AN INVESTIGATION OF COMMUNITY ENERGY INITIATIVES IN IRELAND: ACCELERATING THE ENERGY TRANSITION?

Case studies of two community energy projects

A dissertation submitted to the Dublin Institute of Technology in part fulfilment of the requirements for award of Masters (MSc) in Energy Retrofit Technology

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DECLARATION

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This thesis was prepared according to the regulations for postgraduate study by research of the Dublin Institute of Technology and has not been submitted in whole or in part for an award in any other Institute or University.

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ABSTRACT

Following the example of the UK and other European countries, there has been a recent groundswell of interest in the community energy sector in Ireland and its potential to play a key role in meeting national energy targets is gaining recognition in energy policy. Community initiatives have begun to engage a broad cross section of citizens in a range of energy efficiency and energy generation projects. These initiatives build on the strength of existing community networks which originate in the Irish *meitheal* tradition, the agricultural co-operative movement as espoused by Horace Plunkett and more recently the GAA and Tidy Towns organisations.

Despite the many claims made for the sector by both policy makers and activists, there is a limited evidence base in Ireland to inform decision making in relation to policy tools, and the research sets out to address this gap through a qualitative review of the activities of two case studies, to explore the energy and non-energy related benefits that arise and the challenges that they face. This case study research includes documentary analysis, semi-structured interviews with key individuals and direct observations from site visits.

It is found that while the primary driver for these projects is the improvement of local economies, there is evidence of greater local awareness and engagement with energy efficiency arising from the community approach that is creating a favourable social context for the implementation of retrofit and renewable technologies. Although limited to two case studies, this hybridisation of environmental, social and economic outcomes suggests that community energy initiatives do have an innovative aspect with the potential to impact on national energy transition. The research also finds that while many community energy projects have ambitions to grow, some are happy to remain small and self-contained. Supports need to reflect this diversity, assisting those who wish to become more business-like and commercial, while also recognizing that there is a value in the smaller unit.

The research also shows that community energy initiatives in Ireland are currently happening in a somewhat incidental fashion, not as a result of an underlying shift in the policy environment and are consequently limited in number. Consistent policy supports and strong intermediary networks are essential to encourage the sector to flourish and recommendations are made in relation to these areas.

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Finally, I would like to thank my husband and family who have encouraged me all along the way of what has been a somewhat longer than anticipated journey to complete this MSc research programme.

LIST OF FIGURES

LIST OF ACRONYMS

BEC Better Energy Communities

BEH Better Energy Homes

BER Building Energy Rating

CARES Community and Renewable Energy Scheme (UK)

CGIF Community Gain Investment Fund

CISE Community Innovation for Sustainable Energy (UK)

CKEA Carlow Kilkenny Energy Agency

CRAG Carbon Rationing Action Group

DECLG Department of the Environment, Community and Local Government

DCENR Department of Communications, Energy and Natural Resources

DUET Drombane Upper Church Energy Team

EEOS Energy Efficiency Obligation Scheme

FIT Feed in Tarrif

GREAT Growing Renewable Energy Applications and Technologies

IPPR Institute for Public Policy Research (UK)

ILDN Irish Local Development Network

SEAI Sustainable Energy Authority of Ireland

SEC Sustainable Energy Community

SME Small and Medium Sized Enterprise

TEA Tipperary Energy Agency

R&D Research and Development

RE Renewable Energy

REDZ Rural Economic Development Zones

REFIT Renewable Energy Feed in Tarrif

LARES Local Area Renewable Energy Strategy

LCDC Local Community Development Committee

LDC Local Development Company

LIT Limerick Institute of Technology

LZC Low and Zero Carbon

LEADER Liaisons entre actions de developpement de l'economie rurale (Links between actions of Rural Development)

MW Mega Watt

NTLP North Tipperary Leader Partnership

NESTA National Endowment for Science, Technology and the Arts (UK)

LIST OF APPENDICES

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Context

In December 2015, the leaders of almost 200 countries gathered in Paris and agreed on a landmark deal to tackle climate change. The Paris Agreement (UNFCCC, 2015) includes an important ambition to keep global warming below 1.5 degrees Celsius, and a long-term goal to bring global emissions to zero. Meanwhile people around the world continue to suffer from extreme weather, floods and droughts. Ireland has not been immune to these events either. During one of the warmest and wettest Decembers on record[1], people here experienced severe flooding as a result of the heavy rain brought by storms Desmond, Eva and Frank.

Alongside government actions to tackle rising carbon emissions, there is an emerging view that community-led energy projects will be key to our transition to a sustainable energy future and achieving our CO_2 reduction targets. In Ireland, government policy is beginning to recognise the importance of this sector as evidenced in the emphasis placed on the term 'active energy citizens' in the recently published Energy White Paper (DCENR, 2015).

Reflecting an increased national appetite for grassroots action, over 100 Irish community organisations signed a Community Energy Proclamation (FOE, 2015) in December 2015, which proposes that communities are 'the best way to unlock the renewable energy potential in Ireland'[2]. The IFA farming community has also indicated its intention to develop a community renewables initiative. The vision these groups have is that communities have the capacity to manage their own energy requirements in addition to generating profits to be used to fund other energy efficiency projects. There is precedent for ambition of this scale. Lead by Horace Plunkett, the growth of the cooperative movement in rural Ireland, which started with one society in 1889 and grew to 140 societies in 1897 (Plunket, 1897) was a remarkable achievement, the legacy of which is still visible

[1] http://www.met.ie/climate/MonthlyWeather/clim-2016-Feb.pdf

[2] http://www.foe.ie/news/2015/12/07/community-power-we-are-our-renewable-future/

in the Irish food industry today. In the 1890's, Plunkett held up the transformation of the Danish butter industry as an example to Ireland and it is noteworthy that we still look to Denmark as a model of best practice in relation to community energy as social entreprise (Doyle, 2015).

The author has worked for over three years providing technical and strategic supports to the Sustainable Energy Authority of Ireland (SEAI) in relation to their Better Energy Programme, with an interest in exploring the scope of community energy projects to meet these ambitious expectations, given the limitations of existing support structures in Ireland.

The dissertation will include a review of the literature (Chapter 2) pertaining to the community energy phenomenon within a European context. It will adopt a case study methodology, as outlined in more detail in Chapter 3, and a comparative analysis of two case studies, the Energy Communities Tipperary Co-operative (ECTC) and the Erris Community Energy project (Chapter 4). Chapter 5 contains analysis of the findings from the case studies and considers the implications of the research findings.

This chapter will outline the relevance of the research question, the underlying research hypothesis, the sub questions to be explored and the aims and objectives of the research.

1.2 Relevance to Retrofit Technologies

The fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), ranked CO2 emissions as the foremost driver of climate change, constituting 80% of the total radiative forcing for 2011 (Stocker et al., 2013). As 40% of the EU's energy consumption is attributed to buildings, most of the potential to reduce these CO2 emissions is through retrofitting our existing building stock and enforcing stringent energy standards for new buildings.

A recent European Commission communication on energy efficiency notes that 90% of the EU building floor area is privately owned, with 40% being poorly insulated pre-1960 residential buildings (EC, 2014) indicating that significant private investment in retrofit is needed to deliver the energy savings required. It notes the challenge faced to accelerate the renovation rate from the current EU average of 1.4% to above 2% annually.

> *Part of the challenge is to implement this acceleration in a socially acceptable way. Side effects which are harmful for the weaker parts of society will need to be minimized and*

ways of allowing all parts of society to benefit from investment in energy efficiency measures will need to be explored.

The Commission refers to the importance of increasing consumer awareness of the benefits of energy efficiency beyond simple payback of investment or kilowatt-hours saved, referring to improved quality of life and economic competitiveness. Community-led approaches to energy retrofits have been recognized as one way of raising societal awareness and acceptance of both the need for these measures and their benefits that include but are not limited to, achieving energy savings. Indeed, it is often remarked that the societal benefits of community-led projects outweigh the energy efficiency aspects and by improving social cohesion, trust and awareness of the benefits of energy savings, they can create a favorable context for the implementation of further energy efficiency projects. This context is represented by the blue circle in Figure 1.1 which illustrates the position of community energy at the core of these three essential components of energy transition.

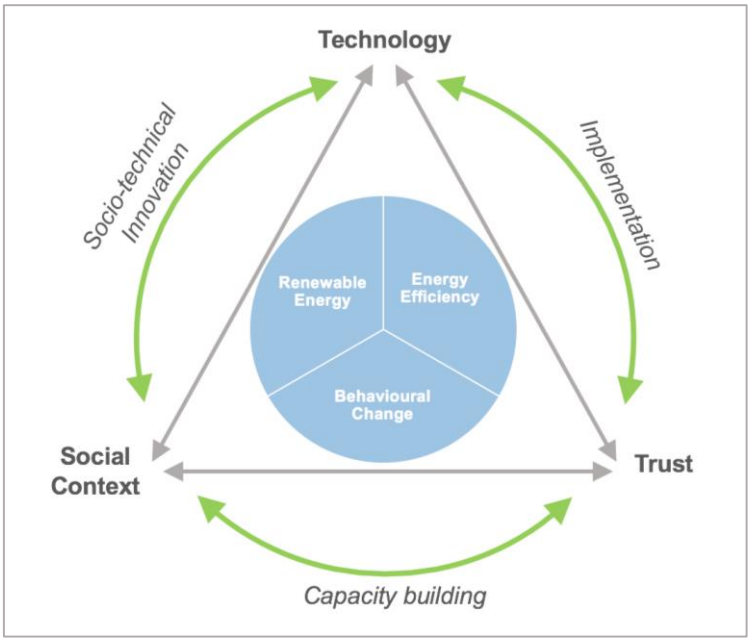


Figure 1.1 Community energy at the core of technology, social context and trust

It has been proposed (Gordon Walker, Hunter, Devine-Wright, Evans, & Fay, 2007) that the impact of the actions of a group can be greater than the sum of the individual parts thereby accelerating the pace of retrofit. It has also been suggested that community initiatives can encourage deeper

retrofit and enable access to harder-to-reach households. These are interesting questions to explore and have implications for how we approach the implementation of retrofit technologies to our building stock.

The two case studies which are the subject of this research are examples of the implementation of a bottom-up approach to retrofitting and renewable technologies. The research will consider the challenges and opportunities in implementing retrofit technologies through community-led initiatives and seek to understand the particular conditions necessary for successful community energy projects.

1.3 Research Hypothesis

In recent years, there has been an increasing realisation by government in Ireland of the need to address retrofit at a number of levels and that individual actions alone will not deliver change at the pace that is required to meet our National and EU energy targets. However, while there is much rhetoric around the diverse topic of community energy and many claims are being made regarding its potential to deliver this transition, there is little empirical evidence to support these claims.

The research hypothesis is that given the necessary supports, community-led energy projects have the potential to impact at a national level on the pace of retrofit, accelerating the transition that is clearly required to our energy system.

It is suspected that while there have been successes, community projects here face many challenges and do not have the support structures they need to enable them to operate effectively. Furthermore, while the potential may exist for community energy to accelerate the pace of retrofit, there would seem to be a disconnect between expectations of what the third sector can deliver and the pace of change that is required.

1.4 Sub-questions

The research will investigate developments in the community energy sector in Ireland:

I. Is there particular innovation within a community-led approach to energy efficiency that can increase the pace of retrofit and in doing so accelerate our energy transition?

II. What are the aspects that contribute to this and how can they be helped to flourish?

III. How can the sector as a whole be supported to provide the stability and certainty required to encourage community energy initiatives?

1.5 Research Objectives

The research aims to gain insight into community-led approaches to energy efficiency, the specific benefits that arise from such approaches and the challenges they face. It is hoped that a deeper understanding of the sector and the support structures it requires will contribute to an evidence base for policy development.

Specific objectives of the research work include:

- A review of the literature on the phenomenon of community energy and its implementation in the UK and European context.
- The identification of two case studies within Ireland against which to test the research question.
- Interviewing key people within the case study groups and the intermediaries that make up the context of the case study groups.
- Analysis of the findings in order to make recommendations for strategy development in the support and delivery of community energy projects.

2.0 LITERATURE REVIEW

This chapter will review the literature that relates to community energy projects, with a particular focus on their innovative role in the transition to sustainable energy systems. The review will set out an introduction to the definition, characteristics and benefits of community energy. It will then explore in more detail the following themes:

1. The **origins and principles** of community energy; research themes and emerging trends.
2. The **legislative context** – an overview of the plans and policies that underlie community energy internationally, nationally, regionally and locally.
3. **Implementation –** how community energy has been implemented in Europe and Ireland.

2.1 Community Energy - Definitions, Characteristics, Benefits

2.1.1 Definitions

There are many definitions of the 'emergent phenomenon' (Van der Schoor & Scholtens, 2015) of community energy. Understanding of the level of community engagement involved and what is meant by 'community', varies between policy makers, practitioners and academics.

Community energy has been described as;

> *a diverse field of activity, and includes both energy generation and conservation projects…micro generation technologies; collective behaviour change programmes… community owned wind-turbines etc*. (Seyfang, Park, & Smith, 2013) p. 978

There is a premise in this study and others (Gorden Walker, 2008) (Hathway, 2010), that community energy refers to projects where communities, of place or interest, exhibit a high degree of ownership of the process, as well as benefiting collectively from the outcomes and that they can include both supply- and demand-side sustainable energy initiatives.

While the focus of many community energy projects, particularly outside of Ireland, is on RE production and supply, others are characterised by a wider range of activities including energy conservation and retrofitting, behavioural change and sustainable transport.

Following Seyfang and others (Gordon Walker & Devine-Wright, 2008), this broader definition of community-led sustainable energy projects, or 'community energy' is considered more appropriate

to the Irish context, as there are limited numbers of community-owned renewable energy (RE) generation projects here.

2.1.2 Characteristics of the sector

Recent UK research (Heilscher, Seyfang, & Smith, 2011) has identified three distinctive features of the community energy sector. Firstly, they adopt a multi-faceted and holistic approach which has potential to deliver deeper, longer lasting change. Most of the participants in the NEASTA[3] carbon reduction initiative, the 'Big Green Challenge' (BGC) had made use of a range of carbon reduction measures (Steward, Liff, & Dunkelman, 2009) including retrofit, micro-generation technologies, and behavioral change programmes such as CRAGS[4] and Transition Towns.

Secondly, it is considered that they have a normalising influence on the climate change context (Houghton, 2010), (Howell, 2012) in which they operate. When faced with the enormity of the scale of the climate change problem, individuals can often feel disempowered (Thogerson, 2005) given their limited capacity to influence change. Changing the social context to make energy efficiency the norm has been shown to be more effective than attempting to change individual mind-sets to achieve sustainable energy consumption (UKSDC, 2011). A key lesson learnt from the BGC was that the inherent power in the process of acting together can change people's perceptions of their own capabilities (Houghton, 2010) and increase the potential for collective action to tackle big problems.

Thirdly, they have a focus on engagement and rely on a participatory approach which requires strong social cohesion and high levels of trust to start and maintain (Gordon Walker, Devine-Wright, Hunter, High, & Evans, 2010). The motivation for wanting to participate varies from community benefit, demonstrating that alternatives are possible and a sense of duty. Bringing together people from different backgrounds can be influential in countering 'what some argue is an era of declining civic engagement' (Hoffman & High-Pippert, 2009) [p: 6].

Community energy projects use different organizational models, including co-operatives, charities, development trusts, share ownership, informal associations and partnerships with other social

[3] National Endowment for Science, Technology and the Arts

[4] Carbon Reduction Action Groups

enterprises (i.e. schools, businesses, faith groups, and local government or utilities) (Gorden Walker, 2008). A distinction is made between communities of locality and communities of interest, where a group may share goals but are not geographically connected. However an extensive quantitative study of the sector in the UK (Seyfang et al., 2013) found that the vast majority (89%) were geographic.

Finally, the question is often asked, what does 'community energy' mean? Research on this acknowledges that there is a wide diversity of understanding but points to projects where outcomes are both collective and shared amongst local people *and* where there is an open and participatory process (Gordon Walker & Devine-Wright, 2008) as defining characteristics. The theoretical space occupied by such projects is described by the blue circle in Fig 2.1.

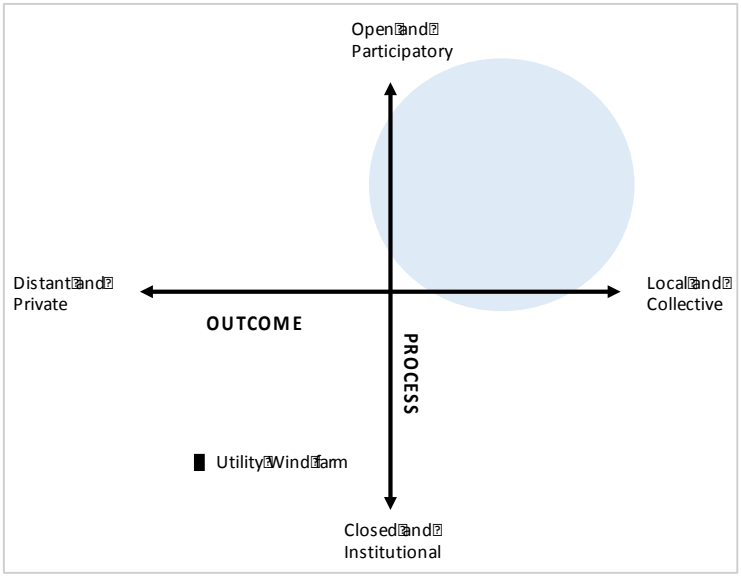


Figure 2.1 Understanding of community energy in relation to project process and outcome dimensions (*Walker, Devine-Wright 2008)*

2.1.3 Benefits

There are many practical benefits of community-led energy initiatives beyond the carbon emission reductions, including creating warmer, more comfortable buildings; reducing energy bills and fuel poverty; increasing local incomes; raising skill sets and creating jobs. Achieving lower running costs in community buildings often facilitates improved delivery of community services as longer opening hours become affordable and less time is spent fundraising to pay energy bills (Platt, 2011).

Other benefits of community energy identified in the review are summarised below:

- Projects are formed to suit particular local circumstances as local needs (creating jobs, saving money) rather than global environmental concerns (Rogers, Simmons, & Weatherall, 2008) are the primary motivation in starting a community energy project.
- Societal benefits including an enhanced overall awareness of energy issues and stronger community spirit (Rogers et al., 2008).
- They allow for different models of project development and can respond to local conditions as there is no predetermined idea for what a project should look like. (Gordon Walker & Devine-Wright, 2008).
- They can increase public acceptance for potentially divisive projects i.e. wind turbines, (Rogers et al., 2008). It is noted that where the term 'community' is attached to a project in a tokenistic way (Hoffman & High-Pippert, 2009), it can lead to even more divisive stands.
- The heightened levels of trust between individuals, which is described as 'part of the package of conditions which can help projects to work' (Gordon Walker et al., 2010), leads to stronger social cohesion.

2.2 Origins and principles of community energy

From its origins in the alternative technology and anti-nuclear movements of the 1970s and early adoption in countries such as Denmark and Austria, the concept of community energy has become increasingly mainstream and community energy initiatives are now widespread across Europe.

Over the past decade, the numbers of energy efficiency initiatives that define themselves as community-led has rapidly expanded in the UK (Seyfang et al., 2013), Germany and more recently in the Netherlands (Oteman, Wiering, & Helderman, 2014).

2.2.1 Existing research themes

A body of research work exists in the field of community energy in the UK and Europe, which reflects its increased prominence at government policy level. While there are also studies of community energy in the American context (Hoffman and High-Pipperd 2005), the focus in this study is on the European literature as practice here is bound by EU directives and legislative instruments.

