



VATICAN CITY STATE'S NATIONAL DETERMINED CONTRIBUTION

May 2023

1. Introduction

The Holy See and the Vatican City State are committed to promoting sustainable development through environmental policies to safeguard our common home, as well as through initiatives in favour of an integral ecology education aimed at stimulating new lifestyles, based on sustainability, fraternity and the covenant between the human person and the environment.

On 24 May 2015, Pope Francis issued his Encyclical Letter *Laudato Si' on Care for Our Common Home*,¹ in which he noted that the «challenge to protect our common home includes a concern to bring the whole human family together to seek a sustainable and integral development, for we know that things can change».² He urgently appealed «for a new dialogue about how we are shaping the future of our planet».³

Later, on 12 December 2020, in a Video-Message to the *High Level Virtual Climate Ambition Summit*, Pope Francis underscored that a strategy is necessary to reduce net emissions to zero (net-zero emission), and announced that the Holy See intended to join others in this effort by taking action at two different levels:

1. «On the one hand, Vatican City State is committed to reducing net emissions to zero before 2050, intensifying efforts at environmental management that have already been in process for some years, and which make possible the rational use of natural resources such as water and energy, energy efficiency, sustainable mobility, reforestation, and the circular economy also in waste management.
2. On the other, the Holy See is committed to promoting education in integral ecology. Political and technical measures must be united with an educational process that favours a cultural model of development and sustainability based on fraternity and the alliance between human beings and the environment».⁴

On 04 October 2022, the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement entered into force for the Vatican City State, as a non-Annex I Party. By acceding to both the UNFCCC and the Paris Agreement on behalf of Vatican City State, the Holy See expressed its intention «to contribute and to give its moral support to the efforts of all States to cooperate, in accordance with their common but differentiated responsibilities and respective capabilities, in an effective and appropriate response to the challenges posed by climate change to humanity and to our common home»⁵.

¹ Cfr. Pope Francis, Encyclical Letter *Laudato Si' on Care for Our Common Home*, 24 May 2015.

² *Ibidem*, n. 13.

³ *Ibidem*, n. 14.

⁴ Pope Francis, Video-Message for the Climate Ambition Summit, 12 December 2020.

⁵ Declaration annexed to the Instrument of Accession of the Holy See, acting in the name and on behalf of Vatican City State, to the United Nations Framework Convention on Climate Change and to the Paris Agreement, 4 July 2022.

Such challenges have «not only environmental, but also ethical, social, economic and political relevance, affect[ing] above all the life of the poorest and most fragile. In this way they appeal to our responsibility to promote, through collective and joint commitment, a culture of care, which places human dignity and the common good at the centre»⁶. By answering the question «What kind of world do we want to leave to those who come after us, to children who are now growing up?»⁷, the Holy See and the Vatican City State wish that the Convention and the Paris Agreement would help to promote «a remarkable convergence on the urgent need for a change of direction, a decisive resolve to pass from the “*throwaway culture*” prevalent in our societies to a “*culture of care*” for our common home and its inhabitants, now and in the future [...]. Humanity possesses the wherewithal to effect this change, which calls for a genuine conversion, individual as well as communitarian, and a decisive will to set out on this path. It will entail the transition towards a more integral and integrating model of development, based on solidarity and on responsibility».⁸ These two core-values are at the basis of the implementation of both the Convention and the Paris Agreement, and will guide the efforts of the Holy See and the Vatican City State in this process.

The Holy See also ratified, in the name and on behalf of the Vatican City State, the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer with its first four Amendments in 2008, as well as its Kigali Amendment in 2020.

By communicating herewith its National Determined Contribution (NDC) as requested by Article 3 and Article 4, paragraph 2, of the Paris Agreement, the Vatican City State commits itself to reduce greenhouse gases to 20% below 2011 level by 2030.

Reduction target	Base year	Time-frame
20%	2011	2022-2030

2. National circumstances

The Vatican City State is the smallest sovereign State in the world, both in terms of population and territory, consisting of 0.44 square kilometers, and is an enclave surrounded by the territory of the Italian Republic.

The climate in Vatican City State is temperate, with mild, rainy winters and hot, dry summers. The average annual rainfall, around 750 mm and distributed on average over 79 days, with its minimum peak in summer and an accentuated peak in autumn.

The Vatican City State should not be confused with the Holy See. The Holy See is a sovereign subject of international law possessing full international legal personality. Although it is not territorial in nature, it enjoys the same rights and obligations as other States and it is independent from any territorial authority or jurisdiction, although at present it exercises sovereignty over Vatican City State. Moreover, the Holy See does not exercise jurisdiction, as that term is understood in international law, over individual Catholics and institutions located outside the territory of Vatican City State. Each member of the Catholic Church is subject to the laws of the respective State in which he or she lives. Therefore, when the Holy See ratified, in the name and on behalf of the Vatican City State, the United Nations Framework Convention on Climate Change and the Paris Agreement, it undertook to observe its provisions exclusively within the Territory of the Vatican City State, as circumscribed by the Leonine Walls.⁹

⁶ Pope Francis, Video-Message for the Climate Ambition Summit, 12 December 2020.

⁷ Pope Francis, *Laudato Si'*, n. 160.

⁸ Pope Francis Message to UNFCCC's COP26, 29 October 2021.

⁹ Cfr. Declaration annexed to the Instrument of Accession to the United Nations Framework Convention on Climate Change and to the Paris Agreement, 4 July 2022.

