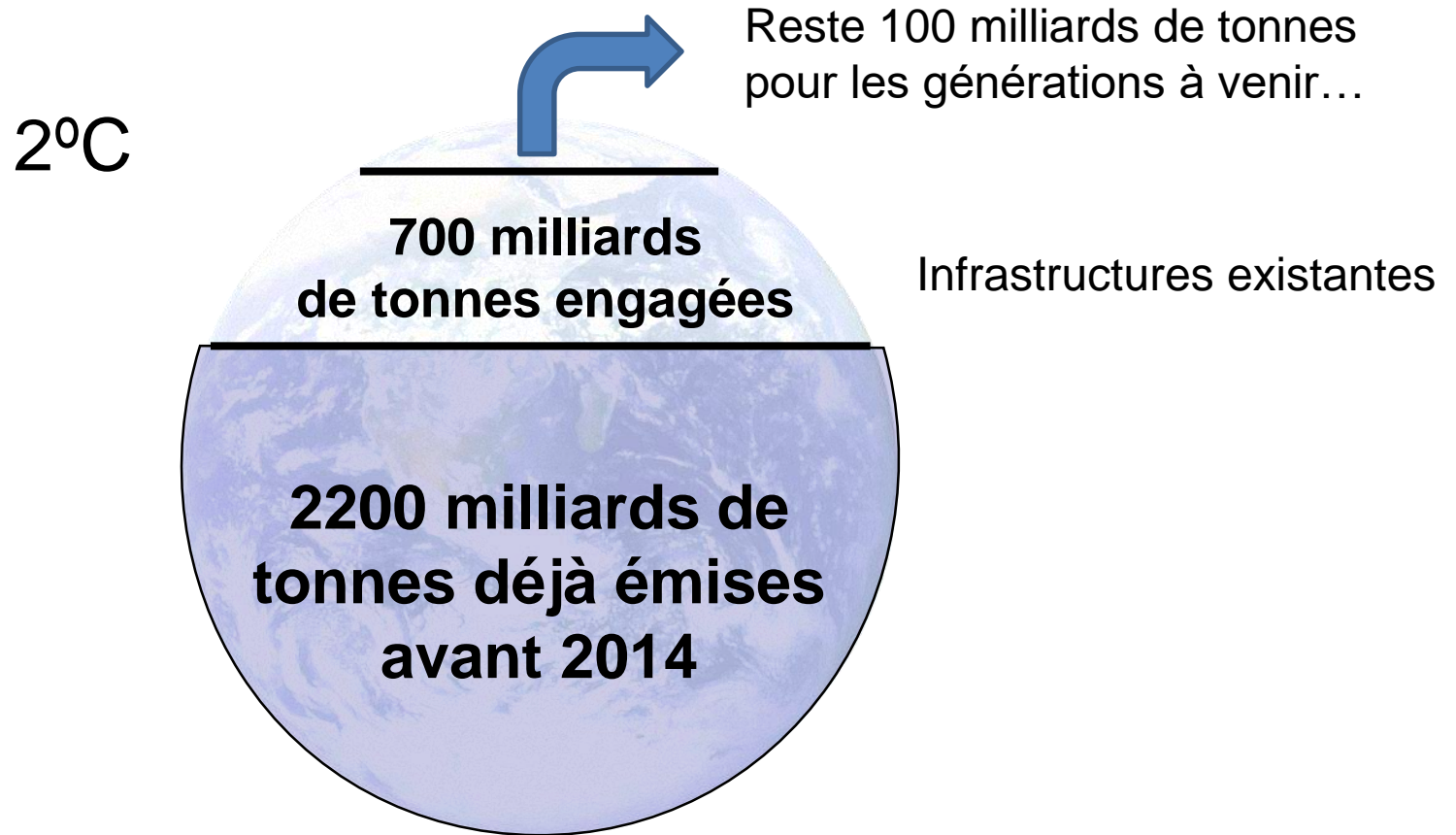


LE BUDGET CARBONE

IL FAUT BUDGÉTER LE CARBONE ÉMIS



Total possible: 3000 milliards de tonnes

Plus dure sera la chute ...



