

Combined Heat and Power (CHP) and Anaerobic Digestion

AC Energy are the Irish agent for 2G Germany, offering a range of Combined Heat and Power (CHP) engines with class leading electrical and thermal efficiencies. CHP involves the use of a turbine or reciprocating engine to simultaneously generate electricity and useful heat from a single fuel source, such as biogas.

The process of Anaerobic Digestion (AD) involves the breakdown of organic matter (feedstock) by bacteria and enzymes in an oxygen-free environment to produce biogas.

Feedstock is pumped into the AD and can include pig/cattle slurry and energy crops (e.g. grain, grass silage). The biogas produced is normally used on site to generate heat and electricity. Digestate can be separated into a liquid and fibrous fractions and returned to the land as a high value liquid fertiliser and the solid fibre used as a soil conditioner.



2G Avus 500c - Ballyrashane Creameries

- Generate energy from a readily available fuel source and improve farm profits.
- Extract value from each tonne of waste and still use the residue as valuable fertilizer.
- Feed excess electricity back to grid.
- Capture heat from electricity production for heating, cooling or steam generation.
- Protect yourself against further increases in electricity costs.
- Government scheme available for energy saving technology. Accelerated capital allowances of 100% of the capital expenditure incurred on such equipment can be claimed for the year in which the equipment is first provided and used.



AC Energy are the preferred supplier for several anaerobic digester manufacturers. We have extensive experience in installation, commissioning and maintenance of combined heat and power units running on biogas.

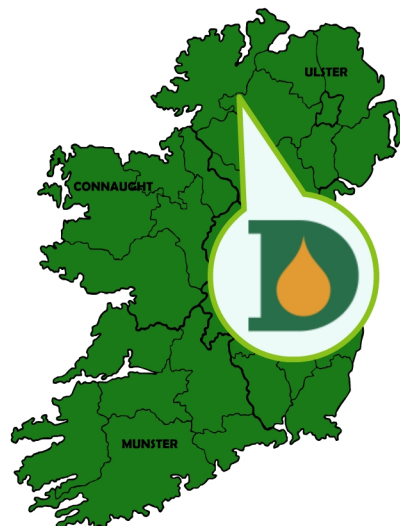
If you require technical information or wish to speak to us about any of our engines, please don't hesitate to get in touch. You can also see the full range of 2G combined heat and power units on our website.



The Donegal Rapeseed Oil Company has been at the forefront of a new industry in Ireland and has steadily grown since starting production in 2009. All of the rapeseed is brought to Stephen Allen's farm in Castlederg, where it is pressed and the oil is bottled. The company has consistently achieved BRC standard and has achieved Great Taste awards for quality and flavour.

Innovation has always been key to this dynamic company and in further efforts to minimise their environmental impact as well as reduce production costs, AC Energy were awarded the installation of two Agenitor 306 Biogas CHP units, providing 500kW of generated electricity as well as over 570kW of thermal power.

Now producing enough energy to supply the rapeseed oil production facility with excess being fed back into the national electrical grid. Having all of the available ROCs (Renewable Obligations Certificate) has brought the feedback tariff up to its maximum, making the electrical generation a profitable business.



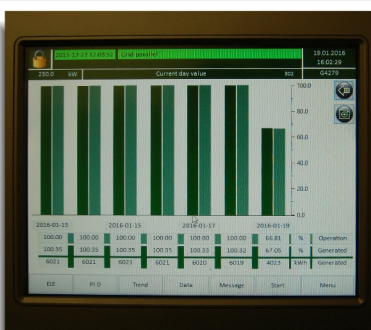
Agenitor 306 CHP

The agenitor by 2G is the result of intensive work by the development team at 2G Drives GmbH. Improving combustion chamber geometry has made it possible to increase the efficiency of the agenitor range significantly.

- Highly efficient power plant with optimized gas engine – and therefore lower fuel costs.
- Modular design facilitates installation in hard to reach places.
- Is also very reliable even in regular start-stop operation thanks to highly wear-resistant engine components.
- Sturdy and low-maintenance.



Gas type:	Biogas
Electrical Output:	250kW
Thermal Output:	289kW
Electrical Efficiency:	41.0%
Thermal Efficiency:	43.5%
Total Efficiency:	84.5%
Installation:	Indoor



Two 2G Agenitor 306 CHP units, plant room installation