

## On the urgency of stopping global warming

by Christian Schoder and Willi Semmler

Parts of the labour movement still have strong reservations towards measures aimed at reducing the carbon intensity of production in order to mitigate global warming. The public debate is dominated by fears that environmental policies harm the working population in the North as well as in the South by increasing unemployment. In line with this public opinion, governments are reluctant to implement mitigation policies on the national or international level. They impose market-based abatement regimes which are in line with orthodox economic theory but ineffective in practice. In this article, we want to rebut these concerns by pointing out that global warming may follow a self-enforcing pattern which is increasingly costly to reverse, thus harming the world's population more and more. Moreover, we argue that mitigation policies may have a positive impact on employment if done properly. After discussing different mitigation policies, we conclude with the policy recommendation of immediate and ambitious action.

### Understanding the pattern of global warming

Despite many uncertainties, two stylised facts appear to have elicited consensus among geo-scientists. First, the extent of global warming observed since the age of industrialisation is not natural, but caused by humans. Hence, a reduction of the emission of greenhouse gases is likely to have a decelerating effect on climate change. Second, there are *tipping points* in the climate pattern. These can be understood as thresholds beyond which climate change turns into a self-enforcing process. Once reached, enormous efforts would be required to move below the threshold again. In order to minimise costs, one should mitigate global warming while it is "cheap", i.e. before the dynamics of the system accelerate global warming. However, if we are already beyond the tipping point, ambitious mitigation policies are of the highest urgency.

### The positive employment effects of abatement

Policy makers justify their reluctance to implement ambitious mitigation policies by referring to the danger of losing jobs to competitors and increasing unemployment. As argued by Mitnik et al. (2010), this fear is not justified. The analysis of a number of countries suggests that budget-neutral green policies which tax carbon-intensive sectors and subsidise carbon-saving sectors or fund research in "green" technology generally have positive net effects on employment. Reasonable mitigation policies may thus imply a "double dividend": reducing carbon emission while increasing employment. Hence, from the labour movement's point of view, there

is not necessarily a trade-off between ecological sustainability and high levels of employment.

### The responsibility of the West for global warming

The US and the rest of the industrialised world should take a lead role in the struggle against climate change. As Posner and Weisbach (2010) report, in 2005, the US and China produced roughly the same amount of millions of tons of CO<sub>2</sub> (7,219 for the US and 6,964 for China). Yet, if measured per capita, China produced only one quarter of US emissions (5.5 vs. 28.5 tons). This relation becomes even more disproportionate if one considers the cumulative CO<sub>2</sub> emissions per capita that have been released into the atmosphere since the beginning of industrialisation (623.3 tons for the US vs. 82.9 tons for China). Even if the US does not take on a leading role, the rest of the world should still engage in ambitious mitigation policies. Europe's role is particularly important in this context. Tipping points exist for adopting climate policies. If there is a critical mass of countries adopting internationally coordinated mitigation policies, the incentive for the US to avoid such policies (competitiveness) will lessen. Moreover, it is not implausible that those countries investing most in green technology will be rewarded by high green economic growth in the future, even though they may not be as competitive in the short run.

### How can carbon emissions be reduced?

To establish effective economic incentives, the producers/consumers of carbon intensive products must bear the costs of carbon emission. Two concepts to achieve this have been put forward: (a) cap-and-trade and (b) carbon tax. The former is a decentralised market system for carbon trading. It imposes limits on total allowable carbon emissions. These allowances are then distributed to emitters or other stakeholders and firms trade the allowances for pollution on a market. The carbon tax is a proportional tax on carbon emission.

Despite its flexibility, the cap-and-trade system is not advisable due to its deficiency in effectively reducing carbon emission. First, emission prices exhibit disproportionate volatility due to uncertainty regarding the overall quota and to financial speculation. According to an estimate by Nell et al. (2009), the carbon price is even ten times more volatile than stock prices. The high price volatility of emission rights increases

uncertainty and triggers speculative booms and busts. Second, as has been demonstrated by Uzawa (2003), the global market-based system unfairly burdens developing countries. The dollar price of a carbon ton will mean a much bigger percentage penalty for low-income economies than for the industrialised world.

A carbon tax has some considerable advantages over the cap-and-trade system as has been argued by Nell et al. Because there would be one “metric” for all, it allows for a globalised standard. The carbon tax’s clear price trajectory would drive long-term investment. Other advantages include universal applicability, better efficacy, and lower set-up costs due to existing administrative institutions. Uzawa proposes a global carbon tax system under which the tax rate applied in a country is proportional to the country’s per capita income. Moreover, he proposes to establish an International Fund for Atmospheric Stabilization funded by income from the carbon tax. The aim of the fund should be to enhance the development of green technology as well as to narrow the growing income gap between developed and developing countries. These aims could be achieved by redistributing tax revenues across countries according to a scheme that provides incentives to develop environmentally-friendly technology and takes per capita income into consideration.

### **“Green recovery” policies – an insufficient step in the right direction**

Since economic wealth is empirically correlated with carbon emission, countries are reluctant to reduce emissions sufficiently. By adopting environmentally friendly technology, this relation could be weakened or reversed. To reduce the carbon intensity of GDP, government action is needed as market forces provide insufficient incentives for the development and diffusion of environmentally friendly technologies. Although the current economic crisis provides an opportunity for implementing ambitious environmental policies through deficit spending, so far it has been left out vastly. From September 2008 to December 2009, the US spent only 12% of its fiscal stimulus on a “green recovery”; on a global level, the corresponding number is less than 16% (Barbier 2010).

### **Where are we headed?**

The 2009 United Nations Climate Change Conference in Copenhagen was a huge failure. The high expectations associated with the conference turned out to be inconsistent with the national interests of the participating countries. According to scientists, carbon emissions must be reduced by 2020 by 25 to 40% of their 1990 level to avoid the worst consequences of global warming. The Kyoto Protocol, agreed upon in 1997, committed the participating countries to reducing the emission of greenhouse gases on average by 5.2% of their 1990 level by 2012. In contrast, the planned reductions agreed by governments in Copenhagen are less ambitious and, most importantly, not binding: countries agreed to re-

duce carbon emissions by 13 to 19% of their 1990 level by 2020.<sup>1</sup> Given the experience with the Kyoto Protocol, which failed to reduce carbon emissions to the extent agreed upon, one can make an educated guess that the vague and non-binding outcome of Copenhagen is far from sufficient to prevent temperature increases beyond 2°C. Current fiscal stimulus packages do not take into consideration environmental goals sufficiently. Since the current public debate is dominated by misinformation and corporate interests, the future of our climate depends on the social movements, trade unions and critical academics around the world. The pressure put on policy makers has to be increased substantially in order to get them to implement ambitious mitigation policies.

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<sup>1</sup> The EU promised to reduce its carbon emission by 20-30% of 1990 levels by 2020, the US by 4% of 1990 levels by 2020 and China by 40-45% until 2020, however of 2005 levels and measured per GDP (Source: Copenhagen Accord, <http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf>).

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