Step by step guidelines on how to use the

"Baseline Emissions Inventory"

For Reducing Enterprise-Level GHG Emissions at least 8% by 2030

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INTRODUCTION

The Cyprus Employers and Industrialists Federation (OEB), the Cyprus University of Technology (project coordinator) and the Department of Environment of the Ministry of Agriculture, Rural Development and Environment, participate in the project **Business4Climate**. The project aims to develop an initiative, the "Business4Climate", which aims at committing businesses to be more actively involved in climate action by reducing their greenhouse gas (GHG) emissions by at least 8% until 2030.

The project also aims to provide Cypriot businesses from all economic sectors that do not participate in the European Emissions Trading System (EU-ETS), the necessary tools and methods for identifying greenhouse gas emissions that derive from their activities and to help them to prepare a customized action plan targeting the reduction of their emissions.

Project activities include the development of a methodology for the identification of baseline GHG emissions at business level, the capacity building of businesses on climate action measures and identification of available and future financing schemes of GHG reduction-related projects in Cyprus. The project is funded by the Climate-KIC through the European Institute of Innovation and Technology (EIT).

A main task of each enterprise signing the Business4Climate Declaration is to report their GHG emissions, by preparing their Baseline Emissions Inventory (BEI). Reporting is carried out through an online tool that was developed in the framework of implementation of Business4Climate project, and is suitable for any business regardless the economic sector. The GHG emissions are being calculated on the basis of data provided by the enterprises for the baseline year 2017. Activity data that will be requested from enterprises are related to energy consumption, use of fluorinated gases (F-gases), agriculture and waste.

This document provides guidance to enterprises for preparing their BEI.

BUSINESS4CLIMATE STEP BY STEP

1. Go to the Business4Climate website:
   http://www.oeb.org.cy/drasis/business4climate/
2. Print and Sign the "Business4Climate" Voluntary Commitment and become a member of the Energy Efficiency Network as well.
3. Report the baseline greenhouse gas emissions of your business for 2017, by using the online tool that is available on line and has being provided by the Monitoring Team.
4. Prepare your business' action plan for GHG emissions reduction by 2030.
5. Report the practices, business policies, measures and actions you will implement for the reduction of greenhouse gas emissions in the template that is being provided by the Monitoring Team.
6. The monitoring team will provide support to your business through the online tools for SMEs that are available on line http://www.oeb.org.cy/drasis/business4climate-plus/ but also through direct contact.

Identify
Identify baseline GHG emissions for 2017

Take action
Implement the actions and measures, proposed in your action plan

Commit
Sign the Voluntary Commitment "Business4Climate"

Plan
Make an action plan for 2030 to reduce energy and natural resources consumption

