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Ecology

Kyoto: climate of fear

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Description:

Heat waves, droughts and floods have focused attention on climate change caused by the accumulation of greenhouse gases. Governments try to reassure us that, whether the Kyoto Protocol is ratified or not, adequate measures will continue to be taken and the problem will be brought under control. The reality is, alas, much more worrying.

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Floods reach the upper Elbe, August 2002

Even George W Bush does not dare to argue the point: "There is a natural greenhouse effect that contributes to warming. Greenhouse gases trap heat, and thus warm the earth because they prevent a significant proportion of infrared radiation from escaping into space. Concentrations of greenhouse gases, especially CO₂, have increased substantially since the beginning of the industrial revolution. And the National Academy of Sciences indicate that the increase is due in large part to human activity." [1] For two centuries, deforestation, industry and transport have led to the accumulation in the atmosphere of gases that admit sunlight to the earth but prevent the earth's infrared rays from reaching space. The result is that, as in a greenhouse, the atmosphere heats up. Average temperatures increased by 0.6°C in the 20th century - a growth unprecedented for nearly 10,000 years - bringing about an increase in ocean levels of 10 to 25 cm. The process is accelerating and if nothing changes, the Inter-government Panel on Climate Change (IPCC) predicts a global warming of between 1.4 and 5.8°C by 2100, leading to a rise in water levels of 9 to 88 cm. [2] Global warming caused by human activity has certainly begun, and it is irreversible. It affects not only the atmosphere, but also gigantic masses of oceanic waters; since the inertia of these latter is considerable, the process will make its effects felt for at least a thousand years.

The social, economic and environmental consequences are incalculable. Detailing them is not the aim of this article. Nonetheless, let us recall the strong words of John Houghton, former chief executive of the British Meteorological Office and co-president of the "Scientific Evaluation" Working Group of the IPCC: "Global warming is now a weapon of mass destruction. It kills more people than terrorism, yet Blair and Bush do nothing". [3] Humanity must try to bring about stabilization at a new point of equilibrium. It is in this context that the Kyoto Protocol - concluded in 1997 in the context of the United Nations Framework Convention on Climate Change - signified the resolve of the developed countries to reduce their emissions of greenhouse gases by 5.2% on average over the period 2008-2012, the year 1990 serving as a benchmark. The European Union set itself the objective of an 8 % reduction. [4]

Six years after its negotiation in Japan, and in spite of its signature by 119 countries, the Protocol is stymied. In order

to be applied, it should be ratified by 55 states accounting for more than 55% of emissions. However, the main world producer of greenhouse gases withdrew in 2001 - the USA refused to sign any agreement that did not impose commitments on the big developing countries like China and India. Washington was also opposed to what it saw as a weakening of the competitiveness of a highly polluting US energy sector largely built on oil and coal. [5] In this context, ratification by Moscow became indispensable. [6] But Vladimir Putin used the situation to raise the stakes in relation to Europe and Japan, who were partisans of an agreement. Andrei Illarionov, the President's main economic adviser, declared recently that the Protocol went against Russia's national interests. [7] In this arm wrestling match, the key point is the price of a tonne of carbon. Depending on the latter, the gains that Russia and the Ukraine could make in selling their emission credits would vary between 20 and 170 billion dollars in five years. Indeed the price would be higher if the US signed the agreement, for it is that country that faces the most difficulty in conforming to Kyoto. [8] While a pure and simple abandonment is not to be ruled out, it is probable that Kyoto will survive this game of poker. But it will be a still more neutered Kyoto, since the Protocol is being undermined from the inside by forces which use Russia's reticence and US rejection as pretexts to reduce their demands, indeed to conceal their inability to meet them. [9]

What will be the future without the Protocol? Some experts are reassuring: "The treaty has already changed the world in small but significant ways that will be hard to reverse", says the "New York Times". "From Europe to Japan and the United States, just the prospect of the treaty has resulted in legislation and new government and industry policies curbing emissions." [10] This optimism is misplaced, for four reasons.

