



Greenhouse Gas Emissions in Dominican Republic

Dominican Republic Numbers at a Glance (2013)

24.4 MtCO₂e*

Total GHG emissions
(0.05% of world total)
World: 48,257 MtCO₂e

10,281,408**

Population
World: 7,176,092,192

2.37

tCO₂e per capita
World: 6.72 tCO₂e

US\$ 59,894 Million
GDP***

World: US\$71,059 Billion

407.4

tCO₂e/million US\$ GDP
World: 679 tCO₂e/million US\$ GDP

+19.23 MtCO₂e (+368%)
Change in GHG emissions
(1990 - 2013)

World: +14,434 MtCO₂e
(+43%)

Sources: WRI CAIT 2.0, 2017.

*Million metric tons of carbon dioxide equivalent. WRI CAIT uses GVPs from the IPCC SAR. Emissions including Land-Use Change and Forestry.

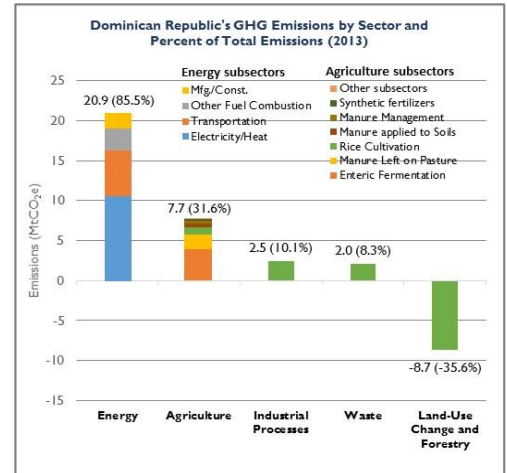
** The official census estimate of the population in 2010 was 9,445,281 (Dominican Republic - [National Bureau of Statistics](#)).

***Gross Domestic Product (GDP) in constant 2010 US\$.

This document is based on information available at the date of publication, and does not reflect official views of the U.S. government. Sources may be incomplete or contradictory. Judgment and knowledge of the national context should be used to interpret and supplement this information. USAID assumes no liability for the contents or use of the information in this document.

Greenhouse Gas (GHG) Emissions by Sector

According to the World Resources Institute Climate Analysis Indicators Tool (WRI CAIT), the Dominican Republic's GHG emissions in 2013 were dominated by the energy sector (85.5%), with electricity and heat generation and transportation contributing 77% of the sector's total emissions.¹ Agriculture was the second highest source of emissions (31.6%), with enteric fermentation and manure left on pasture contributing 75% of the sector's emissions.² Industrial processes (IP) and waste contributed 10.1% and 8.3%, respectively. Land use change and forestry (LUCF) activities absorbed 8.7 MtCO₂e, which represents a net carbon sink equivalent to 35.7% of total gross emissions.³



Sources: WRI CAIT 2.0, 2017, FAOSTAT, 2017.
Note: Totals do not add up 100% due to rounding.

The Dominican Republic's [National Greenhouse Gas Inventory for year 2010](#), prepared in 2015, shows energy as the greatest source of emissions (61.9%) in 2010, followed by agriculture (19.9%), waste (12.9%), and IP (5.3%).⁴ It shows LUCF as a carbon sink, absorbing 3.1 MtCO₂e that year.

Change in GHG Emissions in Dominican Republic (1990-2013)

According to WRI CAIT, the Dominican Republic's GHG emissions increased by 19.23 MtCO₂e from 1990 to 2013. The average annual change in total emissions during this period was 7.3%, with sector-specific average annual changes as follows: energy (4.6%), agriculture (1.7%), IP (7.3%), waste (1.8%), and LUCF (-0.5%). The change in emissions in the two highest emitting sectors during this period is discussed below.

