

# 2030

## CORCA DHUIBHNE DINGLE PENINSULA

# Anaerobic Digestion on The Dingle Peninsula

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May 2021



Located in the south west of Ireland, the Dingle Peninsula is defined by the territory to the west of a line connecting Blennerville to Castlemaine, with an area of 583 sq km, and extending 48 km into the Atlantic. It has a resident population of 12,764, with 2,500 living in Dingle Town (CSO, Census, 2016). There are 6,989 houses on the Peninsula, comprising 5,063 homes and 1,926 second (holiday) homes. Tourism accounts for c. 30% of the local economy.

In April 2017, the **Dingle Creativity and Innovation Hub** was launched and, under its aegis, an application was made to the Sustainable Energy Authority of Ireland (SEAI) to set up the Dingle Sustainable Energy Community (SEC), which was subsequently approved in January 2018.

In February 2018, **Dingle Peninsula 2030**, an ambitious and exciting multi-partner initiative, was established, involving the **Dingle Creativity and Innovation Hub**, **ESB Networks**, North East & West Kerry Development (**NEWKD**) and **MaREI, the SFI Centre for Energy, Climate and Marine**. The partners actively collaborate with each other and with the local community, schools, business, transport and farming sectors to support and enable the broader societal changes required for the sustainable transition of the Dingle Peninsula.

As part of the commitment to engage with all sectors of society, a particular focus was placed upon the important role of farmers and the agriculture sector.

In May 2018, a meeting was organized by the **Dingle Hub** and **NEWKD** with Majella Maloney, **Teagasc** Regional Advisory Manager for the Limerick/Kerry region. A number of farmers from the Dingle Peninsula attended. The topics for discussion included sustainable farming in the low carbon society, food security, biofuels, and the role of information and communications technology and sensors in agriculture.

Attendees at this meeting expressed an interest in learning more about anaerobic digestion – a process which breaks down organic materials in the absence of oxygen to produce biogas, a renewable fuel which can be utilised to produce heat, electricity and for transport, and is used worldwide in domestic, agricultural, municipal and industrial applications. They acknowledged that the Dingle Peninsula, with its strong agricultural economy and food sector (including a vibrant tourism and hospitality sector), is well positioned to develop anaerobic digestion as part of its transition towards a low-carbon, circular economy.

Moreover, the deployment of biogas on the Peninsula has the potential to ensure competitive and affordable (renewable) energy for consumers; to create new opportunities for growth and jobs; to provide greater security of energy supply; and to enable the local community to become prosumers (producers and consumers) of local renewable energy, through having a locally-owned and operated anaerobic digester and, possibly, other community-owned energy generation. The introduction of anaerobic digestion should also enhance the environmental quality of the Peninsula, particularly in respect of water and air, in addition to helping decrease emissions. However, the remote location of Dingle, and the significant distance to the nearest gas network connection point (in Listowel, approximately 80 km away), pose interesting challenges in terms of technological pathways and business models.



The idea of developing an anaerobic digestion project on the Dingle Peninsula began to take shape, with the following aims:

- To harness the resources within the Dingle Peninsula, so as to contribute to the transition of the Peninsula to a sustainable, low carbon community, that is based upon a rural bio-economy, that supports the socio-economic development of the Dingle Peninsula and provides for local community-owned bio-energy generation.
- To explore how the experience of the Dingle Peninsula may assist in investigating the potential for biogas production nationally and, in the process, how it may be possible to contribute to the decarbonisation of the Irish gas system, as well as offering a sustainable renewable energy alternative to customers nationwide and, in particular, in rural locations from where the gas is produced.

## What Happened

### Bioenergy Seminar

In August 2018, **Professor Jerry Murphy**, Director of MAREI and leader of its **Advanced Fuels in a Circular Economy**, gave a presentation and led a discussion on the potential of anaerobic digestion (AD) for the Dingle Peninsula. Working with North East & West Kerry Development (NEWKD), the Dingle Hub issued invitations to the farming and restaurant sectors and other interested agencies. Attendees included seven local farmers and representatives from the Dingle Hub, NEWKD, IFA, Tralee Bay Oyster Hatchery and Seaweed Farm, Kerry Co Council, Údarás na Gaeltachta, Institute of Technology Tralee, MaREI, EPS, XD Consulting, SEAI Energy Mentor team, Kerry Sustainable Energy Community, Global Village Restaurant, and Net Feasa. Afterwards, a number of attendees were given a tour of Tralee Bay Oyster Hatchery and Seaweed Farm in the Maharees.