Themes that this research has focused on include impact, innovation, diffusion, barriers and incentives to community energy. An outline of these themes follows.

2.2.1.1 Impact

The impacts of community energy projects go beyond energy generation, carbon reduction and financial benefits (Seyfang et al., 2013) to include a wider range of sustainability objectives including community development, addressing fuel poverty and improving local economies.

It has been suggested that a community-led approach delivers more than 'the sum of the "small parts" of renewable energy generation and carbon reduction' (Gordon Walker, Hunter, Devine-Wright, Evans, & Fay, 2007) [p.78] It is also recognised that while the carbon impact can be significant (Houghton, 2010) there are other, behavioural impacts which have potential to influence a wider societal energy transition (Howell, 2012). The CISE[5] project found that these grassroots or bottom-up solutions;

> *deliver energy savings and behaviour changes that top-down policy instruments cannot achieve, due to the greater local knowledge and engagement they embody, sense of community ownership and empowerment and the social capital and trust that is generated*. (Heilscher et al., 2011) [p3]

Engagement, social capital and trust are recurring themes in the case studies in Section 2.4.

2.2.1.2 Innovation

The concept of innovation has been defined as new combinations of existing resources, technical or social, which are part of the trilogy of change; invention, innovation and diffusion (Schumpter, 1934). The concept of linking the two strands of innovation and community action to sustainable development was first identified by Seyfang (Seyfang & Smith, 2007) and further research has demonstrated that community action is potentially an important area of innovative activity (Hargreaves, Heilscher, Seyfang, & Smith, 2013) although others argue that this is in a niche capacity only (Arentsen & Bellekom, 2014). However, the use of smart grid technology to link micro-generation and demand-side management with existing energy systems is enabling them to

[5] Community Innovation for Sustainable Energy see www.grassrootsinnovations.org

visualise realistic alternatives to the current reliance on centralised energy supplies, creating significant opportunities for community-led innovative activity.

A study of Le Mené, a remote area of Brittany previously only known for pig farming credits its recently found status as an energy innovator to engagement in numerous energy efficiency initiatives (Yalcin-Riollet, Garabuau-Moussaoui, & Szuba, 2014). It concludes that the hybridisation of people, technologies and discourse has contributed to this improved self-image, delivering *social* innovation.

Finally, innovation is also found in the financial models that community energy projects adopt (share ownership, not-for-profits, crowd funding), as a way around local taxes (Arentsen & Bellekom, 2014) and state funding limits (Gordon Walker et al., 2007).

2.2.1.3 Diffusion

The diffusion of community-led processes into wider society (Platt, 2011) (Houghton, 2010) has been attributed to increased positivity towards, for example RE, which people then seek to apply elsewhere. Walker identified increased levels of community *and* household sector grant applications in areas of the UK where local teams, supported by the Community Renewables Initiative (CRI) were operating between 2001 and 2007, (Gordon Walker & Devine-Wright, 2008) suggesting that activity in the community sector was stimulating the other.

Participants in CRAGS also show evidence of this 'spillover' where behavioural effects were not limited to the areas where emissions were counted (Howell, 2012); the inference is that this was because wider learning (about emissions) was contributing to a new social norm. Others have argued that this spillover only reflects a predisposition of CRAGs participants to pro-environmental values (Thogerson, 2005), however the outcomes are impressive with many CRAGs interviewees operating at 10% (Howell, 2012) below the UK carbon emissions average.

An Institute for Public Policy Research (IPPR) study into 14 community projects compared quantitative data for a two year period with a 2009 baseline to measure changes both in energy saved and generated and what they called 'multiplier effect' results. They found that 'projects, and in particular installations of measures, can reach deep into communities and have pronounced impacts on attitudes towards installing energy efficiency measures and microgen' (Platt, 2011). Significantly, 61% were more likely to take action in the future to change their

behaviours and reduce their energy use. The study concluded that such groups can quicken the pace of the drive to meet national targets in addition to having a wider effect by changing attitudes and behaviours.

2.2.2 Incentives and Barriers:

Incentives and barriers to community-owned means of energy production have been well documented (Gorden Walker, 2008) (SDC, 2011) as have public perceptions of community RE projects (Rogers et al., 2008). Although the research definition of community energy includes supply *and* demand-side measures, common themes emerge from the literature. The main reason given by citizens to support the Templemore windfarm project in Co Tipperary was access to a cheaper, more economical renewable energy alternative, (Ryan, Kelly, & Hoyne, 2014) supporting the theory proposed by Rogers that local issues are a primary motivating factor.

Incentives for community-led energy projects include;

- *Local income;* savings delivered by energy efficiencies increase local incomes and the impact of these savings is amplified if re-circulated to the community (Boon 2014) through community funds for further projects.
- *Regeneration;* taking action to address decline in communities is a key incentive, particularly in rural areas.
- *Ethical and environmental issues*; concern over fossil fuel dependency and climate change, in some cases triggered by extreme weather events, as in the case of Low Carbon West Oxford.
- *Lower energy costs*; as a result of reduced demand or renewable alternatives.
- *Local control*; where community energy projects are already in place this can pre-empt private development moving in, enabling communities to control scale.

Energy security is an increasingly important incentive. In the Netherlands a growing awareness of their rapidly diminishing natural gas reserves has prompted interest in alternative energy sources (van der Schoor, van Lente, Scholtens, & Peine, 2015) and in the case of Le Mené (Yalcin-Riollet et al., 2014) it was concern at being located at the end of the French energy line which prompted action. Recent events in Ukraine have brought this into focus and Ireland has particular reason to

pay attention given the country's geographical location and its 85% dependency on imported fossil fuels in 2014 (SEAI, 2015).

Commonly cited barriers in the literature to community energy projects include;

- *Policy and legal context;* the lack of policy supports, in addition to the unhelpful climate of uncertainty caused by frequently changing policy (Boon 2014) (Gorden Walker, 2008).
- *Access to finance;* competition for funds and uncertainty of annual income streams. The high upfront costs and long pay back periods are particular barriers to RE generation (Boon 2014).
- *Access to knowledge and supports*; to navigate funding sources, technical complexities and administrative needs. It has been noted that some communities have better resources to draw on than others in this regard (Platt, 2011), giving rise to inequality.
- *Commitment;* projects often have significant difficulties in surviving long term, (Hargreaves et al., 2013) and volunteer fatigue can set in unless support structures are in place (Houghton, 2010). A critical issue for the Templederry project, which took 13 years to deliver, was having the ability to 'stay the course' (Ryan et al., 2014).
- *Market entry issues for renewables:* complexity of grid access and approval processes. This is a particular barrier in Ireland as there are no Feed-in-Tarrifs (FITs) for micro generation.

These themes are also reflected in a recent study of the sector here (SDC, 2011).

2.3 Legislative and policy context for community energy

2.3.1 Global

Ireland is a party to both the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol which provide the international legal framework for addressing climate change at a global level.

At the 1992 Rio summit, the UN agreed that the best starting point for sustainable development is at local level (UNEP, 1992) and Chapter 20 of Agenda 21, which resulted from that summit, states that local authorities 'play a pivotal role in educating, mobilising and responding to the public to promote sustainable development'.

At the 21st Conference of the Parties to the UNFCCC held in Paris in December 2015, the 192 Parties to the Convention agreed a commitment to keep average temperature rises to no more than 2°C, with an aim to reduce these rises to 1.5°C (UNFCCC, 2015). However the agreement recognises that much greater emission reduction efforts will be required than are contained within current pledges. The agreement's accompanying text makes clear that civil society, local communities and indigenous peoples all have a major role to play in helping to achieve these goals (Kirby, 2015).

2.3.2 European Union

Ireland's climate change and energy targets are also bound by European agreements including the 2020 Climate and Energy Package, adopted in 2008 with the following objectives:

- A reduction in GHG emissions by at least 20% compared to 1990 levels.
- A reduction in primary energy consumption by 20% compared to projected levels.
- To achieve a 20% level of EU energy consumption from renewable sources. Within this, Ireland must achieve a renewables target of 16% of gross final energy consumption by 2020.

In 2014, a further EU wide target of a reduction in GHG of 40% by 2030, with energy savings of 30% was agreed (Commission, 2013), however the individual Member State targets have yet to be set.

These targets are supported by the Energy Efficiency Directive (EED) (EU, 2012) and the Energy Performance of Buildings Directive (EPBD) (EU, 2010) to drive energy efficiency improvements in households, industry and transport sectors.

2.3.3 National

Ireland's National Policy Position on climate change was published in 2014 (DECLG, 2014), followed by the Climate Action and Low Carbon Development Bill (DECLG, 2015) enacted in late 2015. These provide the statutory basis for the national objective of transition to a low carbon economy by 2050.

As required under the EED, a National Energy Efficiency Action Plan (NEEAP) was established in 2009 with subsequent revisions, most recently in 2014 (DCENR, 2014), in which Ireland maintains

its commitment to achieving a 20% energy savings target by 2020. Within this framework, the National Energy Retrofit Programme, the main funding support for the retrofitting of the existing building stock, was launched by the DCENR in 2011.

Also under the EED, the Energy Efficiency Obligations Scheme (EEOS) (Commission, 2012) came into effect in 2014 and requires energy suppliers to achieve 25% of their target in the residential sector, creating opportunities for community groups to leverage funding by trading their energy credits.

In December 2015, the Energy White Paper was published (DCENR, 2015) with the aim of guiding policy and actions in the energy sector up to 2030. It commits Ireland to reducing GHG emissions by 80-95%, compared to 1990 levels, by 2050 and to zero or below by 2100. Within the White Paper, the Government acknowledges that the citizen will be central to this change and that communities need to be supported to be able to participate and derive local benefit from a more sustainable energy system. It states that 'community-based initiatives will emerge to facilitate and drive the energy transition' (DCENR, 2015) [p. 8]. There is much emphasis put on role of the 'active energy citizen', along with the need for increased community participation in RE generation and more opportunities for community engagement in policy making.

The following undertakings in Chapter 4 of the White Paper provide the context for community-level action:

- Supporting community participation in RE and energy efficiency projects
- Developing mechanisms to allow communities to receive payment for electricity
- Providing funding for community-led projects in the initial stages of development, planning and construction
- Examining shared ownership opportunities for RE projects in local communities
- Exploring the scope to provide market support for micro-generation

Critically however, for a document that covers energy policy for the period 2015-2030, there are no specific 2030 targets set and how exactly these community-based initiatives will 'emerge' has not been elaborated.

2.3.4 Local

As part of a move towards a more integrated approach to local and community development, the Local Government Reform Act 2014, brought into force the reforms set out in the Programme for Effective Local Government, Putting People First, (DECLG, 2012). Amongst other structural changes, it provides a framework for a more joined-up approach to local and community development and empowers communities to engage with their Local Authority[6] through Local Community Development Committees (LCDCs).

The Irish Local Development Network (ILDN) is the representative body of Local Development Companies (LDCs) and delivers two core programmes for members, the Local & Community Development Programme (LCDP) and the LEADER Rural Development Programme. It assists LDCs to leverage national and European funding to support community-led projects and promotes their work at policy level.

In rural contexts, LEADER supports a bottom-up, approach to local development with an emphasis on promoting economic development and social inclusion. It aims also to reduce poverty and to make funding decisions at a local level. Another bottom-up approach that is currently being piloted in 18 rural areas are Rural Economic Development Zones (REDZ) which support communities to avail of opportunities to help themselves and are based on a localized strategic approach which reflects functional rather than administrative geographic areas.

2.4 Implementation of community energy

2.4.1 Europe

European countries such as Denmark and Austria have had policy support for community energy projects, particularly micro-generation, in place for many decades (Gordon Walker et al., 2007). There are now growing numbers of community energy initiatives in Germany and the Netherlands but growth has been slower elsewhere (Romero-Rubio, 2015) (Yalcin-Riollet et al., 2014) as a result of distinct national characteristics which arise from the relative positions and the different priorities

[6] Section 36 of the Local Government Reform Act 2014

of states, local energy markets and communities (Oteman et al., 2014). The following section looks at implementation in Denmark, Germany and the Netherlands.

2.4.1.1 Denmark

Self-sufficient in energy since 1977, Denmark's energy system has been transformed from almost complete dependence on fossil fuels prior to the 1972 oil crisis. The national target is to have 100% of energy supply from RE by 2050 and a highly decentralised political system has favoured community energy initiatives as municipalities are required to find ways of implementing the national goal at a local level. Communities have a partnership role in the activities of their *Kommuner* and contribute to a balanced dialogue between economic and environmental motivations (Oteman et al., 2014) in the decision making process, reflecting the relative weakness of the fossil fuel lobby.

Traditionally, Denmark's wind cooperatives were small-scale and locally owned, attracting high levels of public support, however following privatisation of the energy market in the early 2000s, many became privately-owned. In response to an increasingly adverse public opinion towards the rise of these larger-scale wind farms, Denmark introduced a requirement for community energy funds and a 20% community ownership model in their energy laws[7] in 2008 (Oteman et al., 2014) and 90% of Danish wind turbines are now co-operatively owned in addition to 50% of district heating systems. However, recent changes in responsibility for wind park planning, tax changes and subsidy cuts for FITs have brought uncertainty to the sector, slowing down investment (Oteman et al., 2014).

On the other hand, high-profile projects such as the renewable island of Samsoe[8] are held up as model renewable communities. In 1997, Samsoe won a state-funded competition and within 10 years became 100% self-sufficient using four biomass district heating plants and 11 land based wind turbines. Of the 4000 residents, 450 are shareholders and ownership models vary from municipal to commercial, private and cooperative with individual solutions tailored to meet specific project requirements. Echoing other studies, the reasons given by Samsoe residents for wanting to engage

[7] The Promotion of Renewable Energy Act 2008

[8] http://energiakademiet.dk/en/vedvarende-energi-o/

were primarily local; it was seen as essential to survival of the island and the local economy (Lund, 2011).

2.4.1.2 Germany

Germany has a long tradition of cooperative enterprise dating back to the early 20th century and community energy initiatives are now a key element of the national energy transition *Energiewende*. Energy policy is part of a lively but economically grounded debate, weighted toward ethical and environmental considerations, in which the public are highly engaged. In contrast to the Netherlands (Boon & Dieperink, 2014) and France (Yalcin-Riollet et al., 2014), discretion at sub-regional level on how national targets should be met has been credited with its high levels of public acceptance (Oteman et al., 2014) of the cost of RE investment. In addition to the Renewable Energy Act, which guarantees FIT rates for 20 years and priority access to the grid for RE, state funds are available as loans for RE production and retrofit projects, fossil fuels are taxed and there are many household subsidies available for energy saving projects, all of which have helped Germany to attain 26% energy production from renewable sources, primarily solar PV. About half of all RE production is owned by private households, co-ops and farmers with only 6.5% controlled by the four major energy companies (Oteman et al., 2014). Figure 2.1 shows the acceleration in rate of foundation of energy cooperatives in Germany since 2008.

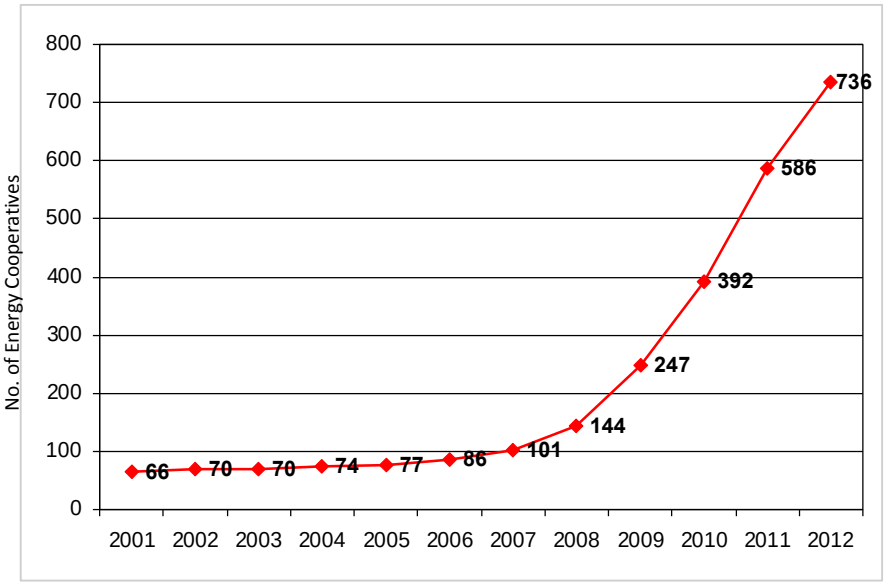


Figure 2.2 Growth of German Energy Cooperatives *(source Andreas Weig DGRV)*

2.4.1.3 The Netherlands

In contrast, the Dutch energy sector has been long been constrained by the dominance of a few large energy companies, due to the historic availability of domestic gas (Oteman et al., 2014) (van der Schoor et al., 2015). Energy discourse is focused on economic viability and risk-avoidance rather than sustainability and community initiatives have generally operated below the radar of the main industry players and with limited government support. Boon notes the impact of frequently changing government interventions which have created a climate of uncertainty and negativity (Boon & Dieperink, 2014).

However, there are signs that this may be changing. In 2013, 40 organisations established the *Energieakkoord* to support the development of sustainable energy. Local initiatives with an interest in becoming energy neutral are now beginning to form regional clusters with the potential to scale up (van der Schoor et al., 2015) and impact on the existing monopoly. In contrast to Germany and Denmark, the emergence of this niche has been attributed to technological developments in RE, which have facilitated community groups to come up with alternatives to the traditional energy providers (Arentsen & Bellekom, 2014), rather than to specific government supports.

2.4.2 UK

The structure of the energy system in the UK has been transformed since the 1990s as a result of increased recognition by Government there of the benefits of a localised approach to energy policy (Gordon Walker et al., 2007). The reasons for this can be linked to the privatisation of energy supply in the late 1980s, and more recently to policy changes and specific government initiatives[9] which were launched in the period 2000-2003 to actively support, promote and fund community energy projects, in particular renewables.

The rationale for this heightened policy interest has been attributed to the coalescence of three factors in this period; a perception that community projects could overcome the frequent backlash to large scale RE projects (Gordon Walker & Devine-Wright, 2008), the need to stimulate the market

[9] Such as Community Action for Energy (CAFE), Community Renewables Initiative (CRI), Clear Skies, Scottish Community and Households Renewables Initiatives (SCHRI), the Community and Renewable Energy Scheme (CARES) Refer to the glossary for an outline of these policy initiatives.

in order to meet carbon reduction targets without impinging on state-aid rules and a recognition that there were social and economic outcomes from community RE projects that were particulary beneficial to rural communities in decline (Gordon Walker et al., 2007). As a result, community energy projects have flourished in the UK since the early 2000s, growing from 507 projects in 2005 (Walker et al 2005) to over 1000 different types of community energy groups identified by Seyfang in 2013 (Seyfang et al., 2013).

UK policy has continued to support community energy activity with the Low Carbon Transition Plan 2009, the Low Carbon Buildings Programme 2011 and domestic FITs schemes. There have been significant achievements particularly in Scotland, which has set a target of meeting 30% of the country's overall energy demand from RE by 2020 and had already met its 500 MW target for community and locally owned RE generation in 2015 (Chapman, 2015).

Funded research and delivery programmes such as the Low Carbon Communities Challenge and prize-fund challenges like the Big Green Challenge (BGC) have been instrumental in raising the profile of community energy and there are many examples of successful area-based, urban and village community energy initiatives such as The Green Valleys, Low-Carbon West Oxford and the village of Aston Hayes in Cheshire although changes brought in by the new government in 2015 have caused some uncertainty (Murray, 2015) for the sector.

