

*Guidance Workbook on sustainability reporting*  
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## **GUIDANCE DOCUMENT AND WORKBOOK FOR SUSTAINABILITY REPORTING**

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**The views expressed are not necessarily those of the European Environment Agency and the Global Reporting Initiative**

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## **BACKGROUND**

In light of the recent debacles surrounding corporate accountability, companies and organisations are under increasing pressure from customers, governments, and NGOs to demonstrate their efforts to manage the impacts of their operations, products and services.

One way to quell anxieties of clients and stakeholders is for companies and organisations to publicly disclose – in a credible manner – the social, environmental and economic dimensions related to their activities, products and services. This form of disclosure in relation to sustainable development practices is often called Sustainability Reporting.

Sustainability Reporting can take a number of forms from written reports to informal disclosure of information. Decisions regarding communication and means of dissemination need to be considered concurrently within the sustainability management strategy.

For over a decade now, many leading companies and organisations have increased their efforts to improve transparency, accountability and communications practices in the field of sustainable development. As the number of sustainability reports produced by the business community continues to increase, these reports are increasingly being met by a surge of reporting standards, guidelines and awards.

All too often, these emerging schemes are destined to be implemented only in large companies who can afford to commit significant resources to support sustainability reporting. SMEs that are caught in the midst of the maze of competing priorities certainly realise that signing up to the challenge of communicating about their social and environmental impacts is a strenuous endeavour, which up until now, has been accentuated by high costs.

### **The Impact of the Global Reporting Initiative**

Since the summer of 2000, The Global Reporting Initiative (GRI) [www.globalreporting.org](http://www.globalreporting.org), considered by many as the reference organisation in the provision of guidance and best practice for sustainability reporting, has established a rather comprehensive set of guidelines in order to facilitate the access to credible information and stakeholder dialogue.

These guidelines aspire to become the archetypal format for companies and organisations to demonstrate and report on their responsibilities and performances. Still, as of the September 2003, only a miniscule fraction of a field consisting of approximately 300 companies reportedly referencing the GRI guidelines can be classified as SMEs (< 250 employees)<sup>1</sup>.

### **A Workbook for Beginners**

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<sup>1</sup> [www.globalreporting.org/news/updates/2003/0307.asp#uptake](http://www.globalreporting.org/news/updates/2003/0307.asp#uptake); “Uptake of GRI Guidelines Continues”, July 2003.

The human and financial resources that companies and organisations are required to commit to achieve sustainability reporting compliant to GRI is often seen as obstacle, which needs to be overcome. In light of the sheer size of the guidelines and the amount of data which needs to be processed, a suitable beginners' guide is presumably required to help them get started. Specifically for cash-strapped SMEs and public organisations, this may be a necessary tool which may facilitate the uptake of reporting processes within small and medium size organisations.

This workbook draws on the input of workshops, events and meetings with NGOs and companies in Europe, as well as desk research.

The aim of this workbook is:

- Identify mechanisms through which sustainability reporting can be carried out;
- Facilitate the reporting process using elements found in the GRI guidelines;
- Interpret the GRI guidelines by using simple terminology;
- Help small and medium companies / organisations address sustainability issues in an open and pro-active manner;

This workbook is thus viewed as a stepping stone for small to medium companies and organisations to manage their data. The goal is to help them generate a concise sustainability report, which consists of qualitative and quantitative data based on elements found in the GRI guidelines, in a time efficient and cost effective manner.

In spite of the great complexities that currently surround sustainability reporting, as well as the associated limitations related to this workbook's abridgement of the GRI guidelines, it is believed that this workbook makes a useful contribution to initiating the implementation of GRI guidelines in small and medium companies and organisations.

## **PRODUCING A CONCISE SUSTAINABILITY REPORT**

The first step towards managing and improving sustainability performance is to identify the main responsibility aspects that your organisation is challenged with. The public reporting of your company's main responsibility aspects, as well as the objectives and targets established, activities undertaken and achievements made in relation to these aspects, will help to enhance your company's reputation as a responsible actor.

This workbook aims to help you to identify the reporting opportunities most relevant to your organisation. It will guide you to collect the necessary data and hopefully inspire you to develop internal metrics and processes to compile a structured sustainability report.

By helping you to recognise appropriate reporting opportunities with regards to financial, environmental and social aspects, as outlined in the Global Reporting Initiative guidelines, this exercise will enable you to achieve elements of sustainability reporting that can thus be categorised under the following main headings:

- Vision and Strategy
- Organisational Profile
- Responsible Business Practices
- Performance

## **Vision and Strategy**

This statement from the Chief Executive Officer (CEO) or equivalent person in senior management demonstrates top management commitment to sustainability and briefly describes the main elements of your report. This statement should mention your organisation's strategy and commitments related to sustainability issues (economic, environmental and social) in relation to your organisation's main activities.

This statement is most valuable when it explicitly refers to the key elements of these activities and the issues reported on with regards to the success and failures of the integration of economic, environmental, and social/ethical responsibilities. It should in particular highlight the mission, vision and values as well as the present and future challenges your organisation faces in relation to sustainability and its commitment to targets.

