

German Institute for Economic Research– DIW Berlin

---

# Project-based carbon contracts: a sketch

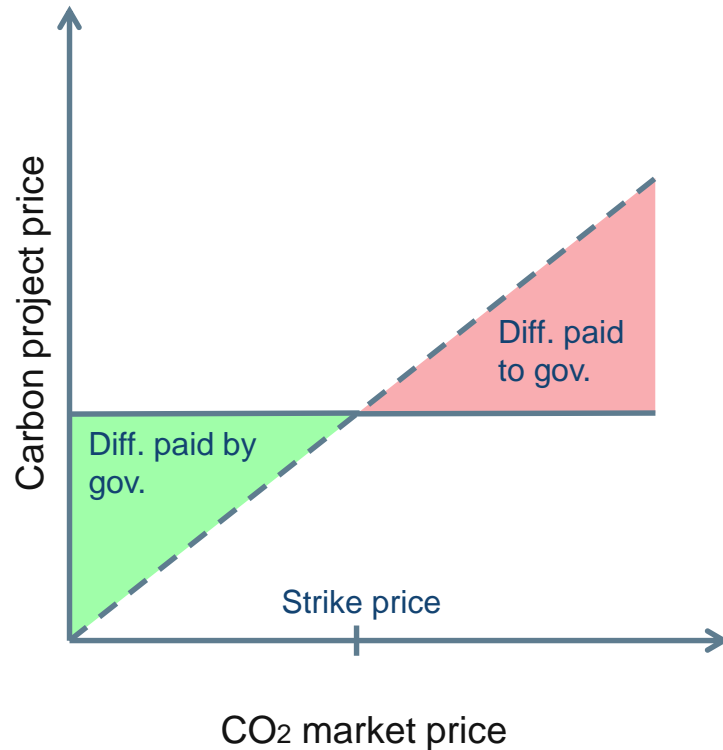
Jörn Richstein

## Why carbon contracts for innovative projects?

- Projects face “valley of death” once they successfully leave the pilot project phase (Nemet et. al., 2016)
- Innovation funds are often limited in size when leaving the pilot phase and entering the demonstration (full scale) phase
- Financing of increasing scale pilot projects, and commercial climate friendly projects is challenging
- Reducing financing costs reduces also required innovation support

- Carbon contract partly anticipate expected carbon price rises
- Only for “innovative”, deep decarbonisation projects
- Tenders across all industry sectors, but excluding power sector. Either fixed strike price, or selected on strike price
- Implementation options
  - Contract for differences based on ETS price (see also slightly different carbon contracts, Helm & Hepburn, 2005)
  - (Put options based on EU ETS price) (cf. Ismer & Neuhoff, 2006)

## Implementation option: Contract for differences



Adv.:

- As carbon price increases CfD gets in the money for government
- Reduces finance costs for companies

Design considerations

- Allocation to project would need to be fully dynamic (otherwise failure would be incentivized)
- CfDs would need to be tied to identifiable EUAs allocated to the project (otherwise could be sold independent from project success)
- Counter parties are national governments that are interested in keeping sustainable industries
- Selection on strike price (and on volume and/ duration?)

## Expected outcome

- Similar to contract for differences in England, but for emissions reductions in industry, not the power sector.
- Supports low-carbon industrial investments via
  - lowering the cost of capital, since investments are not exposed to volatility of EU ETS
  - Anticipating carbon price increases in the coming years

Thank you for your attention.

---



**DIW Berlin — Deutsches Institut  
für Wirtschaftsforschung e.V.**  
Mohrenstraße 58, 10117 Berlin  
[www.diw.de](http://www.diw.de)

**Editor**

---

- Dieter Helm and Cameron Hepburn, 2005, “Carbon contracts and energy policy: An outline proposal”, Working Paper
- Roland Ismer and Karsten Neuhof, 2006, “Commitments through Financial Options A Way to Facilitate Compliance with Climate Change Obligations”
- Gregory F. Nemet, Martina Kraus, Vera Zipperer, 2016, “The Valley of Death, the Technology Pork Barrel, and Public Support for Large Demonstration Projects”