

# Anguilla: information on national emissions, population and GDP, and mitigation targets

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## TODO

- Table with info on target (main and reclass; emissions from NDC; target quantis + plot).
- GWP: NDC emissions converted from AR2 to AR4 by national conversion factor (2010–2017, PRIMAP-hist v2.1).
- References!

## 1 Non-LULUCF emissions and socio-economic data

With national emissions of 156.0 kt CO<sub>2</sub>eq, Anguilla contributed 0.0003% to global emissions in 2017, while in 2030 its share is estimated to decrease to 0.0002% (Table ??). The estimates for 2030 are based on the downscaled SSP2<sup>1</sup> Middle of the Road marker scenario (dmSSP2), in which Anguilla is estimated to emit 150.7 kt CO<sub>2</sub>eq in 2030. That change in emissions would constitute a decrease of -3.4% compared to 2017. The pathways dmSSP1–5 show a range of 150.7–150.7 kt CO<sub>2</sub>eq in 2030, and 150.7–150.7 kt CO<sub>2</sub>eq in 2050. The country's global rank in terms of total emissions per unit of GDP<sup>2</sup> was 89 in 2017, and 35 regarding the per-capita emissions (61 and 34 in 2030). In terms of accumulated historical emissions, Anguilla contributed to the global 1850–2017 emissions by 0.0002%. When only accounting for the years 1990–2017, its contribution stays the same to 0.0002%. All of the emissions are

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<sup>1</sup>**SSPs:** Shared Socio-economic Pathways. Narratives and challenges to mitigation and adaptation: SSP1: Sustainability, Taking the Green Road (low / low); SSP2: Middle of the Road (medium / medium); SSP3: Regional Rivalry, A Rocky Road (high / high); SSP4: Inequality, A Road Divided (low / high); and SSP5: Fossil-fuelled Development, Taking the Highway (high / low).

<sup>2</sup>**GDP:** Gross Domestic Product. Throughout this document the GDP is given as GDP PPP, with PPP being the Purchasing Power Parity.

presented following GWP AR4<sup>3</sup>, and exclude emissions from LULUCF<sup>4</sup> (exclLU), and bunkers fuels<sup>5</sup> emissions (exclBunkers).

Table 1: National emissions (dmSSP2), GDP and population for Anguilla, together with the emissions per unit of GDP and per capita emissions (all for 2017 and 2030). Additionally, the global share and its rank are displayed.

|                             | Year | Total | Unit                                     | Glob. share | Rank |
|-----------------------------|------|-------|--|-------------|------|
| <b>Emissions</b>            | 2017 | 156.0 | kt CO <sub>2</sub> eq                    | 0.0003%     | 197  |
|                             | 2030 | 150.7 | kt CO <sub>2</sub> eq                    | 0.0002%     | 198  |
| <b>GDP</b>                  | 2017 | 336.5 | Million 2011 GK\$                        | 0.0003%     | 193  |
|                             | 2030 | 362.1 | Million 2011 GK\$                        | 0.0002%     | 192  |
| <b>Emissions per GDP</b>    | 2017 | 463.7 | t CO <sub>2</sub> eq / Million 2011 GK\$ | 0.4%        | 89   |
|                             | 2030 | 416.3 | t CO <sub>2</sub> eq / Million 2011 GK\$ | 0.6%        | 61   |
| <b>Population</b>           | 2017 | 14.6  | Thousand Pers                            | 0.0001%     | 200  |
|                             | 2030 | 14.2  | Thousand Pers                            | 0.0001%     | 200  |
| <b>Emissions per capita</b> | 2017 | 10.7  | t CO <sub>2</sub> eq / Pers              | 0.7%        | 35   |
|                             | 2030 | 10.6  | t CO <sub>2</sub> eq / Pers              | 0.7%        | 34   |

For Anguilla, in 2017 the main emissions share on sectoral level (Fig. ??) came from the Energy sector (97.5%), followed by Waste (2.4%), and Other (0.1%). The Kyoto GHG<sup>6</sup> with the highest emissions in 2017 was CO<sub>2</sub>, constituting as much as 95.9% of the national emissions. Second largest contributor was CH<sub>4</sub> (3.8%), followed by N<sub>2</sub>O (0.3%). The total of F-gases<sup>7</sup> only represented 0.0%. The total CO<sub>2</sub> emissions are expected to be 96.1% of the national Kyoto GHG emissions in 2030 (dmSSP2).