Monitor
Monitor and evaluate progress in cooperation with the project's team

Figure 1 Business4Climate Step by Step

Cyprus University of Technology

OEB

DEPARTMENT OF ENVIRONMENT
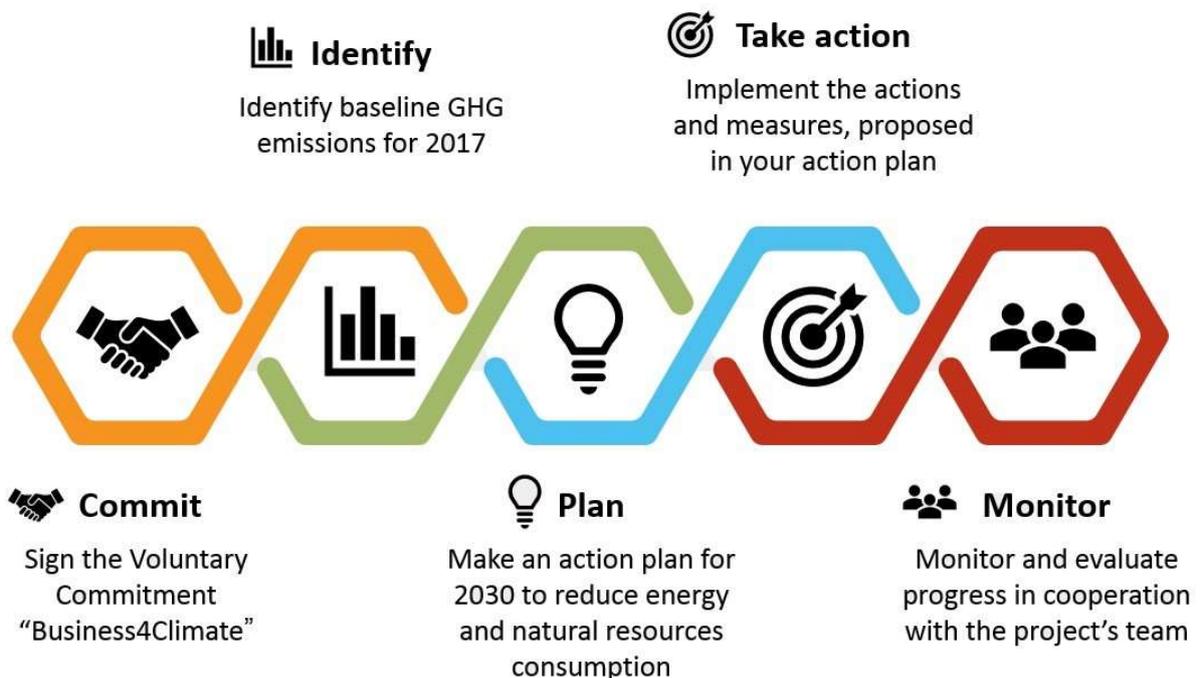
📊 IDENTIFY: BASELINE EMISSIONS INVENTORY

Getting Started

In order to identify the baseline GHG emissions for the enterprises, a systematic methodology was developed. The outcome is a user-friendly tool that is available online on the official website of OEB: http://www.oeb.org.cy/drasis/business4climate/. By clicking on the blue box

ΕΚΘΕΣΗ ΑΝΑΦΟΡΑΣ ΕΚΠΟΜΠΩΝ	BASELINE EMISSIONS INVENTORY

you will enter the Baseline Emissions Inventory on line reporting tool.

In this emission inventory report, you will report data concerning your final energy consumption, your refrigeration and air conditioning equipment and your waste.

> How to easily access Baseline Emissions Inventory Tool?
>
> Click on http://business4climate.oeb.org.cy/

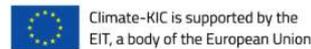**Box 1 Access Baseline Emissions Inventory Tool**

Figure 2 Baseline Emissions Inventory Tool

Figure 3 outlines the basic steps to complete the BEI. First, a sign-in is required in order to easily access in different points in time the tool and correct or add additional activity data. The template includes seven different sections; 1. Intro, 2. Activity Data, 3. Energy, 4. F-Gases, 5. Waste, 6. Agriculture and 7. Report. Depending on the category of economic activity of your enterprise, the appropriate sections will be activated. Each part requires specific actual data of the enterprises for the year 2017. Signatories can complete the template by filling in the necessary activity data in all sections. Before submitting the report, a download option will be available.
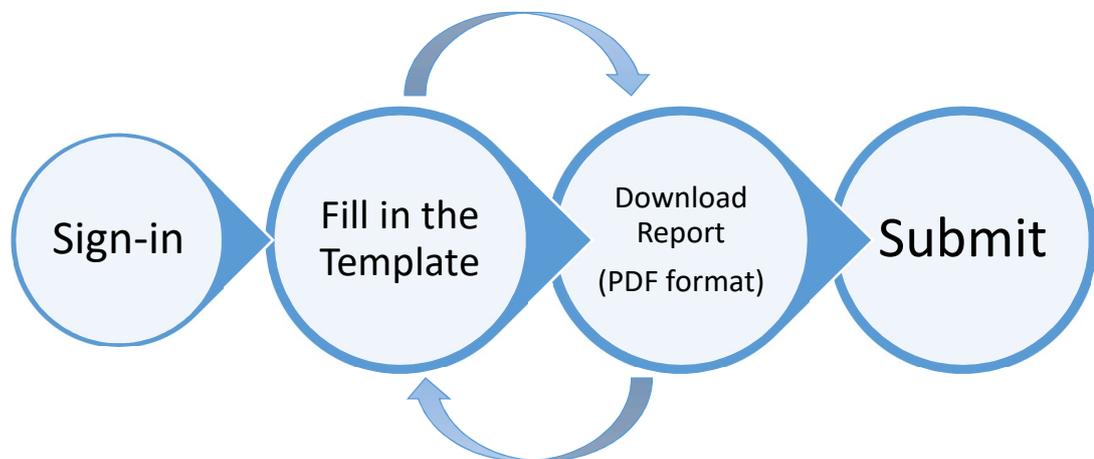

Figure 3 General diagram of Baseline Emissions Reporting Process

Template Content

The Business4Climate online tool for BEI, to be used by all the signatories of the Business4Climate Declaration, includes the following parts as presented in Table 1.