The limitations of the Protocol

First, whatever its neoliberal inspiration, Kyoto has the advantage of posing a double constraint: figures for objectives of reduction, and a timetable. These aspects are in the firing line of certain industrial lobbies and their political spokespersons: "If global warming turns out to be a problem, which I doubt, it won't be solved by making ourselves poorer through energy rationing. It will be solved through building resiliency and capability into society and through long-term technological innovation and transformation" according to Myron Ebell, climatic specialist with the Competitive Enterprise Institute. Former assistant secretary of State and Kyoto specialist in the Clinton administration, David B. Sandalow, says, "The standard of success isn't whether the first treaty out of the box sails through. The standard is whether this puts the world on a path to solving a long-term problem. Other multilateral regimes dealing with huge complex problems, like the World Trade Organization, have taken 45 or 50 years to get established". [11]

Secondly, whether the Protocol is amended or abandoned, the measures taken will be much less than the initial objectives - and the latter were already completely insufficient. According to the IPCC, by 2050 emissions should be lowered not by 5. 2% but by 60% in order that average warming does not exceed 2°C in relation to the pre-industrial era. As for the timetable, if it is true that climatic change is a very long-term process, it does not follow from that that humanity can wait 50 years in order for industry to adapt its capacity without reducing its profits. On the contrary, the more the measures are delayed and limited, the longer any return to a point of equilibrium will take, the higher this point of equilibrium will be and the more serious will be the consequences. [12] The climate constitutes what mathematicians call a "complex chaotic system" - limited changes can make it cross qualitative thresholds leading to rapid upheavals. [13]



The projections on temperature and water levels give an indication of urgency. The IPCC estimates that the former could climb from 1.4 to 5.8°C by 2100. On both sides of these planetary averages, there are - by definition - extremes. Above Greenland, for example, warming is one to three times the world average. Even on the lowest prediction of the experts, it is then possible that this region would gain 2 to 3°C in 50-80 years. An increase of this magnitude would be enough to melt the Greenland icecap in a few centuries, which would lead to a rise in sea levels of 6 metres. [\[14\]](#)

Thirdly, the USA wants the big developing countries to carry a part of the climatic burden - a demand which appears unjust to the countries of the South. The figures speak for themselves: "To stabilize levels of greenhouse gases at a level twice those at the time of the industrial revolution, global emissions would have to be reduced from the current one tonne of carbon per person per year to an average of 0.4 tonnes", says Larry Lohman. "The US emits 13 times this amount per head, or 5.2 tonnes, and Japan and Western European nations five to twelve times this amount per head, or two to five tonnes. More than 50 Southern countries including India, by contrast, emit less than half the maximum level, or 0.2 tonnes per person". [\[15\]](#) Certainly, all countries should adopt a responsible attitude in relation to the climate. But it is in the developed world that it is necessary to start, unilaterally, while massive technological aid should be provided to the countries of the South. The US demand amounts to saying that the dominated nations should pay for the climatic changes of which their populations are the first victims; these changes have been caused above all by 200 years of capitalist development in the North, at the price of the pillage and non-development of the rest of the planet.

Fourthly, the small step taken at Kyoto implies perverse effects, often little known. These relate to two types of problematic, that of "carbon sinks", on the one hand, and the commodity logic of "flexible mechanisms" on the other. With or without the Protocol, these categories will play a growing role as alternatives to the "energy rationing" mentioned by Mr. Ebell. These questions should then be subjected to a broad public debate.

Carbon sinks

Culprit number one for the growth of the greenhouse effect is carbon dioxide gas, which plays a major role in the carbon cycle. Schematically, the process is as follows:

1. CO₂ is absorbed by green plants which, thanks to chlorophyll and sunlight, transform it into cellulose;
2. this transformation is known as photosynthesis;
3. the closing of the cycle takes place through respiration and the decomposition of dead organisms, which liberate the carbon contained in organic matter (in the form of CO₂ or methane).

