

## EarthTrends: Featured Topic

Title: **WILL THE KYOTO PROTOCOL DRIVE INDUSTRY TO DEVELOPING COUNTRIES?**

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Many industrialized countries are concerned about the potential impact that mandatory carbon reduction targets would have on their economies. Among these concerns is that any plan that exempts developing countries from emissions limits would in fact not be effective because carbon-intensive industries would simply shift their operations to one of the exempt countries. Leakage may represent double trouble: the environmental benefits of the treaty would be undercut, and the competitiveness of industrialized-world industries would suffer. Just how plausible are these problems? Are these concerns real or do they serve to distract us from enacting meaningful and binding carbon reduction policies?

The Intergovernmental Panel on Climate Change (IPCC)—the authoritative scientific voice on climate change—recently examined the potential for emissions leakage from industrialized to developing countries. Within the specific context of the Kyoto Protocol, the IPCC concluded that "the possible relocation of some carbon-

intensive industries to non-Annex I [developing] countries and wider impacts on trade flows in response to changing prices may lead to leakage in the order of 5-20 percent (IPCC 2001). The worst case estimate of 20 percent leakage would mean, in other words, that if we were to see an emissions reduction of 5% in the industrialized world (roughly what the Kyoto treaty calls for), one of those five percent would not disappear completely but would instead become developing world emissions due to shifting industrial activity.

However, the IPCC maintains that leakage is likely to be substantially lower than 20 percent. The 20 percent estimate does not include important assumptions such as the transfer of environmentally sound technology and the existence of international emissions trading (which is part of the Kyoto agreement). Potential leakage could also be minimized through prudently designed domestic regulations. The 1990 U.S. Clean Air Act Amendments serve as an example of how environmental regulations that could potentially have been

expensive for industry to adjust to instead ended up being a relatively light burden due to emissions trading schemes. Industrialized countries will be able to build special adjustment provisions along these lines into legislation for those industries that will be significantly affected.

Generally speaking, most emissions in the industrialized countries result from inherently domestic activities, where leakage is either difficult or impossible. Transportation, heating, cooling, lighting, and other activities cannot move south. However, in energy-intensive industries, which represent about 20 percent of U.S. emissions, international competitiveness is an important concern (WRI 2001). Will carbon constraints in the United States cause companies to flee to unregulated countries, thereby undercutting competitiveness? The evidence suggests that this is not likely (Repetto and Maurer 1997).

Many factors go into foreign direct investment decisions. Labor costs and skills, market size, political stability, income levels, physical infrastructure, and a

wide range of government policies (e.g., tax, financial, and investment policies) are typically the main investment considerations (OECD 1999:25; UNCTAD 1999; World Economic Forum 1999:96). Energy prices are also a factor. However, it is unlikely that energy prices would rise to the top of a decision-making calculus. Even in energy-intensive sectors energy costs account for between 10 and 20 percent of the value of sales—not trivial, but also not dominant. And where there is substantial foreign direct investment in energy-intensive industries, such investments are better explained by other factors. For example, U.S. investments in Brazilian primary metals and chemical industries are more likely to occur because of domestic Brazilian market size

and growth potential, rather than lower energy costs. Over the past decade, most developing countries have drastically reduced energy price subsidies, causing energy prices to climb. Overall, most U.S. foreign direct investment goes to other industrialized countries, most of which have higher energy costs (Repetto and Maurer 1997: note 16).

A recent analysis (looking purely at the U.S.) by the Innovest Strategic Value Advisors, an international investment research firm, suggests that failure to control emissions domestically may actually hurt U.S. competitiveness over the long term. Emission constraints can have a dynamic effect on technological progress and the development of new markets, such as those for renewable energy. According to Innovest,

"by insulating power producers from the need to address greenhouse gas emissions domestically, the administration may have reduced the attention that U.S. companies will pay towards cleaner power generation technologies and in doing so, dilute their ability to compete in these fast growing businesses abroad" (Innovest:2001).

Intelligent and effective action on climate change is necessary, and leaky emissions do not appear to be a good argument against binding reductions. Actual leakages are likely to be small. Leaky emissions reduction appear to be more of a diversionary tactic rather than a real reason for industrialized nations to withhold support for action on climate change.

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