## **Organisational Profile**

This section provides an overview of the reporting organisation, provides the scope of the report, which helps readers put into context the information reported on by your organisation.

### ***Contact Information***

Please enter the name of the reporting entity as well as the visiting and mailing addresses, telephone number(s), fax number, e-mail, web address and other relevant contact information. The designated contact person should be in a position to answer queries or enter into dialogue (if contacted) regarding your company and this report.

### ***Business Sector***

Please name the primary sector of business for your organisation.

### ***Production Output***

Please enter an appropriate measure of output for your organisation. This information, whether retrieved from various internal departments or divisions, pertains to processes involved in the creation of products and/or services produced by your organisation (reporting entity).

### **Recommendations**

The following are some basic examples of production output that may be relevant to you:

- Number of products manufactured per year (for example cars made);
- Quantity of product manufactured per year (for example tonnes of steel);
- Number of services performed per year (for example packages delivered);
- Quantity of service delivered per year (for example passenger kilometres);

### ***Number of Employees***

Please enter the total number of employees in your organisation. In an explanation field, please feel free to add the average number of employees as full time equivalents, total average of employees on payroll during the year, number of female and male employees, etc.

### ***Country / Countries of operation***

Please list in which country/countries your organisation is operating (production and sales offices).

### ***Short Description***

Please briefly describe your organisation and its activities, including concise information on your history and future growth plans, as well as your major products and/or services (including brands if appropriate). The description should also provide the scope used for this report (including the boundaries as well as the reporting period).

### ***Net Sales***

If appropriate, please enter the net sales of your organisation.

### ***Turnover***

Please enter the turnover of your organisation. In this sense, turnover comprises all revenue from sales of products and/or services related to the organisation's main activities.

### ***Net profit***

Please enter the net profit of your organisation. This is the result of all the recognised expenses (including depreciation and tax) deducted from all the recognised revenues.

### ***Total assets***

Please enter the total assets of your organisation. All resources controlled by the organisation as a result of past events and from which future economic benefits are expected to flow to the organisation.

### ***Net equity***

Please enter the net equity of your organisation. Equity is the residual interest in the assets of the enterprise after deducting all its liabilities (including debts and provisions).

## **Responsible Business Practice**

This section provides an overview of responsibility aspects (environmental and social) associated to your organisation, as well as its overarching policies, management systems, codes of conducts, which have been implemented to achieve the organisations vision and strategy and manage its performance in areas related to sustainable development.

### ***Main Responsibility Aspects***

Before an organisation is able to manage and report its environmental and social aspects, it must first know what those important responsibility aspects are.

*Main Responsibility Aspects* may be defined as the ways in which your company's main activities and spheres of influence have a noticeable effect on the environment and/or society. Your organisation's management, along with your key stakeholders see it as your organisations responsibility to avoid or minimize any negative effects from its activities. Of course, since defining the boundaries of responsibility is a difficult matter, it is therefore recommended to carry out a sound environmental and social review (i.e.: based on ISO 14001 & AA 1000, or the like) in order to establish how and to what extent your organisation has an effect on the environment and society. This may include reviewing the following areas:

- Production process and distribution;
- Products, services and customer value;
- Internal stakeholders (employees, managers, owners);
- Value-Chain stakeholders (business partners; suppliers and customers);
- External stakeholders (community, investors, NGOs etc.).

A first step to pin-pointing your main responsibility aspects is to identify the commitments already made by your organisation, such as legal requirements; policy documents; objectives and targets; business partner requirements; product & service standards, health & safety requirements, etc.

A second step towards recognising your main responsibility aspects is to confer with external experts such as industry associations, consultants, NGOs and policy-makers in order to understand the existing expectations of your organisation beyond compliance with regulations and standards.

Based on the main areas of focus identified above and on the stakeholder feedback obtained, you should be in a position to make an inventory of your main responsibility

aspects by going over the main inputs (material use, energy use, etc.) and outputs (effluents, emissions, waste, products/services and their use/disposal, etc.) as well as relationships with your organisation (employees, local community, customers, suppliers, investors, etc.).

### **Examples of responsibility aspects**

- Environment: chemical use, resource use (such as materials, energy and water consumption), waste, air emissions, water effluents, etc.
- Social: labour conditions (such as working hours, wages, health and safety measures etc.), gender diversification, community involvement, etc.

When undertaking this type of review, it is very important to retain the overall perspective and not set limits that are too narrow in scope. Focus should not only reside within the factory gates or the office walls, but should also include issues such as transportation, as well as the use and the disposal phases of the products, fair prices to suppliers, labour practices in suppliers' factories, etc. Where practicable, your organisation should look up and down its supply chain in addressing its main responsibility aspects.

### ***Policies, Principles and Codes of Conduct***

In this section, you may list and give an overview of the policies, principles and codes of conduct that your organisation has adopted with regards to your main responsibility aspects.

