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The emission case for a Radical Plan



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My headline conclusion:

Avoiding “dangerous climate change” (stabilisation at 2°C)
remains a feasible goal of the international community

just

*... with economic (*oikonomia*), but not financial (*chrematisitc*), benefits*

Fredag in Stockholm: IPCC science report released

- Offered neither surprise nor solace to our fossil-fuel hungry world
- The science message for policy-makers, business leaders and civil society has changed very little during the last twenty years
- Small adjustments and refinements have occurred – but this is a mature science

So what has changed?

- An additional 200 billion tonnes of CO₂ pumped into the atmosphere since last report (AR4 2007)
- Annual emissions ~70% higher than at time of the first report in 1990
- Atmospheric CO₂ levels higher than during past 800 thousand years

Yet we repeatedly recommit to:

... make our ***fair*** contribution to...

*“To hold the increase in global temperature **below 2 degrees Celsius**, and take action to meet this objective consistent with **science** and on the basis of **equity**”*

Copenhagen Accord, 2009

... but why radical reductions in energy demand?



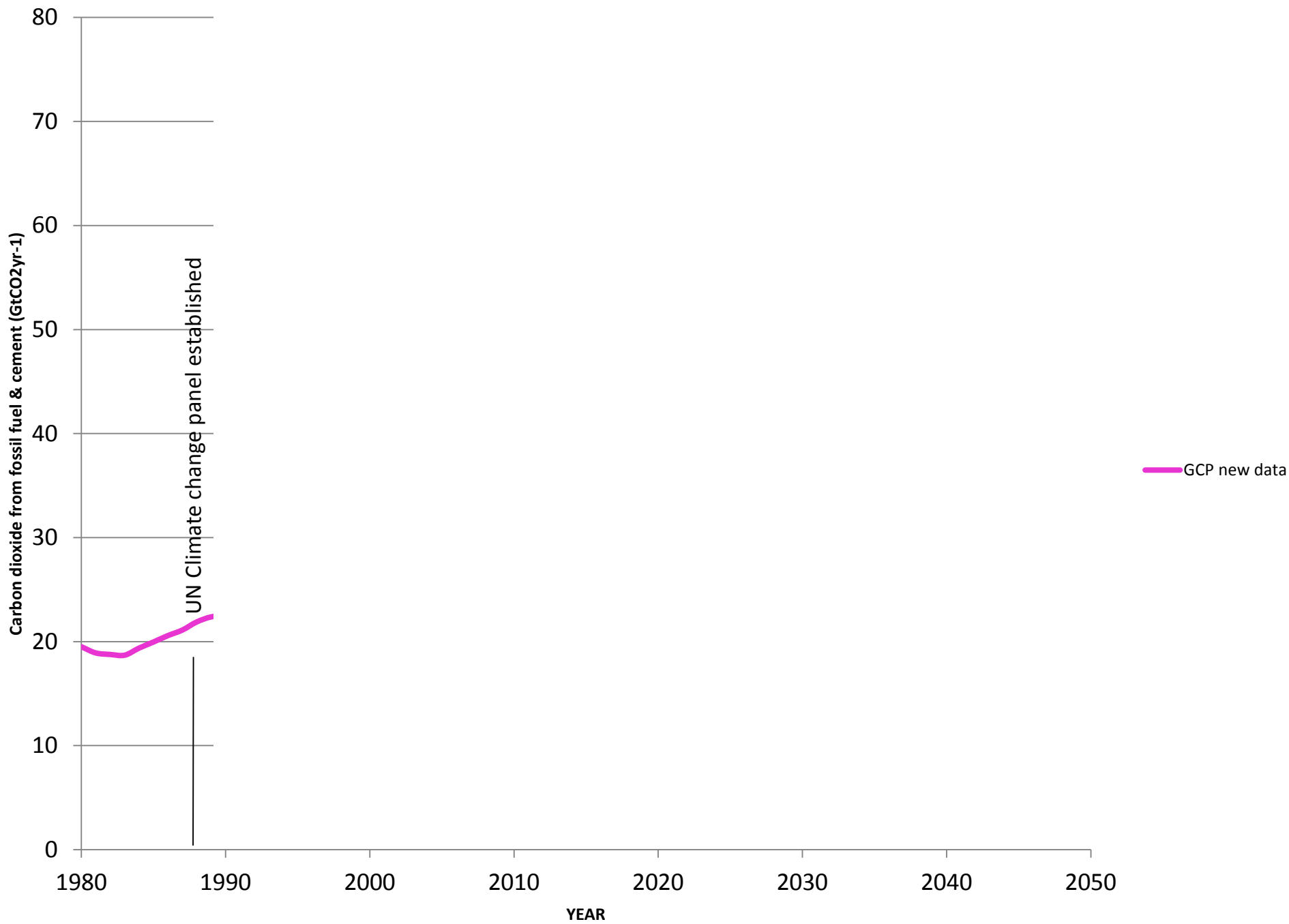
Surely...

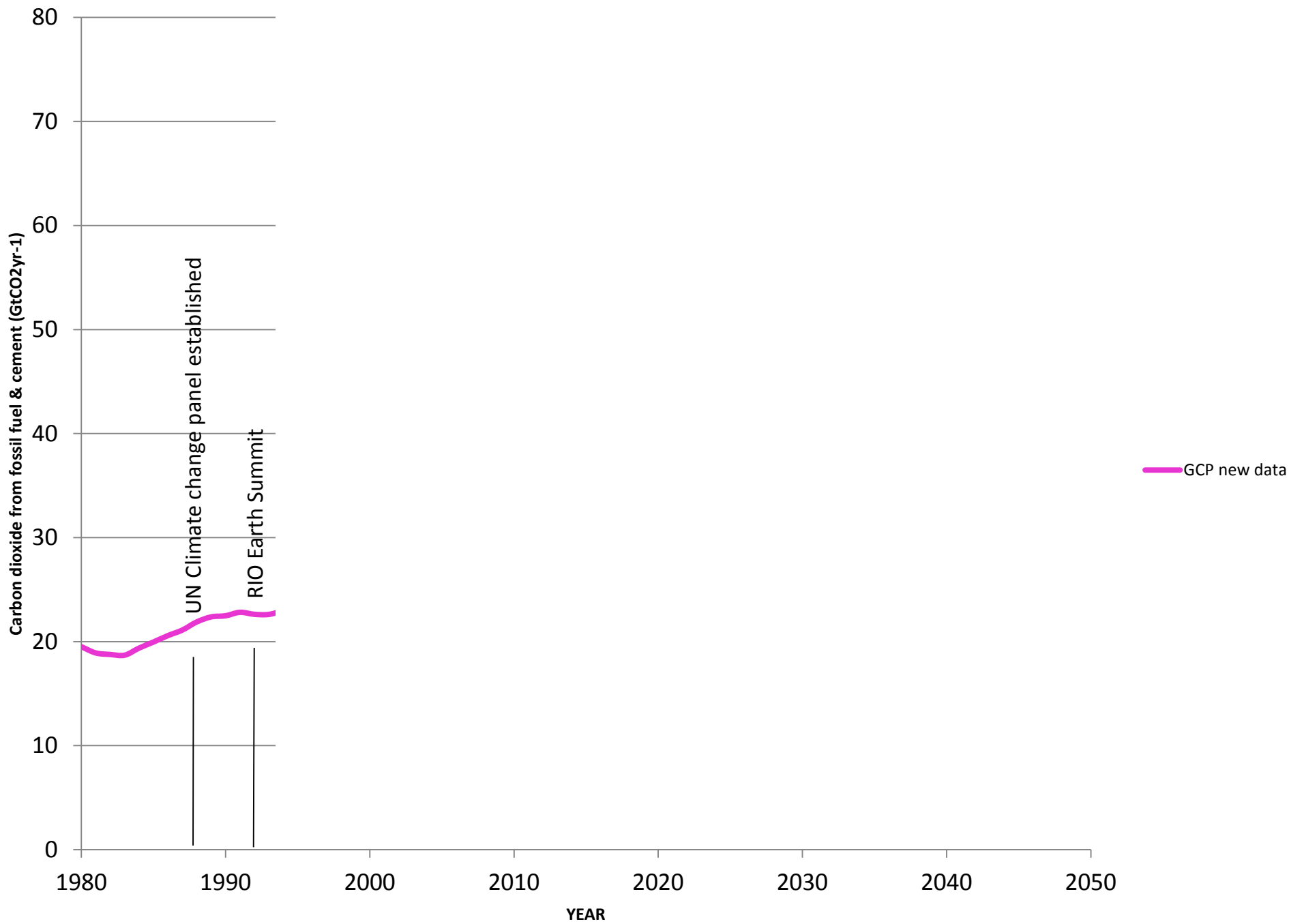
we can deliver 2°C mitigation through low-carbon energy supply?

