How to prepare an ESG Report?

Appendix 2: Reporting Guidance on Environmental KPIs

Introduction

This guidance contains data collection methodologies, and practical guidance on how to calculate the data and report the information called for under each of the KPIs in "Subject Area A. Environmental" of the ESG Guide. However, this guidance is for general reference only. Depending on the issuer's industry and the geographical location of its operations, it may refer to other resources for the calculation of the relevant data.

<table>
<tr><th colspan="2">KPIs</th><th>What to Report / How to Report</th></tr>
<tr><td colspan="3">Aspect A1: Emissions</td></tr>
<tr><td>A1.1</td><td>The types of emissions and respective emissions data.

Note: Air emissions include NOx, SOx, and other pollutants regulated under national laws and regulations.</td><td>This KPI is concerned with air pollution in the locality of the issuer's operations.

In Hong Kong and the Pearl River Delta, key air pollutants are: nitrogen oxides ("NO_X"), sulphur oxides ("SO_X") and respiratory suspended particles ("RSP", also known as Particulate Matter ("PM")). These pollutants tend to be generated by motor vehicles, marine vessels, power plants, and industrial and commercial processes locally. NO_X and SO_X emissions are also generated from cement, construction and textiles industries.

<u>What to report</u>

✧ Emissions data from gaseous fuel consumption; and
✧ Emissions data from vehicles.

<u>How to report</u>

<u>Emissions Data from Gaseous Fuel Consumption</u>
(1) Data collection:
Units of fuel consumed (1 unit of gas consumed is equal to 48 megajoules ("MJ") for Towngas or 46 MJ for liquefied petroleum gas ("LPG")).

(2) Calculation:

For Towngas:
Formulas: NO_X emissions (kg) = units of fuel consumed x 48MJ x Emission Factor
SO_X emissions (kg) = units of fuel consumed x 48MJ x Emission Factor

For LPG:
Formulas: NOx emissions (kg) = units of fuel consumed x 46MJ x Emission Factor
SOx emissions (kg) = units of fuel consumed x 46MJ x Emission Factor

NO_X Emission Factors by fuel type
<table>
<tr><th>Fuel type</th><th>Emission Factor</th><th>Unit of Emission Factor</th></tr>
<tr><td>Towngas</td><td>4.02</td><td>kg / million MJ of gas</td></tr>
<tr><td>LPG</td><td>4.02</td><td>kg / million MJ of gas</td></tr>
</table>
SOx Emission Factors by fuel type
<table>
<tr><th>Fuel type</th><th>Emission Factor</th><th>Unit of Emission Factor</th></tr>
<tr><td>Towngas</td><td>0.02</td><td>kg / million MJ of gas</td></tr>
<tr><td>LPG</td><td>0.02</td><td>kg / million MJ of gas</td></tr>
</table>
Gaseous fuel consumption is not a significant source of PM emissions.

Note on Emission Factors: The Emission Factors above are based on "The Clean Air Charter - A Business Guidebook" published by the Hong Kong General Chamber of Commerce and the Hong Kong Business Coalition on the Environment (http://www.cleanair.hk/eng/guidebook/guidebook_eng_r.pdf) and data from the Towngas Sustainability Report 2014 (http://www.towngas.com/sustainabilityRpt/2014/index-en.html).</td></tr>
</table>

KPIs	What to Report / How to Report

Emissions Data from Vehicles

(1) Data collection:

- Kilometres travelled by vehicles; and
- Units of fuel consumed by vehicles (in litres).