2.4.3 Ireland

In contrast to the UK and Europe, relatively few community energy projects here include RE generation. Of 29 community energy initiatives identified in 2011 (SDC, 2011), six had operational RE and only one, the Templederry windfarm, currently supplies electricity to the grid. There is an obvious reason for this, the Renewable Energy Feed in Tarrif (REFIT) payment scheme which was in operation from 2012 and included small scale wind generation, closed to new applicants in November 2014. There are currently no REFIT schemes or other policy supports for small scale RE generation to access the national grid.

Policy here is primarily aimed at encouraging retrofit to improve the energy efficiency of existing buildings. The Irish housing stock currently has an average energy intensity equivalent to a Building Energy Rating (BER) D rating (SEAI, 2013) and SEAI's Residential Roadmap 2050 (SEAI, 2010) suggests

that this average could be improved to within the A band by 2050 by a combination of broad scale rollout of RE technologies, deep retrofit and improvements to the building regulations.

However, the pace of retrofit has been slow. Between 2005 and 2011, the Better Energy Homes (BEH) grant programme, aimed at individual homeowners had supported energy efficiency upgrades in only 12% of the housing stock (SEAI, 2013), primarily attic and cavity wall insulation measures i.e. not deep-retrofit. There has been an almost continuous year on year fall in uptake of BEH grants, despite increased levels of financial support offered since 2013 *[figure 2.3].* An SEAI / DCENR investigation of these trends (SEAI & DCENR, 2013), identified key barriers to uptake of retrofit as finance, awareness, motivation, trust and tenure.

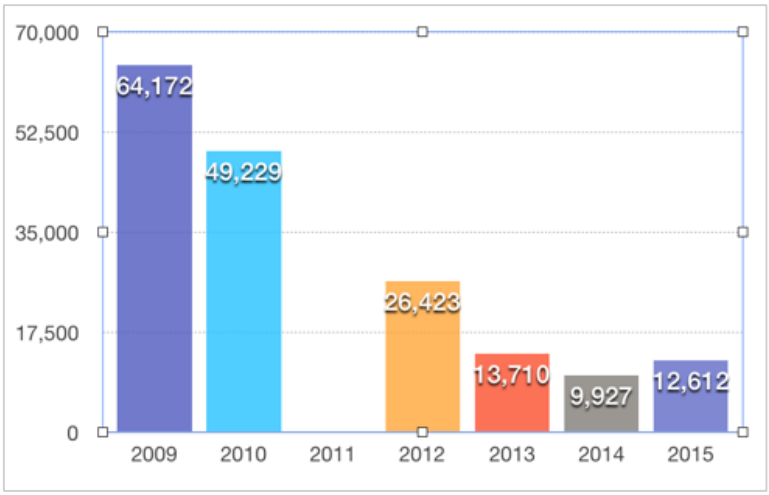


Figure 2.3 Annual uptake of BEH Grants 2009-2015 *(source SEAI)*

In contrast, the Better Energy Communities (BEC) programme, which funds community partnerships to carry out energy efficiency upgrades and RE installations, has grown steadily since it was piloted in 2012. The programme has been oversubscribed each year *[figure 2.4]* and annual energy savings achieved have increased from 7.4GWh in 2012 to 68GWh in 2015, while at the same time the average funding level has fallen from 66% in 2012 to 42% in 2015. *[figure 2.5]*

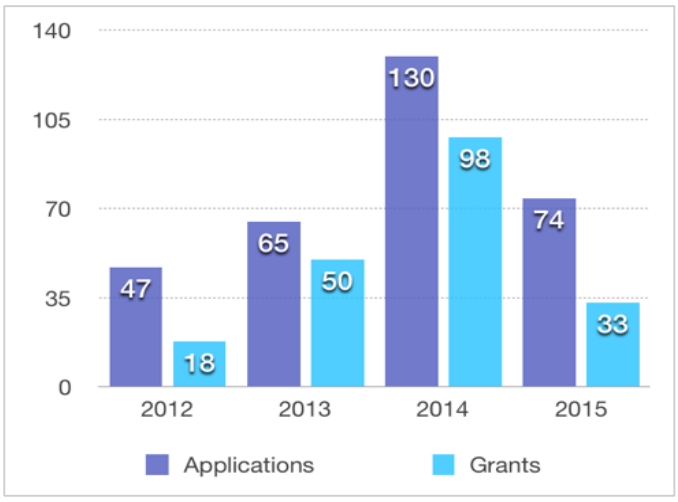


Figure 2.4 BEC Applications versus grants 2012-2015 *(source SEAI)*

A wider range of works is supported by this programme including fabric (roof, floor and wall insulation) and system upgrades (boilers and controls), energy efficient lighting and renewable energy installations where combined with retrofit measures. It also requires a minimum BER uplift of a between 150-200kWh to encourage adoption of multiple retrofit measures.

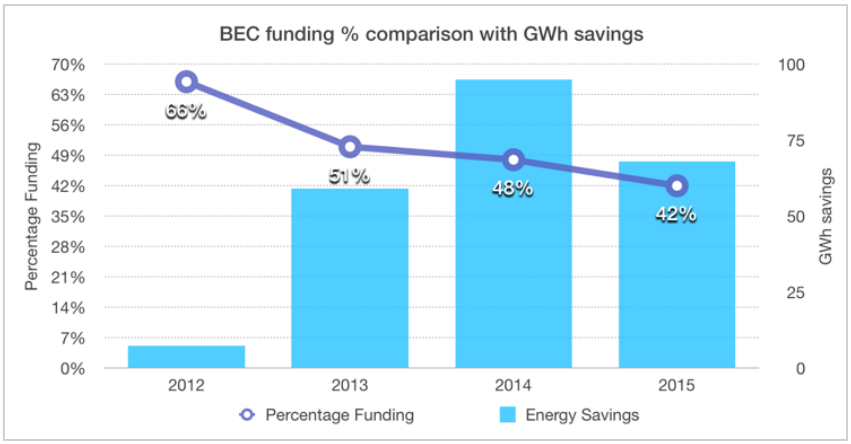


Figure 2.5 BEC Percentage funding and Energy Savings 2012-2015 *(source SEAI)*

A survey[10] of BEC project co-ordinators carried out on behalf of SEAI in 2015 (MCO, 2015), identified that despite its success as a means of catalysing community energy projects (61% of groups had not

[10] A survey of 31 questions was sent to BEC project co-ordinators in March 2015, 27 responses of a possible 35 were received and subsequently analysed. The results of this survey were presented at the Energy Show 2015.

existed prior to the BEC) and enabling them to access funding (80% ranked this as the biggest motivating factor) the biggest limitation of the programme is the timeframe for completion of the works[11]. 63% of respondents ranked extending this timeframe as the measure which would be most likely to sustain project momentum within their community.

Many BEC projects are in fact led by the private sector, Local Authorities and Energy Agencies with only 11% of the lead organisations defining themselves as community groups (MCO, 2015). While it is not within the scope of this research to map all community energy projects[12] in Ireland, some notable examples emerge from a review of the BEC projects completed since 2012[13], as outlined below.

2.4.3.1 The Aran Islands

The Aran Islands Energy Co-op was set up in 2012 with the aim of making all three islands energy independent and carbon neutral by 2022. Residents saw this as a means to energy and economic security, while protecting the unique environment and broadening the local economy. By 2015, 60% of households had signed up for insulation retrofits with 26% completed, five public and 11 commercial buildings had been retrofitted and a number of different RE technologies had been installed. Within the first three years, a 20% reduction in total energy use (Molloy, 2015) has been reported. Building on this initial success, a subsidiary commercial company was set up in 2014 to develop larger scale renewable energy.

2.4.3.2 Drombane Upperchurch Energy Project

The Drombane Upperchurch Energy Project (DUET) in North Tipperary was conceived by a village group in 2011 in response to concern about social and economic decline in the area. Following a

[11] Typically, successful applicants are notified of grant award in late May / June with a mid-October project completion deadline in the same year.

[12] A National Map of Energy Action groups and projects is currently being complied by PhD student Clare Watson as part of a UCC/ERI project 'Climate Change Behaviour and Community Response – a Blueprint for Action' funded by the EPA. There is also an outdated but useful Community Energy Map included in COMHAR's 2011 research 'Community Renewable Energy in Ireland: Status, barriers and potential options'.

[13] http://www.seai.ie/Grants/Better_Energy_Communities/Better-Energy-Community-Projects-2015.pdf

survey which established that the annual energy spend in the community was €1,000,000 (Curtin, 2011), it was decided to aim to reduce this by 20% through energy efficiency projects. With assistance from Tipperary Energy Agency (TEA) and NTLP the project grew from the initial retrofit of 22 homes in 2012, to over 400 home and community building upgrades across eight parishes and the formation of the Energy Communities Tipperary cooperative (ECTC) in 2015. The project has been credited with generating a 'can-do' approach in a time of economic downturn and with 'placing Drombane on the map' by encouraging the community to use local skills and knowledge to take the first steps towards energy independence.

2.4.3.3 Templederry Community Wind Farm

Also in North Tipperary, the Templederry Community Wind Farm was initiated in 1999 and grew out of a focus on the economic development of the parish in the local Community Development Plan. After a lengthy project development phase, with a number of planning and grid access delays, two 2.3MW turbines were constructed and in November 2012 it became the first community owned wind farm to export energy to the national grid. To date, annual generation has been in excess of projections and the dividends from the two community co-op owned shares (6.66% of total shares) are re-invested in further community projects (Ryan et al., 2014).

2.4.3.4 Erris Sustainable Energy

Erris Sustainable Energy was established in 2014 across the 850km2 area known as the Barony of Erris in Co Mayo. It originated from an EU funded project GREAT, (Growing Renewable Energy Applications and Technologies) in which Udaras na Gaeltachta, based in Erris, was the lead partner. The community subsequently partnered with Mayo Co Council using a community gain fund and BEC grants, to deliver a range of projects that included retrofits of community buildings, renewable energy installations and electric vehicles. As part of this project, Mayo Co Council have also piloted a small number of home retrofits in the Erris area.

2.4.3.5 Terenure

There are emerging urban community energy projects such as Terenure Energy Group, which was established in 2014 by building on the existing community group 'I love Terenue'. They have set out ambitious objectives in relation to retrofit, with a target 5% of homes and 20% of fuel-poor homes

to be upgraded annually every year for five years but delivery has been held back by difficulties in accessing funding.

2.4.3.6 Claremorris & Western District Energy Co-op

The Claremorris & Western District Energy Co-op is another example of a committed group of community activists with ambitious targets. They have plans for a community district heating project to be fuelled by wood and biogas from local farms as well as two community solar farms. The initiative has its origins in an anti-biomass group who opposed plans for a proposed privately owned biomass project in the region.

In 2015, SEAI launched a network for Sustainable Energy Communities (SECs), which aims to 'catalyse and support a national movement of SECs operating in every part of the country'[14] by supporting existing community networks and encouraging the formation of new groups. Whilst not providing direct capital funding, the intention is that communities will be able to access funding for technical support, mentoring and training to support development over the longer term by signing up to a three-year agreement. Approximately 30 groups have currently expressed interest in joining the SEC Network [SEAI communications]. However it is too early to assess the impact of this initiative.

2.5 Summary Findings

The literature review has attempted to summarise the principles of community energy initiatives, to understand the influence and impact of legislative and policy context on their development and to examine their implementation across both Europe and Ireland. Key findings are summarised here under these headings.

2.5.1 Theory and Principles:

- Community energy is a diverse field with wide ranging definitions, characteristics and outcomes, not all of which are directly related to energy efficiency.

[14] http://www.seai.ie/SEC/

- The projects undertaken by communities are multifaceted and can include energy conservation and generation in addition to behavioural change programmes.
- There are many organisational models with differing degrees of community ownership.
- The majority of communities are geographical and concerns about local issues are the primary motivating factor.
- It is considered that they can deliver wider societal benefits beyond energy efficiency and this is attributed to heightened levels of engagement, social capital and trust.
- Because they are driven from the bottom-up they have potential to be innovative, which can be technical, social or financial in nature.
- There is evidence that they can influence change beyond their boundaries, however there are many challenges for community groups and some struggle to survive.
- Maintaining a steady income stream is difficult, particularly in the absence of FITs and is a barrier to development.

2.5.2 Legislation and Policies:

- Globally there is an imperative to increase the speed of our transition from fossil fuels to sustainable energy systems.
- There is a consensus that this cannot happen without citizens and communities playing an active role in achieving the energy efficiency targets that have been set.
- There are different policy approaches across Europe to achieving energy efficiency and the impact of community energy initiatives varies according to the political space they occupy.
- Decentralised locally-based decision-making has been more effective in supporting community-led energy initiatives than top-down directives.
- Stable long-ranging policy frameworks and funding programmes are very important to sustain community energy projects as frequently changing contexts have a destabilising effect.

- Despite a recognition in recent transition policy in Ireland of the need for increased community participation, few policy supports exist to encourage community-led energy efficiency and RE generation.
- There is a tendency for an overreliance by government on the voluntary inputs of community groups and supports are needed to prevent burn-out.

2.5.3 Implementation

- Renewable energy generation is a component of many community energy projects in Denmark, Germany and the UK, yet it is limited here.
- Community-owned RE production was key to Denmark's rapid transition to energy self-sufficiency but more recently local ownership of RE has reduced.
- Local ownership and engagement are key to securing public buy-in and a move to more commercial, privately owned RE leads to increased public opposition, even in Denmark where traditionally support levels are high.
- Germany has a strong culture of community energy initiatives with most being local cooperatives producing solar PV.
- The German government has prioritised highly energy transition with implementation decisions made at sub-regional level and strong financial and policy supports that have encouraged the growth of the community energy sector.
- The prominence of the fossil fuel lobby in the Netherlands has inhibited the development of community initiatives, however this is changing as energy security becomes more of a priority.
- Community energy groups in the UK are well supported through a range of government funded initiatives and policies. The sector has rapidly expanded there in recent years and there are a number of well-defined ownership models.
- Creating an income stream for communities from energy savings or energy generation is a key element in the creation of a virtuous circle of retrofitting and energy efficiency with savings funding further works.

- The pace of individual retrofits carried out here has been slow however there is a growing interest in the community-based approach as evidenced by uptake of community grants.
- Supports to the sector in Ireland are mainly aimed at stimulating energy efficiency retrofits, and there are no incentives for small scale RE generation to the grid.
- Community energy projects such as Aran Islands Energy, DUET and Erris Sustainable Energy have built capacity over a three year period leading to the establishment of locally owned energy cooperatives and other communities such as Terenure and Claremorris are now seeking to replicate this model.

3.0 METHODOLOGY

3.1 Case Study Research

The research will investigate developments in the community energy sector in Ireland and whether these initiatives can increase the pace of retrofit and in doing so accelerate our energy transition. It will also explore what are the factors that contribute to this and how can the sector as a whole can be supported to enable replication.

It is anticipated that the data will be non-numerical and qualitative although some small amount of quantitative data may be included, which together with the nature of the research questions, suggests adopting a flexible design approach (Robson, 2011). The case study methodology is one example of flexible design and is considered appropriate because of the need to consider the specific context within which community energy operates, in conjunction with the actual phenomenon. Case studies are also preferred methods of research for a study where the focus is a contemporary, rather than historical phenomenon (Yin, 2014). Following Yin, it is proposed to use a 'two-case' study to increase the analytical possibilities arising from either direct replication or contrasting situations, and facilitate a search for conceptual patterns in order to better understand the phenomenon. The methodology is summarised in *figure 3.1* below, adapted from Yin (Yin, 2014).

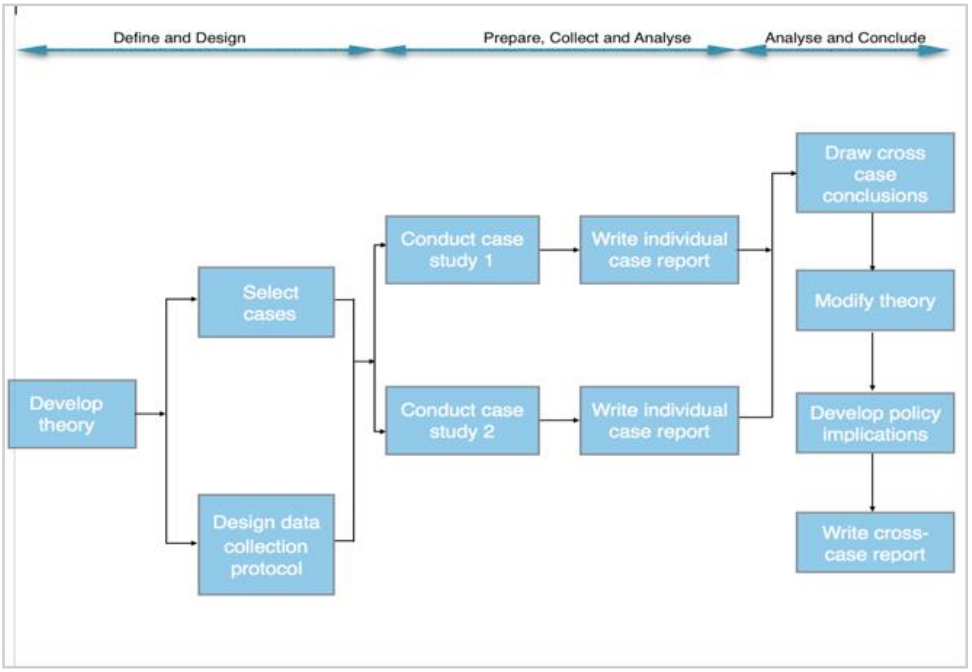


Figure 3.1 Case Study Methodology *(adapted from Yin)*

The unit for analysis for the case study must be defined by a spatial, temporal or other concrete boundary (Yin, 2014). For this research, two rural case studies were identified from the literature review which are geographically defined and have implemented energy projects over at least a two-year period. It was considered that rural, rather than urban case studies were more representative of the sector in the Irish context and focusing on them would broaden the relevance of the research findings.

In selecting the case studies, the clustering of initiatives in North Tipperary as evidenced by the Energy Communities Tipperary Cooperative (ECTC), Templederry and Cloughjordan projects suggests a heightened level of activity there which is of interest. The ECTC emerged from the literature review as a compelling example of a successful community energy project, which fits the research parameters and merits further enquiry. The unit for analysis will be the ECTC, in particular the Drombane and Birdhill communities but the research will also consider those who are outside of the immediate group but have interactions with it.

Questions to consider in selecting the companion case study include how best to supplement any gaps left by the first case study or address shortcomings (Yin, 2014). The Erris Sustainable Energy project provides a suitable comparison case study as it is also rurally based but due to the specific context the nature of the group's activities differs from the ECTC case. The case studies and their context are described in figure 3.2 below.

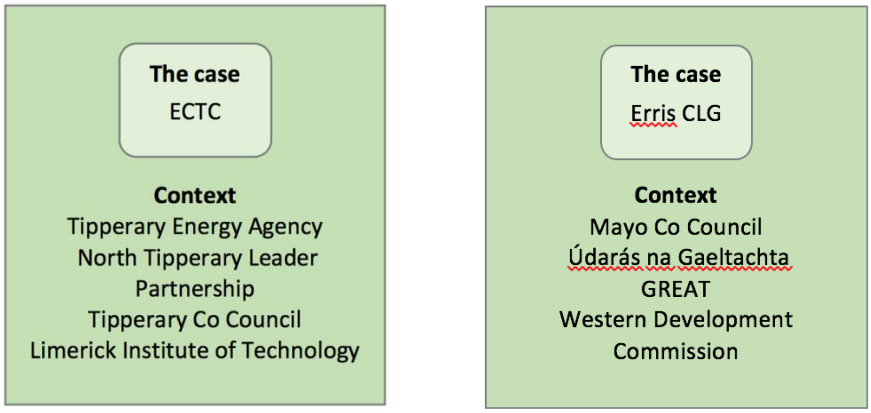


Figure 3.2 Case studies: unit and context

Case studies require the use of at least two sources of evidence in order to support converging lines of enquiry (Yin, 2014) and for this research these will include documentary analysis, interviews and direct observations.

