



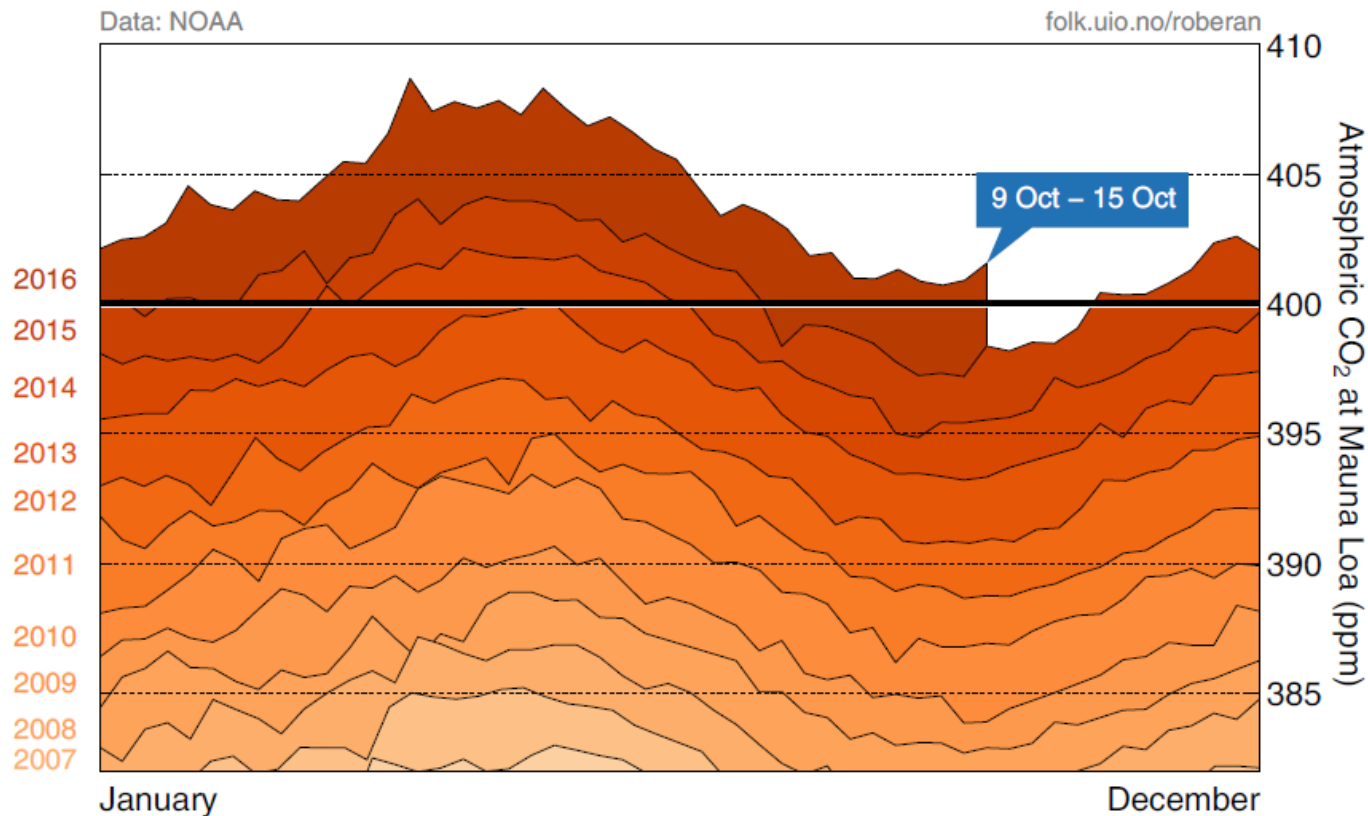
Climate change science supporting climate policies

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The climate is changing rapidly

http://folk.uio.no/roberan/t/i/MLO_weekly.gif



COP21: A historic Agreement

- A new chapter in international climate governance and action
- A win for multilateralism
- A strong signal to policy makers, investors and businesses
- Great example of EU unity and leadership



Would have the PA been possible without the IPCC AR5?

