European Investment Bank

EUROPEAN INVESTMENT FUND

Carbon Footprint Report

- Fiscal Year 2011-

Report by

co2logic

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Introduction

Climate change is one of the greatest challenges facing nations, governments, business and citizens over the coming decades. The release of CO_2 and other greenhouse gases due to human activities, e.g. through the burning of fossil fuels, will have an effect on future climate. The impacts will range from affecting agriculture, endangering food security, rising sea levels, the acceleration of coastal zones erosion, increasing intensity of natural disasters, species extinction and the spread of vector-borne diseases. These impacts will be global but also local (IPCC 2007).

Europe has set the ball rolling and real action to help reach the 20-20-20 targets for 2020 are now being implemented. Thousands of companies and organisations are now calculating their Greenhouse Gas emissions related to their direct and indirect activities. Some companies are measuring their emissions due to pan European regulation (e.g. ETS). Others companies are calculating these emissions due to National regulation (e.g. Bilan Carbon® in France or the CRC in the UK). However many companies are calculating their emissions voluntarily to show their corporate social responsibility and so as to gauge their impact on climate change. Carbon footprinting has helped many International and European Institutions quantify the CO_2 reduction efforts they have made. This has also allowed various actors to make carbon reduction commitments over time through renewable energy initiatives, energy efficiency transport and logistics optimization and many other innovative solutions. The EIB has been calculating their CO_2 footprint since 2007 giving them a good baseline from which to evolve in the future. This report summarises the results of the 2011 carbon footprint of the EIB.

Single Point of Contact:

Tanguy du Monceau
tanguy@co2logic.com

1. Context

1.2. What is one tonne of CO_2

- 3 month of heating in an average flat in Luxemburg
- 1 return ticket from Luxemburg to Malaga by plane
- 5 returns from Paris to London by plane
- 6000 km with the average European car
- 4000 km with a SUV 4X4

All greenhouse gases (GHG) such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), refrigerants (HFC's, PFC's, CFC's), sulfur hexafluoride (SF_6), water vapour (H_2O), ozone (O_3) … are converted into CO2 equivalent using the Intergovernmental Panel on Climate Change (IPCC) 100-years global warming potential (GWP) coefficients.

Gas	GWP 100 years time horizon
CO_2	1
Methane (CH_4)	25
Nitrous Oxide (N_2O)	298
Sulfur Hexafluoride (SF_6)	22800

2. Carbon Footprint

2.1. Quick presentation of the EIB and EIF

The European Investment Bank was established in 1958 under the Treaty of Rome. The European Investment Bank is the European Union's financing institution, whose remit is to contribute towards the integration, balanced development and economic and social cohesion of the Member States. In particular financing is provided for regional development, Trans-European Networks of transport, telecommunications and energy, research, development and innovation, environmental improvement and protection, health and education. To that end, it raises substantial funds on the capital markets, which it channels, on the keenest terms, into the financing of projects that meet EU objectives. Outside the Union, the EIB implements the financial components of agreements concluded under the European development aid and cooperation policies.

The EIB and EIF have their head office buildings in Luxemburg (East & West Kirchberg, Hamm) next to each other on the Kirchberg Plateau in Luxemburg. The EIB has been based in Luxemburg since 1968 and moved onto the Kirchberg Plateau in 1980. The EIB and EIF employ 2175 people The EIB also has small international subsidiary offices around the world which report to the head office.

2.2. Methodology

To carry out this carbon footprint report we used the emission conversion factors from the recognised Bilan Carbone® ADEME tool or from the WRI GHG Protocol, when no figures were available for emission factors we used data from the CO2logic database and research. The consultants at CO2logic are certified to use the Bilan Carbone® tool but other figures were used when considered more adapted to the specific situation. The Bilan Carbone emission factors are updated over time and the consultants follow these updates. For this new report the emission factors from Bilan Carbone V.6, launched mid 2009 were used.

What is the Bilan Carbone® method?

Bilan Carbone® is a methodology developed by the ADEME (French government Agency for Environment and Energy Management) allowing a consistent approach to measure and quantify CO2 emissions. The Bilan Carbone® methodology is compliant with the ISO 14064 quality standard, the World Resources Institute and the World Business Council for Sustainable Development, GHG Protocol Initiative Standard as well as the EU ETS Directive n° 2003/87/CE.

