UNITED NATIONS
ECLAC

Economic Commission for Latin America and the Caribbean
Subregional Headquarters for the Caribbean

LIMITED
LC/CAR/L.404
25 June 2013
ORIGINAL: ENGLISH

THE CARBON FOOTPRINT OF ECLAC SUBREGIONAL HEADQUARTERS FOR THE CARIBBEAN: MOVING TOWARDS A CLIMATE NEUTRAL STRATEGY

Table of contents

I. INTRODUCTION 1
II. METHODOLOGY FOR ESTIMATING GREENHOUSE GAS EMISSIONS 2
A. The scope 2
B. General approach 3
C. Emission sources 5
1. Purchased electricity 5
2. Travel 5
3. Water 5
4. Procurement of goods and services 5
D. Data availability 6
III. THE CARBON FOOTPRINT OF ECLAC – PORT OF SPAIN 7
A. Total Greenhouse Gas emissions 7
B. 2004 vs. 2009 Greenhouse Gas emissions 8
C. Conclusions 10
IV. REDUCING GREENHOUSE GAS EMISSIONS: NEXT STEPS 12
A. Existing reduction efforts 12
B. Next steps 12
C. Efficient energy use 13
1. Short term 13
2. Medium-long term 13
3. Useful resources 14
D. Green travel 14
1. Short term 14
2. Medium-long term 15
3. Useful resources 15
E. Green meetings 15
1. Short term 15
2. Medium-long term 17
3. Useful resources 17
F. Sustainable procurement 17
1. Short term 17
2. Medium-long term 18
3. Useful resources 18
G. Taking action 19
1. Identifying responsibility and securing commitment 19
2. Benchmarking, goal setting and implementation 20
3. Staff engagement and awareness raising 20
4. Useful resources 20
Annex 1: Goods and services included in carbon footprint analysis 21
Annex 2: Staff commuting questionnaire 22

LIST OF TABLES

The boundary of activities included in the carbon footprint analysis of ECLAC-POS versus the common minimum industry 3

LIST OF FIGURES

Figure 1 Depiction of Greenhouse Gas emissions protocol "scope" 2
Figure 2 General methond of calculating Greenhouse Gas emission factors 4
Figure 3 Breakdown of the total carbon footprint of ECLAC-POS in 2009 7
Figure 4 A comparison of ECLAC-POS carbon footprint 2004 vs 2009 8
Figure 5 Composition of the carbon footprint of the goods and services procurement by ECLAC-Port of Spain 2004 and 2009 9
Figure 6 Composition of the carbon footprint of travel undertaken by ECLAC-Port of Spain, 2004 and 2009 10
Figure 7 Improvement cycle diagram 19

Executive Summary

In combating climate change the United Nations Secretary-General, Mr. Ban Ki-Moon, has resolved that the United Nations should lead by example. He mandated that the United Nations system develop a climate-neutral approach for its premises and operations. Accordingly, this study presents the first attempt to capture data on the carbon footprint of the Economic Commission for Latin America and the Caribbean subregional headquarters for the Caribbean (ECLAC-POS).

The methodology for this study follows that employed by the United Nations Environment Programme (UNEP) in their annual carbon footprint analysis of the United Nations system, as well as applying emission factors from the Greenhouse Gas (GHG) Protocol accounting tool. The results generated from this methodological approach revealed that in 2009 the operational activities of ECLAC-POS produced a total of 1,325 tonnes of CO_2eq emissions, which equates to roughly 29 tonnes of CO_2eq per staff member. This figure was disaggregated into four activity components with the biggest portion resulting from the procurement of goods and services (65 per cent of total emissions) followed by the direct use of energy (21 per cent), travel (14 per cent) and water consumption (only 1 per cent). Carbon footprint data from 2004, showed that GHG emissions from the activities conducted in 2009 were 21 per cent larger (despite a 39 per cent reduction in electricity consumption), representing an increase of 277 tonnes of CO_2eq emissions. An increase in the procurement of goods and services and air travel contributed to this larger footprint in 2009.

By identifying the activities that are responsible for the highest emissions, the analysis by extension identifies the activities with the greatest scope for implementing GHG emission reduction measures. Within this context, the study recommends that strategies to reduce GHG emissions focus on:

(a) Strengthening and promoting existing reduction efforts.

