

# UN climate report: Pricing of CO<sub>2</sub> emissions critical

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This is Thomas Sterner, professor of environmental economics at the University of Gothenburg. Credit: University of Gothenburg

Despite climate change, most polluters still pay little or nothing when they release carbon dioxide into the atmosphere.

'A cost USD 0.15 per kilo CO<sub>2</sub> would be enough to solve the whole

[climate change](#) problem,' says Thomas Sterner, professor of environmental economics at the University of Gothenburg. Sterner is the only Swedish researcher to serve as a coordinating lead author of a new report that the Intergovernmental Panel on Climate Change will present next week.

The third part of Intergovernmental Panel on Climate Change's fifth assessment report, Working Group III on the technical and socio-economic aspects of climate change concerns measures to reduce or eliminate emissions of greenhouse gases. The report covers the most important economic sectors – energy, transport, construction, industry, agriculture, forestry and waste management.

Compared with the last assessment in 2007, many countries now have ministries in charge of climate issues. Numerous measures to combat climate change have also been introduced, many of which the authors of the report have been able to evaluate. The scientists' summary for politicians will be finalised and presented in Berlin next week.

'We have explored the new policy instruments introduced around the World. Some of my colleagues have felt very enthusiastic – rather like botanists discovering new species. I am not equally optimistic because most of the new instruments are too weak to be meaningful. What we need to avoid dangerous climate change is the application of strong policy instruments,' says Sterner.

One potentially strong measure policy instrument according to the report is to make emitters of CO<sub>2</sub> pay a price in relation to the amount emitted – but it all hinges on this price being sufficiently high. In most countries, there is virtually no cost to emitting CO<sub>2</sub> and other [greenhouse gases](#). At the same time, studies from for example the International Energy Agency show that if a sufficiently high emission tax of SEK 1 (about USD 0.15) per kilo CO<sub>2</sub> (or an equivalent permit trading scheme) were

introduced in all sectors across the world, the total emissions could be reduced by half by 2050. The difficulty, however, lies in establishing sufficiently strong international agreements.

Another effective intervention identified in the report is to stimulate research on new technologies. One dilemma, says Sterner, is that companies know they will have problems patenting new environmentally friendly technologies. This realisation of course affects their motivation negatively, implying that they will not do enough research and therefore there is a need also for state-funded research.

Today, CO<sub>2</sub> taxes are relatively unusual being limited mainly to a few countries in northern Europe. Sectoral taxes – on transport fuels are more common and have been shown to have very significant effects. On the other hand, many countries are in fact still subsidising fossil fuels. Sterner says that one important policy instrument would be to remove these subsidies. The measures discussed in the report also include voluntary agreements.

'I really don't believe in voluntary measures since they imply letting business and industry do as they please. Overall, I feel that our report may come across as too modest compared with the report from Working Group I, which was presented last autumn and described the climate situation in the world as catastrophic. But there are indeed real opportunities to limit the emissions,' says Sterner.

Provided by University of Gothenburg

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