Executive Training for Policymakers
on the 2030 Agenda and the SDGs

SDG 13: Climate Action

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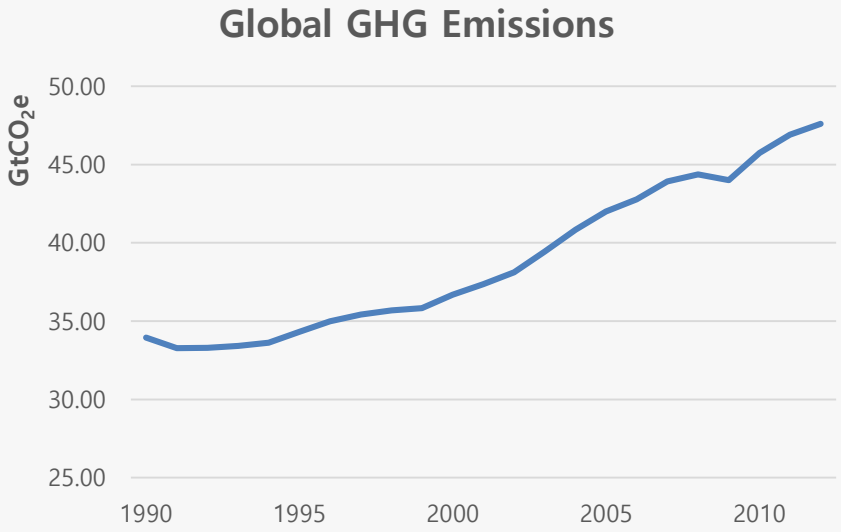
Climate Change

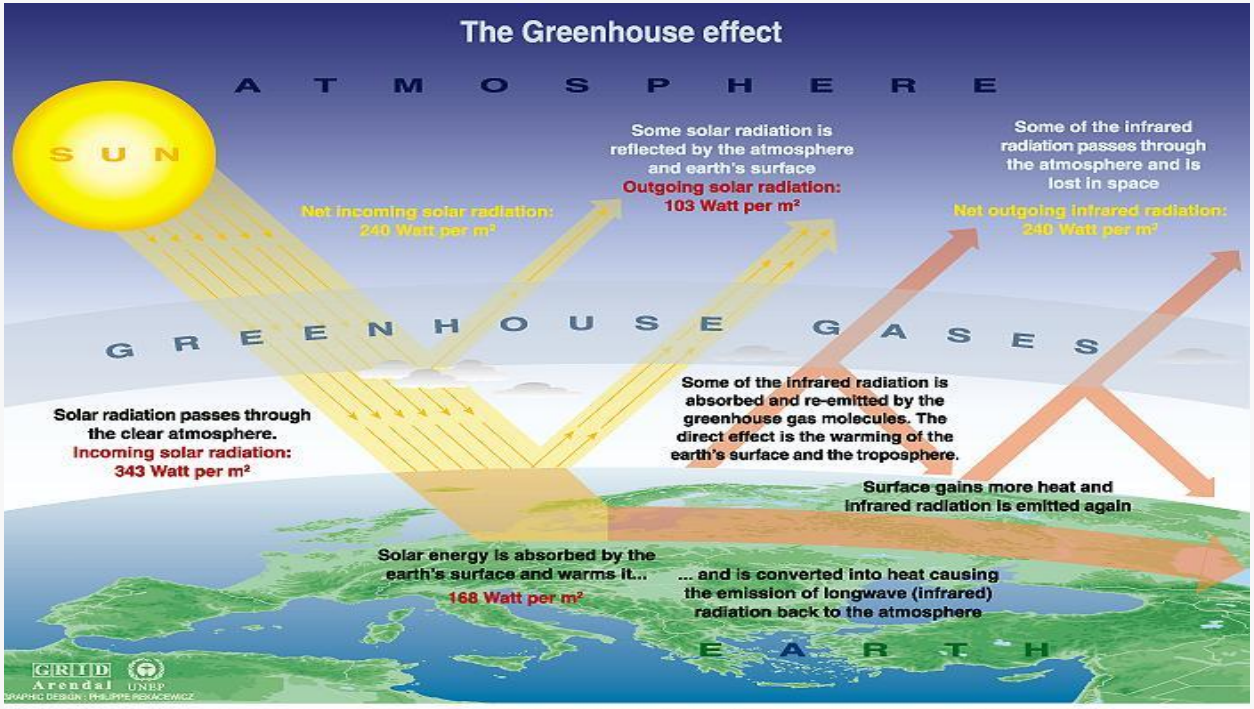
- Definition: Change in climate **induced by human activities** either directly or indirectly that alters the composition of the global atmosphere and occurs for a sufficient period of time in addition to natural climate (UNFCCC)
- Considerable Stress to the society and the environment
  - Change Weather Patterns; Threaten Food Production; Increase Extreme Weather Events



Source: World Resource Institute

Scientific Background of Climate Change

- Tyndale: a slight change in the composition of the atmosphere can cause a big climate change (1861)
- Arrhenius: verified the greenhouse effect (1896)
- Callendar: discovered fossil fuel consumption could increase the mean surface temperature through the increase in atmospheric concentration of carbon dioxide (1938)



Sources: Okanagan university college in Canada, Department of geography, University of Oxford, school of geography; United States Environmental Protection Agency (EPA), Washington; Climate change 1995, The science of climate change, contribution of working group 1 to the second assessment report of the intergovernmental panel on climate change, UNEP and WMO, Cambridge university press, 1996.

