



Scottish Island to be the first to utilise Anaerobic Digestion in waste treatment

Comhairle nan Eilean Siar Stornoway, Isle of Lewis, Scotland

“We were convinced by ENER-G’s ability to install a system that met with our requirements for a facility that is an innovative combination of waste treatments and includes the UK’s first dry Anaerobic Digestion facility”

Kenny John Macleod, Head of Waste Management,
Comhairle nan Eilean Siar waste treatment facility

The Comhairle nan Eilean Siar waste treatment facility, situated near to Stornoway on the Isle of Lewis, which opened in October 2006, is the first in the UK to incorporate anaerobic digestion (AD) of source-separated biowaste (food, paper and garden waste).

The facility is a major part of the Council’s municipal waste management service delivery, allowing it to meet the challenging targets for landfill diversion of biodegradable municipal waste that have been set by European Union and the Scottish Government.

The AD plant processes household separated kitchen waste, paper and household green waste that is collected from all around the islands, to produce a methane rich biogas (50-55%) that can be used to fuel a combined heat and power (CHP) unit.



ENER-G has designed, built and delivered a 305 kWe biogas CHP unit for this site, which enables the biogas produced from the AD process to be used to generate enough electrical power to power the site with the surplus being exported to the local network.

The AD plant can treat up to 7000 tonnes of biowaste per year and the ENER-G biogas CHP unit installed can utilise all of the biogas produced by the plant. The solid digestate is matured to produce a high quality compost for local use.

All of the waste heat is captured and utilised to maintain the AD plant at the correct temperature and heat the office accommodation at the site.

Owing to initial concerns about levels of sulphur in the biogas, and a regular need for a flare to burn off biogas containing excess sulphur, ENER-G carried out a reappraisal of the site and proposed changes to the operating parameters of the CHP unit.

This allowed the biogas captured to be completely used as a fuel, therefore regular use of the gas flare was no longer needed and the AD plant continued to function with no adverse effects.

ENER-G's biogas CHP unit has been successfully generating power, producing on average 637560 kW of heat and 589260 kW of electricity per annum.

ENER-G has over 10 years' experience in operating biogas CHP units across Europe. For all ENER-G systems we offer long-term operational and maintenance contract to ensure smooth operation and long engine lifetime.

Like at any sites operated by ENER-G we can assist in selling the electricity to the local grid and administer the process for the recovery of Renewable Obligation Certificates (ROCs).

The benefits of ENER-G's biogas solution

We offer financial savings over conventional energy supply:

- ENER-G can carry projects that are conceptual, through feasibility to construction and completion
- Reduced cost of project development
- Flexible approach to the utilisation of heat and power
- Live online system monitoring and operational maintenance
- Maximised operational output from the CHP system due to our nationwide network of service staff
- Full client support and assistance to maximise financial revenue of the electricity sale and ROCs

About ENER-G

ENER-G develops, delivers and finances sustainable energy solutions and technologies on a business to business basis worldwide. We offer a "one-stop-shop" for all commercial and industrial energy requirements, from combined heat and power (CHP), renewable electricity generation from biogas, heat pump technologies, solar PV, efficient lighting, controls, metering and data solutions and energy from waste.

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