

Climate Urgency and the Need to Reduce Net Global Emissions ASAP to ZERO

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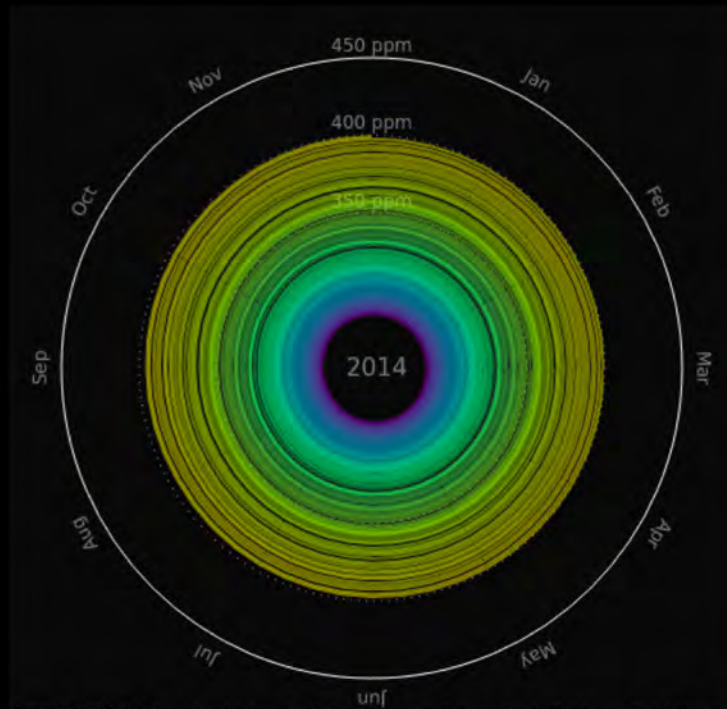
Former IPCC Vice-Chair (2008-2015)

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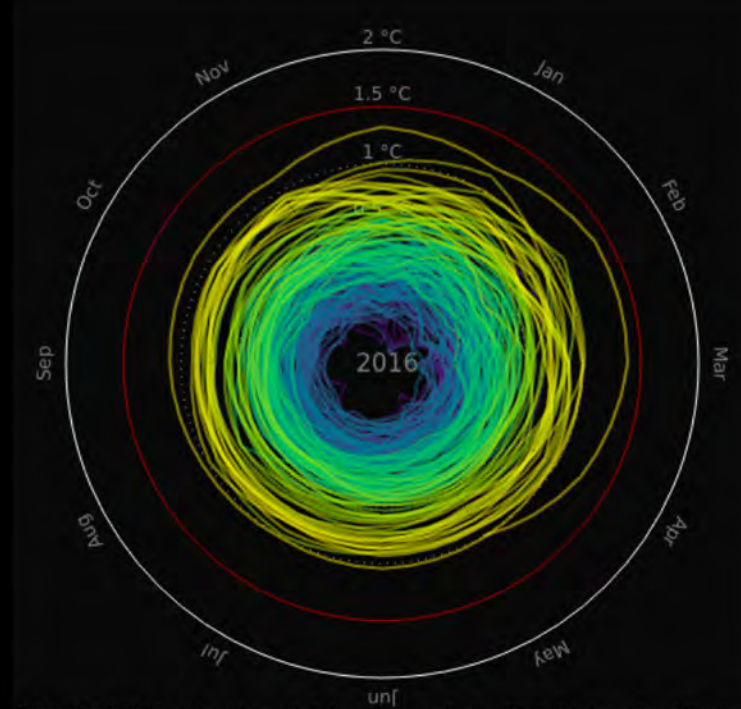
CAN-Europe press conference, 5 October 2020

**Thanks to the Government of Wallonia, supporting the [Walloon Platform for IPCC](#)
and to my team at the Université catholique de Louvain**

CO₂ Concentration and Temperature spirals



Concentration Spiral pik-potsdam.de/primap-live/ & climatecollege.unimelb.edu.au, Gieseke, Meinshausen. Thx to Ed Hawkins

