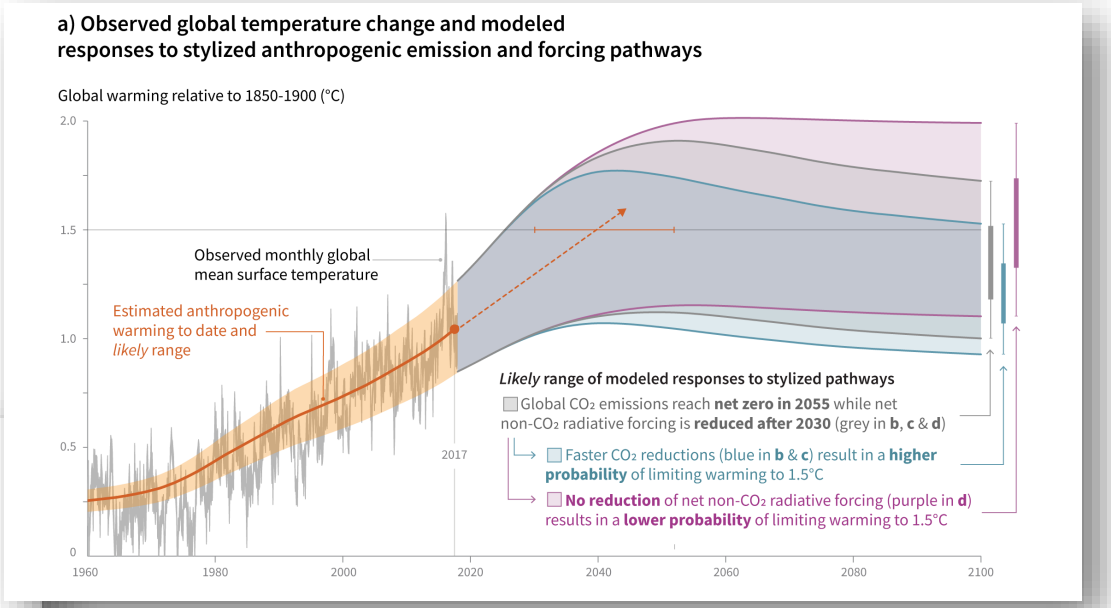
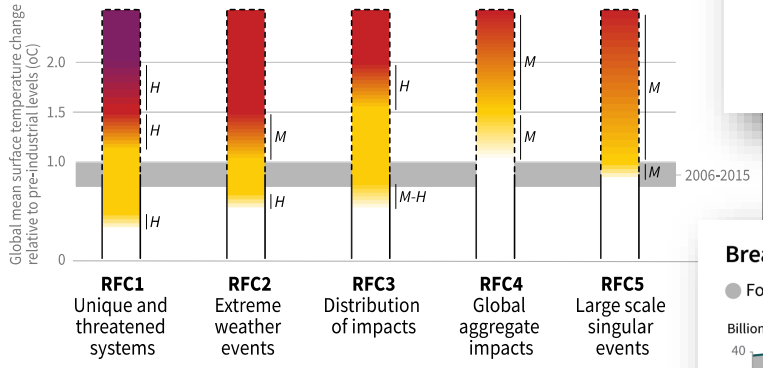
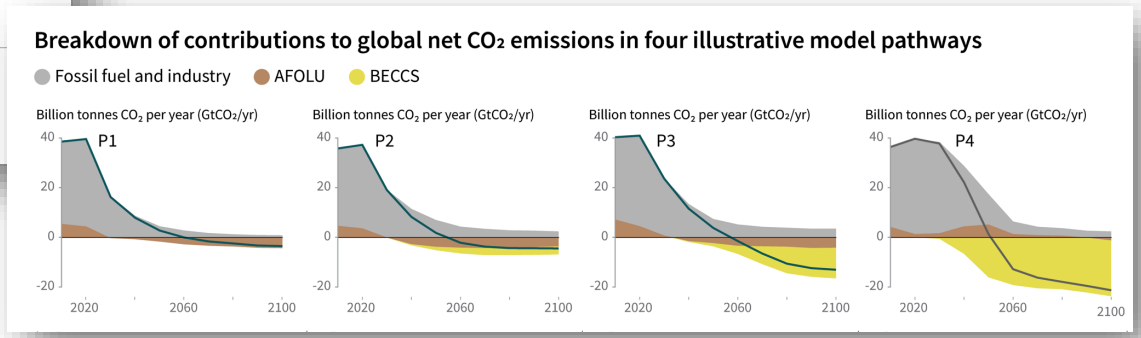
The Net Zero challenge in three figures

Source: Global Warming of 1.5°C, IPCC Special Report, 2018







Myles Allen, Environmental Change Institute, School of Geography and the Environment and Department of Physics, University of Oxford

