

# Making environmental projects economically feasible.

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## Introduction

To suppose that environment and economy are enemies is a big mistake, at least from the point of view of environmental concern. I rather speak of a challenge than of a war. My statement to start this article is: **THE CHALLENGE IS TO PRODUCE AND CONSUME DIFFERENTLY, NOT LESS.**

I will try to show you on the basis of Dutch experience that economic and environmental preferences can meet in a state of harmony that you may describe as a win-win solution for both the environment and the economy. This is not to convince you that our Dutch experience is the one and only way to handle this problem.

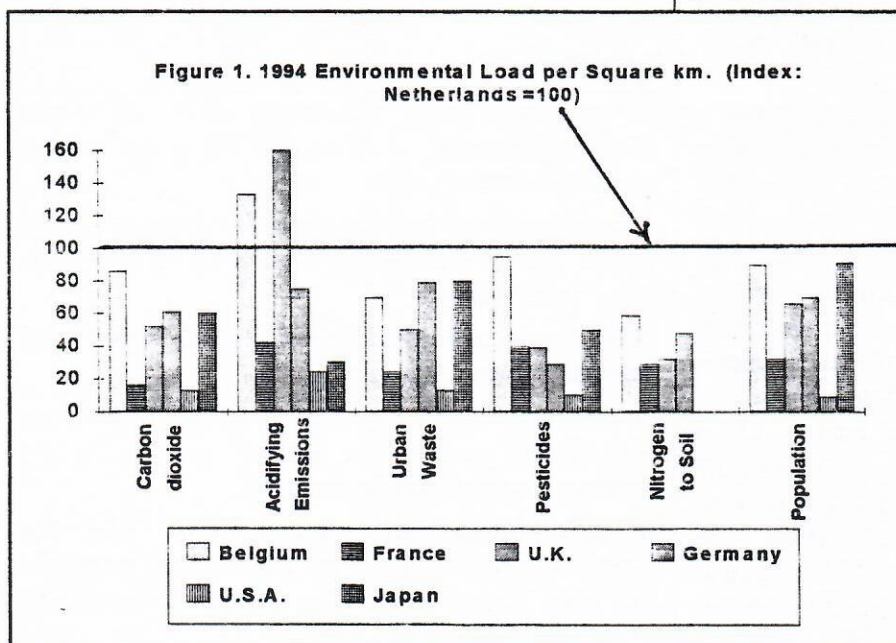
I only want to share our experience with you. It is of course embedded in the context of Dutch culture and in our specific situation at the "edge" of the European continent which has its influence on population density and on our so-called environmental loads (see Figure 1). However, this experience is worthwhile to pass on to people outside The Netherlands. And maybe not only to let people know, but also to let them think about it with respect to their own situation.

## Concern for Tomorrow.

How to realize this win-win situation? First and overall you need a widespread and sound concern that an economic "business as usual scenario" in the long term will be devastating for the environment. In 1989 in The Netherlands our National Institute for Public Health and Environmental Protection published the report *Concern for Tomorrow*. It concluded that in 2010 the quality of the Dutch environment would not be sustainable any more if and when we should continue our existing environmental policies and if and when the economy should develop as predicted by economists.

This conclusion alarmed every organization and each individual in Dutch society; the media, employers and employees and politicians of all parties. Our Queen herself pointed to it in a television speech in which she shared her concern with everyone.

The outcome of all this was a widespread consensus that action had to be taken to change the development of the Netherlands economy in a sustainable direction and that this job had to be cleared within one generation: to avoid the situation that we should ask our children to solve the problem we did not solve properly.



This consensus was — and still is — not only the base, but also the leading principle of our first National Environmental Policy Plan that was published at the end of 1989 and revised in 1990, and also of the second plan that was published in December 1993.

The Dutch minister of Environment stated as an introduction to the first plan:

*"The environment is in a very critical condition. In spite of improvements in some areas, the situation continues to deteriorate. We can not afford further postponement of drastic measures. Radical decisions which will affect*



everyone are therefore unavoidable. The coming years will be characterized by a hard struggle; and it is not only the improvement of the quality of the environment which will be at stake here, but ultimately the continuation of existence of mankind."

• Figure 2

• **National Environmental Policy Plan**

- sustainable development
- integrated approach
- goals for priority themes in environmental policy
- realisation time
- instruments and measures
- target groups

I will not go into the details of the plan here. Figure 2 shows a few topics. In the context of this article it is important to point out the concerns that are in it and to what extent they influenced Dutch society.

### Long term goals.

The second step in the process towards a win-win situation for environment and economy is the definition of a set of long-term/one generation/25 year goals – very clear and quantitative goals which do not conflict, but with which sustainable quality of both the environment and the economy can be realized in an integrated approach. To define such a set of goals, science based information must be available about what is needed for a sound economic development. In most countries this is not a problem, if I may use an understatement.

The availability of scientific information to define a long term, stable environmental development is a more complicated matter, especially because – at least – some aspects of it are influenced by more or less subjective arguments. Unlike economists, until today environmentalists have not succeeded so well in organizing an effective lobby to avoid recurrent discussion about the basic elements of their scientific research. Still much effort is necessary to come so far, especially on a multinational, global scale. On a national level, however, Dutch policy makers succeeded in defining such a set of quantitative long term goals for sustainable environmental quality. The National Institute for Public Health and Environmental Protection, as an independent, scientific organization, defined maximum levels of emissions for 2000 and

2010 for all hazardous substances beyond which the ecosystem could develop in a sustainable way (so called "critical loads"). By combining these maximum levels with the actual emission levels of 1986 this set of maxima was translated in a set of emission reduction targets for 2000 and 2010.