- Warming is unequivocal, and it is essentially due to anthropogenic GHG emissions, in particular to CO₂ from fossil fuel burning.
- If we wish to maintain the planet within the 2°C warming – as decided in UNFCCC – we have to know that we have already used more than 60% of the allowable cumulative GHG emissions to stay within this target; at current growing emission trends, this limit can be reached before 2050.
- Warming is already producing sensible impacts, and even if emissions are stopped today, the impacts will continue and grow (e.g. sea-level rise). Adaptation is possible, but the warmer the planet will become, the higher will be the likelihood of severe, pervasive and irreversible impacts. There are limits to adaptation, and costs grow with warming.
- Emission trends are growing, and in the last decade they are combined with a worsening of the carbon intensity of energy production.
- Several mitigation trajectories are possible in order to stay below 2°C warming; however, the later emissions peak and decrease, the higher the costs will be, also because those trajectories will require considerable contribution from negative emissions.
- In a nutshell, we have a choice, and still a window of opportunity to act.

Would AR5 have been possible without EU-funded research?



Ambition

Global goals

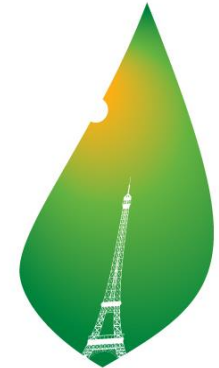
Well below 2°C
+ Efforts to limit increase to 1.5°C

Pathway to low-emission, climate resilient future

- Global peaking as soon as possible
- Rapid reductions
- Balance between emissions and sinks after 2050 - based on science
- Parties to formulate long-term (2050) low emissions strategies by 2020

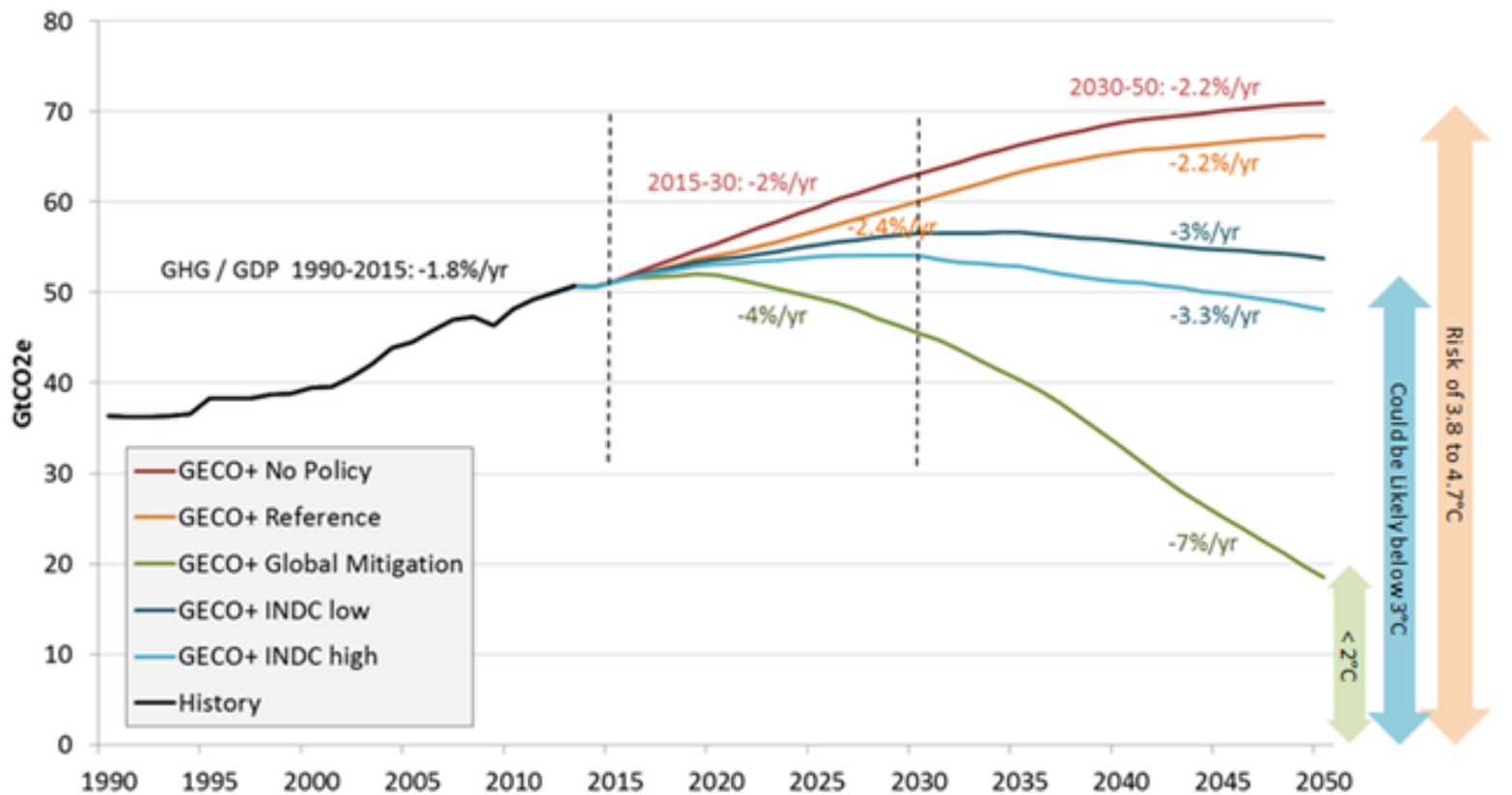
Global peaking, climate neutrality means international transport is included