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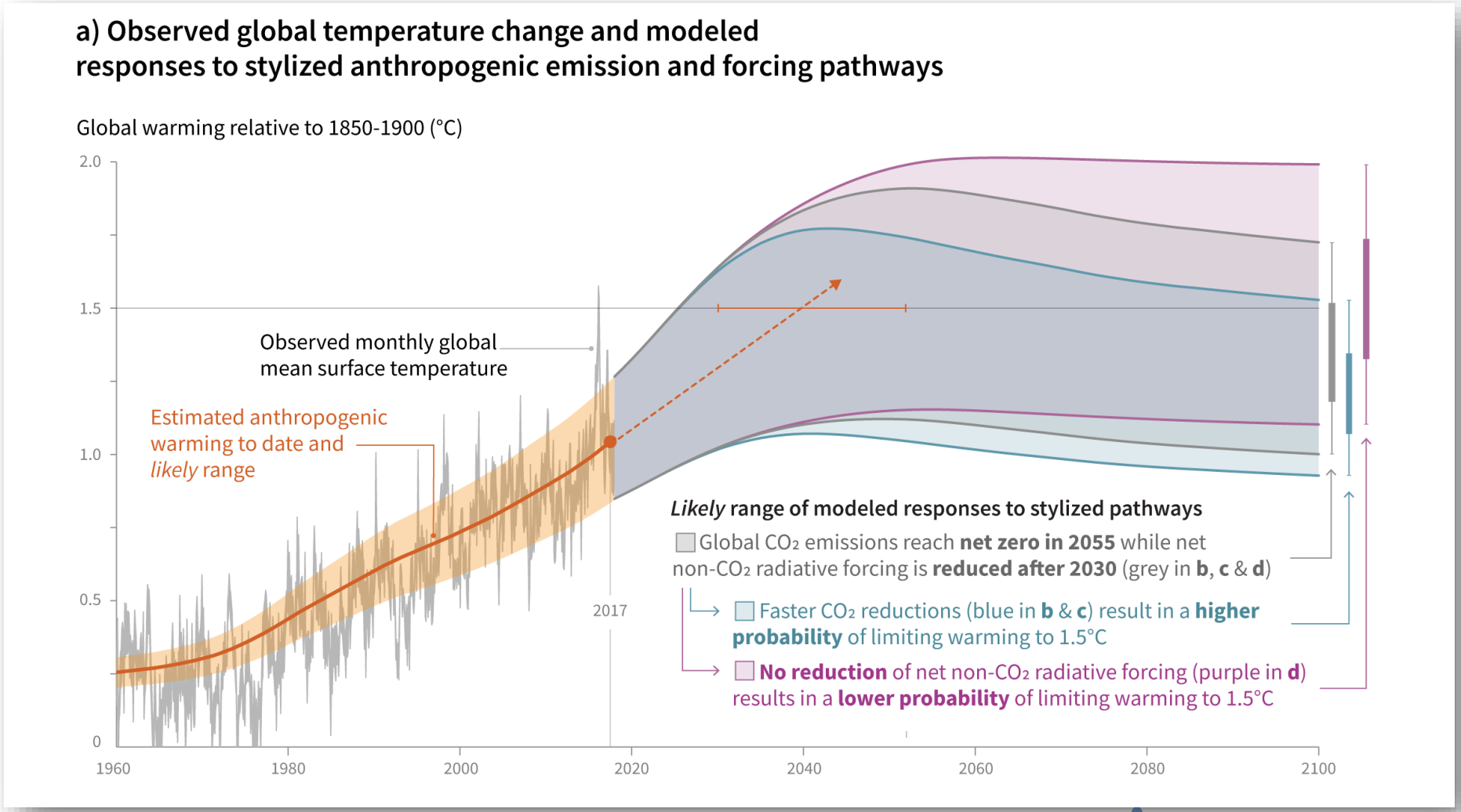
Anthropogenic global warming has reached 1.1°C (±0.2°C) and is increasing at 0.2°C (±0.1°C) per decade