The national GDP decreased in recent years, and the emissions per unit of GDP had a similar trend (Fig. ??). The population increased, while the per capita emissions were on the rise. Following dmSSP2, the GDP is projected to increase after 2017 but to drop again before 2050. The emissions per GDP are estimated to decrease towards 2050. Anguilla's population is assumed to diminish towards 2050, and the per capita emissions are expected to decline towards 2050.

## 2 LULUCF emissions

LULUCF emissions data for Anguilla are available from the following sources (Fig. ??): FAO (2019).

### High fluctuations? Data gaps? Difference between sources?

<sup>3</sup>**Global Warming Potential (GWP)**: we use GWP values from the IPCC 4<sup>th</sup> Assessment Report (AR4). They reflect the forcing potential of one kilogram of a gas' emissions in comparison to one kilogram of CO<sub>2</sub> (GWP<sub>CO2</sub> = 1). The GWPs correspond to a 100-yr period and are for CH<sub>4</sub>: 25, for N<sub>2</sub>O: 298, for SF<sub>6</sub>: 22800, and for NF<sub>3</sub>: 17200. For the basket of HFC-gases the GWPs from AR4 are in the range 4–14800, and for PFCs 7190–12200. To assess emissions of several GHGs, their emissions are weighted by their respective GWPs and presented in CO<sub>2</sub> equivalents (CO<sub>2</sub>eq).

<sup>4</sup>**LULUCF**: Land Use, Land-Use Change and Forestry. Emissions from LULUCF are excluded throughout the document, unless stated otherwise.

<sup>5</sup>**Bunkers fuels**: emissions from international aviation and shipping.

<sup>6</sup>**Kyoto GHG** (Greenhouse Gas) basket: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and nitrogen trifluoride (NF<sub>3</sub>).

<sup>7</sup>**F-gases** (fluorinated gases): basket of HFCs, PFCs, and the gases SF<sub>6</sub> and NF<sub>3</sub>. Some F-gases have very long atmospheric lifetimes and high Global Warming Potentials.

