

# Green and fair economic growth with more expensive fossil fuels

14 June 2010

Why are the international climate negotiations moving so slowly? Because countries have so far been unable to define what global fairness really is, says Thomas Sterner, Professor of Environmental Economics at the University of Gothenburg. Sterner and several other prominent economists including several recipients of the Nobel Prize in Economics spoke at the World Bank conference on development economics in Stockholm recently.

Sterner's research shows that it is indeed possible to achieve sustainable economic growth, reduced poverty and an improved climate - if we make fossil fuels more expensive.

The European countries and USA have emitted more carbon dioxide to the atmosphere than anybody else. Yet, in recent years, fast growing economies such as China and India have been picking up the Western pollution habit. In fact, China has even surpassed the rest of the world and currently tops the not very flattering list of the world's leading greenhouse gas emitters. However, if we look at emissions per capita, then China is still far behind USA. And India's per-capita level is even much lower than China's.

'If there is such a thing as a right to emit greenhouse gases, then people and countries are valuing that right higher and higher. The question is whether some countries have more of a right than others', says Sterner.

Reducing emissions is very costly, and who is to pay? The answer to this question could be determined, says Sterner, by making all countries reduce their emissions by the same proportion, say by 50 percent. Another way would be to grant each individual in the world the exact same right to emit. If we were to implement the first alternative, so that all countries have to decrease their emission by the same percentage, then USA would get to emit 16 percent of the world's total [greenhouse gas](#)

[emissions](#), while India would have to make do with only 4 percent. If we instead were to implement the latter principle, that all individuals have an equal right to emit, then USA would be allotted 4 percent while India would be able to enjoy the luxury of emitting 16 percent.

'It doesn't take a genius to see that India prefers the latter alternative while USA likes the idea of the former. This example clearly illustrates the reason why the international climate negotiations don't seem to be making much progress', Sterner explains.

## Carbon dioxide emissions need to be reduced

The Copenhagen conference can certainly be viewed as a failure since it did not result in any binding agreements. Yet, one can also think of the situation as 'negotiations in progress'. The problem though is that the climate issue is urgent.

To successfully manage the climate challenge, the world needs to reduce its carbon dioxide emissions significantly. A climate model developed by Christian Azar and other researchers at the Chalmers University of Technology - the Chalmers Climate Calculator - shows that in order to reach the goal of increasing the global average temperature by no more than two degrees Celsius, the world's total emissions must decrease by around two percent per year.

Sterner has found that one of the most effective ways to achieve this goal would be to increase the taxes on fossil fuels. Today, these taxes are considerably higher in Europe than in USA, and this has indeed reduced both emissions from the transport sector and the level of [carbon dioxide](#) in the atmosphere.

The consumption of petrol goes hand in hand with the income trend, according to Sterner's research, and this means that the level of a country's petrol

tax is very decisive for that country's emission level. Italy and the UK, with their relatively expensive petrol, are in this sense more environmentally friendly than USA and Canada, whose low taxes do not do much to help reduce emissions. Provided by University of Gothenburg

### **Poverty calls for economic growth**

At the same time, half of the world's population suffer from poverty, which calls for significant economic growth.

'To make the needed economic growth sustainable, we must have instruments in place that make the right sectors and technologies grow. If we again turn to the transport sector, we know that a five percent increase in income leads to the same size increase in emissions. If we want to reduce the emissions by two percent, we must increase the fuel taxes by around nine percent per year at least until the price of [fossil fuels](#) reaches the costs of sustainable alternatives', says Sterner.

A common argument against petrol taxes is that they are said to affect the poor in particular (the tax is regressive). But Sterner's research shows that petrol taxes instead affect the rich more, especially in poor countries (which makes the tax progressive). One reason behind this finding is that poor people usually do not drive much, and their indirect consumption of petrol (related to public transport) makes up a relatively small share of their household budget.

'The concern that the petrol tax is regressive and strikes the poor may be due to the fact that the first studies on this issue were conducted in USA in the 1980s and 1990s. But countries differ. In USA, many poor citizens drive a car and public transport is generally not very well developed. If we instead look at the poorest countries, we see that cars and petrol are luxury products. This means that the issue must be studied in countries with different income levels and distributions', says Sterner.

At the World Bank's ABCDE Conference (Annual Bank Conference on Development Economics), Sterner spoke on Environmental Commons and the Green Economy.

APA citation: Green and fair economic growth with more expensive fossil fuels (2010, June 14) retrieved 20 September 2020 from <https://phys.org/news/2010-06-green-fair-economic-growth-expensive.html>

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