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Climate change: the China Challenge

China and the Clean Development Mechanism

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China and the Clean Development Mechanism

Interview with Philippe Delhaise,
Director of Carbon Management Consulting ⁽¹⁾

Conducted by GEORGES FAVREAU
and JEAN-FRANÇOIS HUCHET

Q: In a few words, could you describe how the Clean Development Mechanism (CDM), as provided for in the Kyoto Protocol, actually works?

The greenhouse gases that lead to climatic warming are in the atmosphere, so the effect they have is not restricted to the states that emit them. This makes them quite different from more local forms of pollution, such as water pollution. We are dealing here with the pollution of the global environment, which requires political solutions at the global level. Although the rich countries are the main polluters, their existing technology is less polluting than that available to the developing countries. In India, for one unit of production, four times the quantity of greenhouse gases are emitted on average than in the United States. Thus, the thinking behind the CDM is that we take money from the West and give it to the developing world. European, Canadian or Japanese firms can thus cut the emission of greenhouse gases, not in their own factories, but by buying pollution rights in Indian, Bolivian or Chinese factories while investing in technology projects designed to reduce their greenhouse gas emissions. The global effects of atmospheric pollution can thus be reduced more quickly.

Q: Let's look at the details. How do countries share their responsibilities?

To participate in the Kyoto Protocol, naturally, countries must ratify the agreement. Most developing countries—known as “Non-Annex 1 Countries”—have signed up, of course, including North Korea: it's in their own interests that they should receive technological and financial transfers. Thailand is the only country to have refused, on the grounds that Kyoto allows rich countries to continue polluting while buying off the poor countries at negligible cost.

So companies in “rich” countries—known as Annex 1 Countries—may buy polluting rights in the “poor” countries. This classification is open to criticism. Some countries could be considered “rich” and yet be listed as Non-Annex 1: South Korea, for example and, to a lesser extent, China. As for the rich countries, intergovernmental agreements impose quotas on greenhouse gas emissions, quotas that are shared out between the various economic sectors at the national level. Let's take as an example a French company that has to reduce its gas emissions. It has three options: cut down its volume of production, introduce new technology or seek out a firm in a developing country—a Non-Annex 1 country signed up to Kyoto. The reduction is estimated then certified by the Executive Board of the CDM ⁽²⁾. This certificate can in due course be presented by the company in the industrialised country as justification for not having reduced its own emissions.

Q: Can you give us some concrete examples of projects that you are working on with enterprises in developing countries?

Let's take the typical case of a sugar refinery we're working with. At the end of the production process there remains a 37% residue of sugar cane waste, which is used as a fertiliser, dumped or burned. In all three cases, the CO₂ contained within this residue is released into the atmosphere. This is where we come in, to arrange for a furnace to be built, one that will burn the residue and generate electricity for the sugar refinery. There'll even be an energy surplus that the refinery can sell. The reduction in greenhouse gases is measured by the difference between the energy consumed before

1. Carbon Management Consulting is active in setting up projects as envisaged in the Clean Development Mechanism provided for in the Kyoto Protocol.
2. Itself subject to the authority of the Conference of the Parties to the Kyoto Protocol.

the furnace is installed and that consumed after the new technology is introduced. It's the same story with a paper mill where, as often happens in developing countries, the wood waste is dumped.

Further examples are cement works and steel-making plants: with their blast furnaces, they consume large amounts of energy in producing high temperatures, around 1,200°C. Instead of allowing this heat to escape, European and American furnaces have for a long time been diverting it for use in generating energy. The CDM is encouraging the use of these technologies in cement works and steel plants in developing countries, so as to reduce greenhouse gas emissions.

In the transport field, we are at present working with a co-operative of 3,000 trawler operators, modifying their engines; also with the municipal authorities in a Russian city to replace their bus engines.

Q: When an enterprise wishes to mount a project within the CDM process, what steps must it take to have it registered?

The Kyoto agreements on the CDM open up the possibility for enormous transfers of technological and financial resources from rich countries to developing countries. So very strict rules have been applied governing the validation of projects. The company submits a five-page preliminary report on the feasibility of the project. Only 22% of projects graduate to the second stage: here the long and costly administrative task begins, aimed at providing proof that the project is viable. Only 4% of projects will finally be approved by the Executive Board of the CDM and implemented.

