

Intervention Paper No 10

Challenges and key questions about European climate policy

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This series of 'intervention papers' is hosted by SERI in order to give a platform to individual experts for giving a personal contribution to on-going review debates of the EU Strategy of Sustainable Development. As a rule, they have been inspired by debates within the thematic network 'Sustainability Strategy', funded within the 5th Framework Program. As a personal contribution of their authors they do not engage SERI or the network in any way.

Thematic Network 'Sustainability Strategy'

The objective of the Thematic Network is to use the diversity of scientific approaches to the problems of sustainability as a resource for improving the European sustainability strategy, especially its further elaboration and implementation. This requires the creation of a trans-disciplinary network focused on sustainable development, bringing together technical, economic and political science insights, and capable of monitoring the European sustainability strategy, while building a bridge to experts and civil society networks committed to European policy co-ordination. The creation of such a thematic network would not only contribute to the achievement of sustainable development in Europe, including the policy co-ordination objectives of dynamic economic development, full employment and stronger social cohesion and of integration of environmental issues into all policies. Its functioning as an integrated discursive space would furthermore strengthen the governance structure of the European Union, by making it more accessible to its citizens, and reinforce the basis for a constructive role of the EU in global partnership.

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Introduction

Global warming is often seen as the most serious environmental threat in the world and the climate policy is a key area of long-run sustainability policies for the EU. Stabilizing CO₂ concentration in the atmosphere will require a long term commitment to research, development and eventually to deploy new energy sources and technologies. It requires also international co-operation.

Energy policy is an important part of climate policy. Europe is now facing a challenge to stabilize the atmospheric CO₂ concentration or “stabilising climate”. A separate intervention paper (see Kaivo-oja et al 2006a) has been produced on energy policy and for that reason it is not discussed here.

According to the Kyoto Protocol, the EU member states have to reduce GHG emissions together by eight per cent from the 1990 level during the first commitment period 2008-2012. The commitment was shared between 15 EU member states according to the Burden Sharing Agreement as contained in the Council Conclusions of 16 June 1998. The European Union has set up several policies to combat climate change. The European Climate Change Programme (ECCP) was adopted in March 2000. One of the key elements is the EU’s emissions trading scheme (ETS) which has started on 1 January 2005. On 9 February 2005, the Commission adopted first proposals concerning its plans for new climate change policies after the first Kyoto commitment period (2008-2012).

The EU has been a pioneer in international climate policy pushing hard for stringent emission targets at the Rio and Kyoto conferences. However, the EU is a revealing case study for the difficulties to implement policy instruments. Due to its multi-level structure, interest groups have many possibilities to influence and stall the policy process. Lobbies of greenhouse gas emitters are still stronger than those of renewable energy and efficiency technologies.

