



The Kyoto Protocol and Global Climate Change: Towards a New Transatlantic Consensus?

There is now a broad scientific consensus that global climate change is fast becoming a reality. Recent studies, such as the Stern Review of the British government, have clearly demonstrated the enormous costs that could result should the international community fail to act¹. With the 2012 deadline for the Kyoto Protocol fast approaching, agreement on a post-Kyoto climate change regime has, therefore, become a pressing matter. However, any such regime is going to be ineffective, unless it is supported by both Europe and the United States. But, what are the chances for a new transatlantic consensus on climate change? And what are the major points on which the two transatlantic partners continue to remain apart?

The Kyoto Protocol and Global Climate Change

In 1992, following increasing concerns that human activities might lead to a concentration of greenhouse gases (GHG) in the atmosphere and thereby affect global climate change, UN member states joined together to sign the United Nations Framework Convention on Climate Change (UNFCCC). Both the United States and the European Union were among the signatories. As part of the UNFCCC, the major industrialized nations pledged to reduce their emission of greenhouse gases to 1990 levels by 2000. However, as these pledges were voluntary and non-binding, little action was taken by any of the signatories. As scientific evidence grew firmer that human activities might be related to global warming, in 1995 UNFCCC signatories decided to start negotiations on a more binding agreement. With considerable disagreement amongst the key players about the shape of such a commitment, no agreement was reached until the third conference of the parties (COP-3) convened in Kyoto in 1997. The Kyoto Protocol was further refined and redefined through subsequent conferences of the parties (COPs), before entering into force in February 2005.

At the heart of the agreement made at Kyoto is the commitment by industrialized countries to reduce their greenhouse gas emissions by 5.2%, compared to their 1990 levels. Compared to expected emission levels for 2010, this would represent a 29% cut in GHG emissions by industrialized countries. The goal is to reduce overall emissions of six greenhouse gases, including carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, HFCs, and PFCs – of which carbon dioxide is by far the most common. Reductions will be calculated as an average over the five year period from 2008-2012. As part of the overall goal, national targets vary considerably, ranging from reductions of 8% for the EU, 7% for the US and 6% for Japan to permitted increases of 8% for Australia and 10% for Iceland. Under these provisions, some 39 industrialized countries have committed themselves to attain binding national targets over the 2008-2012 period (Annex I countries). While many developing countries (non-Annex I countries) have become

¹The European Union Center of the University of North Carolina at Chapel Hill is funded by the European Union to advance knowledge and understanding of the EU and its member countries.

signatories to the Kyoto Protocol, they face no binding obligations to reduce greenhouse gas emissions themselves. By December 2006, a total of 169 countries have ratified the Kyoto Protocol.

