



# LAUDATE DEUM



TO ALL PEOPLE OF GOOD WILL  
ON THE CLIMATE CRISIS



APOSTOLIC EXHORTATION

POPE FRANCIS

# TABLE OF CONTENTS

LAUDATE DEUM.....	7
.....	•••
<b>Chapter One</b>	
The Global Climate Crisis.....	9
I. Resistance and confusion .....	10
II. Human causes .....	11
III. Damages and risks.....	13
.....	•••
<b>Chapter Two</b>	
A Growing Technocratic Paradigm.....	17
I. Rethinking our use of power.....	18
II. The ethical goad.....	20
.....	•••
<b>Chapter Three</b>	
The Weakness of International Politics.....	23
I. Reconfiguring multilateralism .....	24
.....	•••
<b>Chapter Four</b>	
Climate Conferences: Progress and Failures.....	27
.....	•••
<b>Chapter Five</b>	
What to Expect from COP28 in Dubai?.....	31
.....	•••
<b>Chapter Six</b>	
Spiritual Motivations.....	35
I. In the light of faith.....	35
II. Journeying in communion and commitment .....	36
.....	•••
<b>Notes</b> .....	39

1. "Praise God for all his creatures." This was the message that St. Francis of Assisi proclaimed by his life, his canticles and all his actions. In this way, he accepted the invitation of the biblical Psalms and reflected the sensitivity of Jesus before the creatures of his Father: "Consider the lilies of the field, how they grow; they neither toil nor spin, yet I tell you, even Solomon in all his glory was not clothed like one of these" (Mt. 6:28-29). "Are not five sparrows sold for two pennies? Yet not one of them is forgotten in God's sight" (Lk 12:6). How can we not admire this tenderness of Jesus for all the beings that accompany us along the way!

2. Eight years have passed since I published the Encyclical Letter *Laudato Si'*, when I wanted to share with all of you, my brothers and sisters of our suffering planet, my heartfelt concerns about the care of our common home. Yet, with the passage of time, I have realized that our responses have not been adequate, while the world in which we live is collapsing and may be nearing the breaking point. In addition to this possibility, it is indubitable that the impact of climate change will increasingly prejudice the lives and families of many persons. We will feel its effects in the areas of healthcare, sources of employment, access to resources, housing, forced migrations, etc.

3. This is a global social issue and one intimately related to the dignity of human life. The Bishops of the United States have expressed very well this social meaning of our concern about climate change, which goes beyond a merely ecological approach, because "our care for one another and our care for the earth are intimately bound together. Climate change is one of the principal challenges facing

society and the global community. The effects of climate change are borne by the most vulnerable people, whether at home or around the world.<sup>1</sup> In a few words, the Bishops assembled for the Synod for Amazonia said the same thing: “Attacks on nature have consequences for people’s lives.”<sup>2</sup> And to express bluntly that this is no longer a secondary or ideological question, but a drama that harms us all, the African bishops stated that climate change makes manifest “a tragic and striking example of structural sin.”<sup>3</sup>

4. The reflection and information that we can gather from these past eight years allow us to clarify and complete what we were able to state some time ago. For this reason, and because the situation is now even more pressing, I have wished to share these pages with you.

## CHAPTER ONE

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# THE GLOBAL CLIMATE CRISIS

5. Despite all attempts to deny, conceal, gloss over or relativize the issue, the signs of climate change are here and increasingly evident. No one can ignore the fact that in recent years we have witnessed extreme weather phenomena, frequent periods of unusual heat, drought and other cries of protest on the part of the earth that are only a few palpable expressions of a silent disease that affects everyone. Admittedly, not every concrete catastrophe ought to be attributed to global climate change. Nonetheless, it is verifiable that specific climate changes provoked by humanity are notably heightening the probability of extreme phenomena that are increasingly frequent and intense. For this reason, we know that every time the global temperature increases by 0.5° C, the intensity and frequency of great rains and floods increase in some areas and severe droughts in others, extreme heat waves in some places and heavy snowfall in others.<sup>4</sup> If up to now we could have heat waves several times a year, what will happen if the global temperature increases by 1.5° C, which we are approaching? Those heat waves will be much more frequent and with greater intensity. If it should rise above 2 degrees, the icecaps of Greenland and a large part of Antarctica<sup>5</sup> will melt completely, with immensely grave consequences for everyone.

## I. RESISTANCE AND CONFUSION

6. In recent years, some have chosen to deride these facts. They bring up allegedly solid scientific data, like the fact that the planet has always had, and will have, periods of cooling and warming. They forget to mention another relevant datum: that what we are presently experiencing is an unusual acceleration of warming, at such a speed that it will take only one generation — not centuries or millennia — in order to verify it. The rise in the sea level and the melting of glaciers can be easily perceived by an individual in his or her lifetime, and probably in a few years many populations will have to move their homes because of these facts.

7. In order to ridicule those who speak of global warming, it is pointed out that intermittent periods of extreme cold regularly occur. One fails to mention that this and other extraordinary symptoms are nothing but diverse alternative expressions of the same cause: the global imbalance that is provoking the warming of the planet. Droughts and floods, the dried-up lakes, communities swept away by seaquakes and flooding ultimately have the same origin. At the same time, if we speak of a global phenomenon, we cannot confuse this with sporadic events explained in good part by local factors.

8. Lack of information leads to confusion between large-scale climate projections that involve long periods of time — we are talking about decades at least — with weather forecasts that at most can cover a few weeks. When we speak of climate change, we are referring to a global reality — and constant local variations — that persists for several decades.