(b) Instituting efficient energy use practises.

(c) Encouraging lower carbon travel practices.

(d) Implementing green meetings.

(e) Adopting sustainable procurement measures.

Notwithstanding the structural and building maintenance constraints faced by ECLAC-POS, there are many initiatives that could be implemented to reduce emissions associated with the activities of the organisation. In order to achieve effective implementation of these measures and to realize subsequent meaningful impact, the following factors need to be considered:

(a) Identifying roles and responsibilities among staff and securing commitment from senior management in the implementation of the GHG reduction measures.

(b) Benchmarking and goals setting alongside implementation, which would involve calculating the carbon footprint of ECLAC-POS on an annual basis.

(c) Regular staff engagement and awareness raising of the reduction measures and their impact on GHG emissions.

(d) To make accessible useful United Nations guidance material and resources to help kick start this process.

By focussing on these five reduction areas and following the considerations outlined, ECLAC-POS can gain a sure footing on the path to climate-neutrality.

I. INTRODUCTION

The phenomenon of climate change, cited as perhaps the most defining issue of our time, is affecting the Earth because we release more GHG into the atmosphere than can be absorbed by ecosystems. Scientists have alerted the international community that we have less than 10 years to halt the global rise in GHG emissions if we are to avoid catastrophic consequences. For this reason, the United Nations Secretary-General, Mr. Ban Ki-Moon, has made climate change a top priority and is determined that the United Nations should lead by example.

In October 2007, the United Nations Chief Executive Board (CEB) adopted a Climate Neutral Strategy for the United Nations. This strategy commits all United Nations agencies, funds and programs to calculate their GHG emissions, to reduce their emissions of GHG to the extent possible and to prepare required data and economic analysis for purchasing offsets for remaining emissions[1].

This report represents the first attempt to calculate the GHG emissions of ECLAC-POS. The total set of GHG emissions generated by the activities of the organization can also be referred to as the carbon footprint. The results of this assessment, or the carbon footprint of ECLAC-POS, are disaggregated by activity components such as purchased electricity, water, travel and goods and services. These components will identify the activities that are responsible for the highest emissions and hence, have the greatest scope for implementing GHG emission reduction measures.

[1] UNEP (2010) Climate friendly buildings and offices: a practical guide.

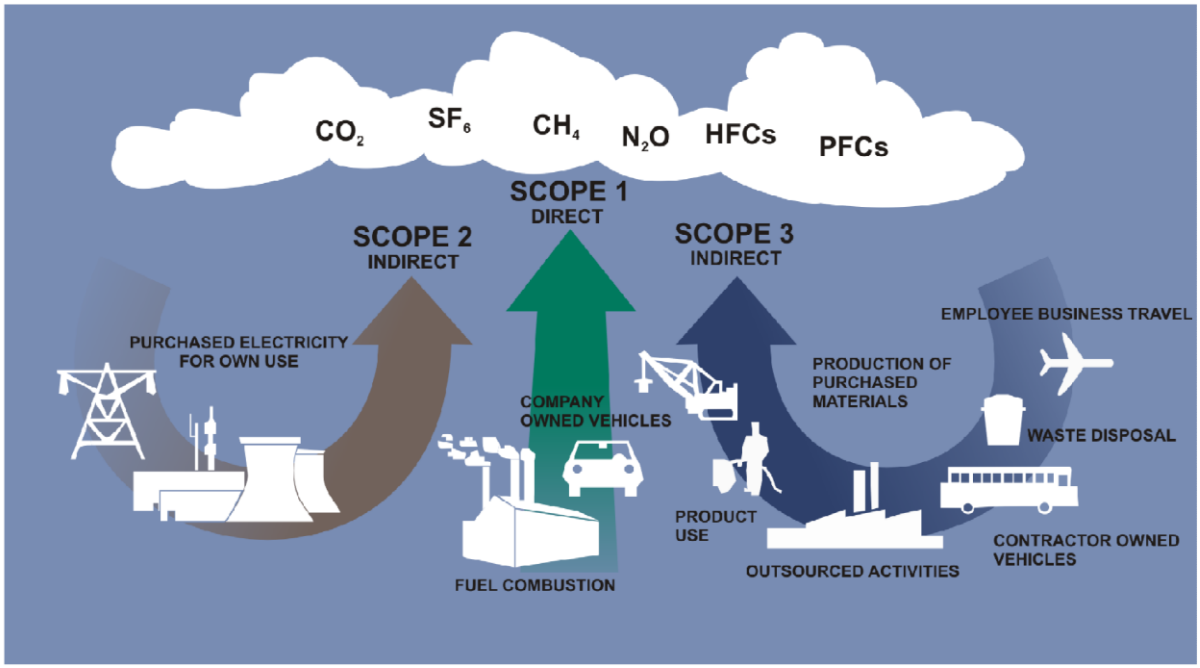
II. METHODOLOGY FOR ESTIMATING GREENHOUSE GAS EMISSIONS

