



Efforts to Prevent Environmental Pollution

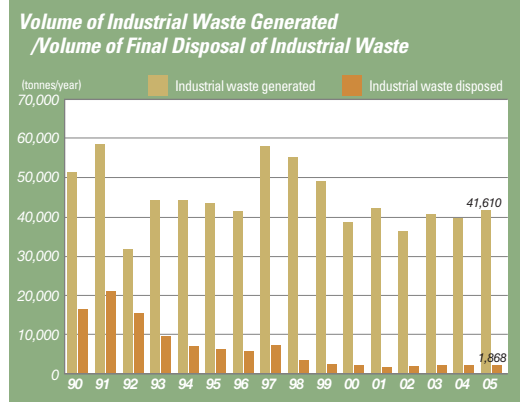
Industrial Waste and Recycling

Japan is experiencing a nationwide shortage of final disposal sites for industrial waste. The possibility exists that the country will simply run out of resources in the future, which means the country may face environmental restrictions and resource constraints. It is urgent, therefore, that Japan moves forward with the conversion from a mass waste producing economy to a recycling-oriented society. The petroleum refining process generates a high volume of industrial waste, including sludge, tank sludge, and disposable catalysts. In response, Showa Shell is building a companywide waste MS, developing optimum methods of waste disposal, and practicing recycling. Showa Shell is working to minimize the volume of final wastes through such means as intermediate dehydration treatment of sludge, reusing spent catalysts as cement components, and recycling used oil and acid.

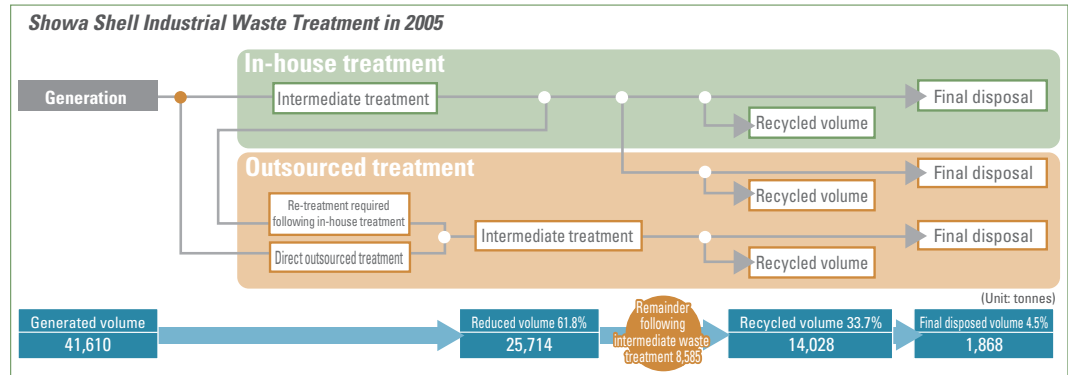
Group refineries generated a total of 42,000 tonnes of industrial waste in 2005. Of that, 62% (26,000 tonnes) was reduced in volume, on-site and off-site, through intermediate treatment; 34% (14,000 tonnes) was recycled; and 4.5% (nearly 2,000 tonnes) was

disposed of at reclaimed land and through other means.

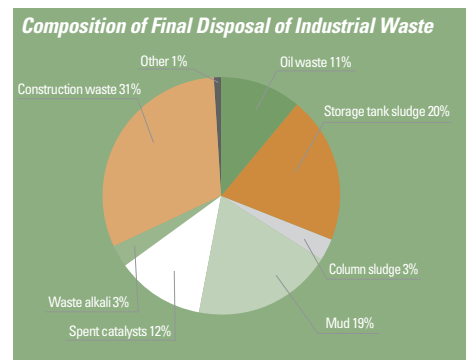
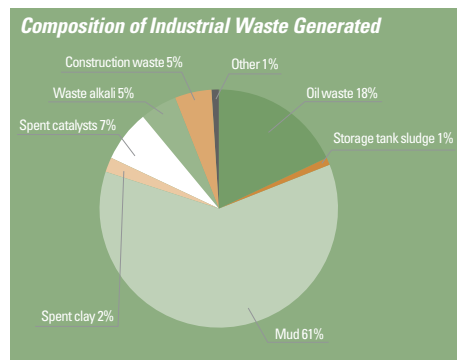
The petroleum industry has set a target to reduce the amount of final disposals by 67%, or two-thirds, from 1990 levels by 2010. Showa Shell has already reduced its final disposal volume by approximately 88% (16,000 tonnes) from 1990 levels and continues to work to further reduce that amount.



Volume of industrial waste generated (total volume in 2005: 41,610 tonnes)
Oil waste generated during the refining process, and mud and sludge from effluent treatment, account for the bulk of petroleum industry waste. Oil waste is recycled as feedstock where possible, and mud and sludge are compressed by dehydration and drying. Wastes that cannot be reduced through intermediate treatment are converted to usable resources and may be recycled as cement components.



Volume of final disposal of industrial waste (total volume in 2005: 1,868 tonnes)
Industrial wastes that can be neither reduced by intermediate treatment nor recycled are disposed of at incinerators or landfills. The graphs on the right explain the amount and breakdown of those wastes. Showa Shell is examining and assessing further means of recycling these waste products.



Polychlorinated Biphenyl (PCB) Waste

PCBs were used for electrical appliances and other goods because of their chemical stability and electrical insulation properties. However, the manufacture, use, and import of PCBs were banned in 1974 due to the high biotoxicity of PCBs.

Electrical appliances containing PCBs at operational sites no longer in use are now strictly required to be stored as specially controlled industrial wastes. All of Showa Shell's facilities, including its refineries, have storage sites for equipment

containing PCBs. The PCBs are stored and managed in accordance with the 2001 Special Measures Law Concerning the Promotion of Proper Handling of PCB Wastes, and the required reports have been filed.

In 2005, Showa Shell began the disposal of stored waste containing PCBs at disposal sites designated by the Government of Japan. The company plans to complete the disposal of all waste containing PCBs by 2016, in accordance with the 2001 PCB Waste Law.