### **Recommendations**

You may choose to include the following:

- Social and economic-related policies / principles / codes of conduct.
  - Example: procurement policy, ethical policy, labour issues, workplace diversity, equal rights, human rights, employee development, bioethics policy, etc.
- Environmental, health and safety policies / principles / codes of conduct.
  - Example: environmental policy, waste prevention policy, energy sourcing policy, chemical restrictions, packaging reduction, water conservation, etc.
- Quality and assurance policies / principles / codes of conduct.
  - Example: quality policy, certification policy, audit principles etc.

### ***Voluntary Initiatives and Memberships***

Please list and briefly describe all voluntary initiatives and memberships subscribed to by your organisation, in particular highlighting those directly related to sustainability. Of key relevance is whether your organisation participates in any industry-led

initiatives, joint government-industry initiatives, or international multi-stakeholder initiatives. These initiatives can be related to Corporate Social Responsibility, Environment Management Systems, stakeholder involvement, reporting, etc.

**Example / type of initiative:**

- Responsible Care (and other initiatives led by industry);
- Environmental management initiatives (ISO 9000/14001 series, EMAS, environmental management declarations, or other EMS related initiatives etc.)
- Reduction of CO<sub>2</sub> emissions to 1990 levels (and other national voluntary initiatives);
- Eco labelling;
- CFC / PVC phase out programmes;
- Producer Take-Back programmes;
- Award or prize programmes for innovation and best practice;

***Stakeholder Involvement***

Here you may identify your organisation's main stakeholder groups and some of their concerns with regards to your general operations and main responsibility aspects. Feel free to expand on the measures taken when selecting partners, consulting with your stakeholders by mentioning the frequency and management of such consultations. Examples of such measures may include surveys, open house visits from the public, focus groups, community panels, corporate advisory panels, written and verbal communications, etc.

Also, if possible, you should include how your organisation uses the information generated and how internal and external stakeholders are involved in the strategic planning and implementation of projects and initiatives undertaken in relation to sustainability. If your organisation has developed an extensive process for consultation or special policies, principles and codes of conduct related to stakeholder integration, please specify them here. You should also think about including your organisation's main objectives and targets to improve stakeholder relations (i.e. community relations, employee relations, customer relations, investor relations, etc.).

***Overview of Environment, Health and Safety Issues***

Such an overview consists of describing in brief your organisation's main initiatives, programmes and activities, objectives and targets, as well as incidents and achievements related to Environment, Health and Safety (EHS) issues. You may then describe your organisation's main EHS aspects (in relation with your organisations main activities), charters, codes or voluntary initiatives, in addition to any available information in relation to your (afore-mentioned) EHS policies and principles.

**Recommendations**

Your overview may contain the following:

- EHS objectives and targets;
- Workplace injuries;

- Investment in illness and injury prevention at the workplace;
- Number of accidents and incidents at the workplace;
- Awareness and staff training programmes;
- Effluents, emissions, and waste, and programmes to reduce them;
- Energy, materials and water consumption, and programmes to reduce them;

### ***Overview of Environmental Management System***

Please describe in brief the main components of your organisation's environmental management system (EMS). In general terms, describe how your organisation's system assists in the objective understanding of environmental aspects and their impacts; how and to what extent the environmental policy clarifies the environmental principles promoted by your organisation, and how objectives and targets define your organisation's environmental goals by outlining the path towards achieving them. You may also wish to include whether your organization commits to internal audits of the EMS in order to ensure effectiveness and compliance, in addition to how and to what extent the management review of the system ensures that your EMS continues to be suitable and effective for the organisation and its aims with respect to environment and quality.

### **Recommendations**

When writing this overview, you should consider some of the following examples:

- Main environmental objectives and targets;
- Organisational structure and responsibilities for EHS;
- Management response to improvement in event of non compliance of laws and regulation;
- Internal training and review of management;
- EMS certification in accordance with ISO 14001 and/or EMAS (dates achieved);

### ***Overview of Social & Ethical issues***

Please list and briefly explain the main components of your organisation's chief initiatives, programmes and activities, objectives and targets, as well as incidents and achievements related Social and Ethical issues.

In practice, Social and Ethical issues relate to your organisation's activities that directly or indirectly effect:

- Labour practices;
- Human rights
- Society and Development;
  - Customers: marketing standards, protection of rights, etc.;
  - Government & business ethics: ethical standards, political contributions, lobbying, competition, etc.;
  - Local communities: accessibility/dialogue, contribution to community development, cultural preservation, etc.

You should consider how and to what extent the existence and enforcement of policies / guidelines / procedures help to check all social and ethical aspects of human rights, non-discrimination, freedom of association, the right to collective bargaining, child labour, forced and compulsory labour, security practices, indigenous rights and among others, disciplinary practices related to your organisation and suppliers.

