



# Greenhouse Gas Emissions in El Salvador

## El Salvador Numbers at a Glance (2013)

**12.3 MtCO<sub>2</sub>e\***

Total GHG emissions  
(0.03% of world total)

World: 48,257 MtCO<sub>2</sub>e

**6,089,644**

Population

World: 7,176,092,192

**2.02**

tCO<sub>2</sub>e per capita

World: 6.72 tCO<sub>2</sub>e

**US\$22,717 Million**

GDP\*\*

World: US\$71,059 Billion

**542**

tCO<sub>2</sub>e/million US\$ GDP

World: 679 tCO<sub>2</sub>e/million US\$ GDP

**+4.8 MtCO<sub>2</sub>e (+63%)**

Change in GHG emissions  
(1990–2013)

World: +14,434 MtCO<sub>2</sub>e  
(+43%)

Sources: WRI CAIT 2.0, 2017.

Emissions including Land-Use Change and Forestry

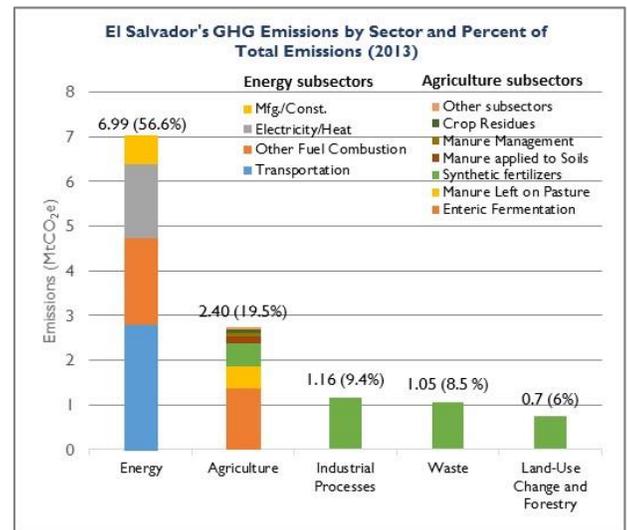
\*Million metric tons of carbon dioxide equivalent. Global Warming Potentials are from the Intergovernmental Panel on Climate Change Second Assessment Report

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

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## Greenhouse Gas (GHG) Emissions by Sector

According to the World Resources Institute Climate Analysis Indicators Tool (WRI CAIT), El Salvador's 2013 GHG profile was dominated by emissions from the energy sector, which accounted for 56.6% of the country's total emissions. Transportation and other fuel combustion contributed 68% of the energy sector emissions.<sup>1</sup> Agriculture was the second highest emitting sector (19.5%), with enteric fermentation from livestock contributing 50% of the sector emissions.<sup>2</sup> Industrial processes (IP), waste, and land-use change and forestry (LUCF) contributed 9.4%, 8.5%, and 6%, respectively.<sup>3</sup> El Salvador's [Second National Communication \(SNC\)](#) to the UNFCCC includes a GHG inventory for the years 2000 and 2005. It too shows energy to have been the highest emitting sector (40.9%) in 2005.<sup>4</sup>



Sources: WRI CAIT 2.0, 2017, FAOSTAT, 2017

## Change in GHG Emissions in El Salvador (1990-2013)

According to WRI CAIT, El Salvador's GHG emissions increased by 4.8 MtCO<sub>2</sub>e from 1990 to 2013, with total emissions peaking in 2007 and decreasing slightly with energy emissions. The average annual change in total emissions between 1990 and 2013 was 2.2%, with sector-specific average annual changes as follows: energy (4.5%), agriculture (-0.3%), IP (7.5%), waste (0.8%), and LUCF (-0.7%). The change in emissions in the two highest emitting sectors is discussed:

**Energy:** According to WRI CAIT data, energy emissions increased by 4.2 MtCO<sub>2</sub>e between 1990 and 2013. Transportation and other fuel combustion activities were the leading source of energy emissions, but transportation (36%) and production of electricity and heat (34%) drove the change in the sector's emissions.<sup>5</sup> El Salvador's SNC notes that carbon dioxide emissions increased in the energy sector between 2000 and 2005, due to growing consumption of hydrocarbons including diesel oil, gasoline, and fuel oil. Road transport is the main consumer of diesel oil and gasoline and the largest emitter in the energy sector.<sup>6</sup> As of July 2011, there were 715,345 vehicles registered in El Salvador, of which 79% were cars and 4-wheeled light

<sup>1</sup> 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 \(SAR\)](#).

<sup>2</sup> Food and Agriculture Organization of the United Nations Statistics Division (FAOSTAT). [Emissions – Agriculture total](#), viewed on February 24, 2017.

<sup>3</sup> WRI CAIT 2.0, 2017.

<sup>4</sup> Republic of El Salvador. El Salvador's [Second National Communication \(SNC\)](#) to the UNFCCC, 2013. El Salvador's SNC uses GWPs from the IPCC SAR.

<sup>5</sup> WRI CAIT 2.0, 2017. Note: Other Fuel Combustion includes emissions from biomass combustion (charcoal or fuel wood), stationary and mobile sources (not allocated in the Transportation sub-sector) and other sectors (commercial/ institutional activities, residential, and agriculture/forestry/fishing as well as other emissions not specified elsewhere) (WRI, [CAIT Country Greenhouse Gas Emissions: Sources & Methods](#), 2015).