However, there is carbon dioxide gas and carbon dioxide gas. The burning of heating oil, coal or natural gas brings new quantities of carbon into the cycle and as plants (and soils and oceans) cannot absorb it completely, a part of

this carbon accumulates in the atmosphere (mainly in the form of CO₂), increasing the greenhouse effect. [16]

From the viewpoint of the struggle against climatic change, it is then vital to distinguish between two very different processes. On the one hand, reduction at source of emissions originating from the use of fossil fuels and on the other the reduction of the concentration of atmospheric CO₂ due to absorption by green plants (we speak in this case of the "capture" of carbon in "sinks"). The first aspect is strategically decisive. The IPCC tells us that it is practically certain that emissions of CO₂ due to the burning of fossil fuels will remain the determinant factor in the evolution of the concentration of CO₂ in the atmosphere during the 21st century. [17] Carbon sinks will only allow an attenuation of climatic change. [18]

However, this hierarchy between the "determinant factor" and the "attenuating factors" is not found in the Kyoto Protocol. On the contrary, the Protocol amalgamates reduction of emissions and increase of absorptions, and invites the states to balance the two processes. [19] In other words, planting enough trees, or cultivating without tillage, would allow the burning of oil to continue. It is a short-term logic, whose perverse effect is obvious - the problem is put off to future generations, while continuing to get worse. It is also a wrong headed logic, because it is difficult to measure exactly the net quantity of CO₂ absorbed by the ecosystems, or to predict the evolution of this absorption in relation to global warming and the growing concentration of CO₂. [20]

The commodity logic of "flexible mechanisms"

Three different mechanisms are embodied in the Protocol - "joint implementation", "clean development" and "tradeable emission". All three have as their goal the lightening of the economic cost of the commitments made at Kyoto.

"Joint implementation" allows the developed countries that have signed the protocol to attain their objectives of reduction of emissions through common investment. In Europe, for example, companies from the West who make investments in the East to increase energy efficiency can make proportional adaptations to their own emission levels. It is enough for them to "prove" that emissions would have been more significant if the investment had not been made. In this respect, the substitution of natural gas for coal as the source of electricity production opens vast possibilities to foreign companies and governments. Research consultancies are specializing in the identification of these opportunities. Thus the Norwegian group Point Carbon puts Romania at the top of its hit parade - no country is better placed to welcome joint implementation projects, it chortles. [21] The perverse effect is that these investments in the East (which would have taken place anyway, in the context of the buying up of the "New Europe" by western capital) allow the big industrial groups in the West to drag their feet on more complicated and costly modern installations and technological adaptations which are indispensable to the struggle against the greenhouse effect.



Greenpeace demonstration

The "clean development mechanism" allows a developed state to make an investment in a country in the South that reduces emissions (or increases absorptions), and to correspondingly adapt its own levels of emission. In this

framework, the EU is multiplying its efforts to sell clean technologies to the countries of the South. Better still, some polluting enterprises buy land in the Third World, plant rapid growth trees and thus acquire carbon credit corresponding to the CO₂ that they create by burning fossil fuels in the North. Inside the EU, Holland is the champion of this neo-colonial practice, followed by Finland, Austria and Sweden. [22] But US big business is not far behind and, with or without Kyoto, companies are conscious of the ineluctability of measures against climatic change. They want to position themselves for future climate negotiations, to take their share of the market and improve their brand image among consumers. In this respect, what better than to participate in projects of reforestation in the Third World? It suffices to hide the negative effects, which are numerous - these "industrial plantations of trees" (they are not "forests"!) accelerate the rural exodus and the decline of food-producing cultures, accentuating dependence on exports and re-colonization, and damaging ecosystems and biodiversity (see box on the Plantar project in Brazil). And do not forget that the "clean development mechanism" does not reduce pollution in the North - on the contrary, it allows it to continue, with its attendant consequences for health and the environment.