The results given in this report are designed to give the EIB and EIF an accurate view of their carbon footprint. The results can be used to facilitate carbon reduction decision making. The time period which this carbon footprint report covers is 01/01/2011 to 31/12/2011.

The items quantified in this study are:

- Internal consumption, heating and electricity production. (all scope 1 emissions GHG protocol, direct emissions)
- Sourced electricity and heating (all scope 2 emissions GHG protocol, indirect emissions)
- Employee commuting to and from work, employee business travel, paper consumption and disposal of waste generated. (certain scope 3 emissions, GHG protocol and radiative forcing, indirect emissions)

The EIB management has decided that the carbon footprint scope would be set as defined above. At this stage the emissions from the EIB headquarters East & West Kirchberg, Hamm, will be taken into account. The smaller international EIB offices are not taken into account in the scope of this report.

This report has taken into account the GHG Protocol Initiative Standards as well as the latest principles and indicators (G3) developed by the Global Reporting Initiative (GRI) to report on sustainability. Using the Global Reporting Initiative definition of Materiality it is considered that reporting on the EIB and EIF carbon footprint is of significant importance. This report has been written in a way so as to facilitate sustainability reporting in accordance with the latest principles and indicators (G3) developed by the Global Reporting Initiative. This includes the principles for ensuring report quality and guidance for boundary setting. Calculations were all based on figures provided by the EIB and the EIF who obtained them from their invoices. These figures were then sent to CO2logic. The accuracy of the results of the report relies on the exactitude of the figures provided by the EIB and EIF.

2.3. Carbon Balance

2.3.1. Global footprint for EIB and EIF

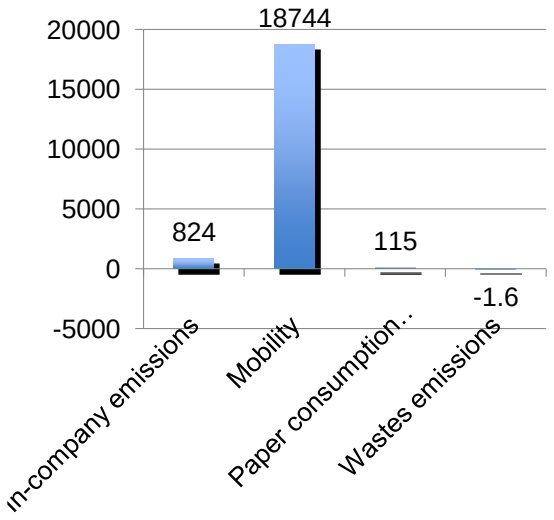
Within the emission boundary set, as explained above the results obtained show that the total carbon footprint of the EIB group comes to 19,682 tonnes of Carbon Dioxide equivalent (tCO_2 eq) per year thus an overall increase of 3.6% on 2010 emissions (18,997 tonnes of CO_2 in 2010, 16,576 tonnes in 2009 and 19,653 tonnes of CO_2 in 2008). However, as the number of staff also increased from 2010 to 2011 this implicates an overall decrease in CO_2 emission per staff member within the scope of the exercise (9.05 tonnes of CO_2 in 2011, 9.13 tonnes in 2010).

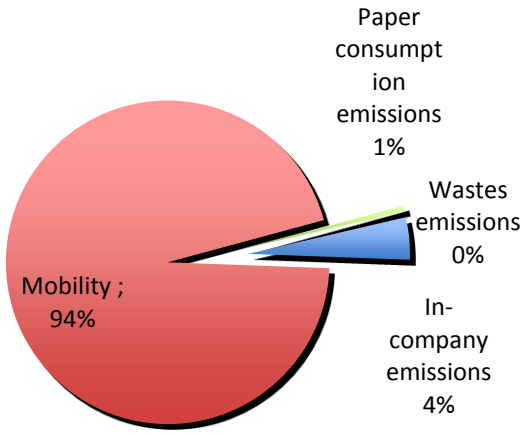
The CO_2 emissions coming from in-company emissions, which relate to heating, electricity and co-generation, account for 824 tonnes of CO_2 thus representing 4% of the total emissions (this is less than 1% increase compared to the 831 tonnes of CO_2 in 2010). The emissions coming from mobility i.e. the travel of employees due to transport, commuting and air travel account for 18,744 tonnes of CO_2 thus 94% of emissions (this makes 719 tonnes of CO_2 or 4% more than 2010 where 18,025 tonnes were emitted). It should be noted that a radiative forcing factor of x2 was used for air travel as according to the Bilan Carbone® methodology. This however differs from the GHG Protocol which does not take into account radiative forcing which would mean the airflight results would be halved.

