

# ENVIRONMENTAL POLICY INTERNALIZING EXTERNAL COSTS, AN "ECOLOGICAL TAX REFORM"

## [Professor Dr Ernst Ulrich von Weizsaecker](#)

Director, Institute for  
European Environmental Policy  
Bonn  
Federal Republic of Germany

## INTRODUCTION

I am honoured to be invited to this important conference. Quite rightly, emphasis is placed on the long term dimension of Biopolitics. Let me make a few introductory remarks on that long term perspective before I turn to the topic I was invited to address: Environmental Policy during the Greek Presidency.

The next millennium will not resemble the present one. Try to imagine how people lived a thousand years ago (in the year 988) - in China, in India, in the Americas - five hundred years before Columbus - in Africa and Europe. A few million people altogether: virtually no contact between the different cultures; no world trade, no industry, no cars, no aeroplanes, no newspapers, no nuclear energy, no fossil fuel burning - no modern agriculture.

Given the steady acceleration of human history, it can safely be assumed that the changes between now and the year 2988 will be more dramatic still than between 988 and now.

Will mankind be able to survive for another thousand years? It is an open question. But one thing is clear: if we continue present trends of population increase, per capita resource consumption and environmental destruction, in less than two hundred years we will destroy the basis of our further existence. This means that in order to survive we have to break the present trends. This is the challenge for Bios in the next millennium.

## THE ECONOMIC CENTURY

Where are the roots of the destructive trends? In primitive biological terms, it is simple: Man is the first species on Earth capable of engineering his environment to suit his needs. So man has created the conditions for his unrestrained expansion, but far beyond the original ecological limits. We all know the fate of a bacterial population in a nutrient broth. For fifty to seventy generations you have exponential growth, then stagnation, and finally - collapse.

Unless we arrive at a significant reduction of our reproductive rate, we cannot survive. However, contrary to widespread belief in the north, the key to this reduction lies, at least not exclusively, in the developing countries. It is the north which has pioneered the population growth. It is the north which determines the structural conditions for the world economy and it is largely these structural conditions which determine much of the culture and politics of developing countries.

Under the conditions of the modern world market, something very surprising and counter-intuitive happened. It was not the resource-rich, large, sparsely populated countries and regions of the world like Brazil, Argentina, Zaire or the Soviet Union which were most successful during the past thirty years, in terms of economics, technology and per capita income. Rather it was the densely populated countries like Japan, South Korea, Taiwan, Singapore, Hong Kong, Holland, Germany, and Switzerland. And in all nations it was the agglomerations, like Athens, Paris and London, the Po and Rhine valleys, the American East and West Coast, the Australian East Coast, Sao Paulo, Mexico City, Lagos and Bombay which thrived under the world market conditions, while the vast lands of Africa and South America were the economic losers. So is it any wonder that people associate high population density with affluence?

However, there is a fundamental deception in this affluence. The agglomerations are parasites on the resources of that land. Air, water and soil, forests and minerals, food and natural beauty, biological diversity and an agreeable climate are chiefly produced or maintained by our rural areas and consumed by the agglomerations. There is a price, albeit a modest one, on food, water, wood and minerals, and partly on natural beauty, through tourism. But there is no price for air, topsoil, biodiversity and climate, and the prices for clean water, natural beauty, wood and minerals are only determined by access on mining costs, not by their long term value.

Our present economy is still very much a mining economy, or "Raubbauoekonomie" which is a more pungent term used in German. I was

really sadly reminded of that when I recently attended the first public presentation of MIGA, the Multilateral Inventor Guarantee Association, a daughter of the World Bank. Preceding the World Bank/IMF Annual Meetings in Berlin, MIGA went public to persuade the business community to spend more private money in developing countries. The star of the afternoon was the Finance Minister of Ghana who described the new policy of his country to attract foreign investments. And essentially all he did was to advertise mining, the mining of ore, for precious metals or minerals, and the "mining" of forests, which is, of course, infinitely worse.