(2) Calculation:

For NO_X:

Formula: **NO_X emissions (g) = kilometres travelled x Emission Factor**

NO_X Emission Factor by vehicle type

Vehicle type	Emission Factor	Unit of Emission Factor
Private cars	0.0747	g / km
Light goods vehicles (<=2.5tonnes)	0.885	g / km
Light goods vehicles (2.5-3.5tonnes)	1.1546	g / km
Light goods vehicles (3.5-5.5tonnes)	2.4216	g / km
Medium & Heavy goods vehicles (5.5-15tonnes)	3.1332	g / km
Medium & Heavy goods vehicles (>=15tonnes)	5.6923	g / km

For SO_X:

Formula: **SO_X emissions (g) = units of fuel consumed x Emission Factor**

SO_X Emission Factor by fuel type

Fuel type	Emission Factor	Unit of Emission Factor
Diesel	0.0161	g / L
Petrol	0.0147	g / L

For PM:

Formula: **PM emissions (g) = kilometres travelled x Emission Factor**

PM Emission Factor by vehicle type

Vehicle type	Emission Factor	Unit of Emission Factor
Private cars	0.0055	g / km
Light goods vehicles (<=2.5tonnes)	0.0848	g / km
Light goods vehicles (2.5-3.5tonnes)	0.1075	g / km
Light goods vehicles (3.5-5.5tonnes)	0.1123	g / km
Medium & Heavy goods vehicles (5.5-15tonnes)	0.3106	g / km
Medium & Heavy goods vehicles (>=15tonnes)	0.4093	g / km

Notes on Emission Factors:

The Emission Factors above are:

- based on the Hong Kong Environmental Protection Department's ("EPD") EMFAC-HK Vehicle Emission Calculation model (http://www.epd.gov.hk/epd/english/environmentinhk/air/guide_ref/emfac-hk.html) and the United States Environmental Protection Agency's Vehicle Emission Modeling Software - MOBILE6.1 (http://www3.epa.gov/otaq/m6.htm) (subject to future revisions or updates); and
- based on assumptions of 80% relative humidity, a temperature of 25 degrees Celsius, an average speed of 30kmh, and include running exhaust emissions only.

<table>
<tr><th colspan="2">KPIs</th><th>What to Report / How to Report</th></tr>
<tr><td>A1.2</td><td>Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).

Note: Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.</td><td>
This KPI is concerned with the global warming effect of greenhouse gas (“GHG”) emissions.

The issuer needs to identify those operational activities which will result in GHG emissions or removals and classify these activities into direct and indirect emissions.

The majority of GHGs are emitted from fossil fuel consumption and it is likely that most issuers need to consume fossil fuel directly / indirectly to a certain extent. This KPI will be most relevant to issuers with high energy use that are involved in industrial processes such as the manufacture of cement, glass, chemicals, etc., or are involved in waste management and forestry.

Emissions (direct and indirect) and removals can be broadly classified into three separate scopes as set out below:

✧ Scope 1 – Direct emissions from operations that are owned or controlled by the company;
✧ Scope 2 – “Energy indirect” emissions resulting from the generation of purchased or acquired electricity, heating, cooling and steam consumed within the company; and
✧ Scope 3 – All other indirect emissions that occur outside the company, including both upstream and downstream emissions.

Note: The Frequently Asked Questions in relation to Appendix 27 to the Main Board Listing Rules and Appendix 20 to the GEM Listing Rules explain the scopes and encourage issuers to report in accordance with the scope classifications.

<u>What to report</u>

✧ Total GHG emissions;
✧ Scope 1 – Direct emissions or removals from sources. These principally result from the following activities:
- Combustion of fuels in stationary sources (excluding electrical equipment) to generate electricity, heat, or steam. For example: electricity generators, boilers, gas cooking stoves, etc.;
- Combustion of fuels in mobile sources (e.g. motor vehicles and ships) controlled by the reporting entity;
- Intentional or unintentional GHG releases from equipment and systems. For example: Hydrofluorocarbons (“HFC”) and perfluorocarbons (“PFC”) emissions during the use of refrigeration and air conditioning equipment and other fugitive emissions; and
- Assimilation of carbon dioxide (“CO_2”) into biomass through e.g. planting of trees;
✧ Scope 2 – Energy indirect emissions. The issuer should quantify and report GHG emissions from the generation of purchased electricity and / or gas (for issuers with operations in Hong Kong) that is consumed by its controlled equipment or its operations within the physical building boundary. The two main sources of Scope 2 emissions are:
- Electricity purchased from power companies; and
- Gas purchased from Towngas (for companies with operations in Hong Kong); and
✧ Scope 3 – Other indirect emissions. The issuer may choose, with quantification methodologies and necessary input information used being well-defined and easily available to the issuer, to quantify and report other indirect GHG emissions that are relevant to their activities and goals. Scope 3 GHG emissions include:
- Methane gas generation at landfill in Hong Kong due to disposal of paper waste;
- GHG emissions due to electricity used for fresh water processing by the Water Services Department;
- GHG emissions due to electricity used for sewage processing by the Drainage Services Department;
- Business travel by employees;
- Emissions from outsourced activities or other contractual arrangements;
- Use of sold products and services; and
- Waste disposal other than those covered in the above list.

