

Planning for an Anaerobic Digestion Facility

With the introduction of government incentives, such as ROCs (Northern Ireland) and REFIT (Ireland) for the production of renewable energy, anaerobic digestion (AD) is now a viable technology that offers huge potential for revenue generation for farmers and waste operators alike.

Anaerobic digestion produces a high energy containing gas, known as biogas, which can be used for green energy production. The technology is simple, yet robust, and well developed across the continent. AD is a new development for Northern Ireland and offers great opportunity for those who wish to enter the renewable energy market.

To facilitate the growth of the sector Cré has developed a “Planning for Anaerobic Digestion Facility” training course. The course is a highly intensive 2 day training course targeted specifically at projects in Northern Ireland and Ireland. The course will give participants a clear understanding of what anaerobic digestion is, basic design criteria, planning & regulatory requirements, grid connection, project economics, financing, and much more. The course includes a visit to an operational anaerobic digestion plant. The course will prepare participants wishing to develop anaerobic digestion plants and allow individuals to up skill in the area of Anaerobic Digestion.

The objective of the course is to educate individuals involved in anaerobic digestion, be it farmers, waste operators, planners, decision makers with all the knowledge to assist them in developing an anaerobic digestion project. The course will not allow participants to design their own plant but will provide them with sufficient knowledge when dealing with technology providers, government agencies, planners, banks, to make well informed decisions.

Comments from People Who Completed the Course in 2011:

- *“Just a short note to say well done on an excellent course in Adare. It was exactly what I needed and I came home very satisfied with two days well spent. The programme, its pace, the calibre of the speakers, the time for formal/informal discussion and all ancillary issues were of a top professional standard”.*
- *“attendees, very interesting presentations across the AD sector issues”*
- *“The course was good because of the amount of expertise available to answer questions”*
- *“Very informative, covers many angles, great for anyone considering involvement in anaerobic digestion”*
- *“The group exercises were great at demonstrating the effect of all the different variables on the process”*

All the people who completed the course were surveyed and said the course was value for money.

Intended For

Farmers – wishing to develop their own projects will now learn steps involved in getting a project off the ground. How to access their feedstock for biogas potential and if the project is economical.

Project Developers – for use in development of anaerobic digestion projects. The principles described in the course are designed to assist developers understand the basics of plant design and potential “red tape” that could slow down projects.

Waste Industry – wishing to develop their own projects will now learn steps involved in getting a project off the ground. How to access their feedstock for biogas potential and if the project is economical

Planners and Decision Makers- for use in understanding basic principles of anaerobic digestion plants. As planners and decision makers will gain a better understanding of what is required for successful plants, they will be better equipped to support planning applications for anaerobic digestion facility projects.

Consultants and Designers- for use in designing and assisting clients with the development of their anaerobic digestion projects.

Regulators and Enforcement Agencies- for use in understanding basic principles of anaerobic digestion plants, which will assist them in their role as regulators of anaerobic digestion facilities.

Individuals – Who wish to gain an understanding of anaerobic digestion

Investor and Financial Instructions – Will provide an understanding of the potential project risks and how to properly access the economics of anaerobic digestion projects.

Programme

Introduction and Overview

- Participants will have an understanding of who Cré are and the role Cré play in the development of anaerobic digestion.
- Overview of current development of anaerobic digestion facilities and number of facility built/operational
- What anaerobic digestion is, definitions and units used
- Basic understating of biology and biogas

Biology and Biogas

- Participants will understand digester biology and what process parameters are important to maintain biogas production
- How the biology works in a digester to produce biogas
- Why feedstock give different biogas yields. Importance of dry matter contents, volatile organic solids and methane yields

Biogas Technology and Plant Layout

- Participants will be able to select a suitable technology for different feedstocks
- Understand the differences in technology types, the key components of a wet anaerobic digestion system will be entered into in more detail
- The components of a biogas plant and the roll these features play in biogas production
- Why specific materials are necessary in the construction of a plant
- Participants will learn about health and safety on a biogas plant

Biogas Utilisation Technologies

- Participants will understand the basics of biogas utilisation and combined heat and power engines
- Understand the difference between gas engines and dual fuel engines
- Overview of different technologies for upgrading of biogas into biomethane

Grid Connection

- Participants will be able to access engine sizing and grid connection requirements
- Participants will gain an understanding of equipment necessary for grid connection
- Participants will learn about the grid connection application process and associated costs

Project Appraisal and Finance

- Participants will go through economic modelling and cash flows to access the rates and returns of a anaerobic digestion project.
- Will provide participants with sufficient information so they can access their own projects
- Will go into detail on assumptions that must be made when modelling, how to calculate electricity from feedstock, parasitic loads, electricity, heat & digestate sales and operational costs
- The course will not be able to provide economics for each participants project, as project needs vary case by case, but the course will provide participants with a good foundation so that they know what questions to ask technology providers
- Participants will learn how best to raise finance for their projects

Planning and Regulations for a Biogas project

- Participants will learn about all the regulatory requirements for their project from animal by-product regulations
- through to planning and permits
- Detailed ABP section on how to prepare a stage 1 and stage 2 application
- What are the steps required in gaining a generation licence and time lines
- This is high level overview so participants are aware of the requirements for their project

Visit to Anaerobic Digestion Plant

A half day tour to an AD plant will be provided.

COURSE FEE

- ▶ The course fee for members of Cré is €495
- ▶ The course fee for non – members is €695.

Booking

The course will be organised when there is a sufficient number of people registered. So it is important that you send an email to Percy to let him know you are interested in attending the course.

For Further Information: Percy Foster, Cré, , E: percy@cre.ie M: 086 8129260