Energy: According to WRI CAIT data, energy sector emissions increased by 13 MtCO₂e from 1990 to 2013, with electricity and heat production driving this increase, followed by transportation. Between 1990 and 2013, total electricity generation increased almost five-fold.⁵ Although the share of natural gas, coal and hydro in the electricity mix increased, as of 2013, 50% of electricity was still generated by fuel oil, followed by natural gas (23%), hydro (13%), coal (12%), solar photovoltaics (1%), and biofuels (0.1%).⁶ In response to challenges with the governance and performance of its state-owned electricity utility, the government introduced power sector reforms during the 1990s, allowing participation by independent power producers and unbundling the generation, transmission and distribution segments of its state-owned electricity utility.⁷ In 2001 the Government enacted the [General Electricity Law](#) which introduced a modern legal and regulatory framework, and established new electricity institutions. To promote renewable energy, the Government enacted the Renewable Energies Incentives [Law 57-07](#), in 2007, which provides incentives and tax exemptions for the production

¹ World Resources Institute Climate Analysis Indicators Tool (WRI CAIT 2.0, 2017). Global Warming Potentials (GWPs) are from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (SAR).

² Food and Agriculture Organization of the United Nations Statistics Division (FAOSTAT). Dominican Republic, [Emissions - Agriculture total](#), viewed on May 24, 2017.

³ WRI CAIT 2.0, 2017.

⁴ Dominican Republic. Dominican Republic's [National Greenhouse Gas \(GHG\) Inventory for year 2010](#), 2015. Note: The GHG Inventory is part of the Dominican Republic's Third National Communication to the UNFCCC (unpublished yet), and uses GWPs from the IPCC SAR. Percentage by sector of total emissions presented in the inventory exclude LUCF.

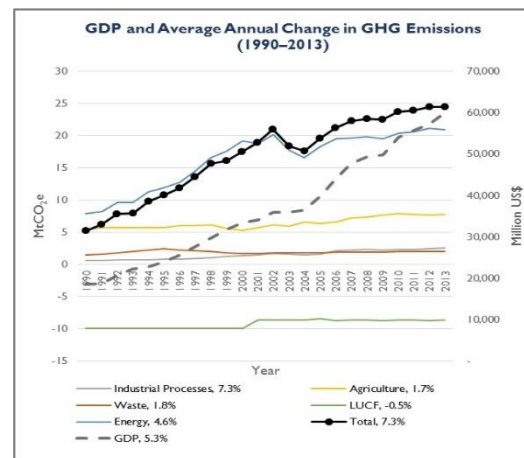
⁵ International Energy Agency (IEA). Statistics: Dominican Republic Electricity and Heat [1990](#) and [2013](#).

⁶ Ibid.

⁷ World Bank. [Implementation Completion and Results Report, Electricity Distribution Rehabilitation Project](#), 2014.

and use of renewable energy. Despite the creation of a modern and competitive structure in the electricity sector, major problems remain, including illegal connections and non-payment of bills, government's unwillingness to adjust tariffs to fully reflect fuel prices and the exchange rate, and inadequate fiscal resources to cover the resulting gap between costs and revenues.⁸ In 2008, the World Bank provided a \$42 million loan to prepare and implement the [2008-2013 Electricity Distribution Rehabilitation Project](#) to improve the fiscal performance⁹ of the three electricity distribution companies and improve the quality of service. World Bank data show that access to electricity rose from 72% in 1990 to 98% in 2012.¹⁰ In transportation, the vehicle fleet almost tripled between 2000 and 2013.¹¹ The total 2013 fleet of 3.2 million vehicles consisted of motorcycles (52%), cars (22%), cargo trucks (12%), 4x4 Jeeps (10%), buses (3%), and other vehicles (2%).¹² To improve transportation and relieve traffic congestion in Santo Domingo, the government inaugurated its first underground Metro system, Line 1, in 2009.¹³ Line 2 was inaugurated in 2013.¹⁴ Line 1 consists of 16 stations, from the Centro Héroes Station (La Feria) to Mamá Tingó Station (Villa Mella) and Line 2 consists of 14 stations, from Maria Montez Station (Autopista Duarte) to Eduardo Brito Station.¹⁵

Agriculture: WRI CAIT data show that agriculture emissions increased 44% from 1990 to 2013, driven by enteric fermentation from livestock and manure left on pasture.¹⁶ During the same period, FAO data show a 34% increase in the cattle population and a twofold increase in sheep.¹⁷ A partner country to the [Global Methane Initiative](#), the Dominican Republic has the potential to reduce 12% of methane emissions from livestock manure through anaerobic digestion and biogas recovery.¹⁸



Source: WRI CAIT 2.0, 2017.

