

- **Climate and Green Finance Agenda in EU**

Climate Change - Global Impact and Mitigation Policies

PART 3

Jean Monnet Module **“Promoting knowledge on EU policy in fiscal administration, climate, and energy topics – PRO-Facts”**

Presentation outline and highlights

- Understanding of Mitigation Activities and their aim
- Outlining the impacts of mitigation to economic development
- Highlighting climate mitigation activities led by governments, business sector, and individuals
- Understanding adaptation and its relationship with vulnerability

What is Mitigation?

- We can mitigate climate change by:
 - reducing emissions or
 - by increasing carbon sinks - for example, forests.
- At the current rate of emissions, we will reach global concentration leading to 2 degrees of global warming around the late 2030s.
- When should we start mitigation activities?
- Mitigation and economic development?

Mitigation and Economic Development

According to the IEA, energy-related carbon dioxide emissions stayed flat for three years in a row (2014 - 2016) even as the global economy grew ([IEA, 2017](#)).

This flattening of emissions was due to the growth of renewable power generation, fuel switching from coal to natural gas and energy efficiency gains, among other changes.

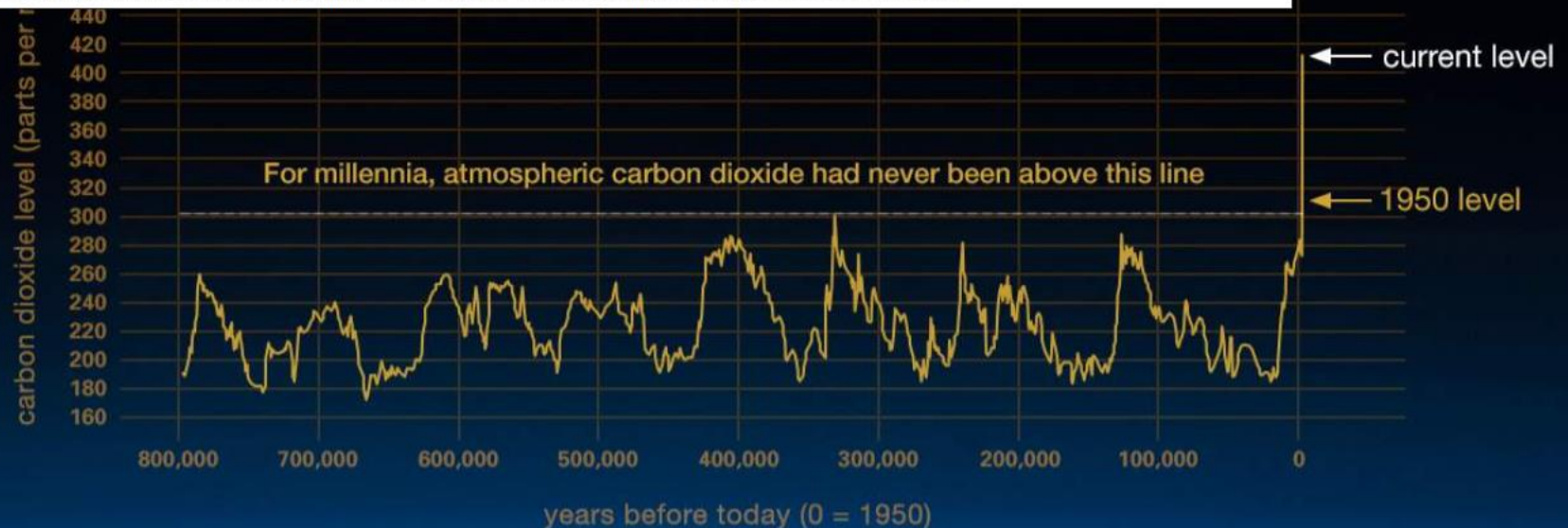
This decoupling can also be seen at the country level in 21 nations from 2000-2014.