<sup>6</sup> Republic of El Salvador, SNC, 2013.

vehicles.<sup>7</sup> The San Salvador Metropolitan Area (SSMA), which has 50% of registered vehicles in El Salvador, suffers from traffic congestion. To improve transportation in the SSMA, the government, supported by the Inter-American Development Bank, launched the San Salvador Metropolitan Area Integrated Transportation System (SITRAMSS) in 2013. SITRAMSS is a Bus Rapid Transit system that consists of high capacity buses circulating on dedicated lanes and connecting the SSMA cities from east to west.<sup>8</sup> It started operation in January 2015 and covered the 6.4 kilometer (km) Soyapango – Boulevard del Ejército – Alameda Juan Pablo II – Metrocentro segment with access stations and stops. There are plans to extend the east-west corridor by approximately 17 km and an additional 21 stations, (i) from Ilopango to Soyapango (4.5 km); (ii) from the Médico Quirúrgico Station to El Salvador del Mundo (3.1 km); and (iii) from Salvador del Mundo to Santa Tecla (10 km).<sup>9</sup> Between 1990 and 2013, electricity generation almost tripled, with 40% of electricity generated by oil, 29% by hydropower, 25% by geothermal, and 7% by biofuels.<sup>10</sup> In January 2015, El Salvador published the [Five Year Development Plan](#) and proposed a set of actions to diversify its energy mix, prioritize renewable energy, and launch the SITRAMSS extensions.

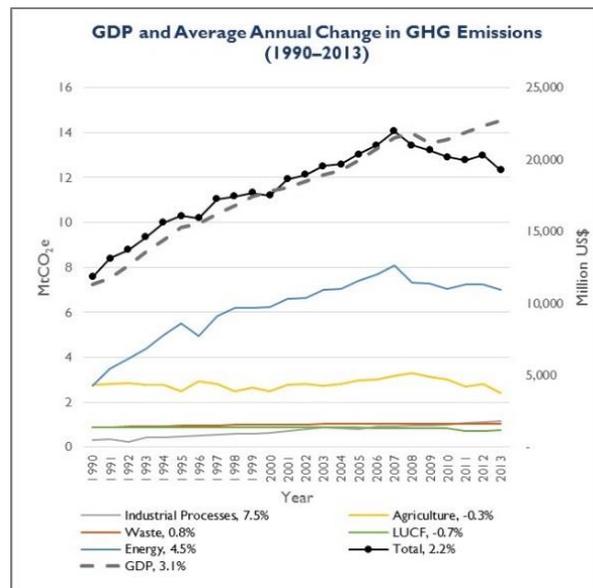
**Agriculture:** Driven by enteric fermentation,<sup>11</sup> agriculture emissions fluctuated between 1990 and 2013, peaking in 2008 and then declining.<sup>12</sup> As of 2013, agriculture emissions were below their 1990 levels.<sup>13</sup> El Salvador's SNC notes that methane emissions from enteric fermentation increased between 2000 and 2005 due to an increase in domestic cattle. According to Food and Agriculture Organization data, the number of cattle increased from 1,050,000 in 2000 to 1,256,517 in 2005, then to 1,397,400 in 2008. As of 2013, the number had decreased to 893,308.<sup>14</sup> In 2012, the Ministry for Agriculture and Livestock adopted the Climate Change Mitigation and Adaptation National Strategy for Agriculture, Livestock, Aquaculture and Forest sectors.<sup>15</sup> As part of the transformation and diversification of forestry and agroforestry practices and activities of the [National Plan for Climate Change](#), El Salvador plans to support livestock producing families to move from conventional livestock production towards silvopastoral production.

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

According to WRI CAIT, GHG emissions increased 63% from 1990 to 2013, averaging 2.2% annually, while GDP increased 101% in the same period, averaging 3.1% annually. This indicates that the economy has grown faster than GHG emissions. Also, El Salvador's economy emits fewer GHGs relative to GDP than the world average. In 2015, El Salvador adopted its first [National Plan for Climate Change](#), with a central objective of building a climate-resilient society and a low-carbon economy.

## Climate Change Mitigation Targets and Plans

In its [Intended Nationally Determined Contribution \(INDC\)](#), submitted to the UNFCCC in November 2015, El Salvador pledged that it would present quantifiable targets for emission reductions from the energy and agriculture sectors at the Conference of the Parties (COP 22) in November 2016. The INDC presented a set of plans and regulations, including the Framework Law on Climate Change to be prepared and adopted before 2019. The Framework Law will identify, institutionalize and facilitate the mandatory implementation of all actions or commitments adopted at COP21 in Paris in the area of nationally determined contributions. The INDC notes that the implementation of nationally determined contributions requires technical and financial support from international public and private sources.<sup>16</sup> In its [COP 22 declaration](#) in Marrakech in December 2016, El Salvador committed to reduce its energy emissions by 42% by 2025, compared to 2015. As of February 2017, El Salvador has yet to ratify the [Paris Agreement](#).



Source: WRI CAIT 2.0, 2017

<sup>7</sup> World Health Organization. [El Salvador Roads Safety Status - Country Profile](#), 2011.

<sup>8</sup> Inter-American Development Bank. [Transportation Program for the San Salvador Metropolitan Area – Loan Proposal](#), 2012.

<sup>9</sup> Inter-American Development Bank. [Transportation Program for the San Salvador Metropolitan Area. TRAMO II – Project Profile](#), 2016.

<sup>10</sup> International Energy Agency (IEA). El Salvador: Electricity and Heat, [1990](#) and [2013](#).

<sup>11</sup> FAOSTAT, 2017.

<sup>12</sup> WRI CAIT 2.0, 2017.

<sup>13</sup> Ibid.

<sup>14</sup> FAOSTAT. [Live Animals – El Salvador](#), viewed on February 24, 2017.

<sup>15</sup> Grantham Research Institute on Climate Change and the Environment. The Global Climate Legislation Study – [El Salvador](#), 2015.

<sup>16</sup> Republic of El Salvador. El Salvador's [Intended Nationally Determined Contribution \(INDC\)](#), 2015.