This registration process is based on two main principles. The first comes down to two requirements. One is that any project for technological improvement that might be financially viable without receiving subsidies under the CDM, as laid down by the Kyoto agreements, is not eligible. That means, in effect, that developing countries would be in a position economically to finance it by themselves. So in this case the CDM would, at the economic level, be unnecessary. The second requirement is that the project must be equally viable from the economic and the social points of view. For example, modernising the air conditioning system in a factory using HFCs⁽³⁾ is financed over two years. Many such projects are approved. On the other hand, when it comes to building a dam, it would take twenty years to pay off the project if it were financed exclusively

by Kyoto subsidies. It would take only a slight modification of the project's parameters for it no longer to be profitable. Moreover, with such huge projects, social effects, such as the transfer of population or deforestation, are also taken into account. So this first principle leaves a very narrow leeway for manoeuvre in validating projects.

The second principle derives from the absence of any precise automatic approach to methodology for registration. The Executive Board of the CDM tells us: "Come to us with your projects; draw your inspiration from the methodology of a project that has already been accepted; or else propose a new method." Today there are 35 listed methodologies that can be used for reference. But, if a new method is deemed better, it replaces the preceding one. The registration procedure lasts several months and any projects half-way through a validation based upon the old methodology must now start all over again. Unfortunately, this moving of the goal posts as one approaches them is frustrating; it is expensive; and it sometimes damages the CDM's credibility.

Q: How significant is China in terms of CDM projects and what kinds of projects are implemented?

China would like to finance more dams, more mammoth projects, within the CDM. To give you some idea, the projects we generally handle might yield emission reductions of around 80,000 tons a year. In China we are looking for reductions of around one and a half million tons! As a result, that country represents more than a third of the financial transfers in CDM projects at the present time, but only 10% of the projects registered. Nevertheless, China is under the eye of the United Nations, which is not too happy about the ill effects, in social and environmental terms, of giant dams.

Q: In the circumstances you have outlined—few projects winning registration and the rapid growth of the Chinese economy based on industries emitting high levels of greenhouse gases—one might ask whether the CDM, as defined in the Kyoto agreement, adds up to anything more than a drop in the ocean where China is concerned?

Indeed, it is difficult to rely wholly on the CDM, the more so when the road to margin for manoeuvre in validation hav-

3. Hydrofluorocarbons, one of the six greenhouse gases targeted by the Kyoto Protocol: it is used in industrial refrigeration processes.

ing projects validated is so narrow, and when the odds against any single project are so high. However, I consider that, right now, this is the best mechanism we have. The Kyoto Protocol is not enough, that's true, but we must go forward. Even if it's not perfect, we are all the same reducing the emissions of greenhouse gases. Some people think that the rich countries would do better to hand out cheques to the governments of developing countries so that they could finance fiscal measures favouring the adoption of technology to reduce greenhouse gas emissions. Personally, I place greater confidence in the market created through the CDM, and in the UN regulators of the Executive Board of the CDM, which cannot easily be corrupted. Moreover, the CDM enables the two categories of enterprises to see their advantages in concrete terms. Most importantly, one can maintain very strict control, on the ground, in the enterprise, of the improvement in cutting greenhouse gas emissions. On the other hand, for enterprises that have a good project but that don't fit easily into the CDM criteria laid down by the Kyoto Protocol, it does seem more and more necessary to create parallel financial products similar to those existing on other financial markets. In this way these projects could be financed and the risks associated with this kind of operation could be limited. Markets of this kind are going to become enormous and positions need to be taken without delay.

Q: From a fiscal point of view, is it possible to move towards measures that will encourage enterprises in "poor" countries to introduce sustainable development?

Indeed, we must achieve a system whereby industry in the developing countries *will* invest in less polluting technology. But fiscal incentives are expensive; and many developing countries cannot afford to reward their taxpayers for cleaning up their act. Nowadays, countries are asked to make that effort very early in the development process. An example is South Korea, which has the means to offer fiscal incentives of this kind, whereas China does not. The multitude of Chinese SMEs might respond to fiscal incentives, but it is difficult to push them into costly imports of natural gas when they can consume domestically-produced coal, which is cheaper.