Some figures and facts

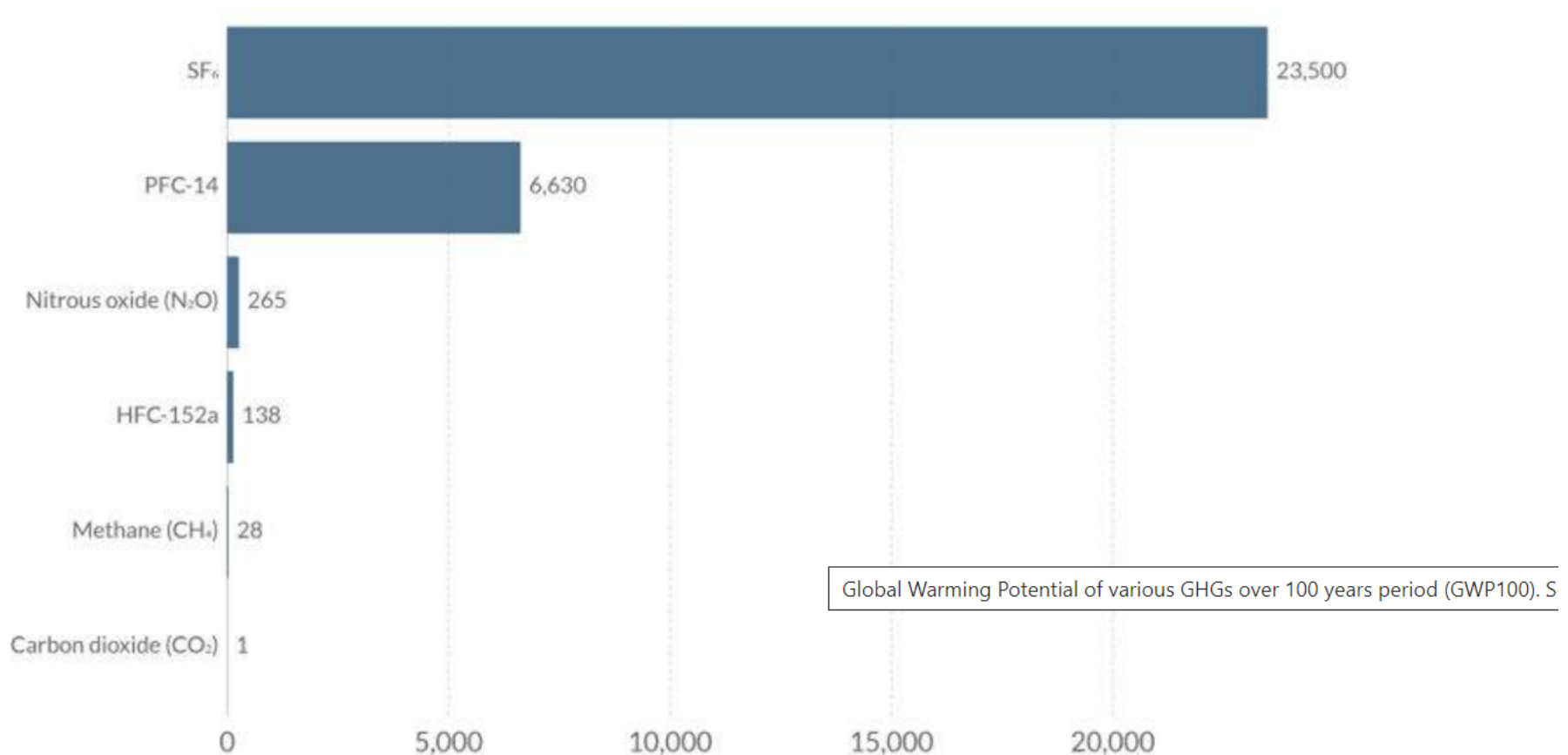
Today's atmosphere contains **42 % more CO₂** than it did at the start of the industrial era.

Data: Luthi, D., et al. 2008; Etheridge, D.M., et al. 2010; Vostok ice core data/J.R. Petit et al.; NOAA Mauna Loa CO₂ record. Some description adapted from the Scripps CO₂ Program website, "Keeling Curve Lessons."