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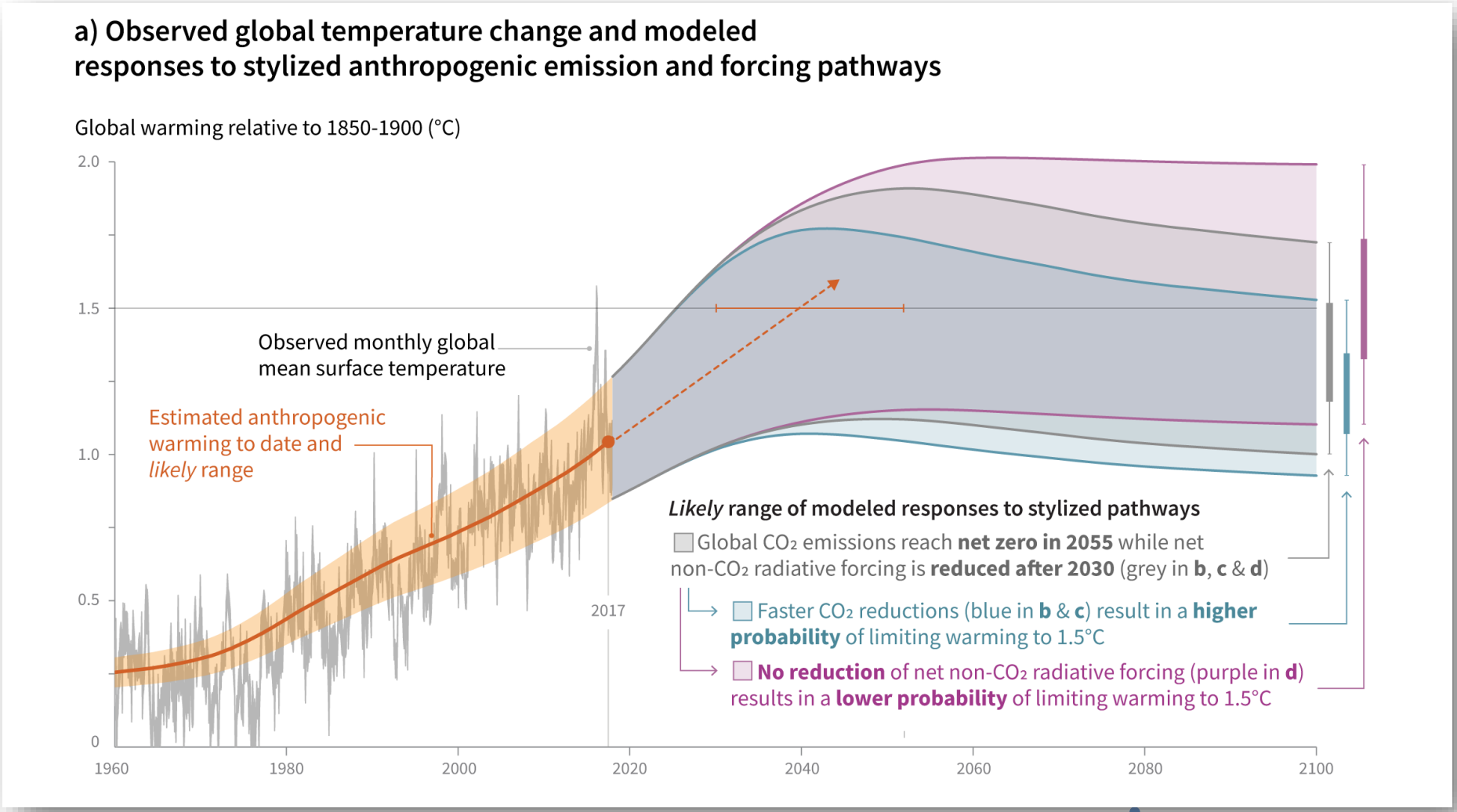
Halting global warming requires net zero CO_2 emissions and no further warming from other climate forcing agents



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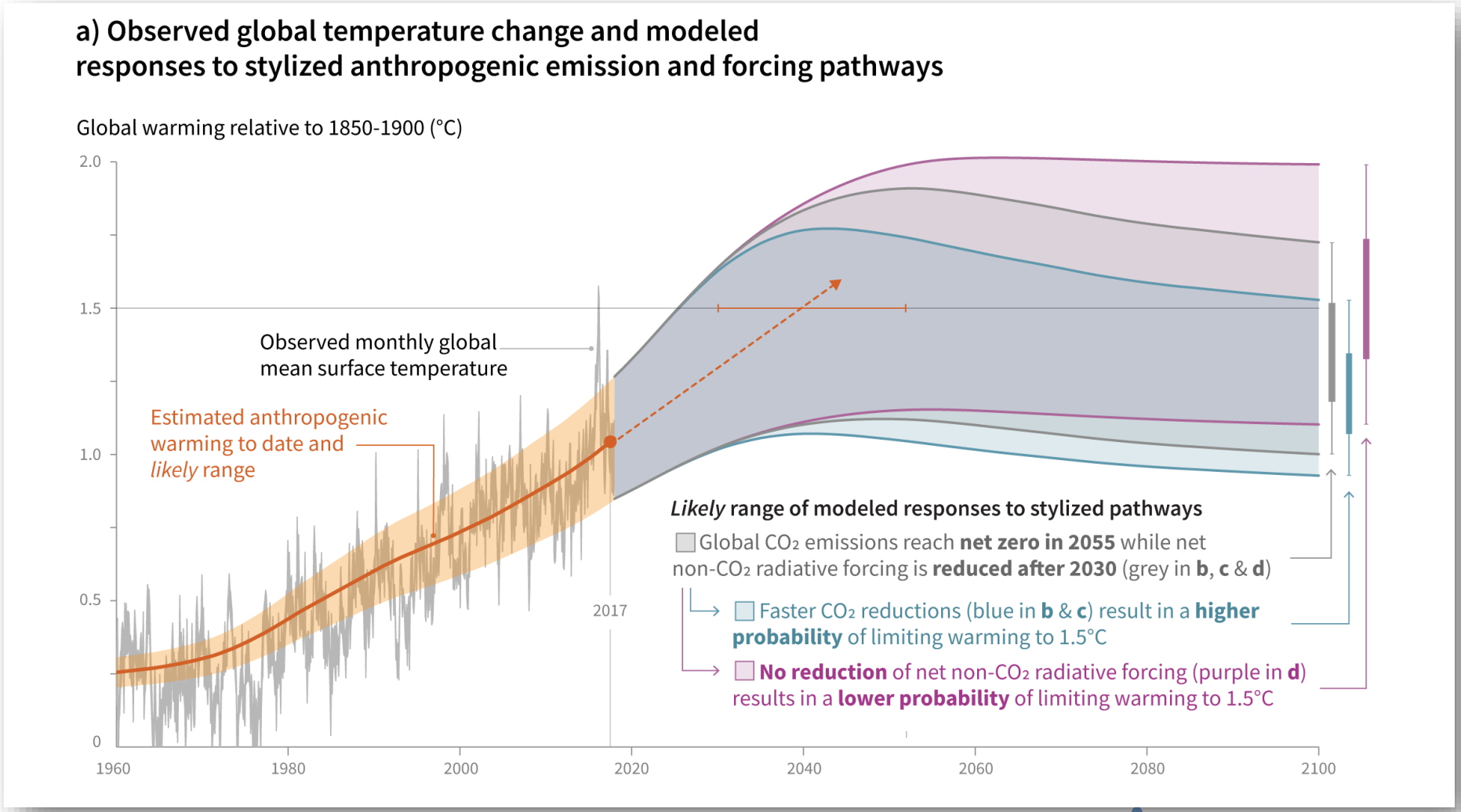
We have about 40 years to halt the warming if we are to limit warming to ~1.5°C, but only if we hit the brakes now