Equity and CBDR-RC remain guiding principles in a contemporary context



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

Impact of INDCs on global emissions



Source: EC-JRC

Science in the COP21 decision and in the Paris Agreement

- ***High relevance given to science, research, technology development and innovation.***
 - 1. It requires the IPCC to provide a Special Report on 1.5°C impacts and pathways in order to inform the "facilitative dialogue" foreseen in 2018, and to contribute with its Reports to the *global stocktake* that will start in 2023 and will be repeated every five years.**

Global stocktake

Centerpiece of the ambition mechanism

2018 Dialogue

- Facilitative dialogue on emissions reductions
- New science on 1.5°C
- Mid-century strategies by 2020
- New or updated contributions by 2020

2023+ Global Stocktake

- Consider progress on all global goals
 - After 2030, all to communicate emissions reductions contributions every 5 years
 - Progression on previous efforts
- Convergence on
- Technical and political phase of stocktake
 - Variety of inputs including IPCC, transparency framework

Science in the COP21 decision and in the Paris Agreement (cont.)

- 2. The PA asks Parties to accelerate mitigation and adaptation efforts "in accordance with best available science".**
- 3. It also calls for strengthening cooperation in research, systematic observation and early warning systems that inform climate services and support decision-making.**
- 4. Finally, it recalls the importance of technology development and transfer, and how critical is accelerating, encouraging and enabling innovation for an effective global response to climate change.**