Professor Murphy made the following key points in his presentation (based on 2018 data):

- Biomethane can be carbon negative.
- 17% of the methane potential of slurry is currently going into the atmosphere. There are many benefits to converting this to CO<sub>2</sub>, which has approximately 4% of the polluting impact of methane.
- Digested slurry mineralises the nutrients to enable them to be better absorbed by the land.
- There is potential to use fish farms and seaweed farms to enhance the digester products.
- **Gas Networks Ireland (GNI)** has announced funding of €2 billion to support the construction of 350 anaerobic digesters in Ireland. **Bord na Mona** is a leading Irish company that has significant plans for waste digestion.
- There are differing reactions to AD projects in Cork: Ballyfeard had significant community opposition; Lissarda had virtually no opposition. An important difference was a planning notice erected with no prior engagement vs considerable personalised engagement, in advance, with the local community. There is also an AD plant in operation in Timoleague.
- Germany has 10,000 anaerobic digesters and Austria has 800. Ireland currently has 8.
- Denmark has a very successful community engagement and business model. The local community owns a 40% stake in projects and they have a direct route to market by supplying Audi Natural Gas cars.
- There is no gas pipeline on the Dingle Peninsula, so all gas output from an anaerobic digester would have to be distributed by truck (with cost implications) or fed to local gas-using premises, or it could potentially supply a service station (but there are currently no biogas vehicles in the area).
- Combined Heat and Power (CHP) technologies should be considered to convert the biogas to heat and power that would be readily usable in a variety of areas (e.g. hospital, hotels, oyster hatchery premises).

The following points were made in the open discussion:

- De-carbonising projects should be driven by the community.
- There is learning to be gained from the Denmark engagement model.
- Feedback tariffs are a significant impediment in Ireland (The current 2018 tariffs in Ireland were 15c per kWh and, in Northern Ireland, 20p per kWh).
- A model is required where farmers would receive direct payment for reducing their carbon footprint.
- Turnkey solutions are available and it may also be possible to cost-effectively adapt an existing slurry tank (with the right knowledge).
- Biogas production forms one part of a bio-economy / circular economy and the concept of cascading (extracting value added products) needs to be considered at all stages. An example of this is the extraction of alginates.
- For a number of years, GNI has been working on the business case for biofuel. To support this, they negotiated an 8-year period of excise relief on biogas as a propellant. GNI is building service stations as part of the **Causeway Project**. GNI is also working on a certification project to ensure the availability of quality product, produced sustainably. Main customers include **Diageo** and a waste collection company in Limerick. **Dublin Bus** is expected to be a customer in the near future.
- It may be a good idea to have a few small anaerobic digesters built on farms initially, so as to showcase the technology to the community before driving a larger scale project.

It was agreed at this meeting that wider community engagement was critical. The Dingle Hub committed to publicly informing people that these discussions were taking place, inviting interested parties to join the conversation and following up the idea of holding a public event during the **Dingle Food Festival** in October 2018.

It was noted that the **Department of Communications, Climate Action and the Environment (DCCAE)** had issued a call for applications under the **Climate Action Fund**, with 45% funding available for suitable projects. Businesses that could use the gas product should be targeted for match funding. **Kerry County Council** offered to support an application and provide advice/support in areas such as planning and public procurement. The deadline was 1 October 2018, for projects to be delivered in 2019 / 2020.

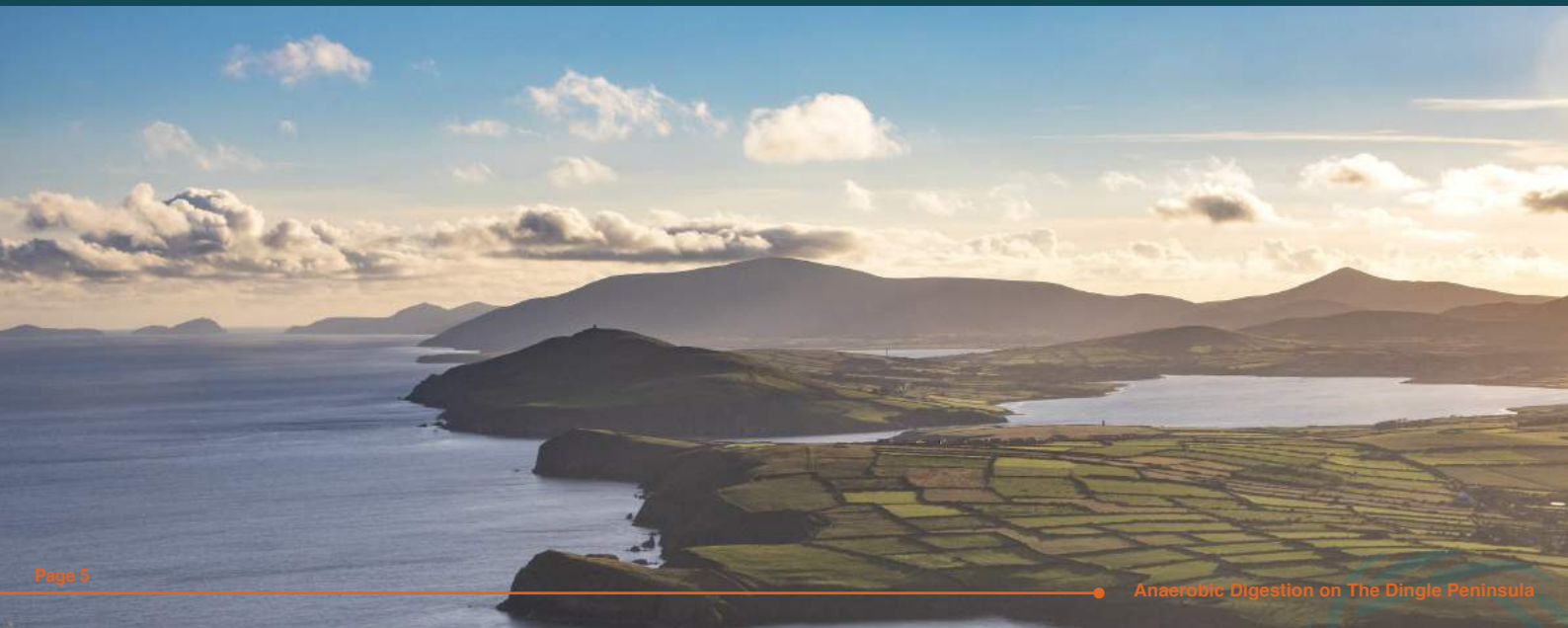
MaREI issued an open invitation to the **SEAI/ International Energy Agency (IEA) Bioenergy Symposium on “Anaerobic Digestion in the Circular Economy”** and the **Gas Networks Ireland Causeway Workshop** to be held on the 6 September in MaREI/UCC. Five people subsequently travelled from the Dingle Peninsula to attend the event.

