

Resource Recycling

Basic Concept

Based on the Environmental Action Principles and Environmental Action Guidelines, Toho Gas Group has set Environmental Action Goals in the area of resource recycling, and is promoting the 3Rs (reduce, reuse, and recycle) toward the reduced consumption of natural resources and the effective use of recycled resources through efforts that include zero emissions from industrial waste at city gas plants, recycling the waste generated from gas pipeline work, and the promotion of paperless business.

Initiatives to Reduce Waste and Resource Consumption in Our Business Activities

Working to Achieve Zero Emissions of Industrial Waste at City Gas Plants

Since FY2008, we have been working to achieve zero emissions of industrial waste at city gas plants and reduce the final disposal rate of industrial waste. Our environmental action goal is to achieve a final disposal rate of 1% or less, and we are continuing to work toward that goal.

Regarding waste from plants, the recycling of sludge and mixed waste has been a concern, and these account for 80% of our final disposal volume. To handle sludge generated at seawater intake ports, we turned to graded recycling, which separates the sludge into slurry, sand, silt, and clay depending on the grain size, and remixes them to create a stable fluidization treatment soil. In this way, we have improved the recycling rate of sludge. In terms of mixed waste, we carefully sort and separate materials, thereby enhancing the recycling rate.

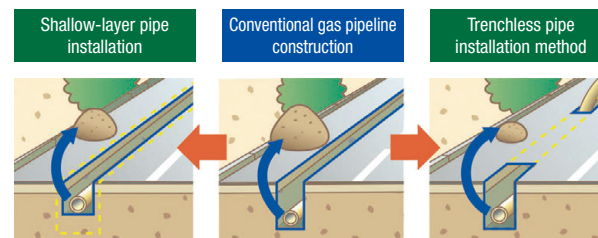
Through these initiatives, we have reduced the final disposal rate of industrial waste, aiming to achieve zero emissions for the entire period of the environmental action goal.

Recycling Industrial Waste and Reducing Natural Sand in Gas Pipeline Construction

Gas pipeline construction generates industrial waste such as asphalt and concrete blocks classified as rubble and used polyethylene pipes classified as waste plastic. Asphalt and concrete blocks are recycled into an asphalt mixture (paving material) and crushed stone, while used polyethylene pipes are recycled into raw materials for components that protect gas pipes. Through this resource recycling process, we have achieved a 99.4% resource recovery rate for industrial waste generated from gas pipeline construction.

Additionally, to reduce the amount of asphalt and concrete blocks and excavated soil generated during pipeline construction, we introduced shallow-layer pipe installation,^{*1} the trenchless pipe installation method,^{*2} and the repair and rehabilitation method,^{*3} and we promoted the use of temporary filling material^{*4} in work requiring re-excavation. As a result, in FY2024, we were able to reduce the amount of excavated soil by 25% compared to conventional construction methods.

We also processed excavated soil at a soil improvement center and reused it as backfill material for gas pipeline construction, resulting in a 72% reduction in external discharge of excavated soil compared to traditional methods. Furthermore, by combining the excavated soil with reused crushed stone as backfill material, we were able to reduce the amount of natural sand and crushed stone used in gas pipeline construction by 11.8% compared to conventional methods.



By reducing the extraction of new sand and crushed stone, we are lowering our impact on the environment.



Trenchless pipe installation method

^{*1} This refers to burying a gas pipeline in a roadway at approximately half the conventional depth.

^{*2} This method involves drilling at both ends of the construction area and pulling the gas pipeline underground.

^{*3} The method of repairing a gas pipe from the inside

^{*4} Polyethylene ball material used as temporary backfill

Initiatives related to resource recycling
For details, please refer to our website.
https://www.tohogas.co.jp/lang/en/approach/eco/pdf/2025toho_web_en_circular-economy.pdf