Table 1 Content of Baseline Emissions Inventory

1	Intro	General information and main category of economic activity
2	Activity Data	General activity data
3	Energy	Energy consumption related data by category and fuel (fuel consumption)
4	F-Gases	Refrigeration and air conditioning related data by category (gases charge, number of units)
5	Waste	Solid waste disposal related data (number of employees etc., % of waste recycled)
		Industrial wastewater treatment related data (total production, management)
6	Agriculture	Manure management related data (population of animals, type of treatment)
7	Report	Detailed results of the amount of GHG emissions produced by sector and generation of the report

For the successful completion of the template, all mandatory input cells must be filled in (are marked by *). If any data-related issue is identified by the checking system, you will receive the corresponding notification while completing the online tool (Figures 4 and 5). **IMPORTANT: Always check the units in which the requested data must be entered.**

Figure 4 Warning error - Checking System I

Figure 5 Checking System II

FILLING IN THE TEMPLATE

Section 1 – Intro

Section 1 refers to the general information of the enterprise, such as company name and contact details. The first step requires the user to set the **main Category of Economic Activity** of your enterprise (Figure 6). By scrolling down the first input cell, seven options appear; **Agriculture, forestry and fishing; Mining and quarrying; Manufacturing; Electricity gas, steam and air conditioning supply; Water supply, sewage, waste management and remediation activities; Construction; and Services.**

Figure 6 Intro I

Those represent the main economic categories based on the statistical classification of economic activities in the European Community (NACE). NACE is the acronym used to designate the various statistical classifications of economic activities developed since 1970 in the European Union.

With the following link you can access the list of NACE codes.

> How to access the list of NACE codes?
>
> Click on http://ec.europa.eu/competition/mergers/cases/index/nace_all.html

Box 2 Access NACE codes

IMPORTANT: Please enter the main economic activity of your business

After selecting the most appropriate main Category of Economic Activity, please fill the following cells; **Company Name, Contact Person, Telephone number** and **Email address** as shown in Figure 7. Concerning the **District** cell, you can choose the area where your enterprise is located by scrolling down.

Figure 7 Intro II

The **Year of Reporting** refers to the baseline year. The baseline year, in the online tool, is pre-filled. All the following data are requested for the year 2017.

To move to Section 2, click Next at the bottom right.

Depending on the economic activity of the enterprise, different Sections will be activated. Firms from all economic activities must fill in Sections 2, 3, 4 and 5. Agriculture activities should be additionally completed in Section 6.

Section 2 – Activity Data

Based on the selection of the main of economic activity different **Activity Data** will be requested always depending on the main economic activity.

Agriculture

Moving on to Section 2 a list of different animals will appear. At this point the population of animals for the year 2017 should be entered. By clicking on the linked heading text you can expand or collapse accordion panels (Figure 8).

Figure 8 Activity Data - Agriculture

Mining and quarrying

Here you state the total production of your activities in tonnes for the year 2017.

Manufacturing

Based on your selection, a list of manufacturing sub-categories appears. Choose the appropriate sub-category and enter the total production of your products in tonnes (Figure 9). By clicking on the linked heading text you can expand or collapse accordion panels.

Figure 9 Activity Data - Manufacturing

Electricity, gas, steam and air conditioning supply

If your firm's main activity is power generation, state here the electricity production in megawatt-hours (MWh).

Water supply; sewerage, waste management and remediation activities

If your enterprise is active in Water Supply, please verify here the amount of water supplied to consumers in tonnes. As concerns Solid Waste Disposal, state the city, the population served and the percentage amount of waste recycled. Finally, in the Domestic Wastewater Treatment option, please denote the population you are serving.

Figure 10 Activity Data - Water supply I

Figure 11 Activity Data - Water supply II

Construction

Click the respective box.

Services

If your firm belongs to the tertiary sector and you selected Services, a list of sub-categories appears. By clicking on the appropriate linked heating text accordion panels expand. Please insert here the appropriate activity data as requested for each sub-category. For example, for hotels and hotel apartments the number of rooms is required (Figure 12).

