THE INTERNATIONAL NEXUS BETWEEN ENERGY AND CLIMATE CHANGE[1]

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Introduction

When reflecting over the question addressed, i.e. "can the G8 contribute to reconciling the interests of the various players" in the area of energy and climate change, one might be tempted to turn around the terms of the question. Arguably, in the long run, what is certain is that *climate change*, if not the G8, will reconcile the interests of all the various players. All scenarios seem, indeed, to concur on this point: no-one, no-where, will ultimately remain untouched by the consequences of climate change and global warming.

Hereafter, I will shortly touch upon three subjects, and first the climate change and energy nexus. Secondly I will present the EU's actions in the fight against climate change, before reflecting over some post-Kyoto issues.

1 Climate change and energy

1.1 The nexus of climate change and energy

Climate change and energy need to be considered as parts of one and the same whole. It is so because CO2 emissions originate from production and use of energy. And CO2 emissions, in turn, provoke climate change. It is important to remember that this is not a temporary problem. Over the next 25 years energy demand is believed to increase by 60%. Fossil fuels, i.e. the main cause of CO2 emissions, will provide 85% of this energy.

The most important and global effects are quite well known. Global heating is perhaps the best known. It is worth reminding about the consequences of such heating, to put the problem into perspective. Here are just two examples. Sea-rise will cause forced displacement of millions of people, in Bangladesh for instance. Because of the melting of glaciers, millions of people will have great problems to access drinking water, especially in the region surrounding the Himalaya. It might also be added that the famous hole in the ozone layer, that we believed we had fixed by stopping to use sprays with greenhouse gas, is currently increasing, notably due to air conditioners.

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[2] This is a personal comment and does not in any way represent a position of the EGMONT Institute.

1.2 The nature of the problem

It is important and useful to get a good grasp of the nature of the problem. In a time perspective, the problem is historically cumulative. CO2 emissions and climate change are not short-lasting phenomena. CO2 emission accumulates in the atmosphere, where it stays for decades. Climate change is a long-term phenomenon, meaning that it builds up for a long-time and only starts having consequences when the process is already on its way.

In a spatial perspective, it should be underlined that the problem is truly global. No country will remain untouched. This fact sometimes seems underestimated, either by those who believe *their* country will be able to cope through the development of technology, or by those who claim that some countries alone should deal with the problem.

The intersection of the historical and the global perspectives of the climate change and energy perspective has some important consequences. Especially the fact that the countries which have contributed the least to the current level of CO2 in the atmosphere, historically speaking, and which are the least capable of facing the consequences, are those that will be hit firstly and mostly. In other words, there is to some extent an inverse relation between the historical and the spatial perspectives. The nature of the problem is therefore complex and truly global, but it is above all a question of cumulative historical responsibility, of common current responsibility, and of common future risks.

2 The G8 and the EU action on climate change and energy

2.1 The critical mass of the G8

The G8 represents less than 15% of the world's population. It also represents more than 60% of the world's wealth, as measured by GDP. And it represents 50% of the world's current CO2 emissions. One may think that the G8 therefore represents a critical mass, capable of making the rest of the world move.

This means that there is clearly a potential, within the G8, to make a difference and kick-start the international effort on climate change and energy. If the G8 decided to act it would not only represent significant decrease of CO2 emissions, it would also be a powerful signal to the international community. Arguably this would be a better argument to get other countries on board than the defiant and passive attitude that characterises some G8 leaders.

2.2 The importance of the EU within the G8

Within the G8, the EU has a strong position. Half of the countries involved are large EU Member States, and the EU Commission is also represented. And finally, Germany currently holds both the Presidency of the G8 and of the European Council.

It may therefore seem like the EU, if it is willing and able to speak with one determined voice, could represent a critical mass within the G8.

2.3 The EU's proposals

In this respect, it is interesting to consider the EU's own proposals on the climate change and energy nexus. At the beginning of 2007, the EU Commission launched what is called the

"energy package". Its overall objective and action plan was endorsed by the Member's heads of State and government at the Spring European Council.

In the package there was an ambitious proposal for a unilateral commitment by the EU to a 20% overall reduction of CO2 emission by 2020. Importantly, this proposition for a unilateral commitment was presented alongside a global proposal to achieve a 30% reduction, if other countries commit to it as well, under a satisfactory international agreement. Arguably, the countries the EU would need to get on board are the countries of the G8, and China, Brazil and India.