<u>How to report</u>

<u>Total GHG emissions</u>
Total GHG emissions = CO_2 emissions + CO_2 equivalent emissions of other GHGs emitted (e.g. methane (“CH_4”), nitrous oxide (“N_2O”))
<u>Scope 1 – Direct emissions or removals from sources</u>
<table>
<tr><th>Main categories of Scope 1 emissions</th><th>Data collection</th></tr>
<tr><td>A. GHG emissions from stationary combustion sources</td><td>Units of fuel consumed</td></tr>
<tr><td>B. GHG emissions from mobile combustion sources</td><td>Units of fuel consumed</td></tr>
<tr><td>C. HFC and PFC emissions</td><td>Refrigerant inventory at beginning of reporting period, refrigerant added to inventory during reporting period, refrigerant disposed of through environmentally responsible means, and refrigerant inventory at end of reporting period</td></tr>
</table>
</td></tr>
</table>

KPIs	What to Report / How to Report

D. GHG removals from newly planted trees	Number of additional trees planted since the relevant building was constructed

Calculation:

A. GHG emissions from stationary combustion sources

For CO_2:

Formula: **CO_2 equivalent emissions (E) = A × EF**

E *= Emissions, in terms of CO_2 equivalent, summed over all types of fuel used (kg)*

A *= Amount of fuel consumed (in terms of volume (e.g. litre) or mass (e.g. kg) for particular fuel)*

EF *= Emission Factor of CO_2 (see table below)*

Emission Factor by fuel type (for stationary combustion sources)

Fuel type	Emission Factor	Unit of Emission Factor
Diesel oil	2.614	kg / L
LPG	3.017	kg / kg
Kerosene	2.429	kg / L
Charcoal	2.97	kg / kg
Towngas	2.549	kg / Unit

For CH_4 / N_2O:

Formula: **CO_2 equivalent emissions (E) = A × EF × GWP**

E *= Emissions, in terms of CO_2 equivalent, summed over all types of fuel used (kg)*

A *= Amount of fuel consumed (in terms of volume (e.g. litre) or mass (e.g. kg) for particular fuel)*

EF *= Emission Factor of CH_4 / N_2O (see tables below)*

GWP *= Global Warming Potential*[1]

- *CH_4 has a GWP of 21*
- *N_2O has a GWP of 310*

CH_4 Emission Factor by fuel type (for stationary combustion sources)

Fuel type	Emission Factor	Unit of Emission Factor
Diesel oil	0.0000239	kg / L
LPG	0.000002	kg / kg
Kerosene	0.0000241	kg / L
Charcoal	0.005529	kg / kg
Towngas	0.0000446	kg / Unit

N_2O Emission Factor by fuel type (for stationary combustion sources)

Fuel type	Emission Factor	Unit of Emission Factor
Diesel oil	0.0000074	kg / L
LPG	0	kg / kg
Kerosene	0.0000076	kg / L
Charcoal	0.0000276	kg / kg
Towngas	0.0000099	kg / Unit

B. GHG emissions from mobile combustion sources (road, air and water transport)

For CO_2:

Formula: **CO_2 equivalent emissions (E) = A × EF**

E *= Emissions, in terms of CO_2 equivalent, summed over all types of fuel used, all transport modes and vehicle categories(kg)*

A *= Amount of fuel consumed (in terms of volume (e.g. litre) for particular fuel, transport mode and vehicle category)*

EF *= Emission Factor of CO_2 (see table below)*

Emission Factor (For mobile combustion sources)

Fuel type	Emission Factor	Unit of Emission Factor
Diesel oil	2.614	kg / L
Unleaded petrol	2.36	kg / L
LPG	1.679	kg / L
	3.017	kg / kg

[1] Reflects relative strength of GHGs which indicates how much that GHG contributes to global warming as compared to CO_2.

