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The EU Climate Strategy

Building Blocks for International Climate Policy after 2012

Susanne Dröge

On 10 January 2007, the European Commission introduced its new energy and climate change policy. This package of measures brings together diverse proposals put forward to the EU Council, which has convened in early March under the German Presidency to determine the goals of the EU's future climate change and energy policy. Since the time is growing short for negotiations on international climate policy prior to the Kyoto Protocol's expiration in 2012, the adopted recommendations of the Strategy Paper also point the way for international developments. The cornerstones of the package include setting a target for the reduction of greenhouse gas emissions, strengthening the emissions trading scheme, increasing energy efficiency, expanding the use of renewable energies, and increasing support for new technologies. What signals does this strategy send to other major industrialized countries and to the rapidly growing newly industrialized countries? How should it be evaluated in the context of the debate on a global climate regime after 2012 and given the alarming recent findings reported by the Intergovernmental Panel on Climate Change?

As one of the world's major emitters of greenhouse gasses but also one of the main shapers of the global climate policy agenda, the EU has taken on particular responsibility for achieving agreement on a new global climate regime for the period after 2012. Yet if a treaty solution is to be reached at the international level for the decades to come, its basis must be laid during this and the coming year. The debate on climate policy has failed to reach international consensus so far or even to produce a strong coalition able to undertake concerted action. This raises especially grave cause for concern given the recent reports by the

Intergovernmental Panel on Climate Change (IPCC), whose assessment of the global climate casts aside all doubt as to the seriousness of the situation.

Governments of the EU Member States have committed in March to reducing greenhouse gas emissions by at least 20 percent. To evaluate the EU climate strategy, it is important to differentiate between its effects within and its effects outside the EU.

A Compromise between Competition, Energy Supply Security, and Climate Goals

At the EU level, the 20 percent goal is a compromise between EU industrial interests and the recommendations of the EU Commission's Environment Directorate General. Prior to the Strategy Paper's unveiling there were numerous speculations about the greenhouse gas reductions it would demand, and it was an open question whether the ambitious proposed goal of a 30 percent reduction by 2020 (compared to 1990 levels) would indeed be set. The EU Council has emphasized that the 20 percent goal set is a minimum level that will be raised to 30 percent in the course of international negotiations as soon as other industrialized countries agree to also set this target. By adding this clause, the Commission and the EU Council have attempted to address concerns that European competitiveness could suffer severely from the emission reduction targets given the lack of effort on the part of other major industrialized countries to pull their full weight in working towards this goal.

The energy policy debate within the EU has intensified as well due to the interruptions in Russian gas (2006) and oil supplies (2007), which threatened to obstruct the view of climate policy targets completely. Here, the Commission stayed its course when it presented its Strategy Paper and the EU Council followed, refusing to be sidetracked from increasingly urgent climate demands. The intention of reducing greenhouse gasses is one focal point of the so-called EU "triangle" of policy goals, consisting of sustainability, competitiveness, and energy security as defined in the Commission's energy policy Green Paper published in March 2006.

Tightening CO₂ emission reductions targets is imperative especially because this will enhance the credibility of EU climate policy in the eyes of the other major industrialized countries. One important target is the reduction of global warming to an average level of 2°C. Yet the EU alone

cannot come close to the reductions necessary to achieve this target since—as the International Panel for Climate Change stated in its fourth expert report—the concentration of greenhouse gasses already emitted will lead to a 1.8°C increase in global warming during the next decades. In its report to the Panel, the Commission itself urged that emissions be reduced by up to 50 percent of 1990 levels by the year 2050 worldwide in order to achieve effective climate protection. Given the differences in economic development internationally, this would mean that the industrialized countries would have to reduce their CO₂ emissions by up to 80 percent by 2050.