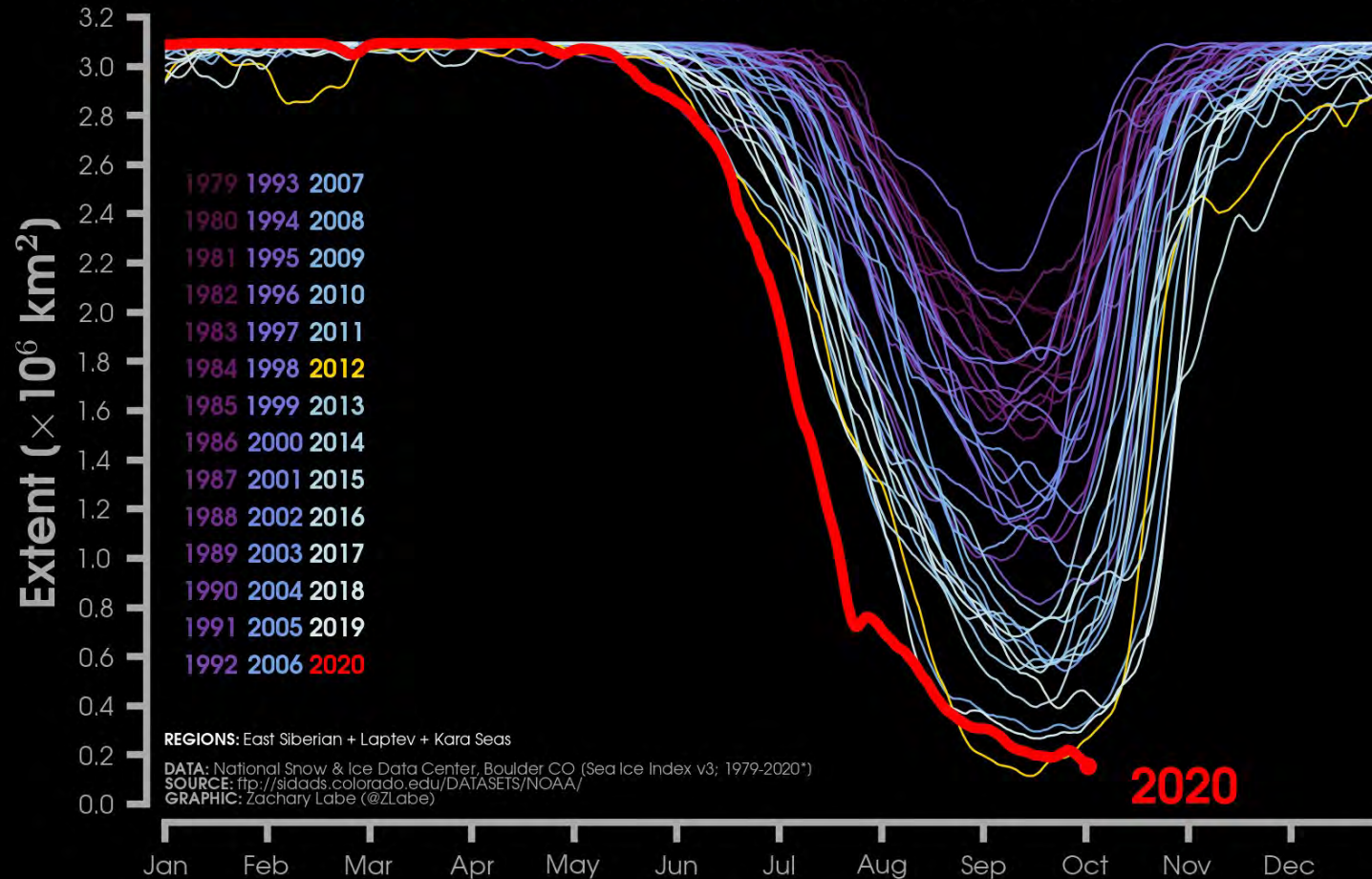


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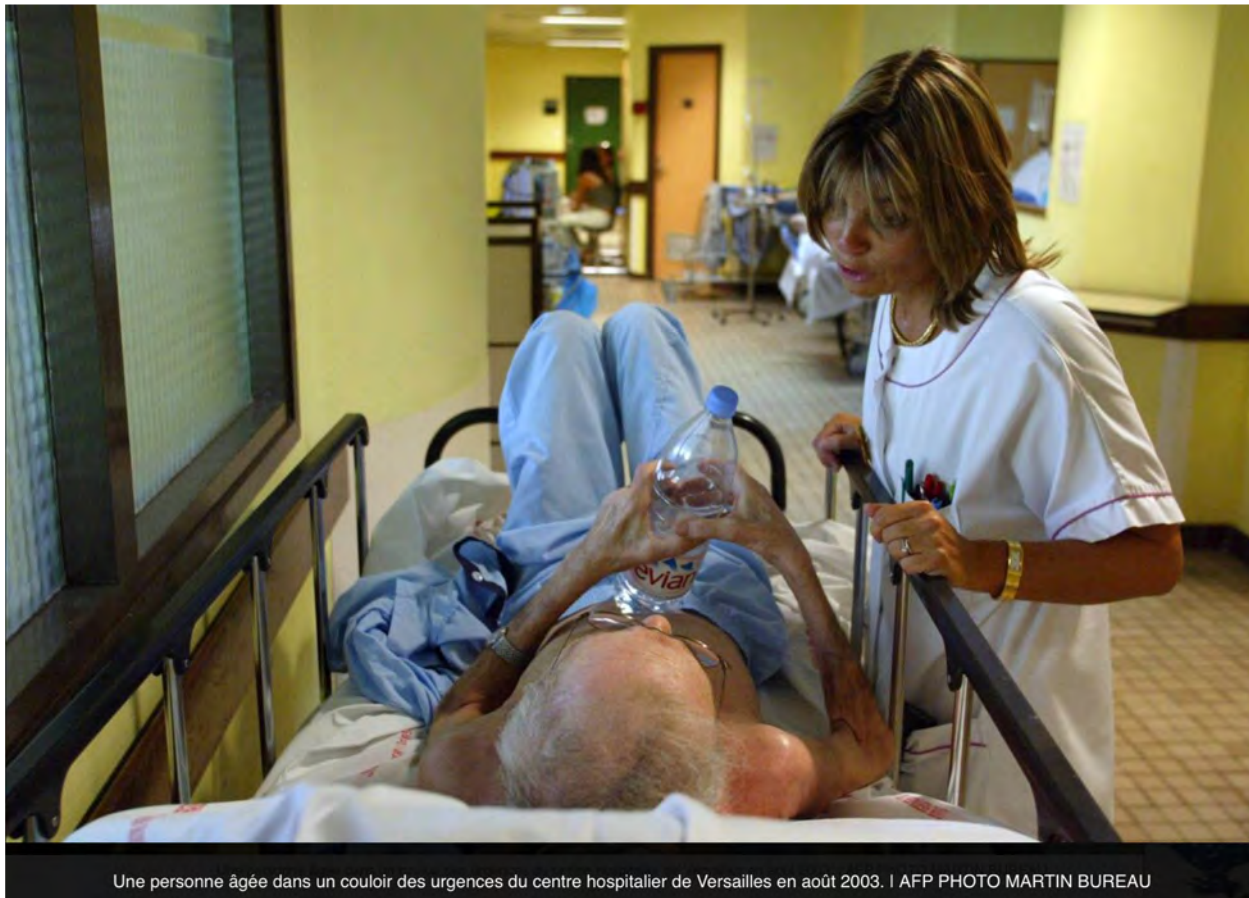
CO₂ Concentration since 1850 and Global Mean Temperature in °C relative to 1850 – 1900
Graph: Ed Hawkins (Climate Lab Book) – Data: HadCRUT4 global temperature dataset
Animation available on <http://openclimatedata.net/climate-spirals/concentration-temperature/>