Greenhouse Gases (GHG)

Gases causing greenhouse effect in the earth atmosphere Six GHGs are controlled by the Kyoto Protocol.

CO_2

- Accounts for 80% of GHGs
- Caused by the combustion of fossil fuel

CH_4

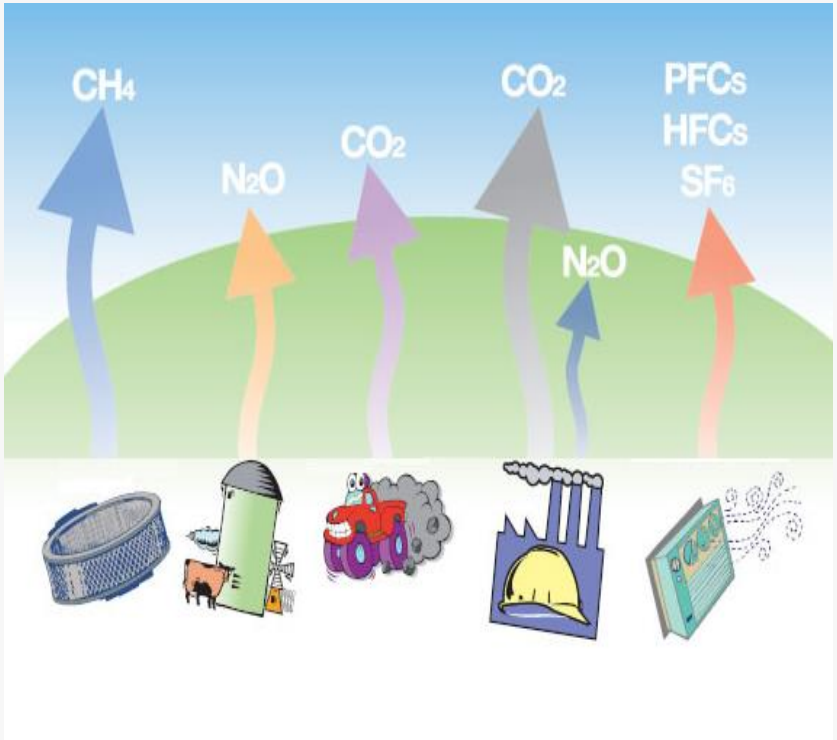
- livestock enteric fermentation, mining, and manual management
- Decomposition of organic wastes