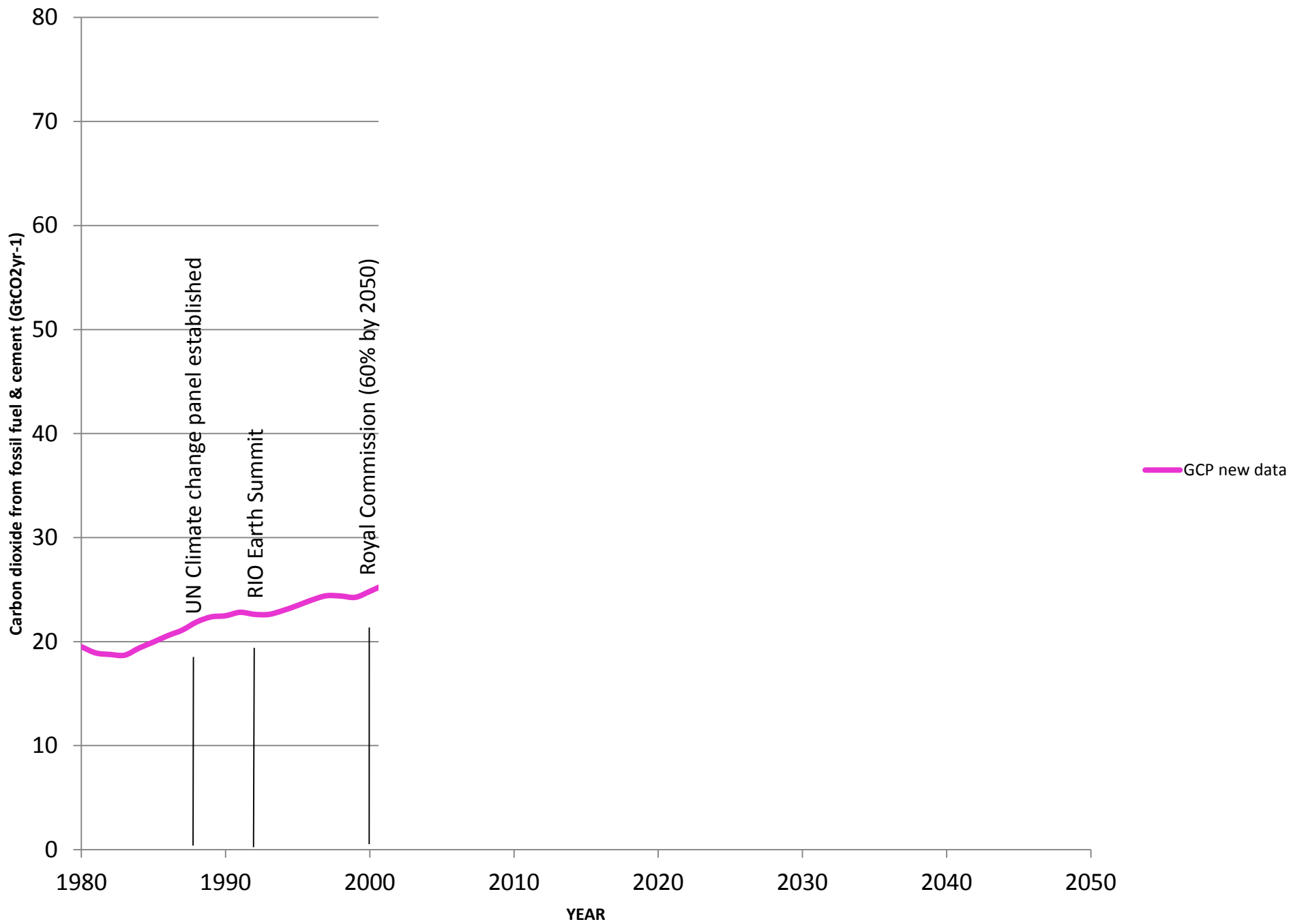
... in 2013, it's all about timing!

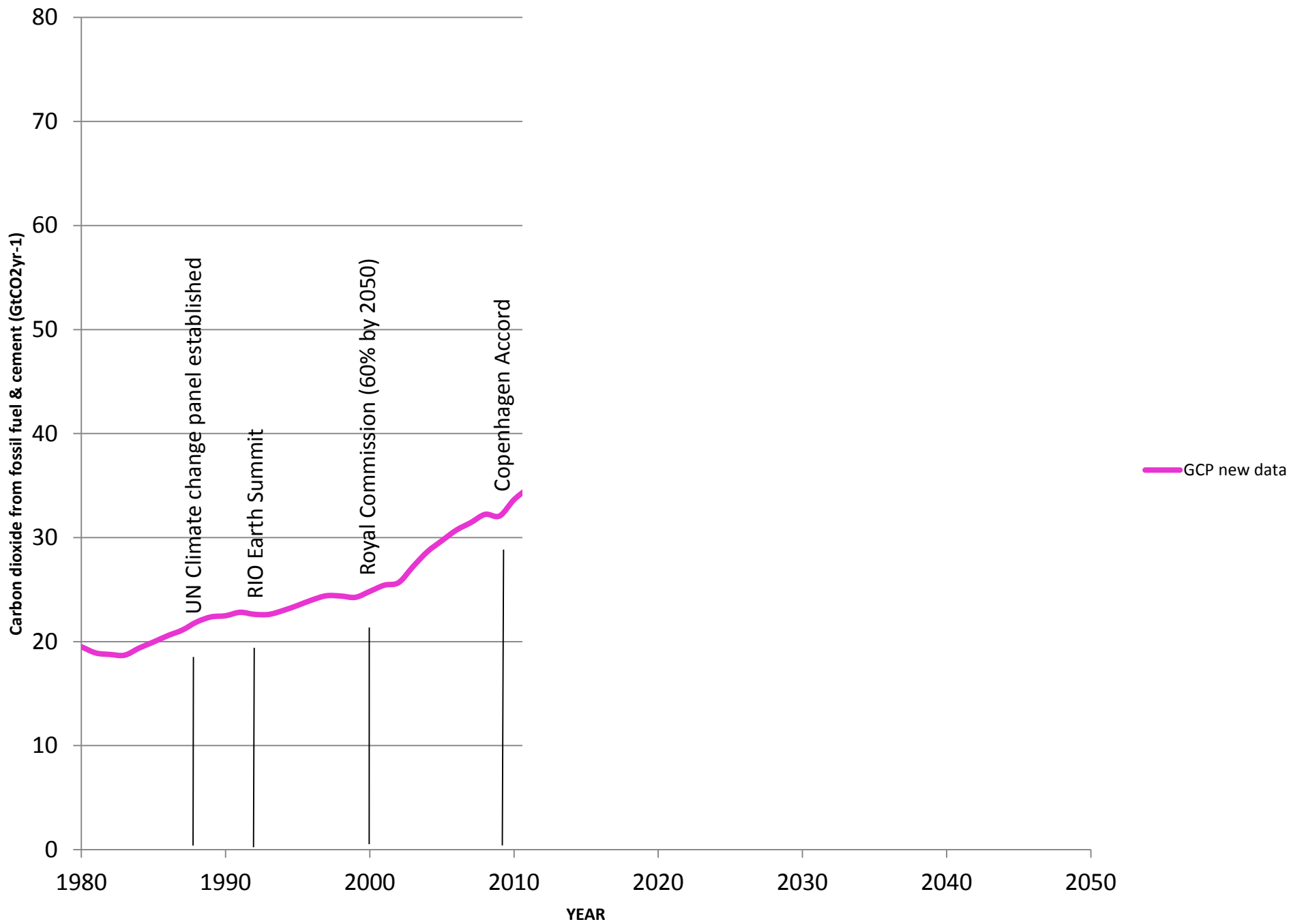
Thinking about this
'graphically'