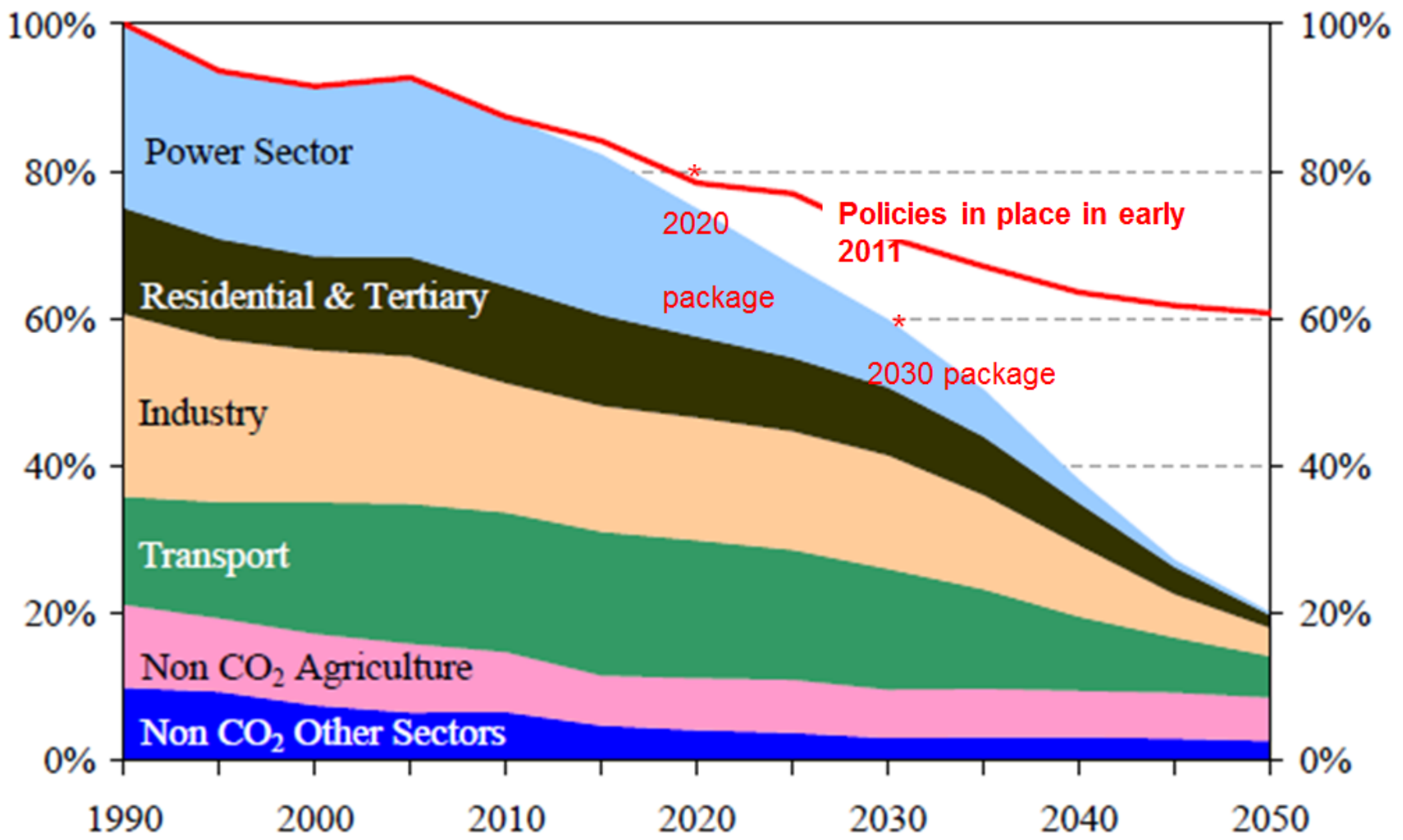
Post-COP21 as main driver for the Work Programme 2018-20 on climate action

- *Post-COP21 action:*
 - **supporting IPCC reports in view of the Global Stocktake**
 - **Supporting mitigation policies to keep global warming "well below 2°C" + efforts to limit it to 1.5°C**
 - **Contributing to adaptation, also through the development of climate services**
 - **Technological innovation**
- *Supporting other EU policies*
 - **EURICS, Arctic policy, Adaptation strategy, Climate diplomacy**
- *International cooperation*
 - **Hot-spots of climate change – Arctic**
 - **Africa (GFCS)**
 - **Major emitters and less developed countries**

IPCC

- EU-funded research should continue to be central in future IPCC products:
 - **Within the 6th Assessment Report (AR6) cycle (WGI April 2021, WGIII July 2021, WGII October 2022), 3 Special Reports (SR) have been decided:**
 1. 1.5°C warming impacts and pathways (Sept. 2018);
 2. Ocean and the Cryosphere (Sept. 2019);
 3. Agriculture, land use, land degradation, ... (Sept. 2019)
 - **A SR on "Cities" will be held at the beginning of the AR7 cycle (2023-24)**
- On-going projects have to contribute with peer-reviewed publications

EU CO2 reduction until 2050 by sector



**Thanks for your
attention**