N_2O

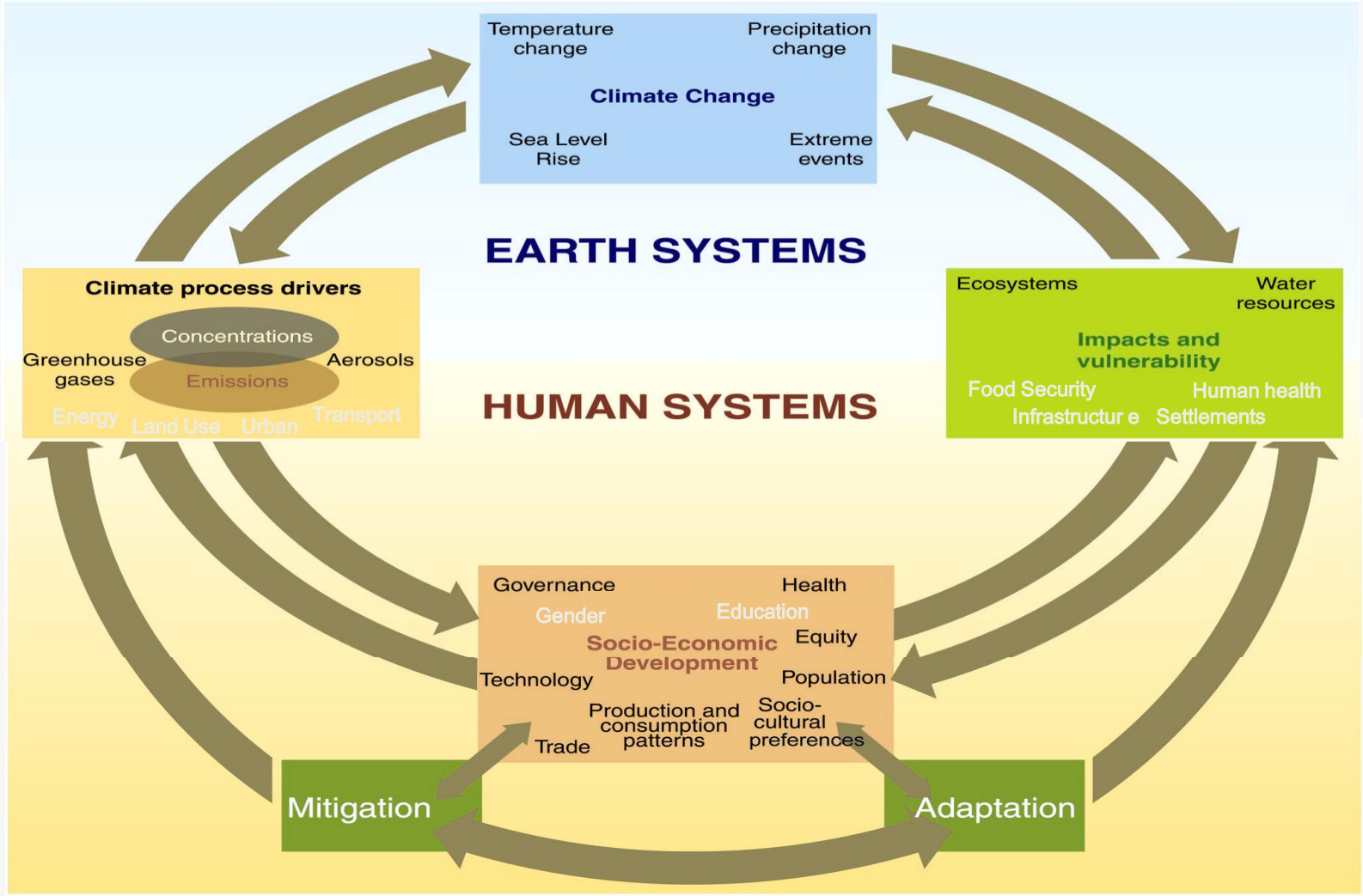
- Coal mining and burning fuels in high temperature
- Production and consumption of fertilizers

HFCs/ PFCs/ SF_6

- Man-made, chemical elements
- Small amount, but big effect on Green House Effect
- Caused by Refrigeration system, fire suppression system