$p = 67\%$

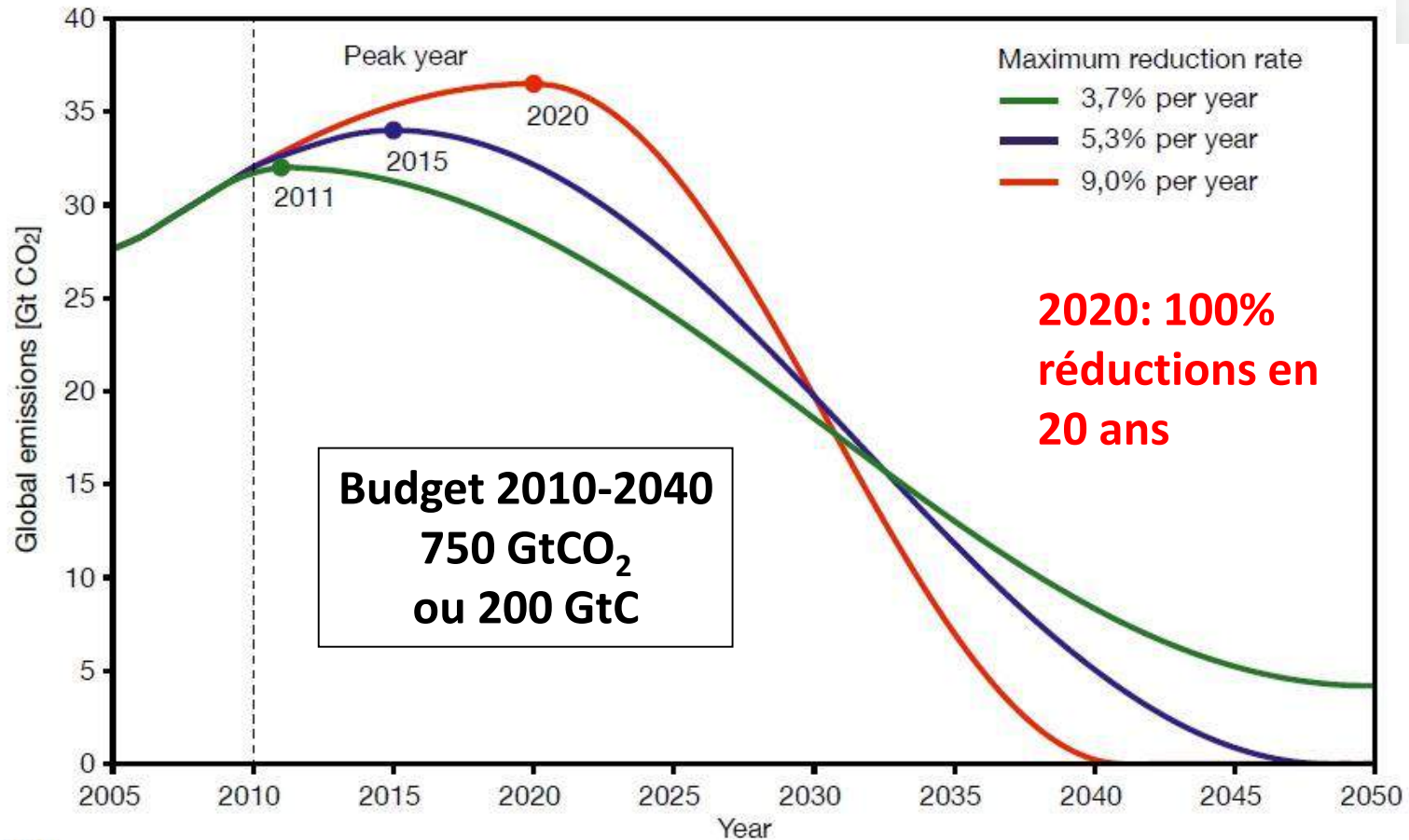