Figure 12 Activity Data – Services

Section 3 – Energy

In this section, you should report energy consumption data. The data requested is related with **Energy Consumption in Buildings**, the **Energy Consumption in Processes/machinery** and finally the **Energy Consumption in Transport**. In order to add the data in each category, click on the appropriate linked heading text to expand accordion panels.
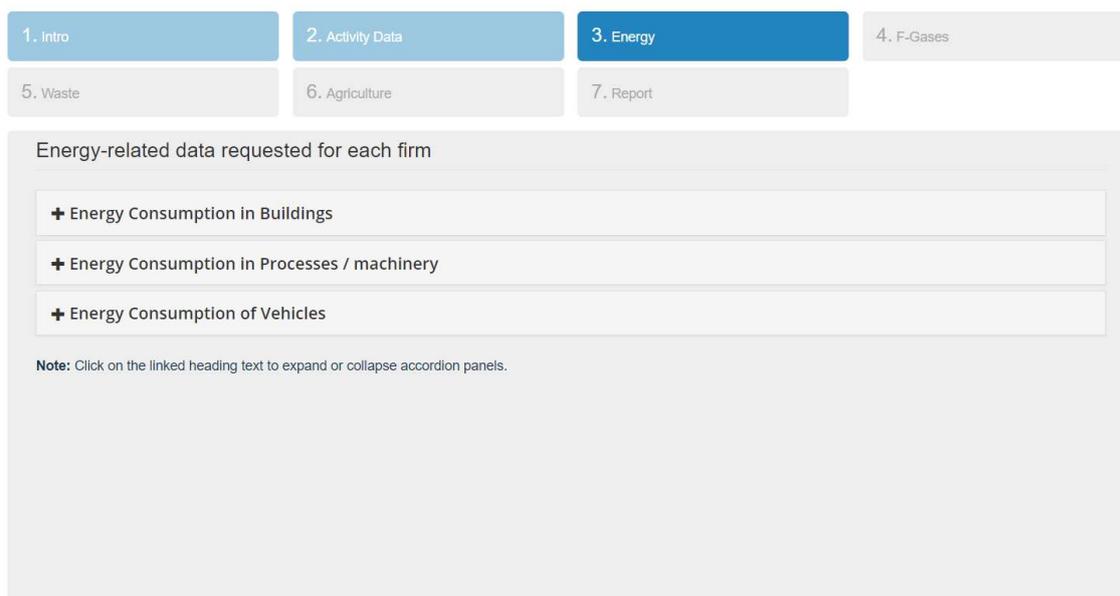
Figure 13 Energy

Table 2 provides a description of the categories of "Energy" that needed to be considered in the Energy section.

Table 2 Description of categories included in Energy

Sectors	Description
Buildings	Emissions from fuel combustion in firms' buildings and facilities (electricity, heating/cooling)
Processes/machinery	Emissions generated from fuel combustion in industrial processes (if applicable)
Transport	All combustion and evaporative emissions arising from fuel use in vehicles owned and used by the firm

The fuels used in each category and the respective units are presented in Table 3. Enter data of energy consumption that is applicable to your enterprise: the consumption of each fuel in tonnes, the consumption for heating from solar water heaters, geothermal and other renewables in megawatt-hours (MWh), and the electricity consumption in megawatt-hours (MWh) (second column of Table 3).

Table 3 Fuel used in Energy

Energy Consumption in Buildings	Units
Gasoil	tons
LPG	tons
Fuel oil	tons
Biofuels	tons
Wood	tons
Other biomass	tons
Heat (from solar water heaters)	MWh
Heat (geothermal)	MWh
Electricity (from grid)	MWh
Electricity (from solar PV)	MWh
Energy Consumption in Processes/machinery	
Gasoil	tons
LPG	tons
Fuel oil	tons
Biofuels	tons
Wood	tons
Other biomass	tons
Heat (from solar water heaters)	MWh
Other heat from renewables	MWh
Electricity (from grid)	MWh
Electricity (from solar PV)	MWh
Energy Consumption of Vehicles	
Gasoline	tons
Diesel	tons
LPG	tons
Biofuels	tons
Electricity (from grid)	MWh
Electricity (from solar PV)	MWh

Gas/diesel oil is primarily a medium distillate distilling between 180°C and 380°C. Several grades are available depending on uses:

- Transport diesel: on road diesel oil for diesel compression ignition (cars, trucks, etc.), usually of low sulphur content.
- Heating and other gas oil: Light heating oil for industrial and commercial uses, marine diesel and diesel used in rail traffic, other gas oil including heavy gas oils which distil between 380°C and 540°C and which are used as petrochemical feedstocks.

