage of habitat protected or restored. Identify type of habitat affected and its status.
	EN27. Objectives, programmes, and targets for protecting and restoring native ecosystems and species in degraded areas.
	EN28. Number of IUCN Red List species with habitats in areas affected by operations.
	EN29. Business units currently operating or planning operations in or around protected or sensitive areas.
Emissions, effluent and waste	
EN8. Greenhouse gas emissions. (CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆). Report separate subtotals for each gas in tonnes and in tonnes of CO ₂ equivalent for the following: • direct emissions from sources owned or controlled by the reporting entity • indirect emissions from imported electricity heat or steam See WRI-WBCSD Greenhouse Gas Protocol.	EN30. Other relevant indirect greenhouse gas emissions. (CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆). Refers to emissions that are a consequence of the activities of the reporting entity, but occur from sources owned or controlled by another entity Report in tonnes of gas and tonnes of CO ₂ equivalent.
EN9. Use and emissions of ozone-depleting substances. Report each figure separately in accordance with Montreal Protocol Annexes A, B, C, and E in tonnes of CFC-11 equivalents (ozone-depleting potential).	EN31. All production, transport, import, or export of any waste deemed “hazardous” under the terms of the Basel Convention Annex I, II, III, and VIII.
EN10. NO_x, SO_x, and other significant air emissions by type. Include emissions of substances regulated under: • local laws and regulations • Stockholm POPs Convention (Annex A, B, and C)	EN32. Water sources and related ecosystems/habitats significantly affected by discharges of water and runoff. Include Ramsar-listed wetlands and the overall contribution to resulting environmental trends. See

<ul style="list-style-type: none"> – persistent organic pollutants • Rotterdam Convention on Prior Informed Consent (PIC) • Helsinki, Sofia, and Geneva Protocols to the Convention on Long-Range Trans-boundary Air Pollution 	GRI Water Protocol.
<p>EN11. Total amount of waste by type and destination.</p> <p>“Destination” refers to the method by which waste is treated, including composting, reuse, recycling, recovery, incineration, or landfilling. Explain type of classification method and estimation method.</p>	
<p>EN12. Significant discharges to water by type.</p> <p>See GRI Water Protocol.</p>	
<p>EN13. Significant spills of chemicals, oils, and fuels in terms of total number and total volume.</p> <p>Significance is defined in terms of both the size of the spill and impact on the surrounding environment.</p>	
Suppliers	
	<p>EN33. Performance of suppliers relative to environmental components of programmes and procedures described in response to Governance Structure and Management Systems section (Section 3.16).</p>
Products and Services	
<p>EN14. Significant environmental impacts of principal products and services.</p> <p>Describe and quantify where relevant.</p>	
<p>EN15. Percentage of the weight of products sold that is reclaimable at the end of the products’ useful life and percentage that is actually reclaimed.</p> <p>“Reclaimable” refers to either the recycling or reuse of the product materials or components.</p>	
Compliance	
<p>EN16. Incidents of and fines for non-compliance with all applicable international declarations/conventions/treaties, and national, sub-national, regional, and local regulations associated with environmental issues.</p> <p>Explain in terms of countries of operation.</p>	
Transport	
	<p>EN34. Significant environmental impacts of transportation used for logistical purposes.</p>
Overall	
	<p>EN35. Total environmental expenditures by type.</p> <p>Explain definitions used for types of expenditures.</p>

Appendix 3 – Useful conversion factors

Energy
1 year's household (average Victorian) electricity consumption uses: 5.33MWh of electricity Electricity required to run a 100w light globe for a year (24 hours a day): 886.56KWh 1 return flight from Sydney to Melbourne for 1 passenger generates: 256 kg CO ₂ -e 1 year's household (average Victorian) electricity consumption generates: 6900 kg CO ₂ -e 1 'model' tree absorbs: 670 kg CO ₂ -e
Waste
1 large rubbish skip = 10.5 cubic metres of landfill The area of the MCG is 20,000m ²
Paper
1 large rubbish skip = 10.5 cubic metres of landfill 1 tonne paper recycled saves: <ul style="list-style-type: none">13 trees2.5 barrels of oil4,100kWh of electricity31,780 litres of water 1 tonne paper equals: <ul style="list-style-type: none">40,000 pieces of A4 paper13 trees 1 tree = 3,077 pieces of A4 paper
1 olympic size swimming pool = 2.5 Mega Litres
Transport
1 year's use of family sedan sized car generates: 4,400 kg CO ₂ -e 1 return flight from Sydney to Melbourne for 1 passenger generates: 256 kg CO ₂ -e

