# The IPCC Special Report on 1.5°C and its implications for the EU

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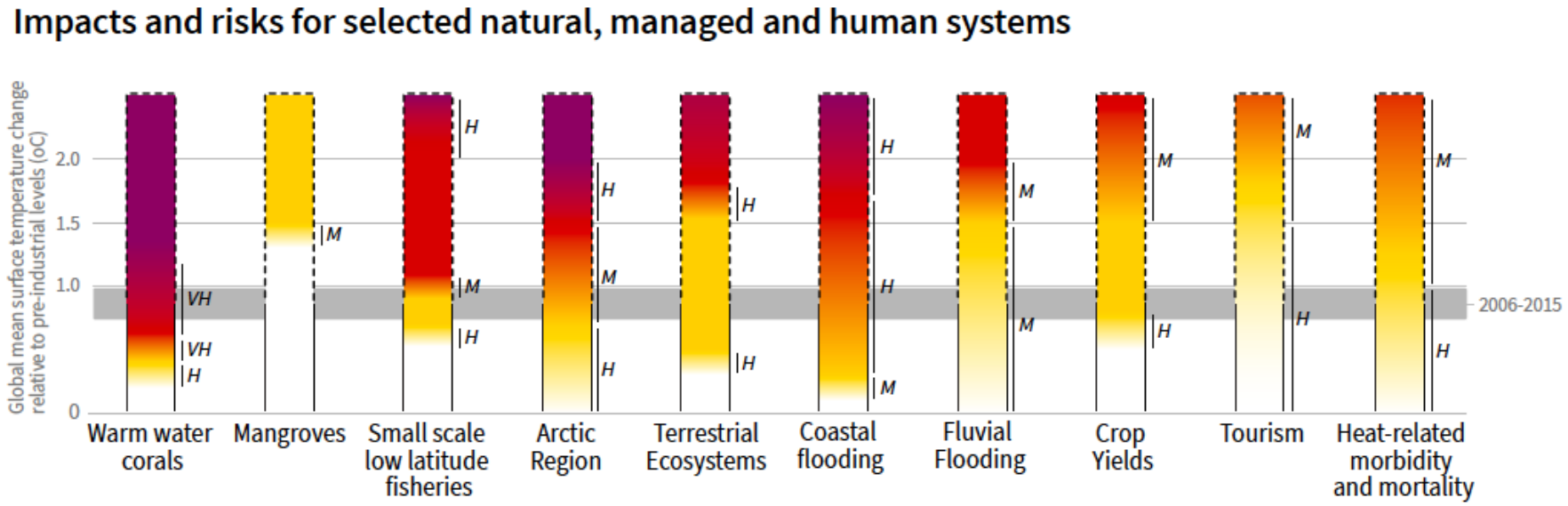
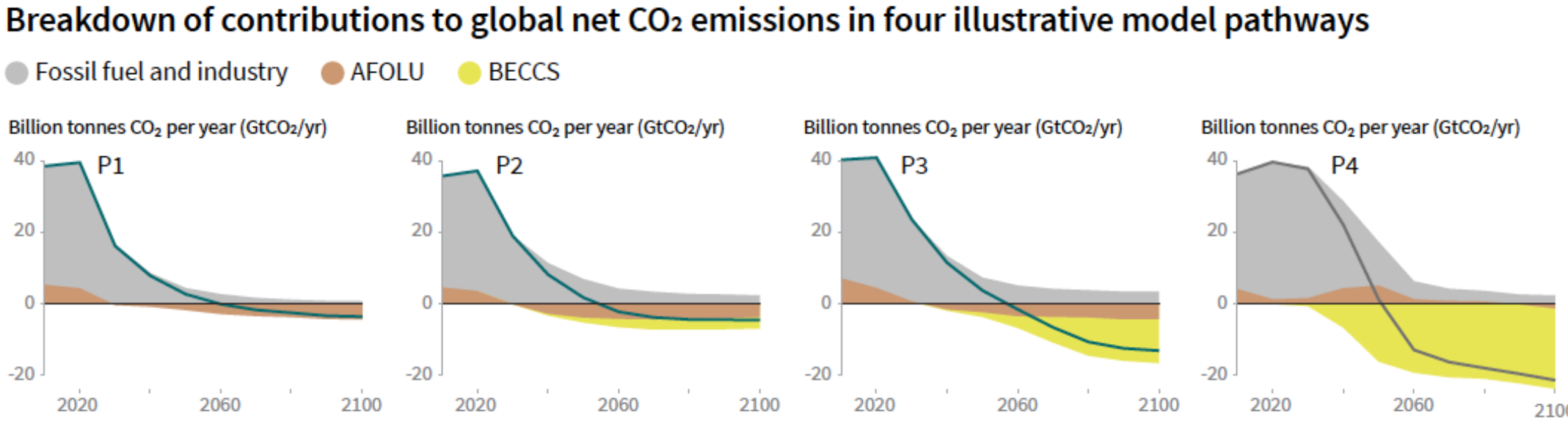
# Key messages from the report on impacts