An important element in reaching (political) agreement about the objectivity of this set of long term environmental quality goals was of course the general concern in The Netherlands about the quality of the environment of tomorrow, mentioned earlier.

### Target groups

A consensus upon long term emission targets for society in general is excellent, but not enough to get people really involved in realizing them. That needs another step: Normally, people can be brought to action when they have a clear target in mind they can work at and – even more important – when they agree it is their responsibility to reach that target. So here is what we tried: Translation of overall goals into specific, group related targets. Within Dutch society we defined eight groups – target groups – of main polluters (see Figure 3).

Figure 3

### Target Groups

agriculture	construction industry
industry	waste disposal industry
energy industry	drinking water supply industry
retail trade	sewage and wastewater plants
transport	research institutes
consumers	

For each target group – according to its specific part of total emissions – we defined a quantitative emission-reduction target.

After discussions and negotiations all target groups agreed upon their target; it was discussed with them before it was decided.

The summary of all specific sector targets is the overall national emission reduction goal.

By involving the target groups in the overall problem, they became part of the problem and solving the problem became their responsibility.

In the National Environmental Policy Plan this approach is described in more detail. Chart 4 contains the main topics of this so called Environmental Management Approach.



Figure 4

### An Environmental Management Approach

- adoption of measurable targets and timeframes
- integration of environment into decision-making
- clear identification of responsibility
- long-term re-shaping of social and economic structures
- international cooperation and action

To illustrate the above with an example: the national goal for CO<sub>2</sub> emission reduction is minus 3% in 2000. We translated this goal for the construction sector into a minus 25% of the use of energy in individual, newly built dwellings.

### Programs of cost-effective action

The next step on the way towards environmental and economic harmony is defining a set of concrete measures/actions to be taken by a target group to realize the long term targets; actions which can actually reduce emissions to the proper levels but which are also feasible from economic point of view. Depending on how ambitious the reduction targets are, different levels of costs have to be considered. However, an important principle in this area is that lower emissions do not always mean higher costs per avoided emission. Implementation of new, integrated technologies often generate lower costs than traditional end-of-pipe technologies. Also more economic orientated mechanisms occur when the high level costs of innovative "high tech" diminish when demand rises.

However, it is important to point out the fact that cost-effectiveness is a very important issue in defining a realistic set of actions.

Besides this micro-economic aspect, the macro-economic effects of the policies are also of high importance. Developing effective policies which can realize both economic and environmental targets needs proper instruments to calculate macro-economic effects of programmed actions. One of the possibilities here is

adding an extra element to the "traditional" macro-economic models with which the long term economic development is calculated. To come so far that the builders of national macro economic models are allowed/willing to do this is a huge job, but the outcome is worthwhile.

Almost every experience with macro-economic exercise around the world with environment-integrated macro-economic models shows that realization of even very ambitious emission reduction targets overall does not harm the macro-economic development seriously.

It would take more space than I have to explain this in more detail, so I propose this as my personal view.

However, the outcome of the micro- and macro-economic exercise with a cost-effective action programs is that it appeared to be a very useful instrument to convince target groups that what is needed for the environment is not necessarily damaging to the economy.....

### Ecolonia as an example.

To illustrate the effects of our approach in the construction sector we can use the Ecolonia project as an example. I will only comment on a few relevant aspects.

Built in 1991/2, Ecolonia is a demonstration project for energy saving and environmentally friendly building and living. The project - which is in Alphen aan den Rijn, a mid sized municipality in the western part of The Netherlands - is an initiative of government and industry. The project

is a new designed urban residential area with approximately 100 single family dwellings. The dwellings are designed and built in an energy saving and environmentally conscious way. Also, they are designed suitable for mass production. The technical requirements for construction are directly related to the targets of the National Environmental Policy Plan with special emphasis on energy saving.

In the period 1973-1988 average gas consumption for space heating in newly-built single family dwellings diminished from 3300 m<sup>3</sup> to 1300 m<sup>3</sup>. The project

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The Dutch Minister of Environment (in an introduction to the first plan)



aimed at a lower level of 900 m<sup>3</sup>: this is the target of minus 25% which is in the NEPP and which was agreed with the building sector.

Experiences with Ecolonia underline important aspects of the above mentioned approach:

- **Ecolonia** shows that it is possible to realize the ambitious targets of environmental policy;.
- building costs remained within the available budgets; however, all architects and constructors had to make concessions with respect to their draft plans;.
- the project – due to its "revolutionary" character – sometimes came into conflict with existing regulations of the government; a flexible attitude by local authorities was necessary to achieve the envisaged goals;.
- realization of the (calculated) energy savings demands specific behavior of the occupants products within existing;.
- everyone is proud of the results; even The New York Times published an article.

All participants – architects, building sector, government, – together succeeded in designing, building and realising a totally different way of living.

The project shows that "eco-living" is possible without the extravagance of high costs which would make it affordable for only a happy few.

## **Conclusion.**

These are just a few highlights of the Netherlands' experience during the last five years. To our concern for tomorrow and long-term target setting, we added agreement with consumers and producers, with sectors of industry, with NGOs and with a majority in Parliament about sets of concrete actions to be taken to realize the long term targets. Within the agreement fits the persuasion of all parties that implementation of the actions is necessary for the environment and possible within the economic context. The agreements mostly aim at the implementation of a set of instruments of different types: command and control instruments in which government sets out the rules but also voluntary agreements within which industry itself can choose the proper instruments to reach the targets.

Without exaggeration I can say that Dutch industry sectors have made the concern for environmental quality their own responsibility. They discovered what I put forward in the beginning of this article. It is even possible to amend that statement slightly now:.

**THE CHALLENGE IS TO CONSUME AND PRODUCE DIFFERENTLY AND IT CAN BE PROFITABLE, TOO.**

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