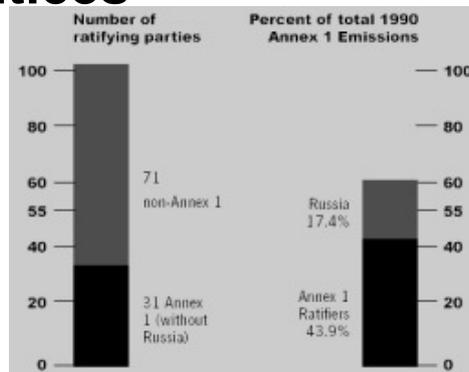
The spectre of air privatization

Tradeable emissions are the cornerstone of the "flexible mechanisms". Each signatory country is given emission quotas. The developed states divide up these quotas among the companies established on their territory. Those which remain below their objective can sell "rights to pollute" to others. Whether Kyoto is ratified or not, all the big polluting companies are involved in these exchanges - in the US credits are sold on the Chicago Climate Exchange. [23] According to some economists, at the price of \$14 per tonnes of carbon, the "emission rights" created in the framework of Kyoto would lead to a carbon trade corresponding to the abstract creation of 2,345 billion dollars, or the biggest creation of monetary capital through an international treaty in history. [24] A system of exchange has already been set up inside the EU, whereby from 2005 onwards "clean" enterprises, can sell their pollution credits to "dirty" companies (5,000 big companies are already involved at the first stage). Here also, as in the case of "joint implementation" the East constitutes a veritable reservoir of carbon. Big consumers of energy before the fall of the Berlin Wall, the economies of the former "Soviet bloc" subsequently collapsed. Owing to the reference date for their objectives within the framework of Kyoto, these countries dispose of "carbon credits" that other signatories can acquire, thus avoiding reductions in their own emissions.

From the viewpoint of the market economy it is not absurd to manage the reduction of the production of greenhouse gases in this way. The system of emission rights has functioned in the USA to reduce the rates of SO₂ in the air, and thus acid rain. The ecological efficacy of the system depends on political will, which is expressed in the establishment of quotas and the rhythm of their decline. However, recourse to this kind of mechanism requires a broad debate within society, for the commodification of the emission rights could take humanity towards an outcome which is at first blush unthinkable: the privatization of the air. Some argue that "selling the wind" is and will remain impossible. But doesn't buying the "right to pollute" affirm ownership over the thing polluted? In the precise case of carbon dioxide gas, the question is not absurd given that, once discharged in the atmosphere, [25] CO₂ is indissociable from the other components of air - nitrogen, oxygen and so on. To be the owner of millions of tonnes of "waste CO₂" is certainly equivalent to being the "owner" of polluted atmospheric masses. Certainly, air cannot be materially enclosed. However, its legal enclosure is perfectly possible. The countries of the North and their companies that are awarded emission quotas will be inclined to consider these as semi-permanent ownership rights. The dividing up of these rights, the result of 200 years of imperialist development, will tend to be considered as the "natural" proportion of shares of the atmosphere attributed to different countries and groups of countries. In the developed countries, legal arrangements could rapidly be imposed on citizens to make them pay for the "services" of the atmosphere or, at least, for the cost of its depollution. The maintenance of these services will be entrusted to the private sector and, in the name of the environment, the true cost will be imposed on consumers (as in the water sector), while the companies will benefit from competitive prices. As for the countries of the South, they would be victims of a kind of "climatic neo-colonialism". If they wish to increase their emission quotas, they will be accused of irresponsibility; to develop, they will be forced to buy clean technologies from Northern companies. Moreover, they will be confronted

with the fact that these companies, thanks to the Clean Development Mechanism, will have snapped up the "carbon sinks" and other cost-effective means of compensating for their emissions. [26]

Sorcerers' apprentices



Progress towards ratification of the Kyoto Protocol, as of 1 January 2003

If the negotiations around the Kyoto Protocol are so arduous, it is because everyone knows henceforth that climatic changes are a reality that will necessitate very considerable adaptations. Such measures will interfere in the US-EU-Japan relationship of forces, to the point that climatic change becomes a major geo-strategic issue. The neoliberal offensive around "flexible mechanisms" and "sinks" takes place in this context. Its function is of course to weaken and indeed head off an indispensable and urgent reduction in the source of emissions of greenhouse gases, with the goal of protecting the rate of profit of the big companies. But the offensive also seeks, more broadly, to make the struggle against climatic change a profitable business (see below), an instrument of domination of the South and a new frontier in the capitalist drive to appropriate natural resources.

We have to note that this offensive is gaining ground and at the Conferences of Parties (COP) to the UN Framework Convention discussions on "flexible mechanisms" increasingly take precedence over the reduction in emissions originating from the use of fossil carbon. At the COP-9 in Milan in December 2003 amendments presented by Norway, seeking to ban monocultures and GMOs, were rejected. While climatic change becomes increasingly palpable and menacing, the crazy logic of capitalist accumulation draws humanity more and more towards a major catastrophe.