### **Recommendations**

When reporting on Social and Ethical issues, please bear in mind the following possibilities:

- Gender equality programme;
  - *i.e.* – *does your company promote equal rights for men and women in the workplace?*
- Workforce diversity programme;
  - *i.e.* – *does your company promote non-discrimination and equal rights for minorities in the workplace?*
- Labour standards adhered to;
  - *i.e.:* *does your company promote and enforce employment standards that are established under legal Acts and Regulations?*
- Employee benefits;
- Community involvement;
- Public accountability;

### ***Overview of Intellectual Capital issues***

Your organisation's value includes more than buildings, equipment and other assets represented in the financial facts and figures published in annual reports. Although assets traditionally consist of inventories and accounts-receivables, properties, holdings, and stocks (to name but a few), your organisation's ability to innovate, develop knowledge and relationships become important intangible assets in the value-creation process.

As a result, *Intellectual Capital* - the possession of knowledge, applied experience, product innovation, patents, and customer relationships - is a key part of your organisation's assets. Therefore, in order to communicate your organisation's true value to others, please describe in brief the main programmes and activities, objectives and targets, as well as your organisation's achievements related to Intellectual Capital issues.

### **Recommendations**

When reporting on Intellectual Capital, please bear the following in mind:

- Development of management and support systems;
- Recruitment;
- Employee retention and training of staff;
- Skills and expertise of management (+ other core competencies);
- Research & Development spending;

- Patents and trademarks held;
- Customer and supplier relations;

### ***Overview of Supply Chain / Product and Service issues***

Please briefly explain the main components of your organisation's chief initiatives, programmes and activities, objectives and targets, as well as incidents and achievements related to the production and delivery of products and services within your organisation's supply chain.

You may consider elaborating on whether your suppliers' choice of materials and production process is, to a large degree, governed by the technical specifications for the product / service that are issued by your organisation. Here, you may include details of any restrictions or bans on, for example, the use of certain types of chemicals or raw materials. Additionally, you should consider how and to what extent the existence and enforcement of policies / guidelines / procedures affect the work conditions for those involved in your supply chain.

### **Recommendations**

The following may be relevant issues to address:

- Knowledge of suppliers' usual operational procedures;
- Relevant knowledge of international and local operating environment and labour laws;
- Quality management;
- Product safety (such as the provision of information to supply chain workers about a product's technical characteristics and its hazardous properties);
- Life cycle assessment and data;
- Supplier assessment / audit procedures;

### ***Business Partner Assessment***

Please give a short account of how your organisation tries to ensure that your business partners live up to your standards and share your commitment to sustainability. It may be noteworthy to describe the level of participation from various functional units within your organisation in this assessment, how many business partners were identified, and which of these partners were deemed as critical to the success of your organisation. The identification of main business partners may be carried out based on total spend or based on the quantities / number of products or services purchased. Additionally, you may want to address the way in which your evaluation procedures were carried out by highlighting the different phases of your business partner assessment.

### **Example: Techniques used to assess your partners**

- **Phase 1:** Initial contact via letters, surveys, questionnaires, etc.;
- **Phase 2:** Interviews, check-lists, on-site visits to help ascertain business partners' environment, social and quality status;
- **Phase 3:** Initial assessments and feedback;
- **Phase 4:** Education and training on main responsibility aspects, testing of critical components / processes of partners' internal systems;
- **Phase 5:** Further actions taken by the partner to ensure continuity of assessment procedures;

Once you have described your Business Partner Assessment procedures, you may consider listing the issues that relate specifically to your main responsibility aspects. When addressing these issues, it may also be worthy to note whether your suppliers perform well in relation to your organisation's ambitions over the course of the year and the type of action taken (if any) against business partners not living up to standards.

### **Recommendations**

You may think about addressing issues that relate to:

- Verification of business partners commitment of your organisation's principles, values and vision;
- Business partners' transparency in their daily operations;
- Quality of service whilst taking into account environmental and social considerations;

### ***Action Plans***

Describe the Action Plans that have been established to address your Main Responsibility Aspects (detailed above). Action plans are essentially a detailed recipe for carrying out your policies, which enable your company to meet set objectives and targets in relation to your main responsibility aspects. Your action plans identify how your targets will be met and define the responsibilities for each of the activities required to meet these targets. Basically, action plans are the programmes that will help put your Policies, Principles and Codes of Conduct into practice.

### **Recommendations**

Examples of such Action Plans may include:

- Energy conservation programme;
- Hazardous waste programme;
- Waste reduction programme;
- Career development programme;
- Health and safety programme;
- Management systems for Quality, Environment, Health and Safety;
- Gender equity and equal rights programme;

- Employee satisfaction programme;
- Customer satisfaction programme;
- Supply chain management programme;

### ***Summary of Yearly Report***

Please give a general overview of the actions taken and achievements made with regard to sustainability and the Main Responsibility Aspects of your organisation. By succinctly summarising your organisation's accomplishments for this year of reporting, you may also give an indication of how far your organisation has come in relation to meeting your organisation's strategic sustainability goals for the years to come.

## **Performance**

This section lists a basic set of key performance indicators related to sustainability. Due to the intended target group of users, it is realised that these performance indicators will not fully capture the performance of the reporting entity. The goal of this exercise is rather to provide a snapshot of the organisation's performance in areas related to sustainable development.