The emissions related to paper consumption account for 115 tonnes of CO_2 thus 0.6 % of total emissions (decrease of 21% compared to 146 tonnes in 2010).

The emissions from waste disposal account for -1.6 tonnes of CO_2 (compared to -

Global footprint (t CO_2 eq)





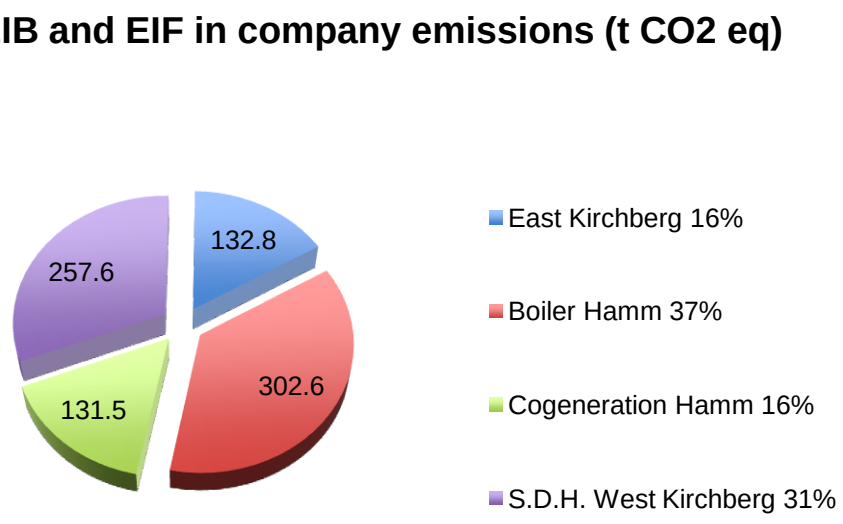
4.2 tonnes of CO_2 in 2010). Some waste is used as an energy source to produce electricity and thus replaces the use of fossil fuels.

2.3.2. In-company emissions

The emissions related to this category are those related to internal production of heat and electricity as well as emissions from externally sourced electricity and heating. As green electricity was used no direct emissions are counted for the electricity production as according to the Bilan Carbone methodology.

In-company emissions account for 824 tonnes of CO_2 thus 4.2% of the total emissions (compared to 831 tonnes of CO_2 in 2010 thus a reduction of 0.7%).

This means 0.38 tonnes of CO_2 per employee for this emission category.



The following data was collected by the facilities management:

- Steam heating West Kirchberg, 257.5 tonnes of CO_2 ((Steam 5,984,556 Kwh purchased) (Increase of 18% CO_2 on 2010)
- Steam heating East Kirchberg, 132.78 tonnes of CO_2 (Steam 3,087,950 Kwh purchased) (30% CO_2 reduction on 2010)
- Boiler Hamm, 302 tonnes of CO_2 (Gas 1,508,500 Kwh purchased) (54% CO_2 increase on 2010)
- Co-generation Hamm, 131.5 tonnes of CO_2 (Gas 655,793 Kwh purchased) (0 % CO_2 change on 2010)

All EIB purchased electricity is green electricity and the EIB is proprietor of the related green guarantees of origins. The electricity produced by the cogeneration system in the Hamm building is not used internally by the EIB as it is sold to the network and green electricity is bought instead. However the EIB profits directly from the sale of this electricity thus the gas consumption and therefore the CO_2 emissions created by this cogeneration system are fully allocated to the EIB Hamm building CO_2 emissions. Gas consumption was converted from PCS to PCI figures to en-