I am worried

SIBERIAN ARCTIC



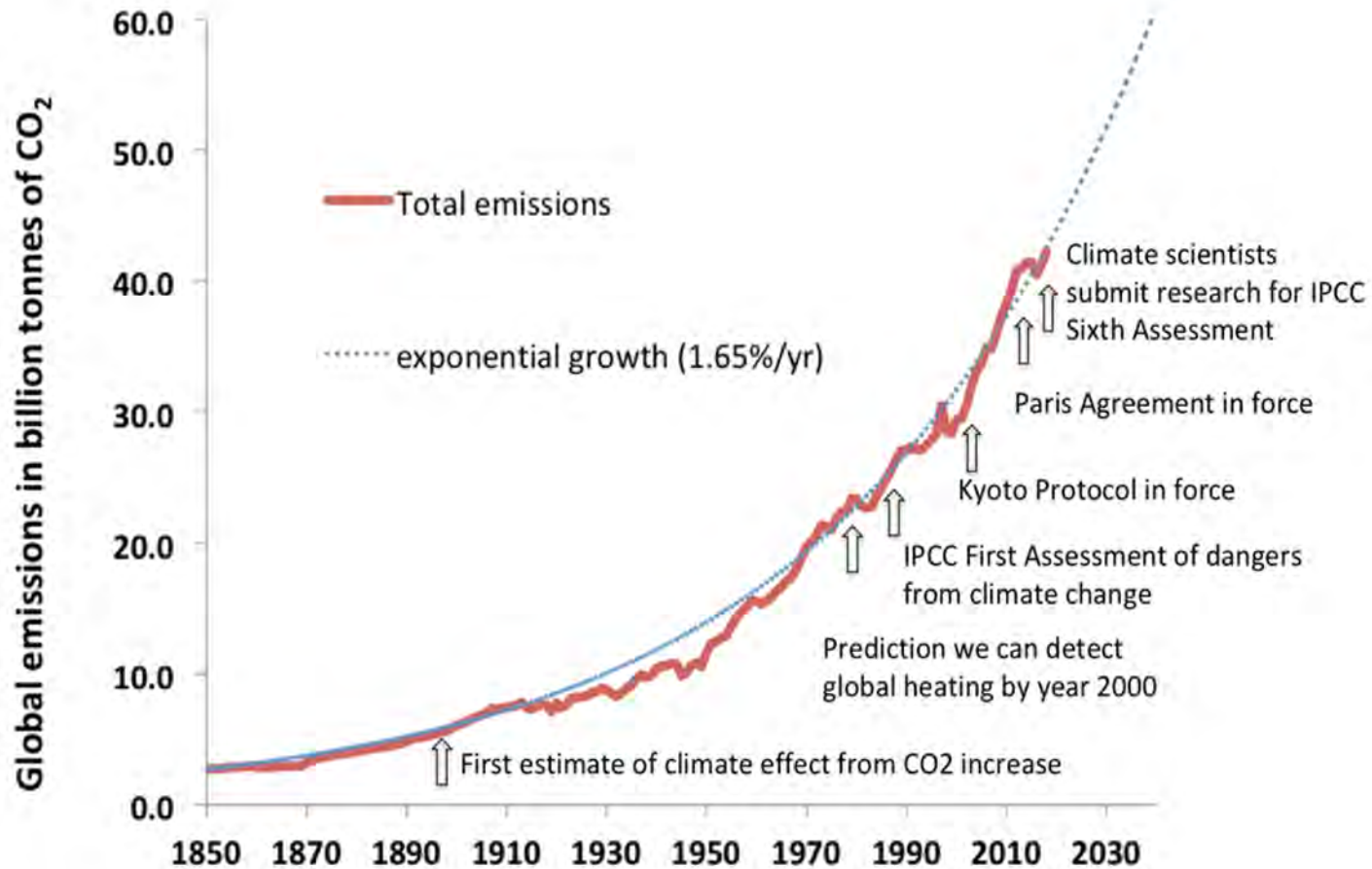
Heat waves kill



Une personne âgée dans un couloir des urgences du centre hospitalier de Versailles en août 2003. | AFP PHOTO MARTIN BUREAU