The market in non-polluting forms of energy is a theatre of ferocious economic competition. This clarifies the role of the main protagonists in the climatic negotiations, the US and the EU

Deprived of significant sources of oil and cheap natural gas, confronted with US domination of the Middle East and traumatized by Chernobyl, the EU is developing an energy policy based on the diversification of supplies, growing energy efficiency and the development of renewable energies. Currently, 6% of the energy used in the EU comes from renewable sources, [27] and the objective is to reach 12% in 2010. [28]

Indeed, such a strategy necessitates big public investments, in the form of aid for research, economic incentives and public sector orders, the goal being to support companies in the initial stage.

Given globalization and the opening up of new markets, these efforts are only sustainable if the relative prices of energy originating from renewable sources become competitive in relation to those of energy produced from fossil

fuels, if use of the latter is restrained, and if a world market in "clean" technologies is opened (the three conditions being linked). Kyoto involves a response at different levels. With the Kyoto protocol in place, the world market in clean technologies should prosper, according to a document of the Commission. [29] The stakes are significant. The world market in the eco-industry is estimated at 550 billion euros. The experts count on its enlargement in the five coming years, above all in the emergent countries, with growth rates of 5 to 8%. [30]

The EU is well placed to play an important role. Its companies are in world leading positions in the sector of renewable energies, notably in the construction of windmills (75% of the planet's current capacity). It is easy to understand why the EU, far from being shaken by the clash with the US during the negotiations at the Hague in November 2000, held out until the agreements of Marrakech and Kyoto, then launched a "Coalition for Renewable Energy" - "the OPEC of Renewables", according to the Commissioner for the Environment - which now involves eighty countries.

The US approach is less monolithic than the European press has tended to imply. The powerful environmentalist lobby has some influence on the Republican Party, to the extent that the adoption of norms for emissions of greenhouse gases figured in Bush's electoral programme in 2000! [31] More fundamentally, the world of business is divided. "The prospect of other countries moving ahead with limits on greenhouse gases while the US sticks its head in the sand worries many American companies. With the evidence that human activities are causing global warming getting ever more convincing, emissions curbs in many countries are inevitable, execs believe"

"Economies will have to adjust to that," says Tom Jacob, manager for international and industry affairs at DuPont. "It would be a mistake if the US economy is insulated from those pressures. When the reality comes, the US will have a bigger game of catch-up—and our competitors will be ahead of us in developing and using climate-friendly technologies." [32] On either side of the Atlantic, then, ecological concerns do not weigh too heavily on the "climatic" strategies which are being followed.

The Plantar project [33] in Minas Gerais (Brazil) is a good example of the ravages of the kind of "reforestation" carried out in the framework of Clean Development Mechanisms (CDM).

Developed under the auspices of the World Bank, Plantar is an industrial plantation of eucalyptus in monoculture (23,100 hectares) destined for the production of charcoal for the steel industry. It is also the first "carbon sinks" project to seek to register with the CDM Executive Board, the international body which is responsible in this area.

According to the documentation provided by Plantar, the project will allow the production of 3.8 million tonnes of steel products in 21 years as well as the creation of 3,000 jobs. But Plantar has met violent opposition, for social reasons (low wages, insecure jobs) and ecological reasons (massive use of the herbicide glyphosate, exhaustion and contamination of water resources, killing of fish, significant reduction of biodiversity).

Eucalyptus grows very quickly, and Plantar has committed itself to maintaining its "carbon sinks" for 42 years. If the status of CDM is accorded to it, the enterprise will serve as "compensation" for the emission into the atmosphere of millions of tonnes of CO₂ which will certainly not disappear as quickly as the trees.

Through the Prototype Carbon Fund of the World Bank, Plantar benefits from the support of three European governments (Sweden, Holland and Finland), Gaz de France and the Belgian company Electrabel.