3.1.1 Documentary analysis

The following sources of information will be used to corroborate evidence gathered in the interviews; formal reports and presentations, news accounts, websites, grant application documentation, workshop proceedings as listed in Appendix A.

3.1.2 Semi-structured interviews

The semi-structured interview provides a flexible and adaptable way of collecting data (Robson, 2011) and is considered more appropriate for case study research than structured interviews as it allows for adjustment of the line of questioning depending on the responses of the individual interviewees.

The interviewees will include the individuals who initiated the projects, in addition to others outside of the core group but critical to implementation. The prospective interviewees will be contacted by email (sample included at Appendix B) setting out the researcher's background, the purpose of the study and an outline of the topic headings.

The interviews will be carried out where possible 'on site' and will be of approximately 40 minutes in duration each – table 3.1. With the consent of the interviewees, recordings will be made and then transcribed by the researcher. The interview transcripts are included in Appendix D and G.

Erris (Fuinneamh Inmhaireanta Iorras) Interview Locations	**Energy Communities Tipperary Co-operative Interview Locations**
Broadhaven Hotel, Belmullet, Co Mayo	Anner Hotel, Thurles, Co Tipperary
Údarás na Gaeltachta Offices, Belmullet	Private Residence, Birdhill, Co Tipperary
Mayo Co Council LEO Offices, Castlebar	NTLP Offices, Nenagh, Co Tipperary

Table 3.1 Schedule of Interviews

3.1.3 Direct Observations

Direct observations will be used as a means of collecting data to complement the information gathered through the interviews and documentary review. The will afford the researcher an opportunity to account for the discrepancies which often arise between 'what people say they have done or will do, and what they actually did or will do' (Robson, 2011).

Observations will be gathered through meetings with the community representatives, attendance at some activities, visual inspections of a selection of the projects, (both building retrofits and micro-generation sites) and general observations from travelling around the areas. The direct observations will assist in understanding both the application of retrofit technologies and the specific contextual and local circumstances within which the community groups operate.

3.2 Data Analysis and Findings

A thematic coding approach will be used to analyse the data. This involves labelling the qualitative data contained in the interview transcripts with codes and sorting that coded information into a number of principle themes (Robson, 2011).

A matrix of the coded information organized under these themes will be used to summarise and interpret the data in order to write up each case study. Findings will draw on the various data sources: documentary analysis, semi-structured interviews and direct observations and will inform modification of the research hypothesis, in order to draw the cross-case conclusions.

3.3 Research Conclusions

The conclusions will evaluate the extent to which the original research objectives have been fulfilled and how it might add to an understanding of the sector. Any limitations of the research will be described and opportunities for further study will be identified along with recommendations for policy or practice in the area.

4.0 CASE STUDIES

4.1 Energy Communities Tipperary Co-operative

The first case study, Energy Communities Tipperary Co-operative (ECTC) originated in the Drombane Upperchurch Energy Project (DUET).

4.1.1 Background

The Drombane Upperchurch Energy Project (DUET) in Co Tipperary was conceived in 2010 by a group in the village of Drombane who were concerned about social and economic decline in the area. A key barometer of decline for the community was the ongoing loss of members of the local hurling team to emigration. On the request of the village improvement group, the NTLP facilitated a broad-ranging discussion at a community meeting held in the village hall, and energy emerged as one of a number of development options, initially because of an interest in using locally grown timber as a possible alternative to oil.

In 2011, with the help of Limerick Institute of Technology (LIT), an energy survey of the 400 households, in Drombane of which 87% responded, established that the annual energy spend in the community was €1,000,000 or an average of €2,500 per household.

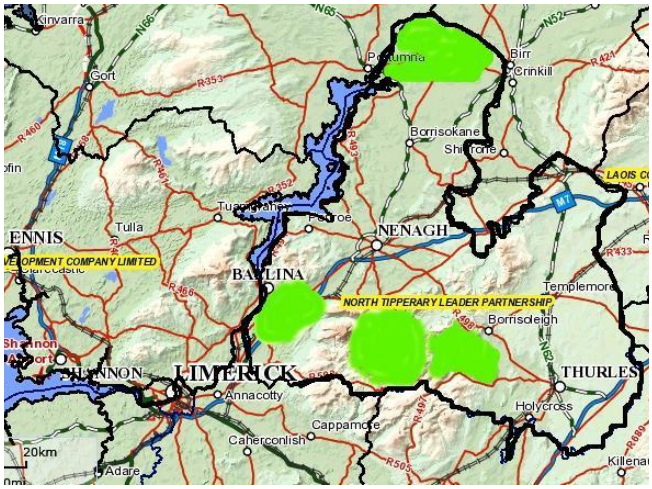


Figure 4.1 Site Location map DUET communites *(image courtesy ECTC)*

A report on this survey produced by LIT, TEA and NLTP, notes that this was well above the then national average annual energy spend by households of €1,770 (Curtin, 2011) and identified the

opportunity to achieve efficiencies at a community level, by clustering houses by age, type and upgrades required, with a target of achieving a 20% reduction in energy spend. Prior to this, only 9% of householders had availed of SEAI funded energy efficiency schemes despite the very poor home insulation levels yet 63% of the respondents expressed an interest in availing of energy efficiency schemes (Curtin, 2011) through a group scheme. Financial savings were the primary incentive for 60% of people to consider investing in upgrades. The completion of this survey analysis coincided with the launch of a pilot BEC grant scheme by SEAI in 2012 which then became the catalyst for the group to access funding in order to implement the first phase of home retrofit works.

4.1.2 Location and Site Context

The ECTC includes eight parishes spread across an area of some 2000 sq.km in North Tipperary. Four of these parishes were in the original DUET energy project (figure 4.1), as outlined above. There are distinct geographic differences between the parishes, with Drombane Upperchurch and Kilcommon being relatively remote and mainly forested upland areas, while Birdhill and Lorrha are characterised by more low lying and fertile agricultural lands. While the case study will reference the overall activities of the ECTC as a community group, the interviews and site visits were limited to the parishes of Drombane and Birdhill. There are 400 households in Drombane Upperchurch and 200 households in Birdhill giving an indication of the unit size of the case study.

4.1.3 Project activities and retrofit technologies implemented

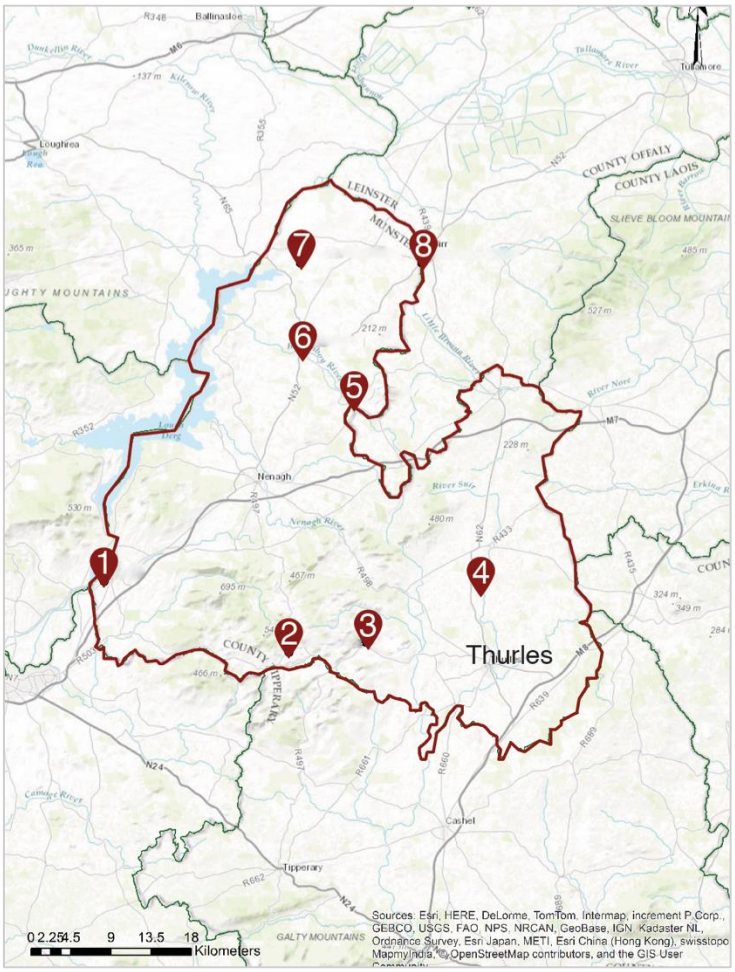
Since 2012, the group's focus has been primarily home and community hall retrofits. Some 300 homes have been retrofitted and the most common measures implemented were attic and cavity wall insulation, window and door replacements, installation of high efficiency boilers and heating control upgrades. Some external wall insulation has also been carried out. The range of retrofit projects is described in the table in Appendix C.

4.1.4 Organisational Structure

The structure of the group was formalised into the Drombane Upperchurch Energy Team (DUET) in 2012 to carry out the pilot project and supported by a community energy officer, who was initially appointed in 2013 on a NTLP internship.

Three other North Tipperary community groups came on board in 2013; Kilcommon/Rearcross, Birdhill and Lorrha Rathcabbin each with its own local representative. In late 2014 they formed a

co-operative company (ECTC) as an umbrella organisation of these four local energy teams, with the purpose of creating a business model that would allow the project to grow and meet broader community and funder requirements. Four additional communities joined in 2015; Carrig/ Riverstown, Borrisokane, Loughmore and Cloughjordan.



Key to Fig 4.2

1. Birdhill
2. Kilcommon
3. Drombane
4. Loughmore
5. Cloughjordan
6. Borrisokane
7. Lorrha / Rathcabbin
8. Carrig / Riverstown

Figure 4.2 Site Location Map ECTC Communities

There are nine directors on the board of the ECTC including representatives from NTLP and TEA. They receive start-up funding and financial management from NTLP through the Social Inclusion Community Activation Programme.

4.1.5 Direct Observations

The direct observations involved visiting and walking about the villages of Drombane /Upperchurch and Birdhill with the community representatives in addition to driving across the wider area. Access

was obtained to the community halls in Drombane and Birdhill and one private home while other homes which had also been upgraded were observed from the street.

4.1.5.1 Drombane

The tiny village of Drombane is located 12 miles south west of Thurles. It has a church and a community hall but the post office is closed, as is the local shop due to the recent death of the elderly owner. There is an unfinished public house building, and a row of four terraced single storey houses dating from the early 1990s, which are owned by a voluntary housing group. The only other large building of note, a recently constructed clubhouse for the Upperchurch GAA, is on the approach to the village.

Fig 4.3 Drombane Village

Fig 4.4 Drombane Community Hall interior view

4.1.5.2 Birdhill

Birdhill is located some 40 minutes' drive west of Drombane on the main Limerick Nenagh road and while the village itself is busy with shops and other commercial premises, the community hall and primary school are located at a distance of about 1.5km from the village centre.

The homes that have been retrofitted are spread across the parishes and the building stock is typically diverse with the usual range of rural housing types including solid wall cottages and farmhouses and newer cavity wall bungalows and two-storey homes. While the retrofit measures are generally not immediately obvious to the observer it was possible to visit one home that had been retrofitted with external insulation, attic insulation and a boiler replacement. An extension was being built which did not continue the external insulation, but the home owner emphasised

that high levels of cavity and attic insulation had been specified and a full-fill 200mm cavity was evident.

Fig 4.5 Externally insulated home

What is immediately striking from the site visits is the ordinariness of these villages and the realization that they are representative of many hundreds of others across Ireland. The community buildings themselves are architecturally unremarkable but they provide essential services to those living in small rural parishes and it is what is going on inside that gives an insight into the real impact of a retrofit project. This became evident through the visits and from talking to the community representatives.

Fig 4.6 Birdhill Community Hall

Fig 4.7 Energy Team Poster

4.1.6 Semi-structured Interviews

The interviews were conducted with key people from the villages of Drombane and Birdhill, such as the founding members of the community energy group, in addition to the local NTLP representative, who is also a director of the ECTC.

Interviewees:

Con Harrington:	ECTC Director Drombane Representative	3 March 2016
Aileen Campion:	ECTC Director Birdhill Representative	3 March 2016
Gearoid Fitzgibbon:	North Tipperary Leader Partnership	3 March 2016

The questions varied depending on the role of the interviewee in the community initiative with the key lines of enquiry summarised as follows:

- What are the drivers and motivation for starting a community energy project?
- What specific benefits arise from a community-led approach and can these impact at a wider level to accelerate our energy transition?
- What are the challenges in implementing a community energy project and how can the sector as a whole be supported and encouraged to flourish?

The interview transcripts are included in Appendix D. The analysis involved developing a matrix of the coded data from each interviewee organized under the themes that arose as outlined below. From analysis of the matrix (included in Appendix E) it was possible to find patterns emerging within these themes:

1. Identity and understanding of community energy
2. Origins, drivers and motivation
3. Barriers and challenges to implementation
4. Measuring success, outcomes and benefits
5. Effectiveness of existing supports and future opportunities

As part of the introductory preamble to each interview, the researcher's definition of community energy was outlined under the principles of process and operation (Fig 2.1). The interviews then

began with a general question about the interviewee's own motivation for getting involved in the project.

4.1.6.1 Identity and understanding of community energy

The origins of the ECTC in the village group in Drombane underlies their understanding of community energy as something that is for and by the community. While energy was initially felt to be too complex an issue for the community to take on people stayed on board because of high levels of trust in the process, although one interviewee noted the difficulties in dealing with a loose community group as 'there's no entity there'.

The co-op structure that is now in place is credited with formalising the administrative and financial management but as one interviewee noted: 'it's already a jump for people to start being concerned about stuff that's outside their door' and also remarked that people don't identify with the bigger vehicle so easily. Two of the interviewees felt they came under pressure to form the co-op entity because the individual parish unit was too small for SEAI. An emphasis on the local geographical unit was notable with another interviewee stressing the importance of keeping the model local 'I know that sounds very parochial but that's where it's all about trust'. It is a challenge for the leaders to balance the pressure to increase the project scale against the risk of taking on too much and losing the local buy-in.

The interviewees all agreed that while the wider community group were willing to help out for specific tasks they generally weren't interested in attending the regular meetings and it fell to 'a small core group to lead things along'.

A strong sense of pride in the achievements of the community came through, as evidenced by the willingness of households to showcase their experience to others which was referred to frequently.

4.1.6.2 Origins, drivers and motivation

All three interviewees stressed that the original motivation behind the project was not energy efficiency, 'the demographic in … is not save the environment' but doing something positive for local rural development, specifically job creation and out of this they identified the potential for energy efficiency to deliver financial savings and create employment. The Drombane survey was considered the catalyst because it quantified what the financial benefits could be and was highly persuasive given the context of rapidly rising oil prices and economic hardship at the time.

When asked whether fuel poverty was a driver, one interviewee stated that she hadn't thought so at the outset but was taken aback that in an apparently middle-class area there were families sleeping in a single room because of fuel poverty. For her what began as a financially motivated project, had become something driven by a feeling of social duty. This sense of 'greater good' was echoed by another interviewee who mentioned the sense of satisfaction he felt at being able to do something for his local community while responding to:

> *this big issue about climate change and all that, we have the Pope[15] talking about it and everybody talking about it and it's good in a way philosophically to think you're doing something for your own community and you still feel you're doing something at higher levels in the world.*

Overall, while concern about local issues predominated, interviewees also referred to a sense of it being the 'right thing to do' at a wider level.

The possibility of availing of financial supports (through the BEC grant programme) was frequently mentioned as a driver, in one case particularly because it gave people a sense of 'getting something back' despite on-going austerity. Indeed, the climate of austerity may have been what pushed the Drombane village group to do something themselves about job creation in the parish. They realized that they could take positive steps to seek help, in this case from the NTLP, but 'if we stand back we can't expect agencies like that to come into a community'.

4.1.6.3 Barriers and challenges to implementation

In all interviews, finance was considered a key challenge, however it was more complex than just the issue of accessing capital funding. Taking on the financial burden of responsibility of large bridging loans was a concern for the core group at a personal level and had been challenging: 'We ploughed along but it was rough going'.

The uncertainty of year-to-year grant funding and finding the upfront costs required for the grant applications were highlighted as particular challenges by all. While the SEAI grants were welcome, they were not entirely in line with what communities need, for example, the timing 'was just

[15] Pope Francis, 'Laudato Si': On Care for Our Common Home, Encyclical Letter, Vatican City, 24 May 2015

cramped up totally' which was a pressure for communities. One interviewee felt strongly that the requirement for a minimum BER uplift (of 150-200kWh/m2/a) was a barrier for householders because of the cost implications and the limited timeframe within which decisions had to be made. Not knowing if the grants would continue to be offered compounded the difficulty of making personal financing decisions and prevented momentum from building.

The 'inordinate amount of voluntary input' was also cited as a challenge and interviewees noted the demands they felt on a number of levels; financial, administrative, time and responsibility to others. This was compounded by a sense of frustration at the expectation that the model can be replicated 'bigger and better' by increasing the size of the organization but one interviewee felt that they are seen as 'little machines down here whereas we're communities and in communities you have to bring people with you, you can't bring them with you overnight'. The group ultimately resorted to quantifying the volunteer input in order to put a monetary value on these hours to demonstrate the value it represented (Byrne, 2014).

One interviewee pointed to a fundamental structural challenge for the community energy sector which arises from the split political responsibility for Energy and Communities. SEAI is attempting to bridge this gap but as he noted 'SEAI is mainly about energy, it's not about community development but in this case the two go together'.

4.1.6.4 Measuring success; outcomes and benefits

When asked about the benefits of the community-led approach, in addition to increased comfort levels, improved quality of life and better homes, interviewees remarked on the increased awareness of energy across the community. This was evident firstly as a result of the engagement process which reached deep into the parishes and secondly because the community halls themselves became showcases for energy efficiency as a result of the retrofits. One interviewee mentioned that energy is 'no longer a happy clappy conversation to be having' and that people are actively looking to find out about renewable technologies.

All three interviewees stressed the importance of trust and buy-in to the success of the project, in contrast to something being imposed from outside: 'Rather than someone coming from Dublin and promoting something, it's I'm promoting it and I live up the road and they know me'. In Birdhill, they used the network of the Tidy Towns to start because 'we were known locally, people trusted us to

run it'. The community-led approach was credited with successfully accessing hard-to-reach households, such as the elderly, who either didn't know about the individual grants or found the paperwork off-putting. As one person remarked, despite living in extreme fuel poverty: 'The attitude (of the elderly person) would have been ah we're alright, leave us alone'.

In addition to the reduced utility bills for the community halls, interviewees referred to an unanticipated impact of the retrofits. In Birdhill, art classes, children's sit down activities, cards, keep fit and concerts were now on offer. Social dancing nights attracting up to 200 people have taken off in Drombane because of the improved comfort levels. People were willing to come out and engage in community activities rather than feeling that: 'I don't want to go down there because I'll be frozen'. The increased business in the hall in Birdhill was now providing sufficient revenue to pay their utility bills.

