

# NET ZERO 2040



## RECOVER ENERGY AND RESOURCES FROM SLUDGE

Sludge is what is left over after treating wastewater and recycling the raw water back to the environment. Treated sludge is also referred to as biosolids.

Having first removed as much water as possible and dried it, we take all the sludge from our different treatment centres to Duncrue Street in Belfast. Here it is incinerated under a Public Private Partnership contract with Glen Water Limited. This contract runs until 2032 and preparations are underway for a replacement solution.

This process creates ash, which goes to special landfill in Northern Ireland, and creates electricity via an existing high-pressure steam-driven 3MW turbine at the incinerator site. Considerable investment is being made to improve the quality of sludge dewatering assets to help make the turbine more efficient.

Our industry peers recover the energy from the sludge through advanced forms of anaerobic digestion technology. Not only does this approach remove emissions associated with combusting sludge, but it enables the production of biogas, which can be refined into biomethane, and further transformed in biohydrogen. Both fuels can be used for operating assets, or for injection into the gas grid, which displaces fossil fuel gas, or for use in vehicles. There



*Sludge incinerator at Belfast wastewater treatment works, County Antrim.*

can be difficulties in the disposal of the digestate due to the presence of micro-plastics, 'forever chemicals' and pharmaceuticals. Other technologies include the decomposition of sludge at high temperatures through a process known as pyrolysis, resulting in carbon being stored in the charcoal.

We will work closely with the Department for Infrastructure to explore the most suitable technology to ensure that a sludge solution is in place by 2032.