KPIs	What to Report / How to Report

Gas Oil (for ships only)	2.645	kg / L
Kerosene (including jet kerosene)	2.429	kg / L

For CH_4 / N_2O:

Formula: **CO_2 equivalent emissions (E) = A × EF × GWP**

***E** = Emissions, in terms of CO_2 equivalent, summed over all types of fuel used, all transport modes and vehicle categories(kg)*

***A** = Amount of fuel consumed (in terms of volume (e.g. litre) for particular fuel, transport mode and vehicle category)*

***EF** = Emission Factor of CH_4/N_2O (see tables below)*

***GWP** = Global Warming Potential (same as above: CH_4 = 21; N_2O = 310)*

CH_4 Emission Factor (For mobile combustion sources)

Vehicle type	Fuel type	Emission Factor	Unit of Emission Factor
Motorcycle	Unleaded petrol	0.001422	kg / L
Passenger car	Unleaded petrol	0.000253	kg / L
	Diesel oil	0.000072	kg / L
Private van	Unleaded petrol	0.000203	kg / L
	Diesel oil	0.000072	kg / L
	LPG	0.000248	kg / L
Public light bus	Diesel oil	0.000072	kg / L
	LPG	0.000248	kg / L
Light goods vehicle	Unleaded petrol	0.000203	kg / L
	Diesel oil	0.000072	kg / L
Medium goods vehicle	Diesel oil	0.000145	kg / L
Heavy goods vehicle	Diesel oil	0.000145	kg / L
Ship	Gas oil	0.000146	kg / L
Aviation	Jet kerosene	0.000069	kg / L
Other mobile machinery	Diesel oil	0.0000239	kg / L
	LPG	0.0000036	kg / L
		0.000006	kg / kg
	Kerosene	0.0000241	kg / L

N_2O Emission Factor (For mobile combustion sources)

Vehicle type	Fuel type	Emission Factor	Unit of Emission Factor
Motorcycle	Unleaded petrol	0.000046	kg / L
Passenger car	Unleaded petrol	0.001105	kg / L
	Diesel oil	0.00011	kg / L
Private van	Unleaded petrol	0.00114	kg / L
	Diesel oil	0.000506	kg / L
	LPG	0	kg / L
Public light bus	Diesel oil	0.000506	kg / L
	LPG	0	kg / L
Light goods vehicle	Unleaded petrol	0.001105	kg / L
	Diesel oil	0.000506	kg / L
Medium goods vehicle	Diesel oil	0.000072	kg / L
Heavy goods vehicle	Diesel oil	0.000072	kg / L
Ship	Gas oil	0.001095	kg / L
Aviation	Jet kerosene	0	kg / L
Other mobile machinery	Diesel oil	0.000007	kg / L
	LPG	0	kg / L or kg / kg
	Kerosene	0.0000076	kg / L

KPIs	What to Report / How to Report

C. HFC and PFC emissions for refrigeration / air-conditioning (both commonly known as refrigerants)

Formula: **CO_2 equivalent emissions (E) = (C_s + C_i – C_d – C_e) × GWP**

E *= Emissions, in CO_2 equivalent, from operation of equipment due to release of refrigerant (kg)*

C_s *= Refrigerant inventory at beginning of reporting period (in storage) (kg)*

C_i *= Refrigerant added to inventory during reporting period (kg)*

C_d *= Refrigerant disposed of through environmentally responsibly means/recycled during reporting period (kg)*