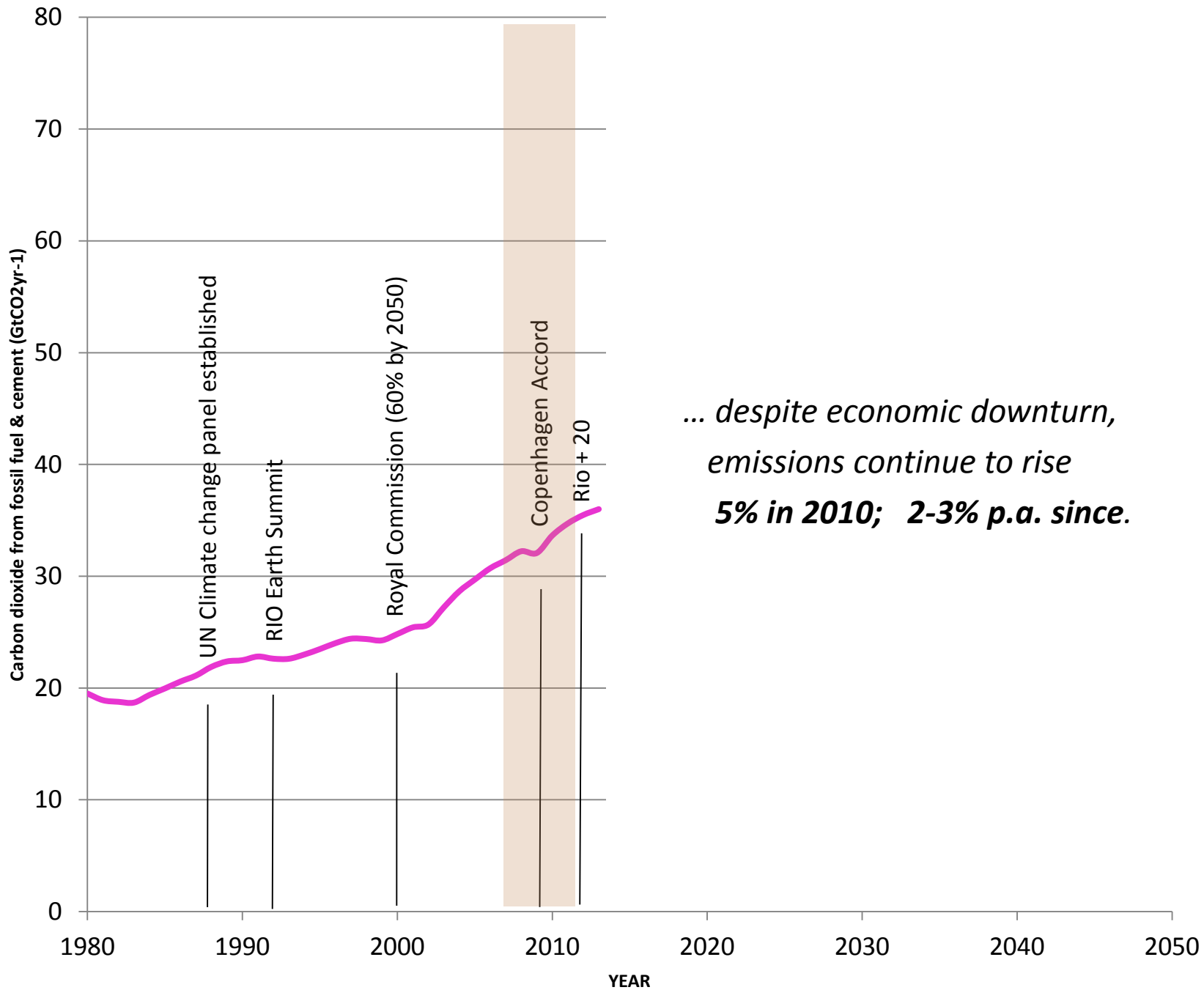






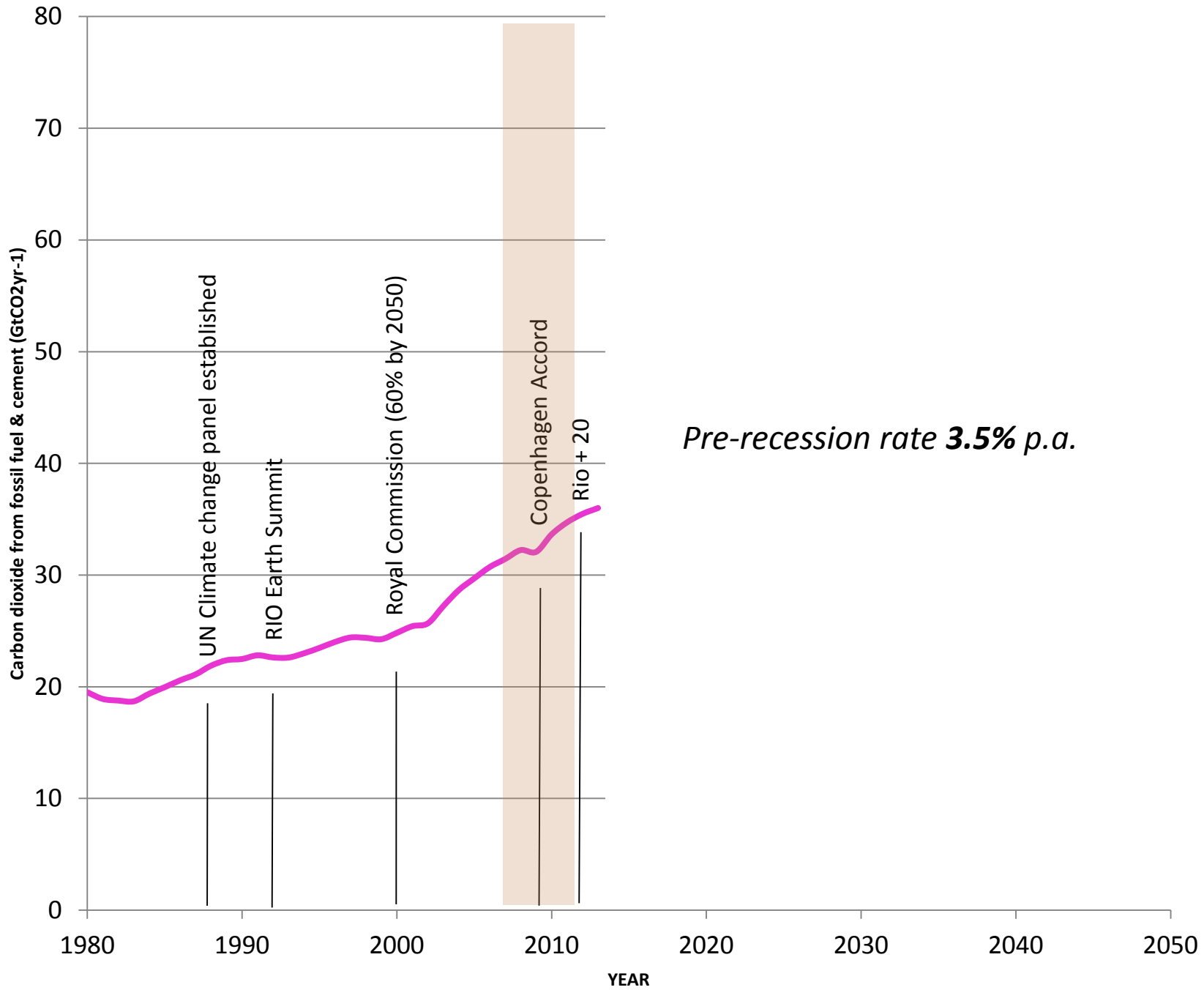


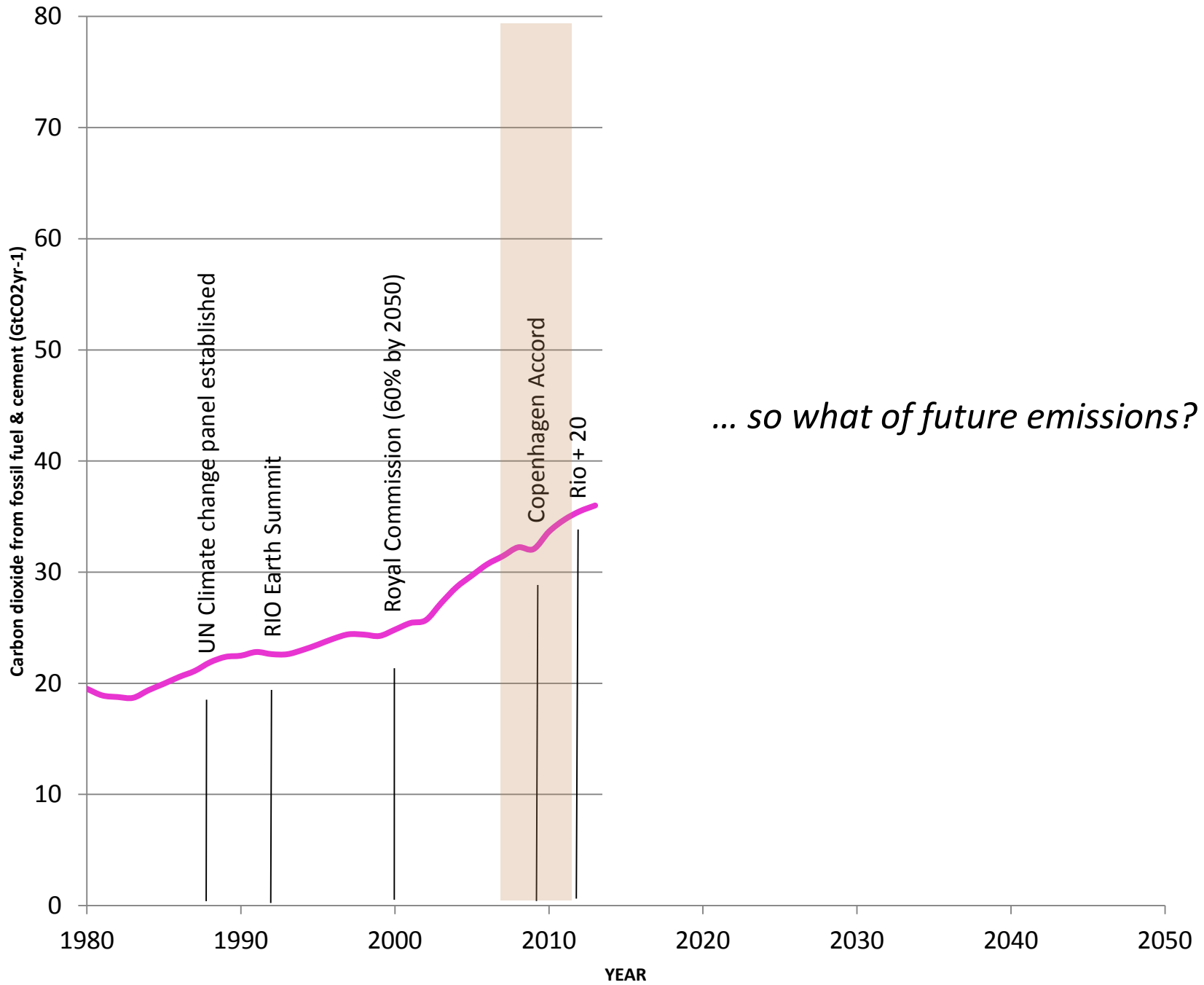


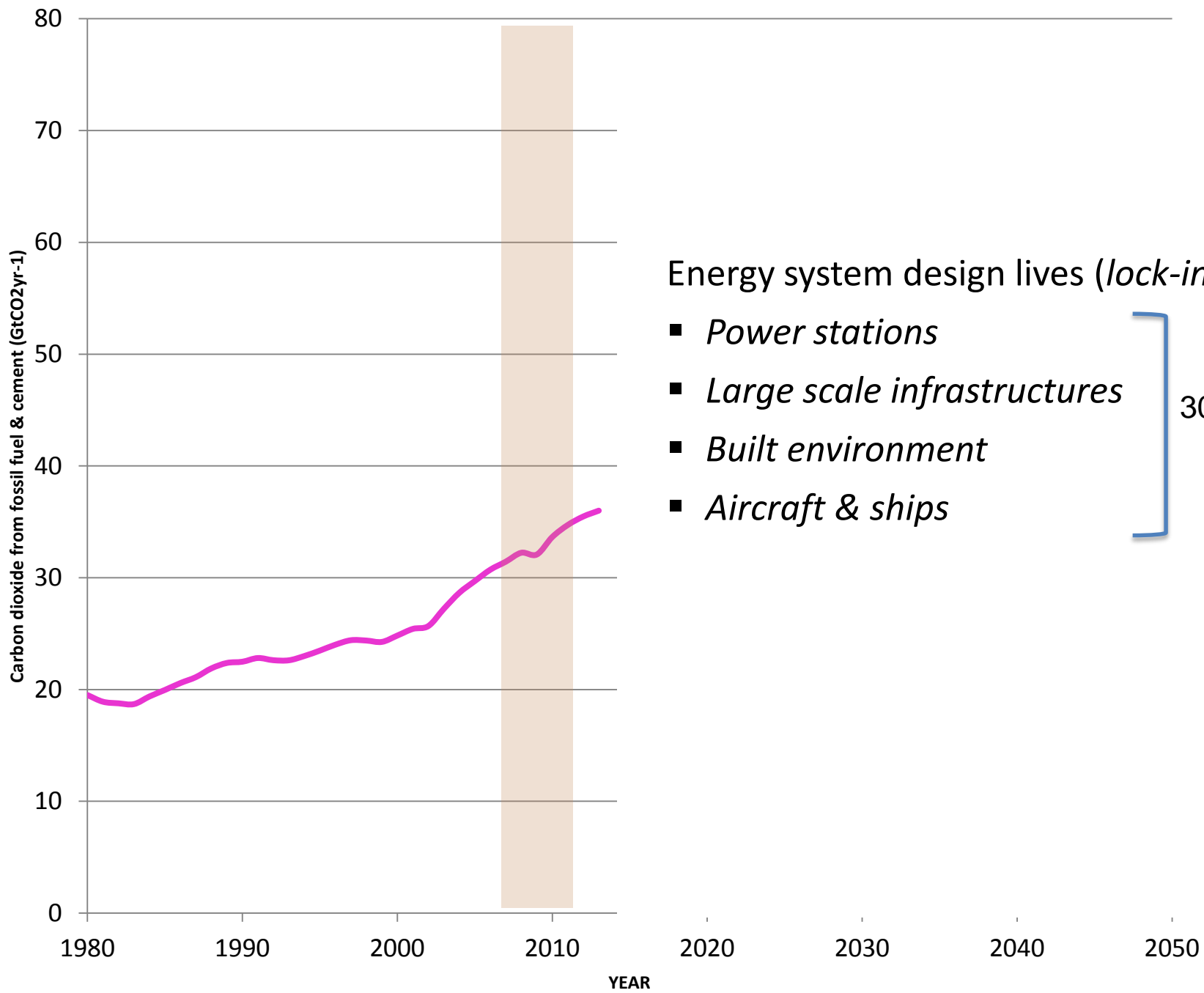


*... despite economic downturn,
