

1. Waste management

Prevention of waste

Our production and consumption lead to large quantities of waste. An important element in work on eco-cycles is therefore sustainable waste management. Articles that circulate in society contain large quantities of different materials. Many are energy-demanding to produce and contain substances that exist in limited quantities. It is therefore necessary that we manage joint resources in a long-term manner to achieve sustainable cycles in society. Many articles additionally contain substances that are toxic or hazardous and should not be released into the environment. This necessitates phasing out the most harmful substances and handling correctly those substances that continue to be used. There is a eco-cycle strategy in Sweden linked to the Swedish environmental objectives. The strategy is aimed at bringing about a society with non-toxic and resource-efficient cycles. This includes prevention of waste, changed patterns of consumption, more efficient production methods and waste management with a greater focus on recycling. The natural cycle strategy looks at materials and products throughout their lifecycle in order to provide as complete a picture as possible of their environmental impact. Consumption of energy for a product also has to be weighed into the assessment. Sweden considers it necessary for the volume of waste to decrease if we are to come close to sustainable management of waste. Producers must already take account of a product's environmental impact in a lifecycle perspective when it is manufactured. Design and material selection, as well as energy consumption in manufacturing and use must be taken into account. In addition, sustainable cycles can only be achieved if a greater proportion of waste can be reused and recycled. This saves both materials and energy, while also reducing the use of hazardous chemicals and environmental problems in waste management. One aspect of this work is focusing on issues relating to chemicals in articles within SAICM.

Reduced landfilling of waste together with increased sustainable recycling of waste

Waste can be both a resource and an environmental problem. Sweden considers that waste management that works poorly involves considerable wastage of valuable material and can lead to environmental and health problems. In cases where waste management does not work, this can lead to problems related to sanitation and health, as well as soil and water pollution.

The aim as far as possible is to make use of the resources contained in waste. At the same time, it is important to reduce adverse effects in the form of emissions of methane gas from landfills and carbon dioxide from

combustion, as well as emissions of heavy metals and organic environmental pollutants. There is a hierarchy for how waste is to be managed in EU legislation. This primarily means that we have to try to produce as little and as non-hazardous waste as possible. Material recycling is prioritised over energy recycling for waste that nevertheless arises, where this is environmentally justified. The waste ultimately has to be disposed of by landfilling. There are no obvious answers as to what method is preferable for all types of waste in choosing material recovery and incineration. Several analyses generally support material recovery that lets materials and nutrients enter a cycle. Sweden considers the waste hierarchy to represent a good starting point for achieving sustainable waste management.

An all-embracing perspective on the area of waste is required to attain sustainable waste management. Various measures that reduce the volumes of waste and control waste streams according to the hierarchy for different methods of treatment are required. The key is to increase the material recovery of waste. Recycled raw material saves energy compared with the use of new raw material, in addition to which material recycling often leads to lower emissions than other methods of treatment. When producers start to recover material a valuable link also arises to environmentally oriented product development in order to improve the efficiency of manufacturing. Several measures have been taken to promote biological treatment, in part to reduce greenhouse gas emissions from landfills and be able to make use of the plant nutrients contained in food waste. The ban on landfilling organic waste and the targets for increased biological treatment of food waste and for waste from the food industry have been most effective.

Transboundary movements of waste under the Basel Convention

The Basel Convention on Control of Transboundary Movements of Hazardous Wastes and their Disposal is a global convention that was adopted in 1989 and came into force in 1992. The fundamental purpose of the Convention is to protect human health and the environment against harm that can be caused by movements and disposal of hazardous waste and other waste. The Convention regulates transboundary movements of waste, and the parties to the Convention have undertaken to manage hazardous waste and other waste in an environmentally correct manner. Sweden considers it important to comply with the rules in the Basel Convention and the amendment banning exports of hazardous waste from OECD countries to non-OECD countries (ban amendment) in order to reduce the negative aspects of transboundary movements of waste. As a consequence of the question of when an end-of-life product is to be classified as waste, problems in relation to transboundary movements have arisen in particular with regard to electronics, cars, refrigerators and also

end-of-life ships. The problems associated with these movements are that large quantities of hazardous waste accumulate in countries that do not have the capacity or knowledge to deal with waste in an environmentally correct way. This can lead to risks to the environment and human health in these countries. Sweden views this problem as serious and welcomes the initiatives taken under the Basel Convention to discuss solutions.