C_e *= Refrigerant inventory at end of reporting period (in storage) (kg)*

GWP *= Global Warming Potential (different GWP for different refrigerants – see table below)*

GWP of Common Refrigeration / Air-Conditioning Refrigerants

Refrigerant/Blend	GWP
HCFC-21	210
HCFC-22	1,810
HCFC-123	77
HCFC-124	609
HCFC-141b	725
HCFC-142b	2,310
HCFC-225ca	122
HCFC-225cb	595
HFC-23	14,800
HFC-32	675
HFC-41	97
HFC-43-10mee	1,640
HFC-125	3,500
HFC-134	1,100
HFC-134a	1,430
HFC-143	330
HFC-143a	4,470
HFC-152	43
HFC-152a	124
HFC-161	12
HFC-227ea	3,220
HFC-236cb	1,300
HFC-236ea	1,200
HFC-236fa	9,810
HFC-245ca	640
HFC-245fa	1,030
HFC-365mfc	794
PFC-14	7,390
PFC-116	12,200
PFC-218	8,830
PFC-318	10,300
PFC-3-1-10	8,860
PFC-4-1-12	9,160
PFC-5-1-14	9,300
R-404A	3,260
R-407A	1,770
R-407B	2,285
R-407C	1,526
R-407D	1,428
R-407E	1,363
R-410A	1,725
R-410B	1,833
R-507	3,300
R-507A	3,300
R-508A	10,175
R-508B	10,350

D. GHG removals from newly planted trees

Formula: **CO_2 removal (R) = T x RF**

R *= CO_2 removed by trees in one year (kg)*

T *= Net number of additional trees planted since the relevant building was constructed*

RF *= Removal Factor of CO_2 per tree planted*

Additional trees planted	Removal Factor	Unit of Removal Factor
Tree	23	kg / tree

KPIs	What to Report / How to Report

Note on Removal Factor: According to the EPD's "Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings (Commercial, Residential or Institutional Purposes) in Hong Kong", this Removal Factor is applicable to trees commonly found in Hong Kong that are able to reach at least five metres in height.

<u>Scope 2 – Energy indirect emissions</u> (main sources are purchased electricity / gas)

(1) Data collection

- Units of electricity consumed; and
- Units of fuel consumed.

(2) Calculation

Formula: **CO_2 equivalent emissions (E) = Q × EF**

E *= Emissions in CO_2 equivalent (kg)*

Q *= Quantity of purchased electricity / gas*

EF *= Emission Factor*

Emission Factors

Electricity / fuel type	Emission Factor	Unit of Emission Factor
Electricity supplied by Hong Kong Electric	0.79	kg / Unit (kWh)
Electricity supplied by China Light & Power ("CLP")	0.63	kg / Unit (kWh)
Gas supplied by Towngas	0.6	kg / Unit

Note on Emission Factors: GHG emissions associated with the electricity purchased in Hong Kong are provided by the relevant provider of electricity (the specific Emission Factors provided in the table above are for 2014). These specific Emission Factors are available from the power companies' (CLP and Hong Kong Electric) respective sustainability reports. For gas purchased from Towngas, the Emission Factor is available in the Towngas sustainability report. Issuers with operations in Hong Kong should refer to the latest sustainability reports of the relevant power company and Towngas for the most updated Emission Factors. Issuers with operations outside Hong Kong would have to apply the relevant Emission Factors in those countries / territories.