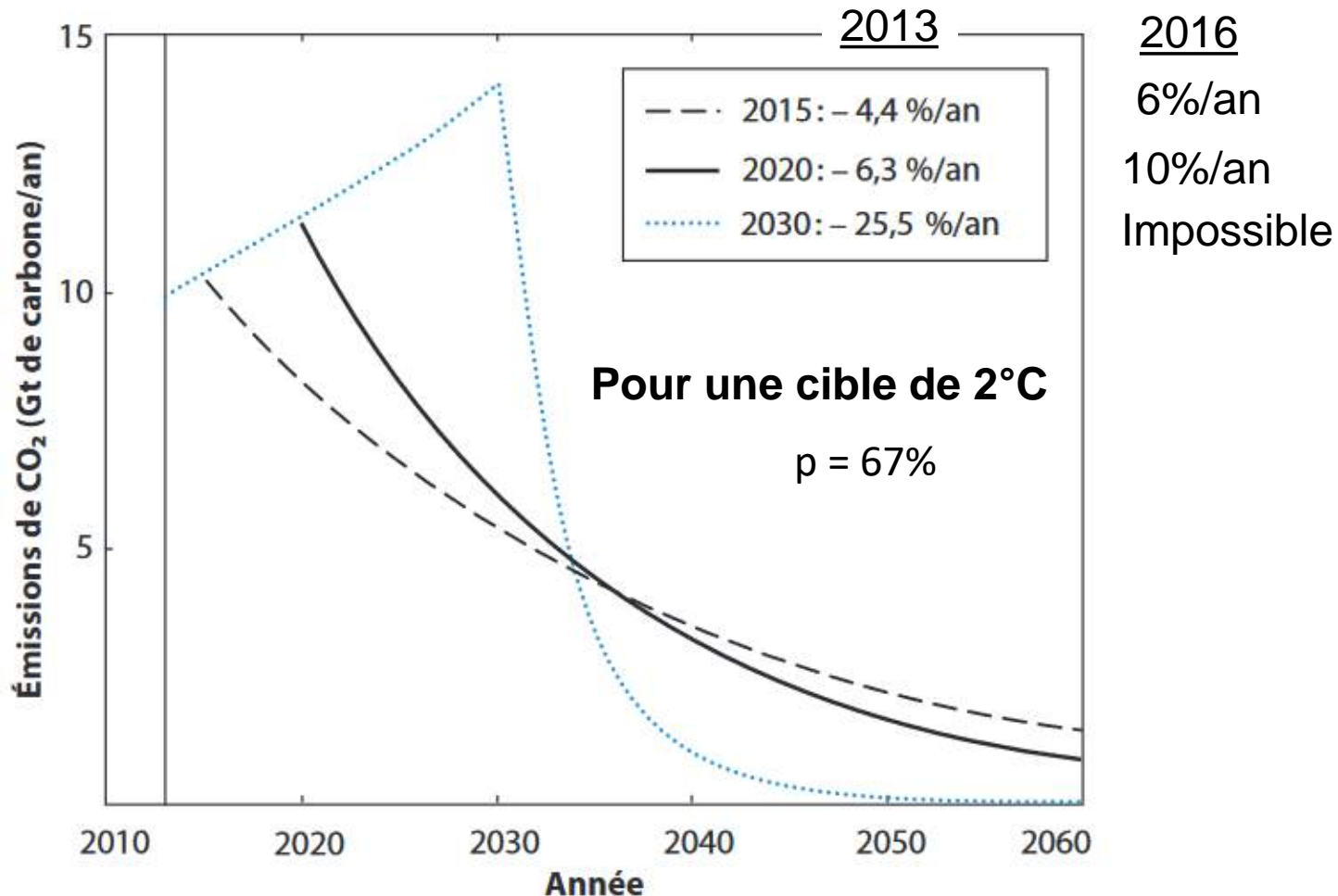


