Climate Change

and

Ireland

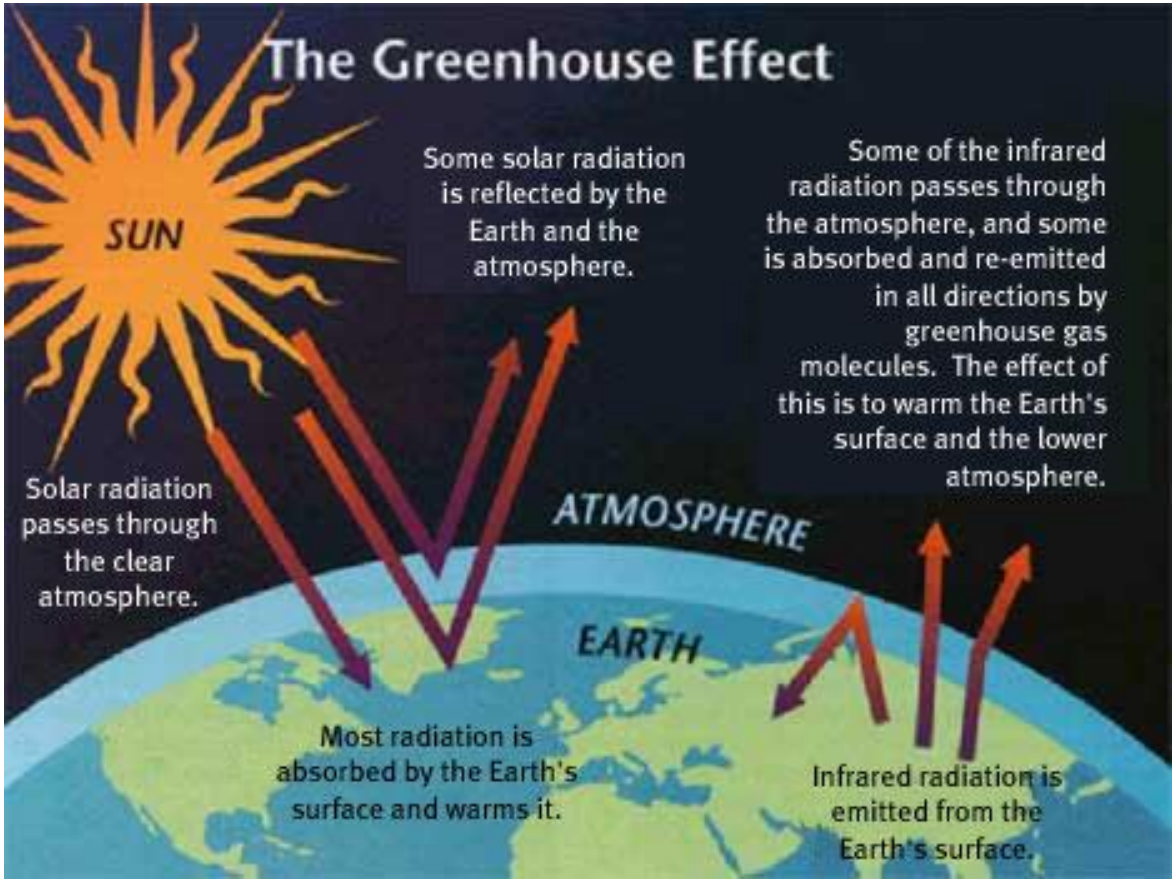
Click mouse to proceed

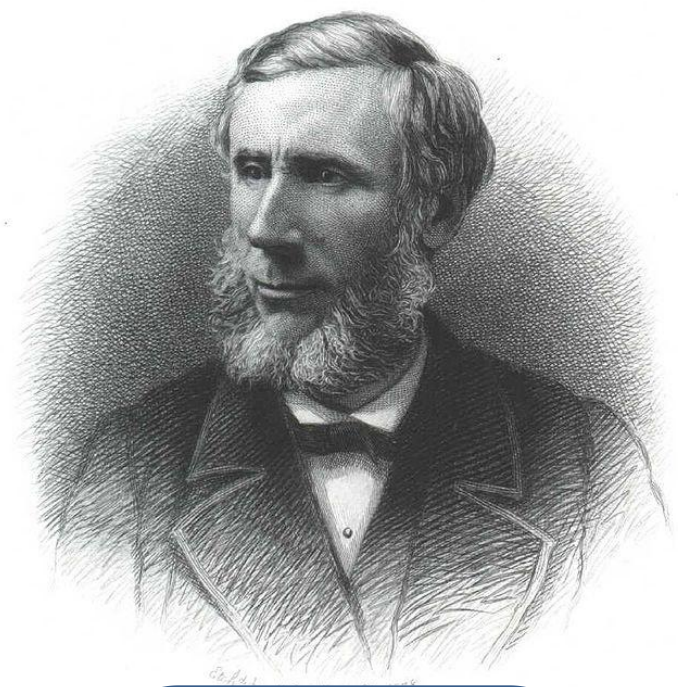
Terms

- **Climate Change** - A change of climate which is **attributed directly or indirectly to human activity** that alters the composition of the global atmosphere and which is in addition to natural climate fluctations observed over comparable time periods.
- **Greenhouse gases** – both natural and human-induced, absorb and re-emit infrared radiation leading to what is commonly called the greenhouse effect.


The atmosphere of planet Earth is composed of a thin layer of gases.
The principal gases *nitrogen* and *oxygen* are responsible for 78% and 21% of the atmosphere respectively.

The reason why global warming is called the ‘greenhouse effect’ is that gases such as carbon dioxide, methane, nitrous oxide and hydrofluorocarbons act like the glass in a greenhouse and reflect solar radiation back to earth.





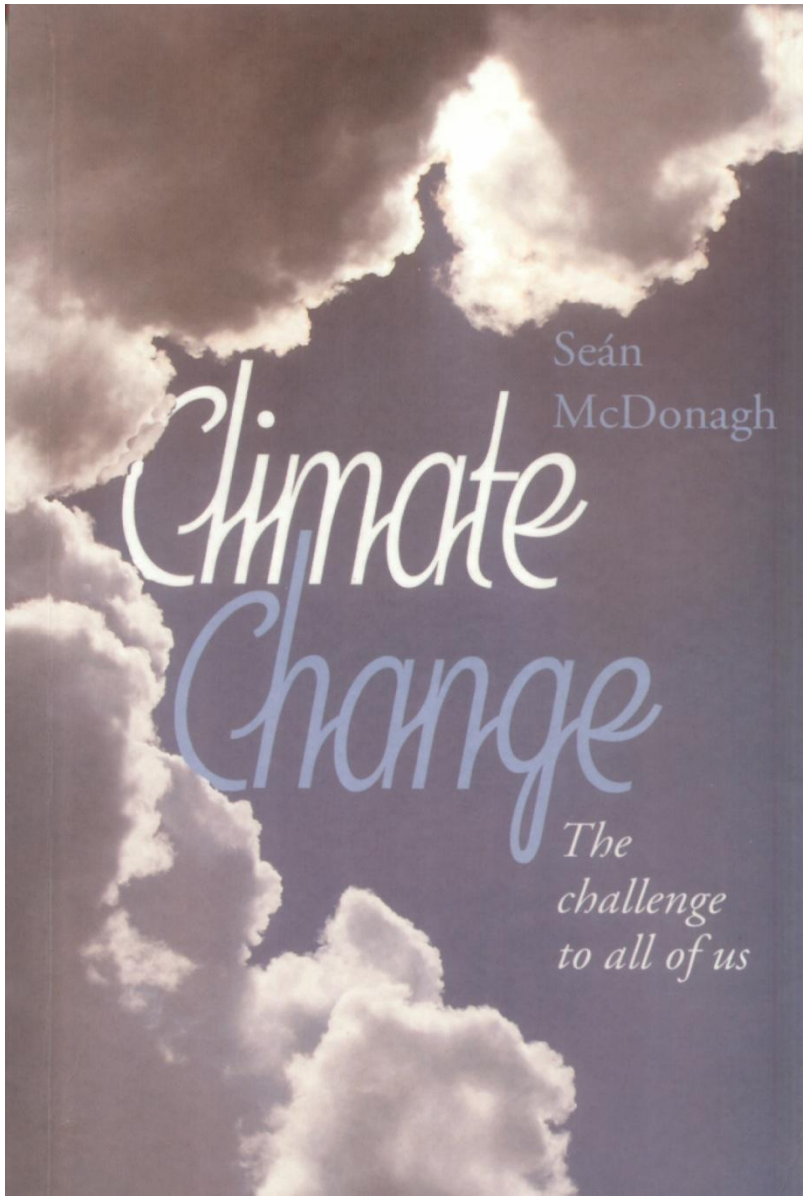
He was hired as a draftsman by the Ordnance Survey of Ireland in his late teens in 1839,

John Tyndall FRS (2 August 1820 – 4 December 1893) was a prominent 19th century physicist.

He was born in Co Carlow in Ireland in 1820 . Almost 160 years since he published his break through scientific paper outlining the critical role of greenhouse gases in managing the earth's temperature.