.

A. THE SCOPE

The Greenhouse Gas Protocol[2], is the most widely used international accounting tool for governments and business leaders to understand, quantify and manage GHG emissions. It defines three scopes that help to delineate direct and indirect emission sources, improve transparency and avoid double counting of emissions (see Figure 1). Scope 1 refers to direct GHG emissions, which occur from sources that are owned or controlled by the organisation (for example boilers, generators and company vehicles). Scope 2 refers to indirect GHG emissions from the generation of purchased electricity consumed by the organisation. Scope 3 emissions are a consequence of the activities of the organisation, but occur from sources not owned or controlled by the organisation (for example commercial airline business travel).

Figure 1
Depiction of Greenhouse Gas emissions protocol "Scope"



Source: GHG Protocol, Corporate Accounting and Reporting Standard (Revised Edition), adopted from NZBCSD 2002

The activities included in this carbon footprint analysis include those which fall under Scopes 1, 2 and 3 emissions. Table 1 presents the common minimum boundary of activities excluded in the annual carbon footprint reports of the United Nations system, published by the United Nations Environment Programme[3] (UNEP). It also shows the areas and the extent to which this carbon footprint analysis of ECLAC-POS differs from that of the minimum boundary.

[2] http://www.ghgprotocol.org.

[3] Access the most recent report here: UNEP (2011) Moving towards a climate neutral United Nations: the United Nations system's footprint and efforts to reduce it.

The boundary of activities included in the carbon footprint analysis of ECLAC-POS versus the common minimum boundary

Common minimum boundary (excluded activities)	*Boundary of this analysis (included activities)*
1. Emissions associated with decisions for which individual staff members are responsible and those which relate to their personal sphere, for example emissions from personnel commuting to and from the work place.	• Emissions from personal commuting to and from the work place are included.
2. Military activities conducted under the auspices of the United Nations.	**Not Applicable**
3. Emissions from projects implemented by external entities.	**Not Applicable**
4. Emissions due to couriers and mail.	• Emissions due to couriers and mail are included.
5. Embodied carbon in products or equipment used by the United Nations such as food, beverages, paper and computers.	• Emissions from the production of all the goods and services purchased by ECLAC-POS, including food, beverages, paper and computers among many others[4].

B. GENERAL APPROACH

The general approach for calculating the carbon footprint is presented in Figure 2. The first step involves identifying the activity data and compiling it in the required unit and for the required time period. For example, the total distance travelled by air in 2009, expressed in kilometres (km), is obtained. This value is then multiplied by the emission factors[5] for each of the six Kyoto Protocol gases: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydroflourocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexaflouride (SF_6). The emission factors for CH_4, N_2O, HFCs, PFCs and SF_6 take into account the Global Warming Potential (GWP) of each of these GHGs to create a common comparable unit known as CO_2 equivalent (e.g, tonnes CO_2eq of CH_4). For each emission category, the CO_2eq of all relevant GHG are added, to find the total emissions. For example, in the case of electricity consumption, the CO_2eq of CO_2, CH_4, N_2O, HFCs, PFCs and SF_6 emissions are summed up to yield the total emissions. The total emissions from each activity are then added together to give the final carbon footprint.

[4] For the complete list of goods and services accounted for in the analysis see Annex 1.

[5] Emission factors are coefficients that describe the amount of a specific GHG that is released from doing a certain activity, such as the mass of CO_2 released by driving a vehicle for a kilometre, or by burning a tonne of fuel in a boiler.

Figure 2
General method for calculating GHG emission factors