

Policy Brief

Higher market price risk for renewables and increasing interest rates can lead to political backlash to carbon markets

CFP Policy Brief No. 5 (April 2022), based on: M Pahle, O Tietjen, S Osorio, F Egli, B Steffen, TS Schmidt, O Edenhofer (2022). **Safeguarding the energy transition against political backlash to carbon markets.** *Nature Energy*, 1-7. <https://www.nature.com/articles/s41560-022-00984-0>

The policy problem

Substantial cost reductions for renewables have raised the prospect for subsidy-free renewables. The key policy lever considered necessary to make this possible is carbon markets, creating enough economic incentives for sustaining further renewables deployment. However, exposing renewables to market price risk, and increasing interest rates could result in substantially higher financing cost for renewables, which in turn would lead to much steeper carbon price paths. The resulting political pressure may provoke a regulatory intervention that softens the emissions cap in carbon market systems and disrupts the energy transition.

The findings

Based on a conceptualization of the feedback loop "higher interest rates" --> "steeper carbon price paths" --> "higher pressure to dismantle carbon markets", we derive indicators to capture the relative risk of political backlash: E.g., the delay in renewable capacity deployment, and profit dynamics of FF-based plants. In a quantitative analysis for the EU, we find that exposing renewables to market risk by phasing out subsidies, and a parallel increase of the general interest rate, induces a substantial risk of carbon market dismantling by mid-2030: allowance prices double by 2055, renewable capacity deployment is delayed eight years by 2035 (see Figure), and fossil fuel plants' profits surge to their peak by 2025.

Messages for policy

- Carbon markets are not an automatically "fail-safe" policy instrument to reach a certain emissions cap, as there is a political risk that the cap could be softened in the future
- In case of high financing costs for renewables, emission costs may remain lower initially with a steep rise later on, leading to high adjustment costs at a time when the fossil fuel lobby is still strong vis-à-vis the "green" lobby
- To mitigate the risk of political pushback, we propose to continue some renewable energy support policies as de-risking measure that address the downsides of exposure to market risk

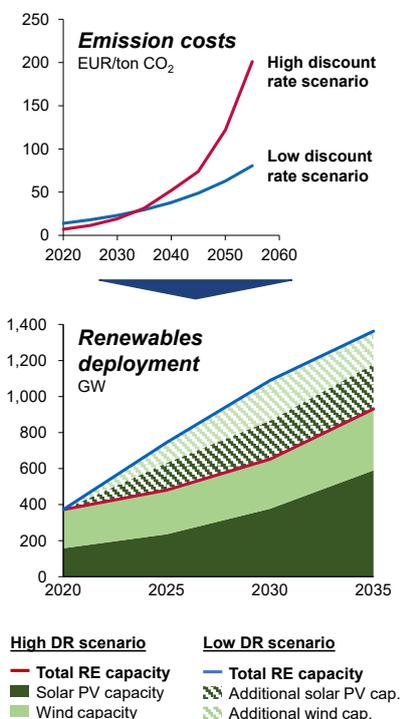


Figure: Carbon price paths and renewables deployment

Our study

We derive indicators for the economic and political feedback processes that might lead to a softening of the cap, and employ the long-term cost-optimization model LIMES-EU.

Please contact us for the full article (not available in open access yet), and find related work at www.cfp.ethz.ch

This project has received funding from the European Union's Horizon 2020 research and innovation programme, INNOPATHS (730403), ERC GREENFIN (948220). It was partly supported by the Swiss State Secretariat for Education, Research and Innovation (16.0222).



ETH Zürich, Climate Finance and Policy Group
Contact: Prof. Dr. Bjarne Steffen, bjarne.steffen@gess.ethz.ch
www.cfp.ethz.ch