Figure 3.2-1

Examples of global emission pathways for the period 2010–2050 with global CO₂ emissions capped at 750 Gt during this period.

WBGU (2009). Solving the climate dilemma: The budget approach. <https://bit.ly/2yNgOBT>

LA PORTE SE REFERME !!

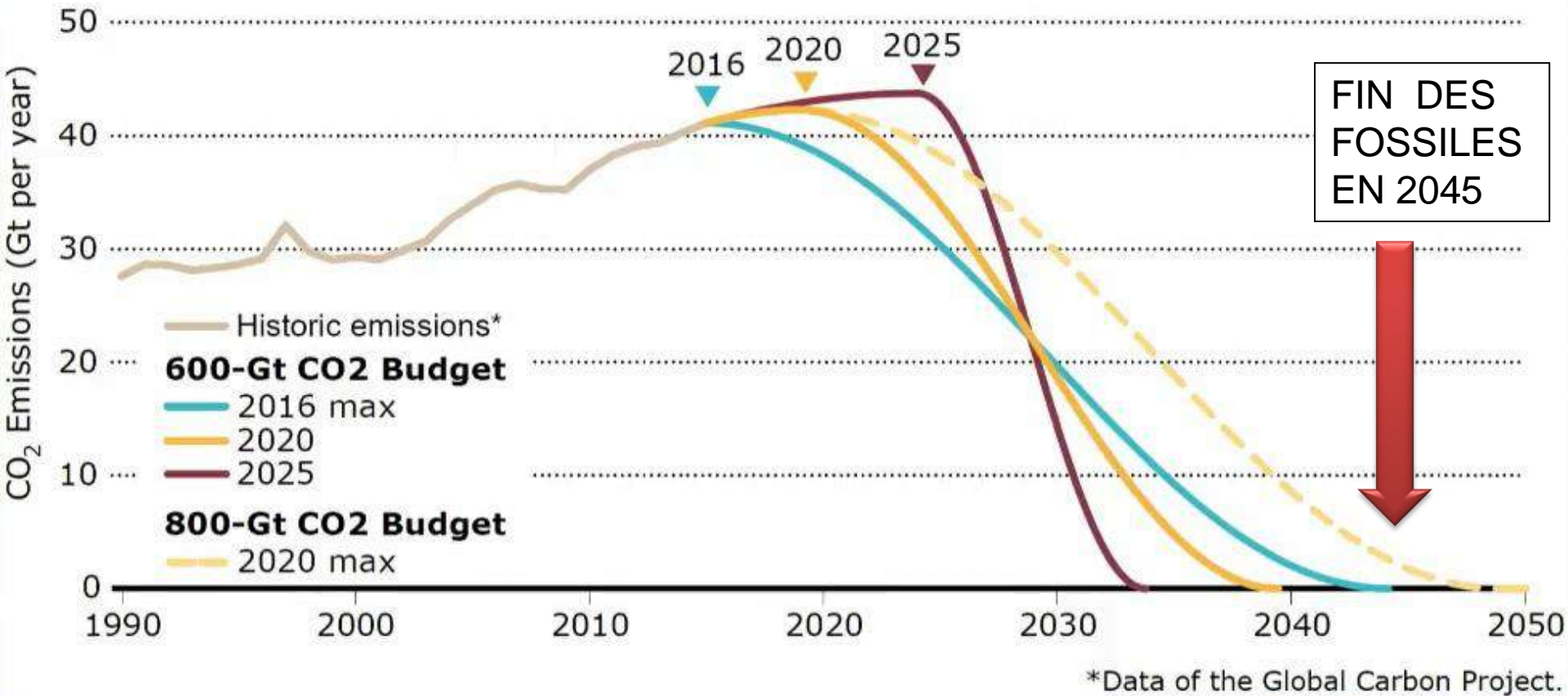


Remarques: chaque courbe suppose une période d'augmentation continue des émissions de 2 % par an (soit environ le taux actuel à long terme) suivie d'une réduction soutenue commençant à divers moments dans l'avenir.

Source: d'après Stocker, 2013.

