

We would like to thank the reviewer for his/her thoughts. The main point made by the reviewer is the question whether climate policy has in any case a positive effect for growth and well-being, or whether there is also the danger that ambitious climate policy could lead to negative economic side-effects.

In general we agree that some caution concerning the potential future development is important. We would also like to stress that the vision we draw in the paper is by no means a self-fulfilling prophecy. However, we still do think that the negative side-effects that the reviewer mentions can be addressed when policies are designed in a careful manner.

An answer to the two main points:

- The reviewer rightly mentions that “additional pollution taxes or carbon prices weigh on the economy”. That might happen, therefore, to avoid climate policy to be regressive, a comprehensive approach is needed that could neutralize these distributional effects and turn such a policy into being progressive. How this could look like was outlined in another paper in *Economics*: Schwerhoff et al (2017) show that “climate policies, including removing fossil fuel subsidies or imposing carbon prices, can be designed in a way that is both efficient in addressing climate change and results in a fair distribution of the associated costs.”
<http://www.economics-ejournal.org/economics/journalarticles/2017-20>
- The reviewer questions “whether the positive impulses can outweigh the negative reactions in terms of economic activity”. A recent study by Burke et al. (2015) on the effect of temperature increase on economics growth comes to the following conclusion:
“These results provide the first evidence that economic activity in all regions is coupled to the global climate and establish a new empirical foundation for modelling economic loss in response to climate change, with important implications. If future adaptation mimics past adaptation, unmitigated warming is expected to reshape the global economy by reducing average global incomes roughly 23% by 2100 and widening global income inequality, relative to scenarios without climate change. In contrast to prior estimates, expected global losses are approximately linear in global mean temperature, with median losses many times larger than leading models indicate”.
This implies that economic activity might be much more negatively affected than previously thought.
Reference: M. Burke, S. M. Hsiang, E. Miguel, Global non-linear effect of temperature on economic production. *Nature* 527, 235–239 (2015). doi:10.1038/nature15725pmid:26503051