Floods cost



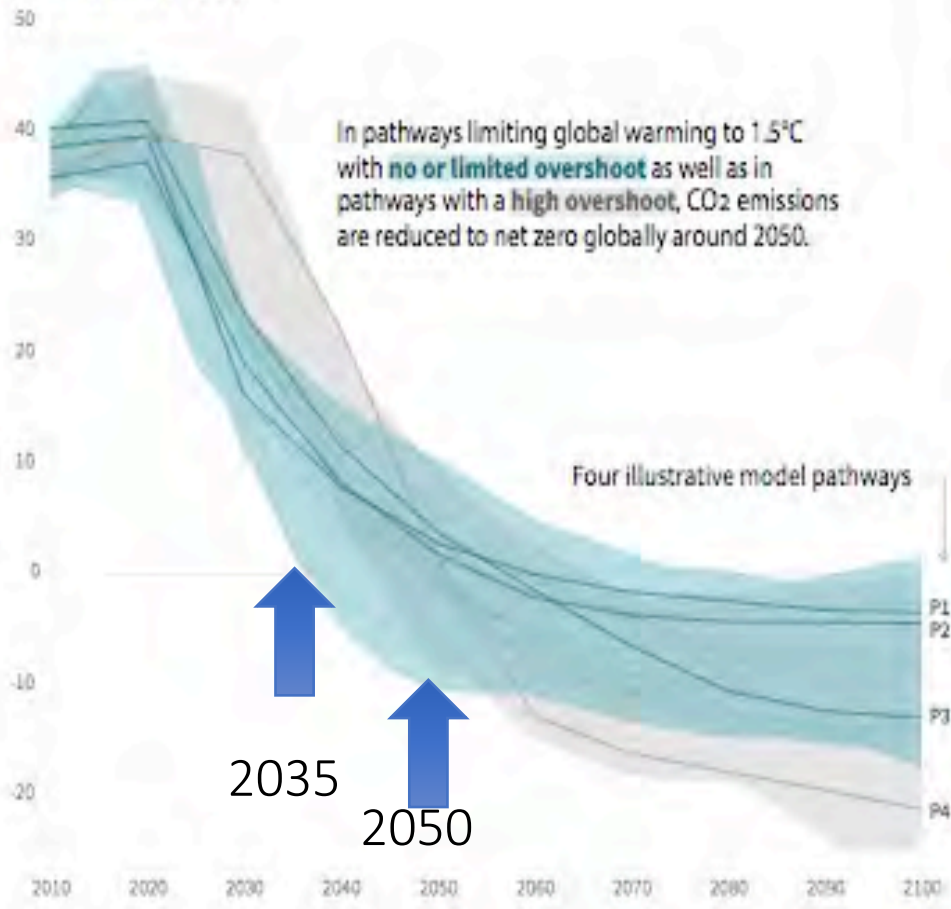


Source: Wolfgang Knorr, in *The Conversation* (2019)

Emission pathways compatible with below 1.5° C warming:

Global total net CO₂ emissions

Billion tonnes of CO₂/yr



Net ZERO:

2035
2050

Timing of net zero CO₂

Line widths depict the 5-95th percentile and the 25-75th percentile of scenarios



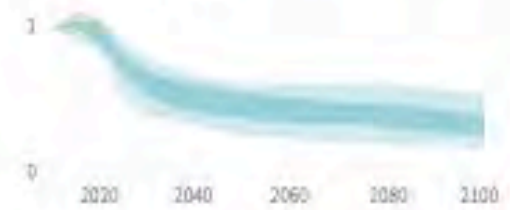
Pathways limiting global warming to 1.5°C with **no or low overshoot**
Pathways with **high overshoot**

Pathways limiting global warming below 2°C (Not shown above)

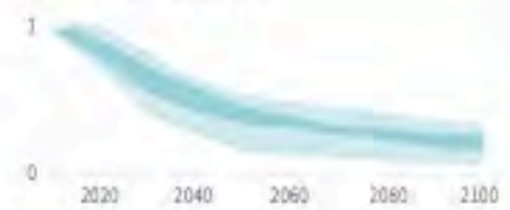
Non-CO₂ emissions relative to 2010

Emissions of non-CO₂ forcers are also reduced or limited in pathways limiting global warming to 1.5°C with **no or limited overshoot**, but they do not reach zero globally.