### ***Total Energy Use***

Please enter the figure for total energy use of your organisation. If you are unfamiliar with calculating or measuring the total energy usage of your organisation, a key starting point could be reading your energy metres and/or electricity bills at the beginning and at the end of a specific period in order to verify and keep track of the kilowatt hours (kWh) purchased and consumed by your organisation. Other sources to obtain data from may include: utility providers, invoices for fuel delivery, energy management software, etc.

If you have specific information on the different types of energy and electricity sourced by your organisation, please feel free to add this in the explanation field.

### **Recommendations**

If you would like to list and report on the proportion of each source of energy, and be able to add and compare the data determined, then we suggest you use mega joules (MJ). Since natural gas is often calculated in cubic metres (m<sup>3</sup>) and fuel oils in litres (l), these measurements will need to be converted if you wish to carry on with the MJ calculations. Although there are numerous methods of calculating the conversion of fuels, each extremely valuable in their own right, the following table illustrates one of the many techniques used to reference conversion factors, which you can use:

## Conversion factors<sup>2</sup>

<b>Coal</b>	7,56 kWh / kg	27,216 MJ / kg
<b>Fuel oil: light</b>	9,93 kWh / litre	35,748 MJ / litre
<b>Fuel oil: heavy</b>	10,27 kWh / litre	36,972 MJ / litre
<b>Natural Gas</b>	10,00 kWh / m <sup>3</sup>	36,000 MJ / m <sup>3</sup>

Figures obtained on the premise that 1 MJ = 0,2778 kWh, whereas 1 kWh = 3,6 MJ.

If you need additional information, we suggest you contact your energy provider, or enlist the help of an appropriate local/national energy agency or department. The following web pages may also prove to be useful:

- **Department for Environment, Food & Rural Affairs, United Kingdom**  
[www.defra.gov.uk/environment/envrp/gas/05.htm](http://www.defra.gov.uk/environment/envrp/gas/05.htm)
- **The Energy Information Administration, US**  
[www.eia.doe.gov/oiaf/1605/factors.html](http://www.eia.doe.gov/oiaf/1605/factors.html)
- **The Bio energy Information Network**  
[http://bioenergy.ornl.gov/papers/misc/energy\\_conv.html](http://bioenergy.ornl.gov/papers/misc/energy_conv.html)
- **Australian Institute of Energy**  
[www.aie.org.au](http://www.aie.org.au)  
(Click on “Energy sites”, then “www library” for comprehensive website lists)

## ***Main Materials Use***

Please enter a figure for the main materials use other than water, by type within your organisation. Whereas an office-based organisation could measure its total paper use, a manufacturing company may need to focus on a number of major inputs into its products. Regardless of your situation, if possible, you should try to calculate the sum weight of all relevant materials purchased or obtained from other sources, including raw materials for conversion, other process materials (such as catalysts, solvents, etc.), pre or semi manufactured goods and parts. Report in tonnes, kilograms or volume.

If you are unfamiliar with calculating the total material used by your organisation, a key starting point could be to reach for the low-hanging fruit. To help you get started, you may find it useful to review the 10 – 20 biggest inputs that are purchased and used to produce the goods/services your organisation delivers, and which are in-line with your main production outputs. By cross-referencing your list with the purchasing department in order to assess the main inputs for your organisation, you should generally be able to address the main material used. When completing this list, please exclude packaging, water consumption and materials used for energy purposes.

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<sup>2</sup> This table shows examples of approximated values. Therefore, the accuracy of the exact values given can not be guaranteed. It is advisable to refer to your country’s national guidelines for relevant factors.

If you have specific information on the different types of materials and their contents, feel free to add this information into an explanation field, along with information on the percentage of materials used that are wastes (processed or not) from sources external to the reporting entity.

### **Recommendations**

Where practicable, you should think about materials which contain types of chemicals; metals; paper; wood; plastics; textiles; paints; glass; plastics; recycled materials.

### ***Total Water use***

Please enter the figure for your total water use. This total water use (or consumption) indicator is relevant for all types of water used by your organisation. The vast majority of organisations are equipped with water metres and receive bills, so it should not be too difficult to find this information. Thus a natural starting point would be for you to read the water metres and/or water bills at the beginning and at the end of a specific period in order to verify and keep track of the amount of water purchased and used by your organisation. If your organisation takes water from a local body of water (lake, river, well, etc.), the pumps used should normally have built-in specifications or measurement equipment to guide your calculation of total use based on the flows.

If you have specific information on the different types of water used, in other words if you have indicators that reveal the type (or quality) of consumed water such as the distinction between drinking water and raw water (i.e.: lake, rain, river, surface, well, etc.), you may then submit this information in the explanation field.

### **Recommendations**

Conversion chart for systems and units<sup>3</sup>

To convert from	To	Multiply by
Cubic metres	Litres	1000
Cubic metres/hour	Litres/second	0.278
Litres/second	Cubic metres/hour	3.6

### ***Greenhouse Gas (GHG) Emissions***

The following section will provide very basic guidance to introduce your organisation to the different sources of Greenhouse gas (GHG) emissions, where to obtain information within your organisation, and how to calculate your GHG emissions.