Carbon Intensity: GHG Emissions Relative to Gross Domestic Product (GDP)

The Dominican Republic's GHG emissions grew 368% from 1990 to 2013, averaging 7.3% annually, while GDP grew 223%, averaging 5.3% annually.¹⁹ Although its economy emits fewer GHGs relative to GDP than the world average, its emissions are outpacing GDP. Through its [2030 National Development Strategy](#), enacted in 2012, the Dominican Republic plans to foster the decarbonization of its economy through renewable energy, development of the biofuels market, and implementation of energy efficient and clean transportation.

Climate Change Mitigation Targets and Plans

In 2011, the Dominican Republic developed its low emission development strategy, known as the Climate Compatible Development Plan (CCDP or Plan DECCC), identifying a range of GHG mitigation options.²⁰ In 2013, the government enacted the [National Policy on Climate Change](#) to manage climate variability and its environmental impacts. In its [Intended Nationally Determined Contribution \(INDC\)](#),²¹ the Dominican Republic commits to reducing its GHG emissions by 25% by 2030, from 2010 per capita emissions levels of 3.6 tCO₂e. This commitment is conditional upon "favorable and predictable support, feasible climate finance mechanisms, and corrections to the failures of existing market mechanisms." The Dominican Republic is seeking support to prepare or implement seven [Nationally Appropriate Mitigation Actions \(NAMAs\)](#) to reduce GHG emissions from various sectors, including the Energy Efficiency in Public Sector NAMA ([NS-118](#)), and the Low Carbon Coffee NAMA ([NS-256](#)). The Congress of the Dominican Republic approved the ratification of the Paris Agreement in March 2017.²²

⁸ Ibid.

⁹ Fiscal performance is measured by the Cash Recovery Index, which combines two performance indicators: invoiced energy losses, which indicates the proportion of energy purchased from generators that is not billed, and the percentage of the invoiced energy that is paid for.

¹⁰ World Bank. Indicators: [Dominican Republic, Access to electricity \(% of population\)](#), viewed on May 24, 2017. The Dominican Republic has also received other, more recent international support including from the [Inter-American Development Bank](#) and [International Renewable Energy Agency](#).

¹¹ Dominican Republic, National Office of Statistics. [Vehicle fleet per year, by type, 2000 – 2015](#), viewed on May 24, 2017.

¹² Ibid.

¹³ Dominican Republic. Dominican Republic's [Second National Communication \(SNC\)](#) to the UNFCCC, 2009.

¹⁴ Urban Rail. [Santo Domingo Metro](#), viewed on May 24, 2017.

¹⁵ Dominican Republic, Office for Reorganization of Transportation, [Services-Transportation](#), viewed on May 24, 2017.

¹⁶ FAOSTAT, 2017.

¹⁷ FAOSTAT. [Dominican Republic – Live Animals](#), viewed on May 24, 2017.

¹⁸ Global Methane Initiative (GMI). [Resource Assessment for Livestock and Agro-Industrial Wastes – Dominican Republic](#), 2011.

¹⁹ WRI CAIT 2.0, 2017.

²⁰ Partnership on Transparency in the Paris Agreement, [Developing a national climate compatible development plan \(CCDP\) – Dominican Republic](#), viewed on May 24, 2017.

²¹ Dominican Republic. Dominican Republic's [Intended Nationally Determined Contribution](#) to the UNFCCC, 2015. An unofficial [English translation](#) is also available.

²² As of May 2017, this was not yet published on the UNFCCC, [Paris Agreement – Status of Ratification](#) website, viewed on May 24, 2017.