



Supply-Side Crediting to Manage Climate Policy Spillover Effects

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As decarbonization efforts around the world intensify, two types of spillover effects will increasingly determine whether climate policies succeed in achieving emission reductions consistent with international commitments and the recommendations of climate science.

In the presence of climate policy asymmetry, in which different countries advance decarbonization efforts at a widely divergent pace and scale, carbon constraints that seek to mitigate greenhouse gas emissions by mandating their reduction or increasing their cost can give rise to a negative spillover effect known as emissions leakage. Emissions leakage describes the relocation of emissive production and consumption patterns from regions implementing such carbon constraints to regions with weaker climate policies, facilitated by trade in fuels and other goods.

Left unchecked, emissions leakage can limit or reverse the climate benefits of such carbon constraints, undermine political support for further decarbonization efforts, and give rise to equity concerns as environmental impacts become concentrated in developing countries with low production costs and weak carbon constraints. So far, jurisdictions concerned about emissions leakage have mostly shielded vulnerable sectors with policy exemptions, rebates and other forms of preferential treatment, such as free allocation of emission allowances.

More recently, several jurisdictions, including the European Union (EU) and the United States (US), have proposed unilaterally or jointly leveraging trade measures to address climate policy asymmetries, including the Carbon Border Adjustment Mechanism (CBAM) recently adopted in Europe. Still, as shown in the paper, existing demand-side safeguards against emissions leakage are either incompatible with global decarbonization or face serious implementation constraints, calling for additional policy solutions to address this negative spillover.

Second, low-carbon technology research, development and deployment help lower the cost of these technologies and enable their global diffusion, a positive spillover effect that enables markets to drive greenhouse gas emissions abatement. As low-carbon technologies reach cost parity with incumbent technologies, their adoption becomes less dependent on the stringency of domestic climate policies. Everything else being equal, climate policy asymmetries lose much of their significance when all countries have access to competitive low-carbon technology alternatives to deliver the goods and services they seek. That, in turn, effectively limits emissions leakage caused by uneven climate policy ambition.

Low-carbon technology innovation and diffusion depend on a dramatic increase in investment, however, at a time when persistent budget deficits and record levels of public debt, coupled with rising interest rates and averse demographic trends, threaten to widen the climate finance gap. Consequently, policy innovations are also called for to scale up low-carbon technology investment, especially from the private sector.

The paper introduces supply-side crediting as a policy innovation that can help mitigate emissions leakage while promoting low-carbon technology diffusion. It provides a revenue stream for the permanent decommissioning of economically viable fossil fuel reserves, thereby increasing global fossil fuel prices and unlocking investment in the development and deployment of low-carbon technologies. Additionally, it unlocks private sector investment in low-carbon technology development and deployment, such as carbon removal technologies, to accelerate the technological learning curve and thereby promote technology diffusion, leveraging a positive spillover effect to further limit the negative spillover of emissions leakage.

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