Liquefied petroleum gases (LPG) are light paraffinic hydrocarbons derived from the refinery processes, crude oil stabilisation and natural gas processing plants. They consist mainly of propane and butane or a combination of the two. They could also include propylene, butylene, isobutene and isobutylene.

Fuel oil covers all residual (heavy) fuel oils (including those obtained by blending). It is split into two categories:

- Low sulphur content: heavy fuel oil with sulphur content lower than 1%.
- High sulphur content: heavy fuel oil with sulphur content of 1% or higher.

Biofuels covers bioethanol, biodiesel, biomethanol, biodimethylether and biooil. Liquid biofuels are mainly biodiesel and bioethanol/ETBE used as transport fuels. They can be made from new or used vegetable oils and may be blended with or replace petroleum-based fuels. The natural plant feedstock includes soya, sunflower and oil seed rape oils. Under some circumstances, used vegetable oils may also be used as feedstock for the process.

Motor gasoline consists of a mixture of light hydrocarbons distilling between 35°C and 215°C. It is used as a fuel for land-based spark ignition engines. Motor gasoline can be divided into two groups:

- Unleaded motor gasoline: motor gasoline where lead compounds have not been added to enhance octane rating. It may contain traces of organic lead.
- Leaded motor gasoline: motor gasoline with TEL (tetraethyl lead) and/or TML (tetramethyl lead) added to enhance octane rating. This category includes motor gasoline blending components.

Wood is combusted directly for energy. Other solid biomass includes plant matter used directly as fuel that is not already included in wood/wood waste. Included are vegetal waste, animal materials/wastes and other solid biomass. This category includes non-wood inputs to charcoal production but all other feedstocks for production of biofuels should be excluded.

You can obtain information about the **energy content of various fuels** from the Cypriot legislation KDP 438/2015 (Table 4).

How to access the KDP 438/2015?

Click on http://www.cylaw.org/KDP/data/2015_1_438.pdf

Box 3 Access KDP 438/2015

Table 4 Conversion Factors from Cyprus Legislation KDP 438/2015

Fuel	kJ	kWh
1 kg Gasoil	42300	11,750
1 kg LPG	46000	12,778
1 kg Fuel Oil	40000	11,111
1 kg Wood	13800	3,833
1 kg Gasoline	44000	12,222
1 kg Diesel	42300	11,750

In the following Table you will find the necessary conversion factors, retrieved from OECD/IEA/Eurostat Energy Statistics Manual 2005 and 2006 IPCC Guidelines for National Greenhouse Gas Inventories, to express the energy consumption data of your firm to the appropriate units.

Table 5 Conversion Factors from OECD/IEA Energy Statistics Manual and 2006 IPCC Guidelines

Sector	Conversion Factor (kg/m³)	Conversion Factor (lt/tons)	Net Calorific Value (GJ/tons)
Energy Consumption in Buildings			
Gasoil	843,9	1185	43,38
LPG	522,2	1915	46,15
Fuel oil	925,1	1081	42,18
Biofuels	-	-	27,0
Wood	-	-	15,6
Other biomass	-	-	11,6
Energy Consumption in Processes/machinery			
Gasoil	843,9	1185	43,38
LPG	522,2	1915	46,15
Fuel oil	925,1	1081	42,18

Sector	Conversion Factor (kg/m³)	Conversion Factor (lt/tons)	Net Calorific Value (GJ/tons)
Biofuels	-	--	27,0
Wood	-	-	15,6
Other biomass	-	-	11,6
Energy Consumption of Vehicles			
Gasoline	740,7	1350	44,75
Diesel	843,9	1185	43,38
LPG	522,2	1915	46,15
Biofuels	-	-	27,0

How to access the OECD/IEA/Eurostat Energy Statistics Manual, 2005?

Click on: https://www.iea.org/publications/freepublications/publication/statistics_manual.pdf

The main conversions between units of mass and energy are presented in the following Tables 6 & 7. Table 8 gives the most common multiple prefixes used in energy statistics.