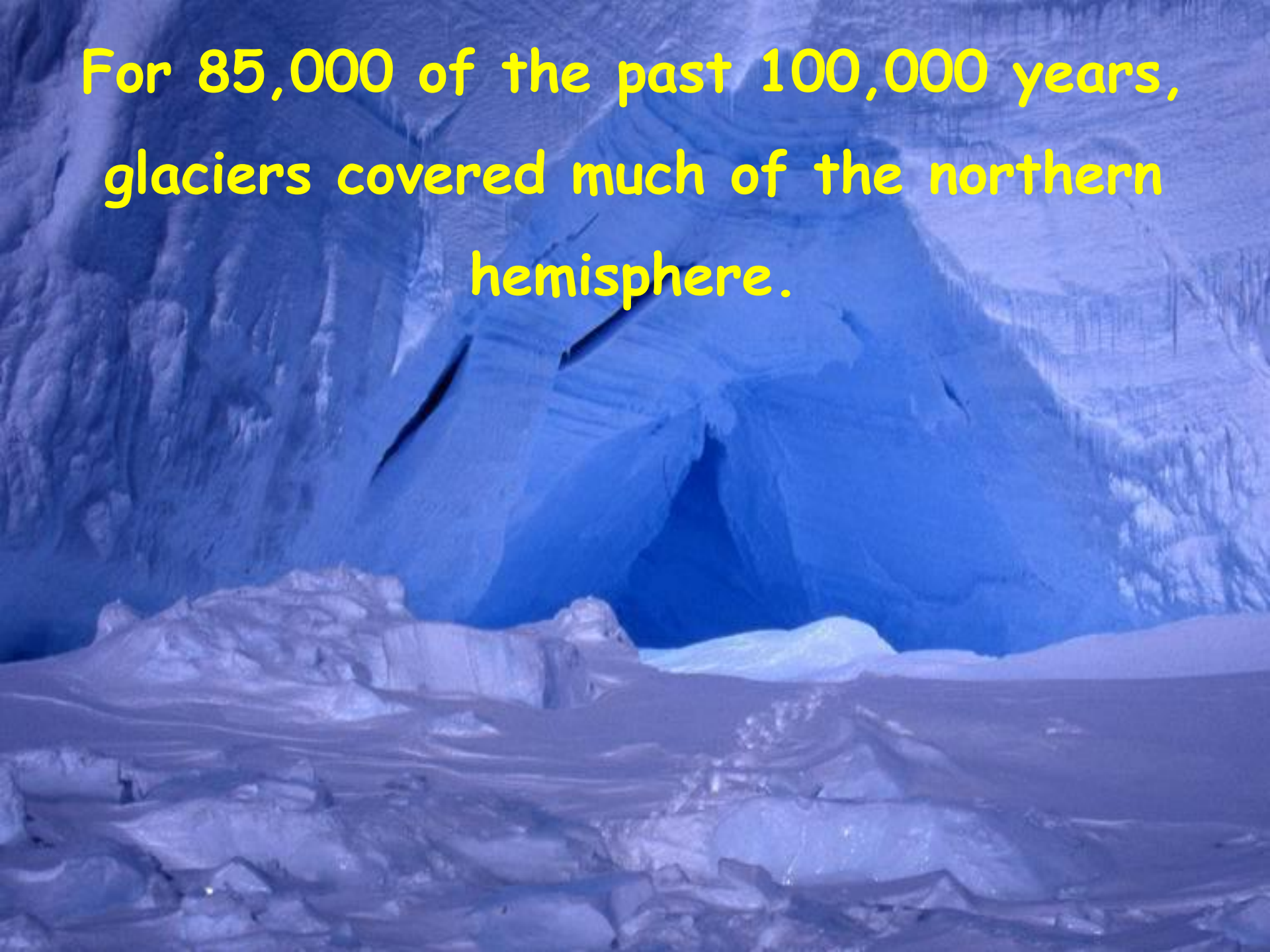
This is why he recognised as the father of climate change studies. The Tyndall Institute for Climate Change Studies is called after him as it the Tyndall Fudan Centre in Shanghai. From 1853 to 1887 he was professor of physics at the Royal Institution of Great Britain in London.

Sean McDonagh 2006



A Book to help us understand that climate change is **not just one environmental problem** among a host of others.

With the possible exception of the massive extinction of species which is currently underway, climate change is by far the **most serious emergency the human race has ever faced.**

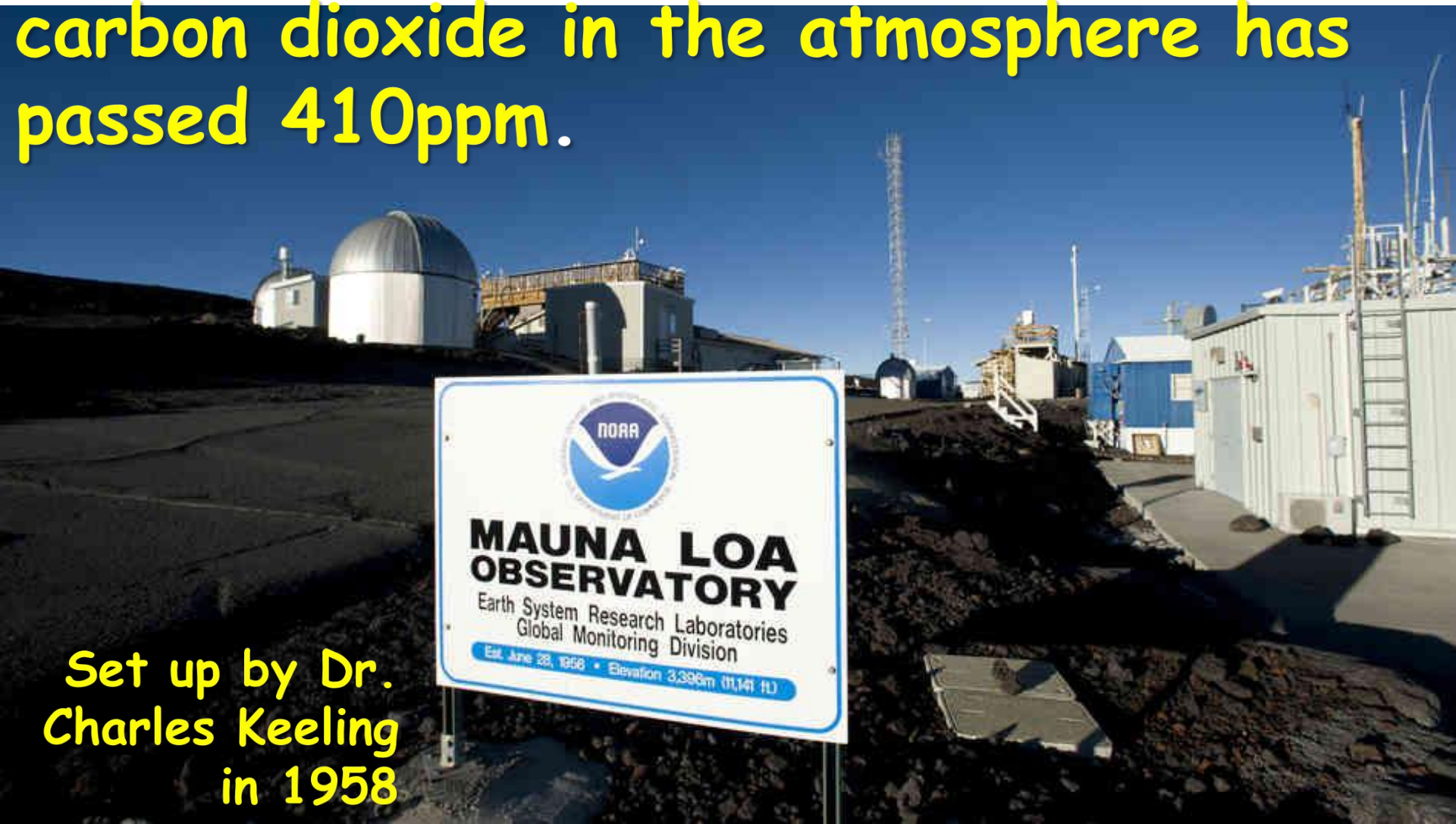

For 85,000 of the past 100,000 years, glaciers covered much of the northern hemisphere.

From the end of the last ice age, 11,000 years ago, until the beginning of the Industrial Revolution, 250 years ago, there were **280 ppm (parts per million) of. carbon dioxide in the atmosphere**. Today there is 410ppm of carbon dioxide in the atmosphere and it is increasing by 3 to 4 ppm every year

Since the Industrial Revolution and especially in the last 50 years, humans have been releasing vast amounts of carbon dioxide into the atmosphere.

Coal was burned from the 1750s. The potential for oil was discovered in 1860; petroleum & natural gas followed later.

On May 10th 2013, measurements taken at the Mauna Loa Observatory in Hawaii, indicated that the concentration of carbon dioxide in the atmosphere has passed 410ppm.



Set up by Dr. Charles Keeling in 1958

No One Is Too Small to Make a Difference review - Greta Thunberg's vision

While her speech inside was full of harsh words for the powerful people Greta says have failed to intervene in the climate crisis, her speech on a stage outside the event to a very friendly crowd was a rallying cry asking people of all ages to join student strikers

In a talk in London in MP's she taps the microphone and askes "Can you hear me."?

The IPCC was established in 1988 by two United Nations Organisations, the World Meteorologist Organisation and the United Nations Environment Programme

IPCC
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
WMO UNEP

to assess, the scientific, technical and socioeconomic information relevant to the understanding of

IPCC
Intergovernamental Panel On Climate Change

human-induced climate change.

Report of the

IPCC

Intergovernamental Panel On Climate Change

The likely consequences of climate change for humans and other creatures are outlined in the second part of the Fifth Assessment of the Intergovernmental Panel on Climate Change (IPCC) published in 2013.