All conversion factors quoted in this section have been derived from:

Cooperative Research Centre for Greenhouse Accounting, Tree Carbon Calculator:

<http://www.greenhouse.crc.org.au/calculators/treecarboninfo.htm>

Greenfleet

<http://www.greenfleet.com.au>

Appendix 4 – Comparison of FRD 24 and GRI indicators

FRD 24	GRI - core	GRI additional
Materials		
Total energy usage segmented by primary source (MJ)	EN1. Total materials use other than water, by type. Provide definitions used for types of materials. Report in tonnes, kilograms, or volume.	EN17. Initiatives to use renewable energy sources and to increase energy efficiency.
Greenhouse gas emissions associated with energy use, segmented by primary source and offsets (t CO2-e)	EN2. Percentage of materials used that are wastes (processed or unprocessed) from sources external to the reporting organisation. Refers to both post-consumer recycled material and waste from industrial sources. Report in tonnes, kilograms, or volume.	EN18. Energy consumption footprint (i.e., annualised lifetime energy requirements) of major products.
Percentage of electricity purchased as Green Power	EN3. Direct energy use segmented by primary source. Report on all energy sources used by the reporting organisation for its own operations as well as for the production and delivery of energy products (e.g., electricity or heat) to other organisations. Report in joules.	EN19. Other indirect (upstream/downstream) energy use and implications, such as organisational travel, product lifecycle management, and use of energy-intensive materials.
Units of energy used per FTE (MJ/FTE)	EN4. Indirect energy use. Report on all energy used to produce and deliver energy products purchased by the reporting organisation (e.g., electricity or heat). Report in joules.	
Units of energy used per unit of office area (megajoules per m2)		
Total units of copy paper used (reams)		
Units of copy paper used per FTE (reams per FTE)		
Percentage 75-100% recycled content copy paper purchased (%)		
Percentage 50-75% recycled content copy paper purchased (%)		
Percentage 0-50% recycled content copy paper purchased (%)		
Total energy consumption by vehicles segmented by vehicle type (MJ)		
Total vehicle travel associated with entity operations segmented by vehicle type (km)		
Total Greenhouse gas emissions from vehicle fleet (tonnes CO2-e) segmented by vehicle type		
Greenhouse gas emissions from vehicle fleet per 1,000km travelled		
Total distance travelled by aeroplane (km)		
Percentage of employees regularly (>75% of work attendance days) using public transport, cycling, walking, or car pooling to and from work or working from home, by locality type.		
Water		

	EN5. Total water use.	EN20. Water sources and related ecosystems/habitats significantly affected by use of water. Include Ramsar-listed wetlands and the overall contribution to resulting environmental trends.
		EN21. Annual withdrawals of ground and surface water as a percent of annual renewable quantity of water available from the sources. Breakdown by region.
Total units of metered water consumed by usage types (KL)		EN22. Total recycling and reuse of water. Include wastewater and other used water (e.g., cooling water).
Units of metered water consumed in offices per FTE (KL/FTE)		
<i>Units of metered water consumed in offices per unit of office area (KL/m²)</i>		
Biodiversity		
	EN6. Location and size of land owned, leased, or managed in biodiversity-rich habitats.	
	EN7. Description of the major impacts on biodiversity associated with activities and/or products and services in terrestrial, freshwater, and marine environments.	EN24. Amount of impermeable surface as a percentage of land purchased or leased.
		EN25. Impacts of activities and operations on protected and sensitive areas. (e.g., IUCN protected area categories 1-4, world heritage sites, and biosphere reserves).
		EN26. Changes to natural habitats resulting from activities and operations and percentage of habitat protected or restored. Identify type of habitat affected and its status.
		EN27. Objectives, programmes, and targets for protecting and restoring native ecosystems and species in degraded areas.
		EN28. Number of IUCN Red List species with habitats in areas affected by operations.
		EN29. Business units currently operating or planning operations in or around protected or sensitive areas.
Emissions, effluent and waste		