### Climate Action Fund 2018

Unfortunately, it was not possible to submit a full proposal to the Climate Action Fund within the required time frame. Instead, the Dingle Hub submitted an expression of interest, outlining the various activities being undertaken on the Dingle Peninsula (including the development of anaerobic digestion), and making the following points:

“ The Dingle Hub/SEC welcomes the establishment of the Climate Action Fund (announced in July 2018) and it would have liked to be in a position to make a specific application for funding for projects in this call but, with the short timeline for submissions and the need for the applications to be for large-scale projects of more than €1 million, it has not been possible to get the support of the relevant public bodies and private companies and to finalise an application in the short timescale available (particularly as it was over the holiday period).  
The Dingle Hub/SEC has some very interesting ideas that it would like to explore further and would welcome engagement with the Department of Communications, Climate Action and Environment to see how best these projects might be made suitable for submission in future calls. ”

Attention was then directed towards carrying out a Feasibility Study for Anaerobic Digestion on the Dingle Peninsula.



## Farmers' Forum at Dingle Food Festival 2018

Following the Bioenergy Seminar and subsequent discussions with the **Dingle Food Festival** organisers, it was agreed that the **Farmers' Forum**, which takes place on the Friday evening of the annual Dingle Food Festival and attracts a large local community, would be a good event at which to bring bioenergy to a wider audience. In 2018, it was held on 5 October and the Dingle Hub and NEWKD took on the organisational role.

The topic was '*Farming and Energy - A Time of Transition?*' and the evening was broken into two sections, each with introductory speakers followed by Q&A and discussion:

- The Biogas Opportunity, with Ian O'Flynn (Head of Commercial, GNI) and Shane McDonagh (Biogas team, MaREI).
- Sustainable Energy on Farms, with Xavier Dubuisson, (XD Consulting, SEAI mentor), Barry Caslin, (Bioenergy and Rural Development Specialist, Teagasc), and Thomas O'Connor (Manna Organic Farm and Store).

The **SEAI Sustainable Energy Communities (SEC)** mentor team was keen to organise an SEC Network event earlier on in the evening, to encourage dialogue and partnerships between key stakeholders in the energy retrofit sector on the Dingle Peninsula and in the wider Kerry area. This would have included the SECs, the local authorities, training/education bodies, local development companies, the building contractors and tradespeople. However, the organisational capacity within Dingle Peninsula 2030 was not available to do this justice, so it was agreed to have an Information Fair with key stakeholders, and companies involved in the sustainable energy sector, in the adjacent room instead. The stands included the **LECo Project**, **SEAI**, **Kerry Sustainable Energy Co-op**, and **Manna Organics**.

Over 80 people attended the Forum, including many local farmers. The atmosphere was lively and the attendees were very engaged, asking questions at the event and at the information stands, and chatting to each other during the break. While there were some concerned questioners, the interaction seemed respectful on both sides, which boded well for the future. Some unease was quietly expressed as to how big technologies and large corporations can perpetuate the status quo around excessive energy use.

## Anaerobic Digester Feasibility Study

During August 2018, the Dingle Hub held discussions with Gas Networks Ireland on the plans for the economic model proposed for anaerobic digestion plants in Ireland, and to explore collaboration options, including a possible submission under the Climate Action Fund. (As outlined above, the time frame was too short to make an application). In early September 2018, the Dingle Hub notified Kerry County Council that it would be seeking funding for an Anaerobic Digestion Feasibility Study for the Peninsula, in order to be ready for future Climate Action Fund calls. The idea of holding a half-day workshop with all relevant stakeholders, including GNI, KCC, Údarás na Gaeltachta, Kerry Group plc, KWD Recycling and possibly Irish Rail was proposed but it did not happen, due to capacity issues.