Volume 1

IPCC

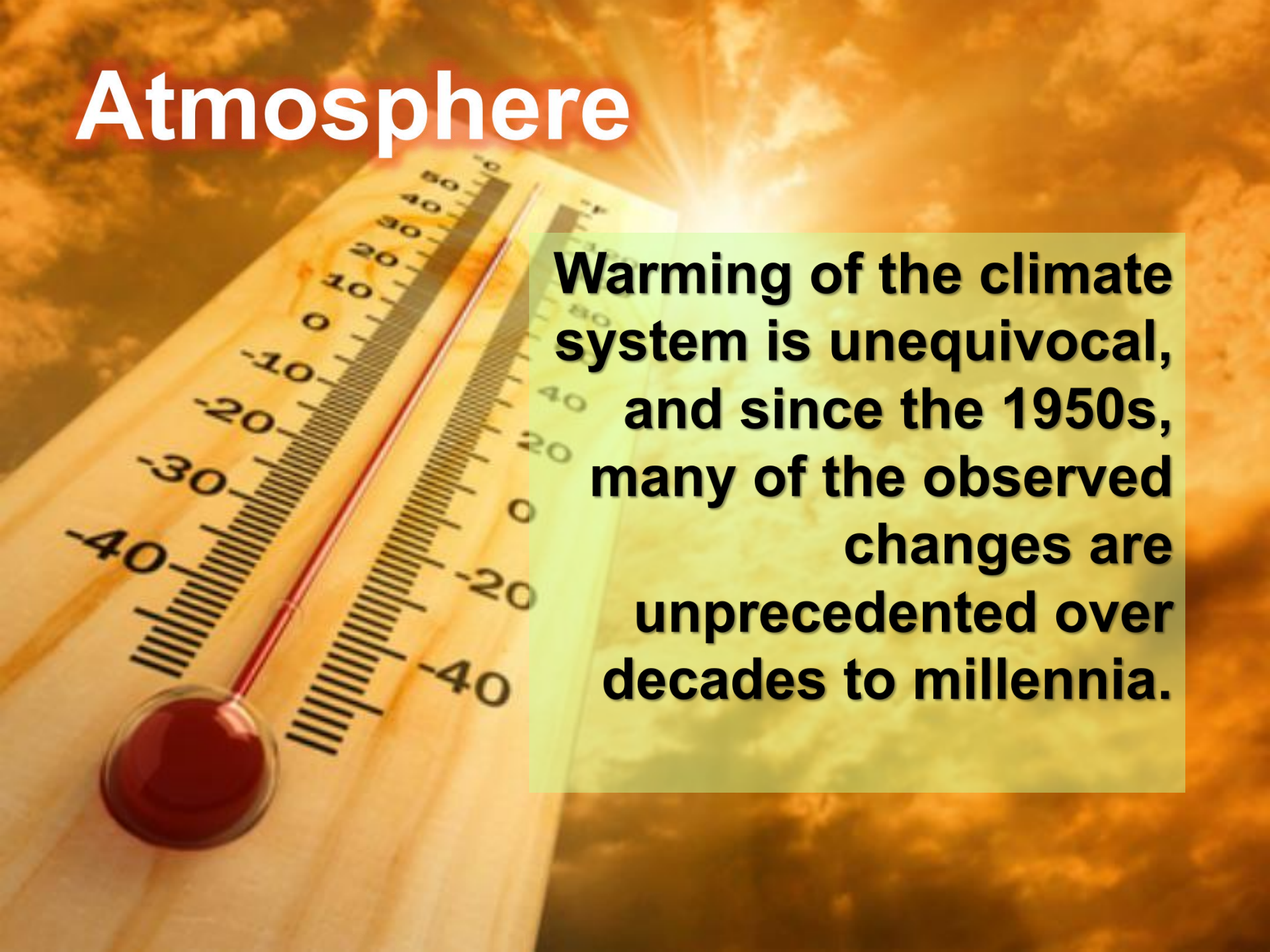
5th Assessment Report

published

October 2013

Key Findings:

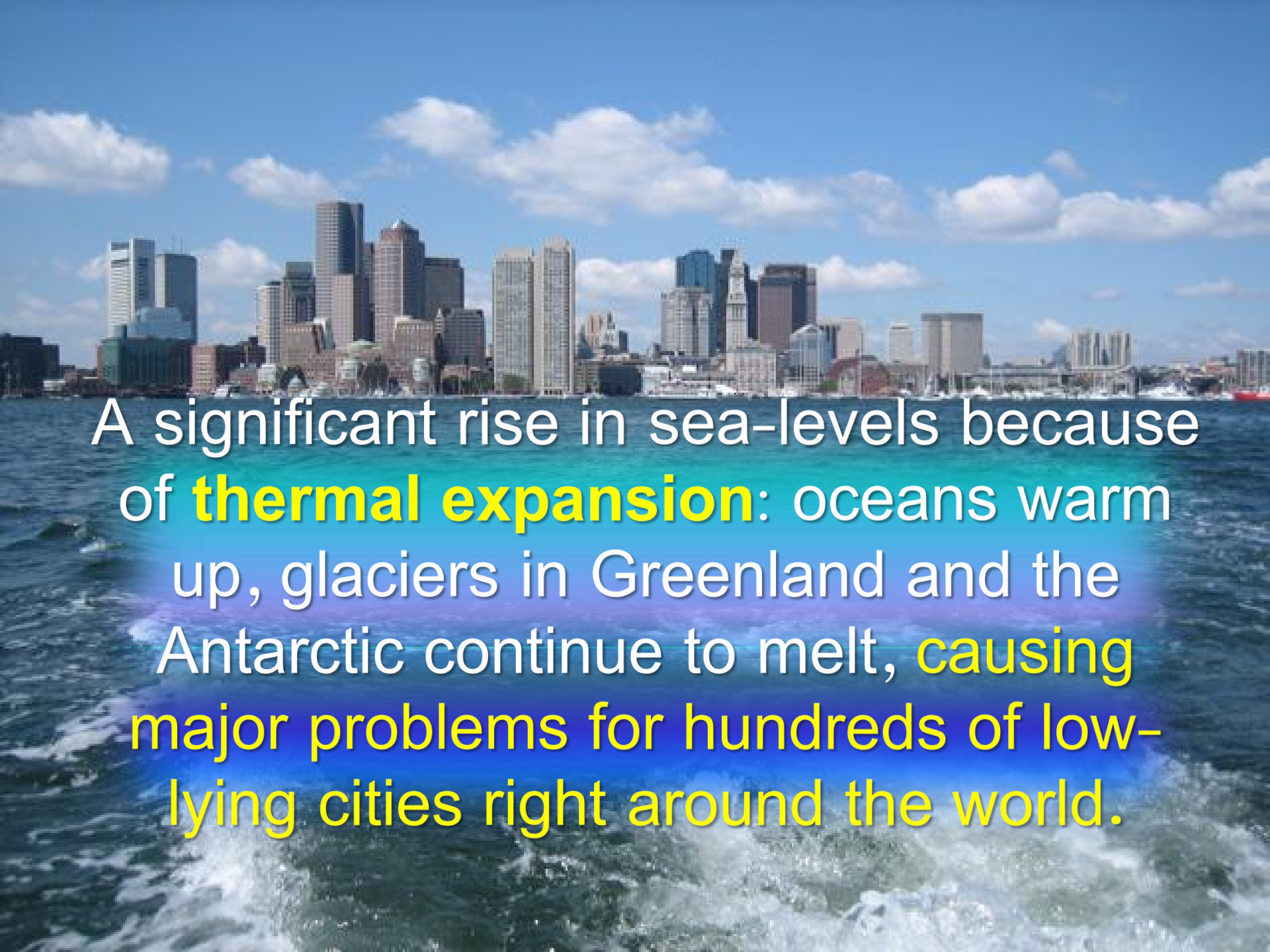
Atmosphere



Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia.

- The atmosphere and ocean have warmed,
- the amounts of snow and ice have diminished,
- sea level has risen,
- and the concentrations of greenhouse gases have increased

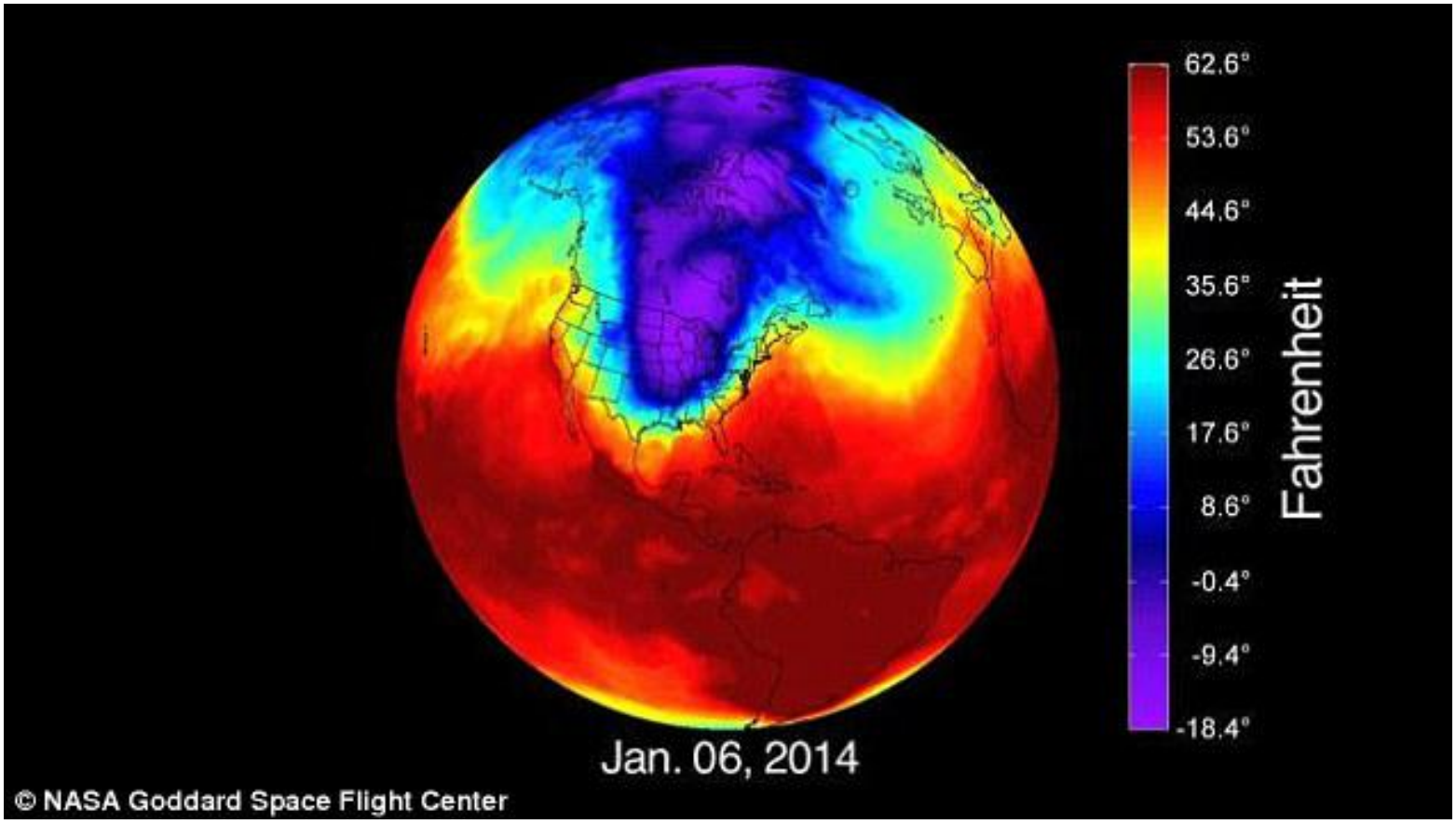
(see Figures SPM.1, SPM.2, SPM.3 and SPM.4). {2.2, 2.4, 3.2, 3.7, 4.2–4.7, 5.2, 5.3, 5.5–5.6, 6.2, 13.2} p.1, http://www.climatechange2013.org/images/uploads/WGI_AR5_SPM_brochure.pdf)