2.4 The ambition of the EU's proposals

The EU's proposals are presented and perceived as ambitious. In the following, I will question this. This does not mean, however, that I deem the Commissions' proposals useless or bad. It would be a huge achievement to realise all the goals it has proposed, and it is of paramount importance that the EU has tabled them. It is nevertheless always legitimate to question the link between the goals and the means.

The EU' overall objective is the 20% reduction of CO2 emissions. This is important because it should make it possible to stabilise CO2 concentrations in the atmosphere at a level of 450 ppmv CO2 eq (or "carbon dioxide equivalent in parts per million by volume"). And this in turn is important because it should make it possible to limit global temperature increase to 2°C, as compared to pre-industrial times. In the Commission's terms, this should "prevent massive and irreversible disruption of the global climate system".

In a Communication called precisely "Limiting Global Climate Change to 2 degrees Celsius" (a part of the "energy package"), the Commission gives an interesting indication on the level of ambition of its proposals. It does so by giving an estimate of the probability of success of its own strategy. The interesting part reads: "The EU's objective is to limit global average temperature increase to less than 2°C compared to pre-industrial levels. […] By stabilising long-term concentrations at around 450 ppmv CO2 eq, there is a 50% chance of doing so." A Question and answers Memo to this Communication confirms this: "To have a 50/50 chance of staying within the 2°C limit, the world will need to cut greenhouse gas emissions by as much as 50% of 1990 levels by 2050." Briefly put: the Commission strategy gives as big a chance to reach the objective as to guess "heads or tails" when you toss a coin up in the air.

The Commission, in the same document, also assesses the costs. "Investment in a low-carbon economy will require around 0.5% of total global GDP over the period 2013-2030". This is called an "insurance premium". But who would sign an insurance contract which gives a 50/50 chance of avoiding a catastrophe? Be it a bet or an insurance premium, it may be argued that the odds are too poor. Either it is too expensive for such low probability of success, or it is not expensive enough, if more investment could give better probabilities. As it stands, it appears neither as a good bet nor as a good insurance premium.

As a first point of comparison, the Stern Review on the Economics of Climate Change has this to say:

> "Central estimates of the annual costs of achieving stabilisation between 500 and 550ppm CO2e are around 1% of global GDP, if we start to take strong action now. […] It would already be very difficult and costly to aim to stabilise at 450ppm CO2e. If we delay, the opportunity to stabilise at 500-550ppm CO2e may slip away."

In other words, firstly, the Commission's objective is not realistic. And next, an achievable goal would require a budget twice as big as the one the Commission estimates.

As a second point of comparison, the Fourth Assessment Report of the IPCC says that a stabilisation at levels between 445 and 535 would cost less than 3%, and a stabilisation at 535-590 between 0.2 and 2.5% of global GDP. In other words, for the IPCC a stabilisation at the level suggested by the Commission appears possible, but it is absolutely in the lower range of what is achievable, and it would cost more than the Commission estimates. It is, however, probable that the stabilisation will have to be achieved at a higher level.

3 Some post-Kyoto issues

3.1 The basic problem

The problem of the post-Kyoto Protocol era can be briefly summed up in the following points. The climate change and energy nexus is truly a global problem that needs to be dealt with globally. It is not sufficient that the countries historically responsible for CO2 emissions make cuts, current emitters must also participate. The question is therefore: how can everyone be included, taking account of the different levels of historical responsibility, taking account of the different levels of current responsibility, taking account of the different levels of mitigation and adaptation capacity, and taking full account of the current and future common responsibility and common necessity to act globally?

3.2 The doctrine up to now

The solution to this problem is not provided by the UNFCCC and Kyoto Protocol doctrine, as embodied by the interpretation of this principle: "common but differentiated responsibilities".

As such, this principle seems justified, with regard to general development thinking and to the idea of a right to development. It also appears justified with regard to the historical reasoning and to a CO2 equivalent of the "polluter pays" principle.

In this sense, "common but differentiated responsibilities" has come to mean common *concern* but reduction *commitments* of the developed countries, under the Kyoto Protocol. As a first level of the international burden-sharing regarding climate change, the world's countries were divided into two categories, the developed and the developing countries, the former *with* reduction commitments (Annex I countries), and the latter (non-Annex I countries) *without*.

3.3 Complications

A first complication is the opposition of country and people. It is certainly true that China soon will overtake the USA as the single largest emitting country. It is no less true, however, that the Chinese people emits and will still emit very little in comparison to people from Europe or from North-America.

