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Dutch policy as incentive to environmentally controlled re-use of waste materials

Introduction

The building industry has a long history on the reuse of old materials. The first christian churches were often built on the site of old temples, with the building materials of these temples. In old cities buildings and building materials have been renovated and re-used. The use of industrial wastes as by-products is of a more recent date. Blast furnace slag and fly ash are used in cement, road bases often were made with slag or building rubble. After the second world war rubble was used in Germany and The Netherlands as aggregate for the building of new houses. In this period fresh building materials were scarce and the rubble had to be re-used or landfilled. Environment was not an issue at that time. Some twenty years ago the reuse of waste materials became politically interesting. The aspects of lessening the amount of freshly delved materials on one hand and the area occupied by landfill on the other hand were the dominant factors.

The first activities were directed to large waste streams as building rubble and fly ash from coal fired power stations. The use of fly ash was stimulated by a ban on landfill for fly ash. The cement industry was put under pressure to use fly ash in the negations for extension of their mining concession. On this product the producers of the ash and the user, the cement industry had a mutual interest and all fly ash in The Netherlands is used now. Building rubble was a tougher stream to tackle. The number of parties involved was larger and the quality of the produced materials varied largely. Together with the industry the government worked on standards, certification of different materials. A very positive influence had the prescription to use the material in government and municipal projects. At this time roughly 90% of the building wastes are re-used and since january this year we have a ban on the landfilling of re-usable building wastes.

Policy

At first there was no integrated policy towards waste materials and their re-use, management was just solving actual problems. Later a new policy was developed in which a preferred sequence of activities came forward. The "steps" in this policy are:

- prevention of waste
- reuse of products
- reuse of material
- burning with energy recovery
- landfill.

To attain the aims of the policy a number of push and pull measures were taken.

Pushing measures used are:

- a landfill ban for designated categories of waste
- taxation on landfilled wastes
- targets in the environmental permits of producers
- deposits on new products to process these products when defunct

Pulling factors are:

- provide regulations for the use of secondary materials
- stimulate standardization and certification of secondary materials
- prescribe the use of secondary materials for government buildings and roads
- support for research and developing new technologies for processing wastes

to useful products and realisation of pilot projects.

Results

There has never been an evaluation of the influence of the different measures taken but I can give you an overview of recent developments.

1. Landfill ban: was introduced in 1995 for over twenty designated waste categories ranging from car wrecks to household wastes. The aim is to prevent the landfill of useful resources and if not re-usable than recover the energy or use the organic wastes in a compost processing plant. As new techniques of waste processing become available new types of waste are added to the landfill ban. Recent additions are building and demolition waste, blasting grit and waste wood. Since the introduction of the landfill ban the quantities of landfilled wastes have dropped sharply.
2. Taxation on landfilled wastes: this taxation serves several purposes. The first is simply to get money. Secondary reasons are to diminish the financial gap in costs between landfill and burning in an MWCP and by raising the price of disposal, the financial incentive to process and re-use waste grows.
3. Targets in environmental permits. By adding targets on waste processing in environmental permits the producers is forced take action with regard to his waste. It is not simply a matter of costs, he has to prevent or re-use his waste to continue his activities. In some cases agreements of the government with branch-organisations are made aimed at reducing waste or reprocessing waste. e.g. packaging agreement. Some companies have their own policy on environmental targets with respect to reuse. A large company in this region, aims at reducing the waste leaving their premises to zero. They have a system to solidify and re-use their own wastes in roads on their site.
4. Deposits: It is a fairly recent development, first introduced to start a selective demolition of old cars. On new cars a deposit is paid to pay for the final demolition. The system is quite a success and helped to improve the quality standards in the car demolition branch.

So far the pushing factors, pushing alone is not sufficient to reach the goals. Pulling factors are also needed to reach a generally accepted re-use of many products. The above mentioned pulling factors are:

1. Regulations. The putting of new products on the market is not enough to come to the use of them. Aggregates now can consist of secondary materials, a number of years ago you were only allowed to use natural sand or gravel. Joint research from all involved parties led to new regulations which included secondary materials.
2. Standardisation and certification. Re-use is made possible by adaptation of regulations. Secondary materials have to comply with functional and environmental specifications, standards have to be drawn up so that producers as well as users know the quality of the products they deliver or buy. To ensure the compliance with the standards certification systems are used.
3. Use of secondary materials. To promote the use of secondary materials it is essential that government an municipal authorities lay down an example by prescribing secondary materials in their own buildings and roads.
4. Support in the development of new techniques and pilot projects. There are programmes to subsidize new technologies and to promote pilot projects for new products made of waste. One of these programmes was directed at the re-use of dredging spoils, a major waste stream in this country. An other program is directed at stabilisation of wastes, techniques have been developed, now the aim is the realisation of pilot projects.