

ContourGlobal Greenhouse Gas Emissions Calculation Methodology 2020

Our Business

ContourGlobal is a power generation company committed to new growth in low and no-carbon technologies. Our mission is to develop, acquire and operate electricity generation businesses worldwide, creating economic and social value through better operations, and making the communities where we work better because we are there. Since our inception in 2005, we have grown to be an internationally recognized company with technologically diverse assets and best-in-class operations.

In 2020, we operated 105 thermal and renewable power generation assets in 18 countries across Europe, Latin America and Africa, with a total installed capacity of over 4.8 GW. We are committed to providing safe, reliable, and low-cost electricity to many parts of the world where the electrification rate is below 50%. We also bring new forms of generation, including renewable energy, into markets which previously had few or no renewable sources of electricity.



Sustainability Strategy

Our values and principles, outlined on our website at www.contourglobal.com, are the foundation of our sustainable business strategy and are aligned with the Sustainable Development Goals (SDGs). We have been a proud signatory of the United Nations Global Compact since 2010. We are committed to a sustainable future and believe we can play an important role by increasing renewable energy and efficient co-generation energy capacity, as well as capturing carbon emissions and maximizing use of clean, natural resources. We are committed to continuing to reduce our CO2 emissions intensity in the short and medium-term and to achieve carbon neutrality by 2050.

Our values



We care about our people's health, safety, well-being and development.



We act transparently and with moral integrity.



We work hard and without boundaries as a multinational, integrated team.



We expect, embrace and enable excellence and continuous learning through humility, and the knowledge that we will fail but when we do, we will learn.



We honor the commitments of those who have placed their trust in us.

Our contribution to the Sustainable Development



The United Nations Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. The 17 SDGs address global challenges related to poverty, inequality, climate change, environmental degradation, peace and justice with a target to achieve all of them by 2030. The ones we believe we can influence the most, are integrated into our business strategy.



Focused on where we can add value



Affordable and clean energy



Decent work and economic growth



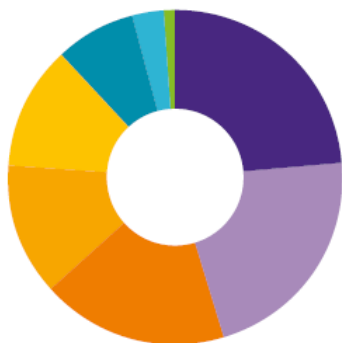
Climate action



Responsible consumption and production

Energy Production

Capacity split
by source



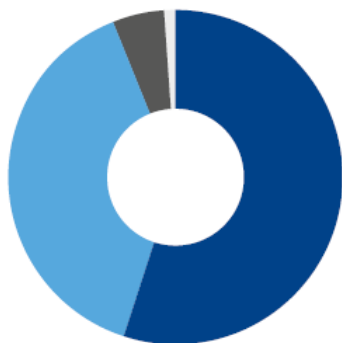
Breakdown ¹	Capacity
Natural gas	24%
Coal	22%
Wind	18%
High Efficiency Cogen	13%
Hydro	12%
Solar	8%
Liquid fuels	3%
Biogas	1%

Capacity split
by energy type



Breakdown ¹	Capacity
Thermal	49%
Renewable	38%
High Efficiency Cogen	13%

Capacity split
by geographic region



Breakdown ¹	Capacity
Europe	55%
Latin America	39%
Africa	5%
North America	1%

1. Capacity splits based on installed MWs in 2020, excluding Western Generation Portfolio Acquisition closed in February 2021.

Greenhouse Gas Emissions

ContourGlobal is committed to a sustainable future and believe we can play an important role in climate change by increasing renewable energy and efficient co-generation energy capacity, as well as capturing carbon dioxide emissions to utilize in food and beverages, and maximizing use of clean, natural resources.

ContourGlobal has been measuring and reporting its CO₂ emissions since 2011. We began setting CO₂ emissions targets in 2015, identifying CO₂ emissions intensity as our key performance indicator, i.e., Net CO₂ emissions in metric tonnes over electricity production in MWh. We selected this metric over absolute emissions because in many markets we do not control our dispatch, i.e., the regulator will dispatch us based on the network demand. Additionally, our production is impacted by maintenance outages. While many of these are planned, we often have flexibility around exact timing and work can shift between reporting periods. Thus, an intensity metric is more applicable to our business.

