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## Trade can 'export' CO2 emissions

By **Richard Black**

Environment Correspondent, BBC News website

### New research from the US shows that trade can significantly affect emissions of greenhouse gases.

Researchers found that US imports of goods from China cause a greater production of carbon dioxide than if the goods were made in the US.



“ A country can decrease its CO2 emissions by reducing production but increasing trade ”

Shui Bin, NCAR

Factories in developing nations tend to use more energy than in the West.

The researchers say emissions control measures such as the Kyoto Protocol could "export" carbon-intensive industries to the developing world.

This has long been a contention raised by critics of the Protocol.

In a briefing just before the UN climate negotiations in Montreal, President Bush's chief environmental advisor James Connaughton told reporters that setting

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targets for emissions may "...cause a shift offshore of some energy-intensive industries.

"This probably equates to a net increase in greenhouse gas emissions, as it's a shift to countries which are probably less efficient than the US," he said.

This issue of "carbon leakage" is matched in controversy potential by another related argument; that western countries own up to emissions produced within their shores, when in fact they should be responsible for all emissions connected with the goods and products which they consume.

They are "saving" their own emissions, the argument goes, at the expense of developing countries.

### **Shifting balance**

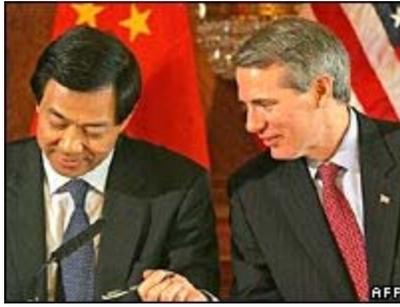
The US has put itself outside the Kyoto treaty, but conventional trade issues are inducing a shift towards imported goods and away from domestic manufacturing.

"The US cannot compete with China on prices, so the US trade deficit with China is increasing," said Shui Bin from the National Center for Atmospheric Research (NCAR) in Boulder, Colorado.

In October, the deficit stood at a record \$20.5bn (£11.6bn).

"The US has the largest trade deficit of any country in world, so we suspected it

might be responsible for a larger proportion of emissions than normally seen," Dr Shui told the BBC news website.



China's exports to the US continue to rise despite a recent deal

Between the years 1997-2003, she found, the US "saved" 1,711 million tonnes of carbon dioxide emissions by importing goods from China rather than making them within US borders.

That equates to a reduction of just over 3% in US emissions across the seven-year period, with the exact proportion rising year on year as the trade deficit increased.

But this reduction in US emissions was more than matched by an increase in Chinese emissions. In 1997, exports to the US accounted for seven percent of Chinese CO2 output; by 2003, the figure had risen to 14%.

Dr Shui calculates that global emissions were higher by around 720 million tonnes during the seven year period.

If anything, this analysis may underestimate the true picture as it excludes fuel used to transport goods half-way around the world.

### **Global traffic**

If this is happening to a trade unaffected by the Kyoto Protocol, what are the implications elsewhere?

Could the European Union, through its financial instrument the Emissions Trading Scheme (ETS), be playing a dangerous game?

"Frankly I haven't studied this, so it's just a rough thought; but it is possible that Kyoto countries could import more goods from overseas and see a rise in global CO2," said Dr Shui.

"That is what we are worried about, and why we want to stimulate more discussion about flaws in the global carbon accounting system."

Michael Grubb from Imperial College London believes rates of "carbon leakage" are likely to be small.

"The idea that there are leakage effects has been comprehensively discredited," he told the BBC News website.

The Carbon Trust, a UK government-backed company of which Professor Grubb is policy director, has researched the likely impact of emissions trading on European business.



Like many developing nations, China relies heavily on coal

"What people do talk about is 10-15% leakage - that's the Intergovernmental Panel on Climate Change (IPCC) estimate - but those are model-based estimates, and in reality, you don't even get that," he said

"As a reality check, Europe has had more

expensive energy than just about everywhere for decades, yet we still produce virtually all our own steel and our own cement."

Professor Grubb also points up the difficulties involved in measuring and calculating emissions according to end user rather than producer.

Nevertheless, Shui Bin is adamant that the global community should have a try; the way carbon emissions are measured currently is flawed, she believes, and could penalise developing countries unfairly.

"The equity issue should be addressed in the Kyoto Protocol," she said, "but the current Protocol is based on a flawed accounting system.

"A country can intentionally or unintentionally decrease its CO2 emissions by reducing its domestic production but increasing its trade.

"Total CO2 emissions would increase, but the current carbon accounting framework will show a decrease."

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