On the one hand, this makes it possible for some countries to claim that the Kyoto Protocol is worthless, because all CO2 emitting countries are not committed to reductions. On the other hand, it makes it possible for other countries to claim that they should not reduce, because their *pro capita* emissions are low. Both arguments may well be claimed valid, from their

respective point of view. It is certain, however, that neither leads to reduction of CO2 emissions, nor to action against climate change.

Which is why, in the context of the global necessity to take such action, they should both be considered inappropriate. This imposes the task of uniting the two perspectives, and, as a first idea, it may well be useful to look for a way of dealing with both elements, i.e. including *all* countries, but *differently* according to the people criteria. "Differently" should in this context not be understood as different reduction levels according to the countries, but rather different ways of participating in the global reduction, according to part and present emissions, wealth and available technology.

A second complication is the opposition between historical responsibility and the need for truly global action. To put it very simply: if we stick to the idea that only historically countries should reduce their CO2 emission, then there can be no global action. In other words, the need for global action requires a rethinking of the principle of historical responsibility.

It may even be argued that the principle is not respected, when it is translated into an excuse for doing nothing about current high levels of CO2 emissions, in countries without historical responsibility. Indeed, today's emissions are tomorrow's historical emissions, and today's emitters are tomorrow's historically responsible countries.

3.4 Need to rethink the principle of "common but differentiated responsibilities"

It follows from what has been said that the principle of "common but differentiated responsibilities" needs, at the least, a new approach. As it is interpreted under the Kyoto Protocol, the only thing which is common is the concern, and often no more than lip-service. The word "common", however, applies to "responsibilities". These responsibilities are said to be "differentiated", but it seems nevertheless difficult to think of any reasonable meaning of the word "responsibilities" with no further content than a general sense of concern.

The principle, as it stands, could be usefully decoupled into two parts: common responsibility of all countries on the one hand, and differentiated actions of all countries, on the other. All countries need to act in order to ensure global action, which is the only way of tackling climate change. But the countries' actions would differ, and the whole question is the content of the respective tasks. It has been said that it does not make much sense to differentiate between a group of countries with reductions commitments, and another group without. We also know that the historical responsibility lies with the developed countries. In addition to this, we need to take into account the difference between countries and people, and the economic and technological capacity.

It seems possible to meet all these challenges. The community of responsibility means that the responsibility to take action should not be divided, but shared: all countries have the responsibility to act within their borders. The differentiation of action, however, allows for a distinction to be made between the historically responsible, i.e. the developed countries, economically and technologically capable, and the developing world, equally responsible but which needs finances and technology transfers in order to take action. Briefly put, the decoupling would provide for a system along two principles: 1. all countries cut emissions, 2. the historically responsible make it possible. This does not mean that the group of historically responsible countries should finance the whole effort in developing countries. On the contrary

it implies that a global target for CO2 emission reduction is set and distributed among the world's States according to their present and foreseeable emissions. It also implies an assessment of each country's objective capacity of reaching the objective, and the input from the historically responsible countries to fill the gap between the capacity and the target.

It may be added that this way of thinking seems to concur well with today's development-thinking. The idea of the developed countries taking the responsibility, thereby helping the developing countries and saving the world, may well have appeared as seducing for some leaders of large emitters among developing countries. Recent development-thinking, though, corresponds better to the idea of each country's ownership and responsibility. This is also the spirit behind the idea of truly global, common responsibility and goal to act against climate change, in the interest of everybody, and the differentiation when it comes to the means.

Conclusion

From what has been said, it should appear that the climate change and energy nexus imposes more action than the EU proposes. This should not be taken as a negative criticism, but as an acknowledgement that the Commission has taken a step in the right direction, and that more needs to be done, especially on the international level.

There is, in particular, a need for a conceptual decision to be made, in order to go beyond Kyoto, both in time and in effectiveness.

Getting back to the introductory question, the G8 can contribute to reconciling the interests of the various actors, but only if it is prepared to do so in an inclusive manner. This implies bringing to the forthcoming UNFCCC negotiations a clear commitment to include all countries in a post-Kyoto system, according to the principles sketched above.

The G8 should also take on historical and present responsibility, which means taking on emission reduction targets, linked to a system of financing and technology transfer from developed countries to developing and industrialising countries.

If the G8 cannot do it, representing more than 60% of the world's GDP, and less than 15% of the population, who can?