If you want to be a realist in our century you have to be an economist or at least define and justify your actions in economic terms. Economics is the religion of our times but also a very welcome rational worldwide common denominator after Auschwitz and Hiroshima. Economics became the main focus of all peace-seeking post-war international institutions, such as the UN, the OECD, the EEC or the Comecon. It is economics which decides elections in the West, the success of "Perestroika" in the east and the success of any politicians in the south.

This was not always the case. In the 19th century the dominant "reality" in Europe was the nation and her military strength, although economic thinking was already spreading, together with industrialization. In the 18th century the dominant reality was the king's or duke's court. Even the era of 'Enlightenment' which eventually led to the end of most monarchies came from philosophers at court. The century before that was mostly about religious or confessional matters which must have seemed much more "real" to the contemporary people than kings, nations or economics. And so you can go century by century to discover that it is truly a late 20th century prejudice to believe that the economy is the reality.

It is now my firm expectation that people in the 21st century will consider nature and the environment as the dominant reality. The simple reason is that if the present Raubbau goes on, the scarcity of nature's treasures will become an overwhelming reality for nearly everybody. To give you just a few figures. We are losing:

- annually, more than a thousand species of animals and plants. It is rarely conspicuous species such as the dodo; it's mostly insects, but even they represent irreplaceable biochemical "factories" compared, in their complexity, with a medium-sized chemical company;
- every second, a thousand tons of topsoil;
- annually, between eleven and twenty million hectares of forests.

I don't need to elaborate on the well-known air, water and soil pollution or on the municipal and toxic waste problems. But I should mention that all European seas including the Mediterranean are in danger. And now also the global climate is threatened. Nearly all of these dangers to the natural environment are man-made.

## INTERNALIZING EXTERNAL COSTS

We need to escape this horrifying trend of destruction as fast as possible. As we still live in the "economic" century we should, before falling into an escapist attitude, explore the possibilities of changing the economy so as to harmonize economic and ecological goals. When I first worked on this problem I had a feeling of total frustration. It looked like a contradiction in terms to make the economy fit ecological goals. But there is at least one intellectual tool available for our task, which sounds promising. It is called "internalizing external costs". To any pollution or resource depletion you can attribute certain external costs and can make the polluter pay. For him the economic question then arises if he cannot switch to a non-polluting alternative. If that clean strategy is cheaper than paying the pollution levy he will go for it. Another way, and in fact the most popular way of internalizing external costs is to set ambitious standards for environmental quality or for maximum permissible emissions or for certain products, and to let the polluters pay all the costs incurred for their abatement measures.

This has been the strategy of the EEC for fifteen years now, and it has worked remarkably well. Some 100 EEC directives were adopted in all fields of environmental protection. And they were implemented at national levels reasonably well. The trouble is only that the standards were not ambitious enough in many respects, so that despite certain success stories such as the biodegradable detergents, the ban of DDT and the gradual reduction of the lead content in petrol, the status of the environment has further deteriorated.

It seems necessary to think of additional tools to internalize the external costs. Most importantly, we should develop tools which increase the political coalition for the environment. Stricter standards don't do this, because only a few companies selling the equipment to meet the standards make profits from those administrative stipulations. Also standards imply a considerable bureaucracy for monitoring and controlling them.

So what else can we offer? There is of course, the Environmental Impact Assessment (EIA), a favourite of all plans. But when the German government, a conservative government, announced and circulated its draft law to supplement the EEC-EIA directive, it was confronted with the fiercest attacks from industry I have ever seen. We have now to supplement the directive which was adopted in 1985, and we must not expect this tool to harmonize industrial and ecological aspirations.

Another option on strict liability is as it is practiced in the USA. But that again is even worse for industry than ambitious standards. It can lead to endless lawsuits and a total strangulation of enterprises.