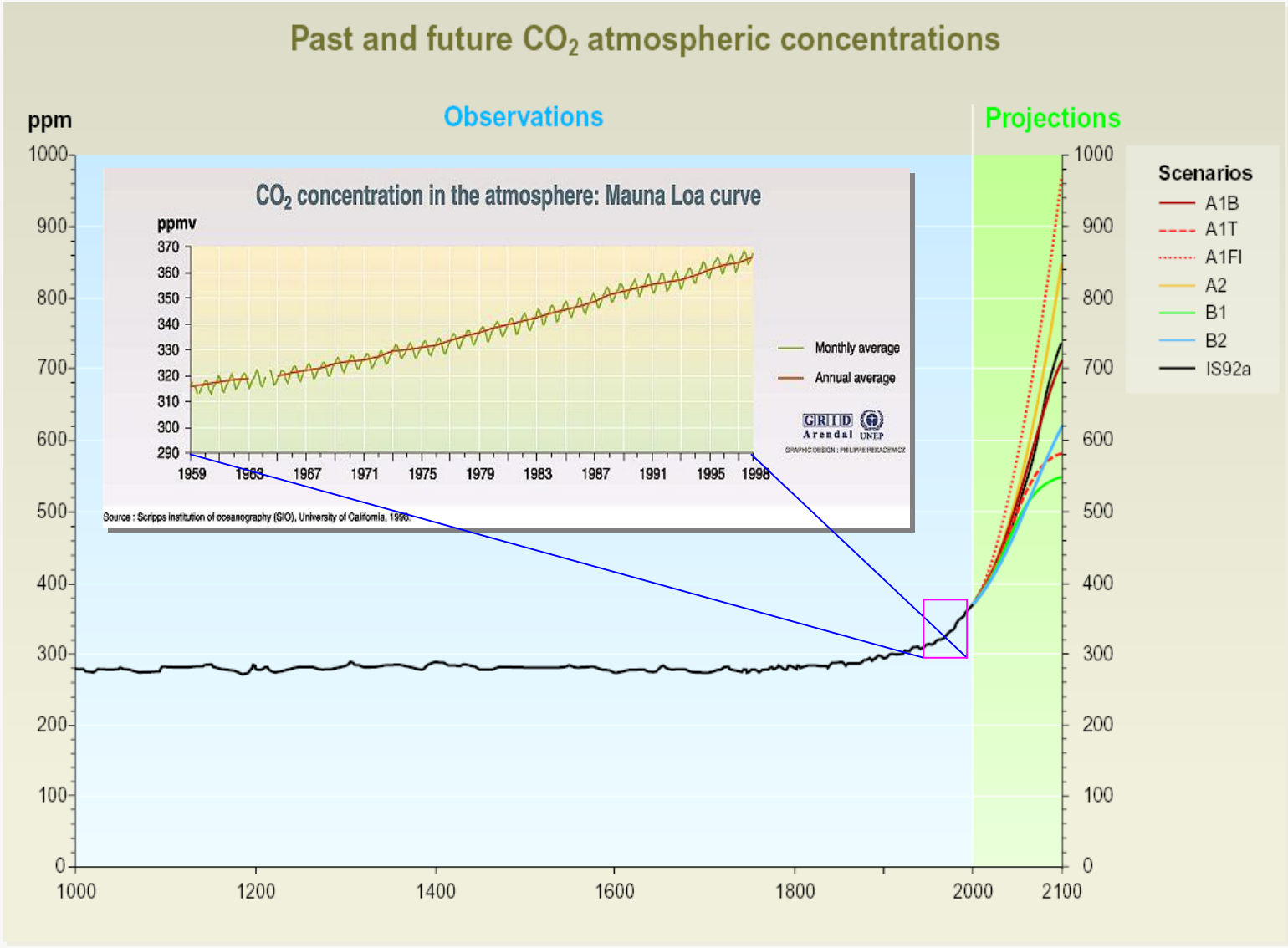


Climate Change
- Schematic Framework -



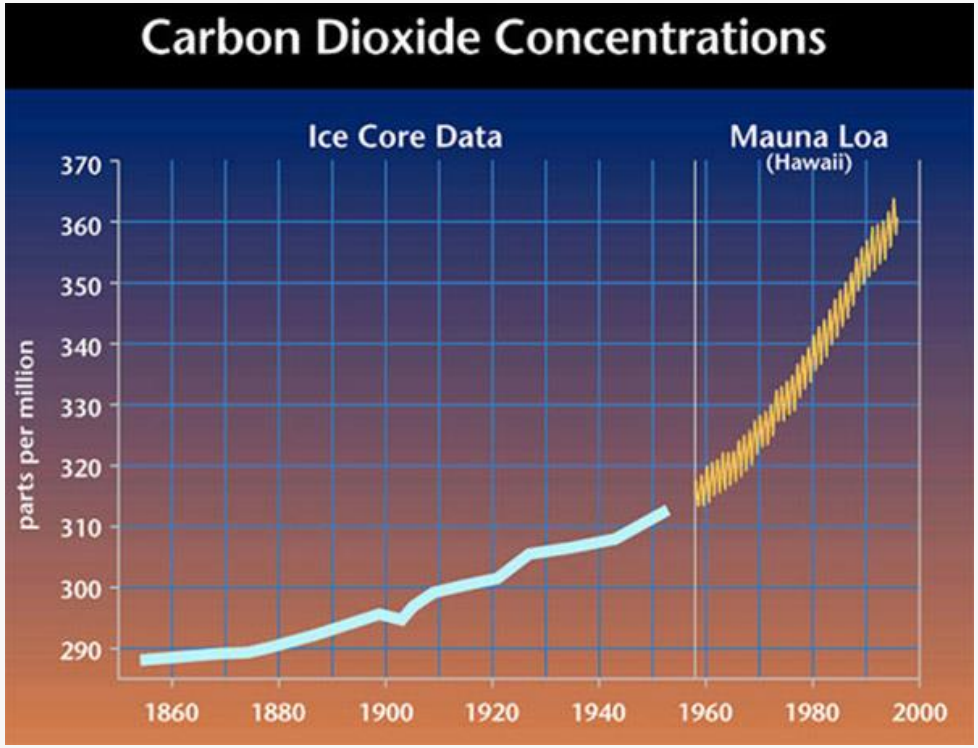
Source: ADB, Adapted from IPCC

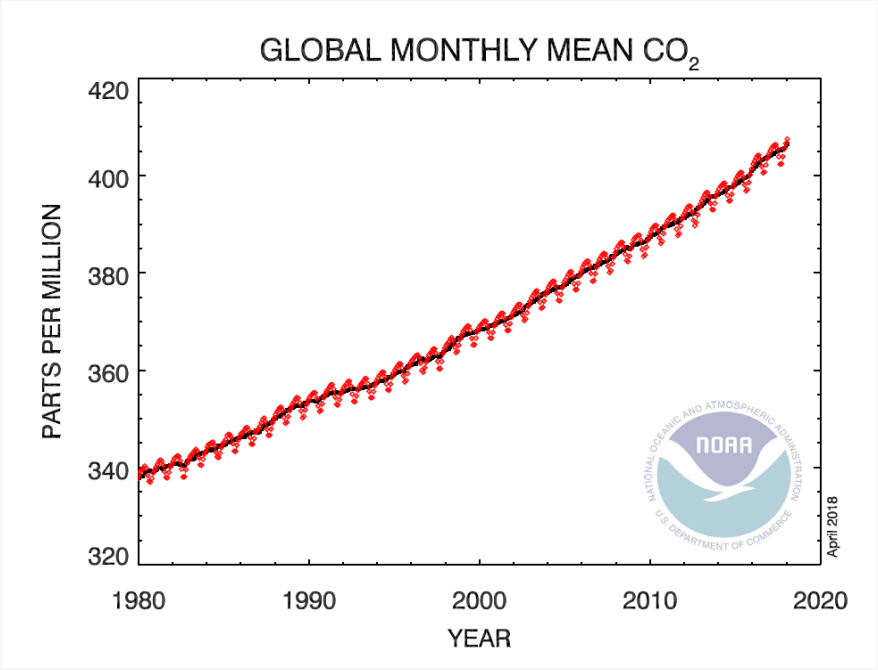