In Drombane, driven by an increased sense of confidence and self-belief, the group had taken on further village improvement works: 'Drombane was basically dead enough community-wise but when you get a project like that starting off other things spread out of it'. Spin off projects had also happened in Birdhill including a 'stop food waste' initiative and the installation of solar lights in the park.

In terms of measuring success, while there was a general sense that energy savings were being achieved and people had lower bills or were using less oil, this was based only on anecdotal feedback. Two interviewees said that success should not only be measured in kWhs but should include community impact. The fact that this isn't the case was, in their view, related to SEAI's focus on energy savings rather than community development. Community buy-in was seen as key to the successful outcomes as people supported the project because they saw that their community was benefiting both through job creation and improved services. As one interviewee put it 'the energy savings benefit is only there because you're bringing the community on board with the other stuff'.

4.1.6.5 Effectiveness of existing supports and future opportunities

The BEC grants were heavily relied on, but concern was expressed that this single source of funding gave rise to an instability which increased the risk of project failure. It was noted that this funding could be more effective if better tailored to the needs of smaller communities; by supporting pre-startup costs in addition to providing longer term capital supports.

The social finance agency Clann Credo was generally acknowledged as essential to delivery, although one interviewee felt that their reporting demands were particularly onerous due to the lack of security attached to the bridging loans, which added to the administrative burden for volunteers.

The community representatives tended to put more value on the personal commitment provided by the local agencies NTLP and TEA, over the financial support, to get the project started: 'this would not be happening without LEADER, that's the reality'.

The need for political commitment to meet the potential in the communities was commented on by one interviewee:

> *Communities are voluntary groups so few enough of them will be flying the flag for saving energy but if the state meets them halfway, if the state makes it attractive for them to be in that space, they will be in it. Whereas if it's going to be a struggle and a battle for them, they won't.*

This was reflected in their vision for the future, as the lack of opportunity for energy generation featured in all three interviews. A more favorable environment with FITs and a national agency for energy co-operatives (such as in Germany) is desirable, two interviewees felt that this would allow them to develop a self-sustaining business model. Another noted that by promoting community ventures on the business case alone you can attract support even from those who aren't particularly interested in the energy savings. Despite the lack of such supports, there was an ambition to consider models of share ownership for RE projects and Templederry Wind Farm was cited as an example of what was possible by all three interviewees. One interviewee talked about the importance of having trust 'in the potential of groups to be active in the (RE) space' and that it doesn't have to be always about big solutions. On the other hand, he noted that it was far easier to organize people around energy saving projects than the significant long term effort required to deliver an energy generation project.

The desire to move away from dependency on a single grant scheme to generating other income streams was clear. The interviewees believed in the project because it was 'a movement that is moving up rather than being told what to do' and felt that the potential to replicate was there if government could meet 'the fertile ground in the communities' by matching these interest levels with the supports that are needed.

4.2 Erris Sustainable Energy (Fuinneamh Inmhaireanta Iorras)

Erris Sustainable Energy project in Co Mayo is the second case study. Identified from the literature review, it is a rurally based community initiative, established for over two years with a range of completed energy initiatives, including a number of renewable energy and micro-generation installations, in addition to retrofit works. As such it fits with the research parameters in addition to offering an opportunity for comparative analysis with the ECTC.

4.2.1 Background and Site Context

The project is spatially defined as the Barony of Erris (Fig 4.8), a remote 850 km2 area in the north west of Co Mayo with a population of 10,000. Spread across five parishes, with a very dispersed settlement pattern, Bangor Erris and Belmullet are the main centres of activity. The region has considerable natural RE resources as average annual wind speeds in the Belmullet weather station are amongst the highest in the country[16] and the Atlantic Marine Energy Test Site (AMETS) being developed by SEAI is located here.

[16] http://www.met.ie/climate-ireland/wind.asp

Key to Fig 4.7

1. Eachléim
2. Belmullet
3. Carroteige
4. Inver
5. Pollathomas
6. Barr na Trá
7. Bangor Erris

Figure 4.8 Site Location Map Erris Sustainable Energy projects

Erris Sustainable Energy originated in the EU GREAT project which ran from 2013 – 2015 in which Údarás na Gaeltachta were lead partners. GREAT was focused on the deployment of smart grid in north west Europe and supported SMEs and communities to develop smart grid, RE and distributive generation solutions. Although not a capital investment project, the appointment of a GREAT project co-ordinator in Erris gave the project the opportunity to implement a number of the RE technologies through a community-led energy project.

Erris is also the location of the Bellanaboy Corrib gas refinery and was at the centre of the long running Shell to Sea protests. Consequently, they were able to access some of the Shell Community Gain Investment Fund (CGIF) of €8.5M which was administered by Mayo Co Council on behalf of local community projects.

4.2.2 Project activities and retrofit technologies implemented

The level of retrofit activity in the Erris project since 2014 is significant, 22 community building upgrades have been completed, including parish halls, national schools, sports facilities, scouts den, cultural facilities and an enterprise centre. A pilot domestic upgrade of seven fuel-poor homes led by Mayo Co Council was run in tandem with the community project in 2015. While an emphasis has been placed on renewable energy, energy storage, smart grid and smart transport technologies, this has been done in conjunction with demand reduction measures through retrofitting. A table of activities for the case study is included in Appendix F.

4.2.3 Organisational Structure

Erris Sustainable Energy CLG is the company set up to administer the project funds. Since 2015 a steering committee with representatives from Údarás na Gaeltachta /GREAT, Mayo Co Council, TUS and RSS has been responsible for driving procurement and implementation, assisted by a project co-ordinator and project manager, both local residents, who are employed by Údarás na Gaeltachta. Within the community, 13 energy managers are responsible for the individual facilities.

The Erris initiative is not solely volunteer-led as it has financial and organizational support from Údarás na Gaeltachta but the project is embedded in the community nevertheless. Its research origins and connections with other European projects have been influential factors.

4.2.4 Direct Observations

Direct observations were carried out over two days and involved travelling around the peninsula to visit six different community facilities. Access was arranged to most of these buildings and the author also had an opportunity to talk to a number of the community representatives. The aim was to gain a better understanding of both the context and scale of the project.

As in Tipperary, it was difficult to observe the physical aspects of the retrofit measures as most are concealed, with the exception of window replacements, LED lighting and boiler upgrades. The impact of the retrofits, rather than the detailed technical aspects, was emphasised in the discussions.

The RE technologies were more readily observed: Eachléim has a working micro-grid with an 11kW PV (Fig 4.9) connected to a 5-40kW flow battery storage system which supplies three ‘quantum’

storage heaters in the enterprise centre. The building which dates from the 1970s was upgraded with attic and cavity wall insulation (Fig 4.10).

Fig 4.9 Eachléim PV Installation

Fig 4.10 Eachléim Enterprise Centre

Other RE installations include the local golf club where a 7kW PV array charges up to 10 electric golf buggies (Fig 4.11 and 4.12), in addition to contributing to the building's electrical demand. Roof mounted PV on Teach Greannie charges two electric vans which provide a meals-on-wheels and laundry service to elderly residents in the locality. The installation of PV in these buildings has been combined with energy demand reducing measures, i.e. cavity wall and attic insulation, low energy lights and heating controls. PV is also installed at the Wheelchair Centre, which has a high electrical day load from its commercial kitchens.

Fig 4.11 Carne Golf Club PV Installation

Fig 4.12 PV charged electric golf buggies

The parish hall in the village of Bangor Erris is a typical 1950's dance hall (Fig 4.13), which was run down and infrequently used prior to 2014 as it was uninsulated and hard to heat. Again, from the outside the building is unremarkable but a community representative described the improvement in internal comfort levels and lower running costs arising arising from fabric insulation, replacement windows, high efficiency boiler and zoning controls and LED lighting. Across the road, the primary school (Fig 4.14) has been retrofitted with new windows, cavity fill and attic insulation, heating system and controls and LED lighting.

Fig 4.13 Bangor Erris Parish Hall

Fig 4.14 Bangor Erris Primary School

4.2.5 Semi-structured Interviews

The interviews were conducted with the Project Lead, the Údarás na Gaeltachta Project Manager and the Renewable Energy Officer from Mayo Co Council, who were a key partner in the project.

Interviewees:

Dr Orla Nic Suibhne	Project Lead and GREAT project coordinator	25 February 2016
Margaret Tallot	Project Manager, Údarás na Gaeltachta	25 February 2016
Enda Casey	Renewable Energy Officer, Enterprise & Investment Unit, Mayo Co Council	26 February 2016

The questions varied depending on the role of the interviewee yet the lines of enquiry mirrored the first case study as outlined in Section 4.1.6 above. Interview transcripts for the second case study are included in Appendix G and the analysis matrix, which follows the same five levels of thematic coding as the first case study, is included in Appendix H.

As part of the introductory preamble to each interview, the researcher's definition of community energy was outlined under the principles of process and operation (Fig 2.1). The interviews then began with a general question about the interviewee's own motivation for getting involved in the project.

4.2.5.1 Identity and understanding of community energy

Both community representatives spoke of the importance of community ownership and the high levels of engagement by the community in both the process and the outcomes of the project. In defining community, they included all stakeholders, from voluntary community groups and charities to local businesses and educational facilities. Existing networks were used as a platform for the project building on what is described as very close ties between the Údarás and the Gaeltacht community. One interviewee comments that 'for a bottom-up approach it's far easier to get buy-in with Údarás'. The community are also engaged through Tidy Towns and Men's Sheds groups.

The unique but divisive context created by the Shell-to-Sea protests is referred to by two interviewees. While this created tensions within the community, they noted that the controversy had also had the effect of heightening awareness of environmental issues. The negative perceptions of energy that resulted were slowly being turned around with the community now seeing ownership as an alternative.

4.2.5.2 Origins, drivers and motivation

The impact of the project's origins in GREAT was evident from talking to all three interviewees, and was linked to the selection of community buildings as showcase projects for retrofit. While personal concerns about global issues and a long standing interest in sustainability drove two of the interviewees to set up the community energy plan for Erris after the GREAT project, they note that, collectively, people in Belmullet aren't concerned about climate change. The financial opportunity was seen as more significant, as one person said 'what's the motivation if people don't see a saving in the pocket or a decrease in bills?' Another perspective on this was that the environmental debate was not being sold the right way as 'everybody needs to see the opportunity and sell it as a positive'.

This was corroborated by the local authority whose involvement in the project was an outcome of a focus on the jobs potential of the RE sector by the Local Enterprise Office. Ultimately the driver

for the project came from having two ‘people employed to do a job and they enable communities to come on board’.

4.2.5.3 Barriers and challenges to implementation

Finance was cited as a significant barrier by all three interviewees but there were different aspects to this. On one level there were difficulties in securing financial support for continuing to employ the two project leaders to ensure that the capacity that had been built up over two years would be maintained. Another difficulty was convincing people of the benefits when the up-front financial investment was a struggle for them. One interviewee noted that with falling oil prices it has become a hard sell. This might also reflect the changed financial model since the Shell GCIF closed as previously the community had to find only 10% of the investment cost and paybacks were as short as eight months. It was acknowledged that this was a ‘no-brainer’ and that they might not have had the same success if they’d been looking for 50% funding. Conversely, the proposed community wind turbine for the Rossport group water scheme was opposed because of the connection with the CGIF, despite only requiring a 10% funding contribution.

The timeframe dictated by the BEC for making financial decisions was seen as difficult with such remarks as: ‘You’re asking people to make decisions about financial investment in a very short space of time’ and the lack of certainty from year to year prevented long term planning.

Access to technical advice was also a barrier, particularly in the early stages. Two interviewees commented that there was no one to ask apart from SEAI and the local authority acknowledged that their capacity to assist communities was limited. A particular skillset which was mentioned by one interviewee was contract negotiation, the unforeseen cost implications of battery rental for the electric vehicles which arose from a lack of understanding of the contract details, had resulted in unexpected costs for the community.

4.2.5.4 Measuring success; outcomes and benefits

Increased awareness was mentioned by all three interviewees as the most noticeable outcome with people in the community now coming together to talk about energy ‘on a social level’ and a real interest in comparing the performance of different buildings with much talk of savings. The importance of the community buildings as demonstration projects was referred to by two interviewees, through first-hand experience of the buildings they accessed people who wouldn’t

otherwise be reached. This created an interest in doing further works 'in their own buildings', as one person said, with the community responding when they see something happening 'and they look for more'. Despite the increased awareness, behavioral change outcomes were less clear. One interviewee mentioned that there was a certain amount of 'egging each other on' which was influencing behavior across the region but another acknowledged that 'changing behavior is not easy but it needs to be done'.

Other reported outcomes were reduced energy bills and improved comfort levels in the community halls, and all interviewees referred to the social impact of this. Previously underused, as one interviewee said 'you can't get a booking now', the buildings have become a focal point for social engagement through drama classes and bingo nights. One interviewee described the importance of this to a rural community:

> *'That has opened up a huge social aspect, you heard him talking about 180 people at bingo on a Tuesday night. Now most of those are probably elderly ladies, a lot of them living on their own and that's their only social interaction for the week'*

According to two interviewees, these social benefits and spin-offs should be measured in addition to tracking the energy savings, although they recognised the difficulty of quantifying indicators like improved quality of life and comfort levels. The economic benefits were more readily measured as 'jobs are a key metric in all of this'. However, there has been limited success in creating jobs because of public procurement rules. This is a difficulty that they are trying to address through contractor training.

A further point was that a community-led approach delivered better outcomes because by implementing something rather than enforcing something it was more likely to gain acceptance, 'the top down approach, it doesn't really work', and 'there is a feel good factor when communities come together and they can see their projects.'

4.2.5.5 Effectiveness of existing supports and future opportunities

With the support of Údarás, the Erris project had the benefit of two full time employees which reduced the volunteer workload. While it has been a challenge to get this support, interviewees felt it was essential in order to deliver a project of scale. They referred to the over reliance on

volunteerism, and burn-out, 'it's a realistic thing, it happens, people just get tired of doing everything' and acknowledged that without being paid it would be hard to keep motivated.

The BEC grants were an enabler, but in Erris they also accessed funding through other sources i.e. R&D funds. Moving to a self-financing model is something that they aspired to and two interviewees talked about how they have started to build up a community energy fund using energy credits.

The support of existing networks such as EU partners and Tidy Towns, was highly important but the need for more education was called for as the technology is complex and evolving. Community leaders did not necessarily have the expertise and only had the SEAI to ask currently. The local authority offers some support to SMEs through energy saving workshops but they need people to come forward, mirroring what the other interviewees said about the importance of having networks of 'people on the ground' who can deliver where SEAI can't.

Looking to the future, the interviewees saw larger scale RE generation and conservation going together. While feed-in-tarrifs would be welcomed and one interviewee said they were considering a community owned 500kW PV farm, they were conscious of the many uncertainties in that area. They had started the process of gathering baseline data on their energy savings to inform decision making, with the aspiration that energy bills could be translated into repayments on a retrofit 'so that it makes no sense not to do it'.

4.3 Summary of Findings

The case study analysis will conclude with a summary of the key findings looking at the similarities and differences between the two case studies while making reference to the literature review.

4.3.1 Theory and Principles of Community Energy

- The diverse nature of the community energy sector which was evident from the literature review is reflected in the two case studies. While both identified with the research definition of community energy, the ECTC project is more focused on the process dimension with a high degree of engagement by locals in the setting up and running of the project which reflects its grassroots origins. The Erris project, which benefits from the significant support of Údarás, is less concerned with how it is being led and is more focused on the collective impact of the outcomes on the community. This distinction between the two case studies is illustrated in

figure 4.14 below. The Templederry Wind Farm is a model which is both open and collective that both case studies aspire to, in direct contrast to a developer owned wind farm with minimal local involvement.

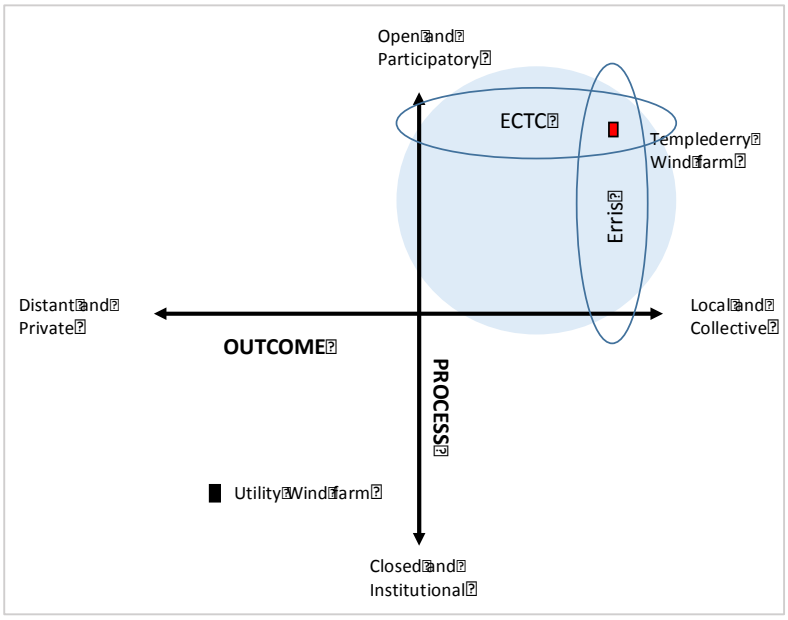


Figure 4.15 The case studies plotted in relation to process and outcome *(adapted from Walker, Devine-Wright)*

- That community energy has many aspects is evident from looking at the contrasting activity profiles of the two projects, which ranged from a large number of domestic retrofits in ECTC to an emphasis on RE technologies combined with community building upgrades in Erris. The specific context which shaped the outcomes of each project demonstrates the ability of a community approach to respond to local need and opportunity, rather than being required to confirm to a 'one size fits all solution' (Walker, 2008). However while this diversity is considered a distinct benefit of community energy, existing supports here, such as the BEC grant scheme do not reflect these differences and are not adequately tailored to the specific needs of individual communities.
- The literature review pointed to the heightened levels of trust that are required for successful community-led energy initiatives. Both case studies were closely aligned with existing networks such as Tidy Towns, GAA and the Gaeltacht and the inherent trust in these organisations was considered key to the wide reach of the projects. In Erris, the levels of distrust which arose from the polarisation of the community over the Shell CGIF had resulted in a group water scheme

wind turbine being rejected despite the clear financial benefits that would have accrued. In Tipperary, there was a scepticism associated with solutions being imposed from the top down and while people might have turned up 'to be polite' they did not engender the same trust that a local person promoting the same action would. The difficulties of having to work together were acknowledged and groups relied on this trust in each other but there was also evident pride in what they have achieved which had empowered them to take on more initiatives. This demonstrated what Heilscher describes as the generation of social capital and trust that a top-down approach cannot deliver (Heilscher et al, 2011) and the inherent power in the process of acting together.