So for the present, the only incentives are exogenous, through the CDM provided for in the Kyoto Protocol. In order that a German or French company can continue producing *more* carbon emissions, it will pass financial resources to an enterprise in a developing country, enabling it to adopt technology emitting *less* greenhouse gases.

Furthermore, it's true that from the fiscal point of view, Beijing does not really play the game. The Chinese government, right from the launch of the CMD projects in China, announced the imposition of a special tax on Kyoto projects, at a far higher rate than other developing countries set for them. For example, on projects for reducing HFCs⁽⁴⁾, the special tax is set at 65% of the total amount of Kyoto subsidies. This tax sharply reduces the incentive for Chinese enterprises. Moreover, China complains that it does not earn enough from Kyoto transfers, arguing that the prices for polluting rights (that is to say, per ton of CO₂) are not high enough. In fact, it may be that both government and industry in China are wondering why they should rush into technological change now, when the price for a ton of CO₂ will be 50 Euros in five years, as against 7 Euros today. China is gambling on the fact that developing countries will benefit far more from Kyoto 2.

Q: Part of the debate over global warming is nowadays focused on responsibility per capita. On the other hand, when the emission of greenhouse gases is considered in absolute terms, several expert studies indicate that China is going to overtake the US very soon, perhaps even by the end of this year. In the interests of a world without frontiers, should we not now abandon calculations-based emissions per head, which rank China far behind the more developed countries and allow it to avoid any future responsibilities in the battle against climate change?

China's answer is that the industrialised countries are responsible for the present state of global warming and should now pay the price for their advanced status by helping the developing countries. I agree with that. Political negotiations cannot stop China industrialising. The rich countries will have to accept parting with some of their wealth to finance development in the poor countries with technology that's more efficient in restricting greenhouse gas emissions.

Q: Given its size and the impact of its economic development, which extends far beyond its frontiers, should China of its own accord not contribute, as a matter of public policy, to refining its model of economic growth, which at present is dismissive of environmental concerns?

4. Hydrofluorocarbons

I hear what you're saying. On the ecological front, China will come up against near-physical obstacles to its development. The growth of energy consumption in China and India over the years ahead will inevitably cause pollution and threaten all the advances made through the Kyoto Protocol. We know that CO₂ emissions are drastically reduced with the transition of industrial structures towards the services. But many years must pass before China, the world's vast factory floor, reaches the third (knowledge-based) stage in economic development. One cannot compare present-day China to the South Korea of twenty years ago. Admittedly, part of the population is seeing improvements in its living standards, rising levels of consumption and the accumulation of savings, but that still only affects the minority. The relative poverty of a large part of the population creates the tendency for people to favour short-term enrichment at the cost of long-term problems. For a relatively long period ahead, the structure of the labour market, combined with demographic and educational problems will keep China's growth heavily dependent on industry. What is more, the pressure that the Chinese people can exert on their government over environmental problems is still very limited.

Q: What do you judge to be the most important reforms to implement for the post-2012 period: I'm thinking particularly of large countries such as China and India?

We should certainly reduce the stringency of the registration requirements for projects within the CDM. There is the issue of the price per ton of CO₂ and the related issue of emission quotas: both are essential. All serious multinationals in the rich countries are setting funds aside for whatever they'll have to pay in order to continue production, but without having any idea what the CO₂ cost will be. We're trying to intervene in this matter: it is our job to attempt to offer companies some certainty as to the price of polluting rights by establishing new financial procedures in the marketplace. This question of quotas, as our European experience shows us, strongly influences the cost of CO₂. That's the biggest headache for everyone working now on Kyoto 2.

On top of the question of quotas, Kyoto 2 will have to rethink the two categories of country, that is to say, those that pay and those that receive. The US will certainly have to come back into Kyoto 2 because, politically, no one can be seen not to do so. Some countries (Non-Annex 1) that are today receiving subsidies from the rich countries should

perhaps be excluded from that category. At the same time, to solve the problem of the Newly Industrialised Countries, including China and India, one might envisage a third category of country to be negotiated under Kyoto 2. Countries in this category would receive no further subsidies but, to make up for that, their obligations in terms of reducing greenhouse gas emissions would be limited. Another transitional expedient might be for them to receive less in subsidies than the poorer countries, so that they would not monopolise so large a proportion of the CDM transfers. •

• Translated from the French by Philip Liddell