CO_2 Concentration Trend



Source: IPCC, Third Assessment Report (TAR), 2001

CO_2 Concentration Trend



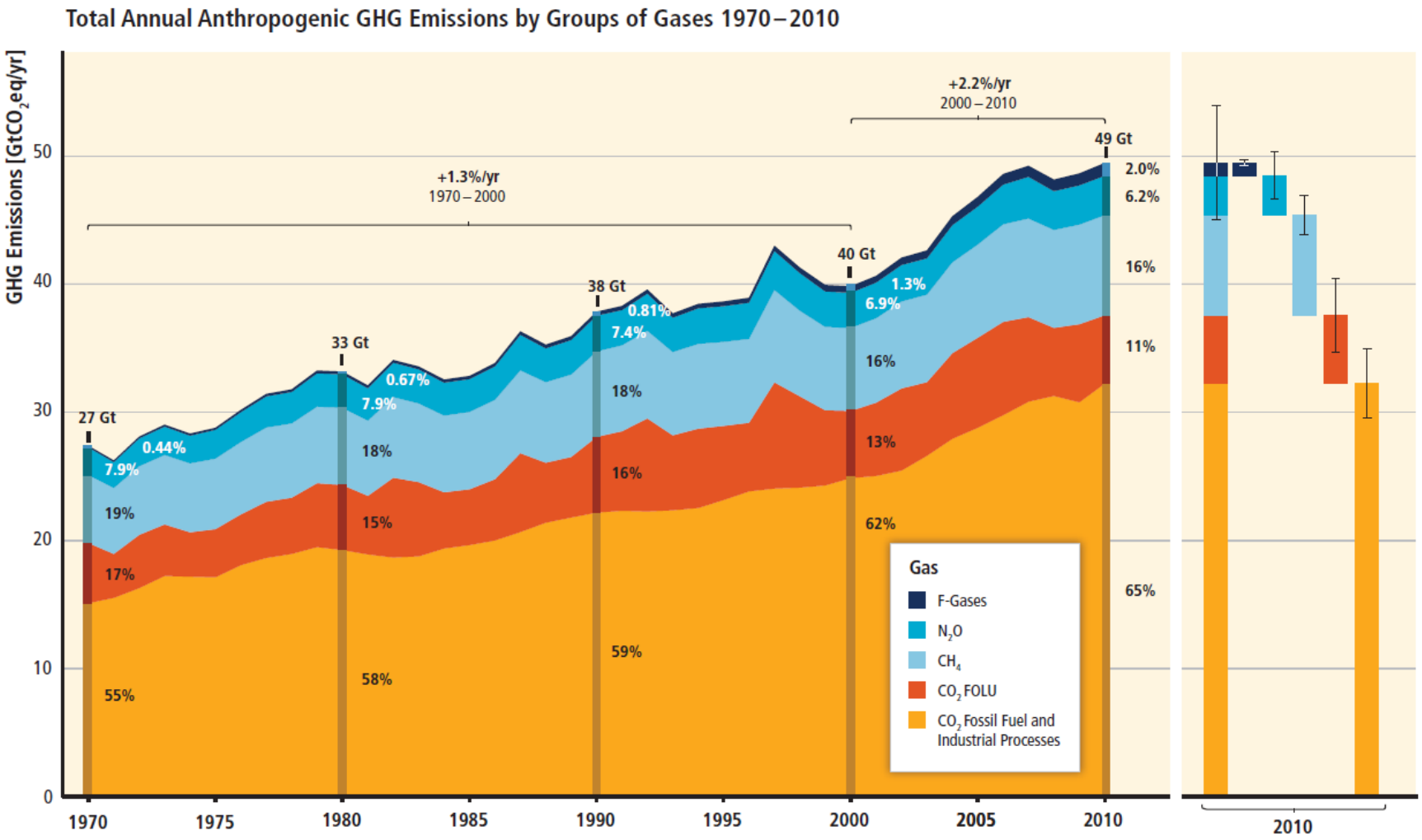


409.46ppm

(April 9, 2018, Manua Loa Obs.)