4.3.2 Impact of Community Energy Initiatives

- The starting point for the ECTC was to do something for job creation to address rural decline, which reflects the prevalence for local themes to outweigh global themes in relation to motivation in the literature (Rogers et al, 2008). As a result, the group place a great importance on the wider benefits which accrue to the community beyond energy savings. In contrast, the project in Erris is led by two individuals motivated by personal sustainability concerns but with agency support they have been able to bring the wider community on board to deliver projects of large scale. The theory from the literature review, that community-led energy initiatives strengthen social cohesion is borne out by the two case studies. While evidence of the actual energy savings is mostly anecdotal, the retrofits have directly impacted on the extent and quality of community services and this has been transformative in terms of fostering community spirit and social engagement as their continuing commitment to the project demonstrates.
- The case studies also point to an increased awareness and interest in monitoring energy use arising from the retrofit works. However, the actual savings achieved have not been quantified. In fact, energy consumption may not have reduced at all in the case of elderly people either consciously taking advantage of improved comfort levels or being afraid of the controls. The behavioural incentive for an older person whose 'son up in Dublin' is paying the bills is also a factor. In Erris the golf club's electricity bills do not reflect the amount of PV that is generated because office spaces are being heated to excessive temperatures using the boost function on the Quantum heaters. In this case as the paybacks have already been achieved, there may be

little incentive to address these behavioural issues and maximise efficiency. While there is some evidence of an increased interest in RE technologies and spillover into other sustainability initiatives in both cases, education around behavioural change is currently lacking and the outcomes can only be said to be partially contributing to a 'normalisation' of the climate change context as described by Houghton (Houghton, 2010).

- In Erris, community buildings have been used as demonstration projects for retrofit and RE technologies to raise awareness of the possibilities and this has successfully widened the project's impact across the community. A feature of the ECTC has been the widespread upgrade of fuel-poor homes which has encouraged others to engage in retrofit. A follow up survey in 2014 found that 80% of the households who took part would not have availed of grants on offer without the community scheme (Byrne, 2014). One impact this year is increased levels of participation in the group retrofits by non fuel-poor homeowners which suggests that it is creating impact. Both case studies refer to an increasingly positive attitude in their communities towards the installation of energy efficiency measures and micro-generation, all of which echoes the 'multiplier effect' which Platt noted in the Green Streets Challenge (Platt, 2011).
- The diffusion effect of community-led initiatives into wider society is also evidenced by the spreading of activity from the case studies into other areas. The ECTC, which started from one village and grew to eight parishes, are now assisting a community in Clare to set up a similar initiative and the Erris model is being implemented across the wider Gaeltacht using Údarás as an umbrella agency.

4.3.3 Implementation

- Repeated concerns in the literature review to the problems of accessing finance for community energy projects is borne out by the case studies. Nationally, the main funding source is the BEC grant programme although Erris has been successful in pulling in EU, R&D and other funding. A particular challenge is getting funding for the pre-start up phase and to date this is not available, apart from small amounts of indirect support available through LEADER. The ECTC project is totally reliant on BEC capital funding and bridging loans from Clann Credo and their energy credits are used each year to pay down loans rather than going into a community energy fund and this is limiting development of further projects. Erris have been successful in developing an

energy fund because they have not had the same borrowing requirements which is now helping to finance works to the community buildings.

- Although the BEC is credited as the primary funding source for both case studies, it has assumed a significance beyond a tool for implementation and is largely dictating their approach to implementation. In Tipperary they felt under pressure to form a bigger umbrella organisation the ECTC, to suit the SEAI's administrative processes. It is possible that this may potentially be at the expense of losing the engagement of people who don't identify with this bigger entity. Similarly, in Erris the project is evolving to become part of the larger Gaeltacht community, the impact this will have on effective implementation is unclear. As the groups become more confident in their abilities, the ambition to move away from grant dependency is increasing but is unlikely to progress without an alternative business model.
- The level of dependency on volunteerism differs significantly between the case studies. In Tipperary, this has been a struggle despite the strong commitment of the core group and has at times threatened the future of the project. As the group's primary motivation is community development, there is a resultant tension with SEAI's expectation that they can implement bigger and more complex energy projects, with little recognition of the many unpaid hours that are required. Having the part time resource of a local BER technician and a financial manager helps but the onus put on volunteers is significantly higher than in Erris where there are two fulltime employees and community volunteers are not required to do the core work.
- The ability to implement projects is also highly influenced by the specific skillsets available in the communities. In Erris, the familiarity with EU research projects has helped them to draw in R&D financing that was not available to the ECTC, demonstrating what Platt refers to as the inequality between communities (Platt, 2011) which arises from the resources that are available to them. The presence of LIT, TEA and the NTLP in Tipperary was critical to the ECTC as it gave them access to a technical expertise that they did not have themselves. There were many references to the support they provided in the interviews and the project clearly would not have come about without the existence of these organisations in their locality. The willingness of individuals to commit time to engagement and mediation is often of more value than financial supports, especially in weaker communities who do not have the skills to organise themselves

productively and would not be able to move from concept to implementation without outside help.

- The direct link between a favourable policy environment and the growth of community energy initiatives is clear from the UK, German and Danish examples cited in the literature review and these are models that the communities here look to. In both case studies there is an appetite to develop an income stream to fund further works from RE generation despite awareness of the long term effort that is required. This is being hampered by lack of policy support for FITs and the complexities of grid access. The ECTC have a sub-committee looking at the potential of using local forestry as a RE resource and are also considering joint venture arrangements with developers to gain a community stake in future wind farms. In Erris, there is strong interest now to implement PV and micro-grid installations at a larger scale using share ownership models but as one interviewee put it, this 'fertile ground' is not being met with the supports that are needed to make it attractive for communities.

5.0 CONCLUSION

5.1 Research Aims and Objectives

The research aimed to investigate developments in the community energy sector in Ireland, with reference to the literature on its implementation in the wider European context. The hypothesis that community-led energy initiatives have the potential to accelerate the energy transition was tested by the detailed examination of two case studies using documentary review, semi-structured interviews and direct observations as the basis for data collection. The research also aimed to establish empirical evidence, through analysis of the findings, to inform the development of appropriate supports for community energy projects.

The literature review revealed a burgeoning interest in community-led energy initiatives both in Ireland and elsewhere and pointed to the wider societal benefits, beyond energy savings, that arose from the heightened levels of engagement, social capital and trust attributed to them. It found that there was evidence that these factors contributed to an environment where energy efficiency became normalised and which encouraged communities to undertake further works, thereby quickening the pace of retrofit. There was an extensive body of evidence in the UK and other European countries to support these claims, however there was little research on the phenomenon here. Two rurally-based initiatives with completed projects over a two-year period were selected as the basis for the research and the key individuals in each were interviewed.

5.2 Conclusions

5.2.1 Impact

The two case studies demonstrated that community-led energy initiatives have achieved significant levels of retrofit in areas where previously there had been little awareness of the national imperative to move towards energy efficiency. A desire to address rural decline was at the heart of the ECTC project but it was a survey which demonstrated the potential financial savings from energy conservation which motivated them to organize the community around domestic retrofits. Likewise, it was the jobs potential of RE and the opportunity that might present for local SME's that was the motivation in Erris, rather than concerns about climate change. However, in both cases the outcomes have gone far beyond these initial drivers, to impact on energy efficiency. That the terms

'energy efficiency' and 'retrofit' have entered the lexicon of these communities is a reflection of the projects' impact.

Because each project grew in response to local circumstances, the specific measures implemented varied between the case studies but in both, the community building retrofits have had the most significant impact as they have resulted in an improved range of services and opportunities for social engagement within the communities, with clear societal benefits. By directly demonstrating the benefits of retrofit to those who wouldn't normally be reached, this ensured widespread buy-in which then encouraged more individuals to get involved. A further spin-off from this increased activity was the generation of additional revenue in the community buildings which now paid their utility bills.

That the success of community energy projects cannot be measured using the criteria of kWh savings alone was a common theme in the literature review and was borne out by the research. The savings figures available for the case studies were based on BER estimates but very little post-completion measurement had been carried out. Even the ECTC, which had started with from a survey which monetised the value of a 20% improvement in energy efficiency across the parish, had not in fact verified whether this had been achieved. The success of the project was gauged more from a general sense of improved comfort levels in buildings and an increased awareness of energy in the community rather than the actual energy savings achieved. Both communities pointed to the improved levels of social engagement and community cohesion, emphasising that these were essential for the project to have long term impact and continue to deliver energy savings and this should be taken into account in measuring the outcomes.

5.2.2 Supports

The diverse nature of community energy projects was also frequently mentioned in the literature and the research found this to be the case, as illustrated by the case studies. One one hand this was seen to be a strength as the opportunity it gave for each community to adapt their approach in accordance with local need was welcomed over a top-down approach. However, it created a problem made manifest in the BEC grants, which are aimed at a broad range of project types, but are unable to respond to this diversity. While the BEC programme provided essential financial support to the projects, they were limited by their dependency on it. Furthermore, as Seyfang describes, not all community energy projects aspire to the large model (Seyfang et al, 2014). In Erris

they had embraced the opportunity to become part of a larger Gaeltacht project to increase the reach of their project but in the case of the ECTC, they felt that they had been required to scale up as an organization largely to meet funding requirements.

The two case studies are examples of successful community energy projects with the potential to grow and replicate themselves. However, the research points to the likelihood that they have happened by accidental coalescence of factors rather than a strategic commitment of state agencies to the community energy sector. In Tipperary, the presence of TEA, one of only three independent energy agencies in the country meant that a motivated but inexperienced community could access the technical expertise they needed which gave them the confidence to take on an energy project. The NTLP was also instrumental in moving the initiative beyond aspiration to action but this was because one individual was willing to be open-minded about what was needed to support the community, not because energy fell specifically within the NTLP remit.

In Erris, the project benefited from the support of Údarás na Gaeltachta which enabled it to leverage funding from EU projects, the Shell CGIF and R&D funds but the community aspect came about because of the personal motivation of the two key people who saw an opportunity to use the BEC grant programme to deliver an energy efficiency project across the entire region. Their background in research and management meant that they had the skills to maximize this opportunity and secure the financial support that was required to fund the project with a limited requirement for volunteers. This has allowed it to build up substantial momentum but again it can be argued that this is a result of a fortuitous alignment of people and agency rather than the outcome of a national policy shift to promote community energy initiatives.

5.2.3 Recommendations

One of the research objectives was to contribute to a body of empirical evidence that would assist in strategy development for the support and delivery of community-led approaches to both demand and supply side sustainable energy initiatives.

Some of the recommendations outlined below relate more to energy generation than retrofit but the research has shown that both are required to build long term, sustainable community energy projects which have the potential to impact on the energy transition.

5.2.3.1 Increase Finance and Funding options

- Communities need support and funding particularly in the initial feasibility stages to build capacity and work out the model that suits their circumstances best. Community Energy Scotland do this very successfully by providing start-up grants and grant-to-loan funding structures. The establishment of the SEC Network by SEAI, which will provide some pre-startup funding and other supports for community energy initiatives is an encouraging development but it is at an early stage and its impact is unknown.
- Capital grant funding needs to be available for both energy efficiency measures and energy generation projects. Currently the BEC grants do not support larger scale RE generation projects but this is where the opportunity lies for communities to develop independent income streams and it should be supported through a dedicated grant programme.
- Business opportunities could be encouraged through the creation of tax efficient structures which make it attractive to invest in energy efficiency upgrades or micro-generation projects. Communities need to acquire the skills to allow them to develop alternative business models and many will need support to do this.
- Communities need financial support to fund the resources they require to operate effectively. Volunteer burn out is a real threat to the long term viability of these projects. The two case studies both had the support (although to varying degrees) of paid employees which reduced this burden and this has been critical to their success.

5.2.3.2 Facilitate access to the National Grid

- The restrictions on grid access and complexity of the process is preventing communities from developing their own income streams from energy generation projects. A positive bias needs to be created towards community owned projects by giving them priority access to the grid.
- Fair and consistent payments are required for micro-generation through a REFIT scheme that is dedicated to community-owned solar PV, wind and renewable heat installations, such as in Germany where the FITs rates are guaranteed for 20 years.

5.2.3.2 National policy incentives

- The Energy White paper is lacking in targets for community-owned RE generation. Scotland, which is very similar to Ireland in terms of its population, largely rural settlement pattern

and considerable renewable energy resources, set a 2020 target to generate 500 MW of RE energy from community owned projects and had already achieved this in 2015. If we measure where we are trying to get to we are more likely to get there.

- Co-ownership models between developers and communities are an enabler to facilitate community engagement with energy generation and should be a requirement for larger RE projects, similar to the Danish system where a minimum of 20% locally owned shares is a condition of any wind farm development.
- The Energy White Paper commits to the establishment of a National Energy Forum to include representatives from the community energy sector and the first meeting is due to be held in July 2016. The composition of this Forum will be critical to a constructive and informed debate, such as there is in Denmark and Germany where sustainability is given priority over competitiveness. Advocates for community energy such as the TEA should be included in this Forum.
- Increased funding is required for independent intermediary organisations, who as the research shows, can empower communities with the technical, practical and financial advice they need to start a community energy project. There are currently only three Energy Agencies (TEA, CKEA and Codema) with the resources to assist communities in this manner, this needs to be extended to all regions, with the support of an umbrella agency similar to Local Energy Scotland.
- Until there is a political commitment to actively encourage these projects, they are likely to grow only where local circumstances permit and not as part of a national plan. Community energy currently falls between the DCENR who have responsibility for energy and the DECLG who have responsibility for community development. It needs the backing of a dedicated national agency who can advocate on its behalf and bring other relevant sectors such as agriculture into the debate.

5.3 Limitations of the research and opportunities for further study

The research was carried out in what is a relatively new field in the Irish context and one which is evolving rapidly. As such, some difficulties were encountered as outlined below.

The operating context for community energy is continually changing as grant programmes are adapted from year to year and individual projects respond to these changes which makes tracking

their impact difficult. For example, the eligibility of measures and grant thresholds for BEC programme have varied each year. The ending of the REFIT programme at the end of 2014 is another example of a changing legislative context having huge impact on the sector.

To set and achieve energy targets there is a need for baseline data showing where energy is currently being consumed in our communities. With the exception of the Drombane village survey, there was no such baseline data available in the case studies and in neither case had they established targets for energy reduction. Even in Drombane, the volunteer effort which was required just to maintain further retrofit works did not extend to evaluation of the post-completion savings and this limited the research to analysis of the qualitative data.

While the projected kWh savings were identified for each case study, the research did not attempt to collect quantitative data on the actual energy savings which would take into account the effect of behavioral issues. In both case studies it was recognised that this is a critical element of measuring success and further research is required in this area to inform behavioral change programmes within communities.

The research was also limited by the number of case studies that were used to inform the findings and while they were considered to be representative of the sector here, the findings would have broader application with the inclusion of further cases. There are now almost 30 community energy projects in SEAI's SEC Network which could form the basis of further studies and it would be informative to review this in the future.

Finally, while the key individuals for both case studies willing made themselves available to be interviewed, the researcher was conscious of the many demands on their time and the voluntary basis that most were operating on which limited their ability to provide further information. It was not ultimately possible to schedule an interview with Paul Kenny of TEA however his presentation to the community energy workshop at the Energy Show 2016 provided useful background information which informed the recommendations.

5.4 Summary

The research has examined the specific benefits that arose in the case of two community energy projects, together with the contributing factors and challenges that they faced. Conclusions have been drawn regarding whether the sector can meet the expectations made of the 'active energy

citizen' in the Energy White Paper. In summary, the research has shown that in the case of two community energy initiatives there have been significant achievements in relation to the implementation of retrofit and they demonstrate that there is an appetite to replicate this model and create impact at a national level. However, in reviewing the state of the sector as a whole in order to select the two case studies, it became clear that there are actually very few community energy projects here that are delivering on this scale and the sector will not create impact at the pace that is required unless a number of key barriers are removed.

Six years after UK energy policy first introduced the idea of 'community energy' in the 2007 White Paper, Seyfang eloquently described the emergence of 'a 1000 flowers blooming' across the country. The research has shown that pro-active steps are required by policy makers in Ireland if the movement is to take hold and flourish here in the same manner, as Plunkett's co-operative societies did in the 1890's, to deliver on the potential that is there to become an influential force for change within the national energy system.

6.0 GLOSSARY

Ashton Hayes: the village of Ashton Hayes, in Cheshire, aims to become England's first carbon neutral village. Since 2006 the community of about 1000 people have cut their collective carbon by an estimated 23% (Chester, 2010) through behavioural change and insulation retrofits. They set up Ashton Hayes Community Energy[17] in 2012 to develop RE generation capacity and generate income from FITs, funding the building of a community sports pavilion and new classrooms for the local school with solar PV installations from the profits. As the project has gained recognition, in addition to grants and FITs, other income streams now include providing information talks and hosting village visits. The village has links with over 1000 international communities and has been cited as a best practice example of combining energy saving with renewables (Clarke & Chadwick, 2011)

Better Energy Programme: the Better Energy Programme is administered by the Sustainable Energy Authority of Ireland (SEAI). This includes the Better Energy Homes scheme, the Better Energy Warmer Homes scheme, the Better Energy Warmer Homes Area based programme and the Better Energy Communities programme. Further information on these schemes is available at *www.seai.ie*.

Better Energy Communities (BEC) Programme: part of the national retrofit initiative, the BEC programme, encourages new approaches to achieving improvements in energy efficiency within communities by providing grant support to partnerships for retrofit works and renewable energy installations across groups of buildings.

Big Green Challenge: was a £1M challenge prize funded by the UK charity NEASTA in 2008/2009, which was designed to encourage and support community-led responses to climate change. It aimed to explore how far an outcome-based prize could stimulate innovation in communities to transform ideas into viable solutions. The finalists reduced CO2 emissions in their communities by between 10-46% in the delivery year.

Carbon Rationing Action Group (CRAG): a CRAG is a group of people who have decided to act together to reduce their individual and collective carbon footprints and reach a higher level of domestic sustainability. First they set themselves an annual emissions target or "carbon ration".

[17] A Community Interest Company (CIC)

Then they keep track of their emissions annually by keeping a record of their household energy use and private car and plane travel. Finally, at the end of the year, they take responsibility for any "carbon debt" (i.e. emissions over and above their ration) that they have built up. All carbon debts are paid into the group's "carbon fund" at an agreed rate per kilo of CO2 debt. The fund is then distributed as agreed by the members of the group.

Community Action for Energy (CAfE): a UK national programme started in 2001 by the Energy Saving Trust to promote community-led sustainable energy projects. They provide advice, information, training and support to help communities set up and run successful energy efficiency and renewable energy projects.

Community Energy Scotland (CES): an independent charity and membership based organisation whose 400 members can share knowledge and connect with other member groups which are developing or have already developed community energy projects. CES provides detailed, independent and ongoing support for all aspects of community energy project development from micro to megawatt scale.

Community Renewables Initiative (CRI): operational from 2002-2007 CRI was a five year pilot grant scheme. It supported solar, biomass, wood heat, farm waste and wind turbine schemes to stimulate community action on renewable energy and delivered over 150 exemplar community projects across 10 areas of England.

Clear Skies: a UK capital funding initiative started in 2003 with the aim of giving householders and communities in England, Wales and Northern Ireland access to advice and grants for a wide range of technologies including solar, wind, micro-hydro, ground source heat pumps, stoves and wood fuelled boiler systems.

Covenant of Mayors: a voluntary European network for communities from small villages to large cities which allows them to benefit from experiences of others, it is no-cost but requires a commitment to carry out a Baseline Emission Inventory and to design and implement a Sustainable Energy Action Plan (SEAP). In Ireland currently Dublin City Council, South Dublin, Cork, Kerry, Waterford and Roscommon Co Councils and four Kerry Local Authorities are signatories.

Deep Retrofit: is defined in the SEAI 'Thinking Deeper' Publication (2011) as 'an investment in energy efficiency which saves the homeowner 40% or more on energy bills'. It is generally

considered to refer to the application of an extensive package of building energy efficiency improvements that have a high upfront cost, but can lead to significant energy savings.