<http://climatehomes.unibe.ch/~stocker/papers/stocker15ferdiF.pdf>

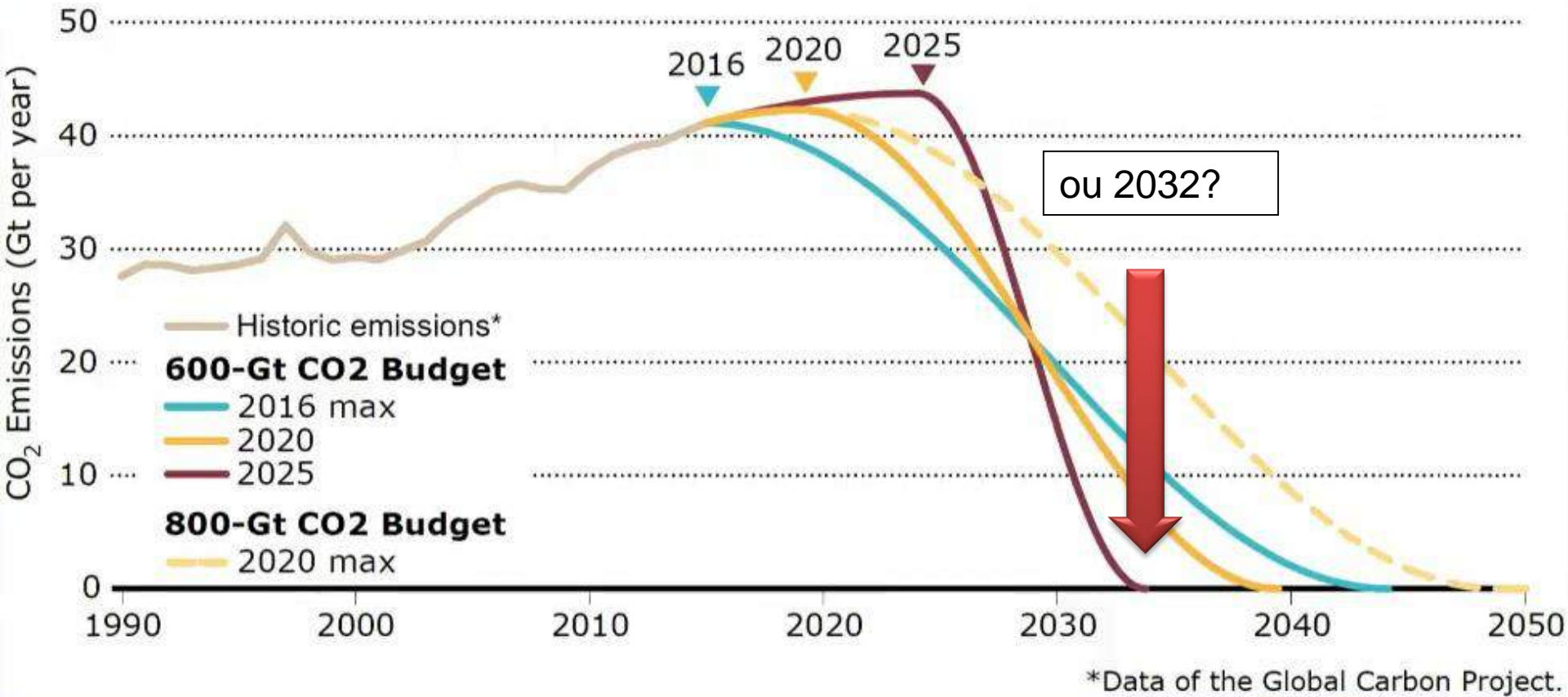
SCÉNARIOS CO₂ POUR 2,0 degré C



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FIGUERES (2017). AGU Fall Meeting.

