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Post-Kyoto and the position of the European Union

Wilbur Perlot, August 2005

The Kyoto Protocol went into effect on 16 February 2005. As a first step in the fight against global climate change, it is important to already look beyond the Protocol for the next steps. Due to strong economic growth and corresponding energy consumption, CO_2 levels in the Earth's atmosphere are still rising. Led by China and India, developing countries will surpass the developed countries as the biggest emitters before 2030. The commitments necessary to curb CO_2 emissions are considerable and progress also requires an increase in the number of actors involved. The EU, as the most committed actor so far, needs to determine its path towards a new multilateral treaty at a time in which international cooperation appears to be moving away from strict commitments towards technological oriented approaches and at a time in which the relative importance of Europe is declining. For the short-term, bilateral cooperation on multiple issues seems to have more chance of succeeding in stabilising CO_2 emissions than an overall multiparty treaty.

Introduction – Kyoto in effect

Within the framework of the Kyoto Protocol, in 1997 industrialised countries and the transition economies – the so-called Annex 1 countries – agreed on a 5.2% reduction of their greenhouse gas emissions (compared to 1990 levels) by 2012. The United States (US) and Australia, decided not to ratify the Protocol. The main motivation of the Bush Administration not to ratify in 2001 was that it considered the absence of any obligations to limit emissions by large developing countries, such as China, unfair.

The US decision in 2001 placed the fate of the Protocol in Russian hands: the Protocol required ratification by a number of states which together account for at least 55% of the 1990 greenhouse gas (GHG) emissions. After the US 'no' this was unachievable without Russia. Thus, without Russian ratification, the Protocol would never have come into effect. The

European Union (EU), who was the strongest advocate of the Protocol, then entered into protracted negotiations with Russia. Russia's subsequent agreement to ratify the Protocol appears to have been a package deal, including the much-desired EU support for Russia's bid to join the World Trade Organisation (WTO).

The Kyoto Protocol coming into effect on 16 February 2005 has led to both celebration and protest. Protesters include economists who assert that the Protocol is an economically unviable proposition; liberal politicians who regard the Protocol as too state-oriented; European business representatives who are concerned about their international competitiveness; and members of the NGO community who warn that the Kyoto Protocol is only a marginal first step to avert global warming.

This last point is not disputed. Kyoto has always been presented as a first small step – one that is necessary to gain experience in effective climate policies, to build international consensus and to develop trust and commitment for the large-scale emission reductions to come. Considering the Protocol's long and difficult road thus far and the apparent problems for countries such as Japan and the Netherlands to meet the Kyoto targets, it is possible that this first small step is already too long of a stride.

Future economic growth

Since the Industrial Revolution, the level of CO_2 in the Earth's atmosphere has increased from 280 parts per million (ppm) to 375 ppm today. The period from 1970 to 2000 accounted for 60% of this increase. The average global temperature rose by 0.6 degrees Celsius. Based on expected rates of economic growth, energy consumption and the continuing dominance of fossil fuels – almost 90% of the energy consumed – the International Energy Agency (IEA) anticipates another 70% increase in CO_2 emissions in the period 2000-2030. In 2025, the developing countries are expected to surpass the developed countries as the biggest contributors of new CO_2 into the atmosphere.

The economic growth rate of developing countries in combination with relatively low economic growth rates in the EU, implies that the latter's relative share in global gross domestic product (GDP), global energy demand (from 16.6% in 2002 to 12.5% in 2030[1]), and global CO_2 emissions (from 14% in 2000 to 8% in 2050[2]) will decrease, while the shares of developing countries will increase. In other words, this relative shift in economic weight, also for the US could impact the future approaches to global warming.[3] Countries such as China, the US, India, Japan, Russia and Brazil will be the leading economies of the future and should be part of new commitments to battle global warming.

[1] International Energy Agency (IEA), 2004, *World Energy Outlook 2004*. Paris: OECD/IEA.
[2] European Commission, 2005, *Winning the battle against global climate change.* Brussels, 9.2.2005. COM (2005) 35 final
[3] The largest European economies, Germany, the United Kingdom, France and Italy, ranking third to sixth in terms of GDP worldwide, will have fallen respectively to the seventh to tenth positions by 2050. See predictions made by Goldman Sachs in 2003. Dominic Wilson and Roopa Purushothaman; *Dreaming With BRICs: The Path top 2050*; Global Economics Paper No. 99, October 2003.

Post-Kyoto

The focus and attention of the international community has changed considerably since the first round of climate negotiations began in the early 1990s. With the fall of the Berlin Wall it seemed that a new era of cooperation and multilateralism had begun. In the post 9/11 world, however, national objectives and security issues have claimed more prominence on the political agenda, especially but certainly not exclusively in the US. International agreement is seemingly more difficult to achieve and the role of international institutions is under discussion. It is difficult to predict what the future will bring and what the most important guiding principles for the international community will be in the coming decade. It is however possible to say that the changing setting will heavily influence the negotiation process around new international climate policies.

