ASSESSMENT OF GREENHOUSE GAS EMISSION IN 2011

IP INVESTISSEURS & PARTENAIRES

Introduction

Investisseurs & Partenaires (I&P) is a family of investment funds created in 2002 which aims to go along with the development of SMEs in Africa. Being aware of the fact that these companies are an essential step of Africa's development process by producing social, environmental and governance impacts, we wish to accompany companies of our portfolio in the improvement and evaluation of their environmental, social and governance performance. For this, we are committed in an ESG (Environment, Social and Governance) policy which will be laid out in several steps and for which goals will be put in a chart.

Being conscious of the fact that climate change is a major stake for the 21st century, we lay the reduction of greenhouse gas emission as an environmental goal priority. In order to be coherent and exemplary toward our investors and entrepreneurs, it seems for us compulsory to measure and reduce our own greenhouse gas emission. First, we have made internally an assessment of greenhouse gas emissions with method and results herein. Next, we'll set an action plan aiming to reduce our carbon trace. Incompressible emissions will be cleared in. This step will intervene after the establishment of reduction actions.

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1. Methodology

The used methodology is inspired from the method of realizing greenhouse gas emissions developed by the Ademe[1], for the voluntary or regulatory assessments of companies'[2] greenhouse gas emissions (GGE).

1.1. Which greenhouse gases are measured?

Measured greenhouse gases are those included in the Kyoto protocol (cf table 1).

Greenhouse gas	Main emission sources
Carbon dioxide (CO2)	- Fossil combustion - Aluminum, steel, cement and glass production
Methane(CH4)	- Biomass combustion or decomposition - Gas and oil production or treatment
Nitrous oxide(NO2)	- Incineration of solid trash - Production of fertilizers and transportation
Hydrofluocarbides (HFC)	- -Industrial processes for isolating, refrigerating and air condition
Perfluocarbides(PFC)	- Aluminum production
Sulfur Hexafluoride (SF6)	- Industrial processes

Table1: Gas for measure effect included in the Kyoto protocol

These gases which have different consequences on the global warming are characterized by their global warming potential (GWP). GWP is the unit of measurement for the effect of greenhouse gas on the global warming in relation to carbon dioxide on a period of 100 years (cf Annex 1). For instance, one kg of methane has a greenhouse impact 25 times more important than a kg of carbon dioxide during 100 years. Thus, methane has a GWP of 25, i.e. a warming power 25 times higher than the one of carbon dioxide.

[1] Ademe – Agence de l'environnement et de maitrise de l'energie (Agency for environment and energy control)

[2] Method for the realization of greenhouse gases emissions assessment in accordance with article 75 from the law n. 2010-788 of july 12th, 2010 about national commitment for environment. (NCE)

1.2. Carbon trace measure

Carbon trace is measured in equivalent Tons CO2 (teqCO2). To obtain a gas emissions differing from carbon dioxide in teqCO2, one multiplies the quantity of emitted gas by its global warming potential.

The internally developed calculator to measure the carbon trace of I&P relies on emission factors of the ADEME's Carbon Base. Emissions factors are multiplier coefficients enabling to convert an activity datum in emitted GES quantity (in teqCO2).

2. Definition of the operational area

2.1. Ademe methodological frame

The methodology of greenhouse emissions assessment distinguishes emissions into two categories, corresponding to scope 1 and 2 from our report:

- Scope 1: direct emissions produced by fixed and mobile sources, which are necessary to the moral person activities i.e. emissions coming directly from the company's equipments: combustibles combustion (fuel, natural gas, charcoal …) on the site, greenhouse gas emissions at manner, fuel consumption by the companies' vehicles (freight, transportations, …)
- Scope 2: indirect emissions linked to power, heat or vapor consumption necessary to moral person activities.

The methodology defines as well a third category of emission gathering other indirect emissions from the moral person activities. This third category, corresponding to scope 3 of our study, includes numerous emissions posts more or less pertinent with regard to the studied company activity.

2.2. Application on I&P

As far as I&P is concerned, we don't produce direct emissions of scope 1. The scope 2 includes the power and natural gas consumption for the locals heating.