<sup>3</sup> UK DETR. *Environmental Reporting Guideline for Companies Reporting on Water*. 2000

GHGs occur during the burning of fossil fuels for power, transport and industrial processes. These gases are then accumulated in the atmosphere, trapping heat, and adversely affecting climate change around the world. By identifying and cutting down on emissions, your organisation can respond positively to the challenge of sustainable development, and act responsibly by gaining benefits in terms of improved efficiency and lowered energy-related costs. The six main greenhouse gases, which are internationally recognised for posing the biggest threat to climate change are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluocarbons (HFC), perfluocarbons (PFC), and sulphur hexafluoride (SF<sub>6</sub>).

Due to the associated costs and time involved, small and medium-sized organisations do not usually take direct measurement of their emissions into consideration. However, at this level of reporting, we can offer you a useful method of obtaining emissions data. By referring to input figures and to the total energy consumed, you will be in a position to identify significant contributors to your organisation's main GHG emissions: energy-related emissions. In order to get a fair assessment, you may find that these data will need to be calculated separately, and then aggregated.

In order to get started though, you will need to specify the GHG emission reporting boundaries for your organisation. In this sense, whatever information you may choose to include or to exclude should be explicitly stated up-front. In addition to reporting emissions resulting from your organisation's key activities, you should also include in the explanation field estimates for any inputs and/or services bought (i.e. energy, transportation, aluminium etc.) that may account for a significant source of GHG emissions attributable to your activities although accounted for by your suppliers. Once the boundaries have been set, you will then be ready to begin the identification of your organisation's GHG emissions.

#### **ENERGY-RELATED GHG EMISSIONS**

Energy-related GHG emissions, which encompass many areas of the organisation's activities, include the calculations of all direct combustion of fuels.

***Combustion of Fuels*** – Look at your activity statistics (such as annual fuel consumption in tonnes) and emission factors (kg of CO<sub>2</sub> per kg of fuel combusted). The emission factors (see below) are based on different fuels your organisation may use. These emission factors will come in handy when doing the final calculations.

***Coal-Derived Emissions*** – These vary depending on the type of coal used. The example noted in the conversion table (below) identifies a generalised default value for coal. However, it should be noted that country-specific net calorific values (NCV) for coal & carbon dioxide emission factors (CO<sub>2</sub>EF) have been compiled to give a more accurate depiction of CO<sub>2</sub> emissions. If possible, you should contact

### Example of fuel conversion factors<sup>4</sup>:

#### Converting fuel types to CO<sub>2</sub>

Fuel Type	Amount used per annum	Units	Multiply	kg CO <sub>2</sub> per unit	Total kg CO <sub>2</sub>
Nuclear power		kWh	X	0.000072	
Hydro power		kWh	X	0.000068	
Coal fired condensation plant		kWh	X	0.820	
Oil fired condensation plant		kWh	X	0.690	
Combined power and heat (natural gas)		kWh	X	0.220	
Combined power and heat (oil)		kWh	X	0.300	
Wind power		kWh	X	0.000061	
<b>Total emissions from energy use (aggregate)</b>					

#### Calculating Carbon Dioxide Emissions

Once you've established the fuel types consumed by your organisation, please multiply the amount of basic unit used with the corresponding emission factor.

i.e.: "Y" kilowatts per hour of coal x 0,820 (kg CO<sub>2</sub>/tonne) = "X" total kg CO<sub>2</sub>

Repeat this step for each fuel type used, and then add the totals together in order to get a total aggregated amount of carbon dioxide released.

<sup>4</sup> This table shows examples of approximated values. Therefore, the accuracy of the exact values given can not be guaranteed. It is advisable to refer to your country's national guidelines for relevant factors.

## Working with Conversion Tables

Fuel Type	Amount used per annum	Units	Multiply	FACTOR	Total kg CO <sub>2</sub>
Nuclear power		kWh	x	0.000072	
Hydro power		kWh	x	0.000068	
Coal fired condensation plant		kWh	x	0.820	
Oil fired condensation plant		kWh	x	0.690	
Combined power and heat (natural gas)		kWh	x	0.220	
Combined power and heat (oil)		kWh	x	0.300	
Wind power		kWh	x	0.000061	
<b>Total emissions from energy use (aggregate)</b>					

1. Enter the amount of fuel use

4. Multiply the amount energy type by the conversion factor to obtain the CO<sub>2</sub> emissions produced

2. Ensure that the units have been specified i.e.: kWh, litres, tonnes, etc.

3. Use appropriate factors for conversion. In this sense, it is advisable to refer to your country's national guidelines for relevant factors.

5. Add the totals for CO<sub>2</sub> in order to get the aggregate totals for your organisation's energy usage.

Kindly note, if you have a specified contract with a supplier of renewably generated energy sources then it would be best to clarify this value with your renewable energy supplier.