The EU has asserted that it wants to limit the rise in temperature to two degrees Celsius in comparison to pre-industrial levels. Based on current climate models, this implies that the average amount of CO_2 emissions in this century needs to stabilize around 550 ppm. Such an overall target is not global policy and shall be part of future negotiations concerning post-Kyoto. The real challenge will be to find consensus between the major actors – the US, EU, China, Russia, India, Japan and Canada – on both their commitments to reduce emissions and the principles upon which these commitments will be premised.

In the 2005 European Commission communication, *Winning the battle against global climate change*,[4] a 'staged' approach is being discussed. Based on a set of indicators, such as GDP, countries are divided into groups. Some receive absolute 'Kyoto-like' targets. For countries with strong economic growth there can be intensity targets to decouple economic growth with growth in CO_2 emissions. Future negotiations will probably focus on indicators and what they mean for the different countries. Should China commit to an absolute target, or should it fall under one of the other categories? The same questions can be asked for India or Russia. And, how the US will react if China falls under a different regime than the US?

A staged approach leaves room for the 'development first' principle, which is part of Kyoto and which must be part of a successor agreement, considering the United Nation Millennium Development Goals (MDGs) for poverty reduction. Developing countries will be assisted in reaching sustainable economic growth and upon achievement of specific indicators another regime will become applicable, and so forth. The problem lies, again, in determining the thresholds for particular indicators and when a country graduates to another regime.[5] This question is the most pressing for China and India, which in absolute GDP terms rank amongst the top twenty economies of the world, despite their low GDPs per capita.

If it would come into force, a multi-party treaty will be difficult to implement. What are the consequences if countries do not reach their target? What kinds of mechanisms should be used to ensure such a treaty's enforcement? As with other classical prisoner's dilemmas, actors have an incentive to break the agreement, since implementation means costs without direct and clear benefits. Breaking the agreement enhances the economic competitive position of an actor in

[4] Op. cit. note 2.

[5] This issue bears resemblance to the graduation issue in trade in the 1970s and 1980s. Within the GATT framework, developing countries were given preferential treatment by the US and Europe. Emerging economies resisted loosing their preferential position in trade.

comparison to the actors that do comply and is thus an attractive option. The result could be a 'tragedy of the commons'; a downward spiral of actors who are tempted to opt out or ignore their commitments, leading to the destruction of the commons, in this case, reaching critical CO_2 levels in the Earth's atmosphere. A global CO_2 reduction enforcement agency is politically unimaginable. A case in point is the practical difficulties of monitoring and controlling the emissions of, for instance, Russia, China and India. What is to be done if the countries disregarding the post-Kyoto treaty are the US and China – the biggest emitters and also the largest economic powers? Ultimately, trust will be a crucial element of a multi-party treaty. Further, levels of trust will be contingent on the outcome of geopolitical changes currently underway.

The recent Asia-Pacific Partnership on Clean Development and Climate in which the US, China, India, Japan, South-Korea and Australia participate, sidesteps all the aforementioned problems concerning a new international treaty because it does not formulate any reduction targets. It is a voluntary cooperation agreement with a strong focus on technological developments and as such in line with the policy of the Bush Administration since 2002. The participation of the two non-ratifying countries and the two largest developing countries makes the agreement far more significant than the text itself, which offers little news. It might lead to an increased interest for global warming as such and strategies to deal with it in the respective capitals. It is possible that this initiative develops into a complementary path to Kyoto and must be seen as a way to build up trust among these key-players. However, the completely different approach to tackle the problem of global warming could also develop into an opposite approach that competes with the Kyoto path. Many other countries might find a non-obligatory treaty without growth restrictions, without clear reduction targets and with the promise of new technologies far more attractive than the strict, complex and mandatory policies connected to the Kyoto-protocol. Although it is still too early to say, the new initiative could signal changes in international cooperation on climate change. The implications could even be more far-reaching since this agreement is a Transpacific scheme and not Transatlantic, symbolising perhaps unintentionally, the relative shift in economic and political weight away from Europe.

The EU position

In a period of a changing political landscape and a world economy in which non-Western countries are becoming increasingly more significant, it is unrealistic for the EU to take the sole lead on fighting man-made global warming. The risk for the EU to incur great costs in the absence of significant benefits is too great. At the same time it is clear that action must be taken and that none of the great actors except for the EU seems to be ready to assume a leadership role.[6] The latest communication from the European Commission recognises this difficult position and attempts to formulate policy around it. The aim of EU policy is a multilateral treaty similar to the Kyoto Protocol and falling within the United Nations Framework Convention on Climate Change (UNFCCC). Before clarifying the possible EU commitment for the period after 2012, the EU is aiming for a series of bilateral talks to ascertain the positions of other actors and the potential of a post-Kyoto treaty.