To date, there are 421 people residing in the territory of Vatican City State. While the number of the residents is not statistically significant, goods and services in the Vatican City State are provided mostly to a large number of non-residents. In addition to residents and citizens who reside there permanently for reasons of work, access is allowed to other people who are not citizens or do not have residence in the State. The transient population of the State is approximately 6.000 people, to which it must be added those (family members, pensioners, beneficiaries of the Health Fund and professional collaborators) who use the goods and services provided by the State.

Unlike other States, the Vatican City State does not have its own productive sector. Due to its peculiar nature, there is no “gross value” of the economic activities carried out within it. Its national income is essentially made up of asset management and the income generated by services provided and goods sold to residents, citizens and others.

Energy use in Vatican City State depends almost entirely on energy imports, as the State has neither fossil fuel sources, nor energy production plants with the exception of a negligible amount of energy produced from renewable sources.

3. National Determined Contribution (NDC)

The Vatican City State commits itself to reduce greenhouse gases to **20%** below 2011 level by **2030**.

3.1 Information to facilitate clarity, transparency and understanding

- *Base year*

Vatican City State’s NDC objectives will be benchmarked at the year **2011**.

- *Emissions equivalent to CO₂ in base year*

In 2011, CO_{2eq} emissions reached a value of almost **18,94 kt** (this is a provisional figure, which will be better defined through further data collection) and are broken down as shown in the table below.

Table - Greenhouse gas emissions

Sectors		tCO _{2eq} .
1. Energy		
	1.1a Automotive petrol	5.898,08
	1.1b Automotive diesel	6.566,54
	1.2a Heating gas	4.527,60
	1.2b Heating oil	184,54
2. Industrial Processes and other uses		
	2.1 HFC	1.758,32
3. LULUCF		
		n.d.
Total		18.935,07

- *Objective of CO_{2eq} emissions reduction*

By 2030, emissions will be reduced by 20% of the 2011 figure.

- *Assumptions and Methodological Approach*

The methodological approaches used to estimate and account for anthropogenic greenhouse gas emissions and their abatement employ standard methods. More specifically, Vatican emissions were calculated using the standard methods and procedures employed by the 2006 IPCC Guidelines for National Greenhouse Gas Inventories as adopted by the UNFCCC and using common metrics as

agreed in the Paris Agreement considering the Global Warming Potential on a 100 timescale in accordance with IPCC's 5th Assessment Report. The LULUCF sector will be accounted on a land-based approach.

- *Time frames*

The indicated reduction target will be met by the end of the year 2030 through the adoption of a strategy employing a progressive commitment over the indicated period.

- *Scope and coverage*

- Absolute economy-wide emission reduction target compared with a base year.
- Geographical scope: Vatican city.
- Controlled substances: all greenhouse gases not controlled by the Montreal Protocol (CO₂, CH₄, N₂O, HFC).
- Sectors involved: energy, and in particular district heating, and transportation, industrial processes and product use, land use, land use change and forestry.

The Vatican City State intends to achieve its national emission reduction targets through national measures. However, if domestic reductions prove insufficient to achieve the set objectives the use of international mechanisms will not be excluded.

4. Planning process, fairness and ambition:

The Vatican's planning processes includes the sectors mentioned in paragraph 3.1.

Several environmental management projects have been planned and implemented within the Vatican City State, each carried out in accordance with the guidelines laid out in *Laudato Si'*. The aim of these projects has been to reduce energy consumption, optimize the management of water resources, reduce emissions of substances harmful to global warming and the ozone layer, manage waste production in a sustainable manner, and encourage recovery and recycling.¹⁰

The Encyclical Letter *Laudato Si' on Care for Our Common Home* remains the main reference text for the Vatican City State in the implementation of its NDCs and in the promotion of the related education and awareness activities.

The principles and guidelines indicated have led and will lead the Vatican to the development of additional projects aimed at promoting:

- rational use of natural resources (water and energy);
- energy efficiency and the improvement of the State's technological assets;
- sustainable mobility;
- diversification and supply of less polluting or alternative energy products for motor vehicles;
- waste disposal;
- development of reforestation projects.

It should be stressed, nonetheless, that margins for further improvements are minimal when considering the small size of its territory and the fact that Vatican City State has already moved decidedly in the direction of sustainability in the recent past, encouraging mitigation and increasing its energy efficiency.

¹⁰ Cfr. Interdicasterial Working Group of the Holy See on Integral Ecology, *Journeying towards Care for Our Common Home. Five Years after Laudato Si'*. Rome: Libreria Editrice Vaticana, 31 May 2020, pp. 211-215.

Nevertheless, these policies will continue to advance in the coming years, focusing on the coordination of climate-relevant measures within the Vatican's current approach to energy, transport and environmental policy. This will allow for:

- addressing the regulation of energy and environmental factors, increasing energy efficiency, the diversification of sources and the adoption of low environmental impact technologies;
- disseminating greater education and awareness related to environmental protection and integral ecology;
- valuing global and synergistic action that is both comprehensive and ambitious in favor of the climate;
- accelerating the energy transition, innovation and technological development in the productive sectors with the greatest negative externalities.

Even if the State's contribution to global emissions in 2022 is around **0,0000443%**, the Vatican City State is committed to achieving a reduction in emissions in line with the goal of keeping global warming below 2°C, as well as to pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels as foreseen in the Art. 2 of Paris Agreements.

Although the Vatican City State contributes to global emissions in an insignificant way, it considers it essential to invest in quality emission reduction projects as well as in integral ecology education initiatives, which, in addition to the mitigation of greenhouse gases, also lead to ethical and social benefits.