emissions continue to rise
5% in 2010; 2-3% p.a. since.*

GCP new data



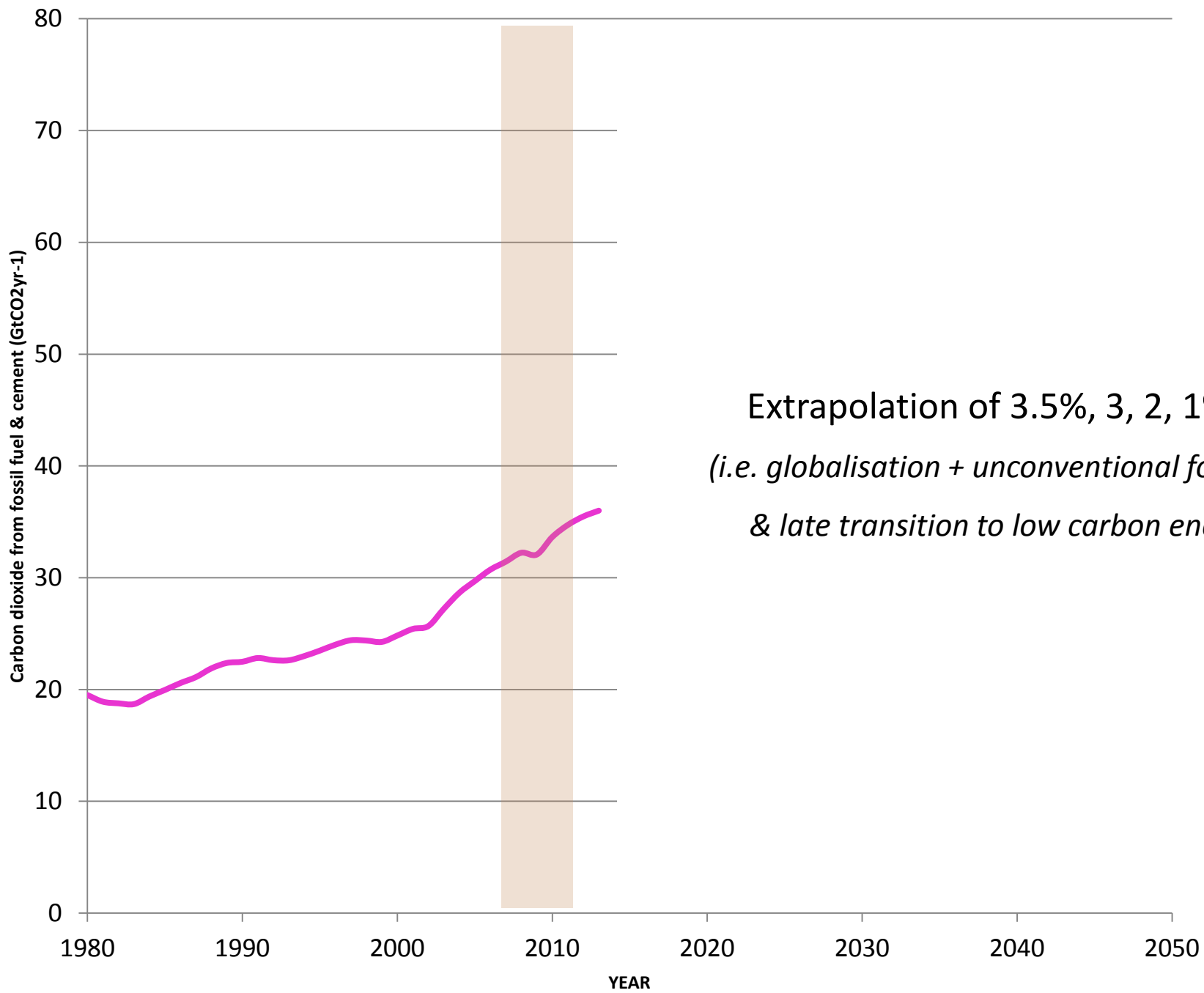




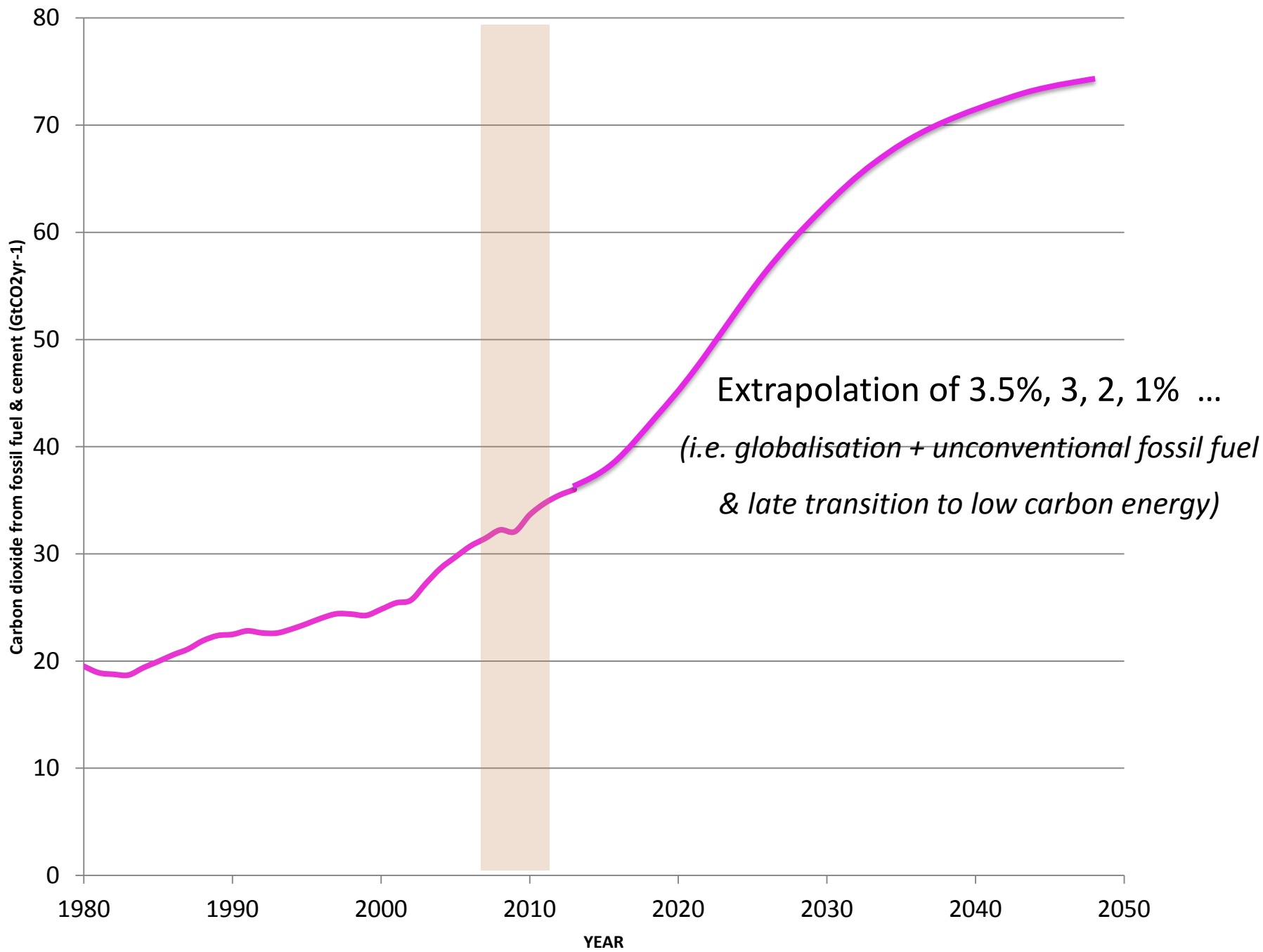
Energy system design lives (*lock-in*)

