

Carbon Emission Pledges and Corporate Decarbonization Initiatives

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This workshop brought together researchers and practitioners to discuss corporate carbon emission pledges. Central questions concerned how companies can make meaningful pledges, be held accountable, decarbonize their supply chain, and the most cost-effective pathways for decarbonization hard-to-abate industries. Insights from the workshop were intended to be informative to policymakers and corporate decision-makers in order to gauge the financial incentives and the intelligent regulation that will be required for comprehensive decarbonization.

The event was organized by Professors Stefan Reichelstein (Stanford, University of Mannheim & CEPR Sustainable Finance RPN Steering Committee Member), Anna Rohlfing-Bastian (Goethe University Frankfurt) and Dirk Schoenmaker (Erasmus University Rotterdam, CEPR and Sustainable Finance RPN Leader) under the auspices of the Research & Policy Network on Sustainable Finance of the Center for European Policy Research (CEPR).

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Introductory Remarks

Stefan Reichelstein (Stanford, University of Mannheim & CEPR Sustainable Finance RPN Steering Committee Member)

Prof. Stefan Reichelstein, Ph.D., from Stanford and University of Mannheim, commenced the workshop with introductory remarks on "Carbon Emission Pledges and Corporate Decarbonization Initiatives." He delved into the discussion surrounding corporate net-zero commitments, emphasizing their credibility amidst a surge in companies making such pledges, albeit with skepticism regarding their achievability. Stefan Reichelstein offered illustrative examples of companies actively setting targets to reduce their carbon footprints and implementing sustainable practices to fulfill their net-zero promises, citing cases such as the utility Xcel, United Airlines, Schlumberger (SLB), and Google. The conversation then shifted to the pivotal role of measuring corporate carbon footprints (CCF) in attaining carbon neutrality, highlighting data collection and verification challenges, particularly in the context of scope 3 emissions.

Session 1: Implications of the Reformed EU-ETS for Rapid Decarbonization

Michael Pahle (Potsdam Institute for Climate)

Dr. Michael Pahle from the Potsdam Institute for Climate explained the recent changes in the EU ETS program, which is already a proven and effective tool to bring down emissions. The EU Emissions Trading System was recently reformed to make it 'fit for 55' by 2030, with the cap on emissions set to go down to zero by 2040. It is widely believed that the next decade will mark the 'ETS endgame'. As the reform overlaps with current investment horizons, the main questions are how the markets will react to the reform and what the necessary future adjustments in the market are.

Relying on the quantitative LIMES-EU model and a qualitative deep dive with a focus on industry, Michael Pahle and his colleagues at the Potsdam Institute for Climate found that the "endgame" may start around 2030. Firms' expectations are crucial for the post-2030 "endgame". For instance, if market participants expect the number of allowances to decrease significantly over the next decade and thus prices will increase, they might increase their demand for allowances earlier to hedge their risks.

However, policy outcomes remain largely uncertain due to the long-term nature of the market. Governance and stability mechanisms must be adjusted to account for this.

As part of the discussion, workshop participants touched upon several issues, such as the lack of clarity in negotiations and import restrictions that could lead to higher emissions and increased competition from countries with lower production costs. One suggestion for the future was to create a central bank subsidiary to regulate the market and provide technical expertise.

Session 2: Data for Business of Climate: Today's Urgent Needs and Insights from the Future

Martha Amram (Glynt AI)

Dr. Martha Amram, CEO of the startup Glynt AI, shared her expertise in managing sustainability data using automated solutions. She delved into the challenges of collecting and analyzing this type of data. For example, sustainability data, especially within the Scope 3 categories, often depends on industry averages. These averages may stem from overlapping sector classifications and can lead to double-counting issues. Additionally, ESG rating services can be inconsistent. It's essential to segment a tech stack into more manageable components to better control and optimize the system for sustainability. Using actual activity data to correspond with emission factors is key.

Martha Amram stressed the importance of using primary data to enhance data quality and accuracy. To boost transparency throughout the supply chain, she proposed including the GHG emissions associated with company products directly on their respective invoices. Furthermore, she advocated for globally regulated standards and methodologies to guarantee the consistency and comparability of emissions data for auditing purposes.

During the discussion, industry participants highlighted the difficulty of tracking emissions accurately. They voiced their concerns about outdated input-output accounting methods and the perceived inaccuracy in emissions factor calculations. The workshop attendees unanimously agreed on the paramount importance of ensuring data quality and transparency.

Session 3: Cost-Effective Decarbonization for Portland Cement Production

Gunther Glenk (Harvard and University of Mannheim)

In the third segment of the workshop, Prof. Dr. Gunther Glenk, from Harvard and the University of Mannheim, presented the recent research paper titled "Cost-effective Decarbonization for Portland Cement Production." The cement industry currently accounts for 8% of global annual carbon dioxide (CO₂) emissions and has long been regarded as a formidable challenge in the quest for decarbonization. Although many viable solutions for emissions reduction of Portland cement production are close to becoming technologically feasible, they are still prohibitively expensive.

Gunther Glenk and his colleagues addressed this conundrum by developing a comprehensive abatement cost framework that charts a course toward cost-efficient pathways for substantial emissions reductions by comparing nine elementary abatement levers and their feasible combinations. They calibrated their model with industry data, focusing on European cement plants subject to the European Emissions Trading System to anchor their model in reality. Their findings are compelling: at an observed average carbon price of €81 per ton of CO₂ in 2022, firms are incentivized to reduce their annual direct emissions by approximately one-third compared to the status quo. At a carbon price of €141 per ton, the attraction of emissions reduction grows noticeably, potentially pushing cement makers to cut emissions by an astounding 96% compared to current levels. This research underscores the critical nexus between decarbonizing the cement industry and cost-efficient abatement strategies, especially highlighting the sensitivity of emission reduction incentives to carbon prices. Achieving net-zero emissions in cement production by 2050 hinges upon the industry's ability to embrace these measures effectively.

