



# Greenhouse Gas Emissions in the Democratic Republic of the Congo

## DRC Numbers at a Glance (2014)

**206.75 MtCO<sub>2</sub>e\***  
Total GHG emissions  
(0.42% of world total)  
World: 48,892.37 MtCO<sub>2</sub>e

**73,722,860**  
Population  
World: 7,268,986,176

**2.80**  
tCO<sub>2</sub>e per capita  
World: 6.73 tCO<sub>2</sub>e

**US\$ 27,926 Million**  
GDP\*\*  
World: US\$73,479 Billion

**7,404**  
tCO<sub>2</sub>e/million US\$ GDP  
World: 665 tCO<sub>2</sub>e/million US\$ GDP

**+4.07 MtCO<sub>2</sub>e (+2%)**  
Change in GHG emissions  
(1990-2014)  
World: +15,069 MtCO<sub>2</sub>e  
(+45%)

Sources: WRI CAIT 4.0, 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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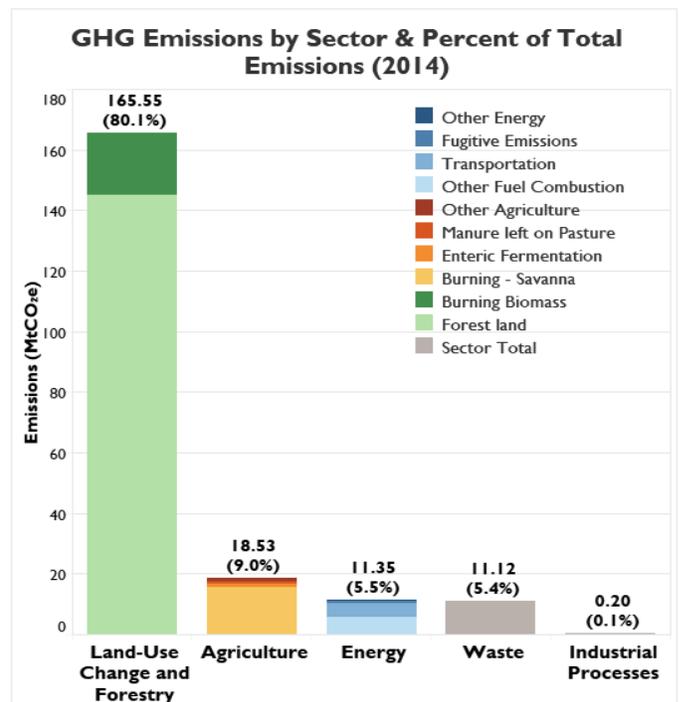
## Greenhouse Gas (GHG) Emissions by Sector

The Democratic Republic of the Congo's (DRC) 2014 GHG profile was dominated by emissions from the land-use change and forestry (LUCF) sector, which accounted for 80.1% of total emissions.<sup>1</sup>

Within LUCF, 88% of emissions were from forest land, including forest land conversion.<sup>2</sup>

Agriculture was the second highest source of emissions (9.0%) with burning savanna contributing 83% of agriculture emissions. Energy, waste and industrial processes (IP) contributed 5.5%, 5.4%, and 0.1% of total emissions, respectively.

The DRC's [Third National Communication](#) (TNC) to the UNFCCC, submitted in 2015, includes a GHG inventory for 2000 to 2010 that also shows LUCF to have been the greatest source of emissions, followed by agriculture and energy.<sup>3</sup>



Sources: WRI CAIT 4.0, 2017, FAOSTAT, 2018  
Note: Numbers do not sum to 100% due to rounding