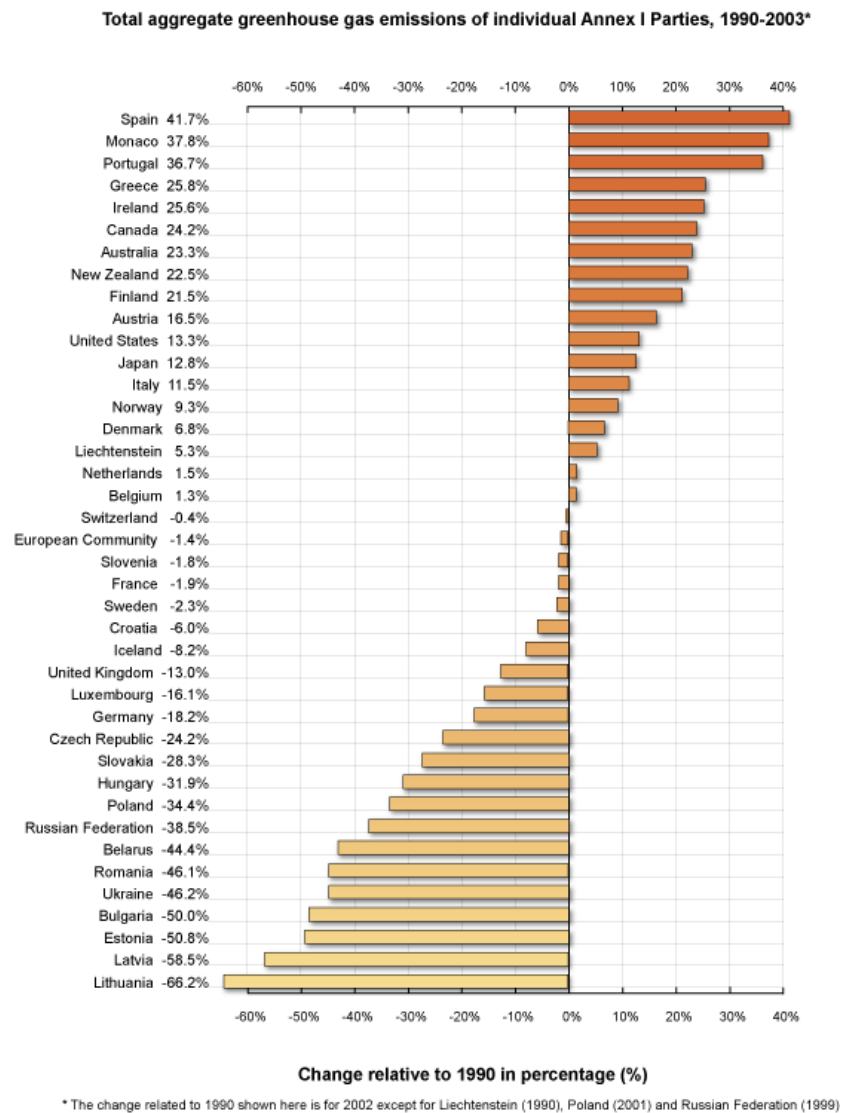


Figure 1. Total aggregate greenhouse gas emissions in individual Annex I countries

As Fig 1 indicates there are considerable variations in emission trends in relation to the Kyoto targets of the different countries. That is why there is a political question whether the EU should have a more tailored climate change policies which could harmonize the trends.

The Marrakech Accords set out the path for future international action on climate change. Decisions had been made under two “tracks” - the Kyoto Protocol and the Climate Change Convention. Parties agreed under the Protocol Kyoto to negotiate further commitments beyond 2012. Under the Climate Change Convention the Parties agreed to hold a dialogue on long-term co-operative action. This was significant because, unlike the Kyoto discussions, it would involve all Parties.

Flexible Mechanisms of Kyoto Protocol: Emission trading (ET), Joint Implementation (JI) and Clean Development Mechanism (CDM)

Since 1 January 2005, according to the EU Emission Trading Directive, some 12,000 large industrial plants in the EU have been able to buy and sell permits to release

carbon dioxide into the atmosphere. The so-called Emissions Trading Scheme (ETS) enables companies exceeding individual CO₂ emissions targets to buy allowances from 'greener' ones. The ETS system has earned the EU the reputation of global leader in fighting climate change but has come under fire from some business circles, who criticise the EU for "going it alone" on the international scene and hampering industry's competitiveness. In the year 2008 the European ETS system has to be integrated into the international emission trading system of the Kyoto Protocol. This implies that the allocation of emissions rights should be carried out already in 2007.

So far, we have seen very little evidence of actual fuel-switching or internal abatement taking place. On the other hand, the market is working effectively, with reliable price discovery and increasing volatility. Furthermore, the EU ETS is leading to substantial private sector investments in CDM, and to some extent JI.

There has been a lot of discussion whether the European emission trading has been the cause of electricity price increases. It can be analysed that increasing fuel prices, increased demand, as well as generators' strategies have also contributed to electricity price increases. The impact of carbon costs on electricity prices, and vice versa, has created new interplays between energy commodities and strengthened energy market interactions.