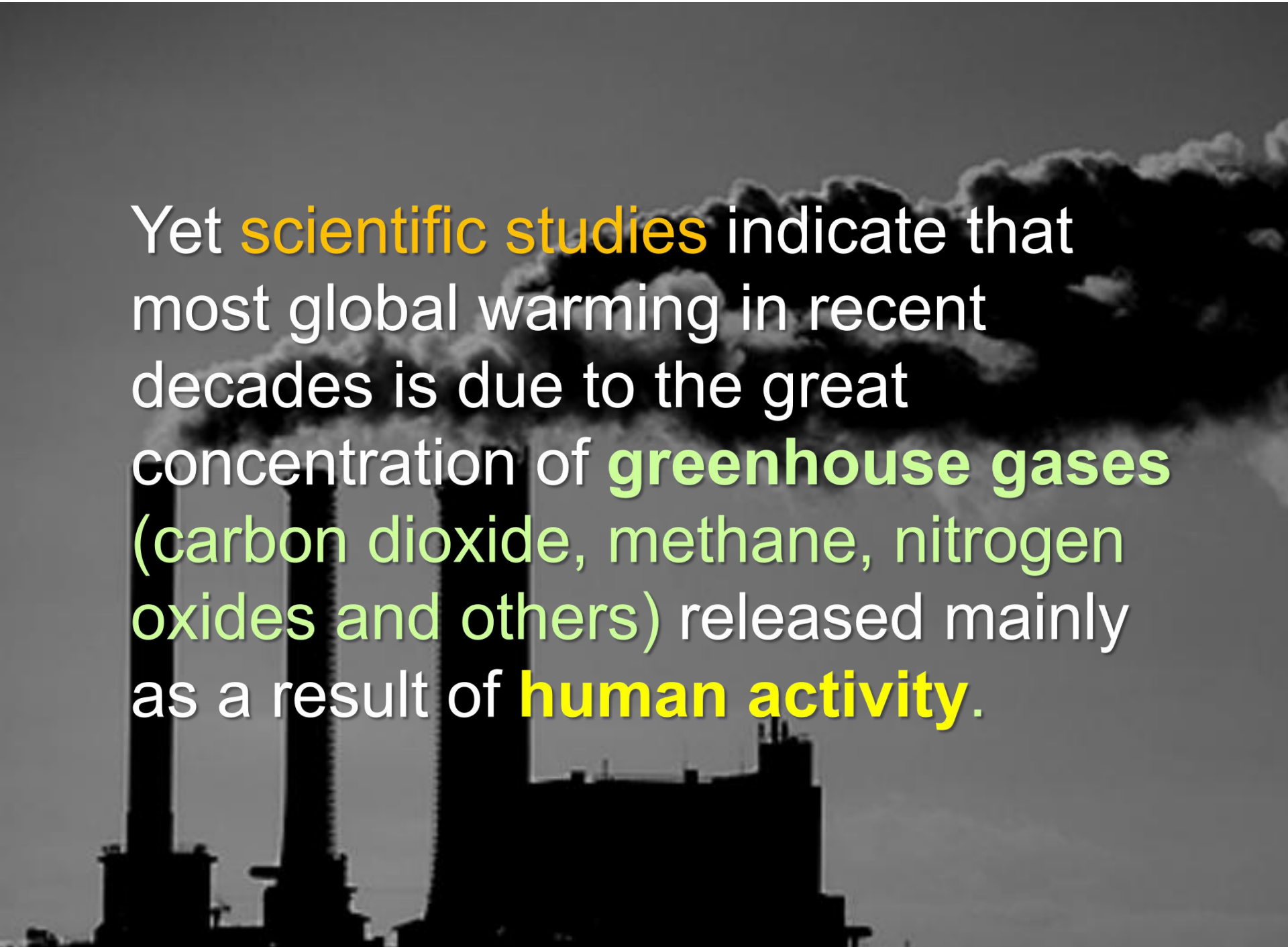

A significant rise in sea-levels because of thermal expansion: oceans warm up, glaciers in Greenland and the Antarctic continue to melt, causing major problems for hundreds of low-lying cities right around the world.

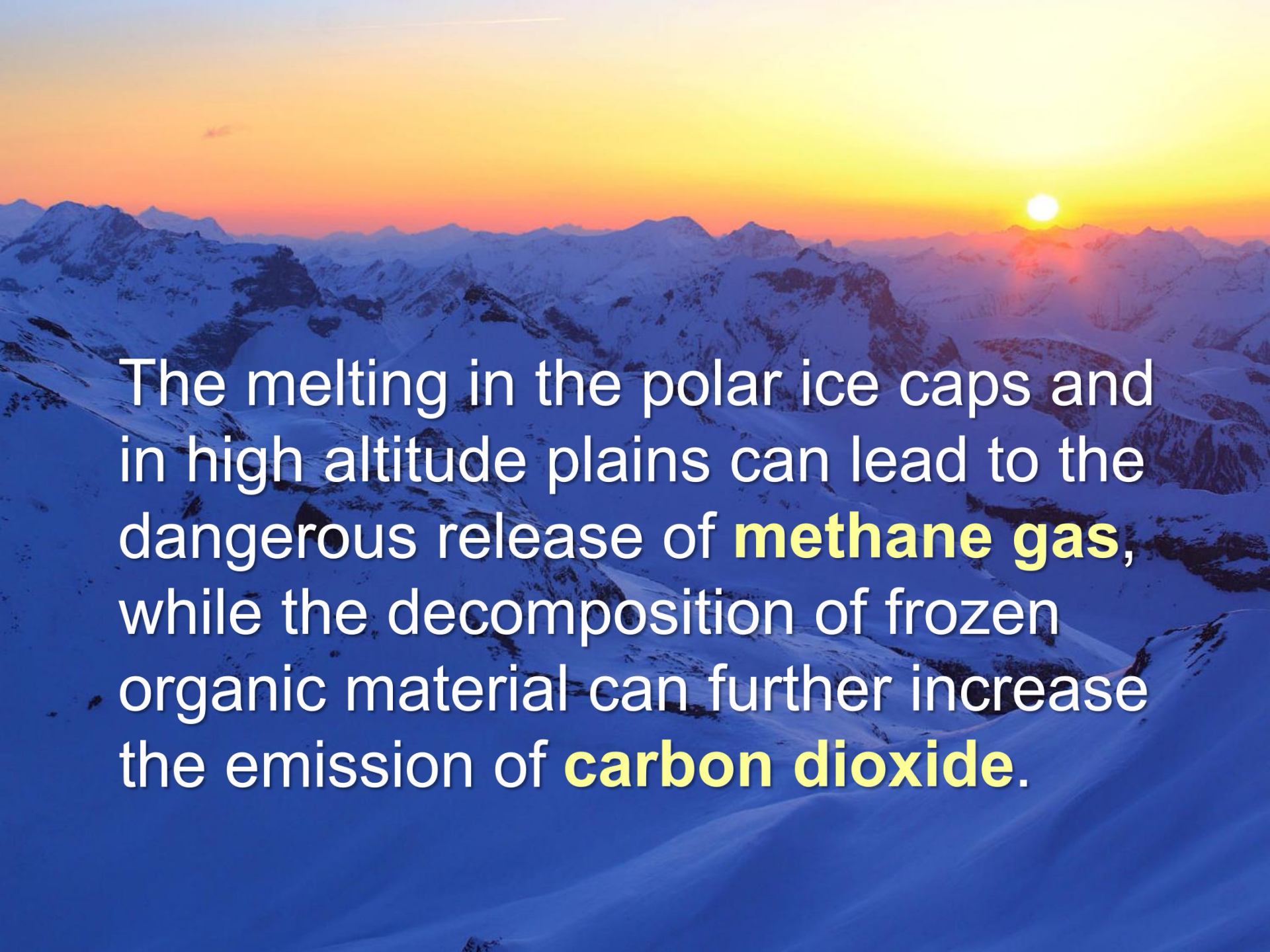

The CLIMATE is
a COMMON
GOOD
belonging to all
and meant for all.