## **ECOLOGICAL TAX REFORM**

Finally, and this will be my emphasis, we can think of levies and taxes on pollution. Levies or charges mean that polluters have to pay a certain amount, which money is then to be used by the state for abatement measures. This is why environmentalists like levies or charges. Environmental taxes, on the other hand, lead to regular revenues for the state which can be used for road construction, war planes or other things environmentalists tend to dislike. Hence environmentalists are not normally in favour of taxes. But now comes the surprise. If you have levies, they cannot by necessity be higher than the profit rates of companies because otherwise the companies go bankrupt. And as profit rates are typically just a few percent of turnover, levies have to be even less. Levies never reach more than one tenth of a percentage of the GNP. Environmental taxes, on the other hand, can be used to diminish other taxes such as corporate taxes, VAT or indirect labour costs, thereby leading to a situation where the average profits in the economy don't go descend.

It is quite ironic that at present taxes penalize almost exclusively the desirable activities in our society, namely human labour, value-added and corporate activity, while destructive and undesirable activities such as land degradation, energy consumption, work production and air and water pollution, go free! That relationship must be reversed. Such a reversal is what I would call our "ecological tax reform."

Let us have a brief look at the effects of an ecological tax reform. Let us assume - which is on the safe side - that ecological taxes can reach ten percent of the GNP (which compare with some thirty percent average tax burden under the present system, of which two thirds would remain and one third would be substituted by ecological taxes). Then we would have:

1. A strong incentive into the whole economy, over a hundred times more forceful than present levies, to protect the environment. Industry, agriculture, transport, retailers, consumers, the shadow economy, urban planning, waste handling, just every sector would have to change to adjust to the new conditions for profit making.
2. In as much as indirect labour costs are falling, for the first time in ages, it would become much easier to control unemployment. It would be simply profitable to use human labour and intelligence to reduce waste and pollution.
3. The ailing railways would all of a sudden become profitable again. The following picture shows the energy consumption and pollution comparison between railways and cars on the left side for passengers and the right side for goods. Railways are defined as WO % and cars represent the ban. If pollution, energy consumption and land degradation are taxed, railways would be the system into which engineers and private companies are going to invest.
4. The last mentioned two effects, higher employment and profitable railways lead to a great relief on public expenditure. In addition, it is likely that public health improves so that public and private health expenditures may fall or at least not increase further.
5. To the extent that durable and repairable goods replace junk goods and to the degree that energy conservation and small-scale solar energy systems including biogas replace large scale supply systems, skills, as well as high technology skills and corresponding education will gain ground. This is considered psychologically and culturally a major advantage.
6. Dependency from imported fuels and from nuclear power decrease and a long term secure energy supply becomes feasible worldwide; this is not the case now!
7. The strong incentive mentioned will trigger a new technological revolution away from the dinosaur technologies of the 60s and 70s and towards high sophistication, high energy productivity, clean technologies and services.

In as much as the system begins to work, meaning that the environmental situation improves and resources are saved, much of the present costly, complicated and asphyxiating environmental regulations can be phased out. The taxation system conforms very well with the market philosophy, it is more suited than ten percent heavy control mechanisms to the administrative realities of mediterranean countries and developing countries. Also taxes on energy, land consumption and industrial pollution are safer revenues for the state than income taxes which can be easily evaded in many countries.

Of course one must not negate that there also exists in the game, the heavy polluters, the oil, gas and nuclear industries, the high energy consumers such as aluminium industry, the car owners who drive their cars regularly for long distances, the road builders in countries with a well developed and sufficient road network and a few others. Another problem with the concept, should be mentioned: if environmental taxes achieve what they are meant to achieve, revenues will by definition fall. So one has to envisage certain upward adjustments year by year to compensate for the losses - unless, of course, the savings in the unemployment, railway and health sector are high enough to make up for the reduction in revenues.

## **THE GREEK PRESIDENCY**

After this very long introduction, I am finally turning to concrete policy issues at the EEC and to what the Greek Presidency may be able to achieve.