### TRANSPORT-RELATED EMISSIONS

If you intend on reporting transport-related emissions, then a key starting point will be to identify the different modes of transportation commonly used by your organisation. This essentially translates to air, rail, road and sea transportation means, which encompass all freight and passenger movements that are linked to your organisation (including main subsidiaries). In this respect, you do not need to account for short distance travel such as cross-town taxi travels, local bus journeys and private travel to and from work by employees. By keeping in line with the main transportation activities, you will be able to calculate relevant emissions emanating from your organisation.

However, since transport-related data is generally handled externally, you may need to revert back to your travel agency, car rental-company, or company accounts department to obtain relevant transport data. Other potential sources may include:

- Fleet records and invoices
- Employee mileage calculation and claims
- Freight handler records and invoices

- Company vehicle log books
- Company maintenance and repairs records

**ROAD-TRANSPORT**

When calculating CO<sub>2</sub> emissions, we realise that several factors, such as climate and driving conditions, should be kept in mind. Nevertheless, the table below (which has been partially compiled by the Intergovernmental Panel on Climate Change, 1996) identifies general examples of possible data that may be relevant (in relation to the type of vehicle used). However, in the interests of clarity, we recommend that you obtain relevant information based on national data averages. For this reporting level, you may calculate the transport-related emissions based on data correlating total fuel consumption. Using default conversion rates, emissions from transport fuels can then be calculated based on the following three major fuel types:

**Example: CO<sub>2</sub> emissions for petrol, diesel and liquefied petroleum gas (LPG)<sup>5</sup>**

Fuel used	Total units used	Units	Multiply	kg CO <sub>2</sub> per unit	Total kg CO <sub>2</sub>
Petrol		Litres	x	2.31	
Diesel		Litres	x	2.68	
LPG		Litres	x	1.73	

If you need additional support and information on where approximate examples may be found, please go to the following web sites:

- The Swedish Network for Transport and the Environment  
[www.ntm.a.se/eng-index.asp](http://www.ntm.a.se/eng-index.asp) (click on “Environmental Data”)
- Schenker BTL  
[www.schenker.nu/english/schenker\\_btl.html](http://www.schenker.nu/english/schenker_btl.html) (click on “Emissions Online”)

**Passenger Road Travel**

For what pertains to passenger road transport, you should probably revert to the car to manufacturer in order to obtain information on CO<sub>2</sub> equivalents. Of course, in the interests of clarity for your report, you may specify the engine type (1.6 litres) of the car used with the corresponding CO<sub>2</sub> measurement per unit (see example in annex 1, tables 1 and 2).

**General example of possible passenger road transport conversion factors for cars**

Type of car	Total units travelled	Units	Multiply	kg CO <sub>2</sub> per unit
Average diesel car		Km	x	0.12
Average petrol car		Km	x	0.20

Note – these figures vary depending on driving conditions, average speed, weather, tire- pressure, etc.

<sup>5</sup> Adapted from the United Kingdom Department for Environment, Food & Rural Affairs, 2001.

In addition, national consumer boards (or equivalent) may have ample information on vehicle emission factors. It is therefore advisable that you consult them for more precise information in relation to emission factors and specific types of vehicles used.

For those reporting in Sweden, kindly note, the Swedish Konsumentverket holds information on over 1700 types of vehicles. Such information can thus be found at the following website:

- Konsumentverket homepage  
[www.konsumentverket.se](http://www.konsumentverket.se)

#### **AIR, RAIL AND SEA**

If your organisation commonly uses public transportation such as trains, and planes then you may wish to revert to the appropriate authorities in order to obtain relevant information regarding emission factors. As an example of this, the Swedish national rail company, SJ, also holds useful information with regards to emission factors.

- **SJ homepage (in Swedish only)**  
[www.sj.se](http://www.sj.se) (click on “Miljö”)

For additional support and information on where approximate examples may be found on the web, please visit the (afore-mentioned) NTM and Schenker BTL online tools:

- **The Network for Transport and the Environment (NTM)**  
[www.ntm.a.se/english/default.htm](http://www.ntm.a.se/english/default.htm) (click on “Environmental Data”)
- **Schenker BTL**  
[www.schenker.nu/english/schenker\\_btl.html](http://www.schenker.nu/english/schenker_btl.html) (click on “Emissions Online”)

Once all conversion factors data have been obtained, you will then need to convert the fuels into appropriate units (i.e.: litres) and apply appropriate emission factors to the energy sources to in order to calculate CO<sub>2</sub> equivalents using factors provided for fuel emissions.

#### **Recommendations**

For more detailed information regarding the calculations of Greenhouse Gas Emissions, please consult the following resources:

- **Intergovernmental Panel on Climate Change (IPCC)**  
[www.ipcc.ch/](http://www.ipcc.ch/)
- **United Kingdom Department for Environment, Food & Rural Affairs**  
[www.defra.gov.uk/environment/envrp/gas/index.htm](http://www.defra.gov.uk/environment/envrp/gas/index.htm)
- **World Business Council for Sustainable Development**  
[www.ghgprotocol.org](http://www.ghgprotocol.org)

### ***Total Waste***

Please enter the figure for the total waste generated by your organisation. A starting point for realising waste indicators is to establish the total amount of waste (measured in kilograms or tonnes), where the term “waste” refers to all recycled and disposed waste. In this sense, waste consists of all waste emanating from your organisation’s commercial premises, and includes special or hazardous waste (such as solvents, oils, sludge, and other liquid waste) and general waste originating from offices, retail stores, shops, factory, etc. which may be collected by the municipality or by waste contractors. If your waste is in fact managed by facilities management, maintenance or other external waste handlers, then you may be able to obtain good quality information about your organisation’s waste.