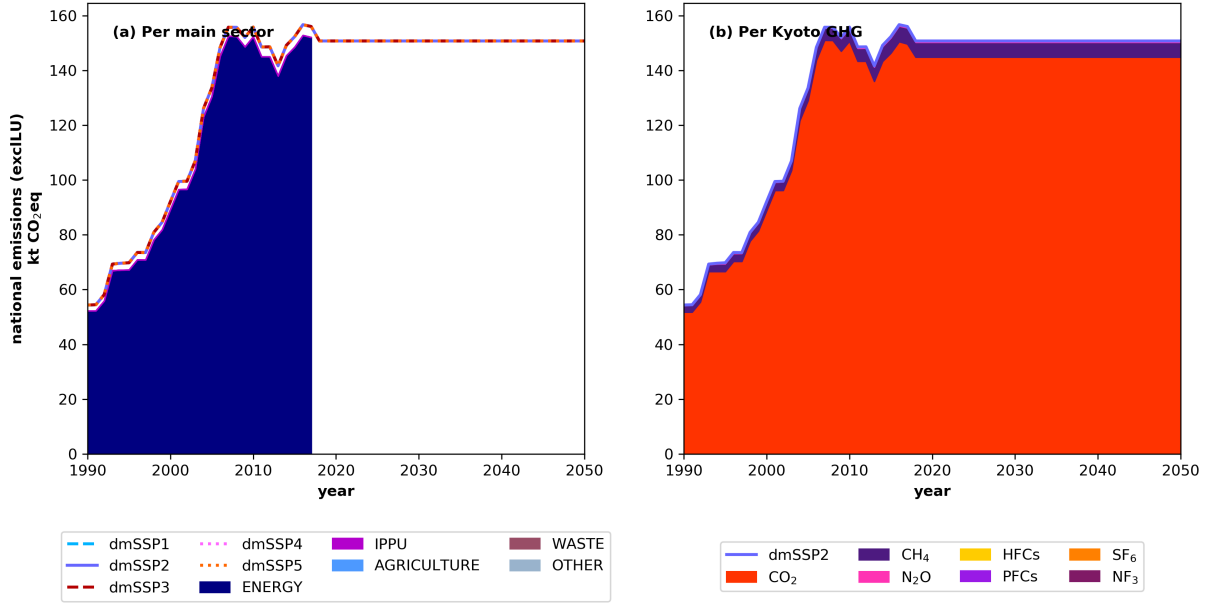


Figure 1: 'Stacked' timeseries of national emissions (exclLU) per main-sector (a) and Kyoto GHG (b). No information available on the sectoral contributions after 2017.