## Change in GHG Emissions in DRC (1990-2014)

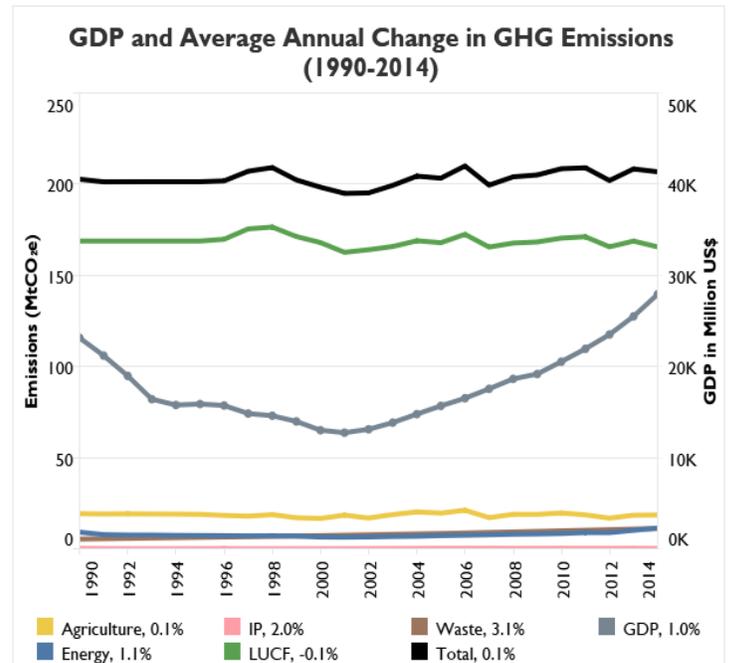
The DRC's GHG emissions increased by 4.07 MtCO<sub>2</sub>e from 1990 to 2014. The average annual change in emissions is shown in the line graph below. The change in emissions in the two highest emitting sectors is discussed below.

**LUCF:** The DRC contains more than half of the remaining Congo Basin rainforest, the second-largest tropical forest on Earth. LUCF emissions in the DRC decreased 2% from 1990 to 2014. During this time, 86% of LUCF emissions were from forest land, followed by 14% from burning biomass, and negligible amounts from other LUCF sources. DRC's annual deforestation rate was estimated at 0.2% for the 1990-2010 period, lower than the average Western and Central Africa deforestation rate of 0.46%.<sup>4</sup> While the DRC's deforestation rate was relatively low until 2010,<sup>5</sup> tree cover loss has sharply increased in recent years. WRI estimates tree cover loss to be 0.69% in 2016 and 0.74% in 2017, respectively.<sup>6</sup> Tree cover loss reached a record high in 2017, driven by agriculture, artisanal logging and charcoal production, with nearly 70% occurring in agricultural areas known as the rural complex.<sup>7</sup> The TNC notes the main direct causes of deforestation and forest degradation include slash-and-burn agriculture practiced by farmers, small-scale timber exploitation, and activities such as fuelwood harvesting (for fuelwood and charcoal production) and artisanal mining. The Center for International Forestry Research (CIFOR) identified infrastructure, including mining and road development, and agriculture (commercial, subsistence, and small-scale including slash and burn) and forest exploitation as the most recurrent direct causes of deforestation and forest degradation. Economic factors (proximity of large cities, national borders, mining operations and forest concessions), socio-

political factors (refugee camps, conflict zones, protected areas, distance to protected areas, forest code), biophysical factors (forest fragmentation, degraded forests, navigable waterways, slopes), transport (presence of main, secondary and local roads, distance to roads, distance to navigable waterways), and demography (population growth, size of urban households) also drive deforestation.<sup>8</sup> DRC has among the world's highest rate of population growth, which can place heavy demand on land and forest resources and drive deforestation.<sup>9</sup>

DRC enacted a Forest Code in 2002. To implement it, the National Environment, Forests, Waters and Biodiversity Program was adopted in 2011.<sup>10</sup> In 2014, DRC developed its [National Forest Policy \(2014-2025\)](#) to reinforce and pursue the sustainable management of its forest resources and promote green economy, poverty eradication, the well-being of people, and the fight against climate change. The DRC also participates in the UN-REDD Programme and the Forest Carbon Partnership Facility. In 2016, the World Bank launched the [Forest Dependent Communities Support Project](#), which aims to strengthen the capacity of targeted Indigenous Peoples and Local Communities to participate in REDD land and forest management activities.

**Agriculture:** Agriculture emissions decreased 4% from 1990 to 2014, due to decreased emissions from enteric fermentation from livestock and manure left on pasture.<sup>11</sup> This is likely due to a reduced cattle population, which decreased nearly by half during the same time.<sup>12</sup> The TNC notes that local breeding activities dropped due to the import of meat and poultry at competitive prices. From 1990 to 2014, burning savanna was the largest source of agriculture emissions (83%).<sup>13</sup>



Source: WRI CAIT 4.0, 2017.

