



Competitiveness and Climate

CLIMATE, TRADE, AND ECONOMIC COMPETITIVENESS

Can the United States curb greenhouse gas emissions without harming the competitiveness of U.S. companies and driving emissions and jobs overseas?

It's a question heard often in climate policy debates. While policymakers often cite concerns that China will achieve unfair advantages in their export capacity to US markets if the US enacts emissions limits, it is important to note that only 14 percent of cement, 7 percent of steel, 3 percent of aluminum, 4 percent of paper, and less than 1 percent of basic chemicals imported into the United States come from China.ⁱ The majority of these GHG intensive products produced in China are also consumed domestically. GHG intensive products imported by the U.S. are mostly from developed countries that would easily pass a comparability test or developing countries with a lower carbon-intensity of production than the U.S.ⁱⁱ

Yet, a discrete subset of industrial manufacturers could lose competitiveness vis-à-vis foreign exporters with the addition of a policy-induced price on carbon emissions. The next two sections examine which sub-sectors might be vulnerable, and outline policy approaches to balance US economic interests with climate goals.

WHO IS VULNERABLE?

Three factors weigh heavily in determining just how vulnerable a company might be to higher costs and, potentially, increased competition under U.S. emissions limits:

- 1) **“Greenhouse Gas intensity.”** Industries that emit more greenhouse gases to produce a product would face higher costs if energy prices rise due to emissions limits.ⁱⁱⁱ
- 2) **“Trade Exposure.”** Certain industries manufacture products that are heavily traded internationally, thus limiting the extent to which domestic producers can pass on additional costs to customers. Global prices for commodities like steel and cement are generally set on international exchanges, and not by individual sellers, making manufacturers of these products particularly vulnerable to competitive disadvantage.
- 3) **Ability to improve energy efficiency or switch fuels/availability of substitutes.** Companies that can switch to lower-emissions fuels or improve energy efficiency will be better able to hold down costs. Additionally, if a firm can switch to the production of alternatives to energy-intensive goods, which become more expensive due to emissions limits, it will be better able to hold down costs.

Key Points

- Without coordinated action among countries there is great potential to ‘game the system’ and to not fully cover ‘carbon leakage’ to key export markets.
- There is little evidence unilateral trade measures alone will prompt comparable action in China, effectively safeguard U.S. manufacturers from job loss, or significantly prevent “carbon leakage.”
- However, there are several short- and long-term policy options for “leveling the playing field” and safeguarding the competitiveness of carbon-intensive manufacturers in the U.S. – while at the same time creating incentives for emissions reductions at home and abroad.

Based on historical trade flows and energy and emissions profiles, companies in the following five industries are among those most likely to face competitiveness challenges due to a carbon price:

- ferrous metals (iron and steel)
- nonferrous metals (aluminum and copper)
- non-metal mineral products (cement and glass)
- paper and pulp
- basic chemicals

These industries account for more than 50% of all carbon dioxide (CO₂) emissions from U.S. manufacturers, and about 6% of total U.S. emissions. At the same time, they account for just 3 percent of US economic output and less than 2 percent of nationwide employment.

CLIMATE AND TRADE POLICY GOALS

In addressing this problem, three major goals have been identified:

- 1) Guard against “emissions leakage” – the migration of U.S. industrial emissions and manufacturing jobs to other parts of the world if companies simply move operations offshore to reduce costs.
- 2) Design a policy that encourages domestic manufacturers in all industrial sectors to reduce emissions through investments in low emissions technologies and efficient facility operations.
- 3) Encourage international engagement, including incentives for other countries to reduce their emissions.

WHAT ARE THE MAJOR POLICY OPTIONS?

To meet these goals, policymakers have discussed three major approaches to “leveling the playing field” for U.S. producers:

1) Cost Containment – Reducing the cost of complying with emissions limits through flexible policy design and targeted allowance allocation, which temporarily compensates eligible manufacturing facilities for their costs of complying with domestic climate policy.

One mechanism for cost containment is to provide eligible manufacturing facilities with free allowances under a cap-and-trade system. Providing allowances to domestic industry should be designed as transitional support and not as a perpetual subsidy. Output-based allowance allocation, an example of a cost-containment measure, reduces the costs of carbon emissions in a way that both motivates emissions reductions while allowing continued production.

2) Trade Measures – Tariffs and other measures aimed at driving up the cost of imported products linked to high emissions. If taken unilaterally, however, analysts say such steps are unlikely to produce significant economic or environmental benefits – and could hurt “downstream” U.S. companies, manufacturers that use imported raw goods to make finished products like automobiles.^{iv}

Less than 3% of the steel, aluminum and paper produced in China, for instance, is exported to the United States, suggesting trade measures would produce little leverage for altering Chinese policy. Most carbon-intensive products come from Canada, Europe, Russia and Latin America – some of which have industries that are “cleaner,” on average, than their U.S. counterparts. Thus, using such trade measures could put some industries in the United States at a competitive disadvantage.

The international effects must be considered as well. There is little evidence that the threat of losing access to the U.S. market for carbon-intensive goods would, by itself, prompt other nations to strengthen their climate policies. Developing-country markets have accounted for the bulk of recent growth in global trade; as such, border adjustment policies (which apply only to US imports) would do little to protect and promote American exports to these fast-growing markets. Finally, border adjustment policy proposals to date have raised both diplomatic and legal concerns, threatening to set back international cooperation in the areas of trade and climate policy.

3) International Harmonization

– The best policy outcome is multilateral climate agreements that discourage emissions and encourage the production of low-carbon goods. For instance, international agreements to reduce industrial emissions from key sectors – whether through product standards, emissions targets or taxes – could be more successful in addressing competitiveness concerns and reducing emissions than unilateral

trade measures. They could also help build markets for new low-carbon technologies, creating new profitable industries.

THE BOTTOM LINE

U.S. policymakers face a challenge, but not an insurmountable one, designing policies that both reduce emissions and cushion potentially vulnerable industries from unfair competition. The task is complicated by trading partners who are moving at different speeds in developing their own climate policies. Still, there are options for leveling the playing field while still leaving the path open to the broader international agreements and collaborations that will be necessary to limit climate change.

This fact sheet is a product of ChinaFAQs, a joint project of the World Resources Institute and experts from leading American universities, think tanks and government laboratories. Find out more about the ChinaFAQs Project at: <http://www.ChinaFAQs.org/>.

Notes

ⁱ Houser T, Bradley R, Childs B, Werksman J, and Heilmayr R (2008). —Leveling the Carbon Playing Field: International Competition and US Climate Policy Design. Peterson Institute for International Economics/World Resources Institute (WRI). Washington, DC: 2008.

ⁱⁱ This fact sheet is based on Houser et al (2008), “Leveling the Carbon Playing Field”; also Seligson, Heilmayer, Tan, and Weischer (2009), “China, the United States, and the Climate Change Challenge,” WRI. Available: www.wri.org/publication/china-united-states-climate-change-challenge.

ⁱⁱⁱ For instance, energy purchases account for between 10 and 20 percent of total costs in the steel and cement industries. In contrast, energy accounts for less than 1 percent of total costs for manufacturers of transportation equipment and electronics.

^{iv} Houser et al, 2008, p. 51, 52

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