Safe management of hazardous waste

Sweden considers an important element of the work of guiding waste management in the direction of sustainability to be reducing the amount of hazardous waste. Substances that pose a health hazard or are harmful in some other way must be removed from the cycle. Incorrect management of hazardous waste can pose a great risk of harm to humans and the environment. It is therefore important not to mix it with other waste but to present it separately to professional waste receivers. Some of the characteristics that distinguish hazardous waste are that it may be toxic, carcinogenic, corrosive, harmful to the foetus, ecotoxic, infectious or combustible. The hazardous substances in hazardous waste must not be dispersed in nature or be allowed to be re-introduced into the cycle of society. Examples of such hazardous substances are heavy metals such as mercury, lead and cadmium and stable organic compounds such as PCBs and dioxins. Sweden therefore considers it self-evident from the environmental point of view that hazardous waste has to be kept separate from other types of waste as far as possible and that separation at source of generation is necessary in this context. Only then can the hazardous substances be separated out and dealt with in the best possible way from the points of view of the environment and health. Waste that is not separated at source of generation must as far as possible be separated at the next link in the chain, in order to avoid diffuse dispersal of hazardous substances contained in waste.

2. Waste management

Prevention and minimisation and environmentally sound management of hazardous wastes

Policy measures for the prevention and minimisation of hazardous wastes

The Swedish view has been that the volume and hazardousness of waste can only be influenced to a limited degree by measures taken at the waste stage. Measures to reduce the hazardousness and volume of waste should be primarily taken as part of work on products and chemicals. An important condition to be met to enable the risks to be reduced at the waste stage is that the actors concerned are aware which substances can be

hazardous to the environment and health and which of these hazardous substances are contained in the articles they manufacture, handle or buy. The sharply increased turnover of consumer goods with broader ranges of similar products and products with a shorter life, are important factors for example in the problems associated with electronic waste that contains hazardous chemical substances. Clothing is another example of articles with a short life, large quantities going to general waste management. The most effective way of reducing chemical risks is to take action at the start of a chain of production and handling, as all later stages, including the waste stage, are affected. The flow of information in production and handling chains is, however, often inadequate, and there are several factors underlying this. The chains of production and trade for articles are often long and can pass through several different countries. There are trading companies here that are not manufacturers of either chemicals or articles and only market and trade in articles. It can therefore be difficult for a purchaser in Sweden to trace back and obtain answers to questions about production methods in many supplier links. Work to improve access to information about the substances in articles, for example by introducing information requirements, therefore needs to be pursued at international level.

Sweden's efforts to reduce the hazardousness of waste by limiting the use of substances of very high concern leads to products that affect human health or the environment in a less harmful way throughout their lifecycle. Another instrument is the product choice rule in the Environmental Code (Chapter 2 Section 4), which states that anyone who undertakes or intends to undertake an activity has to avoid using chemical products or biotechnical organisms that may be feared to pose risks to human health or the environment, if they can be replaced by such products or organisms as may be assumed to be less hazardous. The same requirement applies to goods that contain or are treated with a chemical product or biotechnical organism.

A large and growing waste stream consists of waste from electrical and electronic products. The turnover of new products is rapid. Some of the products, for example computers and television sets, become hazardous waste when they are discarded, and control of the route this waste takes is often deficient or difficult to implement. An important measure would be to make sure at the time of manufacturing that as little hazardous material as possible is used and additionally to make the products easy to dismantle. The RoHS Directive regulating the use of certain substances in electrical and electronic products is a particularly important instrument in this respect.