SCÉNARIOS CO₂ POUR 2,0 degré C

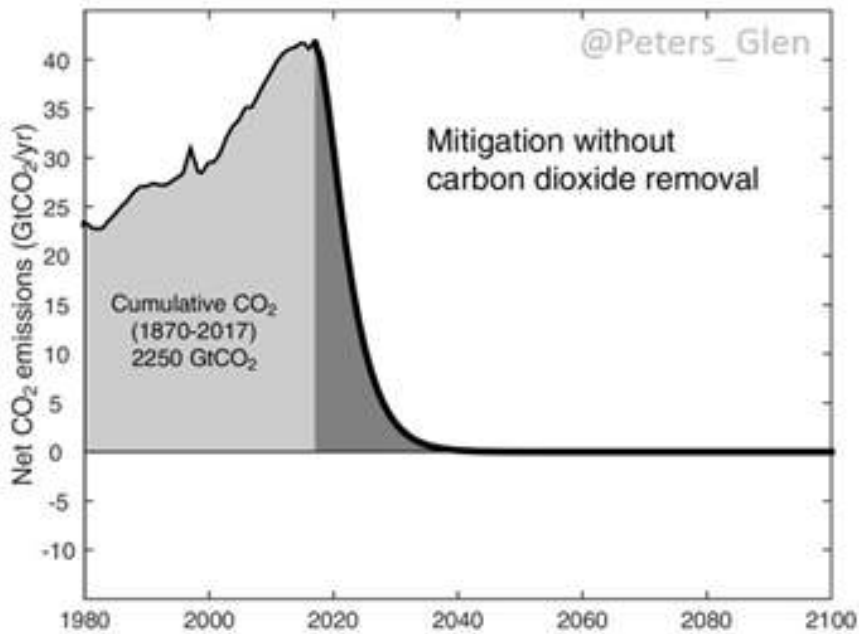


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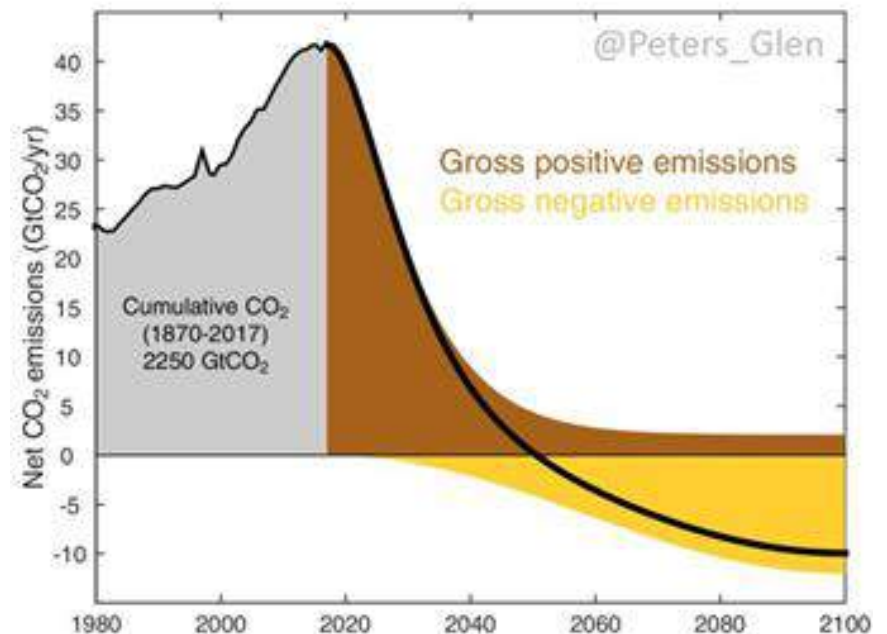
FIGUERES (2017). AGU Fall Meeting.

La tromperie du GIEC... les émissions négatives

Le budget 2015- ...



400 à 800 GtCO₂



1600 GtCO₂

Un gain de 45 ans de laisser-aller !

Peters (2018). <https://bit.ly/2HkkIZA>

LES ÉGAREMENTS DU GIEC

IPCC Scenario database:

400 scenarios for 50% or better chance of 2°C, of these:

- **86%** include large scale **negative emissions**
- the remaining **14% peak in ~2010**
- *many use negative emissions & adopt a ~2010 peak*

