Capacity-building with small and medium enterprises for emissions reductions and firm growth in Türkiye

Sector(s): Environment & Energy, Firms

Fieldwork: European Bank for Reconstruction and Development (EBRD)

Sample: 600 small and medium enterprises

Initiative(s): King Climate Action Initiative (K-CAI)

Target group: Small and medium enterprises

AEA RCT registration number: AEARCTR-0012773

Partner organization(s): Business for Goals (B4G), Turkish Ministry of Industry and Technology, European Bank for Reconstruction and Development (EBRD)

Governments around the world face an urgent need to reduce carbon emissions alongside equally urgent demands to lower poverty and promote growth. Creating effective policy to encourage decarbonization for small and medium enterprises (SMEs) can be challenging, and limited evidence exists to support policymakers. Researchers are conducting a randomized evaluation to test the impact of emissions reductions-focused loan support to small and medium firms in Türkiye on reducing these firms' greenhouse gas emissions and protecting firm growth.

Policy issue

Decreasing carbon emissions from small and medium enterprises (SMEs) can be challenging for national governments, especially those simultaneously working to grow their economies and increase employment. This decarbonization challenge is becoming increasingly salient for low- and middle-income countries (LMICs) that specialize in goods that require high carbon emissions to produce, like iron, steel, and cement. However, limited evidence is available to help governments judge which policies will effectively reduce SMEs' carbon emissions in production without harming their business viability or reducing employment.

Context of the evaluation

In October 2023, the European Union implemented a Carbon Border Adjustment Mechanism (CBAM). Beginning in 2026, the CBAM will impose a levy on imported non-EU products that adjusts for the differences between the EU Emission Trading System (ETS) carbon price and the carbon price paid in the producing countries.[1]

Türkiye is likely to be affected by the EU's CBAM since 41 percent of Türkiye's exports are to the EU.[2], Carbon-intensive products, including iron and steel, aluminum, and cement, make up 55 percent of Türkiye's total manufacturing production. They also employ a significant number of workers in Türkiye, responsible for over seventy percent of employment in 2019, of which 23.1 percent was in the manufacturing sector.[3] About half of these manufacturing SME employees work in carbon-intensive manufacturing. As Türkiye prepares for the implementation phase of the CBAM starting in 2026, when levies will begin to be applied, it aims to balance growth goals with incentives to reduce carbon intensity of goods it typically exports to the EU.



Firm representatives attending a launch event for the evaluated program in Türkiye.

Details of the intervention

Researchers partnered with the Turkish Ministry of Industry and Technology, Business for Goals, and the European Bank for Reconstruction and Development (EBRD) to conduct a randomized evaluation to test the impacts of three different interventions on carbon emissions and firm growth for Turkish SMEs in carbon-intensive industries. Firms that applied for a free program that provided information about CBAM were randomly chosen to receive training and assistance in reducing emissions according to the following groups:

- Carbon mitigation (150 firms): These firms received support from bankers to apply for discounted loans to invest in carbon mitigation technologies aimed at reducing emissions (e.g., renewable energy). These firms had access to consultants to help design the loan proposal and clarify the ways these technologies can help to prepare for CBAM.
- Product innovation and product switching (150 firms): These firms received similar support to apply for discounted loans for switching to manufacturing less carbon-intensive products—meaning products that require less greenhouse gas emissions per unit in their production processes. They were similarly able to access consultants' support on use of the loans as described in the carbon mitigation group.
- Production efficiency (150 firms): These firms were able to apply for discounted loans to increase their efficiency of production, such as by changing production processes to use fewer input materials to produce the same product amount, and reducing costs. These firms received similar support from bankers and consultants as in the other two groups.
- Comparison group (150 firms): These firms received the program's information on CBAM and had access to apply for loans, but they did not receive the discounted rate or training from bankers and consultants.

Researchers worked with these SMEs starting in 2022 and used firm surveys and administrative data to assess changes in the firms' production, pollution, employment, and wage outcomes. The final assessments collected detailed cost data to understand the comparative cost-effectiveness of the different training and assistance offerings.

Results and policy lessons

Research ongoing; results forthcoming.

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1. European Commission. n.d. "Carbon Border Adjustment Mechanism." Accessed October 10, 2024. https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en#guidance.

2. European Commission. n.d. "EU Trade Relations with Türkiye." Accessed October 10, 2024. https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/turkiye_en.

3. Turkish Union of Chambers and Commodity Exchanges. 2021. "SMEs of Turkey." tobb.org.tr/Documents/yayinlar/2021/SMEs of Turkey Report 2020.pdf. Accessed October 10, 2024.