Total Greenhouse Gas emissions associated with energy use (t CO2-e)	EN8. Greenhouse gas emissions. (CO2, CH4, N2O, HFCs, PFCs, SF6). Report separate subtotals for each gas in tonnes and in tonnes of CO2 equivalent for the following: <ul style="list-style-type: none"> • direct emissions from sources owned or controlled by the reporting entity • indirect emissions from imported electricity heat or steam See WRI-WBCSD Greenhouse Gas Protocol.	EN30. Other relevant indirect greenhouse gas emissions. (CO2, CH4, N2O, HFCs, PFCs, SF6). Refers to emissions that are a consequence of the activities of the reporting entity, but occur from sources owned or controlled by another entity Report in tonnes of gas and tonnes of CO2 equivalent.
Total Greenhouse Gas emissions associated with vehicle fleet (t CO2-e)	EN9. Use and emissions of ozone-depleting substances. Report each figure separately in accordance with Montreal Protocol Annexes A, B, C, and E in tonnes of CFC-11 equivalents (ozone-depleting potential).	EN31. All production, transport, import, or export of any waste deemed “hazardous” under the terms of the Basel Convention Annex I, II, III, and VIII.
Total Greenhouse Gas emissions associated with air travel (t CO2-e)	EN10. NOx, SOx, and other significant air emissions by type. Include emissions of substances regulated under: <ul style="list-style-type: none"> • local laws and regulations • Stockholm POPs Convention (Annex A, B, and C) – persistent organic pollutants • Rotterdam Convention on Prior Informed Consent (PIC) • Helsinki, Sofia, and Geneva Protocols to the Convention on Long-Range Trans-boundary Air Pollution 	EN32. Water sources and related ecosystems/habitats significantly affected by discharges of water and runoff. Include Ramsar-listed wetlands and the overall contribution to resulting environmental trends. See GRI Water Protocol.
Total Greenhouse Gas emissions associated with waste production (t CO2-e)	EN11. Total amount of waste by type and destination. “Destination” refers to the method by which waste is treated, including composting, reuse, recycling, recovery, incineration, or landfilling. Explain type of classification method and estimation method.	
Greenhouse gas emissions offsets purchased (t CO2-e)	EN12. Significant discharges to water by type. See GRI Water Protocol.	
Total units of waste disposed of by destination (kg/yr)	EN13. Significant spills of chemicals, oils, and fuels in terms of total number and total volume. Significance is defined in terms of both the size of the spill and impact on the surrounding environment.	
Units of Office waste disposed of per FTE by destinations (kg/FTE)		
Recycling rate (% of total waste)		
Greenhouse gas emissions associated with waste disposal (t CO2-e)		
Suppliers		
		EN33. Performance of suppliers relative to environmental components of programmes and procedures described in response to Governance Structure and Management Systems section (Section 3.16).
Products and Services		

	<p>EN14. Significant environmental impacts of principal products and services. Describe and quantify where relevant.</p>	
	<p>EN15. Percentage of the weight of products sold that is reclaimable at the end of the products' useful life and percentage that is actually reclaimed. "Reclaimable" refers to either the recycling or reuse of the product materials or components.</p>	
Compliance		
	<p>EN16. Incidents of and fines for non-compliance with all applicable international declarations/conventions/treaties, and national, sub-national, regional, and local regulations associated with environmental issues. Explain in terms of countries of operation.</p>	
Transport		
		<p>EN34. Significant environmental impacts of transportation used for logistical purposes.</p>
Overall		
		<p>EN35. Total environmental expenditures by type. Explain definitions used for types of expenditures.</p>