Session 4: Effectiveness of Non-state Climate Action: Corporate Climate Policies and Company-level Emission Reductions

Bjarne Steffen (ETH Zürich)

In the fourth session of the workshop, Prof. Dr. Bjarne Steffen from ETH Zurich presented research on "Effectiveness of Non-state Climate Action: Corporate Climate Policies and Company-level Emission Reduction." The study utilized CDP data to

assess whether disclosed corporate climate policies or a mix of them are associated with improved climate performance (namely absolute emission and emission intensity) and their relevance to climate-conscious investors.

Employing a time-lagged fixed effect model, Bjarne Steffen and his colleague find limited evidence for a link between corporate climate policies and climate performance and, by extension, limited informative value for investors. They also show that effective policy requires a mix of complementary policy instruments but results only hold for absolute emissions.

Bjarne Steffen concluded that relying excessively on disclosure as policymakers' primary tool seems illusive. The initial data regarding the potential impact of combining corporate climate policies might serve as a foundation for crafting mandatory disclosure regulations. Nevertheless, making it compulsory for companies to disclose their carbon policies may, at most, serve as a supportive element within a broader public policy approach aimed at reshaping the flow of investments.

Session 5: Towards a Green Supply Chain - Strategies and Levers to Decarbonize Effectively

Tassilo Boehm & Alexis Garbade-Jones (Deloitte)

In the fifth session of the CERP workshop, Tassilo Boehm and Alexis Garbade-Jones from Deloitte delivered a talk titled "Towards a Green Supply Chain - Strategies and Levers to Decarbonize Effectively." They addressed the growing corporate ambition for sustainability and the challenges many companies face in achieving it. A survey by Deloitte highlighted that climate change is a top concern for firms, and climate-related issues are already impacting them. However, the question of how firms can meet their carbon reduction and net-zero emission targets remains ambiguous.

The speakers emphasized the significance of supply chain (scope 3) emissions in a company's carbon footprint and stressed the importance of measuring and reducing these emissions. To create a green supply chain, the speakers proposed key decarbonization principles, which they explained with industry examples. Overall, the speakers emphasized the need for standardized CO₂ measurement, the urgency of taking action, the importance of embracing circular economy principles, and the central role of collaboration in achieving successful transformation.

The audience expressed optimism about companies reducing emissions but had doubts about the magnitude of these reductions in the short-run. The issue of how to collect emission data from suppliers and the complexities of fostering collaboration among firms throughout the supply chain were discussed.

Session 6: Panel Discussion

Anna Rohlfing-Bastian (Goethe University Frankfurt), **Maria de Kleijn** (Kearney), **Sid Petersen** (First Climate), **Thorsten Sellhorn** (Ludwig-Maximilians-Universität Munich).

The concluding session of the workshop featured a panel discussion by Maria de Kleijn from Kearney, Sid Petersen from First Climate, and Prof. Dr. Thorsten Sellhorn from Ludwig-Maximilians-Universität Munich, moderated by Prof. Dr. Anna Rohlfing-Bastian from Goethe University Frankfurt.

In the opening remark, Maria de Kleijn emphasized the positive impact consumers can have in the transition towards sustainability and underscored the critical challenge of how companies can genuinely embrace green practices. Sid Petersen delved into the pressing issue of Scope 3 emissions and the complex task of decarbonizing supply chains. He stressed that setting targets for suppliers alone is insufficient and aiding them in achieving these goals is imperative. Thorsten Sellhorn drew attention to the pivotal role of disclosure in decarbonization efforts, positioning it as the "common denominator" for consensus. He highlighted the vital need for transparent and reliable data to facilitate this disclosure.

The panel discussion further revolved around the importance of companies providing clear carbon footprint information to stakeholders to catalyze effective action. The question of holding companies accountable was tackled, with Thorsten Sellhorn proposing annual trajectory adjustments as a solution. Maria de Kleijn emphasized the need for robust governance and initiatives for reaching targets and proposed including carbon price risk factors in investment decisions to integrate sustainability into portfolio choices. Sid Petersen sees three primary challenges in setting sustainability strategies. Firstly, the need to go beyond incomplete measures and engage in real deep decarbonization; secondly, the necessity to decarbonize the entire supply chain; and thirdly, the absence of clear measures aligning with Science-Based Targets.

Challenges in decarbonizing supply chains, including the ambiguity surrounding carbon neutrality and supplier commitment, were also discussed.

Further, the panelists and workshop participants discussed the question of whether market forces or regulation will be the primary driver for change. Generally, it was agreed that some regulation is needed, to provide incentives for companies. The cost of doing business on people and the environment needs to be internalized.

Moreover, the role of collaboration vs. competition among firms for decarbonization efforts was discussed. It was stated that collaboration among firms can be a vital tool for lowering costs, though the inherent instability of supply chains poses challenges to such cooperation.

The session concluded with the panelists voicing their opinions on where the world will be in five years. Overall, they expect companies to be at a worse point (“wish back the problems from today”), scramble to reach their pledges for 2030, consequently carbon prices going “through the roof”, but maybe also a silver lining on the horizon.

Closing Remarks

In conclusion, the workshop on carbon emission pledges and corporate decarbonization initiatives brought together experts and stakeholders to address the pressing challenges of decarbonization pathways and emissions reporting. The key takeaways emphasize the significance of transparency and accurate data in crafting effective strategies for decarbonization. Furthermore, the workshop underscored the notion that action can be taken immediately, even in the absence of perfect data, to drive meaningful progress toward a more sustainable future.