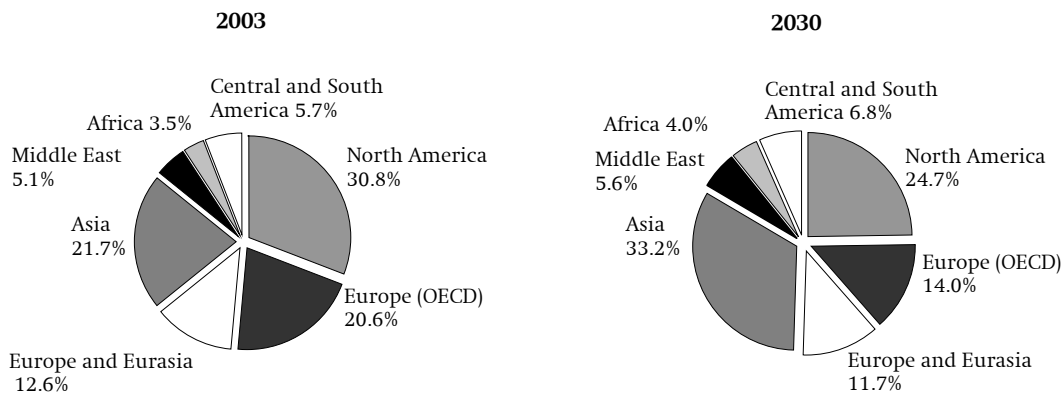
The EU's Declining Share of Global Emissions

The EU is currently responsible for one-sixth of global CO₂ emissions and one-fifth of the greenhouse gas emissions of industrialized countries (see Annex I of the Kyoto Protocol). The rapid economic expansion underway in developing countries like Brazil, India, China and South Africa has been accompanied in some cases by above-average increases in CO₂ emissions. Under the assumption that such developments continue unchecked in the decades to come, studies have shown that global energy consumption will increase by over 70 percent. The figure below shows different regions' share of total energy consumption in the year 2003, as well as a forecast for 2030. Since fossil fuels will continue to make up the lion's share of the global energy supply in the future, CO₂ emissions will show an equally dramatic increase if measures are not undertaken to prevent it. Developing and newly industrialized countries will produce at least three-fourths of these emissions. The *World Energy and Climate Policy Outlook* of the EU from the year 2003 forecasts that the EU's share of global GDP will decline from 62 percent (2000) to 45 percent (2030).

The EU's share of greenhouse gas emissions will therefore decrease due to the

Figure

Share of Global Energy Consumption in the Years 2003 and 2030 by Region



Source: Energy Information Agency (EIA), *International Energy Outlook 2006*, author's calculations.

combination of relatively low economic growth and a subproportional increase in energy consumption. This would still be the case even if the newly industrialized countries were to progress substantially in stimulating economic growth without increasing energy consumption. Assuming that Europe follows through with its Action Plan for Energy Efficiency (19 October 2006), the trend toward a decreasing European share of emissions will continue further.

The Role of the European Emissions Trading System

The EU Council has sent another important—although not surprising—message regarding the emissions trading system. The trade in emissions certificates is an essential steering mechanism on both the EU and individual Member State levels to ensure compliance with CO₂ emission reduction targets. At present, the system calls first and foremost on companies to meet emission targets. Increasing energy security (by expanding the share of renewable energies) and increasing competitiveness on international markets (by fostering efficiency and innovation) are desirable side effects of this.

However, it still remains completely unclear how the system should be improved. On the verge of its second trading period (2008–2012), the emissions trading system urgently requires critical assessment. There are problems, on the one hand, with price setting on the certificate market and with certificates for electric power generation in particular. On the other, there are high fluctuations in CO₂ prices. Although the EU explicitly declared the first two trading periods a test phase, the different modes of distributing emissions certificates at the Member State level have served only to decrease the transparency of price setting mechanisms. Since the auctioning of emissions rights, which played an important role in the pilot phase, has since been abandoned, the distribution of emissions certificates is now heavily subject to companies' ability to influence government decision makers. Furthermore, not using auctions means that the value of the certificates is not disclosed, which is a disadvantage from a business point of view as well. Since free distribution creates high assets for companies, there is a strong demand to continue distributing these rights without auctioning (grandfathering) in the future. For this reason, clear and

binding targets are urgently needed at the EU level to establish auctioning and to prevent fixed allocation of allowances from being undermined by exceptions granted at the national level.

As regards the dramatic fluctuations in price per ton of CO₂, simply reducing volatility would be sufficient at this stage. Prices are determined by several factors including emissions allocations, allowances under the Kyoto Protocol (clean development and joint implementation) and not least of all, business cycle developments and energy markets.