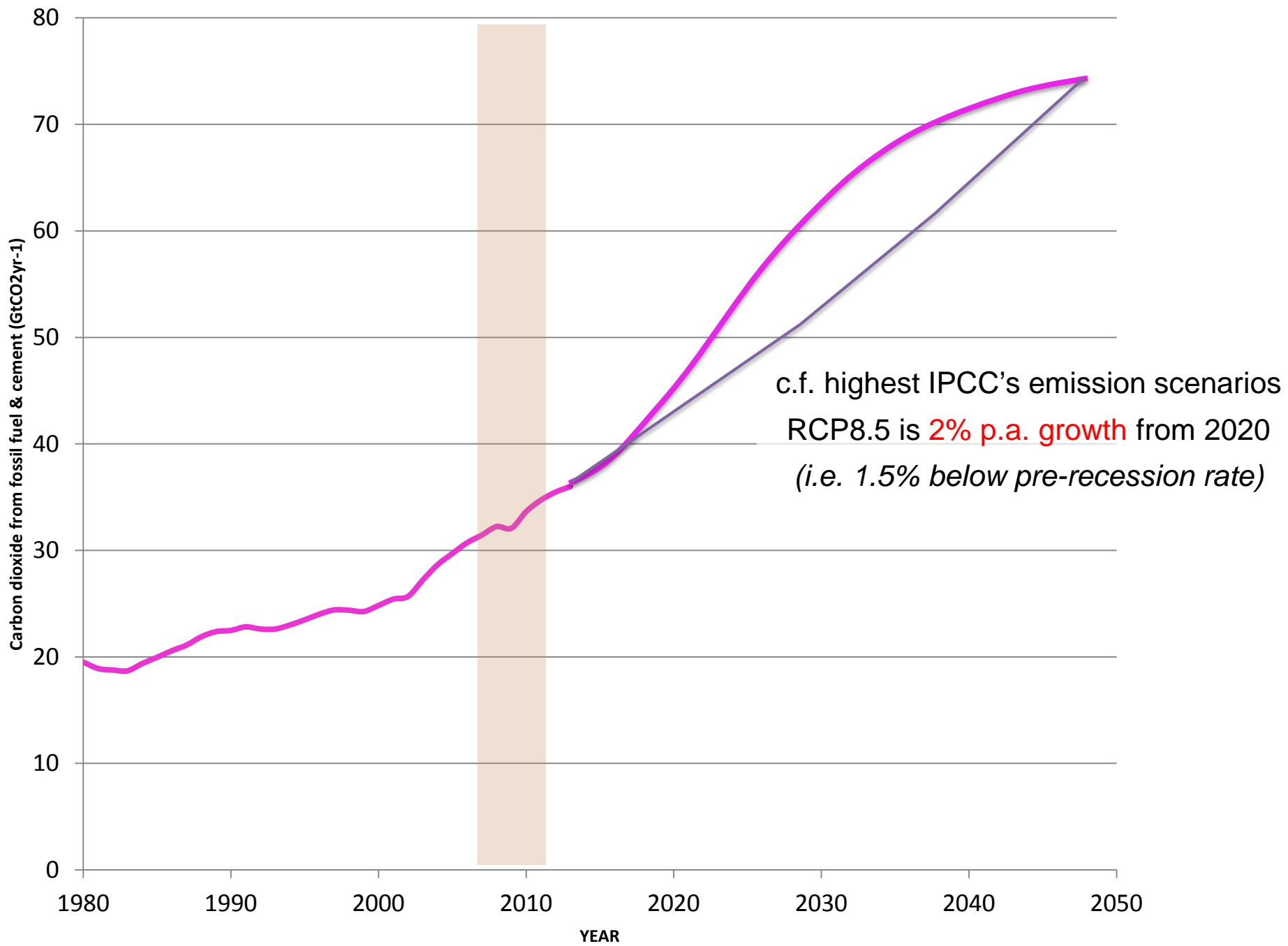
- *Power stations*
- *Large scale infrastructures*
- *Built environment*
- *Aircraft & ships*

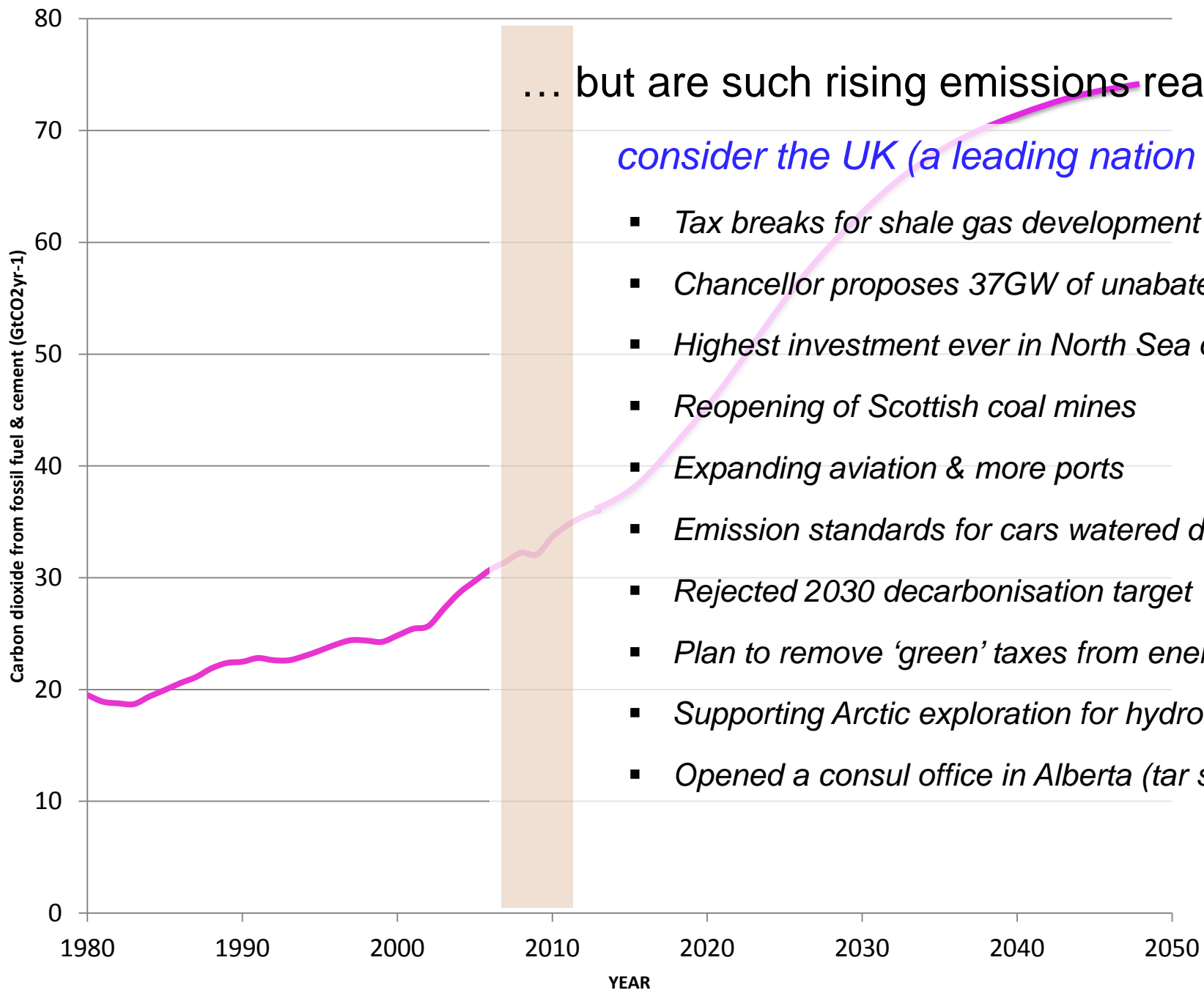
30-100 years



Extrapolation of 3.5%, 3, 2, 1% ...
*(i.e. globalisation + unconventional fossil fuel
& late transition to low carbon energy)*