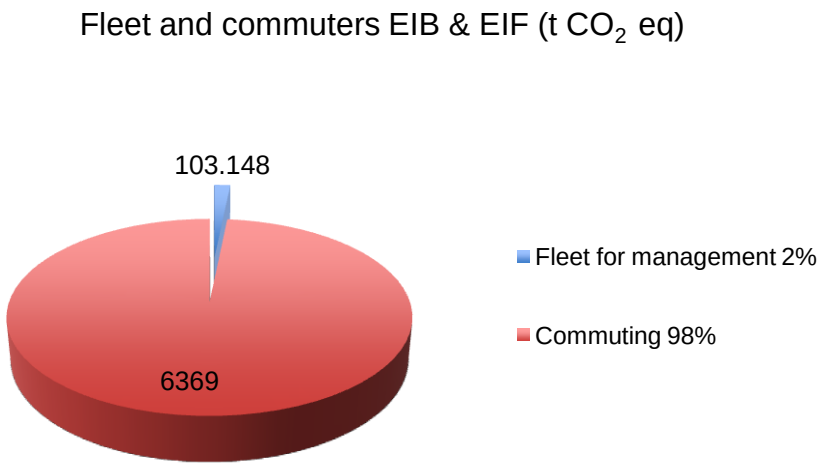
sure further accuracy of calculations. The EIB air-conditioning systems use ammonium so there is no global warming impact from leakage only the electricity usage which is already accounted for. The Kirchberg plateau has a positive particularity that all the buildings being heated can use the steam from the Kirchberg power plant. For steam heating purchased we were provided by the supplier with an emissions factor of 43g CO_2 per Kwh[1]. This was used for all steam purchased. Co-generation systems are very positive and minimise energy loss.

2.3.3. Mobility emissions

Mobility related CO_2 emissions included emissions from commuting, company fleet cars, a shuttle service between the various buildings and CO_2 emissions from travel by plane and train.

Mobility emissions represent 18,744 tonnes of CO_2 thus 94% of the total emissions (compared to 18,025 tonnes of CO_2 in 2010 thus an increase of 4% accumulated to the previous year increase of 16% this justifies a large increase in emissions). This means 8.62 tonnes per employee for this emission category. Clearly this is an important element for which further reduction efforts need to be made considering the planet can support 1.8 tonnes per person per year[2].

In relation to transport by cars commuting represents 6369 tonnes of CO_2 and the fleet of cars used by the management represent 103.4 tonnes of CO_2



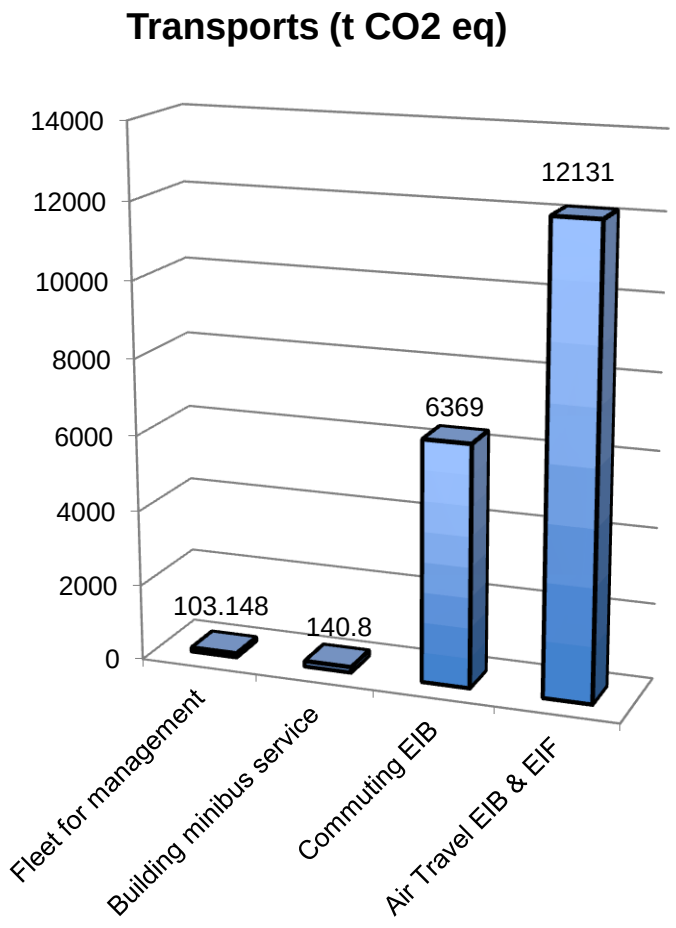
For the EIB and EIF the following information was provided by the facilities management:

- Owned management cars EIB & EIF 103.1 tonnes of CO_2. (-8% CO_2 on 2010)[3]
- Building minibus service, 140.8 tonnes of CO_2 (8% CO_2 increase on 2010)
- Commuting EIB & EIF, 6,369 tonnes of CO_2 (19,699,050 km) International Travel EIB & EIF,

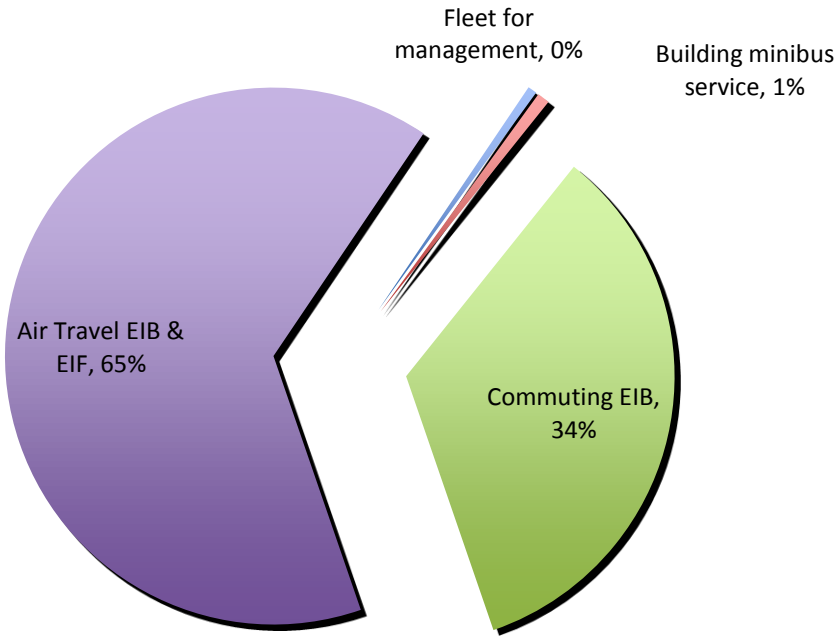
[1] 2007 figure provided by e-mail from Kirchberg plant management
[2] www.manicore.com
[3] Bassed of fuel consumption date provided and total of 505,646 km

- For air travel 6,045 tonnes of CO_2 without the radiative forcing and 12,131tonnes of CO_2 with radiative forcing X2 Bilan Carbone® (plane: short haul 11,385,147 km and plane: long haul 12,476,866 km) (an increase of 6% of CO_2 emissions on 2010)
- For train travel 41 tonnes of CO_2 (1,004,402 km) (1% change on 2010 CO_2)

For flights Non Kyoto Gases were included with a radiative forcing factor of X2 in line with the Bilan Carbone® recommendation this is however in contradiction with the WRI GHG Protocol which does not include radiative forcing factor for aviation. For travel by plane we were informed that for short haul journeys economy class was used and for long haul journeys, business class was used. As the class affects the number of people in a plane and thus the emission factor per person this was taken into account in the calculations.
For the EIB commuting emission figure the average distance travelled of 35 km was applied based on the research carried out at the European Commission[4] for its employees in Luxemburg. The number of EIB parking spaces was used as the commuter quantification value this figure has decreased slightly from 1542 to 1532 spaces used in 2010. The increase in flight emissions explains this significant overall increase in mobility CO2 emissions.



[4] Figure obtain by e-mail 2007



For train travel the emission conversion figure applied per km was the Luxemburg train average. This figure is not far off the European average and thus is assumed a reasonable average to apply even if it is understood that many of the train journeys did end their journey abroad.