Table 6 Conversion Equivalents between Units of Mass

	TO: kg	tons
FROM:	Multiply by:	Multiply by:
Kilogramme (kg)	1	0,001
Tonnes (tons)	1000	1

Table 7 Conversion Equivalents between Units of Energy

	TO: GJ	MWh
FROM:	Multiply by:	Multiply by:
Gigajoule (GJ)	1	0,2778
Megawatt-hours (MWh)	3,6	1

Table 8 Basic Multiples Prefixes

Multiple

10^3 kilo (k)

10^6 mega (M)

10^9 giga (G)

10^{12} tera (T)

If fuel consumption data are not available, you can convert the corresponding total fuel costs into usage of fuel with the aid of Retail Fuel Prices Observatory developed by the Consumer Protection Service of the Ministry of Energy, Commerce and Industry.

How to access the Retail Fuel Prices Observatory?

Click on: https://mobile.eservices.cyprus.gov.cy/mcit_ccpr/PBL_MCIT_PetroleumPrices

Box 4 Access Retail Fuel Prices Observatory

In case that the total cost of a fuel is known you can easily convert it into fuel consumption if you know the cost of fuel in Euro/litre.

$$Total\ Cost = Fuel\ Consumption \cdot Fuel\ Cost$$

$$Fuel\ Consumption = \frac{Total\ Cost}{Fuel\ Cost}$$

Where

$Total\ Cost$ Total annual cost of fuel [Euro]

$Fuel\ Consumption$ Annual fuel consumption [lt]

$Fuel\ Cost$ Fuel cost [Euro/lt]

For example:

- Total Cost of Gasoline is 200 Euro
- Fuel cost of gasoline is 0,887 Euro/Lt **(retrieved from Retail Fuel Prices Observatory)**

With the aid of the previous equation:

$$Gasoline\ Consumption = \frac{200\ Euro}{0,887\ \frac{Euro}{Lt}} = 225,5\ Lt$$

Box 5 Fuel consumption calculation example

To move on to Section 4, by clicking Next at the bottom right of the screen frame.

Section 4 – F-Gases

This section is divided into two main parts:

- **Air Conditioning** – in which you should report data considering **Stationary** and **Mobile Air Conditioning**;
- **Refrigeration** – in which you should report data considering **Commercial Refrigeration, Industrial Processes** and **Transport Refrigeration**.

Figure 14 F-Gases I

Each category is further split into sub-categories. The following Table (Table 9) includes description and typical refrigerant charge and cooling duty for each one of them.

Table 9 Air Conditioning and Refrigeration sub-sectors description

Air Conditioning	
Stationary Air Conditioning	
Small Split Air-Conditioning	Units used for the cooling of single rooms in commercial buildings. Each system consists of two, an indoor unit and an outdoor unit. It is usually located at ceiling level or high on a wall, although some models are designed for floor level mounting.

	Typical refrigerant charge: 0.5 to 3 kg Typical cooling duty: 2 to 12 kW
Large Single Splits and Multi-Splits Air-Conditioning	Very similar in concept to small single splits. Large single splits are simply a larger version of a small split, consisting of a single indoor unit and outdoor unit. Multi-splits may have several indoor units connected to a single outdoor unit. **Typical refrigerant charge: 3 to 10 kg** Typical cooling duty: 10 to 40 kW
VRF systems	Sophisticated multi-split systems where several outdoor units can support many indoor units (up to 64). Some of these systems are designed to be able to provide simultaneous heating and cooling to different parts of the same building. **Typical refrigerant charge: 5 to 100 kg** Typical cooling duty: 12 to 150 kW
Ducted and Packaged Rooftop	Units that provide cooling to buildings via a ducted air ventilation system. Typical refrigerant charge: 5 to 100 kg Typical cooling: 12 to 200 kW
Water Chillers	This market sector includes water chillers that are used for building air-conditioning and some industrial cooling applications. Many large buildings that require air-conditioning are cooled using pumped chilled water systems with a central chiller installation. *Small/medium sized chillers* **Typical refrigerant charge: 40 to 500 kg** Typical cooling duty: 50 to 750 kW *Large chillers* **Typical refrigerant charge: 500 to 13 000 kg** Typical cooling duty: 750 to 10 000 kW
<u>Mobile Air Conditioning</u>	
Cars and Small Vans	Systems used to cool the driver and passengers in land transport including cars, vans. **Typical refrigerant charge: 0.4 to 0.8 kg** Typical cooling duty: 3 to 5 kW
Larger Vehicles	Systems used to cool the driver and passengers in land transport buses, agricultural vehicles and trains.

| | Typical refrigerant charge: 2 to 20 kg |
| | Typical cooling duty: 10 to 30 kW |

