

INTERNATIONAL AND EUROPEAN UNION ACTION AGAINST CLIMATE CHANGE

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The Climate Change Problem

One of the most serious threats to the global environment is the possible and substantial increase in the average temperature of the earth during the next century, with several attendant catastrophic effects on the world's inhabitants and economy. The existence of some 35 island states may even be threatened as a result of a rise in the sea level. This would be the result of the well-known global warming effect, because of the uncontrolled emission from man-made sources of greenhouse gases such as carbon dioxide, methane, NOX and the precursors of tropospheric ozone.

Numerous world scientists have turned their attention to the complex problem of understanding the functioning of the earth's atmosphere and its interaction with the aquatic and terrestrial environments. The need for a united assessment of the multi-disciplinary research involved has been met by creating the International Panel on Climate Change (IPCC). This panel includes in its membership foremost members from every related field. Their report in 1990 constituted a serious warning to the world about the dramatic consequences of climate change. The IPCC consensus report, as corrected by the revision of 1992, predicts a possible doubling of CO₂ in the atmosphere, a temperature change of 1.58 to 4.5°C and a corresponding sea-level rise of 0.3 m to 1 metres, to take place by the year 2,100, if the world continues its currently increasing trend in the emission of carbon dioxide and other greenhouse gases. It called for the reduction of emissions of these gases by about 60%, so that their concentration in the atmosphere could be stabilised. While it is true that there are some dissenting voices in this consensus picture of predictions with regard to the greenhouse effect, the great majority of the world's scientists agree on the need to take action against this global threat.

International Efforts to Combat Climate Change

Early world-wide gatherings to consider the range of responses that could be given to this problem included the Toronto Conference of 1988, which called for a 20% reduction of CO₂ emissions, and the Nordwijk Conference, whose declaration asked all the world's countries to mobilise against the impending global warming.

The IPCC report became the intellectual basis on which the United Nations Conference on Environment and Development was built held in Rio de Janeiro in June 1992.

This conference, coming 20 years after the Stockholm Conference of 1972, was attended by the totality of the world's countries, and marked for the first time, the fact that the world was willing to discuss all the challenges posed by the need for world-wide co-operation, especially between North and South, in order to take effective action against climate change, the destruction of tropical forests, the loss of bio-diversity and the protection of the earth's oceans.

One notable success of the Rio Conference was the signature of the United Nations Convention on Climate Change by 160 countries. The convention, though it sets the very difficult goal of eventually stabilising the concentration of CO₂ in the atmosphere, contains no more than generalised language about the control of CO₂ emissions. This was because this round was won by sceptical countries like the USA, which were not yet ready to take effective action in this area. However, it was significant that a framework has been agreed for North-South collaboration on this issue. The convention calls for the elaboration by the industrialised countries (the main contributors to global warming), of national programmes of action for the control of greenhouse emissions.

The convention also foresees the contribution of the developed world to a financial mechanism that is to help developing countries to act against climate change, through the development of their institutional infrastructure and the use of technologies reducing greenhouse gas emissions.

Since then the world has seen the gradual development of the Global Environment Facility (GEF), through the co-ordinated efforts of the World Bank, and the United Nations Programmes on Environment and Development. It must be stressed here that the initial optimistic pledges for the funding of the GEF have not been completely realised. Currently, some 2 billion US dollars have been pledged for international co-operation, not only for the purposes of the Climate Change Convention, but also for the UN Convention against the loss of bio-diversity and the protection of the oceans.

The European Union Policy

The strongest voice in Rio calling for the immediate control of greenhouse gases was that of the European Union, along with such environmentally progressive countries as the Scandinavian countries. Already, in October 1990, the joint Council of Energy and Environment Ministers of the European Community had agreed an important first step in the right direction, i.e. the stabilisation of the Community's 12 Member States' emissions of carbon dioxide by the year 2,000, on the basis of their 1990 level.

Immediately before the then-European Community signed the convention, it made public, in May 1992, its strategy for the control of CO₂ and greenhouse gases. This strategy included:

- the ALTENER programme for actions improving energy efficiency
- the SAVE programme for actions improving energy efficiency
- the JOULE and THERMIE programmes for the development and dissemination of technologies improving energy production and promoting energy efficiency
- a proposal to the Council of Ministers of the Community for a CO₂ energy tax
- a monitoring mechanism for assessing the progress made by the Community toward the stabilisation objective of CO₂ emissions in the year 2000

It is interesting to examine what progress has been made toward implementing this strategy, announced in 1992. In 1993 the Council adopted the ALTENER programme with only 40 million ECU's for 5 years, which is not at all adequate for the efforts needed to support and disseminate renewable sources of energy, such as biomass, wind, solar, and hydro-electric power. The responsibility for executing a large part of the SAVE programme was left to the discretion of the member-states, without any assurance that they would all take the kind of concrete actions that are necessary for the improvement of energy efficiency in industry, transportation systems, etc.