Energieakkoord: The Dutch *Energy Agreement for Sustainable Growth* brought together more than 40 organisations including central, regional and local government, employers' associations and unions, nature conservation, environmental and other civil-society organisations, financial institutions and four environmental NGO's. It set out what became known as the 'postcoderoos regeling'; citizens who are members of an energy-generating cooperative that is based in their or a nearby postcode area, get a discount of €0.075 per kWh on their energy bill. It aims to support new community energy schemes and create closer links between energy consumption & production.

Energiewende: is the official shift in German energy policy making from a fossil fuel and nuclear power-orientated sector towards a more sustainable system with a large RE component, which arose initially in response to the 1989 Chernobyl disaster and was given increased impetuous following Fukushima in 2011. National energy policy has been re-orientated and is now strongly linked to climate change and environmental protection.

Energy Credits: energy credits are the savings made by an energy efficiency project, they relate only to energy suppliers who have signed a voluntary agreement with SEAI. Under the Energy Efficiency Obligation Scheme (EEOS) service providers can exchange their validated savings or energy credits from efficiency projects with an energy supplier partner in return for investment in those projects.

Energy Poor: a person can be said to be energy poor when he/she is unable to adequately heat or power their home. It is a function of the thermal efficiency of a person's home, the cost of energy and his/her income. SEAI consider private homes to be 'energy poor' if the homeowner is in receipt of one of the following: Fuel Allowance, Jobseeker's Allowance, Family Income Supplement (FIS) or is in receipt of the 'One Parent Family Payment'.

Local Community Development Committee (LCDC): a committee, established under Section 36 of the Local Government Reform Act 2014, for the purposes of developing, co-ordinating and implementing a coherent and integrated approach to local and community development. Membership must include a majority of members from the non-statutory sector.

Local Energy Scotland: is a 'one-stop-shop' which supports community renewable energy projects with free advice on developing rural renewable energy schemes, advice on funding and support on

accessing development and pre-planning loans which are administered through the related Community and Renewable Energy Scheme (CARES) programme.

Low Carbon Communities Challenge (LCCC): a two year UK programme of action research involving 22 community projects delivering low carbon measures in their local area. Covering 100,000 people living in 64,000 households, the LCCC tested how combinations of low carbon technologies, community engagement and behaviour change can help drive and deliver the low carbon economy.

Low Carbon West Oxford: following the extreme summer floods of 2007, residents in Oxford came together and set up a group to reduce carbon emissions, waste and traffic and to help build 'a more cohesive and resilient community' (Clarke & Chadwick, 2011) Their target is to reduce carbon emissions by 40% by 2020 through energy efficiency, behavioural change and food production projects however there is no evidence to show if they are on track to meet this ambition. The group's parent organisation[18] develops community-owned solar, wind and hydro projects, supplying the local owners and also generating income from FITs. The surplus is donated to Low Carbon West Oxford, a charitable entity, to pay for carbon-lowering projects including energy retrofits, waste reduction, food production and tree planting through a revolving loan fund (Houghton, 2010).

Meitheal: an Irish word which describes the old Irish tradition where people in rural communities gathered together on a neighbour's farm to help save the hay or other crops. People saw this as a way to respond practically to local need and built up strong friendships and respect among those involved in the Meitheal.

Renewable Energy Feed In Tarrif (REFIT): REFIT is a feed-in-tariff support scheme that operates by guaranteeing new renewable generation a minimum price for electricity exported to the grid over a 15 year period.

Scottish Community and Households Renewables Initiatives (SCHRI): started in 2002 to provide advice, support, project development and capital funding for renewable energy schemes to householders in Scotland.

[18] West Oxford Community Renewables an Industrial and Provident Society or IPS

SEAI: the Sustainable Energy Authority of Ireland was established as Ireland's national energy authority under the Sustainable Energy Act 2002 with a remit to play a leading role in transforming Ireland into a society based on sustainable energy structures, technologies and practices.

Sustainable Energy Communities (SEC): the SEC concept originated in 2007 with Dundalk 2020, part of the EU HOLISTIC[19] project, led by SEAI and Louth Co Council. SEAI have now established the SEC network, a support framework designed to enable a better understanding of how communities use energy and to identify opportunities to save energy across all sectors. The network's core purpose is to build energy capacity and competencies in communities across Ireland. Communities can sign up to a three year partnership agreement and will be able to access technical and financial supports from a panel of mentors to be appointed by SEAI.

The Green Valleys: a Welsh initiative founded in 2009, in response to the BGC, a competition in which they were one of three winners. The group states that 'carbon reduction was seen as an opportunity for economic renewal, not an expense' and they identified the potential of their natural resources within and around the Brecon Beacons National Park. The prize money was partially used to set up a community-owned micro-hydroelectricity company[20] and profits from this company are reinvested in further community projects and services. The Green Valleys provides advice and supports to a network of local member groups, enabling them to set up and run their own projects to meet their specific needs.

Third Sector: the part of an economy or society comprising non-governmental and non-profit-making organisations or associations, including charities, voluntary and community groups and co-operatives.

Transition Towns: an international network of local groups focused on building energy security and tackling climate change was pioneered in Kinsale and Devon in 2006. It advocates a community-led response to climate change and fossil fuel dependency. There are several hundred transition towns now, including nine in Ireland.

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[19] Holistic Optimisation Leading to Integration of Sustainable Technologies in Communities, a CONCERTO initiative

[20] TGVHydro.co.uk a not-for-profit Community Interest Company (CIC)

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APPENDIX A – DOCUMENTARY SOURCES FOR CASE STUDIES

Case Study 1 Documentary Sources
Energy Communities Tipperary Co-operative (ECTC) project

Information type:	**Title:**	**Author:**
Presentations:		
NUIG nZeb conference	SERVE-ING Tipperary Results & Lessons	Paul Kenny TEA
BEC Launch 2014	Energy Retrofitting Ireland one parish at a time	Aileen Campion DUET
Behave Conference September 2014	Enhancing community investment in sustainable energy in Ireland: Learnings from Templederry	Seamus Hoyne LIT
Reports		
October 2011	Drombane Upperchurch Energy Project Community Energy Survey Report	Julie Curtin LIT
February 2014	Retrofitting the Local Economy – case study of a community-led energy efficiency scheme	Drombane Energy Team
Workshop Report Sept 2015	Community Engagement on Energy Workshop – ECTC Community Project Poster	Clare Watson UCC /ERI /EPA
Other		
SEAI paper	Drombane combined energy bills inspire community in Tipperary	SEAI
SEAI Jan 2013	Community Energy retrofit saves money and creates jobs	SEAI
BEC Grants Awarded	Better Energy Communities projects 2014 & 2015 Listings, Locations, Project summaries	SEAI
Information paper 2014	A community-run energy efficiency scheme – how does it work?	NTLP
Websites		
SEAI website	www.seai/grants/betterenergycommunities	
Eco-Eye program	http://www.earthhorizon.ie/eco-eye-series-13-episode-10-energy-communities	
ECTC website	https://energycommunities.wordpress.com	

Case Study 2 Documentary Sources
Erris Fuinneamh Inmhaireanta Iorras (FII) project

Information type:	**Title:**	**Author:**
Presentations:		
SEAI Energy Show March 2015	GREAT /Erris BEC project	Dr Orla Nic Suibhne
SEAI Energy Awards October 2015	Sustainable vision for the future	Dr Orla Nic Suibhne
nZeb-Retrofit Symposium 2015	Achieving nearly zero buildings through retrofit	Enda Casey
Reports:		
BEC case study report	Erris Better Energy Communities Primary Schools Case Study	Údarás / GREAT / SEAI publication
BEC Grants Awarded	Better Energy Communities projects 2014 & 2015 Listings, Locations, Project summaries	SEAI
Workshop Report Sept 2015	Community Engagement on Energy Workshop – Erris Community Project Poster	Clare Watson UCC /ERI /EPA
Other:		
GREBE project information	Agenda for the GREBE project tour 25th February 2016	Dr Orla Nic Suibhne
Mayo Co Council internal documents	BER Studies of 2 no. typical 1980's 3 bed Co Council build in the Erris region	IHER Energy Services Ltd
Mayo Co Council internal documents	Post completion Certs for 7 homes in the Erris Region	As above
Grant Application Documentation	FII Application Form for Better Energy Communities Grant 2015	FII
Websites		
SEAI website	www.seai/grants/betterenergycommunities	
GREAT project website	www.greatproject.eu.com/reports	
Eco-Eye program	http://www.earthhorizon.ie/eco-eye-series-13-episode-10-energy-communities	
AMETS Project website	http://www.seai.ie/Renewables/Ocean-Energy/Ocean-Energy-Test-Sites-in-Ireland/Belmullet-Wave-Energy-Test-Site/	

APPENDIX B – SAMPLE LETTER TO INTERVIEWEES

Sample Letter to Interviewees

FAO Con Harrington

Dear Con
I write to you as an MSc student of Energy Retrofit Technologies at the School of Architecture in Dublin Institute of Technology. I am studying for this Masters whilst working as senior architect and energy specialist in MCO Projects http://www.mco.ie/, a multidisciplinary team of project managers, researchers, sociologists, architects and engineers who work with clients in the public, private and community sectors. With MCO I am involved in providing strategic development advice and supports to SEAI in relation to their communities and public sector programmes.

As part of this masters, I am preparing a dissertation on the topic of community-led energy initiatives. The research question aims to explore if community-led energy initiatives have the potential to increase the pace of retrofit nationally, the factors that might contribute to this and the supports that are required. The research will look at two case studies, Energy Communities Tipperary Co-operative (ECTC) and the Erris peninsula GREAT project.

The purpose of this email is to establish in principle if you would be willing to be interviewed as part of this research. The timeframe for doing the interviews would be within the next 4 weeks if possible, I realise that you are very busy and while I am based in Dublin I would be happy to travel to Tipperary to meet you at a suitable time as I will be hoping to meet with others involved in your project also. If you are able to participate I would send you an outline of the discussion topics in advance.

I am planning to contact Aileen Campion, Gearóid Fitzgibbon and Paul Kenny also but I would welcome your suggestions if you feel there are others who could inform the case study.

Thank you for considering this and I look forward to hearing from you, either at this email or the number below.

Regards
Susan Cogan BArch MRIAI
mob 086 3877268

APPENDIX C – ECTC PROJECT ACTIVITIES

ECTC ACTIVITY TABLE				
2012	Buildings Retrofitted and measures implemented		Total Investment	Projected Savings*
	22 Homes Drombane (inc 10 fuel poor)		**€115,000**	***240,000 kWh***
	Drombane Parochial House		SEAI grant €88,000	
2013	Buildings Retrofitted		Total Investment	Projected Savings*
	28 Homes Drombane (inc 16 fuel poor)		**€285,000** SEAI grant €213,000 Homeowners €59,000	***260,000 kWh***
	Upperchurch Community Centre		Community €13,000	
	Drombane Community Centre		Electric Ireland €16,000	
2014	Buildings Retrofitted		Total Investment	Projected Savings*
	110 Homes: Drombane, Upperchurch, Birdhill, Lorrha (inc 64 fuel poor)		**€1,078,000** SEAI grant €840,000 Electric Ireland €87,617	***941,935 kWh***
	Birdhill Community Hall			
	Lorrha Community Hall			
2015	Buildings Retrofitted		Total Investment	Projected Savings*
	135 Homes (inc 117 fuel poor); Four additional parishes Carrick/Riverstown, Borrisokane, Loughmore, Cloughjordan		**€248,4000** SEAI grant €1,433,700 Homeowners €113,040 Community €14,725 Airtricity €111,600	***1,058,350 kWh***
	Rearcross Church			
	Carrick GAA club house			
	Carrick Community Centre			
	*projected annual savings as calculated in NEAP/DEAP for BEC applications			

APPENDIX D – ECTC INTERVIEW TRANSCRIPTS

ECTC Interview Transcripts

Transcript No.1: Con Harrington, Anner Hotel, Thurles

03 March 2016

SC: thanks Con.

CH: So when we kicked off in 2010 our parish, the parish of Upperchurch and Drombane is two ends of the same parish if you like and Drombane happened to be the weak end of the parish, and we had an idea that with young fellas going abroad and all that, that we should do something at the weak end of the parish because lots of projects had been going ahead at the Upperchurch end and like Upperchurch and Drombane it's the one parish and we decided that we'd do something specifically at the Drombane end and from there we got involved with Géaroid from LEADER to do a bit of facilitation with the community. And arising out of that, there's lots of forestry in our area and we looked at forestry as a source of energy but having looked at it and analysed it and got advice from various quarters we decided that rather than generating energy we should look at the whole question of conserving energy and that there was more money to be made by the community in conserving energy than there was in generating. You could do a lot of work to generate 10 or 12 or 20,000 in forestry but you could do a small amount of work in conserving energy in the houses and you'd spare a lot more. So we were on the pathway of doing something there, and we'd done a survey, I don't know if you've seen that

SC: yes it's a great piece of work

CH: yes, but we were lucky enough, having done the survey and analysed where we stood, SEAI came up with the community better energy scheme,

SC: you didn't know that was happening at the time did you, that was just good timing?

CH: we didn't, no. We were heading along in that direction but we were sort of feeling our way to know what it was that we could do. And the next thing was SEAI launched this pilot scheme and they only launched it I don't know in around April or May but in any event we made an application for it and we were lucky to get it and we went ahead and did 22 houses that year. Now the following year then we did the same amount of houses or more I think but the neighbouring parish of Kilcommon felt they should do something similar. So in effect, through working with Géaroid in LEADER we joined up with Kilcommon and the next thing is the two other communities come onstream Birdhill and Laragh.

SC: Laragh's up there (looking at map)

CH: up north, at the top of Lough Derg. So we're spread but just it happened to be that there was people interested there and they worked through Géaroid there and we joined up together and basically we had a four community project then. So we moved from a one community project to a four community project. And even though, I think some of the documentation would show that as Drombane Upperchurch project it was actually a four parish project in 2013. Now last year in 2015, it went to an eight community project, and we formalised much more so and we became an energy cooperative and it's now called Energy Communities Tipperary Cooperative.

SC: ECTC

CH: yes and basically that was on the advice of SEAI because when we started off in Drombane we were just a loose community group, we didn't have a legal entity as such at all.

SC: you just had a steering group did you?

CH: yes but we stayed steering for two years *(laughs)*!! No, but we weren't formalised in the sense of having a partnership or a company or anything, it was a loose community group. And it was very difficult number one for LEADER, for SEAI to deal with us because when you're dealing with a community group you're dealing with really nobody up to a point. You're dealing with the key people but there's no entity there. And we had to draw down a substantial amount of money from Clann Credo for the bridging loan and again that question of the entity came up, but in fairness we ploughed along, that was rough going. We were involved as signatories for bridging loans for maybe half a million, and a couple of people signing on for that.. I'd sign up and I'd come home and say to Maura, my missus what I'd signed up to tonight and she's be like 'what?!' Don't tell me any more! But these sort of things you don't realised. But then when we formed the ECTC it became more formalised and we had developed much more structure altogether. I think it was in year two that Marcella came on board.

SC: and what was your role Con?

CH: what was my role, well I suppose I was basically the old fella in Drombane! *(laughs)* No I was basically I'm the local community person in Drombane and I suppose to some extent I was involved in trying do to something in the parish to initiate jobs that's what it was all about. And I'd been involved with communities for donkeys years as the fella says both in Upperchurch and Drombane, I was involved in the GAA club and the housing and the community hall, like 40 things that had come up over the years.

SC: but not energy projects?

CH: no, none of them were energy projects at all, we knew nothing about energy at all. The only thing we knew about was hurling in Upperchurch and that uses up energy! But that's genuine and when we looked at what we could do in the village, energy came up arising out of our investigation of forestry. Forestry and sort of generation of energy from that led us to back to other people telling us rather than trying to generate energy you should be looking at conserving energy and the use of energy within the parish. And the survey more or less indicated that if there was a 25% saving that you'd save maybe €250,000 over a year. Now no matter what project you start off you wouldn't have a hope of making of saving that kind of money, which was money in people's pockets. So it was at that stage that I think, getting Marcella on board. LEADER came into play,

SC: explain how that all happened to me?

CH: so Géaroid Fitzgibbon was the LEADER person who worked with our group in facilitating our thinking and he came to umpteen meetings in the very early stages in Drombane. You could imagine a group of people coming together and we're talking about energy and most of them had never talked about energy in that sense at all. But then we decided that we'd need somebody with expertise in that area and LEADER came up with the idea that they'd launch a job-bridge scheme and Marcella came in under that. She lives about 4 or 5 miles away, and some of the earlier meetings before that came up at all, she'd attended one or two of them as a member of the group.

SC: she had a background in energy?

CH: she was a BER assessor and she was living locally so she got the job and she was employed technically by LEADER but working with us.

SC: and so that was a step forward then.

CH: that was a big step because then when we were discussing energy at a meeting we had somebody who had the expertise and could keep us all on the straight and narrow in energy as such. And I must say when we started off, it was a step into the unknown as to where we were going and I know that various thoughts had gone around the parish in earlier years but everyone felt it was just too complex an issue for a community group to get involved in. You know it was alright to do simpler things in communities but energy was over people's heads in lots of respects and a lot of the technicality of savings in kWh and all the rest of it didn't mean too much but everyone stayed on board on the basis that this was going to lead to something.

SC: and so you had a steering group, did you appoint a chair, was it reasonably structured like that?

CH: yes well the community structure, we became more formalised when we became an eight group.

SC: but up to then?

CH: up to then as a local group in Drombane we had a chairperson, and officials appointed like that but it didn't really function like that, it was all about consensus.

SC: that's interesting..

CH: In my book having worked with communities over the years, actually, consensus decision making at communities is vitally important. Because if you have a situation where there's not a consensus and somebody proposes well we'll do X, Y and Z and somebody proposes no, we'll do the opposite and everybody sticks to their guns and there's a vote on it well you have some few people who are dissatisfied with the outcome of that vote and some people who are very happy. Now I think Géaroid was one of the key people in doing this, if Géaroid was facilitating a meeting and if there's a conflicting issue like that, he keeps teasing out both sides of the conflict until we come together and he's an absolute master at that. That's a huge issue in communities, a huge issue.

SC: to have that kind of guidance?

CH: I don't think in all honesty over all the years that we ever went into a crisis decision where there was proposals for and against. If there was a for and against situation at a meeting we'll say, let's think about that now and let's sit on that and maybe we wouldn't make a decision at all and come back the following day. People would be wiser and more balanced maybe thought gone into it and make a decision that was consensus. That's hugely important.

SC: how often would you have met typically?

CH: well we were meeting often times twice a week, 30 or 40 meetings in the year, absolutely a huge amount of work. Our own group would have consisted of 13 or 14 people but when we wanted to do something bigger by way of a survey in the parish we would pull in a whole load of people outside of our committee and say now you don't need to know anything about energy but would you help us do it. To get all the letters in envelope and get someone to post them and someone to deliver them and all that. So we had a huge number of people, maybe 10 or 15 extra fellas and girls and helping us out. And we dropped leaflets into every single house in the parish and the questionnaire and we went back and collected all the questionnaires and it was a very high percentage return on the surveys because it wasn't up to people to send them in, they were collected.

SC: and that was in Drombane and Upperchurch, did you do the same in the other areas?

CH: No, the survey was only done in Drombane and Upperchurch because that was where we started and we didn't know we were going on ahead on a BEC scheme at that stage at all. The BEC hadn't been announced. But it was the outcome from the survey at the same time indicated to us that there was potential to do things. People were interested number one, they were interested in doing something in the parish, we felt that jobs could be created number two and that if we could avail of some sort of financial support it was worthy of further investigation. But we didn't do that survey as, it stood as a sort of an example survey I suppose for the remainder of the eight communities because there was an awful lot of work in that survey alone. I said there was 30 meetings, there was 1460 hours on house calls, information events, surveying teams, 20 volunteers, 400 survey sheets, 353 responses, there was an 87% response, so that was a huge amount of work involved in that.