Údarás na Gaeltachta announced a call looking for energy communities to work with them as part of the EU Interreg LECo project. Dingle Hub was one of the three successful applicants (alongside Donegal and Galway) and, in October 2018, they were granted €10,000 for the feasibility study. An application for the remaining €20,000 was subsequently made to the GNI Innovation Fund and approval was granted in December.

The tender for the feasibility study was issued at the end of January 2019. The specific scope of work for the proposed study was to:

- Conduct a quantitative and qualitative assessment of the biomass feedstocks available within the study area.
- Define potential pathways for anaerobic digestion using indigenous biomass resources to meet the energy requirements of the Peninsula, including thermal, transport and electrical energy.
- Undertake a spatial multi-criteria analysis to identify preferred locations for the installation of anaerobic digestion projects on the Peninsula.
- Develop a high-level design for the recommended anaerobic digestion systems and the associated value chain.
- Conduct a lifecycle cost/benefit analysis of the proposed anaerobic digestion system/project and associated supply chain.
- Following discussions with relevant stakeholders, recommend appropriate business model(s) for the proposed anaerobic system/project, considering community ownership.
- Prepare a Community Roadmap for Anaerobic Digestion deployment within the Dingle Peninsula and an Action Plan for project development.

The tender highlighted that the feedstock assessment, energy requirements and potential location analysis specified above should be informed and guided by the community, under the leadership of an Anaerobic Digester Feasibility Study Steering Committee. It was expected that an appropriate level of engagement and consultation with key stakeholders should take place at the main stages of the study, to help understand the needs and capabilities of the community. The study should leverage local knowledge, as well as facilitate knowledge development for the community. Proposers should indicate their ability to conduct business through Irish and have experience in providing advice to community groups, including Gaeltacht groups.



Two reports were to be delivered, as part of the study, to coincide with key milestones:

**Milestone 1:** Feedstock, energy and location assessment

**Milestone 2:** High level design

**Milestone 3:** Financial analysis and business model

**Milestone 4:** Roadmap for project development

A Steering Committee was set up comprising the following: Ian Killgallon (GNI); Shane McDonagh (MaREI); James Gaffey (ITT); Brigid O'Connor, Dinny Galvin, Rónán Ó Siochrú (local farming community); Deirdre de Bhailís, Brendan Tuohy (Dingle Hub); Barry Caslin (Teagasc); and Sean McCarthy (Kerry Agribusiness).

An Assessment Panel was formed from the Steering Committee to interview and select the successful candidate. The award of the contract was significant (€30,000) and, because it was public funding, it was deemed important that the process for selecting the consultants should be open, fair, and should treat all applicants in a similar manner, without bias. The applicants were invited to interview in the Dingle Hub or on video, involving a 15-minute pitch and 30 minutes Q&A and discussion with the interviewing panel.

The role of the Steering Committee was to then oversee the work of the successful applicant.

**XD Sustainable Energy Consulting Ltd.** won the tender with a team experienced in biogas system design and engineering, advanced renewable energy systems and spatial planning including: Xavier Dubuisson (energy engineer), Tim Clarke (local bioenergy expert), Sarah Kandrot (spatial analysis expert), Donncha Ó Ceilleachair (local farmer and community champion), David Wall, (UCC lecturer/researcher in Bioenergy) and Dónal Ó Céilleachair (local energy engineering student at UCC).

The study began in May 2019 with a comprehensive assessment of the biomass resource available on the Peninsula, to determine their practical potential for biogas, their spatial distribution and the cost.



Figure 1: Areas of Dingle Peninsula assessed



## Stakeholders' Workshop

In early July 2019, the consultancy team organised a Stakeholders' Workshop in Benner's Hotel, Dingle. Attendees included ten local farmers and representatives from Dingle Hub, GNI, Clean Coasts/An Taisce, South Kerry Development Partnership, and Kerry Co Council.

The following challenges were raised:

- The farming sector faces very serious difficulties, with declining income in key areas (notably beef production).
- The increasing age profile of farmers on the peninsula, with the majority at or close to retirement age, with limited prospect for a younger generation to take over.
- The lack of progression and employment opportunities for young people is generally a feature of Dingle and rural depopulation continues to be a problem.
- Climate change and other environmental issues and the policy responses, will likely lead to significant changes in agriculture, notably for beef and dairy farming.
- Dingle is very dependent on tourism economically (with about 30% of the Dingle Peninsula economic activity due to tourism, about 20% across County Kerry and 10% nationally) and this is vulnerable to rapid changes in the global economy.
- Tourism can also have a negative impact on local infrastructures and the natural environment.
- Dingle is very dependent on oil for heating, transport and farming/fishing (the same is true for electricity used for power and lighting).