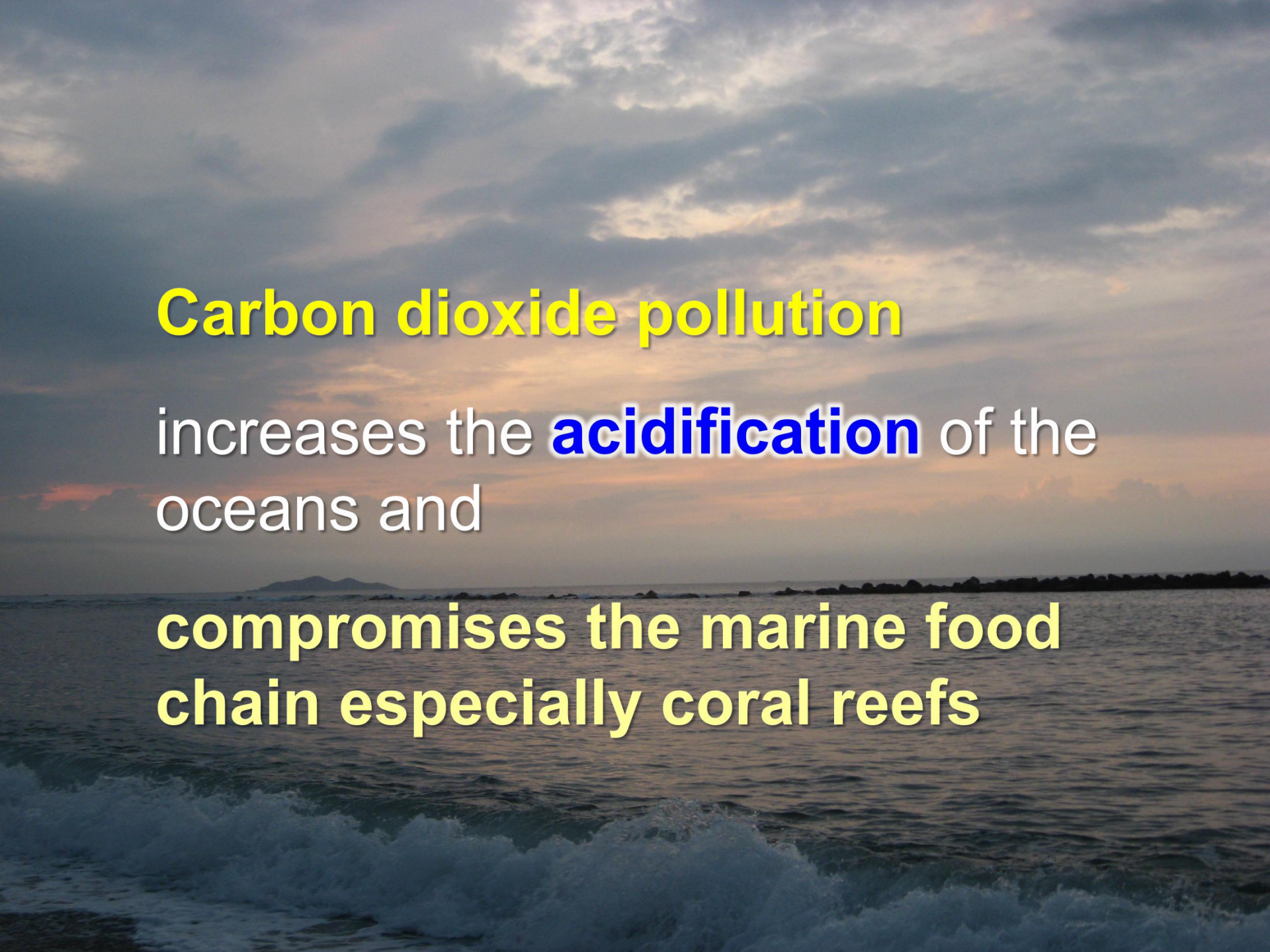

At the global level, it is a complex system linked to many of the essential conditions for human life.

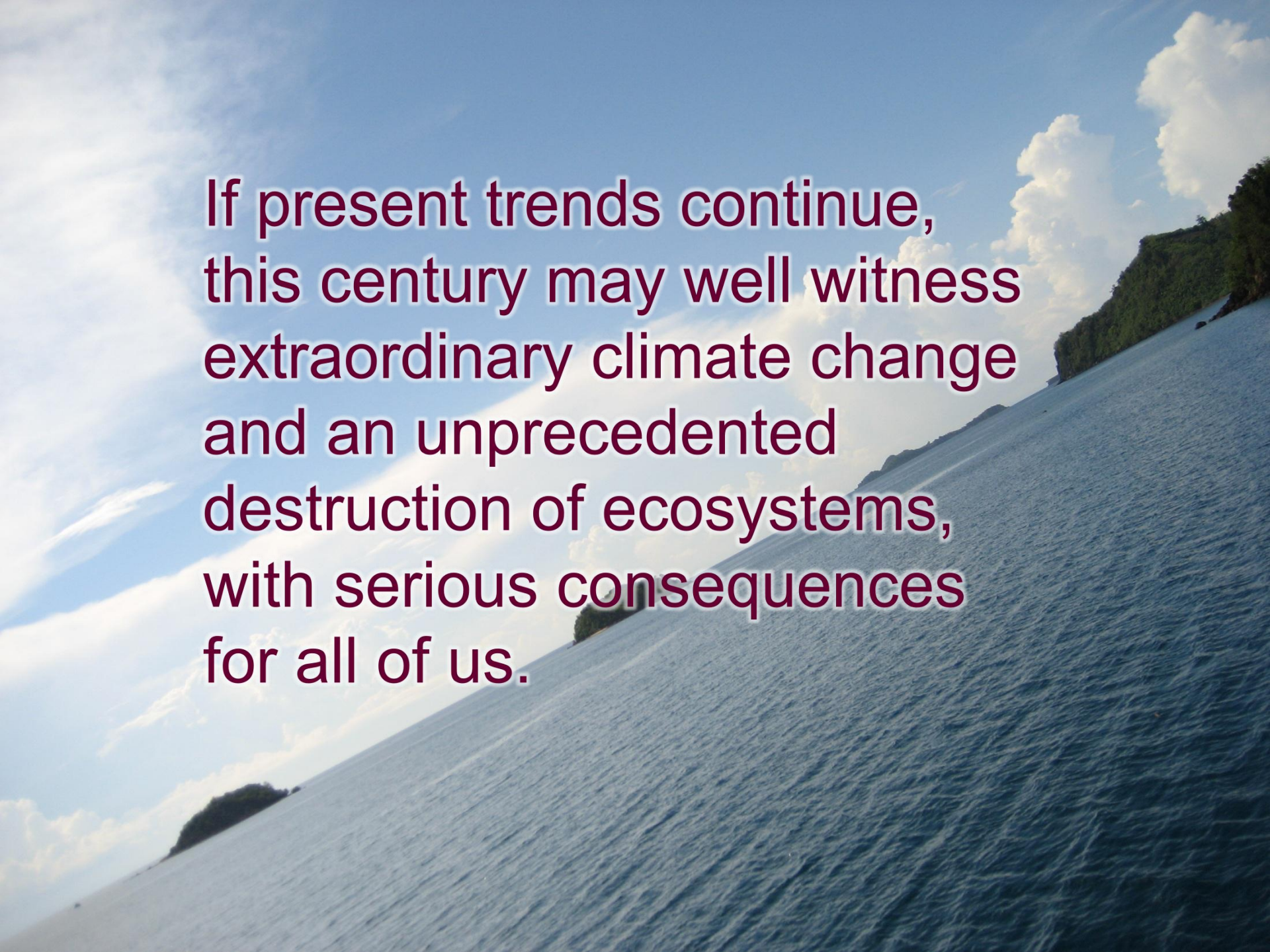
A very solid scientific consensus indicates that we are presently witnessing a disturbing warming of the climatic system.




Yet scientific studies indicate that most global warming in recent decades is due to the great concentration of greenhouse gases (carbon dioxide, methane, nitrogen oxides and others) released mainly as a result of human activity.


The melting in the polar ice caps and in high altitude plains can lead to the dangerous release of methane gas, while the decomposition of frozen organic material can further increase the emission of carbon dioxide.


Carbon dioxide pollution
increases the acidification of the oceans and
compromises the marine food chain especially coral reefs


If present trends continue,
this century may well witness
extraordinary climate change
and an unprecedented
destruction of ecosystems,
with serious consequences
for all of us.

A rise in the sea level can create extremely serious situations, if we consider that a quarter of the world's population lives on the coast or nearby,


and that the
majority of our
megacities are
situated in
coastal areas.

Climate change and Rising Sea level

The Irish Independent Tuesday 10 September 2019
Climate change, sea-level rises put Dart at 'increased risk

Climate change is a global problem with grave implications:

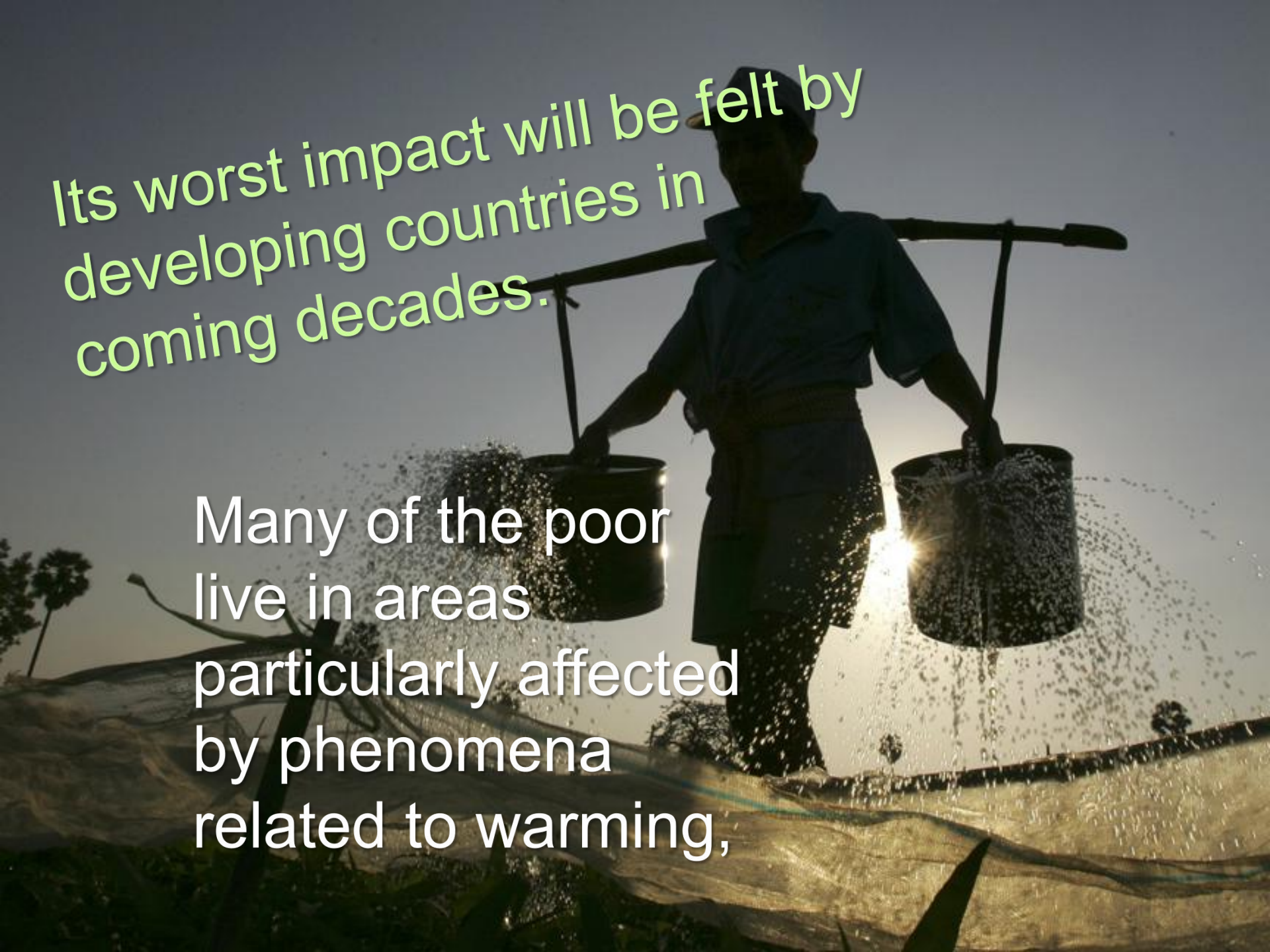
environmental

social

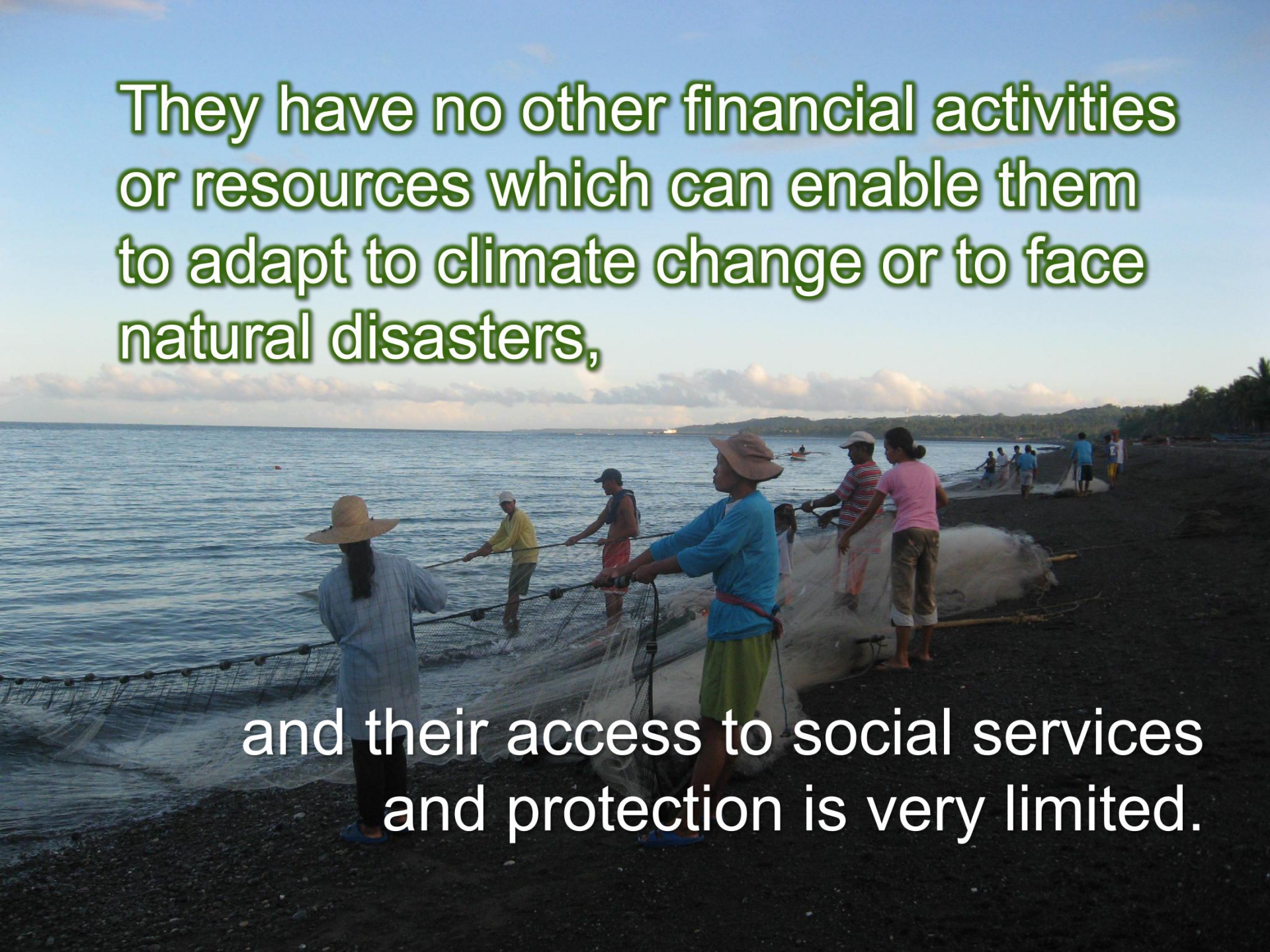
political

economic

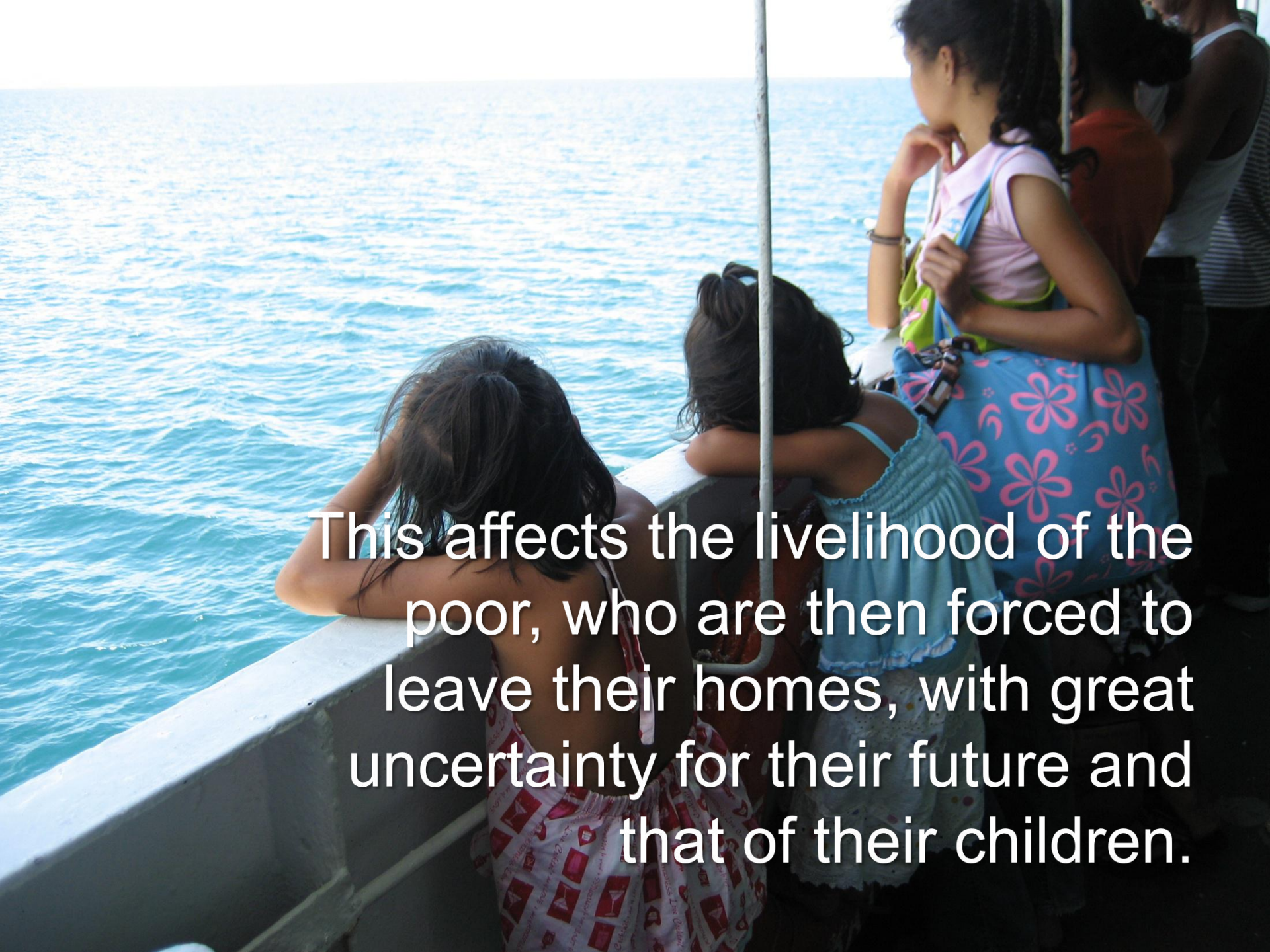
distribution of goods


Its worst impact will be felt by developing countries in coming decades.
Many of the poor live in areas particularly affected by phenomena related to warming,


and their means of subsistence are largely dependent on natural reserves and ecosystemic services such as agriculture, fishing and forestry.


They have no other financial activities or resources which can enable them to adapt to climate change or to face natural disasters,
and their access to social services and protection is very limited.

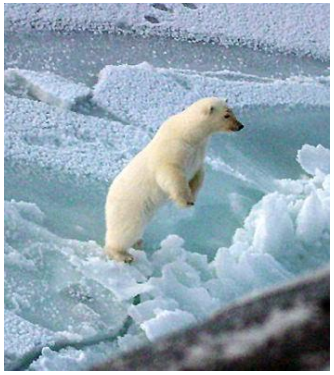

Changes in climate, to which animals and plants cannot adapt, lead them to migrate;


This affects the livelihood of the poor, who are then forced to leave their homes, with great uncertainty for their future and that of their children.

There has been a tragic rise in the number of migrants seeking to flee from the growing poverty caused by environmental degradation.

- Flood waters could displace between 2 and 7 million people in New York and Tokyo alone, not to mention Manila and Calcutta.

- A rise of 1 to 2 degree Celsius could see the extinction of one third of the species of the world.




• Yield from rain-fed agriculture could be down 50% in Africa.

Climate change will also affect agriculture. Many crops will be adversely affected by climate change which could give rise to more malnutrition, hunger and starvation.

The twenty-first session of the Conference of the Parties (COP21) and the eleventh session of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) took place from 30 November to 11 December 2015, in Paris, France.