<u>Scope 3 – Other indirect emissions</u>

Examples of activities from which indirect GHG emissions arise	Data collection
A. Paper waste disposed at landfills	Paper inventory at beginning of reporting period, paper added to inventory during reporting period, paper collected for recycling purposes, and paper inventory at end of reporting period
B. Electricity used for processing fresh water and sewage by government departments	Amount of water and fresh water consumed (as listed on water supply bill)
C. Business air travel by employees	Details of air travel (e.g. airports of origin and destination, cabin class)

Calculation:

A. Paper waste disposed at landfills

Formula: **CO_2 equivalent emissions (E) = (P_s + P_i – P_r – P_e) × EF**

E *= Emissions in CO_2 equivalent (kg)*

P_s *= Paper inventory at beginning of reporting period (in storage) (kg)*

P_i *= Paper added to inventory during reporting period (kg)*

P_r *= Paper collected for recycling purposes (kg)*

P_e *= Paper inventory at end of reporting period (in storage) (kg)*

EF *= 4.8 kg CO_2 equivalent/kg (this takes into account the carbon content of the paper waste and the GWP of CH_4)*

B. Electricity used for processing fresh water and sewage by government departments

For fresh water processing:

Formula: **CO_2 equivalent emissions (E) = A × EF**

E *= Emissions in CO_2 equivalent (kg)*

A *= Amount of water consumed (as listed on water supply bill)*

EF *= Unit electricity consumption of fresh water (from Water Supplies Department) × Territory-wide default value (i.e. 0.7kg / kWh) of purchased electricity*

<table>
<tr><th colspan="2">KPIs</th><th>What to Report / How to Report</th></tr>
<tr><td></td><td></td><td>
For sewage processing:
Formula: CO_2 equivalent emissions (E) = A × EF
E = Emissions in CO_2 equivalent (kg)
A = Amount of water consumed (as listed on water supply bill)
EF = Default Emission Factor (see table below)

The Default Emission Factor is determined according to the purpose of water used as follows:
<table>
<tr><th>Source description</th><th>Default Emission Factor (kg / m^3)</th></tr>
<tr><td>Restaurants and catering services</td><td>(0.7 × Emission Factor) assuming 70% of the fresh water consumed will enter the sewage system.</td></tr>
<tr><td>Other commercial, residential and institutional purposes</td><td>(1.0 × Emission Factor) assuming 100% of the fresh water consumed will enter the sewage system.</td></tr>
</table>
Note on Emission Factors: “Emission Factor” in the above table = Unit electricity consumption of processing sewage (obtained from Drainage Services Department) × Territory-wide default value (i.e. 0.7kg / kWh) of purchased electricity. These Emission Factors apply to issuers with Hong Kong operations. Issuers with operations outside Hong Kong would have to apply the relevant Emission Factors in those countries / territories and from the relevant government departments.

C. Business air travel by employees
The International Civil Aviation Organization (“ICAO”), a United Nations agency, has developed a methodology to calculate the CO_2 emissions from air travel and provides a carbon emissions calculator on its website (“ICAO Carbon Emissions Calculator”) (http://www.icao.int/environmental-protection/CarbonOffset/Pages/default.aspx). Issuers need only input the airports of origin and destination of their employees’ air travel, and the cabin class in which they travelled, into the ICAO Carbon Emissions Calculator (see http://www.icao.int/environmental-protection/CarbonOffset/Documents/Methodology%20ICAO%20Carbon%20Calculator_v7-2014.pdf for more information on the ICAO methodology). Individual airlines generally provide carbon emissions calculators on their own websites as well.

Note: The guidance for reporting on GHG emissions set out above is based on the EPD’s “Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings (Commercial, Residential or Institutional Purposes) in Hong Kong” (http://www.epd.gov.hk/epd/english/climate_change/files/Guidelines_English_2010.pdf); and the “Carbon Audit Toolkit for Small and Medium Enterprises in Hong Kong” published by the University of Hong Kong and City University of Hong Kong (http://www6.cityu.edu.hk/aerc/sme/guideline.asp). Issuers may also find it helpful to refer to the Greenhouse Gas Protocol (www.ghgprotocol.org/) and various carbon calculators set out on the EPD website (http://www.epd.gov.hk/epd/english/climate_change/indiv_actions_carboncalculator.html).
</td></tr>
<tr><td>A1.3</td><td>Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).

Note: Hazardous wastes are those defined by national regulations.</td><td>
Hong Kong has adopted the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their disposal, 1989 (see: http://www.epd.gov.hk/epd/english/international_conventions/hazardous_wastes/hazardous_wastes_main.html). The Convention defines the wastes that should be classified as “hazardous wastes” for the purposes of the Convention. They include clinical and chemical wastes, as well as inks, dyes, paints and lacquers products wastes, etc.