The following key principles were highlighted:

- The biogas infrastructure should be community-owned and based on a cooperative business model, with economic benefits of the transition to biogas staying in the local economy.
- The biogas supply chain should provide a stable and fair income for participants, notably for farmers providing the feedstocks.
- Biogas should be produced and used locally, reinforcing the local community's ability to secure its own energy future and reduce its carbon footprint.
- The economic value of the environmental gains associated with biogas and the circular bioeconomy should be captured by the local community and redistributed fairly.
- Biogas systems, including feedstock harvesting and supply, should cause no harm to the environment and surrounding communities, notably in terms of air and water quality, soil fertility and biodiversity.
- Funding opportunities for research and development (R&D), demonstration and education should be leveraged by the local community to enable investment in innovation and new enterprise creation.
- Biogas should be promoted as part of a drive for eco-tourism on the Peninsula and be an integral part of Dingle Sustainable Energy Community's development.



## Farmers' Forum at Dingle Food Festival 2019

In October 2019, a second Farmers' Forum was organized by the Dingle Hub and NEWKD, this time on the topic of 'Farming-The Key to a Sustainable Future'. There were three presentations:

- Dingle Peninsula involvement in the **EU SKIN (Short supply chain Knowledge Innovation Networks) Project**, with Deirdre de Bhailís (Dingle Hub).
- Anaerobic Digestion Feasibility Study and progress to date, with Xavier Dubuisson (XD Consulting).
- **MyGug micro scale digester** for the treatment of food waste, with Kieran Coffey (Design Engineer).

The presentations were followed by a panel discussion on 'Renewable Energy Opportunities on the Dingle Peninsula', with Denis Galvin, Lispolé (**ESB Networks Ambassador** and Farm Ambassador); Noel Malone, Gortadoo (**StoreNet battery trial** participant), Xavier Dubuisson (Lead Consultant on the AD Study) and **Dr. Richard O'Shea (Bioenergy Group , MaREI)**.

Again, there was a small Information Fair and refreshments in the adjacent room. About 60 people attended the event and participated in a lively discussion. The Stands at the Information Fair included: The LECO Project, Kerry Sustainable Energy Co-op, Manna Organics, MyGug, and a MaREI AD demonstration model.

## AD Feasibility Study Reports

The First Interim Report 'Vision & Feedstock Analysis' was published in July 2019.

The Second Interim Report 'Vision, Feedstock Analysis, Pathway Analysis and AD System Design' was published in January 2020.

The Final Report, '**Feasibility Study on Anaerobic Digestion for the Dingle Peninsula**' was published in June 2020. It included a roadmap for developing the project.

A 3-minute video on the Feasibility Study is available [here](#).

