

CLIMATE POLICY – A NEW AGENDA FOR EFFECTIVE GLOBAL ACTION¹

*"Rules must be binding; Violations must be punished; Words must mean something."
(Obama 2009)*

New climate change policy structures are proposed that, it is suggested, would be politically feasible and more effective than the structures agreed at Kyoto & Copenhagen.

The negotiations which took place at Copenhagen at the fifteenth Conference of the Parties (COP-15) of the United Nations Framework Convention on Climate Change (UNFCCC) aimed at the fundamental objective of the UNFCCC: to stabilize atmospheric greenhouse gas concentrations at non-dangerous levels. It is argued that the existing institutional tools at our disposal – international treaties and in particular the Kyoto protocol – are insufficient to achieve this goal. Furthermore, the framework put in place at Kyoto suffers multiple and fundamental flaws which fatally undermine its effectiveness; any new treaty must have a structure which evades these flaws if it is to be effective. Treaties, legal structures, and other institutions more commensurate with the scale of the climate change challenge are suggested to inform discussions around the structure of a future climate agreement. An *agenda for effective global action* is outlined:

1. Strong *global institutions* – e.g. a world environmental agency – including an agreed *framework* (such as coordinated carbon taxes) for collective policy, to replace *national commitments*.
2. A framework *action plan* to *eliminate carbon emissions* sector-by-sector, region-by-region, over the next *two to three decades*. In particular a plan to develop, transfer and deploy the safe, responsible, and very large-scale use of enhanced energy efficiency, renewable-electric, nuclear, and carbon capture and storage energy technologies; and to encourage responsible land use and agriculture, including the sustainable use of water.
3. A *significant* (\$100-\$200/tCO₂e), *sectorally complete, substantially geographically complete, agreed, and guaranteed minimum carbon price*, levied *upstream* at the *national level* (including embodied carbon from any regions not otherwise carbon-constrained), with revenues *used at national discretion*. It is possible that a carbon tax may have net economic benefits at the national level if used to replace taxes with higher 'deadweight' costs. The removal of fossil fuel subsidies has already been agreed as part of the Kyoto protocol, but has not been fully implemented.
4. A plan to protect forests and other natural carbon stores.
5. A plan to keep high carbon fuels in the ground (following Hansen et al. 2008).
6. An enabling framework for enforceable state-corporation climate contracts (e.g. guaranteeing the carbon price for investors) (Ismer & Neuhoff 2006).
7. An enabling framework for the use of *trade sanctions* to enforce state-state climate commitments, such as *border tax adjustments* (Ismer & Neuhoff 2007).
8. Unimpeachable monitoring and verification of all commitments.

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Introduction

About COP-15

The fifteenth Conference of the Parties (COP-15) under the United Nations Framework Convention on Climate Change (UNFCCC) is took place Copenhagen between 7th and 18th December 2009. The UNFCCC was signed in 1992 at the Earth Summit at Rio, Brazil, and ratified by 192 countries worldwide. Its objective is as follows (U.N. 1992):

“The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt, is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.”

There were two streams to the Copenhagen meeting: the Ad-Hoc Working Group on the Kyoto Protocol (AWG-KP), which aims to extend the Kyoto treaty and secondly, the Ad-Hoc Working Group on Long-Term Co-operative Action (AWG-LCA) – which aims to develop a successor treaty to Kyoto.

Overall, the main purpose of the negotiations is to agree upon targets for the reduction of emissions of carbon dioxide, and other greenhouse gases. Secondly, rich countries are proposed to provide a fund to aid climate change mitigation and adaptation in the developing world.

What Was At Stake?

Decisions made at the Copenhagen conference decisively influence whether the rise in global average temperature can be limited to two degrees Celsius above the pre-industrial level. Temperature rises above this level make it likely that the Greenland ice sheet would melt, and risk triggering severe positive feedbacks, such as the degradation of the tropical rainforests (Fischlin et al. 2007) and the release of methane stored in permafrost and clathrates.

To have a *likely* chance of keeping temperature rises below the 2 degrees target, total cumulative emissions for the 21st Century need to be less than 1000 billion tonnes of carbon dioxide (M. Meinshausen et al. 2009). In the first decade of the century global emissions already amount to *over a third* of this cumulative budget, so less than 650 Gigatonnes of CO₂ are left for the rest of the 21st Century, equivalent to reductions in emissions of the order of 10% per year, in the context of rapidly rising population and economic output (Anderson & Bows 2008). On the pessimistic side, to constrain temperatures *at all*, concentrations of greenhouse gases must be stabilised at *some level*. Simple carbon cycle measurements (Solomon et al. 2007) suggest that emissions would need to fall to less than or of the order of 7 Gigatonnes of CO₂ per year to achieve this.

Existing Structure

Why The 'Kyoto' Approach Fails

The structures for climate change mitigation agreed at Kyoto were flawed in a number of different ways. The most obvious flaw was the lack of effectiveness – it is not clear that the Kyoto treaty has reduced emissions at all. There are three main reasons for this lack of effectiveness:

- Firstly, the treaty does not give binding commitments for all major emitters – in particular, the developing countries has no binding commitments and the United States signed but did not ratify the treaty.²
- Secondly, among the countries that implemented the agreement, many did not achieve the Kyoto targets. Little real action was noticeable – those who have achieved the targets (such as the UK and the former Soviet states) seemed to do so largely by accident rather than design.
- Thirdly, the targets, although binding in international law, included no enforcement mechanism, beyond a threat that future targets would be more stringent for those countries that failed to achieve the target. There are also the following problems with international treaties in general:
 - Countries can in principle withdraw from treaties once signed, although this is rare.
 - Treaties face significant barriers in the US congress, with two thirds of United States senators required for ratification.