Our Scope 1 emissions for 2020 include CO₂, SF₆, HFC, CFC, HCFC and PFC emissions. These are the most significant for our business as determined by an internal analysis of our businesses that includes reviewing emissions reporting and calculations at the power plants. We do not include CH₄, N₂O, or NF₃ in our calculations

Our objective for 2015-2018 was to maintain or reduce our CO₂ intensity and we successfully achieved this. In 2019, we reset our CO₂ emissions targets. We are committed to continuing to reduce our CO₂ emissions intensity by 40% by 2030 and to achieve carbon neutrality by 2050, using a metric of Net CO₂ emissions in metric tonnes over total energy production in MWh¹.

This report is our second Greenhouse Gas (“GHG”) Emissions Methodology Statement and is designed to transparently report on our GHG emissions.

We follow the principles and requirements of the Greenhouse Gas Protocol’s Corporate Accounting and Reporting Standard to prepare our reporting and this report contains information about our methodology and reporting criteria for the 2020 reporting year (January 1-December 31, 2020).

Scope of Emissions Reporting

Specifically, this report:

- Covers all global activities where we have operational control²
- Includes CO₂ data for acquired businesses for the period when we had operation control of the business, i.e, the date of acquisition³
- For base year calculations of our CO₂ intensity metric, our methodology will include CO₂ data for acquired businesses for the full year as required by the, Greenhouse Gas Protocol⁴.
- Includes CO₂, SF₆, HFC, CFC, HCFC and PFC emissions in our reporting. We do not include CH₄, N₂O or NF₃ in our calculations.
- Includes Direct Scope 1 emissions from the generation of electricity, heating, cooling and steam.
- Includes CO₂ data that is calculated based on fuel consumption⁵, and HFC, CFC, HCFC, PFC and SF₆ leakages

¹ Our Net CO₂ emissions in metric tonnes over total energy production has been changed from net CO₂ emissions in metric tonnes over total electricity production. With the expansion of our portfolio to include new combined heat and power assets, total energy includes our increased steam production in MWh and minimizes the risk of overstating our CO₂ impacts.

² Under the control approach, a company accounts for 100 percent of the GHG emissions from operations over which it has control. It does not account for GHG emissions from operations in which it owns an interest but has no control. A company has operational control over an operation if the former or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation. Our report includes our CO₂ emissions from the Termoemcali business in Colombia, where we have a minority equity interest but exercise operational control. The report excludes our minority interest in the Sochagota business in Colombia where we do not exert such control.

³ We had no acquisitions or dispositions in 2020

⁴ Our base year calculation will include CO₂ emissions from our newly acquired businesses in Mexico for the full year of 2019. CO₂ emissions from CELCSA will be included for the full year as it was operational for the entire period. CGA was placed in service during 2019. Thus, CO₂ emissions from CGA are included for the period it was operational, including during commissioning

⁵ Fuel consumption data is gathered from commercial meters, fuel purchased, or other methodologies described in Appendix A.

- Excludes Indirect Scope 2 emissions and Scope 3 emissions as data was not available at the time of issuance of this report but Scope 2 emissions, both location- based and market-based Scope 2 emissions, and Scope 3 emissions will be included in our Sustainability Report for 2020 to be published later this year.
- Applies a materiality threshold of 1% of total GHG emissions.

Calculation Methodology

CO₂ emissions are calculated based on fuel consumption and emissions factors at the individual asset level and is set forth in Appendix A. Calculations utilize the most relevant emission conversion factors based on the countries in which we operate, in line with the GHG Protocol for calculating Carbon Dioxide equivalent (CO₂e)⁶. The emission factors used to calculate emissions are extracted from official sources and the global warming potential (“GWP”) values published by the Intergovernmental Panel on Climate Change (“IPCC”) with CO₂ having a GWP equivalent of 1. Values published by the IPCC are used for the GWP for HFC, CFC, HCFC, PFC and SF₆ also. GWP is used to convert the quantity of leaked gasses to tCO₂e.

