

**CHANGING**  
**THE EUROPEAN DEBATE** **DAHRENDORF**  
**SYMPOSIUM**

FOCUS ON CLIMATE CHANGE | 2013

James Rydge

**POST-2020 EU CLIMATE  
CHANGE POLICY: POWER SECTOR  
TARGETS AND POLICY.**

Dahrendorf Symposium Paper Series  
*Summary*

---

## About the author

**Dr. James Rydge** joined the Grantham Research Institute on Climate Change and the Environment in May 2009. He works closely with Lord Nicholas Stern collaborating across a wide range of research areas, including green growth, international agreements and energy and climate policy in developed and developing countries. Previously, James Rydge worked at the University of Sydney as Research Fellow and Lecturer in the finance discipline, School of Business. James Rydge has also worked in corporate finance at PricewaterhouseCoopers in Sydney and in debt markets at the Bank of New York Mellon in London. James Rydge has a Ph.D. in economics from the University of Sydney, sponsored by the Australian Stock Exchange. His Ph.D. research specialised in financial markets, with a particular focus on equity market microstructure and regulation. He also holds a Master and a Bachelor of Commerce from the University of Sydney.

---

*This paper was developed for the 2013 Dahrendorf Symposium, a joint initiative of the Hertie School of Governance, London School of Economics and Political Science (LSE) and Stiftung Mercator.*

James Rydge

## Abstract

# POST-2020 EU CLIMATE CHANGE POLICY: POWER SECTOR TARGETS AND POLICY.

The EU has an economy-wide greenhouse gas emissions target; a 20% reduction in greenhouse gas emissions over the period 1990 to 2020. The EU also has an aspirational 2050 greenhouse gas emissions target; an 80-95% reduction in greenhouse gas emissions over the period 1990 to 2050. A strong 2030 target is required if emissions reductions are to be consistent with meeting the 2050 target. The UK has proposed a unilateral 40% 2030 target (with additional offsets), rising to 50% with a strong international agreement. This would be consistent with a least-cost pathway to meeting the 2050 goal.

It is less clear if supplementary targets are required in sectors already covered by the EU ETS. This note presents a structure, based on economic principles, for thinking through supplementary targets for the power sector. This could help stakeholders to arrive at better proposals and recommendations for the post-2020 EU climate policy framework. We do not directly consider other supplementary targets, for example, the energy efficiency target, but similar economic principles could be applied.

In a first-best world, the EU ETS should be the primary policy instrument to incentivise greenhouse gas emission reductions in the sectors it covers; it tackles the greenhouse gas market failure through a price on carbon. However, the EU ETS price signal is currently weak because of long-term structural supply/demand imbalance in the market, myopic behaviour and political disagreement and vacillation, i.e. ambiguous political commitment beyond 2020. The cost of carbon is imperfectly internalised at present.

There are a number of additional market failures, beyond the greenhouse gas externality, that the EU ETS does not address. Market failures must be identified and policies carefully designed to tackle them in a cost-effective way.

In some cases, if additional policies for the market failures are applied within sectors already covered by the EU ETS, they will not lead to net

emissions reductions as the price of quotas will adjust downwards until emissions again meet the cap. These policies are likely to reduce efficiency, particularly in the short term. To avoid this, policy-makers may want to tighten the cap to maintain a carbon price in line with the social cost of carbon.

To the extent that these market failures are asymmetric across sectors, or symmetric across sectors, but subject to asymmetric responses, it may be sensible to prioritise certain sectors, for example the power sector, even if the cap is not adjusted and this eases pressure on other sectors by reducing the demand for, and therefore price of, credits in the EU ETS.

The unique attributes of the power sector may provide justification for tilting the system to prioritise decarbonisation of this sector: there are unique market failures and asymmetric responses required; market failures in the power sector may be easier to tackle than those in other sectors; this sector is systemically important to the decarbonisation of the broader economy; there are important other political, economic and social objectives that can be achieved from decarbonisation of this sector; and it may be easier to regulate this sector.

Provided the case for prioritising the power sector can be made, for example on the basis of asymmetric responses, there are a range of options for doing more in the power sector, for example research and development, public/private partnerships, feed-in-tariffs, renewable certificates, contracts-for-difference, capacity markets, etc.

Given overlap with the EU ETS, *it would be efficient to tighten the cap to raise the effective carbon price in the non-power sectors. This will mean total emissions reductions will be greater than in the absence of action.*

There is considerable debate over whether “doing more” should include a post-2020 target for the power sector. A supplementary target’s ob-

jective (the primary target is the greenhouse gas target) would be to guide the design of low-carbon energy support policies; provide long-term clarity and certainty to investors (it could also help rectify market myopia); and it would reflect other power sector objectives, for example energy security.

There are a number of options for power sector targets. Analysis in this paper looks at the reasons why a supplementary target for the power sector may be justified.