Refrigeration

<u>Commercial Refrigeration</u>

Stand Alone	Small systems using technology with similarities to domestic refrigerators. **Typical refrigerant charge: 0.1 to 0.5 kg** Typical cooling duty: 0.1 to 1 kW
Condensing Unit	"Split systems" with a cooling evaporator in the refrigerated space connected to a remotely located compressor and condenser. **Typical refrigerant: 1 to 10 kg** Typical cooling duty: 2 to 20 kW
Centralised	Large distributed systems with a number of cooling evaporators connected to a remotely located compressor pack and external condenser. **Typical refrigerant charge: 20 to 200 kg** Typical cooling duty: 40 to 200 kW

<u>Industrial Processes</u>

Small & Medium Sized Systems	Usually dedicated to one particular cooling demand. These systems are often located close to the cooling demand. **Typical refrigerant charge: 10 to 100 kg** Typical cooling duty: 20 to 100 kW
Chiller Systems	A primary refrigerant is used in a chiller to cool a secondary heat transfer fluid which is circulated to a number of separate cooling demands. **Typical refrigerant charge: 100 to 2000 kg** Typical cooling duty: 200 to 5000 kW
Large Distributed Systems	These systems are used to cool large loads in processes such as blast freezers, process heat exchangers and cold storage facilities. A primary refrigerant is piped from a central machinery room to a number of evaporators serving one or more cooling demands. The primary refrigerant is often circulated over significant distances. **Typical refrigerant charge: 250 to 5000 kg** Typical cooling duty: 100 to 5000 kW

Transport Refrigeration	
Road vehicles (vans, trucks, trailers)	This market sector includes refrigeration systems used in various modes of transport. Most transport refrigeration systems are used for the carriage of frozen or chilled food and beverage products. **Typical refrigerant charge: 1 to 8 kg** Typical cooling duty: 3 to 10 kW

By clicking on the plus symbol you can add any Gases in any sub-category. The first step requires you to choose the **Gas** used in the matching equipment and then state the initial **Charge** in kilograms (kg). That information can be provided by the construction company for the corresponding model. For your convenience you can group the systems with the same Gas and Charge. By doing that, you must fill the **Number of Units** cell with the appropriate number. Furthermore, you must state the **Installation Year** of each unit you grouped.

You can delete any entry by clicking on the ✖ sign and add any additional entry using the ✚ sign (Figure 16).

Figure 16 F-Gases III

A free F-Gas calculator tool has been developed by the European Commission. The values found in the corresponding excel workbook show kilogrammes of refrigerant charge for various threshold levels expressed in tonnes of CO_2 equivalent in the European Union F-Gas Regulation.

How to access the F-Gas Calculator?

Click on: https://ec.europa.eu/clima/sites/clima/files/f-gas/docs/f-gas_tool.xls

Box 6 Access F-Gas Calculator

To move on to Section 5, click Next at the bottom right.

Section 5 – Waste

This section is divided into two parts:

- **Solid Waste Disposal** – in which you should report data considering municipal solid waste generation.
- **Industrial Wastewater Treatment** – in which you should report wastewater treatment related data.

In this section you must fill in all required fields based on your activity. All signatories must fill **Solid Waste Disposal**. Firms that belong to specific categories of the Manufacturing Sector (production of Alcohol, Beer, Soft drinks, Dairy products, Meat and poultry, Refinery, Soaps and detergents, Vegetable oils, Vegetables, Fruits and juices and Wine) must complete additionally the **Industrial Wastewater Treatment**.

Solid Waste Disposal

Regarding Solid Waste Disposal, please state the city in which your firm is located. The data requested in the second cell will be retrieved automatically from Section 1 - Activity Data. Finally, declare the recycling rate.

Figure 17 Waste – Solid Waste Disposal

If the percentage of solid waste that is recycled by your firm is not available, the following Figure 18 can help you calculate the required percentage. It includes the composition (in weight %) of residual trade waste produced by eight business categories, retrieved from the first detailed national-level study into the composition of municipal waste in Scotland from Zero Waste Scotland in April 2010 (Table 10, pg 25).

