



The Earth by night: humanity has brought light to the darkness. So things stay this way, the world today is concerned with the efficient use of available energy, increasing the use of renewable energy and intelligently networking all energy sources. It slows the greenhouse effect and secures the planet's future.

NASA

Five inconvenient truths and courageous measures

Why global climate change policy is trapped | By Ottmar Edenhofer

Global climate change policy is trapped for five reasons:

First, the atmosphere's dumping space for greenhouse gases is limited. If the world community wants to avoid dangerous climate change, aggregated global CO₂ emissions from fossil-fuel combustion should remain below 850 billion tons until the end of this century. Global warming could then be confined to no more than 2°C above pre-industrial levels with a chance of 75 percent. Among others, this would reduce the risk of sharp sea level rises, acidified oceans, and derailed monsoon patterns in China and India. With other words: We would make sure to bestow to coming generations a planet that can still support human life under reasonable conditions. Yet this budget is very tight and ambitious in light of currently projected emission trajectories. Nevertheless, the newly elected German government should try to persuade world leaders at the upcoming UN climate change conference to agree on this global carbon budget. Such an outcome would mean a great success for Copenhagen.

Second, the global carbon budget needs to be split and allocated to individual countries. Yet any nation state will only be willing to negotiate over an individual carbon budget if it has an idea of the economic cost involved. In Copenhagen, the German government should therefore promote the proposal to commission an international

expert group of leading scientists to assess these costs. This cross-national collaborative work on this analysis would further mutual trust and form a common ground for subsequent negotiations.

Third, there is no viable alternative to global emissions trading. The idea to introduce a carbon tax ignores important dynamics: if the policy aimed at keeping the global emission budget, a carbon tax would need to increase over time for economic reasons. But how are owners of fossil resources likely to react to such an outlook? Most likely they will want to accelerate resource extraction in order to escape higher taxes in the future. This embodies the risk that the carbon budget will be missed in spite, or precisely because, of a rising carbon tax. Alternatively, if the budget is converted into tradable permits, resource owners will have no means to circumvent the quantitative emissions restriction.

Fourth, a carbon budget will require an institution, which makes sure that the budget is met and managed efficiently. This institution could take the form of a 'carbon trust' or 'carbon central bank'. The carbon central bank would allocate emission permits such that firms can decide individually when and how to use them. This institutional framework is necessary but it will not come overnight. An important step towards such a regime is a reform of the EU Emissions Trading Scheme.

Fifth, the carbon budget needs to cover the entire global economy and the global carbon market should be designed accordingly. A major weakness of the European emissions trading system lies in the fact

that important economic sectors are excluded from cap and trade. For example, this is true for the buildings sector although it offers a particularly promising potential for cheap emission reductions. One

“ Overall, it is my belief that the five measures outlined are essential for tackling dangerous climate change with sufficient chances. ”



Prof. Dr. Ottmar Edenhofer holds the chair in Economics at the Technische Universität Berlin. He is chief-economist at the Potsdam Institute for Climate Impact Research (PIK) and Co-Chair of Working Group III of the IPCC, which received the Nobel Peace Prize in 2007.

could integrate all economic sectors into emissions trading by including all upstream sources of fossil fuels: importers and distributors of coal, gas, or oil would be required to buy one emission permit for each ton of carbon they bring into the economy. This way all sectors participate in emissions trading, ensuring that emissions are reduced where this is cheapest. In addition to sectoral extension, emissions trading should also be broadened to include more regions. The US Senate is currently debating to install a cap and trade system for the US economy and the German government should continue to explore options to link this emerging system to the European carbon market. Eventually, a EU-US carbon market could emerge which would be attractive for many players. Among them are, for instance, German car manufacturers, because linking could harmonize and stabilize carbon price regulations on both sides of the Atlantic. A transatlantic carbon market would also provide a strong signal for current bystanders such as China, India, Brazil, and Russia to participate in a future global carbon market.

Overall, it is my belief that the five measures outlined above are essential for tackling dangerous climate change with sufficient chances. International climate change policy would have escaped its trap – with active help from the German government! ■