For the scope 3, we have included more significant appearing emission posts and for which we had reliable, measurable and available data: produced emissions by professional moving and those due to printing paper consumption. Other emissions posts could be added, but we have narrowed to significant posts and for which, we have reliable data. In this way, we have chosen to not take in account emissions due to home – work journeys of employees because in the Parisian context, all employees come through public transportation. In consequence, this is not a significant post. The garbage production is a difficult post to evaluate and has not seemed significant for us firstly.

The description of scopes is summarized in the table below:

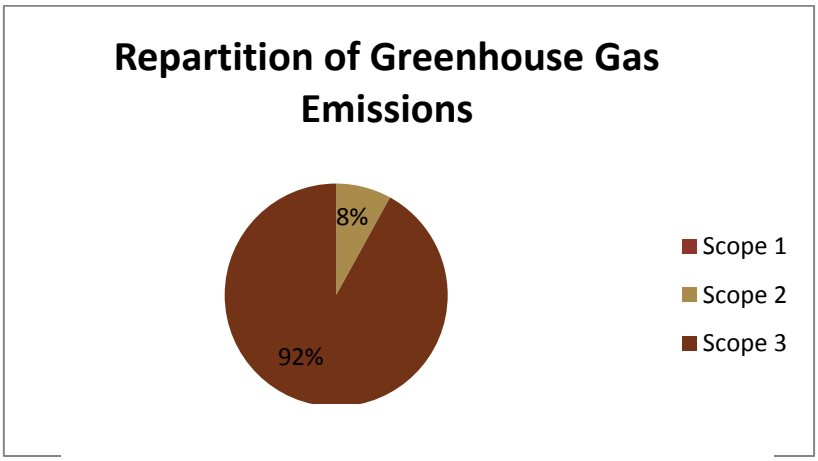
Scope 1	**Direct emissions**	- **None**
Scope 2	**Indirect energetic emissions**	- **Power consumption** - **Heating of locals**
Scope 3	**Other indirect emissions**	- **air and railway professional moving** - **paper consumption**

Table 2: Description of scopes

The greenhouse gas emission report has been realized from March 2011 to March 2012 about I&P Conseil activity in Paris locals. The necessary data for the realization of this report come from the 2011 bills and interviews with I&P staff.

3. Result: 2011 Carbon trace for I&P Conseil

The quantity of greenhouse gas emitted by the activity of I&P Conseil on 2011 is **177, 87 teqCO_2**.



Picture1: Repartition of greenhouse gas emissions per scopes

Categories	Emissions (TeqCO²)	Total % of emissions
Power	0,56	0,3
Heating	13,69	7,7
Train	0,06	0,0
Plane	163,22	91,8
Paper Consumption	0,35	0,2
TOTAL	**177,87**	100,0

Table 1: Greenhouse gases emissions per categories of emissions for 2011

It's important to keep in mind that the carbon base emissions factors used to calculate our emissions have an uncertainty degree more or less high (cf Annex 2). The carbon trace obtained doesn't constitute an exact result, at the teqCO2 close, but rather an estimation of I&P emissions for 2011. It will allow us to identify our main emissions posts and our leeway.

3.1. Scope 1: Direct emissions linked to the activity

The action of I&P doesn't cause any direct emission of greenhouse gas. In fact, we don't have an industrial activity and don't possess vehicles.

3.2. Scope 2: Indirect energetic emissions

The total of scope 2 emissions is **14.25teqCO_2**, i.e. 8 % of total emissions.

- Natural gas consumption

The scope 2 emissions are mainly due to the consumption of natural gas (13.69 teq CO2). The natural gas emission factor is not very high, 0.3kgCO2e/kWh. Yet, there was a strong consumption in 2011. The gas heating is done at floor, and the thermostat tuning is done at the neighbor cabinet. Thus, it's not directly available for the I&P staff.

- Power consumption

The power consumption doesn't represent a major emissions post. In France, the power consumption factor of emissions is 0.078kgCO_2e/kWh, which is among the weakest worldwide. This can be explained by the fact that the power produced in France is mainly nuclear, which relatively emits little greenhouse gas.

