



Why delaying climate action is a gamble

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Background

- “Wait and see” approach
- Focus on technological agreements
- Our approach:

Under what conditions can we delay climate action without risking that we put desirable long-term targets beyond our reach.

Political feasibility

- Assume future climate agreements will be constrained by what is politically feasible at that point in time.
- Political feasibility is determined by the trade-offs between economic, environmental, social, ethical and political concerns.
- In terms of climate policy we define “political feasibility” as the maximum rate of emissions reductions that can be achieved in a given year.

Assumptions and model

- Kyoto Protocol is the only evidence on which to base estimates of this maximum rate.
- The Protocol corresponds to an annual emissions reduction rate of roughly 0.3% for industrialized countries.
- We use the DEEP general equilibrium model to generate emission scenarios for the period 1997 to 2100.

Scenarios

- *Business-as-usual*: No emission reductions (SRES A1B).
- *Early action*: Agreement from 2013 where *global* GHG emissions are reduced by 0.3% annually.
- *Late action*: We *delay action* by 20 years before adopting the same policy of 0.3% annual global emission reductions. Follow SRES A1B or B2.
- Emission scenarios fed into a simple climate model to obtain the projected temperature change in the year 2100.

Global mean temperature change in 2100 for the four scenarios (°C)

Climate sensitivity	BAU _{A1B}	Early	Late A1B	Late B2
2.4 °C	3.2	2.2	2.8	2.4
3.5 °C	4.3	3.0	3.7	3.2
5.4 °C	5.7	4.0	4.8	4.2

Required mitigation under delayed action

What annual emission reductions are required to reach the same temperature change with late action as with early action?

Climate sensitivity	dT2100 (°C)	Early action (% per year)	Late A1B (% per year)	Late B2 (% per year)
2.4	2.2	0.3	2.0	0.9
3.5	3.0	0.3	2.1	0.9
5.4	4.0	0.3	2.1	0.9

If we wait 20 years we must be able to reduce emissions at a rate that is 3-7 times greater!

Discussion

The politically feasible rate of emission reductions may increase if we delay climate action:

- The unrestricted economic growth in the interval increases our capacity for technological progress
- We choose to invest in technological improvements rather than spend on mitigation during this period.

Discussion (contd.)

Political feasibility might not increase if we delay:

- The public acceptance for climate mitigation policies will likely increase as a function of how long such policies have been in place.
- With no near-term action, the technological limits of our mitigation capabilities are unlikely to improve substantially (time lag of induced technological change and less opportunity of learning by doing).

Conclusions

- If political feasibility remains unchanged, the temperature targets we can achieve with delayed action will most likely be around 0.5 °C higher than with early action.
- We might be able to meet the same targets with a delay – if we are able to reduce our emissions at a rate that is 3-7 times greater (as a function of the delay).
- Those who want to delay are thus gambling that the costs of abatement will drop or the public pressure to abate will increase over time as a result of this delay.



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