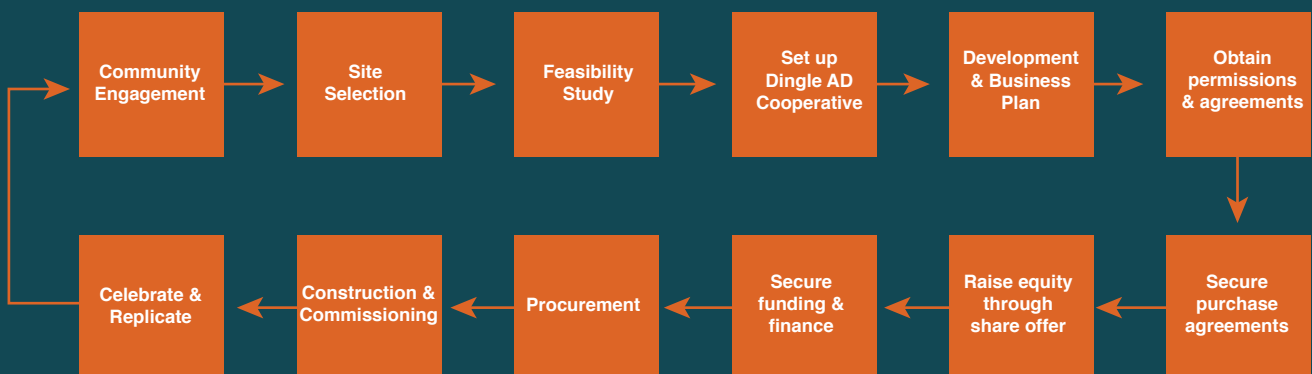
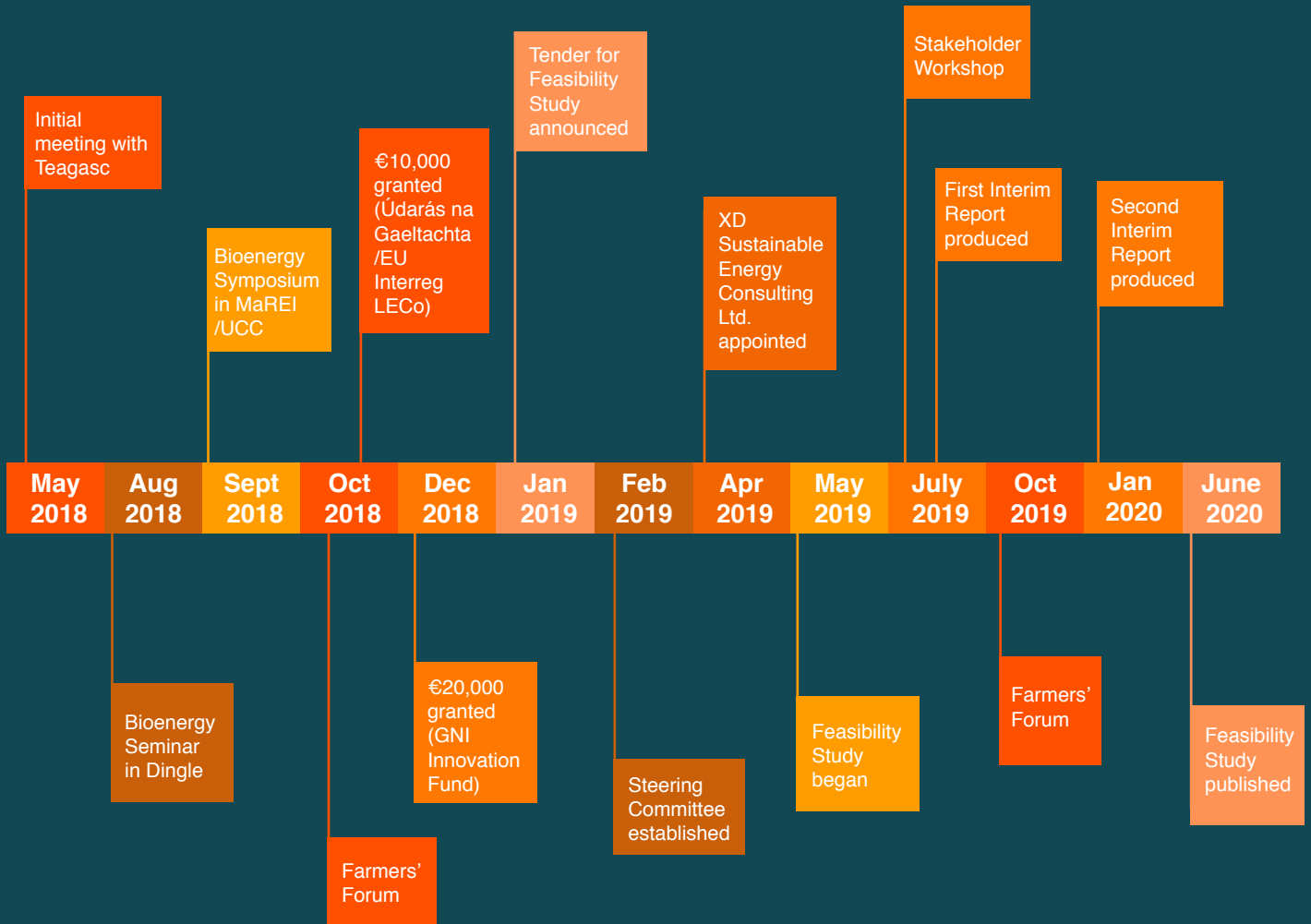


Figure 2: Roadmap for community anaerobic digestion in Dingle.

# Timeline



## Funding

The cost of scoping, engaging with the community and completing the AD feasibility study was **€42,300**. The in-kind costs incurred amounted to **€11,000**.

### Funding Breakdown

- Dingle Hub time committed (2 months) = €8,000  
This included:
  - Management of 2 Farmers' Forum events
  - Participation in 2 LECO field trips, and training
  - Management of tender process
  - LECO reporting
  - Gas Network Ireland (GNI) reporting
  - Coordination of Steering Group meetings
  - Dissemination of findings (UnaG webinars, LECO video production)
- Farmers' Forum delivery costs 2 x €1,500 = €3,000 (**funded by Town and Village Renewal Scheme in 2018 and Dingle Hub in 2019**)
- AD Feasibility Study: €30,000 + €1,300
  - **Gas Networks Ireland**, through the **Gas Innovation Fund**: €20,000
  - **Údarás na Gaeltachta**, through the **EU Interreg LECO project**: €10,000, with an additional €1,300 for a 3-minute video on the study
- In-kind time contribution from Steering Committee members and for **MaREI** expertise and **NEWKD** community engagement skills (c. 220 hrs) = €11,000

## Lessons Learnt

- The initial engagement with farmers on the Dingle Peninsula, both at the two Farmers' Forums and the workshop, helped develop their interest in on-farm sustainability and contributed to the development of relationships and the setting up of a number of subsequent projects, including:
  - **The Farm Ambassador Project.**
  - **The EU Ploutos Project** (focusing on short supply chains).
  - The West Kerry Dairy Farmers Sustainable Energy Community (SEC) On-going relationships have also been built with the **Kerry Group** (and particularly **Kerry Agribusiness**) and **Teagasc**, and the tourism sector (such as, **Dingle Peninsula Tourism Alliance**).
- More generally, each of these initiatives helps build trust between partners and with researchers, public bodies and others. This is very important for the ongoing initiatives that are required over time. Delivering each project is also important for instilling confidence and pride in the local community.
- The **Feasibility Study** itself has received quite an amount of attention outside of the Dingle Peninsula and has led to a number of rural communities investigating the potential within their own areas (e.g. West Cork, North Cork, Donegal).