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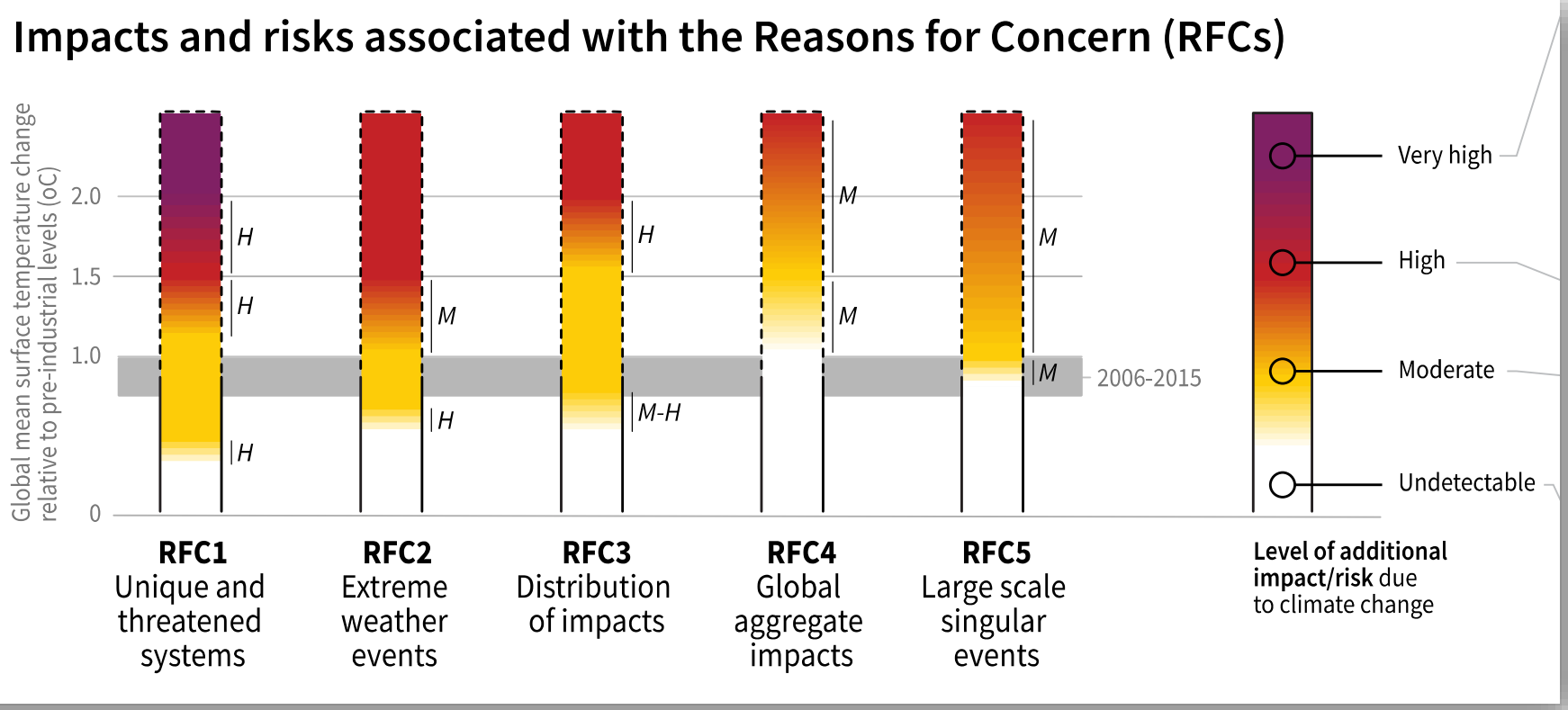
Every additional 0.1°C increases risks