The Kyoto approach requires national emissions targets, negotiated country-by-country. It is possible that emissions reductions, whilst key to the end goal, are a politically and psychologically negative way of 'framing' commitments. (In other words, if commitments are expressed in different, but likely equivalent, terms, the balance of perceived national benefits may be different, for a given level of expected stringency). Countries may not know if they are able to reduce emissions by a large amount. Fast developing countries such as China or India may wish to play safe, avoiding emissions targets, whereas a more practical action plan (see below) may be perceived more positively by nations.

The Kyoto treaty and the actions since the treaty encourage downstream emissions trading. There are a few fundamental flaws to this approach:

- Low coverage of sectors (the European Emissions Trading Scheme (EU-ETS) covers only 40% of the EU domestic emissions, and none of the net emissions embodied in its net imports);
- An emissions trading scheme gives a volatile price for structural reasons related to the short-run price insensitivity (inelasticity) of fuel demand and the fact that carbon based fuels are ubiquitous in a modern economy (and so fuel demand *is* sensitive to the economic cycle and the weather). This volatility can lead to delayed investment and higher economic costs;
- Emissions trading schemes encourage 'quota seeking' behaviour by nations in any original agreement and by companies in the political process of allocation

² Late ratification (especially by Russia and Australia) was also a significant problem.

- rights to emit;
- Perverse incentive to avoid stringent commitments – the structure of the agreement with national emissions caps fails to transform incentives of nation states;
- The use of 'offsets', such as the Clean Development Mechanism (CDM) has multiple problems in addition to the lack of a developing country cap. Most fundamentally, it encourages 'double counting'. Offsets provide perverse incentives to developing countries to inflate expected emissions in order to demand payment to reduce them back to more reasonable levels.
- No incentives to preserve existing forests.

More fundamentally, none of the major powers (with the possible exception of the EU) have agreed to cede any sovereignty to a global institution. There also seems to be a fundamental difference in opinion between developed countries – which expect developing countries to accept binding commitments – and developing countries, who seek financial assistance from the developed world.

Finally, there is a lack of any necessary or direct connection between a treaty being agreed, and any real action to reduce emissions. We need a new treaty that has an 'action plan' to reduce emissions.³

3 Ordering of Negotiations

Work by Howarth et al. (2009) suggests that any negotiation should be ordered as follows:

1. Determine a global cap;
2. Define a theory of justice or mechanism for allocating costs & benefits;
3. Work out implementation strategies.

A precondition to all three steps might be an understanding that a successor treaty will entail that countries give up a portion of their national sovereignty in regard to climate policy.

Solutions

International Institutions

The most direct way of mitigating the institutional capability gap would be to create a '*world environment agency*' (e.g. see Stern, 2009) with a mandate to achieve the goals of the UNFCCC. The most ambitious and potentially effective proposals (Tickell 2008) suggest that the extraction of fossil fuels is rationed at source by such a global agency.

Alternatively an *international carbon central bank* could set an internationally coordinated carbon tax in order to reach long-term carbon reduction targets.

Credible Commitments

We need to find a way to *monitor and enforce commitments* made, for example on the carbon price or absolute emissions. One possible enforcement mechanism is a climate exchange. This is similar to existing derivatives exchange, but would enforce contracts that governments might make to companies. Such options contracts could guarantee the price of carbon. This would (a) provide international enforcement mechanism for coordinated carbon tax; and (b) provide the high, credible, carbon price needed for investors to invest massively in the infrastructure needed for a carbon-free future.

It is also interesting to note that commitments to reduce fossil fuel supply and demand are, in a sense both instances of cartel-like behaviour. Credible commitments could also provide enforcement mechanisms for an oil *consumer* cartel ('OPIC') (Stoft 2008). Coal extraction needs to be rapidly limited if dangerous climate change is to be averted (Hansen et al. 2008).

Conclusions

The following draft agenda is proposed:

1. Strong *global institutions* – e.g. a *world environmental agency* – including an agreed *framework (such as coordinated carbon taxes) for collective policy*, to replace *national commitments*.
2. A framework *action plan to eliminate carbon emissions* sector-by-sector, region-by-region, over the next *two to three decades*. In particular a plan to develop, transfer and deploy the safe, responsible, and very large-scale use of enhanced energy efficiency, renewable-electric, nuclear, and carbon capture and storage energy technologies; and to encourage responsible land use and agriculture, including the sustainable use of water⁴.
3. A *significant (\$100-\$200/tCO₂e), sectorally complete, substantially geographically complete, agreed, and guaranteed minimum carbon price*, levied *upstream* at the *national level* (including embodied carbon from any regions not otherwise carbon-constrained), with revenues *used at national discretion*. It is possible that a carbon tax may have net economic benefits at the national level if used to replace taxes with higher 'deadweight' costs. The removal of fossil fuel subsidies has already been agreed as part of the Kyoto protocol, but has not been fully implemented.
4. A plan to protect forests and other natural carbon stores.
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6. An enabling framework for enforceable state-corporation climate contracts (e.g. guaranteeing the carbon price for investors) (Ismer & Neuhoff 2006).
7. An enabling framework for the use of *trade sanctions* to enforce state-state climate commitments, such as *border tax adjustments* (Ismer & Neuhoff 2007).
8. Unimpeachable monitoring and verification of all commitments.

4 See <http://www.weforest.com/video.php>

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