Sustainable Management of Minerals for Industry

Expert opinion prepared by Dr. Vered Blass, Tel Aviv University

Past developments: Until recent years not much weight was given to the issue of mineral management for industrial purposes, and means of disconnecting economic growth from environmental damage in Israel were not explored. In the mid-1990s many countries began to promote this issue by creating a recycling economy in which raw materials are returned to the production cycle by means of reuse and recycling, reduced waste disposal, and improved efficiency in the use of resources, for example by reducing the amount of raw materials required, reducing energy needed for production and use, etc. In Israel the issue of efficiency of use of resources is familiar mainly in the context of water, where it is most salient, but in many other sectors as well, such as energy, raw materials, etc. Israel is at the early stages of policy making and implementation of this perspective in the industrial sector.

Current trends: Efficiency of resource use refers to various issues such as energy, carbon footprint, raw materials and waste, water, land, etc. Companies, sectors, cities, and countries are beginning to monitor and improve their practices in these areas using a variety of indicators. The perspective of a recycling economy views waste and byproducts as a resource for optimal reuse of products, parts, and materials. In order to reach high returns of 80-90%, a recycling market needs to be developed, with advanced legislation, industrial symbiosis, and the promotion of the principles of sustainable production and consumption, including changes that would be adopted as early as possible during the planning stages of the products and services consumed. Israel promotes the issue of return and recycling of waste, but is still at the early stages of the revolution. One of the important issues in this area is the issue of rare earth minerals. This issue has seized the attention of many countries because 95% of the production of these minerals today is located in China, which has recently begun limiting the export of these minerals to certain countries in order to maintain competitiveness and local production capacities. These minerals are needed for various applications and innovative products associated with the cleantech industry and with communications, and are therefore significant, particularly in light of Israel's desire for transition to green growth practices and to become a leader in the fields of eco-innovation, green IT, and alternatives to oil.

"Business as usual" scenario: The absence of a clear government policy regarding management of minerals for industry, both local minerals and imported minerals; minimal improvement in the rates of return and reuse, and continued dumping; reliance on voluntary

procedures on the parts of industry and the free market.

Establishing a policy of a recycling economy in Israel for theRecommendations for the future: short and the long term in the matters of recycling, disposal, development of a recycling technology industry, encouraging industrial symbiosis, and managing trade in imported environmental resources. The Ministry of Industry, Trade, and Labor should address the issue of rare earth minerals and establish priorities for the Israeli economy. The flow of critical materials needs to be examined by the Ministry of Foreign Affairs, and strategic cooperation established with member states of the European bloc, Japan, the United States, etc. Resources should be allocated for research and development in the field of recycling technologies, green chemistry, efficiency, and environmental innovation.

back to Expert Knowledge Base