Post-Kyoto target setting

Although the commitments under the Kyoto Protocol help move the global community towards the goal of stabilizing atmospheric greenhouse gas concentrations, they are only a first step in a longer process. What will take place after the Kyoto Protocol's commitment period of 2008 to 2012 will be the subject of intense international negotiation for years to come.

One of the most contentious issues of the differentiation of (future) climate policy commitments is 'who should contribute when and how much to mitigate global climate change and to the costs resulting from adaptation measures'. The concerns of equity and efficiency are important in the evaluation of the possible burden sharing models, which determine emission commitments for different countries. Numerous different methods and models have been presented to differentiate the commitments. The models lay the foundation for discussing whether the targets should be set for different countries (which are the partners of the Climate Convention), or not, or for the companies (which are the main emitters of the GHGs), or for the final consumers of products and services.

The approaches of the proposed models of target setting can be divided in the following groups:

- Per capita approaches
- Grandfathering approach
- Sectoral approaches
- Intensity approaches

Policy insights

What are the international regimes that can prevent climate change? In the long run, possible global solutions can include following three elements: (1) cap-and-trade schemes (the European approach); (2) agreements for technology development (the USA approach); and (3) assistance packages for developing countries.

One way is to continue the efforts started at Kyoto and to broaden and deepen the current absolute, binding caps. This approach assumes that countries have the necessary political will and that international agreements have the teeth necessary to make real change.

Another way to get there is to focus on creating an “enabling environment” for a cap-and-trade regime through technology and development cooperation. This assumes that countries are not yet ready to commit to binding targets and that reframing climate issues so that they are more carefully embedded in countries’ other national priorities will be a more effective way to ensure that the climate regime will be economically and environmentally effective in the long run.

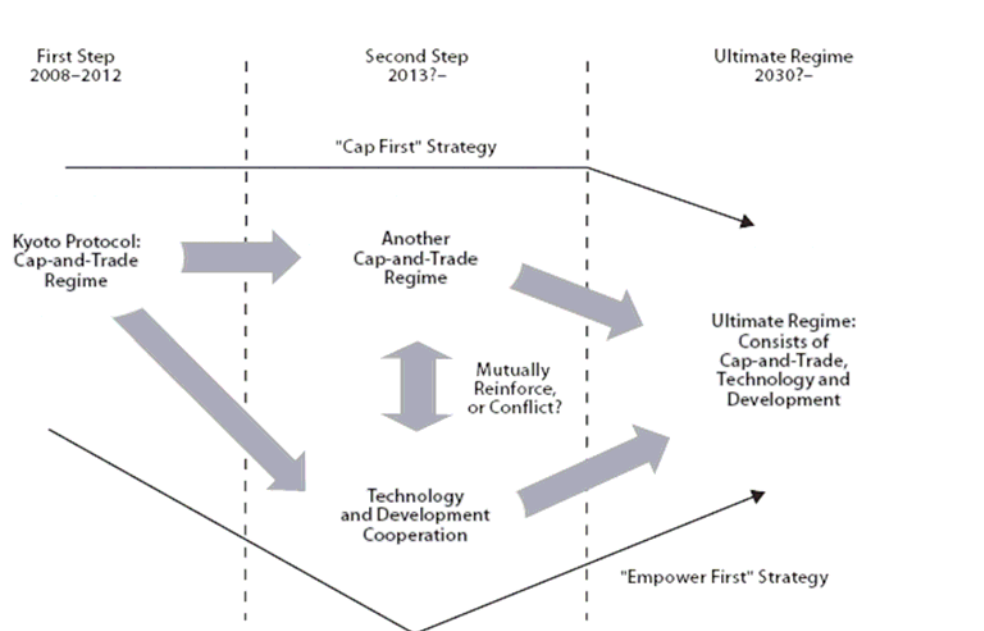


Figure 2. “Cap First” and “Empower First” strategy of the future climate regime (Sugiyama 2005).