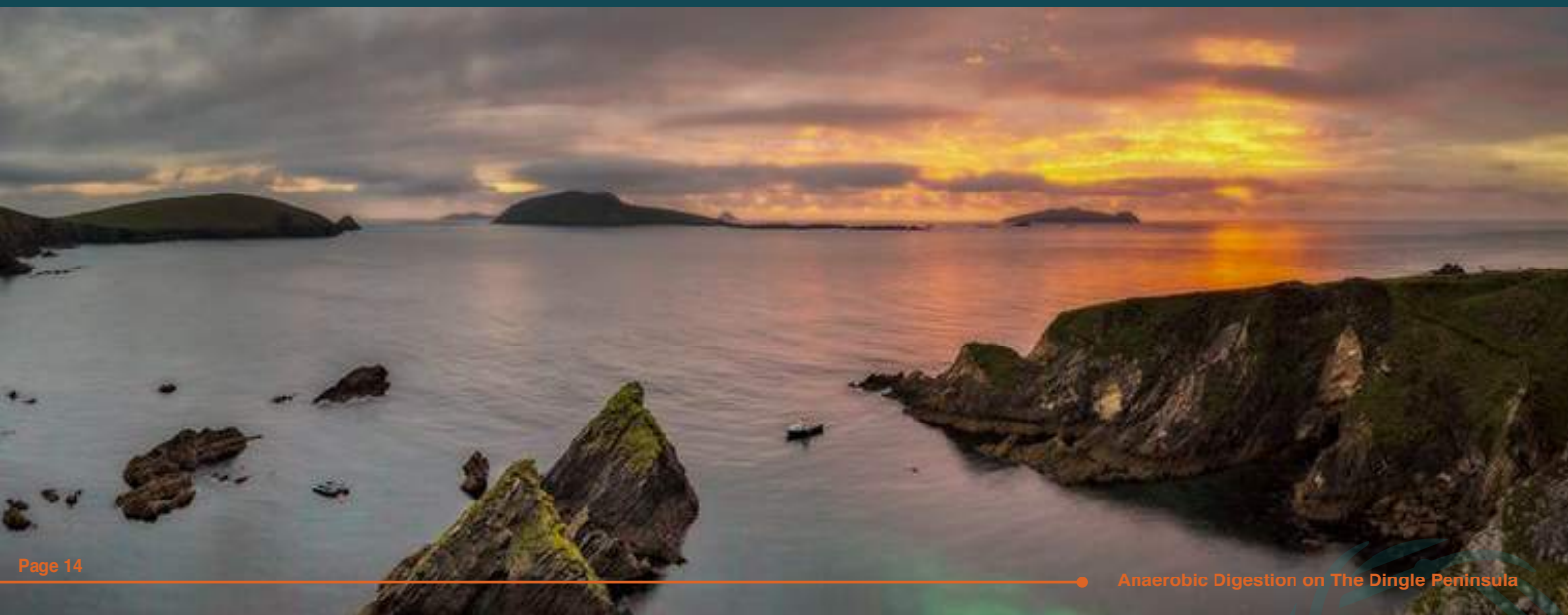
- The lack of a policy framework to govern the development of bio-methane, with associated financial supports and regulatory framework, creates a vacuum of information and uncertainty around what is possible or not with anaerobic digestion. This needs to change rapidly in order to enable projects to move to the next phase.
- The tendering process for consultants went very well and we were very fortunate to have a clear view of what we wanted; an excellent Steering Committee (which was also involved in the selection process); very supportive funders, who understood what was required and who were very forthcoming with the funds, in an appropriate timeline; and a good response from experienced consultants.
- The selected consultancy team was very professional. The Team Leader drew together a very good mix of local and external experts who were committed to the project and to finding solutions for the area. Effective community engagement was built into the project from the start. This was helpful when engaging with stakeholders, and it also increased the credibility of the Final **Feasibility Study** and helped get buy-in from the local community. The submission of interim reports was also important as it kept the stakeholders updated and involved.
- The funding process was not onerous. The application process for the **LECo** grant call was very straightforward, and the required reporting to **Údarás na Gaeltachta** (through whom the funding was channeled) was very constructive. Additional support was provided in the form of training, information dissemination, workshops and field trips. At the end of the project, an extra €1,300 was generously made available by **Údarás na Gaeltachta** for a 3-minute video on the Anaerobic Digestion study. Similarly, the application process for the **GNI Innovation Fund** was very straightforward, and the award was made in an efficient and timely manner. Working with both organisations was a positive experience and no specific borrowing was required by **Dingle Hub** in order to pay the consultants ( a very important consideration for local communities).
- Grass is needed as a feedstock for the digester and it is critical to ensure that its production as an energy crop is not encouraged in an unsustainable manner. In exploring the potential for sensor technology to support carbon, cost and labour efficiencies on farms through our **Farm Ambassador Pilot Project** and as a Sustainable Innovation pilot on the EU **Ploutos Project** with **Teagasc**, **Kerry Agribusiness** and technology provider **Net Feasa**, we aim to optimise grassland management techniques to scientifically support sustainable production.
- Having annual events on the Dingle Peninsula (such as the **Farmers' Forum**, **Dingle Food Festival**, **Féile na Bealtaine**, and the many other events), provides very good opportunities to engage with the local community and specific sections of that community. These events are very important for casual engagement and socialising ideas.
- Good engagement with the farming community on the Dingle Peninsula was enabled through the two Farmers' Forums, and the Feasibility Study workshop. However, it is acknowledged that the people who attended were those who already had some interest in the topic. It is important to reach further into the local community during the development phase of the project. This is a time and resource-intensive activity that cannot effectively be handled without some support for community engagement.