[6] As evidenced by the UK government putting climate change on the agenda of the G8; and France adopting the most ambitious target so far of 75% reductions of greenhouse gas emissions by 2050 in comparison to 1990 levels.

As indicated above, there are several reasons why a new overall agreement may be long in the making. It might therefore be a good strategy to extend bilateral talks beyond climate change and take into account numerous other energy related issues in which multiple objectives might be possible to reach. The recent G8 statement neatly falls into such an approach.[7] The following topics can and should be on the EU agenda with the different partners.

Clean coal technology: Of the fossil fuels, coal is relatively equally distributed around the globe and the most important consumers also have large reserves. Coal is also the most polluting fossil fuel. Large-scale use of coal for the future will only be acceptable if it can be 'decarbonised' and used more efficiently. China, India and the US are very large coal consumers, the EU also has a substantial number of coal-fired power plants. Possibilities for the use of coal to liquids (CtL) in the transportation section should also be explored.

Pollution problems in mega cities: Due to mass transportation and coal-fired power plants, China and India have some of world's most polluted cities in their region. Plans should be made to limit this pollution, which has highly negative health impacts. China and India should be assisted in limiting this pollution, in combination with limiting CO_2 emissions.

Decoupling economic growth from rising energy consumption: China, India and other developing countries should be assisted in their attempts to find less energy and carbon intensive development paths.

Nuclear energy: Nuclear energy hardly generates CO_2 emissions. There are, however, other safety and security issues, such as non-proliferation[8], that need to be addressed. Cooperation on future nuclear technology developments, especially nuclear fusion for the long-term, is also necessary.

Renewables: The development and use of renewable energy technologies should be promoted. Biomass might offer the highest potential at least for the mid-term.

Energy efficiency: Knowledge and experiences for energy saving and increased energy efficiency should be made available to China, India and Russia. There should also be a dialogue with the US to stress the importance of energy saving.

Away from oil: Japan and Europe have been much more successful in their attempts to decrease their oil dependency than, for example, the US and Canada. They should work together to stimulate other countries to do the same. Decreasing oil dependency should be promoted as a matter of national security and increasing international stability since it is likely

[7] The 'Gleneagels Communiqué' at first glance might seem a step backwards in comparison with the Kyoto Protocol since it does not mention any reduction targets. It is also less than other statements by the G8 on earlier summits. However, it does recognise climate change as an international concern, acknowledges scientific proof of climate change and outlines some steps for emission reductions in the form of joint promotion of clean technologies. As such it is the best international statement that includes the US since the Bush Administration declined participation in the Kyoto Protocol.
(See: G8, 2005, Signed Version of Gleneagles Communiqué on Africa, Climate Change, Energy and Sustainable Development <www.fco.gov.uk/Files/kfile/PostG8_Gleneagles_Communique.pdf>.)

[8] Ruud Lubbers: Moving beyong the stalemate: addressing the nuclear challenge by supranational means. Forthcoming 2005, www.clingendael.nl

that in the current political climate these arguments will find wider support than merely based on environmental grounds.

Taking the current framework and the Kyoto Protocol as starting points for successive treaties appears logical and is certainly understandable from the EU perspective of being the strongest Kyoto supporter. However, for the short and medium-term, decentralised and multifaceted bilateral cooperation agreements between the EU and other actors afford more room for success in stabilising CO_2 emissions without becoming overly embroiled in long and difficult multiparty negotiation processes.

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Annex: Overview of emissions of G8 countries, China, India and the Netherlands

Country	Past emission trend from 1990-2003	Current distance to Kyoto target	Emissions per capita tCO2eq/cap	Emissions per GDP tCO2eq/M$
Canada	20.0%	26.0%	23.0	807
China	33.0%*	--	3.9	1024
France	-1.9%	-1.9%	9.3	360
Germany	-18.2%	2.8%	12.0	464
India	41.0%*	--	1.8	745
Italy	11.5%	18.0%	10.0	370
Japan	8.3%	14.3%	10.0	386
Russia	-35.0%	-35.0%	13.0	1858
Netherlands**	1.1%	6.1%	13.1	453
United Kingdom	-13.0%	-0.5%	11.0	435
United States	13.0%	20.0%	24.0	694

* From 1990-2000.

** Based on figures from the Netherlands NIR, 2004, by the RIVM <www.rivm.nl>. From 1990-2002. Distance to Kyoto in 2002. Population 2002 16,192572 <www.cbs.nl>. GDP in PPP $ in 2002.

Source: Ecofys, 2005, *WWF Climate Scorecards: Comparison of the climate performance of the G8 countries.* Gland, Switzerland: World Wide Fund for Nature (WWF) <www.panda.org/downloads/climate_change/g8scorecardsjun29light.pdf>.