

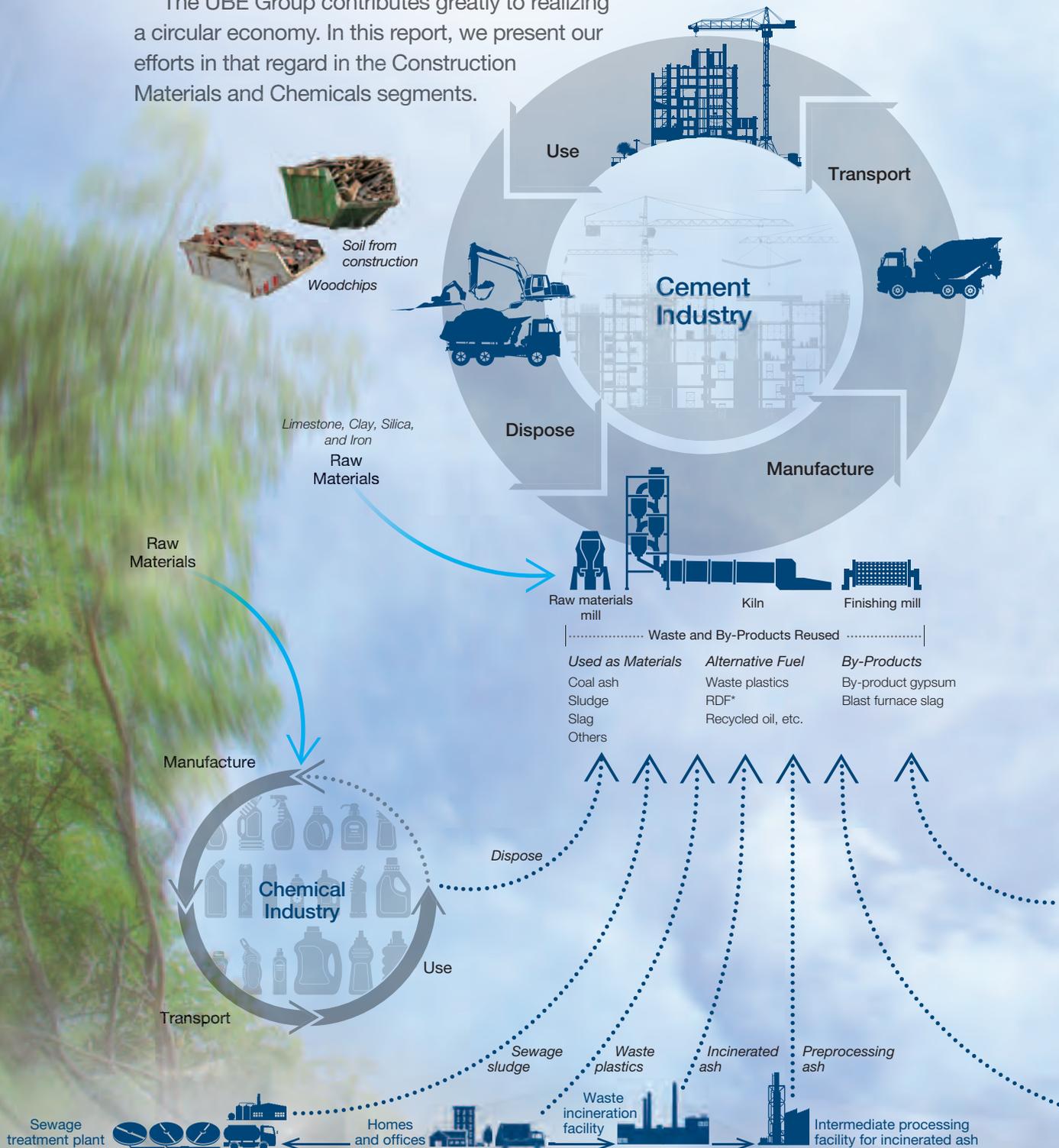
Delivering Value to Society by Contributing to a Circular Economy



Circular Economy

Progress with efforts to tackle environmental issues has heightened social interest in the environmental advantages of a circular economy over those of the “3Rs” (Reduce, Reuse, Recycle). Such an economy circulates resources without producing waste because it positions products and raw materials as new resources. These products and raw materials used to be discarded without use in conventional economic systems, which are about take (mining resources), make (producing), and waste (throwing away).

The UBE Group contributes greatly to realizing a circular economy. In this report, we present our efforts in that regard in the Construction Materials and Chemicals segments.



Glossary

* Refuse-derived fuel (RDF): A solidified fuel made of waste plastics, woodchips, and household waste

Reincarnations as Raw Materials for Cement and Thermal Energy

The ultimate circular economy would recycle raw materials without generating waste. Societies have yet to become fully carbon neutral, however, necessitating huge volumes of new resources and energy to restore materials to their raw states. UBE accordingly uses waste that is hard to recycle as materials or for chemicals as raw materials for valuable cement or as thermal energy alternatives.

Waste is used as raw materials for cement and thermal energy in a kiln at 1,450°C and the ash from incineration is taken for use in cement, thereby no waste is produced. The cement sector is indispensable for realizing a circular economy.

Discarded waste from other industries can also serve as raw materials and thermal energy and support daily living as cement.

Decomposing Composite Plastics to Recover and Reuse Important Elements

We develop a range of technologies in the Chemicals segment to help realize a circular economy. Technologies for tapping CO₂ and waste plastics and bioplastics manufacturing techniques are good examples.

One UBE advantage has been to develop recycling technology for multilayer films that are vital for food packaging.

This is an advanced hybrid recycling technology comprising a technology to recycle chemicals in polyolefin/nylon multilayer films by breaking down the nylon to return it to a monomer state and a material recycling technology to recycle the remaining polyolefin.

Recycling multilayer films and other composite plastics presents many technical and economic challenges. It is difficult, for example, to separate multiple components, and there is a need to develop innovative technologies.

We seek to help realize a circular economy by pushing ahead with research and applying the knowledge we acquire.



Example of Multilayer Film Recycling

In the Chemicals segment, we are developing a multilayer film recycling technology that is vital for realizing a circular economy.