Participation in the emissions trading system not only provides companies with planning reliability beyond 2012, it also sends an important message to other countries. In the long term, the certificate market can play an important role internationally if individual countries commit to binding goals. The EU could lead by example here, encouraging other countries to follow suit. A number of US states have shown interest in adopting a similar system and integrating these markets, and China has indicated the desire to establish a certificate exchange market in Beijing. But for these international markets as well, the EU system for the allocation and trade of emissions certificates must still be rendered more transparent to prevent it from hindering competitiveness and endangering the security of the energy supply.

Policy Measures for Achieving Climate Goals

As a concrete means of achieving the climate goals, the EU plans not only to strengthen the emissions trading system but also to increase energy efficiency. Also the subject of the European Commission's October 2006 Energy Efficiency Action Plan, the envisaged increase in energy efficiency would entail a 20 percent decrease in primary energy consumption by the year 2020. Furthermore, by this date, the EU foresees an increase in the share of renewable energies in the overall energy mix to 20 percent.

This would apply both to electricity and biofuels as well as to heating and air conditioning. In addition, the EU will support the use of low carbon technologies in the energy sector.

Increasing Energy Efficiency

Increased energy efficiency can be achieved particularly by targeting the sectoral level—for example, by fostering the development of new technologies and by developing consumer standards for appliances and vehicles. There is also great potential to save energy by upgrading existing facilities—for example, by insulating buildings. International cooperation in this area could prove extremely important for other countries both on the technological level as well as in the area of innovative policy design.

To achieve increased energy efficiency, the EU Council sees it as crucial that the proposed measures be introduced not only by countries within the EU but by others as well. It proposes that a new international agreement be developed during the course of the German G8 presidency between the OECD and newly industrialized countries to be ready for signing in the year 2012. The international potential for savings through more efficient energy usage is estimated at 20 percent of current CO₂ emissions. Such an initiative would also function as a building block for a climate regime after 2012. For the developing and newly industrialized countries, this would offer the possibility for targeted cooperation in the transportation, construction, and energy sectors, and could also promote the development of common standards for reducing energy consumption.

Expanding the Use of Renewable Energies

The EU already set itself the ambitious goal of increasing the share of renewable energies in the energy mix to 12 percent by 2010. Of course, since not all the EU Member States have adopted the EU's strategy, not all will reach this objective. For this

reason and to create investment incentives, already existing energy policy instruments (for example, the 2001 guidelines on electricity production from renewable energy sources) should be put to better use now. Along with the goal of climate protection, the problem of securing the energy supply currently tops the policy agenda. The urgency of this issue may even spur to action those EU countries that have shown little interest thus far in making the necessary investments. The Commission plans to coordinate efforts with the help of National Action Plans—without interfering in Member States' sovereign right to decide on the composition of their energy mix—but new proposals for legislation are already in the planning stages.

Defining Technological Strategies

In the area of supporting technological strategies, the EU faces a complex task. For one, it must provide support to renewable energies that clearly differentiates among the different technologies. While the costs of hydroelectric and wind power production and some aspects of biomass production are almost competitive, others such as solar, geothermal and ocean energy remain far behind. Here policy-makers need to weigh whether the funds available are better spent on promising but expensive technologies with an open time horizon (such as photovoltaics) or on alternative technologies with the potential to be launched on the market in the foreseeable future. Given the uncertainties of research and development and the vast sums of money in question, we can expect a difficult and protracted discussion of this issue before any agreement is reached.

Furthermore, the European Commission has no mandate to intervene in national decisions on the energy mix: the Member States possess sovereign jurisdiction over their own energy supplies. This does not preclude that the Council agree on binding targets for the share of renewable energies in the energy mix, however, and thus in-

directly influence the energy mix at the Member State level.

To ensure that climate goals are reached, clear guidelines are crucially needed. Here, the task is clear: current efforts must continue in all the EU Member States, but without limiting the focus to "low-CO₂" technologies, since these include nuclear energy as well. There is little chance at present of reaching EU-wide agreement on the future role of nuclear energy.