Source: US, NOAA, 2018

GHG Emissions (1970 – 2010)



Source: Climate Change 2014, Summary for the Policymakers, WGIII, IPCC, 2014

Climate change threatens development gains

Severe weather events & Aggravated resource constraints

Food Security

35%
arable Sub-Saharan land unusable in 4º world [1]

44 million
people driven into poverty from rising food prices in 2010 [4]

200 million
permanently displaced 'climate refugees' by 2050[2]

Fragile States

Health

5 million
illnesses due to climate change in 2012[3]

147%
increase in commodity prices since 2000 [4]

4% GDP
losses in Thailand from flooding in 2011[5]

Economic Impact

Sources:
1. The World Bank "Turn Down the Heat"
2. Columbia University CIESIN: "Environmentally Induced Population Displacements"
3. Journal Nature: "Impact of regional climate change on human health"
4. McKinsey: "Resource Revolution"
5. Bloomberg: "Thailand Says GDP May Shrink 3.7% on Floods"

What is the economics of climate change?

Analytic foundations:
Climate change is an externality with a difference:

- Global
- Long-term
- Uncertain
- Potentially large and irreversible

Hence key roles:

- Economics of Risk
- Ethics
- International Action

From the Stern Review

SDG 13: Climate Action

- **Targets and Indicators**
  - 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
    - 13.1.3: Number of deaths, missing persons and persons affected by disaster per 100,000 people
    - 13.1.2 Number of countries with national and local disaster risk reduction strategies
    - 13.1.3. Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies
  - 13.2 Integrate climate change measures into national policies, strategies and planning
    - Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)

SDG 13: Climate Action

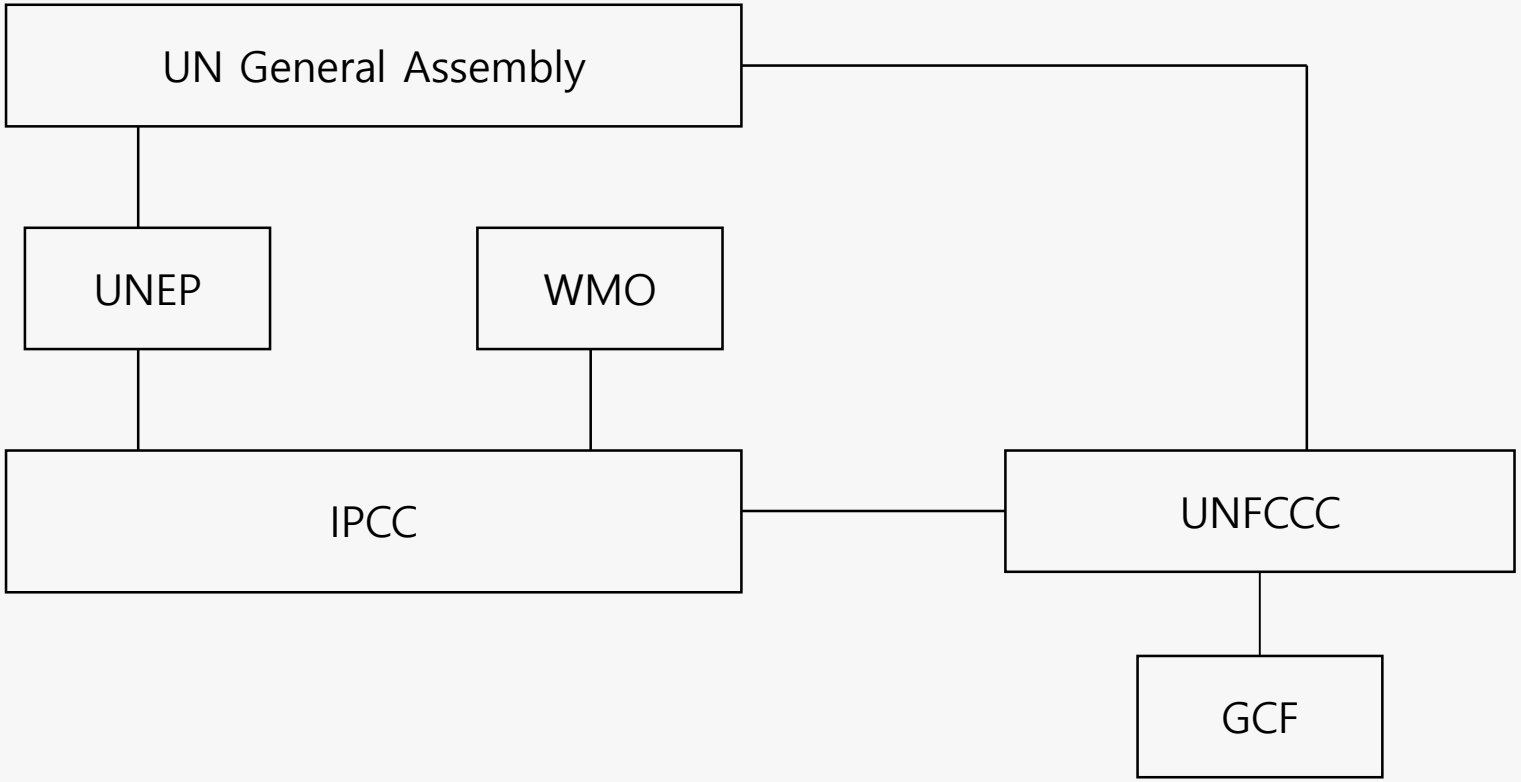
- **Targets and Indicators**
  - 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
    - 13.3.1. Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula
    - 13.3.2. Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions
  - 13.A. Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly **$100 billion annually by 2020** from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible
    - Mobilized amount of United States dollars per year starting in 2020 accountable towards the $100 billion commitment