- [1] Concentrations of CO₂, CH₄ (methane) and N₂O (nitrous oxide), three of the main greenhouse gases, have increased respectively by 30%, 145% and 15% from 1750.
- [2] The IPCC was set up in 1988 by the UN Environment Programme and the World Meteorological Organization. Its scientific analyses have authority. See the history by Nicolas Chevassus-au-Louis, "La Recherche", number 370, December 2003.
- [3] "The Guardian", July 28, 2003. The parallel with terrorism has been taken up by David King, scientific adviser to Tony Blair.
- [4] "Developing" countries have no objectives within the framework of the first period 2008-2012.
- [5] Around 50% of US electricity power stations are fuelled by coal, and four fifths of the generation capacity that the country will need in 2010 was already installed in 2000.
- [6] The US and Russia occupy first and fourth place respectively in the league table of countries responsible for emissions of greenhouse gases. The US, with 5% of the world population, uses 25 % of the world's energy resources.
- [7] "New York Times", December 3, 2003.
- [8] See David Victor, "The collapse of the Kyoto protocol and the struggle to slow global warming" Princeton University Press, 2001.
- [9] Inside the EU the policies followed by the member states will lead to a reduction of emissions in Europe by 0.5% in 2010 in relation to 1990. Taking into account measures planned but not yet applied, the reduction will be at most 7.2 % and more probably 5.1% (EEA, "Greenhouse gas emission trends and projections in Europe" 2003. "Environment Issue Report 36").
- [10] "New York Times", December 4, 2003.
- [11] Idem.
- [12] IPCC, Third evaluation report, report of Working Group I, technical summary.
- [13] The Sahara is undoubtedly the result of a crossing of the threshold of this kind. We know now that its formation 5,000 years ago took only a few centuries.
- [14] Even without massive melting ocean levels are rising because of expansion of water masses. According to the IPCC's third assessment report, several tens of millions of people will be displaced by 2100. With a rise of one metre, nearly 25% of the population of Vietnam would have to be evacuated. The melting of the Arctic ice has begun. Melting in the Antarctic does not seem significant - happily, because the disappearance of the Southern icecap would raise sea levels by around 63 metres!
- [15] Larry Lohman, "[Democracy or Carbocracy? Intellectual corruption and the future of the climate debate](#)". Corner House Briefing number 24.
- [16] In addition to fossil fuels, permanently frozen areas of land are big reservoirs of carbon that are at the moment removed from the cycle. This carbon could be freed if there was a defreezing, which is an example of the kind of "retrospective effect" possible in the climatic system.
- [17] Third evaluation report, report of Working Group I, technical summary, pp. 60-61.
- [18] Third evaluation report, report of Working Group III, technical summary, p. 40. This rate would only be reached if all the surfaces deforested for two centuries were reforested by 2100, which is very unlikely.
- [19] Kyoto Protocol, article 3, §3.
- [20] Some studies indicate that the "sinks" could be transformed into "sources". In the tropical forests, for example, the increase in the rate of CO₂ would favour the proliferation of creepers in such quantity that the weakened ecosystem would emit CO₂ instead of capturing it.
- [21] "Financial Times", June 25, 2003.
- [22] "Greenhouse gas emission trends and projections in Europe 2003". EEA, "Environment Issue Report" 36.
- [23] "VOA News", October 22, 2003.
- [24] David Victor, "The collapse of the Kyoto Protocol and the Struggle to Slow Global Warming", Princeton University Press, 2001.
- [25] Rather than reducing emissions, some technocrats are trying to perfect systems for deep burial of CO₂. Read "Putting Carbon in its Place", "Business Week", October 29, 2003.
- [26] This perverse effect of the CDM on the possibilities of development of the countries of the South is called the "low hanging fruits" effect.

[27] The proportion in the USA is only 2%.

[28] Eurostat and COM (2002) 162 final. "Décision du Parlement et du Conseil: Une énergie intelligente pour l'Europe".

[29] See [Commission document](#).

[30] Analysis of the EU ecoindustries, their employment and export potential: [Commission document](#).

[31] "Global Warming: Bush's Double Blunder". "Business Week", April 9, 2001.

[32] "Global Warming: Has Bush on the Hot Seat". "Business Week", op. cit.

[33] An in-depth analysis of Plantar can be found on the website of FERN at www.fern.org.