The Challenge of Sustainability

Increasing the share of renewable energies and promoting the development of technologies based on them will help European companies to maintain their competitiveness in a constantly expanding market. Furthermore, in the long term, pursuing these goals will stabilize or even reduce the dependency on energy imports. In this policy area, the greatest challenge will be to achieve sustainability. Particularly the use of biomass to produce alternative fuels (bioethanol) poses problems. The EU Council has decided that first-generation (bio-diesel) and second-generation (bioethanol) biofuels should make up 10 percent of fuels for road traffic by the year 2020. The Commission emphasizes that biofuels should be produced in a sustainable way: both those produced in the EU and those imported from abroad.

However, two important aspects must be taken into account here. First, ethanol production is the most wasteful ways of using biomass in the economic energy cycle: only about 20 percent of the energy produced actually ends up in the gas tanks of consumer cars. The use of ethanol for heating is much more productive, achieving up to 70 percent energy yield. The possibility of using biogas as auto fuel has not been tested adequately thus far, although past experience with natural gas can certainly provide a useful starting point. The auto industry's lack of interest constitutes a major obstacle, however. Car manufacturers are currently setting the course for the

future of fuel production by designing automobiles that are powered by ethanol, yet have made no major effort to reduce gasoline consumption as such. Tangible improvements in climate policy can only be achieved by linking stricter emissions targets—such as the recent limit on CO₂ emissions per kilometer—with a firm commitment to the use of alternative fuels.

Second, any decision in favor of increased ethanol use should take into account ethanol production as well. The most productive plants used for ethanol production (such as oil palm) are not farmed in Europe but in tropical regions. The world's largest exporter of ethanol at present is Brazil. Indonesia is expanding the area of land dedicated to oil palm cultivation—regions that also contain major rainforest areas. In this context, the argument that increasing bioethanol use supports climate protection can thus only be used with the greatest caution. Cooperation with producer countries is indispensable in order to stop vast areas of land from being transformed into CO₂ sinks, a process already well underway in many regions.

The potential international impact of the EU strategy in this field should not be underestimated. For climate policy after 2012, it is crucial that regional and national strategies are discussed and coordinated internationally. In 2006, the USA set a goal for biofuels (25% of consumer usage by 2025) as well. But if the efforts of different countries are not coordinated, the narrow focus on national interests may lead to inefficient solutions, and well-intended climate protection efforts may produce ineffective or even counterproductive outcomes.

Incentives for International Action?

The EU is an important and influential player in the global climate policy arena. The cornerstones of its climate strategy also offer outstanding incentives for other countries to participate in emissions trade and technological cooperation. But these

clear incentives stand in stark contrast with the 10 percent increase in emissions reductions by 2020 that will only come into play if other industrialized countries agree to the proposed 30 percent. This appears somewhat half-hearted in light of recent findings on climate change and the current international mood. By allowing itself to emit 10 percent more greenhouse gases, the EU would hardly be offering a plausible “climate sanction” for other industrialized countries that choose not to participate—although the goal of 30 percent in all industrialized countries would unquestionably be a great achievement for climate policy. Given the complex constellation of interests involved, it is unlikely that agreement will be reached on this point in the near future.

Setting the Course for 2007 and 2008

After the 12th United Nations Framework Convention on Climate Change in Nairobi in November 2006 failed to create a framework for a new climate regime after 2012, this goal was placed on the agenda of the European Council's March Summit. The hope was that swift progress could be made toward agreement on an international initiative for the period after expiration of the Kyoto Protocol. The agenda for a new agreement is long and bears high conflict potential because of the lack of unity on climate policy both among the industrialized countries as well as between them and the newly industrialized countries.

Despite having pulled out of the Kyoto process in the year 2001, the US is working hard at the state level for increased climate protection. While the Bush administration in office up to 2008 will certainly not budge from its blanket rejection of internationally determined targets, the wall of opposition is gradually being eroded by the new political constellations that emerged from the 2006 mid-term elections when the Democrats gained a majority in both the House and the Senate. Simultaneously, an initiative put forward by ten large US corporations to create a *cap and trade* system (setting

overall emissions limits and making high emitters purchase credits from low emitters) has further increased the pressure in the US for climate action.

As formulated in the proposed strategy, the EU's plan of continuing to play the leading role on the international stage while at the same time combining higher reduction goals with conditions on other countries will not bring about the progress desired. Furthermore, this plan has not been perceived in the US as any kind of incentive. What might prove much more effective, in contrast, and indeed bring about a major turnaround in climate policy and a change in the international leadership on this issue would be if the US were to succeed in reaching the "top of its class" in environmentally friendly technologies.