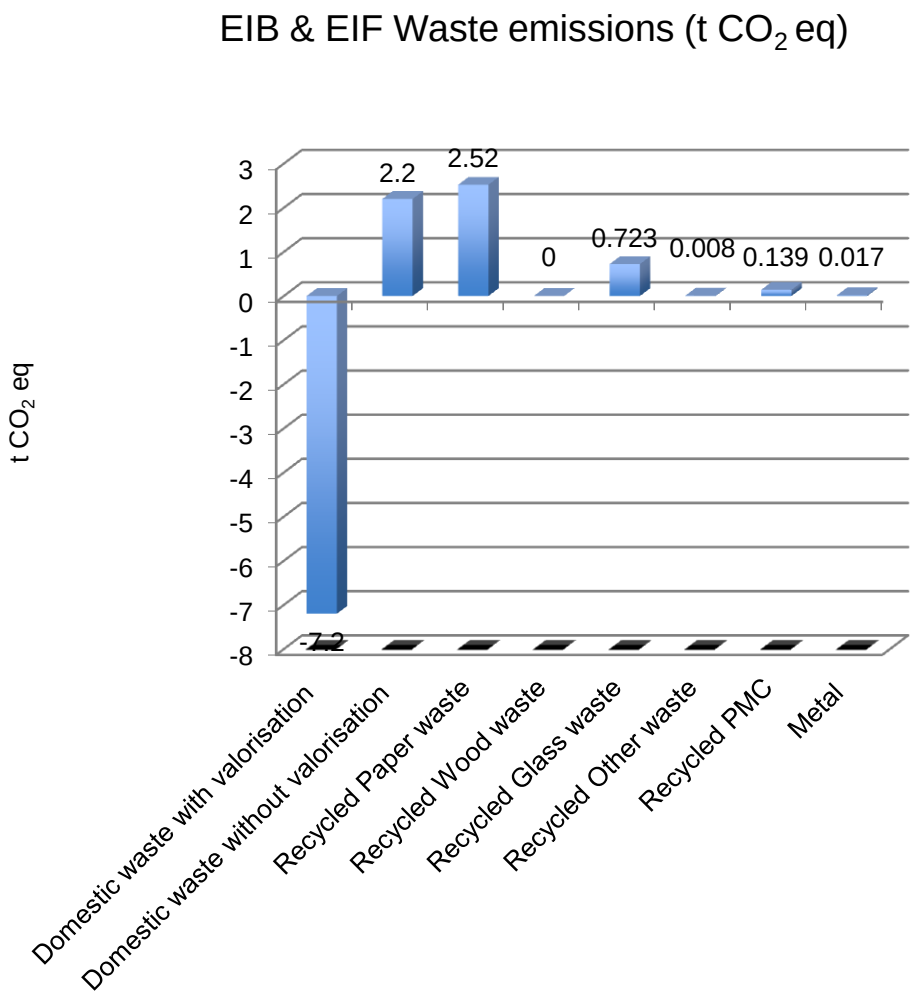
2.3.4. Paper consumption

The paper consumed by the EIB and the EIF was also calculated so as to quantify the related CO2 production impact.

Paper consumption of 87 tonnes which represent 115 tonnes of CO_2 thus 0.6% of the total emissions (compared to 110 tonnes of CO_2 in 2010 thus an increase of 4%)

2.3.5. Waste

The emissions from waste disposal account for -1.59 tonnes of CO_2.



The following data was collected by the facilities management:

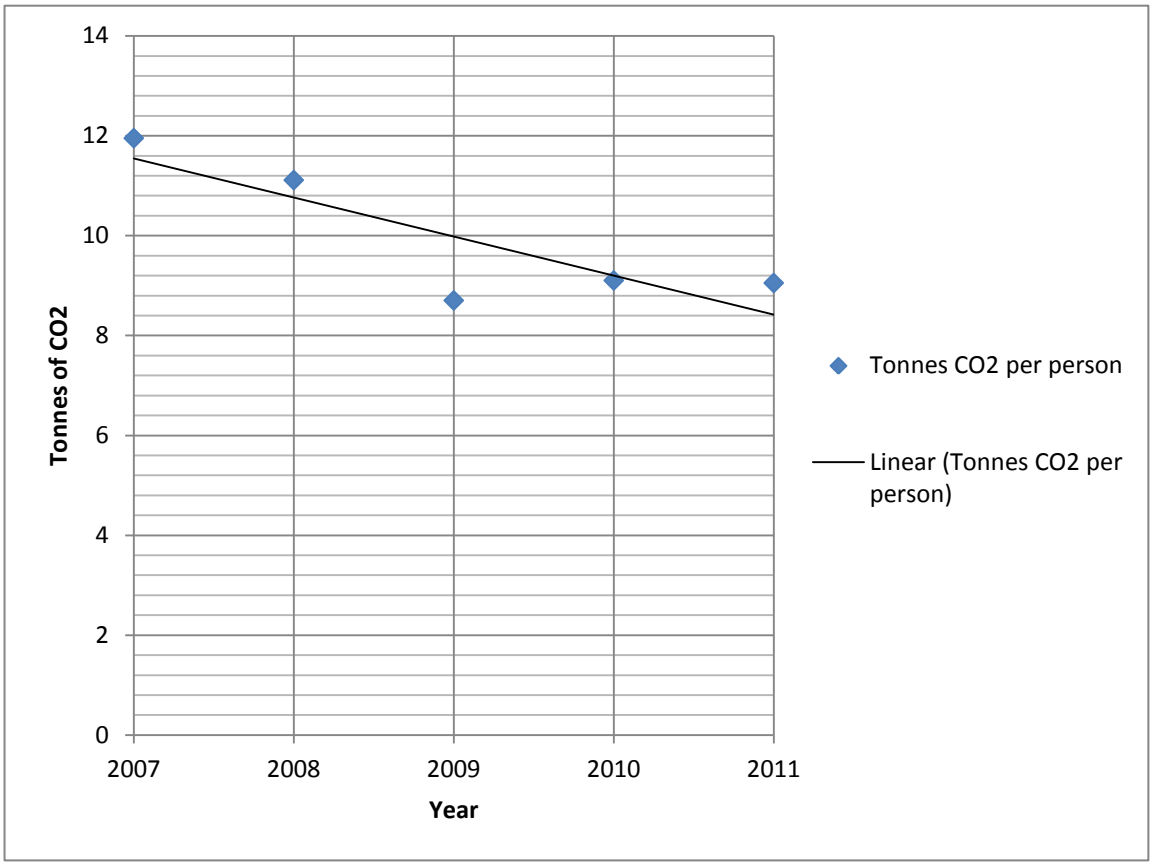
- Domestic waste with valorisation spared 7.2 tonnes of CO_2 (a reduction of 36% compared to the 11.3 tonnes of CO_2 spared in 2010)
- Domestic waste without valorisation caused 2.2 tonnes of CO_2 (a reduction of 49% compared to the 4.5 tonnes of CO_2 in 2010)
- Recycled Paper waste caused 2.52 tonnes of CO_2 (an increase of 435% compared to 0.578 tonnes of CO_2 in 2010)
- Recycled Glass waste caused 0.723 tonnes of CO_2 (0% change compared to 0.723 in 2010)
- Recycled other waste caused 0.008 tonnes of CO_2 (nearly a 100% reduction compared to 1.167 in 2010)
- Recycled PMC caused 0.139 tonnes of CO_2 (a 43% increase compared to 0.097 tonnes of CO_2 in 2010)
- Metal waste caused 0.017 tonnes of CO_2 (compared to 0 tonnes of CO_2 in 2010)

Domestic waste with valorisation causes a positive emissions contribution as 75% of this waste is measured to be valorised energetically in accordance with data provided by the local authorities thus replacing energy which would normally have been produced from a non renewable fossil fuel source. See annex 1 for details of waste data.

4. Conclusion

In 2011 the CO_2 emission variation of +3.6% can essentially be attributed to mobility. A significant portion of this increase is due to air flights. Air flights can certainly be justified by the increase in activity of the EIB in 2011 another very active year. With the Aviation sector currently entering into the ETS we may see air travel efficiency improvements in the coming years.

The EIB has been calculating their footprint for the last five years. Setting up such a data collection activity is a large task and complex due to the size of the EIB and the dispersion of the data. Encouraging the different department's representatives to collect the data and provide this data within the dead line is not always easy. Ensuring that the data is collected and received in the correct format is also complicated. Finally there have been large modifications in building and office space usage over the last five years, with empty buildings, renovations and relocations etc this has also meant variations in the overall CO_2 emissions and made the data more complex to use for year on year comparison. However lessons have been learnt from these challenges and the system has improved over time so as to provide more year on year comparable figures. The below graph sums up the CO_2 footprint per capita of the EIB over the last five years taking into consideration the points mentioned above. Significant reductions in flights in 2009 compared to 2008 justify the significant decrease per person. A subsequent increase of flights in 2010 and a colder winter explains the 2010 rise per person.
In the coming year an EMS system will be set up this should also help contribute to ensure a better management of the EIB Carbon impact and ensure the data collection is carried out in consistent manner.