9. In an attempt to simplify reality, there are those who would place responsibility on the poor, since they have many children, and even attempt to resolve the problem by mutilating women in less developed countries. As usual, it would seem that everything is the fault of the poor. Yet the reality is that a low, richer percentage of the planet contaminates more than the poorest 50% of the total world population, and that per capita emissions of the richer countries are much greater than those of the poorer ones.<sup>6</sup> How can we forget that Africa, home to more than half of the world's poorest people, is responsible for a minimal portion of historic emissions?

10. It is often heard also that efforts to mitigate climate change by reducing the use of fossil fuels and developing cleaner energy sources will lead to a reduction in the number of jobs. What is happening is that millions of people are losing their jobs due to different effects of climate change: Rising sea levels, droughts and other phenomena affecting the planet have left many people adrift. Conversely, the transition to renewable forms of energy, properly managed, as well as efforts to adapt to the damage caused by climate change, are capable of generating countless jobs in different sectors. This demands that politicians and business leaders should even now be concerning themselves with it.

## II. HUMAN CAUSES

11. It is no longer possible to doubt the human — “anthropic” — origin of climate change. Let us see why. The concentration of greenhouse gases in the atmosphere, which causes global

warming, was stable until the nineteenth century, below 300 parts per million in volume. But in the middle of that century, in conjunction with industrial development, emissions began to increase. In the past fifty years, this increase has accelerated significantly, as the Mauna Loa observatory, which has taken daily measurements of carbon dioxide since 1958, has confirmed. While I was writing *Laudato Si'*, they hit a historic high — 400 parts per million — until arriving at 423 parts per million in June 2023.<sup>7</sup> More than 42% of total net emissions since the year 1850 were produced after 1990.<sup>8</sup>

12. At the same time, we have confirmed that in the last fifty years the temperature has risen at an unprecedented speed, greater than any time over the past two thousand years. In this period, the trend was a warming of 0.15° C per decade, double that of the last 150 years. From 1850 on, the global temperature has risen by 1.1° C, with even greater impact on the polar regions. At this rate, it is possible that in just ten years we will reach the recommended maximum global ceiling of 1.5° C.<sup>9</sup> This increase has not occurred on the earth's surface alone but also several kilometers higher in the atmosphere, on the surface of the oceans and even in their depths for hundreds of meters. Thus the acidification of the seas increased and their oxygen levels were reduced. The glaciers are receding, the snow cover is diminishing and the sea level is constantly rising.<sup>10</sup>

13. It is not possible to conceal the correlation of these global climate phenomena and the accelerated increase in greenhouse gas emissions, particularly since the mid-twentieth century. The overwhelming majority of scientists specializing in the climate support this correlation, and only a very small

percentage of them seek to deny the evidence. Regrettably, the climate crisis is not exactly a matter that interests the great economic powers, whose concern is with the greatest profit possible at minimal cost and in the shortest amount of time.

14. I feel obliged to make these clarifications, which may appear obvious, because of certain dismissive and scarcely reasonable opinions that I encounter, even within the Catholic Church. Yet we can no longer doubt that the reason for the unusual rapidity of these dangerous changes is a fact that cannot be concealed: the enormous novelties that have to do with unchecked human intervention on nature in the past two centuries. Events of natural origin that usually cause warmings, such as volcanic eruptions and others, are insufficient to explain the proportion and speed of the changes of recent decades.<sup>11</sup> The change in average surface temperatures cannot be explained except as the result of the increase of greenhouse gases.

### III. DAMAGES AND RISKS

15. Some effects of the climate crisis are already irreversible, at least for several hundred years, such as the increase in the global temperature of the oceans, their acidification and the decrease of oxygen. Ocean waters have a thermal inertia and centuries are needed to normalize their temperature and salinity, which affects the survival of many species. This is one of the many signs that the other creatures of this world have stopped being our companions along the way and have become instead our victims.

16. The same can be said about the decrease in the continental ice sheets. The melting of the poles will not be able to be reversed for hundreds of years. As for the climate, there are factors that have persisted for long periods of time, independent of the events that may have triggered them. For this reason, we are now unable to halt the enormous damage we have caused. We barely have time to prevent even more tragic damage.

17. Certain apocalyptic diagnoses may well appear scarcely reasonable or insufficiently grounded. This should not lead us to ignore the real possibility that we are approaching a critical point. Small changes can cause greater ones, unforeseen and perhaps already irreversible, due to factors of inertia. This would end up precipitating a cascade of events having a snowball effect. In such cases, it is always too late, since no intervention will be able to halt a process once begun. There is no turning back. We cannot state with certainty that all this is going to happen, based on present conditions. But it is certain that it continues to be a possibility, if we take into account phenomena already in motion that “sensitize” the climate, like the reduction of ice sheets, changes in ocean currents, deforestation in tropical rainforests and the melting of permafrost in Russia, etc.<sup>12</sup>

18. Consequently, a broader perspective is urgently needed, one that can enable us to esteem the marvels of progress, but also to pay serious attention to other effects that were probably unimaginable a century ago. What is being asked of us is nothing other than a certain responsibility for the legacy we will leave behind, once we pass from this world.

19. Finally, we can add that the Covid-19 pandemic brought out the close relation of human life with that of other living beings and with the natural environment. But in a special way, it confirmed that what happens in one part of the world has repercussions on the entire planet. This allows me to reiterate two convictions that I repeat over and over again: “Everything is connected” and “No one is saved alone.”