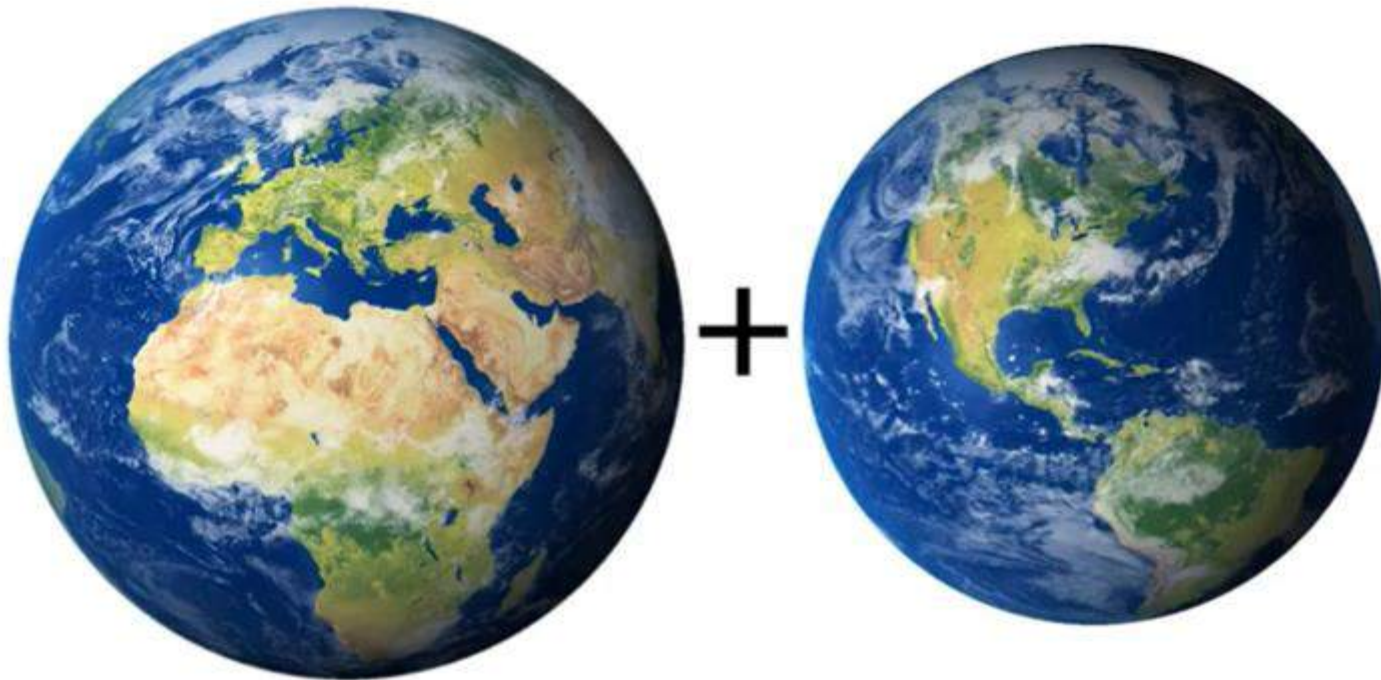


Kevin ANDERSON (2016). <https://bit.ly/2HBximE>

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LES ÉMISSIONS NÉGATIVES...

... or the equivalent of adding another biosphere!



... absorbs $\frac{1}{2}$ of anthropogenic annual CO_2
i.e. oceans & plants absorbs $\sim 20\text{GtCO}_2/\text{yr}$.

BECCS is set to absorb 10 to $20\text{GtCO}_2/\text{yr}$
i.e. up to another planet's worth of biosphere

Kevin ANDERSON (2016). <https://bit.ly/2JhZtth>

HORLOGE CLIMATIQUE v. 2018

2°C scenario

**BUDGET DE
2500 GtCO₂**

upper estimate

medium estimate

lower estimate

CO₂ emissions [tons/sec]