Methane emissions



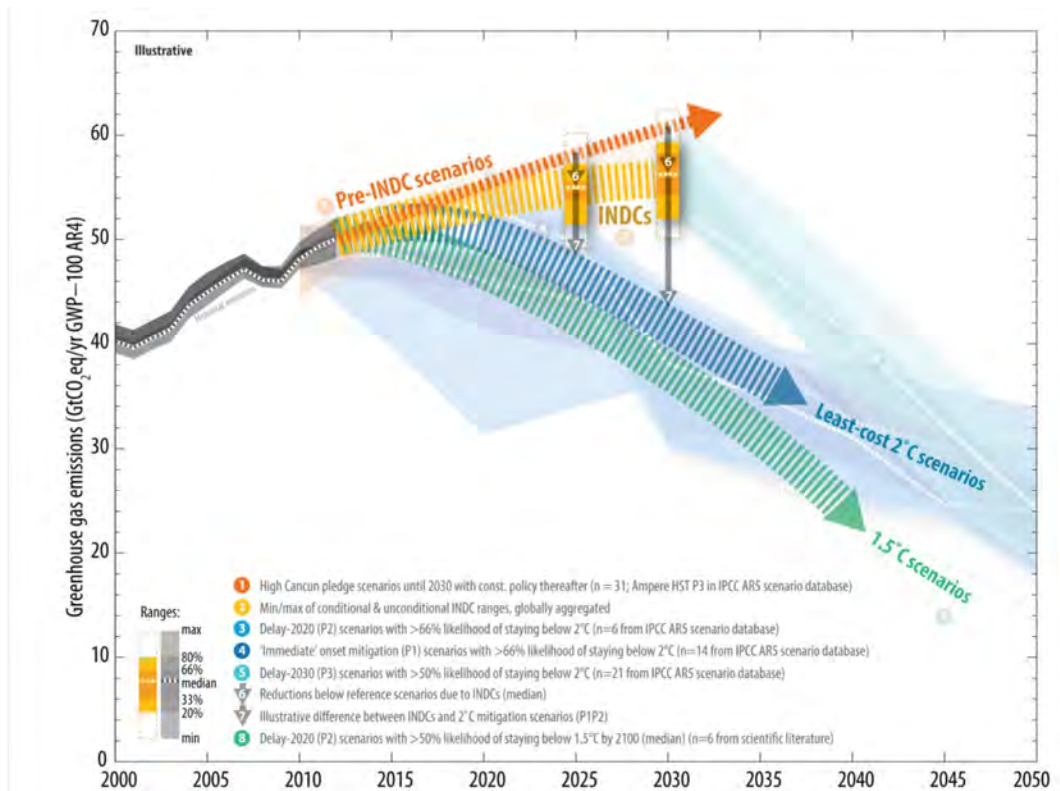
Black carbon emissions



Nitrous oxide emissions



Comparison of global emission levels in 2025 and 2030 resulting from the implementation of the intended nationally determined contributions



UNFCCC, Aggregate effect of the intended nationally determined contributions: an update
<http://unfccc.int/resource/docs/2016/cop22/eng/02.pdf>

Key messages

Impacts of climate change are spreading and costing more and more

Climate urgency is greater than ever

Respecting the 1.5°C Paris Agreement objective is essential

It requires reduction of global net CO₂ emissions to ZERO *before* 2050

If this is needed for global emissions, it means an even earlier deadline for the EU, because:

- EU has a high historical responsibility**
- EU has the means to be ambitious**

Emission reductions need to be mostly obtained by fossil fuel phaseout

Increases in CO₂ absorption capacity by forests, soils, etc , are welcome, but much more difficult to measure and guarantee in time (think, e.g., forest fires!)

Separate, bold, targets for emission reductions and for absorption increases would be better

To go further :

- www.climate.be/vanyp : my slides (under « conferences)
- www.ipcc.ch : IPCC
- www.skepticalscience.com : answers to the merchants of doubt arguments
www.desmogblog.com: analysis of contrarians strategies
- www.plateforme-wallonne-giec.be : IPCC-related in French, Newsletter, latests on SR15, basic climate science
- My latest essay on climate urgency:
www.levif.be/reveil-climatique
- **Twitter: @JPvanYpersele & @IPCC_CH**