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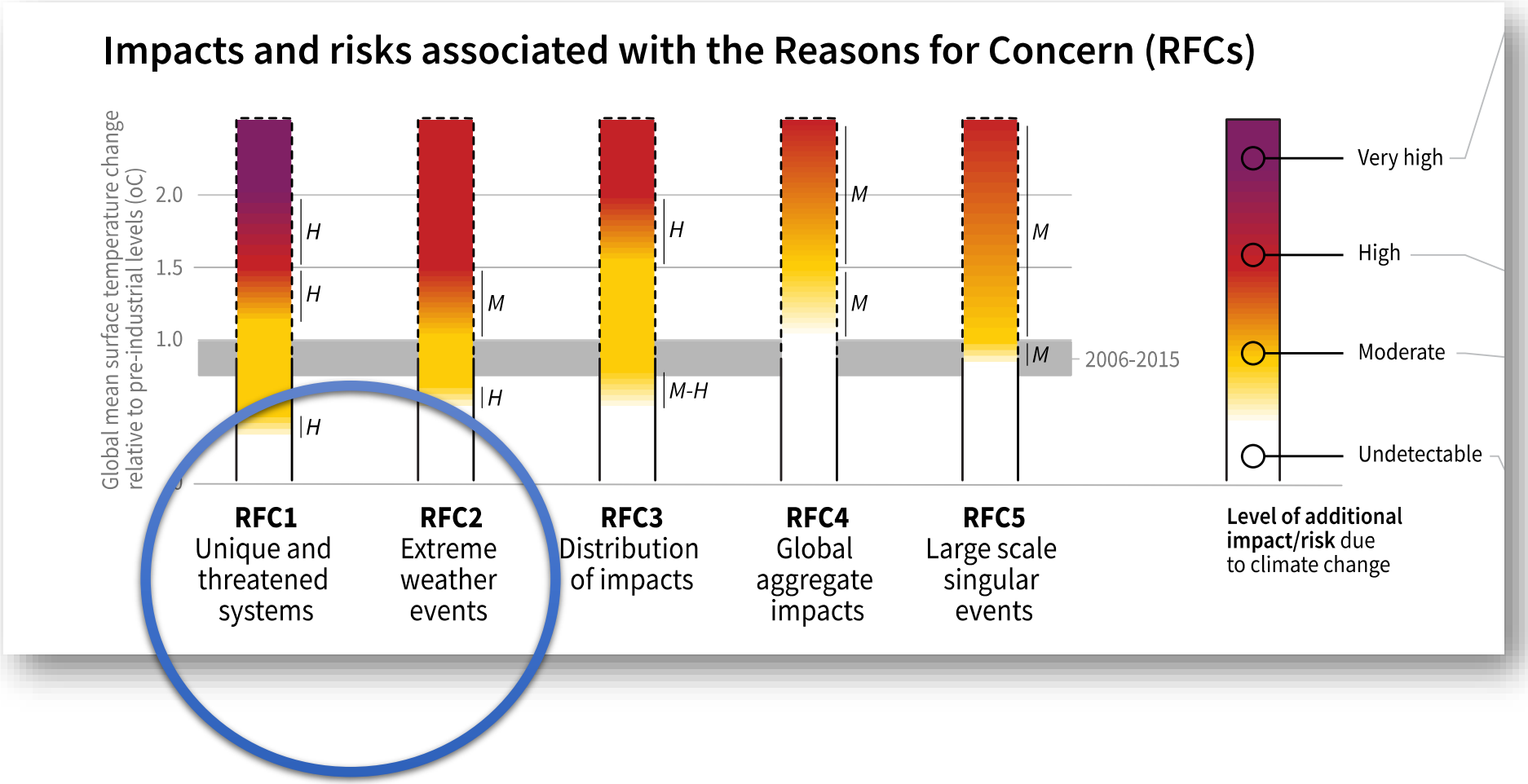
Already seeing impacts on unique and threatened systems and extreme weather events



