**Granville Ecopark**

Granville Ecopark (GECO) is the first large scale anaerobic digestion facility to be built in Northern Ireland and is the largest in Ireland. The feedstock for the plant is exclusively source segregated food waste s from the Commercial and Industrial sector and we process approximately 90,000 tonnes/yr of waste.

Feedstocks are broken down within the digestion tanks to produce a gas known as biogas which is rich in methane. The biogas has verifiable sustainability credentials as it is created from materials which would traditionally have been sent to landfill. A double benefit has been secured as methane emissions from landfilling have been prevented and converted into a clean source of electricity.

The facility is located within the Granville Industrial Estate, Dungannon close to a high density of food producers and therefore sources of potential feedstocks. The plant was constructed in 2012 with commissioning occurring in early 2015. Biogas is used to generate renewable electricity which is eligible under the NIRO. The plant undergoes Ofgem Annual Sustainability Auditing to demonstrate compliance with GHG emissions reductions for renewable electricity production.

GECO is at the forefront of innovations within the AD industry and recently expanded the plant capability into upgrading Biogas to Biomethane. The biogas is cleaned and purified to increase methane concentrations to 99.5% (called Biomethane) and to obtain a pure stream of carbon dioxide which can be sold to industrial consumers. Biomethane is compressed to 250 bar pressure and is transported by trailers to fuel offsite CHP units. These CHP's generate electricity for sale to the grid and directly to businesses providing them with an on-site source of decarbonised electricity. The performance statistics for the GECO project are as follows (01-Jan-20 figures):

- Organic Wastes Processed: 295,977 tonnes
- Onsite Electricity Produced: 116,709 MWh
- Offsite Electricity Produced: 23,754 MWh

Decarbonised electricity is produced 24/7 at the GECO Dungannon plant and several offsite CHP projects. Our electricity generation meets a key concern of the Energy Strategy in that is renewable, stable, mobile, predictable and non-intermittent.

The AD process also provides additional decarbonisation benefits as a co-product known as digestate is an excellent source of fertiliser nutrients (Nitrogen, Phosphorous, Potassium). Digestate is applied to agricultural land within the local area and acts as an indigenous organic fertiliser which displaces imported synthetic fertilisers. Digestate is also a good source of plant micronutrients (Selenium, Molybdenum etc) and organic fibre which helps to maintain soil organic carbon and soil structure at a time when soil health is rapidly deteriorating.

GECO was the first AD plant in the UK to achieve certification under the AD Certification Scheme (ADCS), an industry-led initiative that recognises good operational, environmental, and health and safety performance at Anaerobic Digestion plants. The plant meets IPPC requirements and is permitted by the Northern Ireland Environment Agency. The plant is fully automated and there are currently 32direct employees.