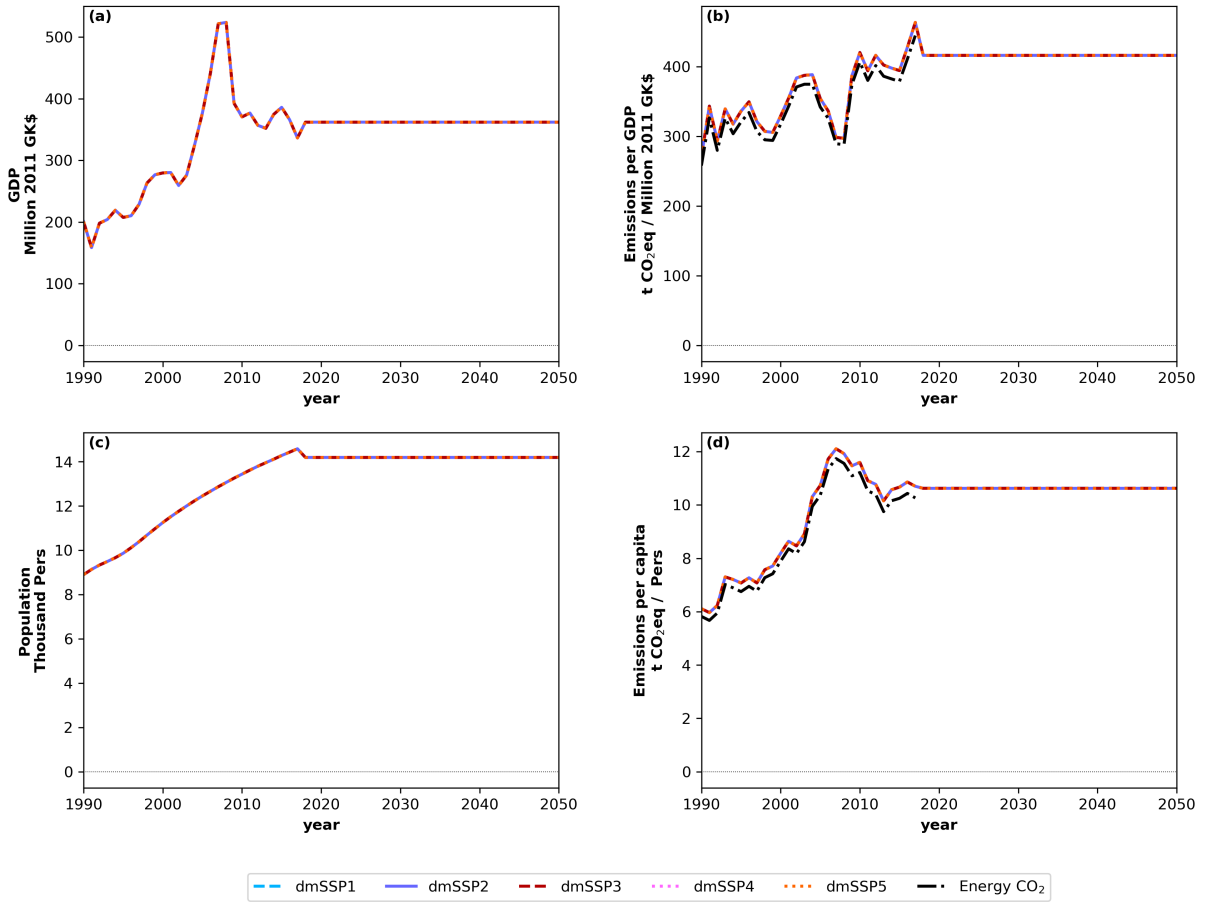


Figure 2: Timeseries of national GDP (a) and population (c), and Kyoto GHG emissions (exclLU, exclBunkers) per unit of GDP (b) or per capita (d).

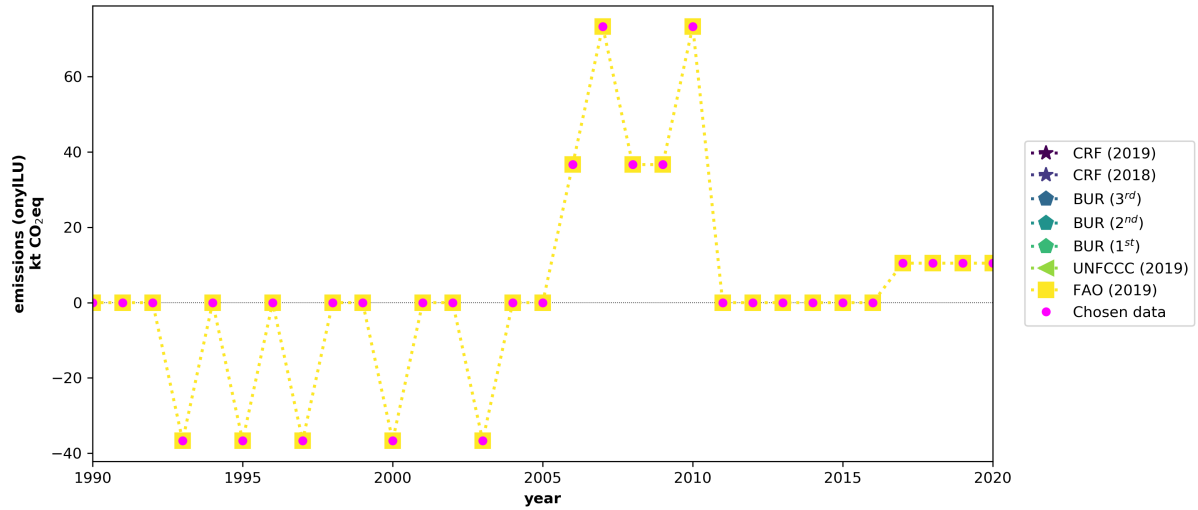


Figure 3: Timeseries of emissions from LULUCF (CO<sub>2</sub> plus CH<sub>4</sub> and N<sub>2</sub>O) as available from different data-sources. Indicated in pink are the 'chosen' data, as used in our assessment of Anguilla's NDC (if needed). The pink timeseries was inter- and / or extrapolated (interpolation: linear, extrapolation: constant).

### 3 Mitigation targets (NDC)

Give the %cov for the base and target year (and 2017). Global share for 2030 for the mitigated pathways and % reduction relative to 1990 and 2017. Table with the 'input' data and the resulting targets (like `ndcs_targets.csv`). Anguilla does not have an (I)NDC. Therefore the assumed 'mitigated' emissions pathways used for global aggregates equal the baseline emissions (dmSSP1–5).

### 4 Data sources and references

PRIMAP-hist v2.1: emissions from PRIMAP-hist are data from the country reported data priority scenario (HISTCR).