Hong Kong has legislation regulating:
• Chemical wastes: Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C of the Laws of Hong Kong);
• Clinical wastes: The Clinical Waste Control Scheme, comprising Section 2 and Schedule 8 of the Waste Disposal Ordinance (Cap.354 of the Laws of Hong Kong), the Waste Disposal (Clinical Waste) (General) Regulation (Cap. 354O of the Laws of Hong Kong), and various pieces of additional legislation; and
• Hazardous chemicals: The Hazardous Chemicals Control Ordinance (Cap. 595 of the Laws of Hong Kong).

Hazardous wastes are usually collected by specialised contractors who can provide information on the quantity removed.

What to report

✧ Total hazardous waste produced and the intensity (find out the definition(s) of “hazardous waste” in the relevant national regulations).

How to report

(1) Data collection
Annual hazardous waste produced (data can often be obtained from facilities managers and specialised hazardous waste contractors).
</td></tr>
</table>

KPIs		What to Report / How to Report
		(2) Calculation **Hazardous waste intensity = HW / U** ***HW*** *= Annual hazardous waste produced (in tonnes)* ***U*** *= E.g. units of production volume, number of facilities*
A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Wastes can be divided into construction / demolition wastes, commercial wastes, residential / domestic wastes, grease trap wastes and garden wastes. Issuers should report metric tonnes, split by management method – landfill, recycled, incineration. **What to report** ✧ Total non-hazardous waste produced and the intensity. **How to report** **(1) Data collection** Annual non-hazardous waste produced (data can often be obtained from facilities managers and / or waste contractors). **Note:** If no weight data are available, issuers may estimate the weight using available information on waste density and volume collected, mass balances, or similar information (Source: Global Reporting Initiative G4 Sustainability Reporting Guidelines - Implementation Manual (https://www.globalreporting.org/standards/g4/Pages/default.aspx)). **(2) Calculation** **Non-hazardous waste intensity = NHW / U** ***NHW*** *= Annual non-hazardous waste produced (in tonnes)* ***U*** *= E.g. units of production volume, number of facilities*
A1.5	Description of measures to mitigate emissions and results achieved.	For this KPI, issuers should set targets and / or policies for the reduction of emissions, disclose measures employed to mitigate emissions and the results. **What to report** ✧ Targets and / or policies for the reduction of emissions; ✧ Measures employed to mitigate emissions; and ✧ Results achieved. **How to report** Set out the targets and / or policies, with the measures that the issuer has adopted in the reporting year specific to emissions, such as installing a NO_X reduction system. State the results these policies / measures have brought to the issuer (with reference to the targets set), for example the decrease by percentage in a particular type of emissions.
A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	For this KPI, issuers should set targets and / or policies for the reduction of wastes, disclose measures employed to reduce wastes and the results. **What to report** ✧ How hazardous and non-hazardous wastes are handled; ✧ Targets and / or policies for the reduction of hazardous and non-hazardous wastes; ✧ Measures employed to reduce hazardous and non-hazardous wastes; and ✧ Results achieved.