What is Paris agreement on climate change?
The **Paris Climate Agreement** is an **agreement** within the United Nations Framework Convention on **Climate** Change (UNFCCC) dealing with greenhouse gas emissions mitigation, adaptation and finance starting in the year 2020.

The Paris Agreement was prevent global warming of more 2 degree and the end of the 21st century.

Ethical Concerns

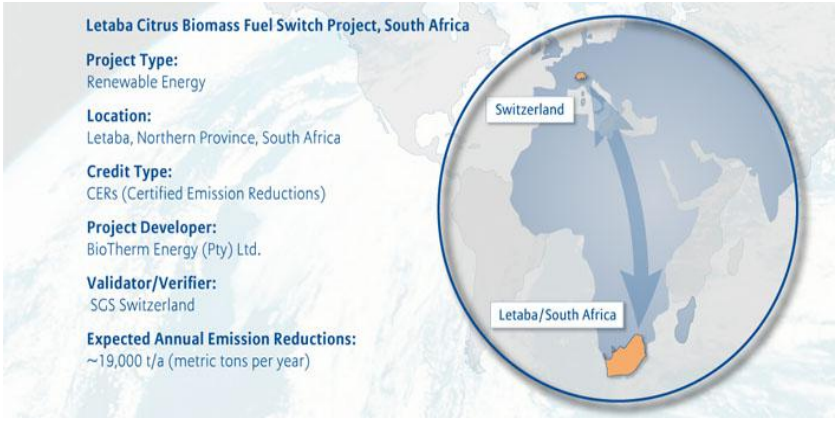
Ethical Concerns

- While it is obvious that climate change is a technical, scientific and economic issue, it is a moral one.

- The core of the moral issue is that actions which are taken today undermine the well-being of millions of people now living, especially the poor, and condemn further generations to live in an inhospitable world.

- Africa, which is responsible for less than 3% of global greenhouse gas emissions since 1900, will suffer most with more droughts, disrupted water supplies and sea-level rises. Many moralists argue that those who are responsible for the damage have a moral responsibility to compensate are most affected by climate change. Ireland greenhouse gas emissions the same as the 400 million poorest people on the planet

- Finally, climate change points to the ethical issues involved in **inter-generational justice.** The irresponsible use of fossil fuel by this generation will have a detrimental effect on the lives of future generations.



CO_2 Reduction

Emissions Trading: Clean Development Mechanism

- **Churches and Religions**, which are global institutions, could **play a vital role in forming consciences** around the world on this important issue. Otherwise the poor will be trampled under foot in the race to secure the diminishing amount of fossil fuel. How much are parishes doing to promote to retrofix their churches and parish houses?

Cistercian Sisters, Glencairn, Lismore, County Waterford

Sr Agnes O'Shea was Mother Abbess at Glencairn Abbey prior to Mother Marie and celebrated her diamond jubilee in 2013. She also served as novice director for more than 20 years.

Sr Michelle and Sr Mairéad clean solar panels on the newly-renovated living quarters at Glencairn Abbey. The new panels generate energy from daylight, saving on the monastery's electricity outlay.

Growing consensus on what needs to be done:

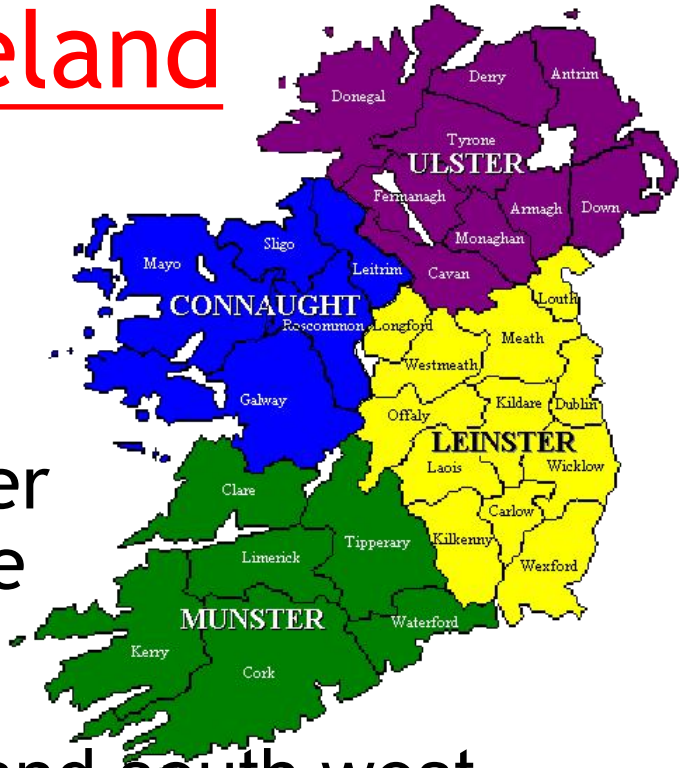
Both the UN Framework Conference on Climate Change (UNFCCC) and the authors of the *Fate of Mountain Glaciers in the Anthropocene* **insist on the need to:**

… seriously reduce carbon dioxide emission without delay, using all means possible in the built environment, transport, industry and agriculture


Climate Change
in Ireland

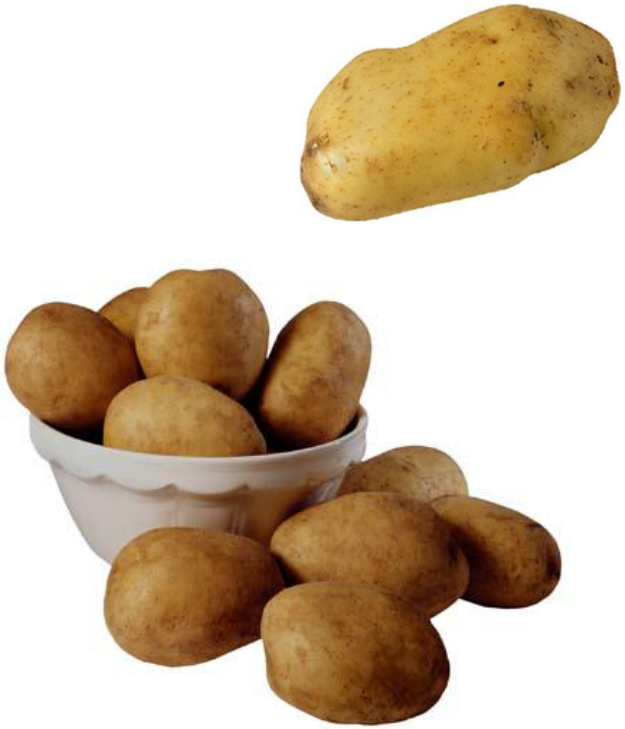
Climate Change in Ireland

- Climate change scientists predict an increase of betweem 1.5 degree Celsius by mid century with a further increase of 0.5 to 1.0 degree Celsius by 2075.



- By 2050, the extreme south and south west coasts may have a mean January temperature of 8.0 degrees Celsius. By then, winters in Northern Ireland and in the north Midlands will be similar to those presently experienced along the Cork/Kerry coast.

- In terms of agriculture it will make it difficult to grow potatoes. It seems that the west will be too wet, and the east will be too dry for this crop, which is so tied up with our history since the 18th century.



Ireland's Greenhouse gas increases

- IRELAND'S GREENHOUSE GAS emissions increased by 3.5% in 2016 in another blow to its efforts to reduce its carbon footprint in the next 10 to 20 years.

- According to the Environmental Protection Agency (EPA), agriculture emissions increased by 2.7%, transport emissions have increased by 3.7%, and emissions in the energy industry increased by 6.1%.

- 33 percent of Irish greenhouse gases comes from agriculture.

According to Professor John FitzGerald Chair of the Climate Change Advisory Group wrote In the area of climate change “Ireland is a laggard, not leaders.”

FitzGerald believes that “Ireland is a very long way from our target of reducing carbon emission by 80 percent by 2015.”

In the latest Climate Change Performance Index Ireland 49th out of 56th countries. In other words it is the worse country in Europe.

Jan 18, 2018 - Ireland is a climate "**laggard**" and needs to do a lot more to catch up with our European neighbours in tackling **climate change**

Irish Independent Noveber 16th 2017.

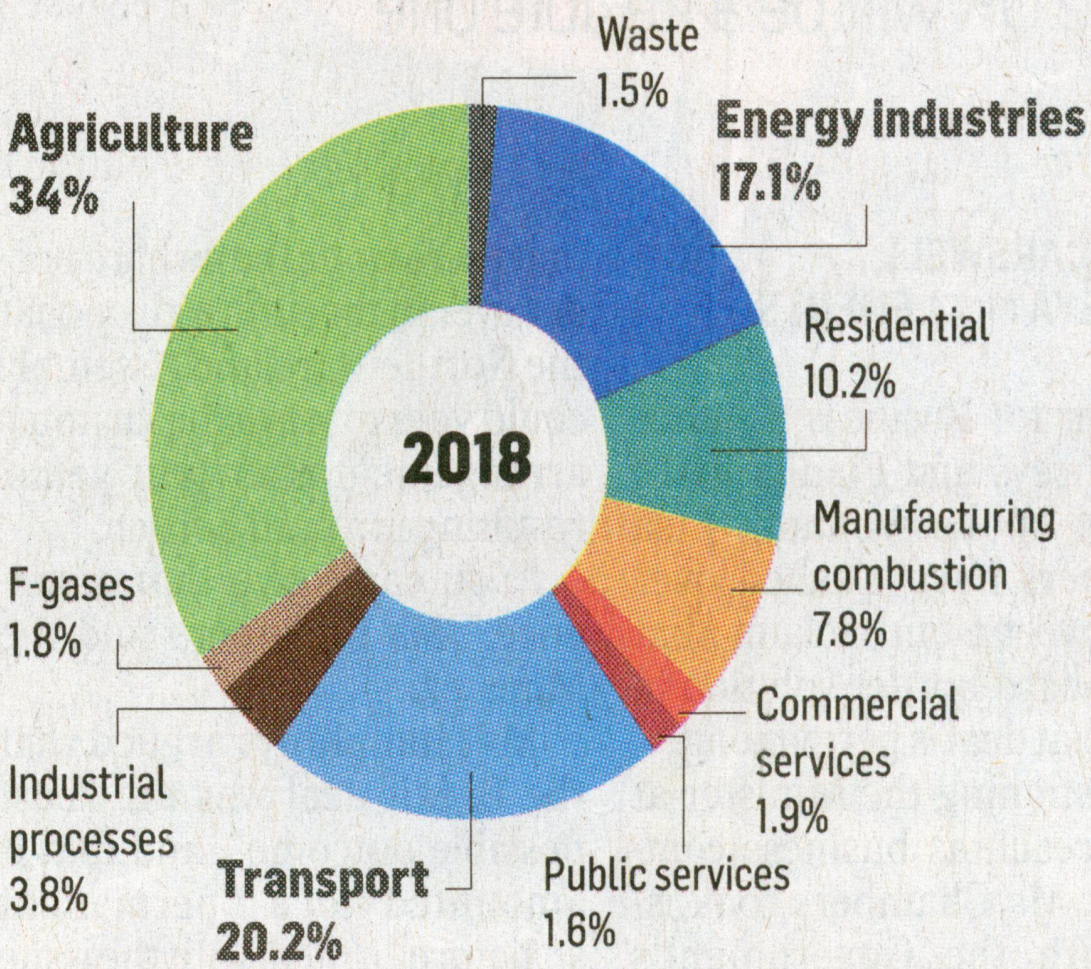
Ireland is worst country in Europe for taking action to tackle climate change