Emissions Factors

Combustion Emissions factors are specific to each category of fuel source and sources differ business to business. The selection of these emission factors is intended to minimize uncertainty as much as possible. Where we have accurate data based on laboratory testing on the calorific values of fuels, we have utilized these values to give more accurate results.

CO₂ emissions data from our European assets is assured by the local regulations of countries participating in the EU ETS (Emission Trading System, however, such assurance was not completed at the time of this report. Details on emissions factor by business can also be found in Appendix A.

Checks and Controls

Greenhouse Gas Calculations are reviewed and approved by the Global Chief Operating Officer (“COO”), reporting directly to the Chief Executive Officer. The Global COO has day to day responsibility for managing all climate-related issues, including calculating and reporting CO₂ emissions. The Global COO is supported by the Divisional COO – Thermal and the Executive Vice-President of Special Projects in executing these responsibilities. Each of our power plant managers is responsible for complying with all environmental regulations and monitoring emissions to ensure such compliance. Additionally, plant managers are responsible for identifying climate risks and impacts at their businesses.

Data Reporting and Storage

Our data is collected and stored on a software platform. Our plant managers are responsible for providing data to that system and our Divisional Chief Operating Officer – Thermal is responsible for reviewing the data input into the system.

Assurance

ContourGlobal PLC engaged KPMG LLP (“KPMG”) to undertake limited assurance using the assurance standard ISAE (UK) 3000 over selected information included within the ContourGlobal Annual Report for the reporting year ended 31 December 2020. KPMG's full assurance statement is included in the Annual Report, which is available on the ContourGlobal PLC website at [Insert link].

As noted above, CO₂ emissions data from our European assets is also reviewed and assured by third parties to comply with local regulations of countries participating in the EU ETS (Emission Trading System), however, such review was not completed at the time of this report.

⁶ The emissions factors for CO₂ are extracted from a variety of sources (including factors in Directive 2003/87/EC, in Competent Authorities of EU member states, in the Intergovernmental Panel on Climate Change Assessment Report, and other sources) and are in line with ISO 14064-1:2012: “Greenhouse gases. Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals”. See Appendix A for additional details.

Appendix A

For our combustion emissions calculations we have used guidelines/ methodologies/emission factors provided by the competent authorities for each respective asset. Where the competent authority does not provide guidance on CO₂ emissions calculations, we have used internationally recognized methodologies based on energy input (tCO₂/TJ or similar) rather than methodologies based on quantity of fuel (tCO₂/tFuel) as we believe the energy input based calculations are more accurate as they take into account the variable fuel quality in different regions. Exceptions from the energy-based input were made when the competent authority is providing emission factors based on fuel quantity or the total quantity of specific fuel was negligible compared to the respective asset total fuel consumption. For our fugitive emissions calculations we have relied on the GWP values published by the IPCC.

The combustion CO₂ emissions are calculated with the following formula:

$$\text{Net CO}_2 \text{ Emissions} = \text{Fuel consumption} * \text{EF} * \text{OF} - \text{CO}_2 \text{ Captured}$$

where:

- Net CO₂ emissions are the tons of CO₂ emitted to the atmosphere
- Fuel consumption is the consumed fuel in TJ or tons for the period 01.01.2020 – 31.12.2020⁷
- EF is the emission factor for the respective fuel in tCO₂ per TJ or tCO₂/t of fuel input⁸
- OF – Oxidation factor is the fraction of carbon that is oxidized during combustion⁹
- CO₂ Captured – CO₂ that is captured from the flue gases¹⁰

The Fugitive CO₂ emissions are calculated with the following formula:

$$\text{CO}_2\text{e Emissions} = \text{Gas emitted} * \text{GWP}$$

where:

- CO₂e Emissions are the tons of CO₂ equivalent emitted
- Gas emitted is the amount of HFC, CFC, HCFC, PFC and SF₆ emitted.
- GWP is the global warming potential of the emitted gas

⁷The fuel consumption is calculated based on the fuel mass flow and fuel quality (Lower Heating Value and/or chemical composition).

⁸The Emission Factor is calculated based on the fuel LHV and/or carbon content and the molar masses of the carbon, hydrocarbons and carbon dioxide for our Maritsa, Arrubal and KivuWatt assets. For the remaining assets it is either taken from the Competent Authority for the country where the asset is located or from internationally recognized sources when data from the Competent Authority is not available.