One of the proposed target setting models is the Contraction and Convergence (C&C) approach, which defines emission permits on the basis of converging national CO₂ emission rates to an equal level, which is based on per capita emissions under a contracting global emission profile (see <http://www.gci.org.uk/>). An analysis of the C&C approach and its meaning for different countries can be seen in Luukkanen et al (2005).

C&C burden sharing model can be used as a policy benchmarking tool in the EU in planning for post-Kyoto period. It can be utilized in the EU policy planning for the choice of technology transfer countries. EU has a leading role in negotiating such an agreement where key developing countries can participate. The C&C model could be attractive for many developing countries, but the participation of USA may not look very optimistic.

Key uncertainties and future options

There are various uncertainties concerning global warming and climate policies. The uncertainties may relate to:

- Potential political conflicts between EU Member States,
- Pace of energy technology development and technological lock-ins,
- Commercial feasibility of new technologies (e.g. nano and hydrogen solutions)
- Role of structural change
- Immigration/emigration flows in Europe
- Environmental citizenship of large corporations
- Threat of resource wars
- Role of China and India as well as Russia in global energy markets
- Adaptation and transition to the post-oil era

Climate policy recommendations and conclusions

In spite of many uncertainties mentioned above we can present some policy recommendations. The precautionary principle can be used as one starting point in policy planning. The policy recommendation can include following type of issues:

- Promote structural change towards low carbon economy
- Invest in science and technology research
- Establish mandatory limits on greenhouse gas emissions and harness market mechanisms for economy-wide reductions
- Stimulate innovation across key economic sectors (Transportation and Tourism, Manufacturing, Agriculture and Services with growing electricity consumption)
- Drive the energy system toward greater efficiency, lower-carbon energy sources, and carbon capture technologies
 - Efficient Energy Usage
 - Renewables
 - Efficient Energy Production and Distribution (including hydrogen economy)
 - Natural Gas
 - Coal and Carbon Sequestration?
- Begin now to adapt to the inevitable consequences of climate change
 - Extreme weather conditions
 - Sea level rise
 - Epidemics
 - Vegetation changes (desertification, biodiversity losses etc.)
- Create smart and effective negotiations strategies to strengthen the international climate effort

As a conclusion we can state that the structural change in the economy is essential for advancing sustainability. The dematerialization of production and immaterialisation of consumption are key factors for sustainability. However, rebound effects can easily eat up the benefits achieved by dematerialization.

An important question is how to evaluate key uncertainties in context of EU decision making? Strategically it is important to identify so called wild card events (events with low probability but high socio-economic impacts), which could be such as breakdown of Chinese ecological and social systems, Middle-East resource war, collapse of US dollar etc. Crisis management strategies for wild card events should form an essential part of European climate policy.

Further reading

Bodansky, D. Chou, S., Jorge-Tresolini, C. (2004) International Climate Efforts Beyond 2012: A Survey of Approaches. Prepared for the Pew Center on Global Climate Change, November 2004, Pew Center.

Carbon 2006 Towards a truly global market. www.pointcarbon.com.

European Union Council (1997). Community Strategy on Climate Change – Council Conclusions, CONS/ENV/97/1 REV 1, Brussels.

Luukkanen, J., Vehmas, J., Kinnunen, V., Kuntsi-Reunanen, E. & Kaivo-oja, J. (2005) Converging CO2 Emission to Equal per Capita Levels. Mission Possible? FFRC-Publications 2/2005. Finland Futures Research Centre, Turku School of Economics and Business Administration. Turku. 139 p.

Meyer, A. (2000) CONTRACTION & CONVERGENCE, The Global Solution to Climate Change, C&C detail, history, reactions to it and possible futures. Green Books.

Sugiyama, T. (2005) Where to? Future steps for the global climate regime. In Sugiyama T. (ed.) Governing Climate. The Struggle for a Global Framework Beyond Kyoto. International Institute of Sustainable Development. http://www.iisd.org/pdf/2005/climate_governing.pdf

van Asselt, H and Bierman, F. (2006) European emission trading and the international competitiveness of energy-intensive industries: legal and political evaluation of possible supporting measures. Energy Policy, forthcoming.