The 2018 Climate Change Performance Index, published at UN climate talks in Bonn, Germany, ranks Ireland 49th out of 56 countries, a drop of 28 places from last year.

"Its performance in the field of greenhouse gas emissions is also very low," it added, and is "nowhere close" to helping keep average global temperature rises below 2 degrees C, as required under the Paris Climate Accord.

The Irish Times, October 24th 2019, page 11

Ireland's Greenhouse gas emissions



-11.7%
Energy industries

+1.9%
Agriculture

+8.0%
Residential
(increase due to cold winter)

+10.0%
Transport
10% above 2013)

Source:EPA

Dr Cara Augustenborg

Head of science and communications at Friends of the Earth Ireland Dr Cara Augustenborg said the report came after the Citizens' Assembly put forward 13 recommendations for Ireland to take action and catch up with our EU neighbours to end "nearly a decade of dithering and delay.”

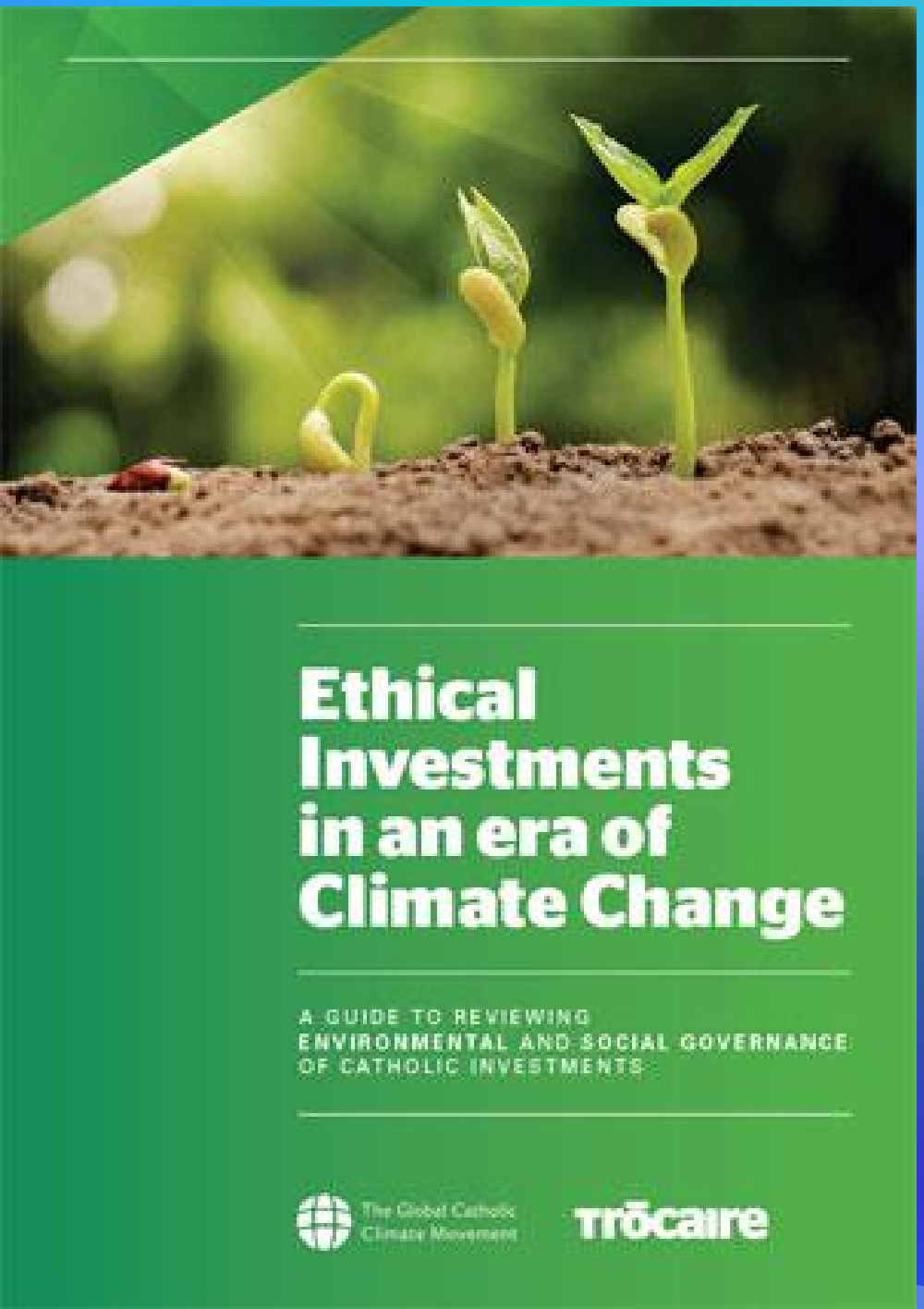
Dr. Cara Augustenborg

"Yet at national level, we've seen a new climate action plan which does not guarantee any immediate reductions in pollution. And at EU level, we've seen repeated Government efforts to have loopholes inserted into EU legislation currently under negotiation which would hinder greater climate action," she said.

Farmers warned to go green or face losing CAP subsidies

The blueprint for the 'Future of Food and Farming' launched on November 29th 2017. It sets out a vision for CAP post-2020 as a simpler policy with increasing focus on environmental matter and climate change

Income support for farmers will be conditional on delivery of enhanced environmental and climate obligations. Irish Indpendent, November 30, 2017. page 6



This book makes the point that “to have even a slim chance of keeping global temperature rises with 2 C, around 80% of known remaining fossil fuels need to remain in the ground.

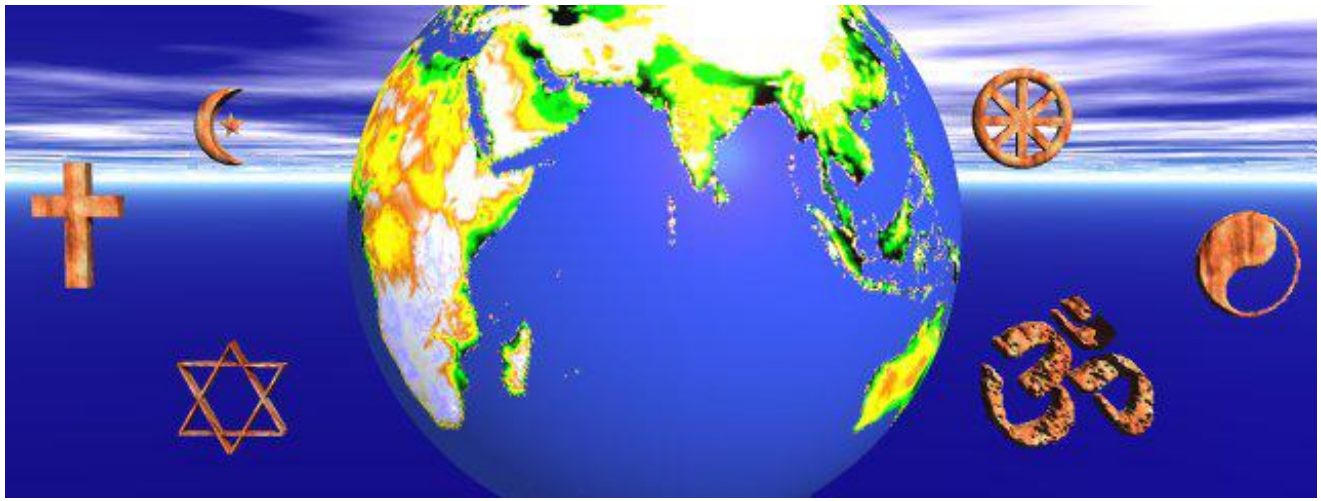
In this way they are stranded assets .

Ireland needs massive retrofit of housing to meet climate targets


Moneypoint,
Co Clare

Moneypoint opened in 1986 at a cost of £700 million to construct and was one of the largest capital projects ever undertaken by the State. Today, it is a vital cog in the ESB power generation portfolio with the capacity to produce five million MW hours per annum and supports 300 jobs at the station and 900 nationally. In 2013, Moneypoint produced 3.89 million tonnes of CO_2 and was responsible for 34.4 per cent of emissions in the power generation sector and 6.7 per cent of national CO_2 emissions.

- The challenges posed by global warming and climate change can provide an opportunity to build a more peaceful, just and sustainable human society. There are many opportunities for working with other Christian Churches and the other great religions of our world. But it is salutary to remember that **time is running out. We need to act NOW or future generations will not forgive us.**



The world's readiness for the inevitable effects of the climate crisis is "gravely insufficient", according to a report from global leaders.
This lack of preparedness will result in poverty, water shortages and levels of migration soaring, with an "irrefutable toll on human life", the report warns.

Climate Change

and Ireland

Prepared by Sean McDonagh, SSC & Leonor de la Santa, FMM