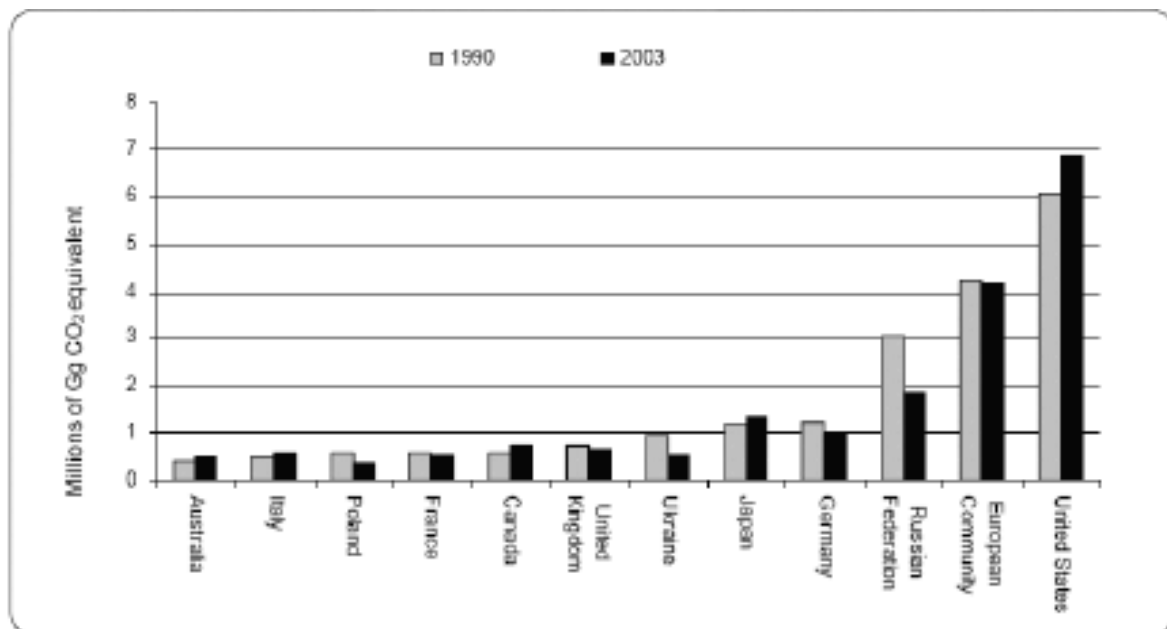
One of the most contentious issues during the Protocol's evolution has been that of compliance requirements for Annex I countries. The Protocol established that any of the Annex I countries not meeting their target in the 2008-2012 period, will have to make up for it in a consecutive commitment period. They will face an additional penalty of 30% for every ton of GHG exceeding their previous target and will be barred from selling under any emissions trading scheme. However, how countries would be able to meet their commitments in the first place, for long remained a bone of contention. Thus, US demands that emission trading and carbon sinks (forests, soil, geo-sequestration) should be included in the list of measures to meet requirements, were long opposed by the European Union. A compromise was finally found at the COP-6 meeting in Bonn in 2001. Here, caps for carbon sinks were established and it was agreed to adopt a "flexibility" mechanism, enabling Annex I countries to accumulate carbon credits that would be counted towards fulfilling their national targets. The Bonn compromise established three such mechanisms: Emissions Trading (ET), Joint Implementation (JI), and the Clean Development Mechanism (CDM). While no quantitative limits were placed on the use of these mechanisms, it was agreed that "the acquisition of emission reduction units shall be supplemental to domestic actions."

Aside from reducing greenhouse gas emissions domestically, including the use of carbon sinks, three alternative mechanisms are currently available to Annex I countries to meet their national targets. Under the Clean Development Mechanism (CDM), Annex I countries can establish GHG reduction projects in non-Annex I countries and receive credit for doing so. At the same time, the CDM is seen as a way of encouraging GHG reductions in non-Annex I countries, with the help of industrialized countries. Joint Implementation (JI), similarly, allows Annex I countries to invest in GHG reduction schemes in other industrialized countries as alternative to emission reduction in their own economies. Finally, the Kyoto Protocol allows for the establishment of emission trading (ET) schemes amongst a sub-group of countries, where carbon credits can be traded as financial instruments. Under ET schemes a central authority, or government, sets a cap on the amount of pollutant that can be emitted. Companies are then given credits representing the right to emit a specific amount of pollutant, not exceeding the cap. A market will be set up to trade these credits, allowing companies that are high pollutant to buy credits from those that pollute less. The more high polluting companies there are, the higher will be the price of credits, thereby giving a cost incentive to lower emissions overall. ET is seen as an effective way to lower emissions by using the "free market". The UK has been the first country to set up an emission trading scheme in 2002. In the meanwhile, similar ET schemes have been adopted by the EU (ETS), as well as between 9 Northeastern US states.

Regardless of the sophisticated mechanisms that have evolved as a result of the Kyoto Process, real progress in limiting GHG emissions has been slow. Thus, it has been noted

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that by 2006 only 17 out of 39 Annex I countries can be considered to be on track with meeting their targets. Twelve of these belong to a group of post-communist economies, which went through a process of economic contraction that is largely responsible for their GHG reductions. Of the remaining five western European countries², only some have achieved considerable reductions. Even more worrisome is the contention of several scientists that with the inclusion of carbon sinks in the 2001 Bonn compromise, actual emission reductions have all but disappeared. Thus, one report estimates that following the inclusion of carbon sinks, the expected effect of the Kyoto Protocol will be “between a net cut of about 1 per cent relative to no policy and a 9 per cent growth in net emissions from 2000 levels.”³ Finally, without participation of the United States and at least some of the most important developing countries, such as China and India⁴, the Kyoto Protocol will be unable to significantly reduce global GHG emission.