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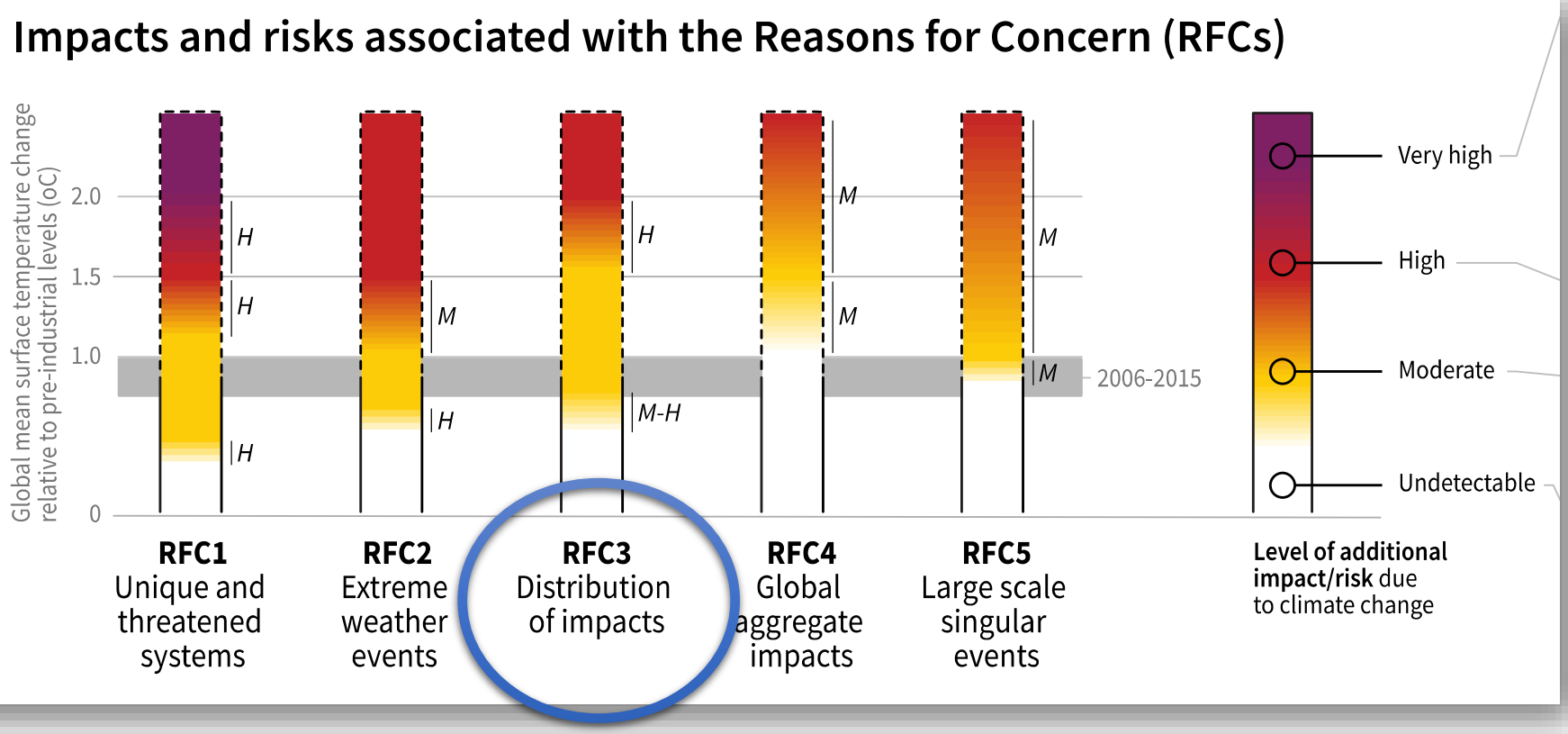
Distributional effects, including unequal economic impacts, increase rapidly past 1.5°C



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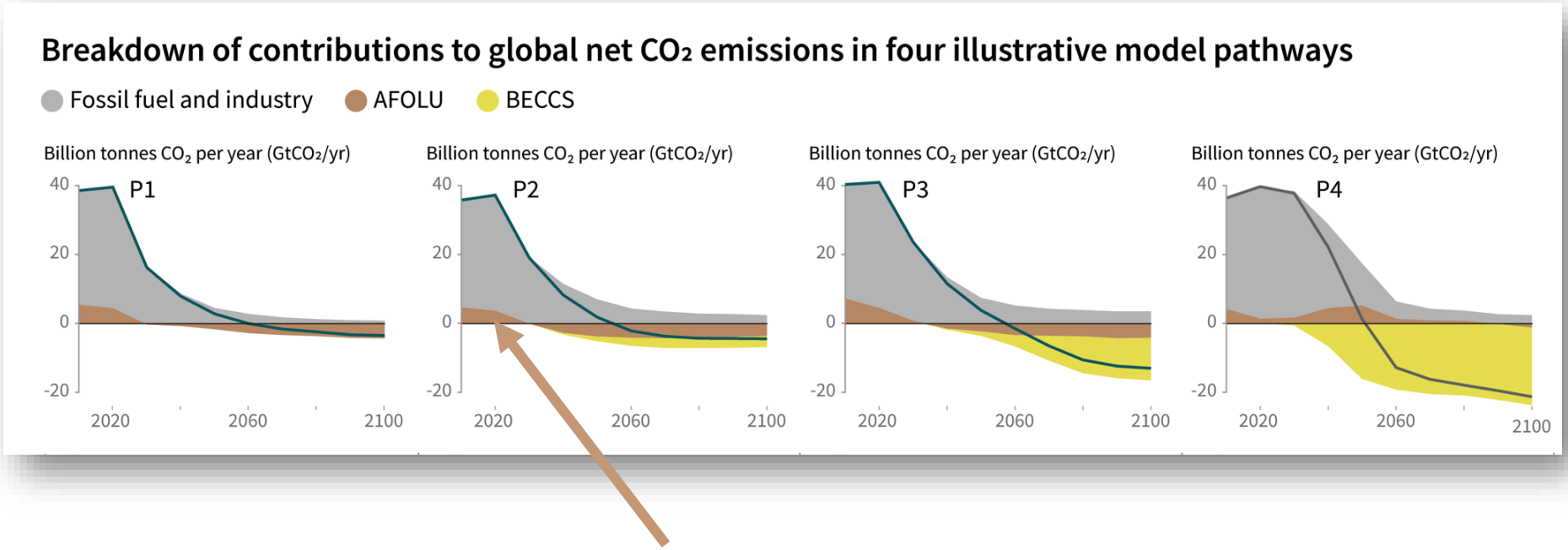
There are multiple pathways to limit warming to 1.5°C, but they involve a choice: immediate demand reduction versus large-scale *permanent* (geological) CO_2 disposal