SDG 13: Climate Action

- **Targets and Indicators**
  - 13.B Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities
    - Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including **finance, technology and capacity-building**, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities

Climate Change Convention: History

International Organization on the Climate Change Convention



The Second World Climate Conference

- Sponsored by the World Meteorological Organization (WMO), the United Nations Environment Program (UNEP), and other international organization, the conference was held in Geneva from 29 October to 7 November 1990.
- Negotiation was conducted among 137 states and European Community
- Committed to adopting a global framework convention on climate change to cope with global warming (Based on the 1st IPCC report)

The Second World Climate Conference

- Recognize a number of principles that had emerged in international climate discussions such as:
  - Common but differentiated responsibilities (CBDR)
    - Recognize that the GHG emissions from developing countries must st ill grow to accommodate their development needs
    - Urge developed countries, which are responsible for 75% of the global GHG emissions, to establish targets and/or feasible national programs or strategies which will have a significant effect on limiting GHG emissions (historical responsibility)
  - Precautionary principle
    - Response measures must be adopted without delay, despite remaining scientific uncertainties

Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (INC/FCCC)

- 1990. 12: agreed on establishing INC/FCCC respond to the statement of the UN General Assembly's resolution
- 1991.2 ~ 1992.5: drafted the Climate Change Convention
- 1992. 5: INC 5th meeting (New York)
  - The FCCC was opened for signature after the INC produced the text of the Framework Convention

Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (INC/FCCC)

- 1992.6 UNCED: 154 Governments at the Rio "Earth Summit" signed a major environmental treaty, the UN Framework Convention on Climate Change.
- 1995. 2: dissolved after the 11th meeting
  - Conference of the Parties became the "supreme body" of the Convention and the highest decision-making authority to review all the process of Convention

Adoption	Entry into force	No. of Ratified Countries
1992.6	1994.3.21	195 (as of 2013)

Brief Summary of UNFCCC

- Bali Roadmap (2007)
  - In December 2007, COP 13 and CMP 3 in Bali, Indonesia, resulted in the agreement on the Bali Roadmap on long-term issues.
  - Bali Action Plan and the AWG-LCA were established with a mandate to focus on **mitigation, adaptation, finance, technology and a shared vision for long-term cooperative action**.
  - The Bali Road Map includes the Bali Action Plan (BAP) that was adopted by Decision 1/CP.13 of the COP-13. It also includes the Ad Hoc Working Group (AWG) on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) negotiations and their 2009 deadline
  - The launch of the **Adaptation Fund**, the scope and content of the Article 9 review of the Kyoto Protocol, as well as decisions on **technology transfer and on reducing emissions from deforestation**

Brief Summary of UNFCCC

- Copenhagen Accord (2009)
  - COP15 was held in December 2009 in Copenhagen in Denmark.
  - During the high-level segment, informal negotiations took place in a group consisting of major economies and representatives of regional and other negotiating groups. Late in the evening of December 18 the talks resulted in a political agreement: the “Copenhagen Accord,”
  - Copenhagen Accord → In 2010, over 140 countries indicated support for the Accord
  - More than 80 countries also provided information on their national mitigation targets or actions.
  - Parties also agreed to extend the mandates of the AWG-LCA and AWG-KP until COP 16 and CMP 6.