⁹The oxidation factor for our Maritsa asset is calculated based on laboratory analysis of unburned fuel in the slag and fly ash. For the remaining assets the oxidation factor is sourced from the Competent Authority for the country where the asset is located or, if this is not available, the maximum value of 1 (complete oxidation) is used.

¹⁰ Our Ploiesti, Nogara and Benin assets are capturing CO₂ from the flue gasses and are producing liquid CO₂ for use in the food industry, we are offsetting this amount as it is not emitted to the atmosphere.

Appendix A (continued)

Asset	Emission factor source	Oxidation factor source	Fuel consumption data source	Comments
Arrubal	Calculated on the basis of fuel quality for the main fuel and Competent Authority for the secondary fuel	Competent Authority	Calibrated flow meters on site. The data is crosschecked with the invoices for delivered fuel	
Maritsa	Calculated on the basis of fuel quality for the main fuel and provided by the Competent Authority for the secondary fuels	Calculated on the basis of laboratory analysis for unburnt fuel in the slag and fly ash for the main fuel. As per GHG emission permit (100% oxidation) for start-up fuels	Invoices for delivered fuel from the supplier and taking into account the stock at the beginning and at the end of the year	
Togo	2006 IPCC Guidelines	Assumed as 1 (100 % oxidation)	Fuel consumption is calculated according to operational reports from the client who provides the fuel. NG LHV is based on laboratory analysis. HFO and LFO LHV are sourced from IPCC Guidelines, Chapter 2, Volume I	
Energies Antilles	Competent Authority	Competent Authority	Invoices for delivered fuel from the supplier and taking into account the stock at the beginning and end of the year	
Energies Saint Martin	CG's asset is located on the client site with other stationary combustion sources. The client is responsible for calculating and reporting the total CO2 emissions from this site. The client is providing us with the fuel consumption data contributable to our asset. The emission factor is sourced from the Competent Authority, and the oxidation is assumed as 100%.			
Termoemcali	EIA, Documentation for Emissions of Greenhouse Gases in the United States.2005, DOE/EIA-0638 (2005), October 2007, Tables 6-1, 6-2, 6-4, and 6-5	All factors in this methodology assume 100% combustion, oxidation factor is assumed as 1	Internal power plant measurements for both quantity and LHV	
Bonaire	2006 IPCC Guidelines	Assumed as 1 (100% oxidation)	Fuel consumption is as per invoices, fuel storage at the beginning and the end of 2019 is also considered. HFO and LFO LHV is as per fuel analysis.	

Appendix A (continued)

Asset	Emission factor source	Oxidation factor source	Fuel consumption data source	Comments
Cap des Biches	Emission factor is based 1996 IPCC Guidelines as per CG's commercial agreement with the Client	Assumed as 1 (100% oxidation)	Fuel consumption is per invoices for received fuel and fuel storage at beginning and end of 2020. HFO LHV is weighted average of the fuel analysis in 2020, LFO LHV is assumed (considering the relatively low consumption, also we have assumed high LHV to assume worst case scenario)	
KivuWatt	This asset is using extracted lake gas to produce electricity. The emission factor is calculated based on the % content of CH ₄ in the extracted gas and the molar masses of CH ₄ and CO ₂ . Small quantities of diesel are also used, and the emission factor is sourced from USA EPA	Oxidation factor is assumed as 1 (100% oxidation)	Lake gas mass flow and concentration is measured by calibrated measurement devices. Diesel consumption is as per internal measurements at the power plant	The lake gas is mixture of CH ₄ and CO ₂ . The calculations are also taking into account the CH ₄ combustion and the extracted CO ₂ from the lake
Biogas Italy	This asset has no CO ₂ emissions as it uses biogas			
Ploiesti	Competent Authority	Oxidation factor is assumed as 1 (100% oxidation)	Fuel consumption is as per invoices (commercial meters), fuel LHV is per Competent Authority information	Our asset in Ploiesti is producing liquid CO ₂ for the beverage industry, the captured CO ₂ from the flue gas that was converted into liquid CO ₂ is subtracted from the calculated CO ₂ emissions
Nogara	Competent Authority	Competent Authority	Invoices from the fuel supplier	Our asset in Nogara is producing liquid CO ₂ for the beverage industry, the captured CO ₂ from the flue gas that was converted into liquid CO ₂ is subtracted from the calculated CO ₂ emissions
Oricola	Competent Authority	Competent Authority	Invoices from the fuel supplier	
Knockmore Hill	Competent Authority	Competent Authority	Invoices from the fuel supplier	