An effective international climate policy would have to build on the transatlantic commonalities that already exist prior to the measures proposed by the EU: emissions trading, increased energy efficiency, the use of renewable energies, and the technological leadership required to put these energies into action.

The Post-2012 Regime: International Law or Technological Cooperation?

Corresponding to the divergent interests of the EU and the US, two different positions can be identified in the debate on climate policy after 2012: one supports a continuation along the lines of the Kyoto Protocol and the other supports a regime based more on technological partnerships within the UN Framework Convention on Climate Change. The EU traditionally favors the former: an international legal framework. Thus, the Commission advises that a sustainable contractual framework be created for enforcing compliance with agreed targets. They argue that without binding targets, it will be impossible to limit global warming to 2°C.

The US government, on the other hand, refused to ratify the Kyoto Protocol in 2001 because it felt that the principle of anchor-

ing emissions reductions in international law would violate national economic interests. In order to take action on climate change nevertheless, the US government set a voluntary greenhouse gas intensity target for domestic industry that would achieve an 18 percent reduction of greenhouse gasses per unit of GDP by 2012. From the very beginning, it was clear that emissions would increase in absolute terms under these conditions. At the international level, the US has also been working towards an initiative with Australia, China, India, Japan and South Korea since 2006. The *Asia Pacific Partnership on Clean Development and Climate* (APP) is designed to use the development and transfer of clean technologies to reduce energy and thus emissions intensity in individual sectors (such as the aluminum industry and carbon-based energy generation).

The different camps in both the EU and the US are now in a phase of profound upheaval. In the EU, it has become clear that the Member States cannot reach their climate goals without technological progress, while in the US, the call for clear emissions reduction targets is being heard ever more loudly. With a view to an international climate regime, an either/or solution is no longer possible for either of the two major players. The main problems facing an agreement now are found on the multilateral level. The clear position of government and business leaders in the fast-growing newly industrialized countries is that binding targets are only acceptable if these countries are not forced to sacrifice their own economic growth. Countries like India even demand that the major industrialized countries reduce their economic activity to correct the asymmetries in international development. A new international climate regime would thus have higher chances of acceptance in the newly industrialized and developing world if it offered these countries the chance to catch up economically. This entails that there is no way around reforming development policy in direct connection with climate policy.

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In countries with high energy intensity and weak improvements in energy efficiency (India was only able to increase its energy efficiency by 0.2% between 1980 and 2003 while China improved by 4.8%, although both have been cited by the World Bank and the *Energy Information Agency* as having high potential) reduction targets mean nothing other than a limit on economic growth. One can therefore not expect any agreement on emissions reductions from the rapidly growing newly industrialized and developing countries that are just beginning to show signs of economic boom. Even the most cautiously formulated demand for an agreement would only have a chance of being heard if it were linked to concrete offers for technological cooperation. In this context, the current mechanisms in the Kyoto Protocol—Clean Development and Joint Implementation—should be reevaluated and developed further.

The negative reaction of some of the larger newly industrialized countries to the proposal by 46 states to strengthen the United Nations Environmental Program (UNEP) in reaction to the report by the Intergovernmental Panel on Climate Change has again shown how sensitively China, India and other countries react to international intervention into their own development paths. In order to prevent such blockades in the future we must work now to prevent the reemergence of entrenched, uncompromising positions, like the one that developed in the US in the late 1990s, spelling the end of the Kyoto process. At that time, a majority in the US felt that the Kyoto Protocol should only be ratified under the condition that the newly industrialized countries would be compelled to reduce emissions as well.

With a view to the next UN Climate Conference in December 2007, the crucial matter at hand is to reach agreement on recommendations for EU policy, but also to propose a strategy for international policy. By building cooperation on innovative technologies that can help to reach climate

goals, we will above all encourage those countries to cooperate that are currently among the world's major greenhouse gas emitters and threaten to reject international climate policy if unconditional targets are imposed on them. Furthermore, since binding targets create an important stimulus for competition and energy supply, the industrialized countries—not least because of their historic role in this process—should proceed boldly forward in committing to ambitious emissions reduction goals.