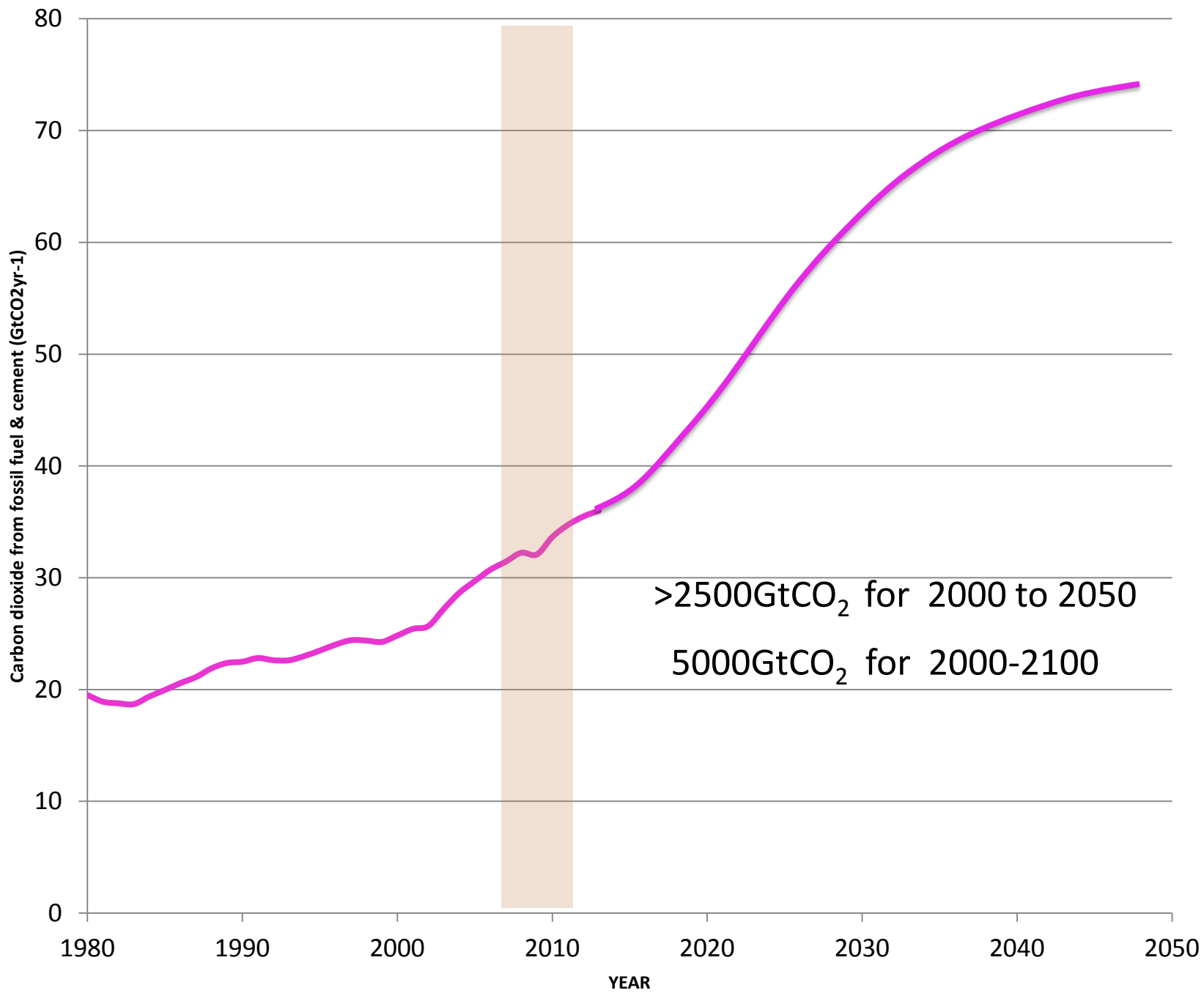


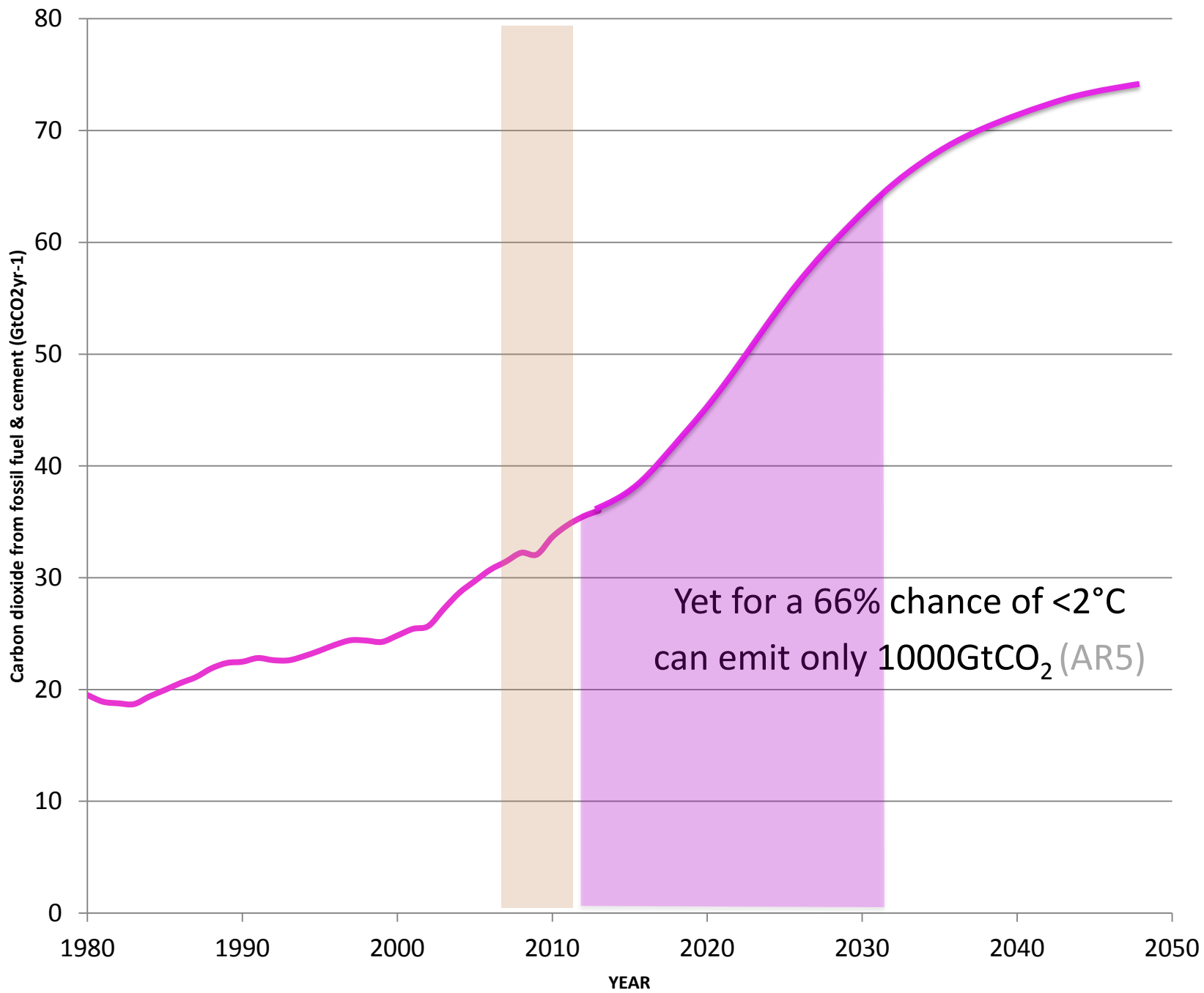


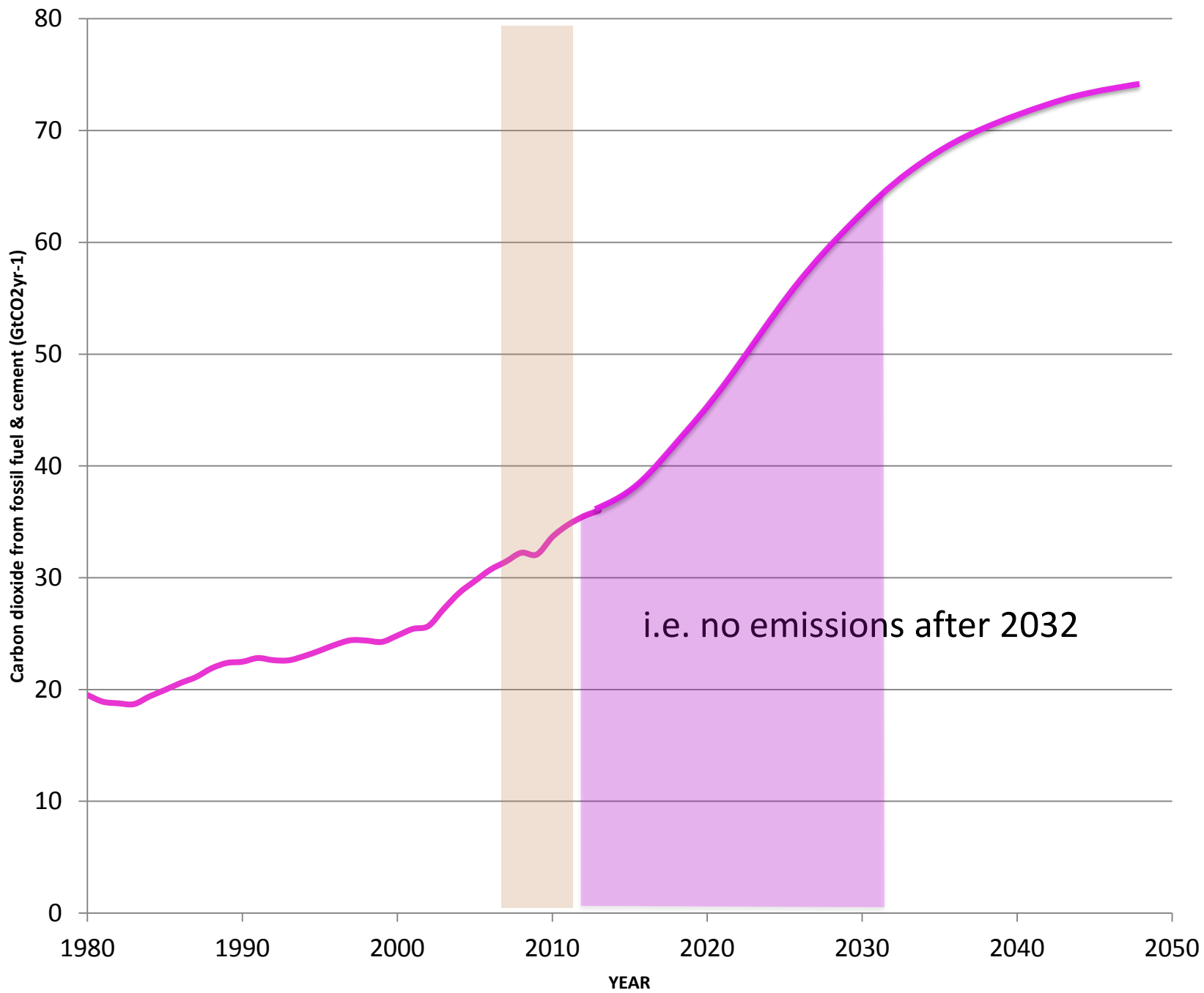
... but are such rising emissions realistic?

