Workshop on Innovation in the Materials Sector

How can we create policy support for breakthrough technologies in the steel and cement sector?

20th November 2015
Friedensburg Room (2nd floor)
DIW Berlin, Mohrenstraße 58, 10117 Berlin

Background and Objective

The materials sector accounts for a large part of the industrial emissions in the European Union. Alone the iron, cement and steel sector together accounted for almost 38% of industrial greenhouse gas emissions in 2012. Several roadmaps for the de-carbonization of the materials sector proposed by the industry, GOs, NGOs and academia show that the realisation of the large emission reduction potential until 2050 is only possible with a mix of several mitigation options: Fuel shifting and production efficiency, carbon focused process innovations, and material efficiency and substitution.

At the same time the European emissions trading scheme sees a revival with the introduction of the market stability reserve, increasing international action in the area – with Korea and China implementing ETSs – and a resurgence of the discussion of benchmarks, especially with view on dynamic benchmark setting.

Two challenges arise against this background. First, the prevailing question in discussions about ETSs is how the carbon price signal can be active throughout the value chain. In this area, one proposal brought forward by Climate Strategies is the Inclusion of Consumption (IoC) in the materials sector, a consumption charge on the weight of primary materials (i.e. steel, cement) in final products. Second, the design of complementing innovation support remains a challenge to be addressed.

The objective of this workshop is to understand how these two challenges interact and to find a conceptual framework to anchor innovation support mechanisms. Furthermore, we want to explore the implications for the design of effective innovation support, in particular linked to the use of the revenues generated by the EU ETS auction or the consumption charge of the IoC concept.

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Agenda: Workshop on Innovation in the Materials Sector

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Time	Program
9:00 – 9:20	**Registration and Coffee**
9:20 – 9:30	**Welcoming remarks and introduction to the workshop** *Karsten Neuhoff, DIW Berlin*
9:30 – 11:00	**Session 1: What are the experiences with process and product innovations in the materials sector?** Breakthrough technologies and investments into low-carbon technologies in the materials sector are crucial for achieving ambitious greenhouse gas emission reduction targets. At the example of recent process and product innovations we will discuss drivers for success and obstacles for progress. In particular we will focus on the financial dimension – exploring the role of push (e.g. R&D, demonstration projects) and pull policies (main aspects that shaping longer-term expectations of private companies with respect to opportunities for low-carbon products and processes) to trigger process and product innovations. *Gregory Nemet (Overview)* *Anna Meincke* (Steel) *Maarten Neelis* (Chemicals)
11:00 – 11:30	**Coffee break**
11:30 – 13:00	**Session 2: What can we learn from push policies for the use in materials?** Push policies are an important trigger of innovation. Next to examples discussed in the first session, we will look at other sectors where radical innovations play an important role. We will investigate what can be learned from experience with public policies and programs to support demonstration and early commercialization of technologies. Analyzing the examples will lead over to a discussion on the requirements for effective push policies: How can they be structured? What level of collaboration is involved, across companies and across regions? What are the possibilities and limits of public and private investment capacity to overcome 'the valley of death'? What is a sensible timescale of funding provided by innovation funds? *Antonio Pflüger (*Experience from the policy perspective) *Karl Buttiens (*Experience from the private sector perspective) *Johan Rootzen* (View from the academic perspective)

13:00 – 14:00	**Lunch**
14:00 – 15:15	**Session 3: Implications for European policy design?** Breakthrough technologies in materials are costly to develop and might require a coordinated effort to be commercialized. This being recognized in principle – but raises at least four sets of practical questions. 1. What are suitable institutional settings for decisions on allocation of support for innovative demonstration projects? 2. How is the allocation of innovation funding linked to the broader policy context? Could a link to national road-maps provide additional criteria and clarity for public funding decisions and enhance the quality and relevance of roadmaps? 3. What instruments to use to support demonstration and early commercialization? 4. How can coordination among EU member states be facilitated through improved structures or visibility? When and how should industrial collaboration be structured? *Tomas Wyns (Current EU proposals)*
15:15 – 15:45	**Coffee break**
15:45 – 16:30	**Session 4: Cross cutting themes and emerging research questions.** Open debate.

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Participants

First name	Last name	Affiliation
Karl	Buttiens	Arcelor Mittal
Heleen	de Conninck	Radboud University
Henry	Derwent	Climate Strategies
Yue	Dong	French Ministry of Ecology, Sustainable Development and Energy
Swantje	Fiedler	FÖS
Hanna-Liisa	Kangas	Finnish Environment Institute
Anna	Meincke	Thyssen Krupp
Maarten	Neelis	Ecofys
Gregory	Nemet	University of Wisconsin
Karsten	Neuhoff	DIW Berlin
Antonio	Pflueger	Federal Ministry for Economic Affairs and Energy
Julia	Reinaud	European Climate Foundation
Johan	Rootzén	Chalmers University
Jan	Stede	DIW Berlin
Peter	Wooders	IISD
Tomas	Wyns	FU Brussels
Lars	Zetterberg	IVL
Vera	Zipperer	DIW Berlin