The tax proposal for an increase in energy prices in the Union by the equivalent of US \$3 per barrel of oil, to reach an increase of US \$10 after ten years, has not yet been approved by the Council of Ministers. The main reason for this is fear of the negative impact this important tax would have on the international competitiveness of the European industry, at a time of economic slow-down, and when its main competitors, the USA and Japan, show no sign that they would also impose such an energy efficiency saving. Since the energy crises of the 1970's, efforts in this direction have slackened, mainly because of very low international energy prices over the last few years. Our analysis has shown, however, that the single most important measure we can take for the limitation of CO₂ emissions is the imposition of a CO₂ energy tax, which would encourage a more prudent use of energy, with all the attendant economic benefits this would entail for all of us, while at the same time further reducing all other forms of pollution that clog our atmosphere, and in particular our crowded cities.

One element of the Union strategy which has received adequate attention, however, is the increase of funding of the JOULE and THERMIE programmes, by about 1 billion ECU of support for research and technology, into energies other than nuclear, forecast by the Fourth Framework Research Programme of the Union, for the next four years.

The final component of the Union strategy is the development of national programmes by the member-states to improve energy efficiency in their economies, switching to fuels more benign to the environment, such as natural gas instead of oil or carbon, and improving their transportation infrastructure by discouraging the use of private transport.

A preliminary assessment made by the Commission and presented to the Council of Ministers in March 1994, showed that, at best, all these Union and national programmes have achieved, to date, is a rather slow start and there is still the danger that the Union's CO₂ stabilisation target may not be achieved.

It is definitely a very troubling sign to see the twelve countries of the Union, twelve of the most industrialised countries in the world, not showing the kind of commitment that is needed for the effective control of global warming.

A hopeful sign, however, is provided by the development of policy frameworks in the Union such as that provided by the White Paper of the Commission on Growth, Competitiveness and Employment, launched in November 1993 as a response to the severe unemployment problem facing the recession-ridden economies of the member-states.

The White Paper advocates the policies necessary to reach the higher economic growth rates needed to reduce structural unemployment in the Union. At the same time, it touches upon the structural nature of such growth and basically looks for sustainable development, i.e. reconciling economic growth with sustaining the quality of the environment. This is in line with Article 2 of the Union Treaty as modified in Maastricht: "Economic growth respecting the environment."

More concretely, a tax shift is advocated in the White Paper, by reducing indirect labour costs, which could then could be compensated for by

increased environmental taxation. The proposed CO₂ energy tax could be a first step in the right direction: its price effect could contribute substantially to the CO₂ stabilisation objective, while as a result of its revenue effect, some 2.7 million jobs for low-skilled people could be created in the Union.

Other energy-related measures proposed in the White Paper would also be beneficial for CO₂ reduction. Creating trans-European networks in the energy sector would not only create employment and improve the energy security situation, but would also improve access to low carbon-intensive sources such as natural gas and electricity, which can be produced in a very low carbon mode, (e.g. from nuclear, hydropower or other renewable sources of energy).

In addition to these measures within the Union, the Commission, taking account of the global nature of the climate-change problem, is also taking action in developing countries and in Eastern Europe and the former Soviet Union, since the location of the source of CO₂ is irrelevant. Moreover, in these countries there are great opportunities for substantial improvements in energy efficiency as well as for switching fuels to low carbon-content energy sources in particular. The SYNERGY programme addresses these energy/environmental issues in developing countries, while the THERMIE activities have been extended in particular to the countries of the East. For example, energy centres have been established in almost all the countries of Eastern Europe and in the European part of the former Soviet Union.

Another effort initiated by the Union, and currently being pursued vigorously, is the implementation of the European Energy Charter signed by all European countries in December 1992. The Charter foresees agreements between Eastern and Western European countries for the more rational exploitation and use of the continent's energy resources, to the benefit of all the peoples of the continent.

The next step in our quest for international control of CO₂ and other greenhouse gases is the first Conference of the Parties to the Climate Change Convention (Berlin, March 1995). Our efforts are currently being directed toward achieving agreements in that conference that aim to stabilise world-wide CO₂ emissions, a step that will require a substantial reductions of CO₂ emissions by the industrialised countries, so that enough scope can be given to developing countries to continue their own development. Our success or failure to achieve this type of world-wide co-operation on the issue of climate change may be one test of whether the world can succeed in safeguarding the earth's environment for the generations to come.

George Strongylis' academic background in physics and astronomy includes working as a Research Assistant at the NASA Goddard Space Flight Centre. In 1981, he joined the European Union Directorate General XI on the Environment, and was involved in the preparation of the Montreal Protocol, as well as the 1987 Task Force for the European Year of the Environment. Within the Global Environment Unit, he has managed a team working to implement the Montreal Protocol, through European Union regulations. Mr. Strongylis is also managing a team involved with economic and regulatory EU measures, participating in the International Panel on Climate Change, implementing the Climate Change Convention, monitoring the mechanisms of EU CO₂ and other greenhouse emissions, and evaluating member state national programs for control of these emissions.