1'268

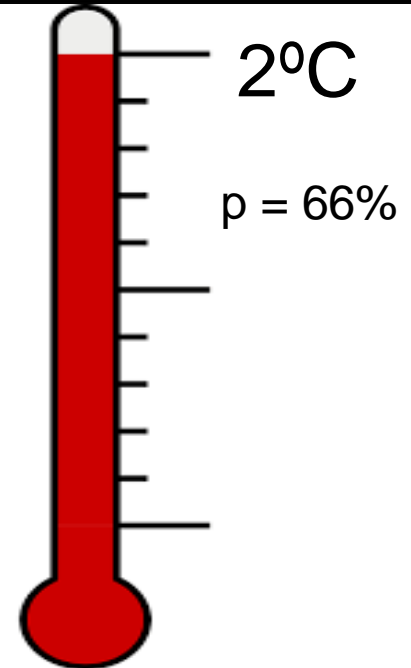
time left until CO₂ budget depleted

year month day hour min sec

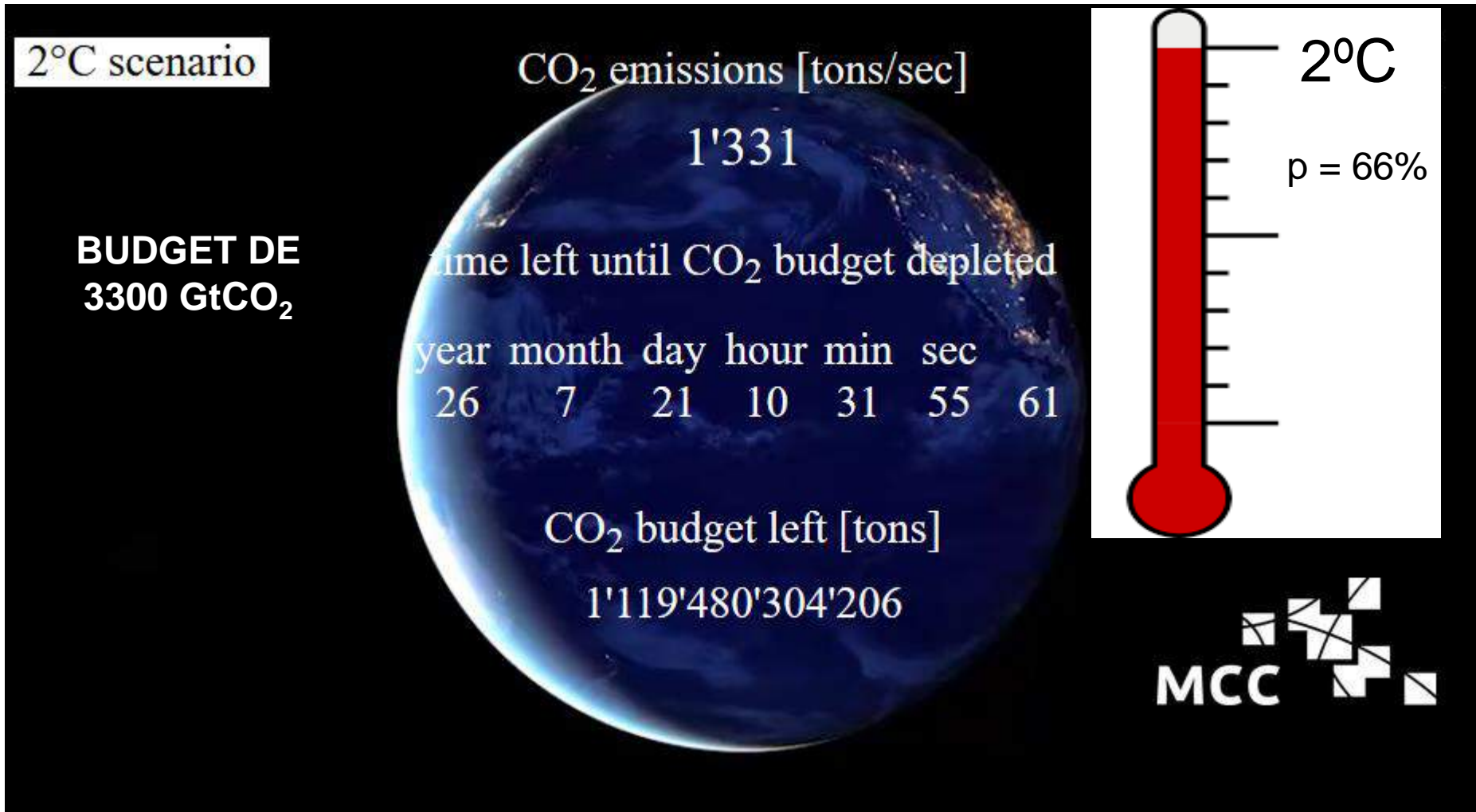
8 5 3 8 31 49 81

CO₂ budget left [tons]

337'123'113'291

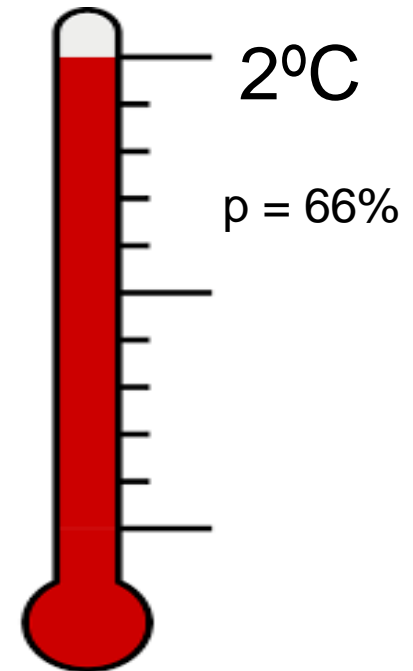


HORLOGE CLIMATIQUE v. 2019



<https://www.mcc-berlin.net/en/research/co2-budget.html>

HORLOGE CLIMATIQUE v. 2019



Budget de
3500 Gt CO₂!