The US Position on Climate Change

Under the Clinton administration the US participated actively in the formulation of the Kyoto Protocol and the subsequent development of the UN agenda on global climate change. However, when Clinton decided to submit the Kyoto Protocol to Congress in 1998, he encountered a determined opposition. Above all, he was accused of acting in violation of the 1997 Byrd-Hagel Resolution, which demanded an analysis of the economic impact of the treaty on the US economy and an effort to include developing countries within the Kyoto framework. The resolution stated that “the proposal under negotiation...could result in serious harm to the United States economy, including serious job losses, trade disadvantages, increased energy and consumer costs, or any combination thereof.”⁵ Unable to ignore the Byrd-Hagel resolution, Clinton released an economic analysis of the Kyoto Protocol, which claimed that the costs would be negligible. However, confronted with scores of independent reports predicting a potentially large

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impact on US GDP, as well as continuing demands to involve the developing world, Clinton was unable to pursue the ratification of the Kyoto Protocol any further.

Shortly after taking office, the Bush administration asked for a delay in negotiations on the Kyoto Protocol. However, before talks could be restarted, Bush rejected the Kyoto Treaty in 2001 on the basis that it would be damaging to the US economy and failed to involve developing countries. Instead, he argued for a new approach towards climate change, based on voluntary actions, increased scientific research and market mechanisms. When negotiations among UNFCCC members eventually resumed, the US remained associated to the process, but refused to participate in any negotiations directly concerned with the Kyoto Protocol. In 2002, the administration announced its own policy on climate change, based on voluntary action. This policy centers on achieving a reduction in the greenhouse gas intensity of the US economy by 18% over a period of 10 years⁶. While the GHG intensity of the US economy has been on the decline for some years, several observers have pointed out that even if this trend continued, significant increases in overall GHG emissions remained likely⁷. This seems confirmed by UN figures indicating an increase of US GHG output by 16% over the 1990 to 2004 period.

In addition to its domestic climate change agenda, the US has encouraged the establishment of the Asia-Pacific Partnership on Clean Development and Climate (AP6). Established in mid-2005, this partnership includes six countries: the United States, Australia, China, India, Japan and South Korea. Together, these countries account for around 50% of global GHG emissions. Contrary to the Kyoto Protocol, the AP6 allows member states to set individual and entirely voluntary goals for GHG reductions. Aside from engaging some of the most important developing countries, the AP6 sees its added value in promoting the transfer of clean technologies and market-based mechanisms.

While the US federal government has been notoriously reluctant to adopt legislation limiting GHG emissions, recent years have seen several US states adopting Kyoto-like legislation. In 2005, California adopted its Global Warming Solutions Act that aims to reduce GHG emissions to their 1990 level by 2020. At the same time, nine north-eastern states have joined together in order to adopt an emissions trading scheme similar to that of the EU. Facing the prospect of having to deal with a patchwork of state legislations, some analysts have argued that US business is increasingly accepting the need of some form of federal legislation. While the current Bush administration continues to be primarily concerned with the issue of energy security, all of the major candidates to succeed him have accepted the need for federal action on climate change⁸. In the meantime, several draft bills on climate change have been circulating in the US Congress. However, none of them endorses GHG reductions on the scale of those promoted by Kyoto, and any future federal action will likely remain timid. Nevertheless, all this seems to indicate that after more than five years of absence from the global climate change debate, the US might finally be returning to the negotiation table.

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The EU Position on Climate Change

The European Union and its member states have consistently been amongst the most enthusiastic promoters of the Kyoto Protocol and can be credited with keeping the process alive, after the US abandoned it in 2001. Since 1991, when it issued its first strategy to reduce European GHG emissions, the European Commission has played an active role in directing and fostering common European efforts to address global climate change. The Commission's European Climate Change Programme (ECCP), first adopted in 2000, has provided a framework for EU member states to develop a common climate change strategy and consult with the relevant stakeholders. Under the 1997 Kyoto Protocol, the EU-15⁹ took on the responsibility of collectively reducing GHG emissions by 8% over the 2008-2012 period. National targets, however, vary considerably according to the commitments made by each member state. The twelve new EU member states are not part of the collective EU target, but most have made individual commitments to reduce GHG emissions.

While the European Union has been an enthusiastic supporter of the Kyoto Protocol, progress with achieving the collective target of 8% reductions has been protracted. Indeed, according to the latest projections, based on policies and measures already in place, EU-15 emissions are expected to decline by only 0.6% in 2010. If additional measures that have been agreed at national and EU level will be implemented in full, the reduction will increase to 4.6%. This means that almost half of the EU reductions will have to be achieved by making use of carbon sinks and the flexibility mechanism of the Kyoto Protocol. In this regard, the successful establishment of an EU Emissions Trading Scheme (ETS) in 2005 has been a critical juncture for the EU to fulfill its target. As part of the ETS, quotas were introduced in six key industries: energy, steel, cement, glass, brick making, and paper/cardboard. The EU has also agreed that member nations that fail to meet their obligations will be fined by the Community, starting at €40/ton of carbon dioxide in 2005, and rising to €100/ton in 2008. It has been forecasted that total EU-27 reductions, making use of all available instruments will exceed 10% by 2010.