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

GDP increased 21% from 1990-2014, while GHG emissions increased only 2%. However, GDP first decreased 45% from 1990 to 2001, amidst hyper-inflation, political crisis, economic dislocation, conflicts, and instability. Since 2001, the situation has gradually stabilized and GDP growth has resumed.<sup>14</sup> From 2002 to 2014, GDP increased 113%, while GHG emissions increased 6%.<sup>15</sup> In 2014, the DRC emitted more GHGs relative to GDP than the world average, indicating room for improvement. As of 2014, services contributed 38% of DRC's GDP, followed by mining and extraction (22%), industry (21%), and subsistence agriculture (19%).<sup>16</sup> The DRC's [Intended Nationally Determined Contribution \(INDC\)](#) notes that agriculture employs nearly 70% of the labor force.

## Climate Change Mitigation Targets and Plans

In its INDC, the DRC pledged conditionally to reduce GHG emissions by 17% by 2030 compared to 1990 levels from LUCF, agriculture, and energy. In LUCF, DRC identified potential interventions including afforestation and reforestation, sustainable management of timber operations, rehabilitation of mining and oil operations, and fighting of bush fires. The TNC states that improving the implementation of climate change mitigation policies and measures should involve institutional and human resources capacity building, and that insufficient implementation is due to constraints including the absence of a national climate change policy, strategy and action plan, insufficient allocation of public financial resources, insufficient integration of environmental considerations into sectoral policies, and a lack of intersectoral cooperation.<sup>17</sup> Upon the DRC's ratification of the [Paris Agreement](#) in December 2017, the INDC became its [first NDC](#).

<sup>1</sup> World Resources Institute Climate Analysis Indicators Tool (WRI CAIT 4.0, 2017). Global Warming Potentials (GWPs) are the 100-year GWPs 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). Democratic Republic of the Congo, [Emissions – Land use total](#), viewed on August 19, 2018.

<sup>3</sup> Democratic Republic of the Congo. DRC's [Third National Communication \(TNC\)](#) to the UNFCCC, 2015 (available in French). The TNC does not state which GWPs have been used in the calculation of GHGs in CO<sub>2e</sub>. The TNC inventory shows total GHG and sector emissions in GgCO<sub>2e</sub> for the period 2000-2010. For this factsheet, the 2010 data were converted to MtCO<sub>2e</sub> (GgCO<sub>2e</sub>/1000) for ease of reference: LUCF (237.929 MtCO<sub>2e</sub>), agriculture (8.542 MtCO<sub>2e</sub>), energy (11.386 MtCO<sub>2e</sub>), IP (0.248 MtCO<sub>2e</sub>), waste (2.258 MtCO<sub>2e</sub>), and total (260.363 MtCO<sub>2e</sub>).

<sup>4</sup> FAO. [Global Forest Resources Assessment](#), Global Tables, 2010.

<sup>5</sup> Ibid.

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- <sup>6</sup> Global Forest Watch. [Democratic Republic of the Congo – Forest Change](#), viewed on September 26, 2018.
- <sup>7</sup> [WRI. Tree Cover Loss in the Democratic Republic of Congo Reaches Record High, viewed on September 26, 2018.](#)
- <sup>8</sup> The Center for International Forestry Research. [The context of REDD+ in the Democratic Republic of Congo - Drivers, Agents and Institutions](#), 2015.
- <sup>9</sup> World Bank. [Population growth \(annual %\) – Congo, Democratic Republic](#), viewed on October 15, 2018.
- <sup>10</sup> Democratic Republic of the Congo, DRC's TNC to the UNFCCC, 2015.
- <sup>11</sup> FAOSTAT. Democratic Republic of the Congo, [Emissions – Agriculture total](#), viewed on August 19, 2018.
- <sup>12</sup> FAOSTAT. [Democratic Republic of the Congo – Live Animals](#), viewed on August 23, 2018.
- <sup>13</sup> FAOSTAT, 2018.
- <sup>14</sup> World Bank. [Democratic Republic of Congo – Country Brief \(2004\)](#), viewed on August 24, 2018.
- <sup>15</sup> WRI CAIT 4.0, 2017.
- <sup>16</sup> International Monetary Fund (IMF). [Democratic Republic of the Congo – Country Report – Selected Issues](#), August 2015.
- <sup>17</sup> Democratic Republic of the Congo, DRC's TNC to the UNFCCC, 2015.