

CLIMA 2000 (Brussel, 1997)
Technical Session IV
Energy, environment and economics

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Synthesis of the discussion session IV

In this session IV and in other sessions a lot of new energy efficient technologies were proposed. Each of these technologies leads towards a positive impact on the environment and on the use of primary energy. The problem is mostly, how to implement these new energy saving technologies more efficiently in practise? This was the main question in the discussion of this session IV: energy, environment and economics.

Sometimes the capital cost of an energy friendly investment is a problem. In a lot of cases it is very difficult to use new technologies if they cost more than the existing technologies. Implementing a new technology, when it does not lead to a reduction of the total costs, is mostly difficult to realise in practise. Sometimes the total costs of the energy friendly systems are relatively low but the pay back time is too high according to the decision-makers.

A second problem is the low energy costs in most of the countries. Cost savings by implementing energy efficient technologies are in a number of cases low.

A third problem is the fact that the aims of the concerned parties in a project are different. For instance in the building sector, the architects, the construction companies, the building company and the end-users all have different priorities.

Sometimes a legislation can be a useful tool to implement new energy efficient technologies. For instance in Belgium it was shown that a lot of oil-fired boilers (more than 50%) are not maintained yearly. A more efficient application of the legislation together with an extended control procedure can lead towards energy savings. The possible energy savings amount to 5.354.000 GJ/year.

Germany applies maximum rates of energy consumption (kWh/m²/year) for the different kinds of buildings. These rates are fixed by legislation. How to reach these rates is not specified. Buildings and dwellings are controlled by the Government. In the case a building is not conform to the rates, penalties are applied.

Also information can be a tool to implement new energy efficient technologies. It is important that the end-users know which systems are available on the market. Information concerning the efficiency and the environmental impact of the systems are useful in order to choose a new system. Sometimes information campaigns towards the end-users have a good result. For instance in the USA information campaigns for the end-users were organised in

order to ban the use of CFC in refrigerators. The campaign seems to be very effective. The result is that it is socially 'bad' to have a refrigerator with CFC.

A European project (SAVE) showed that the motivation to replace old boilers is low in almost all the countries of the European Union. The total number of boilers older than 20 years would amount to about 11.600.000 for the European Union. Replacement of these old boilers can result in energy savings of at least 2.800.000 toe/year, corresponding to a CO₂ reduction of about 7.800.000 ton. The study showed that it would be useful that the end-users are 'motivated' by an external source. The heating technician would be a suitable person to motivate and inform the end-user because he is or he can become a regular contact person and a 'well known face' for the end-user.

The conclusion can be made that it is sometimes difficult to implement energy efficient technologies in practise because of high investment costs and low energy prices. In order to stimulate energy saving technologies a number of tools are available: legislation, information, motivation,... The most suitable tool for stimulating the use of a new energy technology depends on the local situation and boundary conditions.