However, the lack of a long-term perspective beyond 2012 has caused serious problems in the EU, inhibiting long-term investments in clean technologies and casting uncertainty over the future of the ETS. Recognizing these problems and attempting to take a leadership role in the debate on the post-Kyoto future of global climate change, the European Commission has released a new climate change strategy in early 2007. The declared goal of this strategy is to limit global average temperature increases to no more than 2 degree Celsius, as compared to pre-industrial levels. To achieve this goal the Commission argues that the EU should pursue in international negotiations the objective of a 30% reduction in GHG emissions by developed countries by 2020 (compared to 1990 levels). At the same time, the EU should take on an independent commitment to achieve a collective reduction of GHG emissions by 20% by 2020. In order to achieve these reductions, several proposals have been made by the Commission, including: a 20% target for renewables in the EU's overall energy mix by 2020; an obligation to attain 10%

⁹The European Union Center of the University of North Carolina at Chapel Hill is funded by the European Union to advance knowledge and understanding of the EU and its member countries.

biofuels in their transport fuel mix; and a refocusing of R&D expenditure on low carbon technologies.

Member State	EC burden sharing target	With existing policies and measures	With additional policies and measures	With additional measures, Kyoto mechanisms and carbon sinks		
	Commitment	Projections for 2010	Projections for 2010	Use of Kyoto mechanisms	Use of Carbon sinks	Projections for 2010
	(in % of base year)	(in % of base year)	(in % of base year)	(in % of base year)	(in % of base year)	(in % of base year)
Austria	-13.0%	+14.8 %	+3.3 %	-8.9 %	-0.9 %	-6.5 %
Belgium	-7.5%	+1.2 %	-0.7 %	-5.8 %		-6.6 %
Czech Republik	-8.0%	-24.4 %	-26.7 %		-0.6 %	-27.4 %
Denmark	-21.0%	+4.2 %	+4.2 %	-6.5 %	-0.7 %	-3.0 %
Estonia	-8.0%	-56.5 %	-60.0 %			-60.0 %
Finland	0.0%	+9.9 %	-1.9 %	-3.4 %	+1.3 %	-4.0 %
France	0.0%	+6.4 %	+0.5 %		-0.6 %	-0.0 %
Germany	-21.0%	-19.8 %	-21.0 %			-21.0 %
Greece	25.0%	+34.7 %	+24.9 %			+24.9 %
Hungary	-6.0%	-28.5 %	-28.8 %			-28.8 %
Ireland	13.0%	+29.6 %	+29.6 %	-6.5 %	-3.8 %	+19.4 %
Italy	-6.5%	+13.9 %	+4.1 %	-7.8 %	-2.1 %	-5.8 %
Latvia	-8.0%	-46.1 %	-48.6 %			-48.6 %
Lithuania	-8.0%	-50.5 %	-50.5 %			-50.5 %
Luxembourg	-28.0%	-22.4 %	-22.4 %	-23.6 %		-46.0 %
The Netherlands	-6.0%	+3.6 %	+0.7 %	-9.3 %	-0.1 %	-8.6 %
Poland	-6.0%	-12.1 %	-12.1 %			-12.1 %
Portugal	27.0%	+46.7 %	+42.7 %	-3.1 %	-7.8 %	+31.9 %
Slovakia	-8.0%	-22.4 %	-24.8 %			-24.8 %
Slovenia	-8.0%	+4.7 %	-1.7 %		-8.3 %	-10.0 %
Spain	15.0%	+51.3 %	+51.3 %	-6.9 %	-1.9 %	+42.4 %
Sweden	4.0%	-1.0 %	-1.0 %		-3.0 %	-3.9 %
The United Kingdom	-12.5%	-18.8 %	-23.2 %		-0.5 %	-23.7 %
EU-15	-8.0%	-0.6 %	-4.6 %	-2.6%	-0.8%	-8.0 %
EU-10	-	-21.4 %	-22.4 %	0.0%	-0.3%	-22.6%
EU-25	-	-4.6 %	-8.1 %	-2.1%	-0.7%	-10.8%

In March 2007, EU member states achieved a breakthrough agreement, under which they legally committed themselves to increase the share of renewables in their energy mix to 20% by 2020 and to cut GHG emissions by 20% over the same period. Work on national targets for each EU member state will start in fall 2007 and is expected to be protracted.