Tree-planting helps, but not enough to justify the hype

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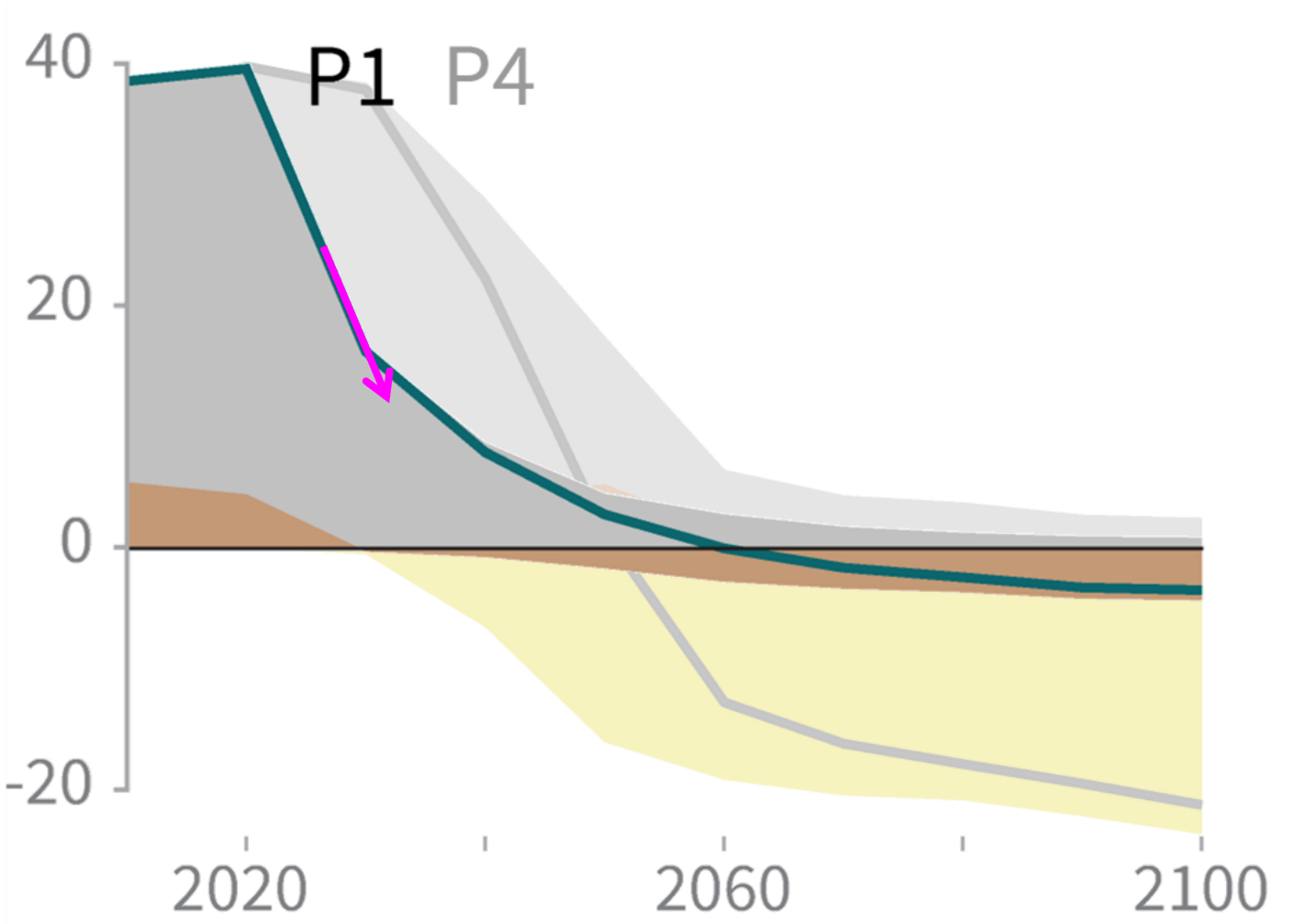
All scenarios show similar maximum absolute reduction rates