5. Environmental indicators 2011

	Total Tonnes of CO_2 2011	Tonnes of CO_2 per staff member 2011	Tonnes of CO_2 per staff member 2010	Tonnes of CO_2 per staff member 2009	Tonnes of CO_2 per staff member 2008	Tonnes of CO_2 per staff member 2007
Energy emissions	**824**	**0.38**	**0.41**	**0.52**	**0.68**	**0.82**
Mobility emissions	**18,744**	**8.62**	**8.67**	**8.13**	**10.31**	**11.10**
Waste	**-1.6**	**-0.0007**	**-0.002**	**0.0001**	**-0.0007**	**0.0002**
Copying paper consumption	**114.8**	**0.053**	**0.1**	**0.06**	**0.13**	**0.13**
TOTAL	**19,682**	**9.05**	**9.14**	**8.69**	**11.11**	**11.92**

	Total Water Consump-tion (000 liters) 2011	m^3 per staff member 2011	m^3 per staff member 2010	m^3 per staff member 2009	m^3 per staff member 2008	m^3 per staff member 2007
Water con-sumption	**64,983**	**29.88**	**29.57**	**40.89**	**37.34**	**41.11**

	Total Electricity kWh 2011	kWh per staff member 2011	kWh per staff member 2010	kWh per staff member 2009	kWh per staff member 2008	kWh per staff member 2007
Electricity con-sumption (with green certificates) ☑	**18,045,616**	**8296.82**	**8742.91**	**9878.63**	**10 679.51**	**10 205.32**

	Total tonnes of Paper 2011	Tonnes per staff member 2011	Tonnes per staff member 2010	Tonnes per staff member 2009	Tonnes per staff member 2008	Tonnes per staff member 2007
Total paper	**87**	**0.04**	**0.05**	**0.05**	**0.07**	**0.07**

Annex 1

EIB & EIF Waste Emissions	tonnes of CO2	tonnes of acutal weight
Domestic waste with valorisation	-7.2	144
Domestic waste without valoristaion	2.2	48
Recycled Paper waste	2.52	137.6
Recycled Wood Waste	0	0
Recycled Glass waste	0.723	39.44
Recycled Other waste	0.008	0.3
Recycled PMC	0.139	7.6
Metal	0.017	0.9
Total	-1.59	

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Key terms

Carbon Dioxide equivalent (CO_2). An internationally accepted measure that, by means of agreed conversion factors, expresses the global warming capacity of different greenhouse gases in terms of the amount of carbon dioxide that would have the same global warming potential (GWP).

Certified Emissions Reduction (CER). A carbon reduction credit for one tonne of CO_2 as certified by the UNFCCC under the United Nations' Clean Development Mechanism (CDM).

DEFRA (Department for Environment, Food and Rural affairs).

European Union Emissions Trading Scheme (EU ETS). The world's largest multi-country, multi-sector, greenhouse gas emission trading scheme. The scheme, in which all 25 member states of the European Union participate, started operations on 1 January 2005.

Gold Standard (GS) Voluntary offset verification standard

Greenhouse gas (GHG). Any gas, such as carbon dioxide (CO_2), methane (CH_4) or water vapour (H_2O) that gives rise to a greenhouse global warming impact.

Intergenerational equity. The issue of the fairness of the distribution of the costs and benefits that are borne by different generations. In the case of climate change policy, for example, action or inaction today has impacts not only on the present, but also on future, generations.

Intergovernmental Panel on Climate Change (IPCC). The IPCC was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP). The role of the IPCC is to "… assess on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation."

Kyoto Protocol. An international agreement adopted in December 1997 in Kyoto (Japan). The Protocol sets binding emission targets for developed countries that would reduce their emissions on average by 5.2% below 1990 levels.

Radiative forcing. In climate science, defined as the difference between the incoming radiation energy and the outgoing radiation energy in a given climate system. A positive forcing (more incoming energy) tends to warm the system, while a negative forcing (more outgoing energy) tends to cool it. Possible sources of radiative forcing are changes in insulation (incident solar radiation), or the effects of variations in the amount of radiatively active GHG gases present.

Social cost of carbon. The damage value of an additional tonne of carbon emissions.

United Nations Framework Convention on Climate Change (UNFCCC). A treaty, signed at the 1992 Earth Summit in Rio de Janeiro, which calls for the "stabilization of greenhouse gas

concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference

Vertified Emissions Reductions (VER) Offsets that are used in the voluntary market and which are verified by a third party.