Appendix A (continued)

Asset	Emission factor source	Oxidation factor source	Fuel consumption data source	Comments
			Comments	
Benin	2006 IPCC Guidelines	Assumed as 1 (100% oxidation)	Fuel consumption is as per information from the Client (the Client provides the fuel for this asset). The LHV for NG is taken from gas analysis report, LFO LHV is according to IPCC guidelines	Our asset in Benin is producing liquid CO ₂ for the beverage industry, the captured CO ₂ from the flue gas that was converted into liquid CO ₂ is subtracted from the calculated CO ₂ emissions
Ikeja	2006 IPCC Guidelines	Assumed as 1 (100% oxidation)	Fuel consumption is as per information from the Client (the Client provides the fuel for this asset). The LHV for NG is taken from gas analysis report, LFO LHV is according to IPCC guidelines	
Corn Mogi	2006 IPCC Guidelines	Assumed as 1 (100% oxidation)	Fuel consumption is according to invoices (commercial meters). Fuel LHV is as per information from the supplier	
Corn Balsa	2006 IPCC Guidelines	Assumed as 1 (100% oxidation)	Fuel consumption is according to invoices (commercial meters). Fuel LHV is as per information from the supplier	
Brahma Rio	2006 IPCC Guidelines	Assumed as 1 (100% oxidation)	Fuel consumption is according to invoices (commercial meters). Fuel LHV is as per information from the supplier	
Capuava	Capuava is receiving steam which would otherwise be wasted (waste steam) and produces electricity with it. There is no combustion involved and therefore no direct CO ₂ emissions are produced			
CELCSA - MX	2006 IPCC Guidelines	Assumed as 1 (100% oxidation)	Fuel consumption is according to commercial metering (invoices and information provided by the supplier). As the supplied fuel is measured in HHV supplied energy we calculated the LHV energy by calculating the HHV to LHV factor using available fuel analysis data	

Appendix A (continued)

Asset	Emission factor source	Oxidation factor source	Fuel consumption data source	Comments
CGA - MX	2006 IPCC Guidelines	Assumed as 1 (100% oxidation)	Fuel consumption is according to commercial metering (invoices and information provided by the supplier). As the supplied fuel is measured in HHV MMBTU supplied energy we calculated the LHV energy by converting MMBTU to GJ calculating the HHV to LHV factor using available fuel analysis data	
Spain CSP Palma DelRio 1	Competent Authority	Competent Authority	Invoices for delivered fuel from the supplier and taking into account the stock at the beginning and at the end of the year	
Spain CSP Palma DelRio 2	Competent Authority	Competent Authority	Invoices for delivered fuel from the supplier and taking into account the stock at the beginning and at the end of the year	
Spain CSP Alvarado	Competent Authority	Competent Authority	Invoices for delivered fuel from the supplier and taking into account the stock at the beginning and at the end of the year	
Spain CSP Orellana	Competent Authority	Competent Authority	Invoices for delivered fuel from the supplier and taking into account the stock at the beginning and at the end of the year	
Spain CSP Majadas	Competent Authority	Competent Authority	Invoices for delivered fuel from the supplier and taking into account the stock at the beginning and at the end of the year	

Appendix B – Glossary

CEO	Chief Executive Officer
CG	ContourGlobal
COO	Chief Operating Officer
EIA	Energy Administration Agency
EU ETS	European Union Emission Trading Scheme
GHG	Greenhouse Gasses
GJ	Gigajoule
GWP	Global Warming Potential
HFC	Hydrofluorocarbon
HFO	Heavy Fuel Oil
IFC	International Finance Corporation
IPCC	Intergovernmental Panel on Climate Change
LFO	Light Fuel Oil
LHV	Lower Heating Value
MMBTU	Million British Thermal Units
NG	Natural gas
SDGs	Sustainable Development Goals
USA	United States of America