- To deliver the significant transition to low carbon that is required of society will require a major increase in community engagement with local communities taking active responsibility for the transition in their own areas. Besides the support for **Sustainable Energy Communities**, operated by the **Sustainable Energy Authority of Ireland**, in February 2021, the Government **announced** support for one particular aspect of this, by requiring that all projects applying to the community category in future RESS auctions must be 100% community owned. This is an important development but, for it to be implemented effectively and widely adopted in communities, there is a corresponding requirement for support for community engagement, as this is the enabler that will make it happen on the ground. Currently, there is no such support and there is a risk that, despite the interest by local communities, this aspect of Government policy will not gain wide traction if there are no community coordinators and leaders in local communities to support this initiative. In short, this excellent initiative requires support for community engagement resources in local communities or its impact may well be very limited.
- The project was mentioned to Kerry County Council (KCC) and it was suggested that KCC could not get involved in the Steering Committee, as they have a formal role in the planning process and so may be seen as having a conflict of interest. This was accepted and the rationale understood. Continued engagement with KCC is critical, particularly around the potential siting of the anaerobic digester.
- There was hope initially that **Gas Networks Ireland (GNI)** might be interested in testing a biogas bus on the Dingle Peninsula, as part of the **Dingle Peninsula Sustainable Transport Pilot Project**. Regrettably, they were not in a position to provide a bus at this stage, so, following discussions with **Local Link Kerry (LLK)** and further discussions between LLK and the **National Transport Authority (NTA)**, two electric buses will be utilised. However, there may be further opportunities for Bus Éireann to use bio-fuelled or hydrogen-fuelled buses.

## Progressing the Project

Having a good **Feasibility Study** is only the beginning of the process and there is a long road to go before the project is constructed and operational.

A Steering Committee (involving various local representatives and experts) will be required to oversee the development phase and it was initially envisaged that a full proposal for project development would be submitted to the **Climate Action Fund**. However, there were no Calls in 2019 or 2020. It is hoped that there will be suitable calls in 2021 and that the project will be supported to proceed to the next phase.



## Concluding Comments

One of the stated aims of the project was to ‘explore how the experience of the Dingle Peninsula may assist in investigating the potential for biogas production nationally and, in the process, how it may be possible to contribute to the decarbonisation of the Irish gas system, as well as offering a sustainable renewable energy alternative to customers nationwide and, in particular, in rural locations from where the gas is produced’.

- As the Government encourages greater community ownership of renewable generation, for example, by introducing a requirement that all projects applying to the community category in future RESS auctions must be 100% community owned, there is likely to be an increased interest from local communities in participating in such opportunities. These local community energy projects have also potential to broaden their brief to include, possibly, community purchases of solar photovoltaic (PV), batteries, electric vehicles (EV's) and the establishment of electricity aggregators, etc. – thinking systemically, as opposed to in silos. This type of community enterprise may contribute to a deeper and faster low carbon transition.
- However, to realise the Government's ambition for community-owned renewable energy projects and to support the significant challenge of delivering the transition to low carbon in each local community, appropriate community engagement will be critical. In the case of the anaerobic digestion project, it will be central to the development and establishment phases of this project and it will have to be sufficiently resourced. Therefore, there will need to be scope for funding the coordination and facilitation aspects of this engagement in any future funding calls.
- It is recommended that any future work on developing the project would include some associated review and compilation of a further Learning Brief to assist with the dissemination of the experiences.
- Some reports have been compiled by **SEAI**, **MAREI** and **Teagasc** on the availability of biomass resources and XD Consulting is working on a Renewable Heat Plan for Ireland, which includes a survey of renewable energy resources. This information will be important for any organisation interested in exploring the potential for erecting an anaerobic digester in their local area.
- Anaerobic digestion may have potential to contribute to the decarbonisation of the Irish gas system and the Irish transport system, but further work will be required.

The Dingle Peninsula 2030 co-ordinating team would like to acknowledge and thank all the people who have so generously given their time and support, both on the Dingle Peninsula and further afield. This series of learning briefs is co-funded by MaREI, the SFI Centre for Energy, Climate and Marine, the Dingle Creativity and Innovation Hub (Mol Teic), ESB Networks and North East West Kerry Development (NEWKD).

