Methodology


Organizational Boundary

Goldman Sachs uses the operational control approach to establish the organizational boundary of our carbon reporting. As defined by the GHG Protocol, we include operations where we have the full authority to introduce and implement operating policies. Under this approach, 100% of our GHG emissions from all owned and leased facilities globally over which we have operational control are included. Additionally, the operational control boundary includes estimated usage for full service gross leased offices and collocated data centers where the energy utilities are paid for by the property manager and/or not specifically metered for the firm’s operations.

Operational Boundaries

All GHG emissions associated within the organizational boundary operations are included and categorized as Scope 1 (direct) and Scope 2 (required indirect) emissions. Scope 3 (optional indirect) emissions are tracked and reported on a selected basis. Scope 1 emission sources include natural gas, fuel oil and HFC refrigerants. Scope 2 emissions include electricity, purchased steam and chilled water. The reporting scope tracks CO2, CH4, N2O and HFC emissions; the remaining two Kyoto gases, PFC and SF6, are not reported, as Goldman Sachs does not currently use these compounds.

Quantification Methodology & Data Management

The majority of GHG activity data and emissions are tracked through an internally developed online emissions tracking database, which records global facility utility information. Global consumption data based on utility bills is collected monthly in local units. Emissions factors applied are referenced in the Emissions Factors section below.
In cases where utilities are rent inclusive offices, energy consumption is estimated by applying an average energy use per square foot based on performance of similar metered facilities; local emissions factors are subsequently applied. In the case of co-located data centers, we estimate energy use and emissions by measuring instantaneous power or by applying an average energy demand per server figure to actual server quantities. At each location, a power usage effectiveness (PUE) and utilization diversity factor are applied to the power demand to establish electricity consumption.

**Emissions Factors and Global Warming Potential**

The emissions of each GHG (CO2, CH4, N2O, HFC) are converted to CO2-equivalents (CO2e) on the basis of their global warming potential (GWP). The source of the GWP’s used are the IPCC Second Assessment Report (SAR - 100 year)

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Factor</th>
<th>Source Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas</td>
<td>5.92 kgCO2e/therm</td>
<td>GHG Protocol Tool, ”Emission Factors from Cross-Sector Tools” – Version 1.0 (Jul 2009)</td>
</tr>
<tr>
<td>Diesel Fuel Oil</td>
<td>10.13 kgCO2e/gallon</td>
<td>GHG Protocol Tool, ”Emission Factors from Cross-Sector Tools” – Version 1.0 (Jul 2009)</td>
</tr>
<tr>
<td>Purchased Steam (Con-Edison in NYC)</td>
<td>61.63 kgCO2e/klb-delivered</td>
<td>INVENTORY OF NEW YORK CITY GREENHOUSE GAS EMISSIONS: SEPTEMBER 2009, Year 2008 Steam factor</td>
</tr>
<tr>
<td>2013 Purchased Electricity (United States)</td>
<td>Varies by eGRID subregion</td>
<td>Year 2009 eGRID Subregion Emission Factors (Source: eGRID2012 Version 1.0, May 2012)</td>
</tr>
</tbody>
</table>
GHG Emissions Intensity

Goldman Sachs tracks three emissions intensity metrics, based on net Scope 1 and 2 emissions, in order to evaluate and track the performance of our operations over time using the below definitions:

- **Revenues (\(\text{\$M}\))** – Emissions/\(\text{\$}\) Revenues (in millions) is based on “Net Revenue, including interest income” as stated in the firm’s annual Consolidated Statement of Earnings.

- **Rentable Square Feet (ft\(^2\))** – Includes the operational building area for all facilities (excluding co-located data centers) within the Organizational Boundary of the GHG Inventory for the reporting year.

- **Full-Time Occupants (FTO)** - Full-time occupant includes both full-time employees (FTE) and full-time contingent workers (FTC).

**Reporting Period**

Goldman Sachs reports carbon emissions on a calendar year basis. This report summarizes the 2013 calendar year GHG emissions.

**Tracking Emissions Over Time**

Goldman Sachs recognizes that meaningful and consistent comparison of emissions over time may require adjustments to previously reported totals resulting from significant structural changes (i.e. acquisitions, divestments, and mergers) and methodology changes (i.e., changes in calculation methodology or improvements in data quality). Adjustments to historic year reporting are made only if there is a significant effect on the reported environmental metric. GS utilizes a significance threshold of 1% of total current year reporting to determine if prior year adjustments are necessary. For 2013 reporting, we made methodology changes back to our current target baseline, 2012. These methodology changes were the result of continuous process improvements regarding the estimation of offices and data centers where our energy consumption is not directly metered.