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However, EU leaders hope that these new commitments to GHG reductions will put them in a comfortable position to strike a deal with the US and China on a post-Kyoto framework for global climate change at the forthcoming G8 summit in June 2007.

Climate Change in the Post-Kyoto Era: Towards a Transatlantic Consensus?

With the US position on climate change slowly shifting towards the global mainstream and wide expectation for a new commitment to GHG reductions from the next US administration, chances seem better than ever for an EU-US agreement on a post-Kyoto framework for global climate change. Pressure for a new US commitment to the reduction of GHG emissions is likely to emerge from amongst a number of US states that are already exploring different options to reduce GHG emissions. In this regard, a recent agreement between California and the UK to share their experiences with emission trading systems could well work as a conduit for any future transatlantic agreement¹⁰. Indeed, emission trading, regarded in the US as the most effective market solution for GHG reductions, is likely to be at the centre of any such transatlantic agreement.

At the same time, some significant differences remain between Europe and the United States on the subject of global climate change, which might make any transatlantic agreement difficult to achieve. The most significant of these are: The scale of GHG reductions to be achieved; the responsibility of developing countries; and the shape of any post-Kyoto agreement.

1. Opinions remain oceans apart, when it comes to the size of future reductions in GHG emissions. While the European Commission has been proposing a 30% reduction of GHG emissions by 2020, this exceeds by far some of the more recent proposals circulated in the US Congress. Amongst these, the McCain-Lieberman bill remains the most ambitious, proposing to cut GHG emissions to their 2004 level by 2012 and mandating further reductions of 2% p.a. until 2020. While the reductions proposed are far below those considered necessary by the EU, the bill has failed to attract any significant support and is considered by most US policy-makers as “too radical”.
2. Concerning the role of developing countries, the EU has argued that the industrialized world is responsible for 75% of the current accumulation of industrial GHG in the atmosphere, and therefore carries the primary responsibility for achieving GHG reductions. Acknowledging that developing countries emissions will account for 50% of global emissions in 2020, the EU has called on them to reduce the growth of their emissions as soon as possible and cut their emissions in absolute terms after 2020. This is likely to represent too little too late for US policy-makers, which have been insistent on involving the major developing countries to a larger extent in global GHG reduction schemes, partly due to fear of economic competition.
3. While the EU has been an ardent defender of the UN as most appropriate forum for discussions on global climate change, the US has consistently sought to exclude the UN from any dialogue on global climate change. US Congress remains skeptical

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about all UN initiatives concerning the environment and the founding of the AP6 has been a clear attempt to move the debate away from the UN. In general, the US has sought a bottom-up approach, promoting incremental progress amongst a small group of key countries, before gradually enlarging the process. This cautious approach envisaged by the US is likely to be unacceptable to the EU, which has insisted on the centrality of the UN in the process.

¹ The costs of inaction are estimated by the Stern Review at around 5-20% of global GDP, falling disproportionately on the world's poorest. See: Stern Review on the economics of climate changes, available at: <http://www.hm-treasury.gov.uk/>

² France, Germany, United Kingdom, Sweden, Greece.

³ Mustafa H. Babiker, Henry D. Jacoby and David M. Reiner (2002), "The evolution of a climate change regime: Kyoto to Marrakech and beyond", Environmental Science and Policy, Vol. 5

⁴ In 2004, China's GHG emissions were at 54% of the US and some predictions estimate that within 2-3 years China will emit more GHG than the US.

⁵ The Byrd/Hagel Reolution was passed by the US Senate with a 95-0 vote in 1997.

⁶ Greenhouse gas intensity measures the ratio of greenhouse gas emissions to economic output.

⁷ Paul Krugman, "Ersatz Climate Policy", New York Times, November 15, 2002

⁸ John McCain, Hillary Clinton and Barack Obama have all endorsed the idea of a bill tackling climate change.

⁹ The fifteen member states part of the European Union prior to Eastern Enlargement.

¹⁰ See: BBC News, "California and UK in Climate Pact", August 1, 2006, http://news.bbc.co.uk/2/hi/in_depth/5233466.stm