- The risks of climate change at 1.5°C warming are significantly smaller than at 2°C.
- This applies to impacts on health, crop yields, fisheries, water stress, biodiversity, sea level rise and the economy as a whole.
- Sea level rise will continue beyond 2100 even if global warming is limited to 1.5°C in the 21st century
- Marine ice sheet instability in Antarctica and/or irreversible loss of the Greenland ice sheet could result in multi-metre rise in sea level over hundreds to thousands of years. These instabilities could be triggered around 1.5°C to 2°C of global warming.



# Key messages from the report on mitigation

- Staying below 1.5°C implies (with no or limited overshoot)
  - Net-zero GHG emissions by 2060-2080 globally
  - Net-zero $CO_2$ around 2050 globally
  - Global GHG emissions by 2030 25-30 $GtCO_2eq/yr$ (40-50% below 2010)
- $CO_2$ removal from the atmosphere (CDR) is necessary
  - Scenarios with no or limited overshoot all use (limited amounts of) CDR
  - CDR deployment of several hundreds of $GtCO_2$ is subject to multiple feasibility and sustainability constraints
  - CDR through afforestation and soil carbon enhancement can play a big role



# Key messages from the report on mitigation (2)

- Very stringent policies required for radical transformation
  - Energy efficiency: from 75% higher energy use in 2050 than today to only 10%
  - Electrification: electric vehicles and replacing fossil fuel with electricity in buildings and industry
  - Renewable energy: 60% of total energy use in 2050 vs 15% now; 80% in electricity in 2050 vs 24% today
  - Coal phase-out: 0% coal in electricity by 2050, vs 32% today
  - Industry: 75-90% lower $CO_2$ emissions in 2050 vs 2010
  - $CO_2$ Capture and Storage: significant use for reducing remaining fossil emissions and CDR
- Limiting warming to 1.5°C makes achieving SDG's a lot easier, because of strong (co-)benefits
- Enabling conditions (equality, international cooperation, sustainable development) critical
- With current NDC's warming cannot be limited to 1.5°C
  - Current NDC's : warming of about 3°C by 2100, with warming continuing afterwards
  - Even with ambitious reductions after 2030, carbon lock in will lead to overshoot of at least 0.2°C
  - Reversing warming after an overshoot of 0.2°C or larger would require upscaling and deployment of CDR at rates and volumes that might not be achievable given considerable implementation challenges

# What does this mean for EU climate policy?

- Take “Paris” serious: make policy consistent with 1.5$^{o}$C limit and show leadership
- Adopt “net-zero GHG target” for 2050
  - To give poor countries more time in meeting 2070 global net-zero GHG level
  - To correct 80% reduction target that underpins current policy
- Strengthen NDC/ 2030 GHG reduction target to 55-60% (with current legislation already 45-50%)
- Adopt “net-zero CO2” target for 2040
- Phase-out coal well before 2040
- Make policies consistent with these targets (e.g. car emission standards, CCS, CDR)
- Prepare for adaptation to 3$^{o}$C

# Encouraging political signals

## EU Environment Council, October 9, 2018

- IS DEEPLY CONCERNED by the new evidence on the negative impacts of climate change that are unequivocally confirmed by the latest scientific findings reported by the Intergovernmental Panel on Climate Change (IPCC) in its Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global GHG emission pathways. In this context it is a matter of extreme urgency to strengthen the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty

- UNDERLINES that the proposal [for the mid-century strategy] should consider several pathways for reducing GHG emissions towards achieving a balance between anthropogenic emissions by sources and removals by sinks in line with the long term goals of the Paris Agreement, including 1.5 °C scenario and at least one pathway towards net zero GHG emissions in the EU by 2050 followed by negative emissions thereafter, as referred to in the EU Regulation on the Governance of the Energy Union and Climate Action;

## European Parliament resolution, October 25, 2018

- The EU 2030 target for emission reduction in 2030 should be RAISED to 55% compared to 1990

# Thank you

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