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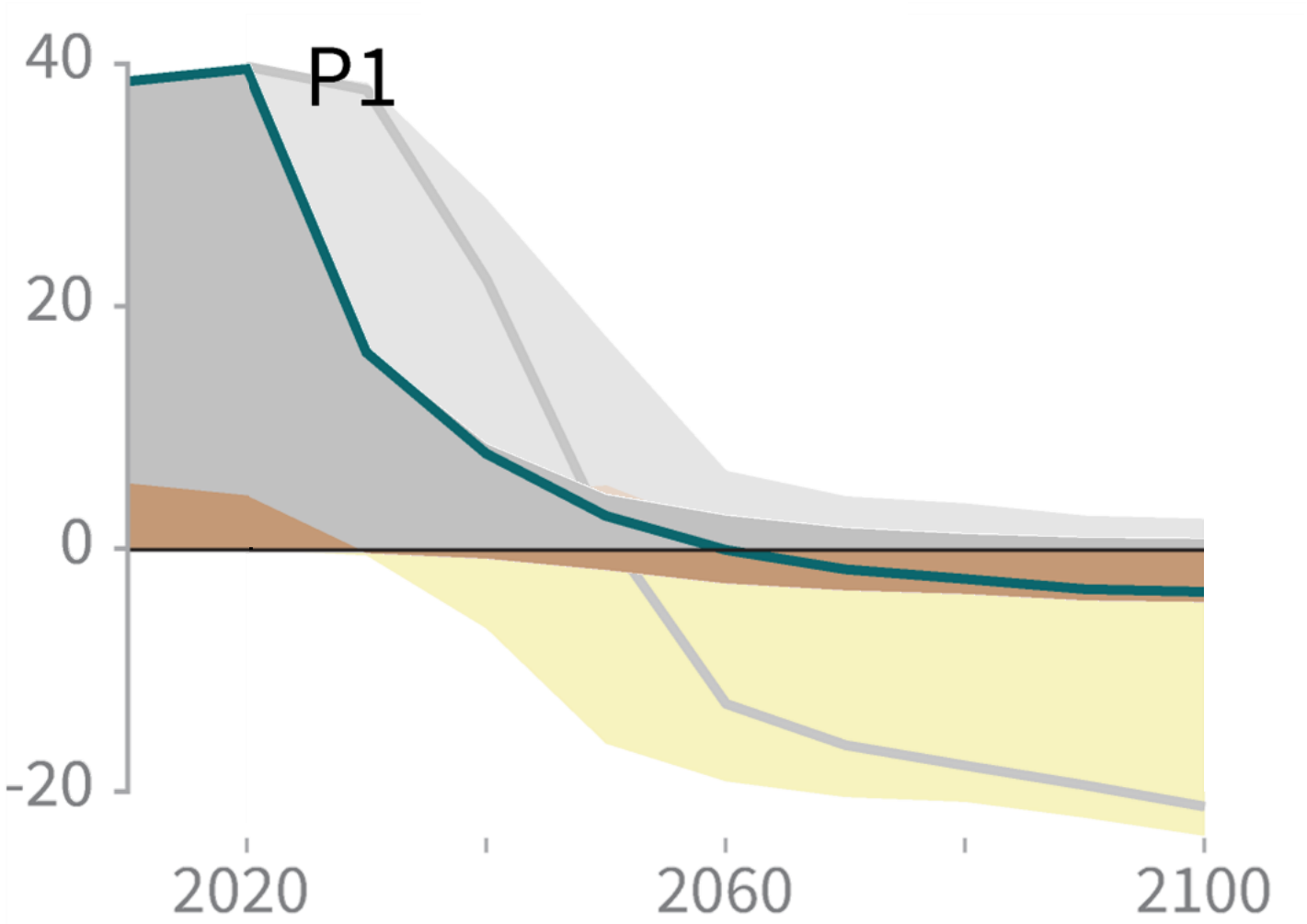
All scenarios show similar maximum absolute reduction rates so every tonne of CO_2 dumped in the atmosphere before reductions begin has to be scrubbed out again before 2100



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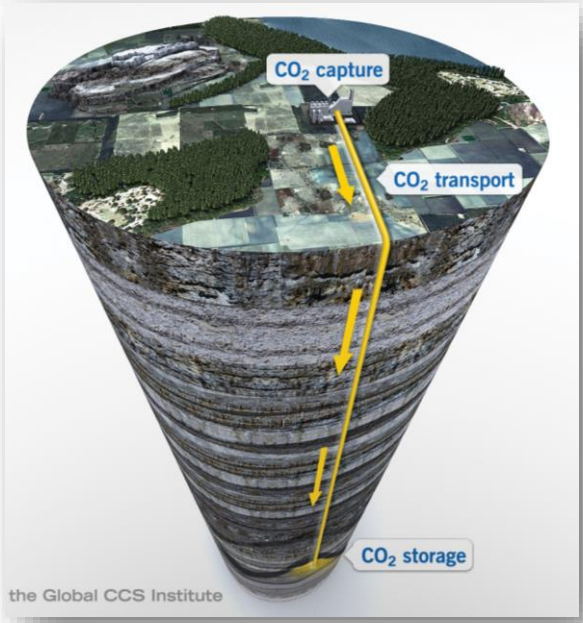
So how can Oxford help?

- Not just by reducing our own emissions
  - Humanity will keep finding ingenious ways of using fossil carbon: from city-breaks to Bitcoin

Lignite mining in Anthochori, Greece, 2007

So how can Oxford help?

- By being the first institution in the world to set ourselves a Strong Net Zero goal.
- Net Zero: no further net CO_2 input to the atmosphere (2030s?).
- Strong Net Zero: no further net release of geological carbon (2050?).



So how can the tech sector help?

- Not just by reducing your own emissions
  - We will keep finding ingenious ways of using fossil carbon: from city-breaks to Bitcoin
- Don’t just decarbonize your energy supplies:
- Decarbonize fossil fuels
- Ask your suppliers how they intend to reach 100% Carbon Takeback (safe and permanent disposal of 1 tonne of CO_2 for every tonne generated by the fossil fuels they sell) by 2050.