KPIs		What to Report / How to Report
		How to report Describe how hazardous and non-hazardous wastes are handled, and set out the targets and / or policies and measures employed for the reduction of these wastes (e.g. implementing recycling and / or incineration processes). State the results these policies / measures have brought to the issuer (with reference to the targets set), for example the decrease by percentage in a particular type of waste.
Aspect A2: Use of Resources		
A2.1	Direct and / or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Intensity can be calculated by reference to the units of production volume, the area and number of employees of the operation (e.g. for an office, energy consumption per square meter, per employee) and / or the business unit (per hotel room per night), etc. **What to report** ✧ Direct and / or indirect energy consumption by type and intensity. **How to report** **(1) Data collection** Total annual energy consumption (data can be collected by type from bills, meter readings and expense claims). **(2) Calculation** Total energy consumption **=** non-renewable fuel consumed + renewable fuel consumed + electricity, heating, cooling and steam purchased for consumption + self-generated electricity, heating, cooling and steam – electricity, heating, cooling and steam sold **Energy consumption intensity= EG / U** ***EG*** *= Total energy consumed (kWh)* ***U*** *= E.g. units of production volume, number of facilities*
A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Some issuers may have difficulties obtaining data for water usage. For instance, issuers may operate in leased office premises for which both the water supply and discharge are solely controlled by the building management. In such cases, the provision of water withdrawal and discharge data or sub-meter for individual occupants may not be feasible. **What to report** ✧ Water consumption in total and the intensity. **How to report** **(1) Data collection** Annual water consumption (data can be collected by taking measurements at the source of water abstraction (direct), or bills or meter readings (indirect)). **(2) Calculation** **Water consumption intensity = W / U** ***W*** *= Annual water consumption (as listed on water supply bill or, if data collected directly, cubic metres)* ***U*** *= E.g. units of production volume, number of facilities*
A2.3	Description of energy use efficiency initiatives and results achieved.	A company's ability to use energy / water efficiently can be revealed by its reductions in energy/water consumption. Energy / water consumption has a direct effect on the environmental footprint of the company, its operational costs, and exposure to certain risks (e.g. fluctuations in energy supply and prices; reliance on sources of water that are considered sensitive due to their relative size or function; or status as a rare, threatened, or endangered system; or to their support of a particular endangered species of plant or animal). Efficiency initiatives might include: • Process redesign; • Conversion and retrofitting of equipment;
A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and	

<table>
<tr><th colspan="2">KPIs</th><th>What to Report / How to Report</th></tr>
<tr><td></td><td>results achieved.</td><td>• Changes in employee behavior; and
• Operational changes.

<u>What to report</u>

✧ Any issues in sourcing water that is fit for purpose;
✧ Policies and / or measures adopted specific to energy / water use; and
✧ Impacts these policies and / or measures have had on the issuer.

<u>How to report</u>

Describe any issues the issuer has or may have in sourcing water that is fit for purpose.

Set out the policies / measures that the issuer has adopted in the reporting year specific to managing energy / water use, such as maintaining an average indoor temperature of 25 degrees Celsius.

State the impacts these policies / measures have brought to the issuer, for example the decrease by percentage in electricity / water consumption.</td></tr>
<tr><td>A2.5</td><td>Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.</td><td>The disposal of products and packaging materials at the end of a use phase is a steadily growing environmental challenge. This KPI calls for issuers to track their use of packaging materials with a view to prompting them to reduce, reuse and / or recycle their packaging materials.

<u>What to report</u>

✧ Total packaging material used (by type); and
✧ Intensity of packaging material use (if applicable).

<u>How to report</u>

(1) Data collection
Total packaging material used by type (e.g. plastic, paper, metal) in total metric tonnes (data can be collected through procurement records).

(2) Calculation

Intensity of packaging material use = PA / U
PA = Total packaging material used (in tonnes)
U = Units produced</td></tr>
<tr><td colspan="3">Aspect A3: The Environment and Natural Resources</td></tr>
<tr><td>A3.1</td><td>Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.</td><td>This KPI prompts companies to consider how their performance in respect of emissions, waste production and disposal, and use of resources impacts the environment and how to minimise these impacts and communicate this information to stakeholders. It is largely complementary to the other KPIs in this Subject Area, as it calls for a narrative statement to give meaning to the quantitative disclosures under the other KPIs.

<u>What to report</u>

✧ Significant impacts of activities on the environment and natural resources; and
✧ Policies and / or measures adopted specific to the environment and natural resources.

<u>How to report</u>

Describe the significant impacts that the issuer’s activities have or may have on the environment and natural resources.

Set out the policies and / or measures that the issuer has adopted in the reporting year specific to managing its significant impacts, such as waste recycling schemes at the workplace.</td></tr>
</table>