Depending on your sector, you may be able to distinguish specific information about your most significant waste streams (see examples below). If this is the case, you may submit this information in the explanation field.

#### **Basic examples of most significant waste streams by sector**

**Car manufacture:** metals, plastics, oils, old vehicles parts, paints, rubber, solvents, tyres, etc.

**Retail:** cardboard, canteen waste, displays, packaging, damaged / out of date stock, plastics, human hygiene waste, post consumer take-back waste, etc.

**Service sector:** paper, catering wastes, human hygiene, office furniture, electronic equipment, lights and fixtures, etc.

#### ***[Optional Indicators]*** (Please specify indicators)

Please select and enter additional performance indicators of your choice, as they relate to your organisation’s Main Responsibility Aspects. If sector specific indicators have been developed (against which performance measurement standards exist), please feel free to input such indicators with reference to the source of the standard / indicator (could be added in an explanation field).

## **Resources and Referred Works**

Business in the Community. 2000. Winning with Integrity.

Ernst & Young, KPMG, PricewaterhouseCoopers, House of Mandag Morgen. 1999. The Copenhagen Charter – a management guide to stakeholder reporting.

German Federal Environment Agency. 1997. A Guide to Corporate Environmental Indicators.

Japan Ministry of Environment. 2001. Guidelines for Environmental Performance Indicators for Businesses.

International Accounting Standards Board. 1998. Framework for the Preparation and Presentation of Financial Statements.

United Kingdom Department for Environment, Food & Rural Affairs (DEFRA), 2001. Environmental Reporting Guidelines for Company Reporting on Greenhouse Gas Emissions.

United Kingdom Department of the Environment, Transport and the Regions (DETR), 2000. Environmental Reporting Guidelines for Companies Reporting on Waste.

United Kingdom Department of the Environment, Transport and the Regions (DETR), 2000. Environmental Reporting Guidelines for Companies Reporting on Water.

Global Reporting Initiative. 2002. Sustainability Reporting Guidelines.

IASC - Framework for the Preparation and Presentation of Financial Statements

Social Accountability International. SA 8000:2001

World Business Council for Sustainable Development, World Resources Institute. 2001. The Greenhouse Gas Protocol – a corporate accounting and reporting standard.

### ***Web resources:***

Australian Institute of Energy  
<http://www.aie.org.au>

The Bio-energy Information Network, Oak Ridge National Laboratory.  
[http://bioenergy.ornl.gov/papers/misc/energy\\_conv.html](http://bioenergy.ornl.gov/papers/misc/energy_conv.html)

The Energy Information Administration, USA.  
<http://www.eia.doe.gov/oiaf/1605/factors.html>

The Global Reporting Initiative

<http://www.globalreporting.org>; “Uptake of GRI Guidelines Continues”, July 2003  
(last visited: 4 September 2003)

Intergovernmental Panel on Climate Change (IPCC)

<http://www.ipcc.ch/>

The Network for Transport and the Environment (Sweden)

<http://www.ntm.a.se/eng-index.asp>

Schenker BTL

[http://www.schenker.nu/english/schenker\\_btl.html](http://www.schenker.nu/english/schenker_btl.html)

The Swedish Consumer Agency (Konsumentverket)

<http://www.konsumentverket.se>

SJ homepage

<http://www.sj.se/>

## **ANNEXES**

Appendix 1: Example of conversion factors for passenger road transport of petrol cars

Appendix 2: Example of conversion factors for passenger road transport of diesel cars

## Appendix 1:

### Example of conversion factors for passenger road transport of petrol cars

Size of car	Total units travelled	Units	Multiply	kg CO2 per unit	Total kg CO2
Small vehicle (engine less than 1.4 litres)		km	x	0.17	
Medium vehicle (engine 1.4 - 2.1 litres)		km	x	0.22	
Large vehicle (engine exceeding 2.1 litres)		km	x	0.27	
Average vehicle		km	x	0.20	

Adapted from the United Kingdom Department for Environment, Food & Rural Affairs, 2001

## Appendix 2:

### Example of conversion factors for passenger road transport of diesel cars

Size of car	Total units travelled	Units	Multiply	kg CO2 per unit	Total kg CO2
Diesel vehicle (engine less than 2.0 litres)		km	x	0.12	
Diesel vehicle (engine exceeding 2.0 litres)		km	x	0.14	
Average vehicle		km	x	0.12	

Adapted from the United Kingdom Department for Environment, Food & Rural Affairs, 2001