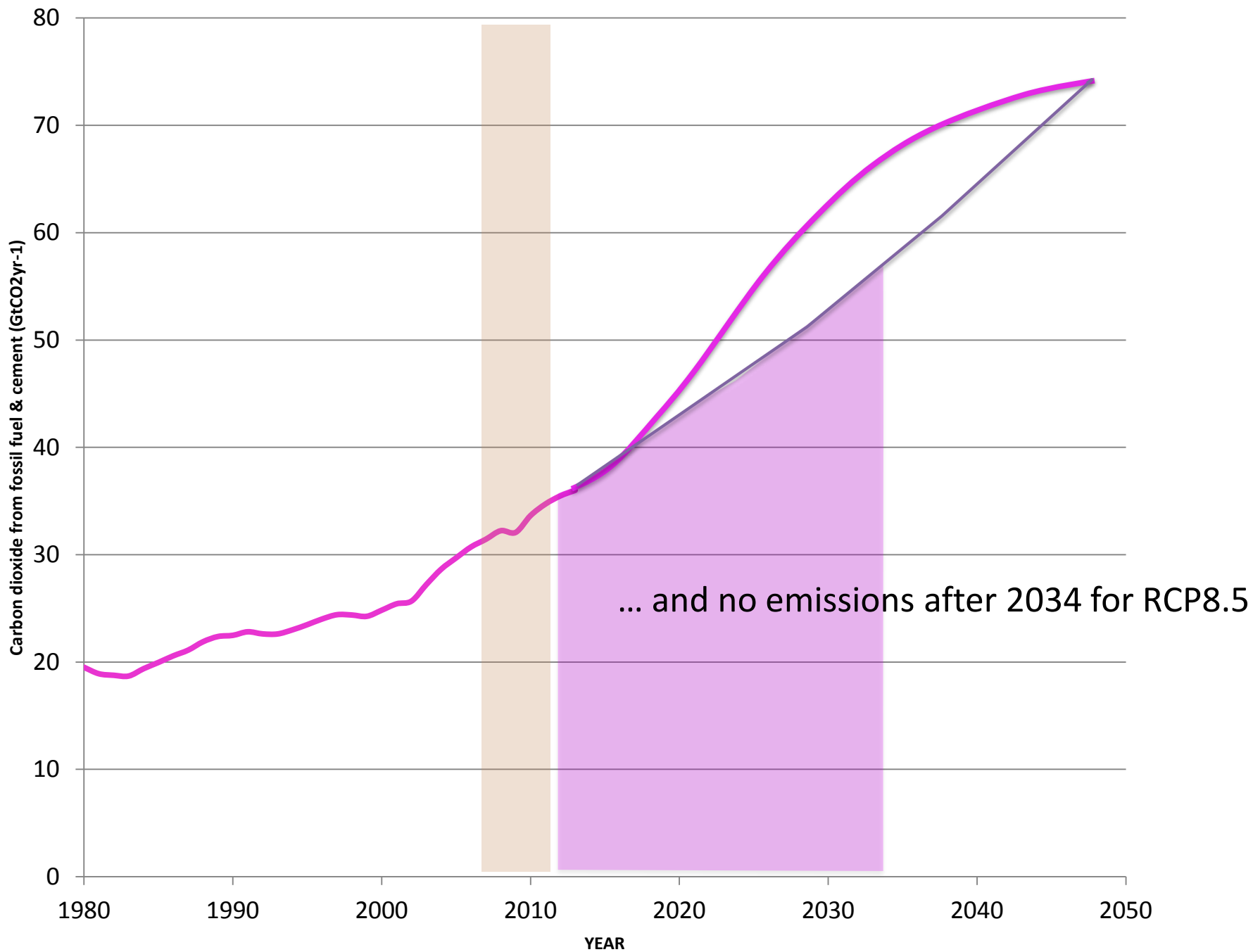
consider the UK (a leading nation on CC?)

- *Tax breaks for shale gas development*
- *Chancellor proposes 37GW of unabated CCGTS*
- *Highest investment ever in North Sea oil*
- *Reopening of Scottish coal mines*
- *Expanding aviation & more ports*
- *Emission standards for cars watered down*
- *Rejected 2030 decarbonisation target*
- *Plan to remove 'green' taxes from energy bills*
- *Supporting Arctic exploration for hydrocarbons*
- *Opened a consul office in Alberta (tar sands)*









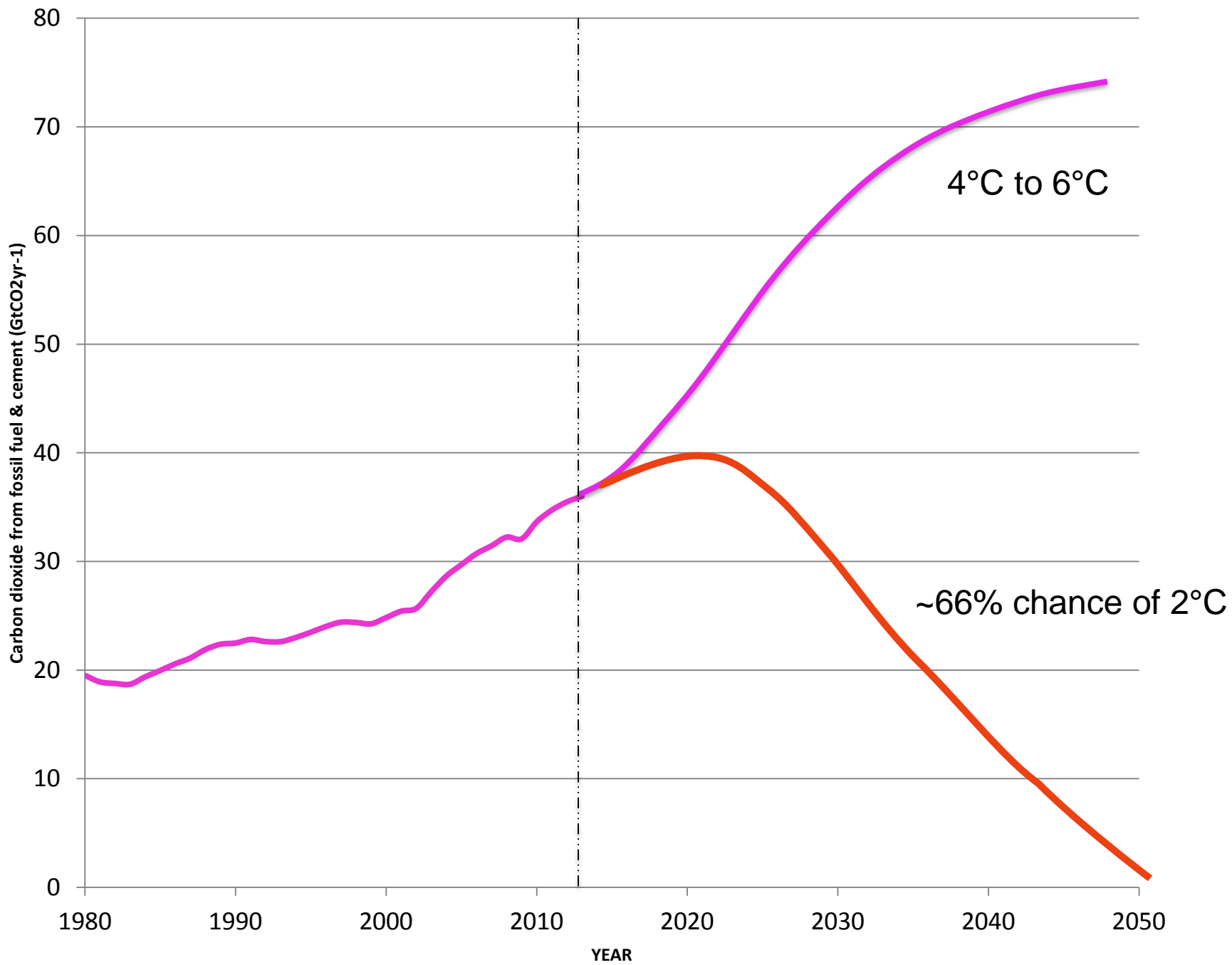
So recent history supports the IEA view

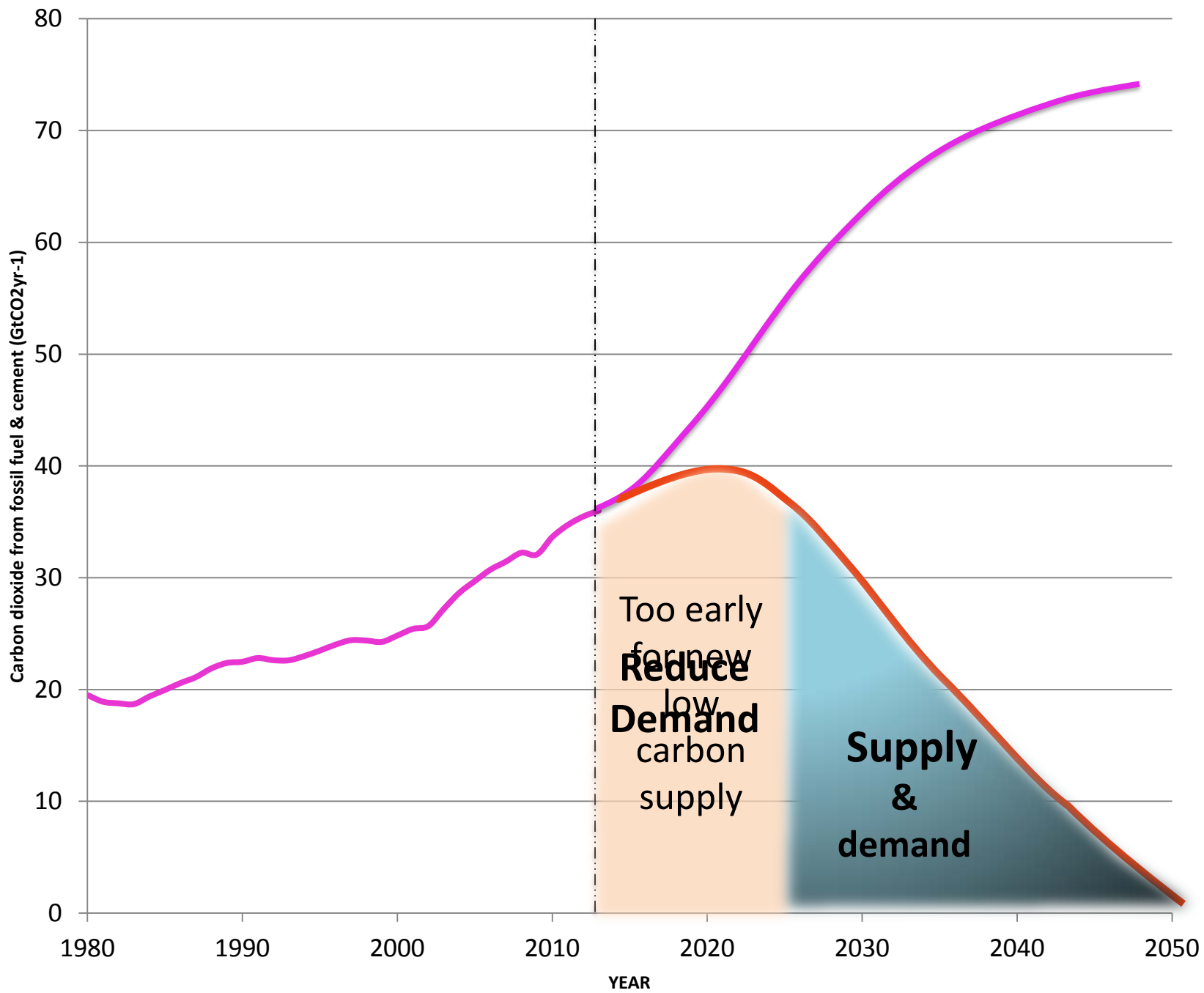
... that the CO₂ trend *“is perfectly in line with a temperature increase of **6 degrees Celsius**, which would have devastating consequences for the planet.”*