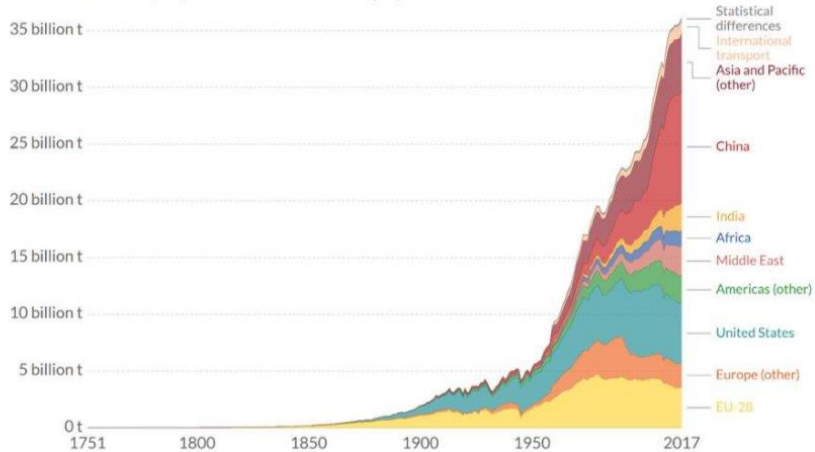
Some figures and facts

Not All Greenhouse Gases are the Same



Some figures and facts

Annual carbon dioxide (CO₂) emissions measured in tonnes per year.

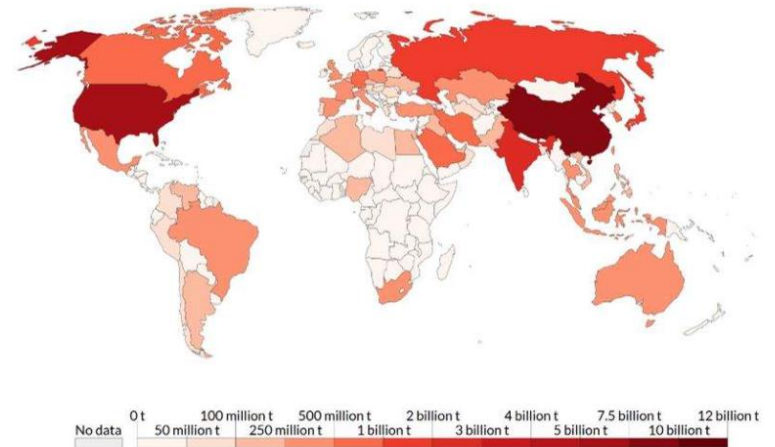


Source: Carbon Dioxide Information Analysis Center (CDIAC); Global Carbon Project (GCP)

Note: "Statistical differences" notes the discrepancy between estimated global emissions and the sum of all national and international transport emissions.

OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY

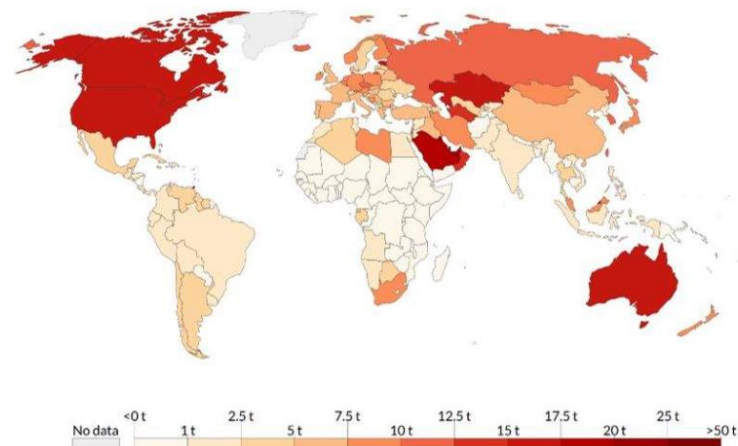
Annual carbon dioxide (CO₂) emissions, measured in tonnes per year.



Source: Global Carbon Project; Carbon Dioxide Information Analysis Centre (CDIAC)

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Average carbon dioxide (CO₂) emissions per capita measured in tonnes per year.



Source: OWID based on CDIAC; Global Carbon Project; Gapminder & UN

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How to reduce emissions?