	Retail	Food	Care	Hair & Beauty	Health	Leisure	Offices	Manufacturing	Other businesses
Newspapers & magazines	9.4	1.4	3.4	16.3	8.0	3.3	11.3	2.4	8.7
Other paper	15.6	9.6	14.7	9.1	31.0	16.7	28.8	28.1	18.5
Cardboard	29.3	7.9	6.8	6.9	14.2	13.4	9.7	14.7	15.9
Plastic film	11.6	7.1	7.4	6.3	6.8	7.6	5.4	11.1	5.0
Plastic bottles	2.2	3.9	1.9	6.2	2.8	6.3	6.1	2.5	3.0
Other plastic packaging	3.1	4.3	3.5	6.5	4.9	4.7	4.1	6.6	2.7
Other dense plastic	2.4	0.2	0.5	0.3	0.7	1.4	0.7	0.9	1.4
Textiles & footwear	1.1	0.4	1.0	0.5	0.6	1.8	0.2	6.2	1.3
Wood	0.1	0.1	0.8	0.1	0.1	0.5	0.0	0.1	0.0
Furniture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Disposable nappies	0.1	1.3	4.5	2.7	0.2	0.6	0.4	0.0	0.3
Other Combustibles	1.2	1.8	2.4	12.9	6.3	3.5	1.9	3.0	2.7
Packaging glass	1.1	6.1	3.2	4.1	0.9	8.6	2.1	0.6	8.1
Other glass	0.6	0.1	0.0	0.1	0.0	0.7	0.0	1.3	0.6
Rubble (C&D waste)	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.4
Other non-combustibles	0.1	0.0	0.2	0.0	1.6	0.9	0.2	1.1	1.1
Metal cans	1.3	4.0	2.2	3.4	1.4	3.7	2.0	1.8	4.5
Other metal	3.0	0.4	0.6	4.1	0.3	1.4	1.6	1.7	3.8
Food/kitchen waste	12.5	48.4	42.7	14.2	11.1	17.9	18.2	7.7	11.7
Garden waste	3.4	0.0	2.1	0.0	0.5	1.6	0.0	8.0	4.0
Other organics	0.8	1.2	1.1	5.1	2.4	2.7	3.6	0.8	3.4
HHW	0.1	0.0	0.0	0.1	0.1	0.3	0.4	0.2	0.0
WEEE	0.1	0.0	0.0	0.0	0.8	0.2	2.2	0.0	1.4
Fines	1.0	1.7	0.8	1.0	2.3	2.1	1.1	1.2	1.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Figure 18 Commercial waste composition

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Box 7 Access Zero Waste Scotland Report

Industrial Wastewater Treatment

Based on your economic activity (production of Alcohol, Beer, Soft drinks, Dairy products, Meat and poultry, Refinery, Soaps and detergents, Vegetable oils, Vegetables, Fruits and juices and Wine) must complete additionally the **Industrial Wastewater Treatment**., data regarding the **Industrial Wastewater Treatment** may need to be filled. The production data are already retrieved from Section 1 - Activity Data. At this point you should add information about the waste treatment method.

Figure 19 Waste – Industrial Wastewater Treatment I

First, select if the industrial wastewater is treated on-site or at a centralised treatment plant (**Waste treatment** cell) and the type of treatment applied (**What treatment?** cell). Finally, state the percentage of wastewater treated by each treatment type in cubic metres for the year 2017.

For example, if the wastewater is treated on-site with a combination of Aerobic and Anaerobic Treatment, both cells regarding the percentage **(%) of wastewater treated** will be activated (Figure 20).

Figure 20 Waste – Industrial Wastewater Treatment II

As soon as you complete the different parts, you can proceed to the final step. At this point you have successfully completed the template for the Baseline Emissions Inventory. You can access the results by clicking Next at the bottom right.

 If you belong in the Agriculture Sector, you will have to complete additionally the Section 6 – Agriculture.

Section 6 – Agriculture

This section requires information about Manure Management.

Click on the plus sign to add your data. Here select the type of animal from the list that is available on **Animal Selection** cell (Figure 21) and state the **Animal Population**. Finally, select the **Waste Management** method that is applied (Figure 22).

Figure 21 Agriculture I

Figure 22 Agriculture II

You can delete any entry by clicking on the ✖ sign and add a new entry using the ＋ sign (Figure 23).

Figure 23 Agriculture III

Section 7 – Report

The **Report** is generated at the end of the completion of the BEI online tool. Detailed results are presented for each sector (Energy Consumption, F-Gases, Waste and Agriculture) and its sub-categories. The **Total GHG emissions** for the year 2017 are also calculated. All emissions are expressed in tones of CO_2 equivalent.

Before proceeding to the final online submission, you have the option to **Download** the Report in PDF format. To submit the **Report** you must click **Submit** at the bottom right.