Brief Summary of UNFCCC

- Paris Agreement (2015)

- COP21 was held in November 2015 in Paris, France.
  - **All parties adopted the new climate regime from 2020 to mitigate GHG emissions, adaptation and finance.**
  - Intended Nationally Determined Contributions (INDC) → become the **initial NDC** pledges by each party. (every 5 year, review and evaluate)
  - As of April 2016, GCF pledges by 42 countries → 10.2 bill. USD (9.9 bill. Signed)
  - As of April 22, 2016, 174 states (and EU) signed the Paris Agreement and 15 states ratified the Agreement → enter into force (55 states that covers at least 55% of global GHG emissions (listed in 2015)
  - Climate Technology is becoming issues

Brief Summary of UNFCCC

❖ Paris Agreement (2015)

- The first time brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so (UNFCCC)
- Aims to Strengthen: (UNFCCC)
  - The global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels
  - The ability of countries to deal with the impacts of climate change
  - Appropriate financial flows, a new technology framework, and an enhanced capacity building framework
- Nationally Determined Contributions (NDCs):
  - All parties pub forward their best efforts through NDCs
  - Every 5 years to assess the collective progress towards achieving the purpose of the Agreement and to inform further individual actions by parties
  - Entered into force on 4 November 2016 and Ratified by 175 Parties

Brief Summary of UNFCCC

- Paris Agreement (2015)

Article #	Notes
4. Mitigation	"Reach global peaking of greenhouse gas emissions as soon as possible … undertake rapid reductions thereafter in accordance with best available science" "Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve" [INDC]
5. Forest	"Conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4, paragraph 1 (d), of the Convention, including forests."
6. Market Mechanism	"Use of internationally transferred mitigation outcomes to achieve nationally determined contributions under this Agreement shall be voluntary and authorized by participating Parties"
7. Adaptation	"Each Party should, as appropriate, submit and update periodically an adaptation communication, which may include its priorities, implementation and support needs, plans and actions"
8. Loss and Damages	"recognize the importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events, and the role of sustainable development in reducing the risk of loss and damage"

Brief Summary of UNFCCC

- Paris Agreement (2015)

Article #	Notes
9. Finance	"Developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation" "…Developed country Parties should continue to take the lead in mobilizing climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds, through a variety of actions, including supporting country-driven strategies, and taking into account the needs and priorities of developing country Parties"
10. Technology	"Technology framework is hereby established to provide overarching guidance to the work of the Technology Mechanism in promoting and facilitating enhanced action on technology development and transfer" "Such effort shall be, as appropriate, supported, … , through financial means, by the Financial Mechanism of the Convention, for collaborative approaches to research and development, and facilitating access to technology, in particular for early stages of the technology cycle, to developing country Parties"
11. Capacity Building	"enhance the capacity and ability of developing country Parties, …to take effective climate change action, … and should facilitate technology development, dissemination and deployment, access to climate finance, relevant aspects of education, training and public awareness, and the transparent, timely and accurate communication of information."

Brief Summary of UNFCCC

- Paris Agreement (2015)

Article #	Notes
13. Transparency	"In order to build mutual trust and confidence and to promote effective implementation, an enhanced transparency framework for action and support, … is hereby established" "Each Party should also provide information related to climate change impacts and adaptation under Article 7 [and 9, 10, 11]"
14. Global Stocktake	"Conference of the Parties … shall periodically take stock of the implementation of this Agreement to assess the collective progress towards achieving the purpose of this Agreement and its long-term goals (referred to as the "global stocktake"). "Parties to this Agreement shall undertake its first global stocktake in 2023 and every five years thereafter…"

Paris Agreement and IPCC

17. *Notes with concern* that the estimated aggregate greenhouse gas emission levels in 2025 and 2030 resulting from the intended nationally determined contributions do not fall within least-cost 2 °C scenarios but rather lead to a projected level of 55 gigatonnes in 2030, and *also notes* that much greater emission reduction efforts will be required than those associated with the intended nationally determined contributions in order to hold the increase in the global average temperature to below 2 °C above pre-industrial levels by reducing emissions to 40 gigatonnes or to 1.5 °C above pre-industrial levels by reducing to a level to be identified in the special report referred to in paragraph 21 below;

21. *Invites* the Intergovernmental Panel on Climate Change to provide a special report in 2018 on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways;

Source: UNFCCC

IPCC Special Report on 1.5 degree

Chapter 5: SDGs and 1.5°C

Discussions for Group Work

- Do the policy makers (and/or general public) adequately understand the scientific findings of climate changes and their meanings?
- What kind of risks caused by climate change in terms of national planning? What are the counter-measures?
- How can we develop country-specific ‘low carbon, climate resilient development? What are the conditions for climate actions?
- How to deal with ‘financing’ and ‘technology’ factors for climate actions?

Thank you