- From Linear Economy to Circular Economy
 - Using renewable energy
 - Recycling
 - Efficient buildings
 - Efficient consume
 - Diet choices
 - Electric cars
 - Air industry
 - Etc...
- Increase Carbon Sinks
 - Forests, plants
 - Technology

Mitigation action

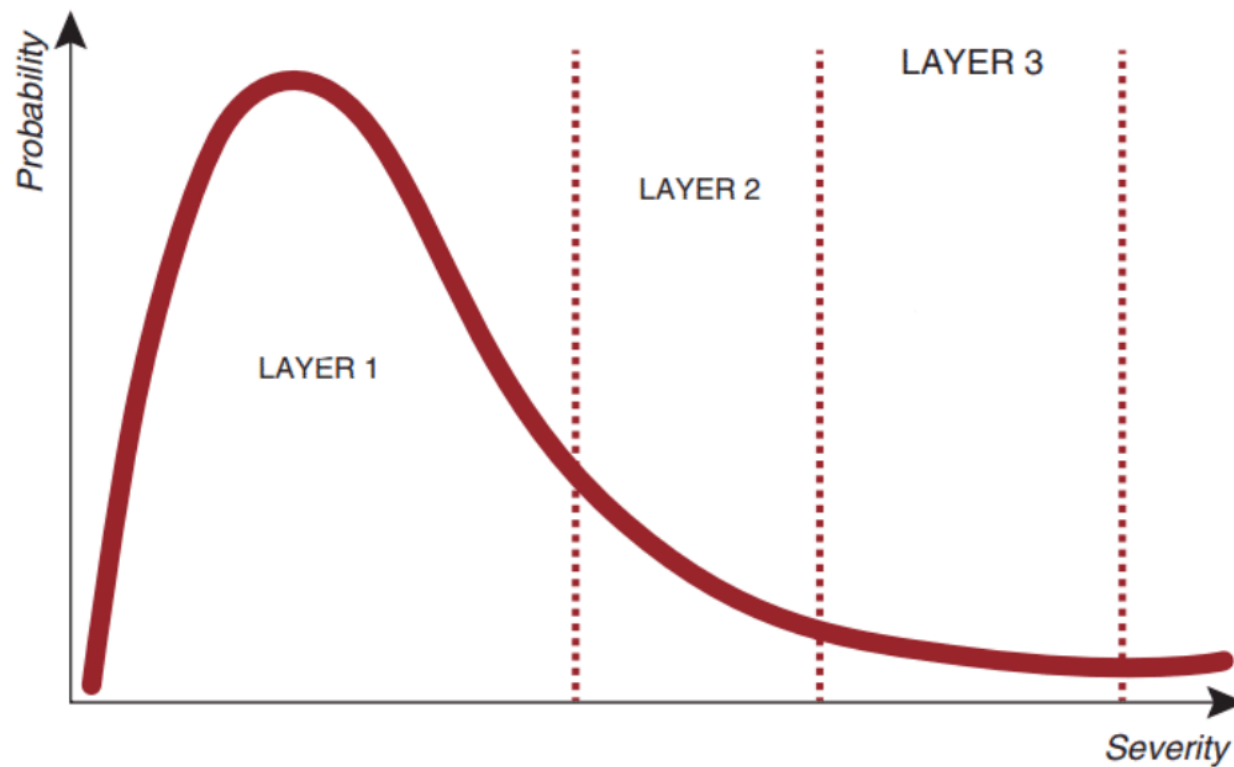
- Governments:
 - Regulatory tools
 - Market based tools
 - Awareness campaigns and education
- Companies and people
 - Consuming habits
 - Transportation habits
 - Dietary characteristics
 - Shopping habits
 - Energy use
 - Investments choices
- Calculate your own carbon footprint!
 - <https://carbon-calculator.climatehero.me/?source=climateherome>

What is Adaptation

- "In human systems, climate change adaptation is the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. " ([IPCC, Special Report 1.5C](#))
- Vulnerability:
 - Energy
 - Water
 - Transport
 - Health care
 - Agriculture
 - Tourism

Approaches to CC Adaptation

FIGURE 2.3. RISK MANAGEMENT LAYERS



Approaches to CC Adaptation

- **1. *Risk mitigation* or *Planned adaptation***

This approach is applied when the climate risk is of high frequency and low or medium loss.

- **2. *Risk transfer* or *Contingency adaptation***

This approach is applied when the climate risk is of low frequency and medium to high loss. Some extreme events can fall into this category, such as long-term droughts. Risk pooling mechanisms or approaches to manage migration flows might address this risk.

- **3. *Coping* or *Loss acceptance***

This approach is applied when the hazard is devastating but very unlikely to happen. Severe extreme events can fall into this category, such as unprecedented cyclones. Relief support and humanitarian measures are taken in these cases.

Readings

- *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Chapter 20*
- *MoE and UNDP: Third and Fourth National Communication of Albania to UNFCCC*