3.3. Scope 3: Other indirect emissions

The total of scope 3 emissions is **163.62 teqCO_2**, i.e. 92% of total emissions..

- Professional transportation

I&P action implies many moving inside Africa where are located the companies of the portfolio. Emissions linked to air journeys of I& P employees have been calculated for aircrafts of 180 to 250 seats, with factors of emissions varying in accordance with the distance of the journey. Air transportations represent the most important emissions, 163.22 teqCO_2, i.e. 91.8% of total emissions.

The railway journeys in 2011 have been estimated on a basis of 2 trips per employee per year. Trips by train are far less often than those by plan and emit much little greenhouse gases. Thus, they have an almost negligible impact in term of emissions, 0.06 teqCO_2 in 2011.

- Printing paper consumption

Printing paper consumption has an important carbon impact due to its utilization of forest raw materials which are carbon wells on one hand and due to paper manufacturing process which strongly emits greenhouse gases on the other hand (energy consumption, transportation…). We don't take in account emissions linked to the consumed paper.

At I&P, 260 kg of printing papers had been consumed in 2011, what corresponds to greenhouse gas emission of 0.35 teqCO_2.

4. Synthesis and actions plans

4.1. Comparisons

At Investisseurs et Partenaires, on a basis of 10 permanent employees and 3 interns, the 2011 carbon trace is **13.68teqCO2/employee**.

In comparison, the European Bank of Investment (EBI) also realizes a measure of its carbon trace. For 2011, EBI emissions are **19 682 teqCO2 i.e 9.05 teqCO_2**/ employee by taking in account in scope 3 the commuting employees, professional trip, paper consumption and waste generated.
The World Bank also realizes a measure of its carbon trace. For fiscal year 2010, it is **15.3 tCO2e** / **employee** by taking in account in scope 3, professional trip.

4.2. Actions plans

From results obtained in this evaluation, we can determine the most important posts of emissions and leeway to reduce them. These actions suggestions represent a first reflection and will have to be deepened by the entire team to arrive to a coherent and applicable action plan.

On scope 2, the most import post of emission is natural gas consumption for locals heating. On this point, as power consumption, various actions for reduction could be set up (light bulb low consumption, watchfulness regarding machines standby, thermostat reduction for heating…)

On scope 3, the most significant post of emissions is composed of air transports. Yet, the leeway appears weak. In fact, entrepreneurs support by visits is vital and the amount of directors and people in charge of investment trips can be reduced difficulty. The printing paper consumption represents a little carbon impact but the leeway is more important (printing reduction, scratch paper utilization…). Since the majority of emissions won't be reduced, (92% of emissions are due to air trips), we secondly envisage to counterbalance our incompressible emissions by financing carbon projects: reforestation, manufacturing of economical wooden ovens…

The I&P Conseil evaluation of greenhouse gases emissions will be done every year, what will enable to measure the carbon trace evolution and the effectiveness of arranged action plan. This first assessment took in account the most significant posts of emissions. It will be interesting to enlarge the evaluation zone in following years. The scope 3 will be completed by the measure of greenhouse gases emissions linked to trash production, fixed assets (mainly the computing devices), home – work journeys of employees, and other secondary posts of emissions. At term, the study zone will be able to include I&P local offices located in Cameroon, Ghana and Senegal.

Annex 1: Gases Global Warming Potential

Gas	GWP
CO2	1
Methane CH4	25
Nitrous Oxide NO2	298
Perfluocarbons PFC	7390
Hydrofluocarbons HFC	12 000
Sulfur Hexafluoride SF6	22 200

Source: GIEC, 2007

Annex 2: Used emissions factors

	Power	Natural Gas	Air Transportation	Railway Transportation	Paper Manufacturing
Emissions Factors	0.078 kCO2eq/kWh	0.3 kgCO2eq/kWh	0.2-0.3 kgCO2eq/pers/km	0.006 kgCO2eq/pers/km	1320kgCO2eq/T
Uncertainty degree	10%	5%	50%	60%	20%

Source: Carbon Base Ademe