To begin with, as mentioned before, the EEC has a considerable tradition in environmental policy. For fifteen years the commission has

proposed far reaching regulations, mostly so-called "directives", for all sectors of environmental protection, and more are in the making. The Council of Environmental Ministry has to adopt commission proposals before they become binding community law. After adoption, the twelve nations have a year or two to transform the directive into national law. The commission gives a warning to slow countries and later supervises the implementation in all member states. In cases of non-compliance the commission takes countries to the European Court whose ruling has in the past proven quite effective in triggering quick remedial action. This is quite an extraordinary achievement in terms of international politics. Imagine that once sovereign and proud states now have to succumb to an international bureaucracy to protect their environment! It may be a model for the World Community in the hopefully not too distant future.

- a. What are the main problems for EEC environmental policy today and during the Greek Presidency? I shall select five points out of a possible twenty or more, and to save time I leave out the final points which are on the agenda for the November Council Meeting.
- b. The EEC has to take a still more active, not to say aggressive stand on the implementation in all member countries of the environmental directive. It may become necessary to establish some kind of an Environmental Inspectorate which not only looks after the legal compliance of countries but also the practical effects.
- c. In the Single European Act of 1987, the legal act amending the Roman Treaties of 1957, a clear mandate is given to integrate environmental policy into all other policy sectors, meaning agriculture, fishery, energy, transport, regional and social policy. The Greek Presidency could make a point of initiating a political movement within the Community to take this extraordinary mandate at its face value and notably to begin with something that deserves the name of a common energy policy. With a Greek Director General for Energy, Mr. Mathiatopoulos, that may be a worthy beginning if it finally takes energy as something very precious and not something you can afford to waste as soon as the oil prices happen to tumble.
- d. The Greek Presidency is the first out of three Mediterranean Presidencies in a row. Greece is of course concerned with the Mediterranean cause but she has not so far emphasized the need to integrate regional, notably Mediterranean policies with environmental policy. One thing is to scrutinize the Integrated Mediterranean Programmes worth several billions of ECU, much of it German taxpayers money, and the even bigger regional funds for evaluating environmental impacts. This would lead to considerable redirection of the funds. Another thing, hardly explored so far, is to use that money for necessary environmental investments such as sewage treatment plants.
- e. Greece may take the initiative in a workable strategy to protect the Mediterranean Sea. The Barcelona Convention is too weak. It does not take pollution from land sources including entrophication seriously enough. It gives no tool to control the quantity and quality of settlements along the shores. And it has virtually no muscles to enforce compliance.
- f. Perhaps most importantly, Greece should call for a comprehensive amendment of what the Internal Market from 1993 on will do to the environment and what policy instruments should be developed to meet the challenge. To give you just an indication of what fears I have:
  - a. When the chilly winds of competition blow through all member states, when the small businessman in Patras can be challenged by a subsidiary of a Dutch or German multinational, you will have to expect mounting complaints from all corners to help the local economies. Which provincial offices will in this situation dare to ask costly protective levies from small enterprises polluting the environment? And once there is lenience for the small, the larger ones will ask for equal treatment. We must not forget that during the years of economic difficulties in the mid-seventies/early eighties the earlier environmental enthusiasm nearly completely vanished.
  - b. The Internal Market is bound to create a much higher volume of transport. And as there will be competition on all roads among truck companies from everywhere, so a price war is foreseeable. The loser in this war will not only be the lorries but also the railway. Now imagine a fifty percent in some places abundant percentage increase of lorries on the roads. It would also mean another defeat to the environment.

It becomes unavoidable in my view that EEC-wide instruments will be explored and eventually adopted which protect us against such nightmarish developments. It is my firm belief that the ecological tax reform and related instruments that are compatible with a modernizing industrial society will become the centerpiece of this upcoming instruments discussion.

---

Professor Dr. **Ernst Ulrich von Weizsaecker** is the Director of the Institute for European Environmental Policy, with branches in Bonn, Paris and London. He has received the Diploma of Hamburg University for his studies in Chemistry and Physics, and the Dr. rer. nat. from Freiburg University in Biology. He continued with interdisciplinary research in Heidelberg, and served as Full Professor for Interdisciplinary Biology at Essen University. He was Founding President of the University of Kassel, and Director at the United Nations Centre for Science and Technology for Development. His numerous publications are in the fields of environmental policy, the theory of open systems, technology policy and university education.