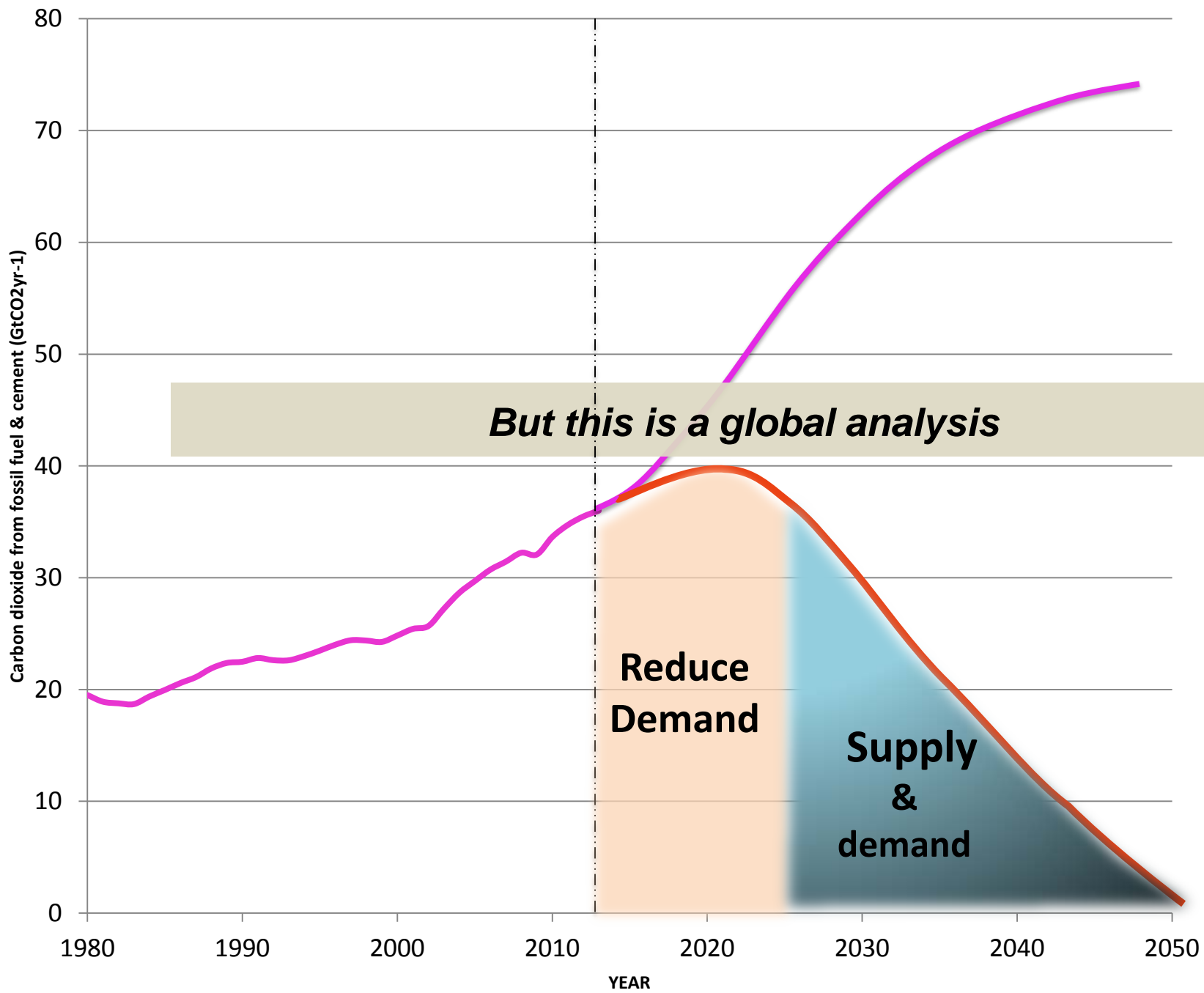
Fatih Birol - IEA chief economist

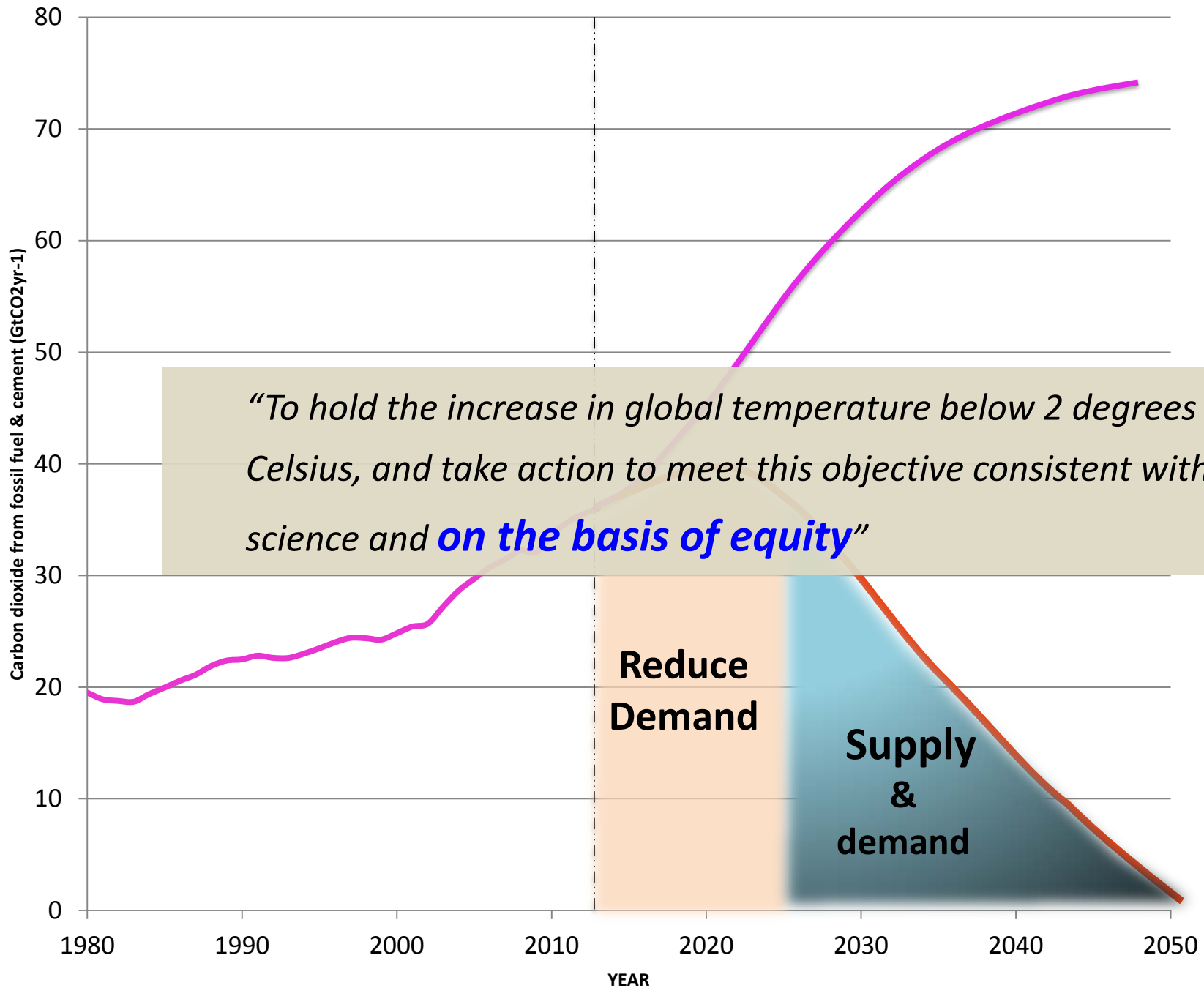
... but what about 2°C?











Assuming poorer (non-Annex 1) nations:

1. Collectively peak their emissions by 2025
2. Reduce thereafter at 6-8% p.a.

... then, for 2°C, wealthy (Annex 1) nations require:

At least 10% reduction in emissions year on year, i.e.

40% reduction by	~2018 (c.f. 1990)
70%	~2024
90%	~2030

i.e. ***RADICAL EMISSION REDUCTIONS***

Is this viable?

... or is 4°C, 6°C or more a better option?

Hypothesis: *yes it is viable*

Equity: a small group have to make radical & early reductions
40-60% of emissions from 1-5% of the population

Technology: demand side can deliver early & large reductions
an A++ rated fridge uses ~85% less energy than an 'A' model

Growth: there are alternative measures of a good life
above a threshold GDP is a poor proxy for welfare

A Radical Plan

... low carbon energy supply can't be built in time for 2°C, but...

- Radical reductions in energy demand over one decade are possible
- Carefully planned this could deliver radical & early emission reductions
- Extending the window for transitioning to low carbon energy supply

A Radical Plan – 2 phases

1. *Radical reductions in energy demand from now to ~2030*
2. *Marshall plan to build 100% low-carbon supply by 2030-40*

To finish, a message of hope ...

“at every level the greatest obstacle to transforming the world is that we lack the clarity and imagination to conceive that it could be different.”

Robert Unger

Thank you

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