SC: so what I was interested to know was to what extent are the members of the community involved, was it just a small core group or a wider group of enthusiasts?

CH: I suppose a small core group for to lead things along, you could say essentially a small core group.

SC: and was that with representation from the four parishes, that core group?

CH: yes, now I'd say some of the other parishes, in order to project onto the other parishes, Géaroid sort of promoted the concept there, in Kilcommon and the other parishes. Now, by promoting the concept means talking to one or two people. Now the next step of it is, he said could we have a community meeting some night and talk about it. So he sort of calls a meeting in Kilcommon for to talk about it and they get X number of people in and they asked a couple of us from Drombane who had experience in it, would we go to Kilcommon and sit in with Géaroid and sort of tell him what we felt about it.

SC: So Kilcommon were learning from the Drombane Upperchurch experience?

CH: yes, and the same then with the other four communities, it started from maybe one or two people keenly interested and it spread then to having a small core group and then at a meeting like that, at a public meeting you'd go to in Kilcommon, there was a good crowd there but most of them weren't interested in that core group.

SC: but interested enough to want to know what was going on

CH: yes, and all those people would support you if you had a big issue or you wanted to do a survey or do something big but they wouldn't attend regular meetings. And that's the way it continues largely.

SC: yes, so a good community spirit and good support?

CH: yes, that's right yes, that's more or less the way, it comes back down to a small core leading the thing all the time no matter what.

SC: is that a problem?

CH: well sure there's two things about it. It's a problem I suppose if you're busy. I happen to be retired, as the fella says, at my old age! But it is a problem for young people, for young married fellas and girls for to have meetings in the evening when they come home from work and whatever. But even though our community is a rural community now, a total rural community, it's a very small place and most of the people travel outside of the community to work. Even though it's an agricultural community they don't live totally out of agriculture. So if you go back into Drombane today and go into most of the houses there's probably one person in the house who's kind of minding the house as we call it and the other person would work and be back in the evening. So you've people, calling a meeting in the evening and they're only home from work an hour or two and they've children to mind. That's a problem.

SC: OK, so you said you looked at renewable energy but you explained the reasons why you focused on conservation and energy efficiency first

CH: I should say we talked a lot with TEA

SC: yes, how did they come into it?

CH: they came into it right from the start, I'd say they came into it before we started. In the sense that when we'd decided to go away from forestry, well they were part of that discussion, we were looking at alternatives, we asked TEA to come into us for a meeting some night and talk about energy, the wider part.

SC: so you were aware of TEA?

CH: oh we were, yes well it was only then, that we started to become aware of them in the strict sense. Some of us were aware of them but most of the group wouldn't have even heard the name of TEA. But then we said where will we go to get someone to come into the meeting and talk to us about the possibilities of energy. And then apart from TEA we got members of the college here in Thurles, it's under LIT now and their focus was rural community development and they had one guy,

Seamus Hoyne and we'll say from one or two meetings like that they talked about the broad range of energy and what a community might do. And I remember somebody saying outside one night, like if ye could do something to cluster a group of houses together and get conservation going on, he said to us he felt that was the first time that was done by a community group in Ireland. So he said you'd be creating an image for the community of doing something positive and it would be positive. But they gave us a help and a lead and a direction and they were experts in the subject.

SC: LIT or TEA?

CH: both of them working together because they know each other fairly closely and they were on the one issue or the one direction. So that was hugely helpful. I suppose I should say, if it was left to ourselves as a community group we wouldn't have got there, not a hope. Because it was too big an issue, too technical an issue, too wide an issue. Now on the other hand they couldn't do anything without us. It was an interdependence situation between the two of us.

SC: Yes. Interesting that you used that word 'cluster' because that's what I as an outsider, looking at what's happening around the country see, definitely there's a cluster in Tipperary, there's a cluster of activity and I'm interested in the factors that are contributing to that.

SC: Have you looked at behavioural issues, at behavioural change, has that been any part of the project?

CH: I suppose it was, indirectly. I'd say there is substantial behavioural change. In the sense that I'd say there's more awareness about the whole energy issue now than in the past there ever were. Because I would say there's hardly anybody in the, with the meetings that we've had, we've had public meetings in the hall, local meetings, literature in circulation, bits and pieces, flyers here and there, local advertising, local paper, local radio, the people in the parish are more aware. But behaviour, exactly whether has it resulted in behaviour, but there's a higher level of awareness anyway. And behaviour I suppose has led to more people doing their houses actually. We think that of the houses that have been done in the parish that 90% of them would not have been done at all were it not for the community project.

SC: why is that?

CH: first of all, they didn't have sufficient awareness of it. Number two, the bureaucracy factor puts off a certain number of people. We did a lot of houses, well some houses for elderly people or people living on their own, you know the thought of applying and filling out all the forms and that sort of thing, it's 'ah we're alright, leave us alone' you know and when we started the first year, it

was sluggish enough in the beginning, and then when you get one house here and another house here and so on in the parish and next thing the neighbours started saying look John Ryan got his house done, how did he get it done and next thing they talk about it and say we should consider something like that.

SC: and could they see the benefits that say, John Ryan for example, was experiencing?

CH: yes that's right. And I know of a number of houses that we said would you be interested in doing it and they're like ah no, no, and the year afterwards they were first back for to do the house.

SC: Great!

CH: so if you'd call that behavioural change, I don't know what it is.

SC: well it's bringing people around, it's kind of nudging people, getting them to see what the new normal is, that you have your house energy efficient.

CH: yes, but the community aspect of that is hugely important and the other factor about it was rather than someone coming from Dublin and promoting something, it's I'm promoting it and I live up the road and they know me. The other thing is that we put as a key priority that if we would get off the ground and start doing work that we'd try and appoint contractors who to a large extent were local people, providing that they reached, that they had the necessary experience and qualifications to do it. So when we eventually went about, one of our main contractors Metro, they're two young chaps who were involved in the GAA club, one of them is a qualified BER assessor, and they went into construction and they were working with this eco place in Cloughjordan, so they were into eco-construction.

SC: so they'd had the experience in Cloughjordan?

CH: yes, so they became major contractors. So the other issue was they were local people number one, so lots of householders wouldn't like getting in strangers to do work but if they know that there's two local people coming and doing work, it sort of gives confidence about getting it done. It also, there's another aspect to it, the contractors themselves, because they're local and have a reputation to uphold in the community and that becomes a major issue when little jobs are going on and there's plumbing necessary and there's little gaps in what needs to be done, they'll go back and do it because they have to keep their own reputation and they're local people and they know the houses. That all sort of comes together to more of a community aspect.

SC: you started off describing that because of the other benefits to the community?

CH: yes well the wider issues that can't be measured then, there's other issues like for instance we talked about Drombane village, it was basically dead enough community-wise but when you get a project like that starting off other things spring out of it. In other words people become a little bit more confident in themselves and they'll say ok we succeeded in getting grants for this project and that project, maybe we could have a go at doing something else. So we did another village project, we were involved in village renewal where we did work on rivers and walkways and that so one thing gives rise to another in a community sense. If you can develop a bit of confidence on one front it gives rise to leaders emerging and maybe taking on another project, which has nothing got to do with energy at all. You see the wider picture is, I suppose what interests me is not specifically energy, it's about community development. It's about developing your community that you were maybe born and reared and hurled with and trying to get jobs and get people at home and keep the community alive. And we hone in on energy, and I personally feel, the more I honed in on energy and got to know about it the more I felt energy was an absolute brilliant concept to get involved in, there was so many branches of it that could have benefits to the community.

SC: and have the energy savings that you saw you could potentially get, the 20% equating to whatever it was, a quarter of a million, do you think those energy savings now, can people see the benefits, have they benefited from it?

CH: well some people can see savings out of it, but it isn't strictly savings either, it's more comfort and having a better house. And in fact some of them, I shouldn't really be saying this, but some of them haven't seen any savings at all because they leave on the heat at an enormous rate altogether. I remember one night, I'll give you an example, we went around to some houses after they were done the following winter, for to investigate what you're talking about now, and see how people felt and were they creating savings and just to talk to people. And we went into one old lady at about 7 o'clock and she was sitting inside in real comfort with light gear on her and the house real warm and in chatting to her I said to her, who's living with you here? She said there's nobody living with me at all here, she said my son is in Dublin. And I'd it must have been 25 degrees inside in the house but we said to her, 'how many rooms do you have here and do you turn off the heat in the other rooms?' No, no, 'why don't you?' ah she says 'it's my son is paying for it and he's in Dublin, I don't know'. But we put our head into the other room and it was equally warm and there was nobody in it at all!

SC: so there's a further step to take then..

CH: there's a further step to take, it's more an education process and that remains to be done now, it's not done adequately at all. We ended up tuning down her heating and telling her she'd enough heat, she was roasting inside in the place!

SC: presumably the heating system that was installed would have had zoning and thermostatic controls

CH: but you see when you're dealing with elderly people they get frightened by changing a switch its too complicated, they'd say that to me 'oh god I wouldn't touch that there, we're afraid to touch it'. Or somebody would say I'll set it and leave it alone.

SC: so you're a few years down the road now, has anyone gone back and done measurement?

CH: no, we haven't done anything on that at all.

SC: is that something that's just outside the scope of the time that people have available?

CH: well it's just, I suppose we were so engaged with just getting work done and that process I'd say is only coming on stream now. We've been talking to SEAI about trying to help us out on other fronts apart from the retrofitting, including that whole area of sort of getting in to try and help communities to gain more out of what they have already done. There's a lot of learning has to be done yet, even on the houses that we have done. OK they've learned a lot and they've picked up a lot and they're more conscious but not adequately at all. And maybe we haven't done enough on that at all, at all yet. I don't know if you're aware that SEAI they're launching a network now and I would be hoping that out of that that we can develop other priorities that we'd look at and take on. So there are things that aren't done well at all.

SC: so in answer to the question how are the energy savings benefiting the community, people have improved levels of comfort but they're not necessarily getting more money back in their pocket?

CH: you'd have to say that, now of course we'd be saying that there are savings but we'd be saying that off the top of our heads without any measurement.

SC: and in the community halls would you be measuring, would you be comparing the bills?

CH: well in the community halls, and I'm on the community hall and we didn't measure anything!! But you know in terms of the vast majority of households would say that it has made a big difference and that's only their personal judgement. And I'd say they'd be all equally strong in stating that it's made a big difference to their lifestyle and their life. And in a way, I know that's far away from statistics but it's a comforting thing to get that feedback from community members.

SC: I was interested to know whether people thought it's useful to measure the kWh savings, I know it's only one aspect of measuring success but do you think it's something that is important to do maybe in the future?

CH: well I suppose the whole question of deeper retrofits is the thing. The way the scheme was framed, in order to create savings, you probably didn't do all the measures that you could do in a house, you kept to the measures that created the most savings but there's more measures that can be done in the houses that have been retrofitted. There's more work to be done on physical work on the buildings and educational work getting the most out of what's there already.

SC: OK, Challenges, are there aspects of the project that haven't worked for you?

CH: well the biggest challenges were that we had great problems with SEAI along the way, even though it was their project I'd give them credit, they started the project and went out as a project but they didn't consult with the communities before they launched the project with the result that they launched it around April and the whole process was enormously slow and whatever work you done had to be all finished off and the final figures sent in by the end of October. Now that was just totally and completely impossible to do and how we struggled through the first two years.

SC: and is that connected with why you're saying only certain measures were done?

CH: no well I suppose it was connected up with SEAI were getting the funding on a yearly basis, there was no such thing as a long term funding arrangement. And the thing was we had to pay for making the application upfront ourselves. And preparing the application and sending in the application, you had all the houses lined up before you sent them in you were supposed to have estimates of what the costs were and the savings and you were sending in an application that you didn't know whether it would be successful or not and at a cost of 5 or €6000 to do, where would you get that money? That's a major problem but the big problem was the timing factor from the time you got an OK on the scheme to when it had to be finished, it was just cramped up totally. People would say to you, we want our house done, and they'd say when will you be back to us and we'd say we'd be back in a couple of weeks or whatever and when you'd go back to them maybe they'd have their minds changed and they'd want to do something slightly different. A lot of these householders didn't have sufficient time to sort out their own financial needs and to find out the benefits that could be to themselves. You can't go out to a house and say do you want to be part of this scheme and expect them to say yes, straight away, you can't. It's going to take them a couple of weeks to think about it and find out do they have money, or whether they want to do it at all or not.

SC: so having a longer term, stable financial plan?

CH: oh yes but it's still continuing. We had various meeting with SEAI over the last 2 years, emphasising the need to do something to have maybe a two-year scheme or a three-year scheme if it was possible at all. And the most we could push them to is this year they told us last October or November, they told us they'd be launching the 2016 scheme in December but it still wasn't launched until February. Apart from householders not knowing what they want to do, we have to find contractors. Now contractors tend to book advance work over the year so if you go out today and say can you do 20 houses for me next week they'd just say you must be crazy, sure we're up to our ears in work.

SC: so there's all the logistics of that and working within the constraints of the grant program.

CH: yes, sure it was ridiculously tight. We felt for a time that SEAI thought we were little machines down here whereas we're communities and in communities you have to bring a group of people with you, you can't bring them with you overnight. And we were upfront with SEAI we said we can't work like that, we were trying to push them on that front but as I said they came a little bit of the distance to help us this year by launching earlier but it's still delaying..

SC: but it's still a year to year grant support scheme. You mentioned earlier on about your organisational model changing from a loose steering group to the co-op, could you describe how the coop operates now, how it's set up?

CH: Well the co-op, there's two members of each community on the executive board of the co-op and other members of the communities can be members of the co-op and they can attend meetings but when it comes down to making decisions it's down to the executive.

SC: do you pay to join?

CH: there is, well not directly as a membership fee, but by virtue of the fact in preparing an application and going forward, each community chipped in to it but it's not put down as a membership fee.

SC: and did Marcella become the resource for the co-op then?

CH: yes she did

SC: and did you have any other paid resources?

CH: well we have a financial lady who's working with LEADER, she's sort of the last word on the financial side of it. She casts her eye on the financials and we have a member of TEA, Kenny, he's on

the board. So basically it's two members of each community and a TEA representative, financial and Géaroid is on it.

SC: and generally what's the feeling about this change to a more formal structure?

CH: well if we didn't have a formal structure you'd have eight different projects going forward, so SEAI pushed us in this direction to just have one. So when we started we had one in Drombane and then Kilcommon, they wanted to go on their own, SEAI pushed us the whole time into having one administrative structure.

SC: do you think is that because you might be able to then have a fund that that structure could be responsible for? I saw something about how one of the groups is doing an energy mapping now funded by the community fund?

CH: oh yes, well I suppose that's energy but if you like it hasn't come to the board of ECTC as such. You see the fact that we're eight communities and one co-op doesn't mean that each community still can't do it's own things outside of the scope of what's going on in the co-op. And each community tries to marshal its own householders and do work on behalf of the co-op on all the householders and say to them we want the co-op to administer that out so a lot of the paperwork is taken from the local community, which was an awful problem in the first two years. Now it's sort of more centralised, more formalised and Marcella as the manager of it and Clare as the financial controller of it.

SC: does the co-op set a common vision then, or targets for the eight?

CH: well the co-op it's build into the structure of the co-op movement documents, the vision and all that but we're still left with the communities getting in behind that vision but having another vision for to do other things aswell and to develop new things,

SC: sure, but has anyone said 'we want to be 20% more energy efficient or 50% more energy efficient' say by a certain time?

CH: I think we have, we've talked loosely about that but it isn't tied down very exact. You see we were so engaged in getting the retrofits done that there wasn't time allocated to thinking out other issues outside the retrofitting. That needs to be done, if you like, we have fell down on that. But there was an inordinate amount of voluntary input was another issue and the other issue was accessing bridging finance. All of the work had to be done and paid for by ourselves before we get the grant, and that meant getting a huge amount of money on a bridging loan from Clann Credo. They have given us a €500K and €750K and a million on several times to cover the work until we get

the grant. And for voluntary workers they might see themselves involved in big money with risks and that's a concern, but actually getting the money and the cost of the money and the administration of getting the money. Now Clann Credo, their principles line up with ours, community and all that but by virtue of the fact that they're taking no security, they're giving it to us on a sort of personal covenant basis, without any hard security as such, they're compensating for that by keeping very close to the project, by getting reports from us on every single move that takes place. So you're sort of reporting on every single move to Clann Credo to draw down, whereas the normal bank, they give out a loan, they take security and they say come back with that loan or we'll take your security but they wouldn't keep following you very closely.

SC: and do you think communities would prefer to have more autonomy?

CH: well, I'm saying there's a hell of a lot of work in keeping Clann Credo updated with information. In other words, it adds substantially to the administrative burden, apart from the cost of it which is very high.

SC: the credit cost. But at the moment it's the only option you have.

CH: the cost of the bridging loan, we've paid enormous costs. The banks wouldn't give you that sort of money. There is another crowd in the north similar to Clann Credo but their terms and conditions were similar so we didn't go looking there.

SC: so we're talked about the financial supports. The technical supports were really from LEADER and TEA and the college. I know we've discussed the limitations of the grant programme but what supports would make it easier to be self sustaining in the future?

CH: well I suppose more longer term financing, that's a key issue.

SC: Do you mean funding as opposed to being able to access loans?

CH: yes, more longer term arrangements. If there was some methodology that you could have say a three year scheme and you could report into SEAI on it every year and break it into phases or whatever. So that we know where we stand now for two years ahead, that would be significantly different and better altogether. But other things, well we're talking about conservation all along the line there, but we want to also look at deeper retrofit, we want to look at creating energy now, we want to look at that side of the picture, which is a totally different side and I'd say different skills being required if you're looking at creating energy. But we want to look at that whole front of renewable energy, conservation and generation and that includes wind energy and solar and looking at the other things as well.

SC: in England I know a lot of groups generate income from the renewable side of things and they can get the feed-in-tarrifs there but you start to have a cycle of funds funding other things.

CH: you do yes. The problem is we're too dependant on one organisation and that's not good. You can't survive, you can't plan down the line or think down the line because we really don't know and SEAI can't say to us that they know because they don't really know either. I mean we're critical of them but we're still thankful to them for what they're doing. And we have a good open relationship in the sense that we can fight with them and talk about it and they hear our view and we hear their view. I suppose to some extent we would be critical of them in the sense that they didn't take on board maybe community feedback when they started. It's a slow process.

SC: just to go back to what you just said there about not being dependant on just one entity. **CH:** yes we want to look at the whole question of generation of energy. I don't know if you're familiar but there's Templederry wind farm.

SC: a separate group of people?

CH: they're a separate group of people yes, in north Tipperary.

SC: presumably there's shared learnings, it's not that far away?

CH: we'd be looking at that, yes. There's a lot of windfarms by the developers going up the hills now and they're not doing very much for the community. And we felt that if we had one turbine, and they had.., if we could do some sort of a deal with them even to have one turbine, or better still if we could finance it ourselves the same as Templederry and get off the ground. Now that's a long term project. It took Templederry most of 14 years, that's a lifetime!

SC: an unbelievable effort.

CH: Coincidence I was looking at the local paper there yesterday evening and Templederry are now moving on now to establish, looking for planning permission for a solar farm.

SC: I'll hopefully talk to Paul Kenny, he'll be able to fill me in on what's happening there. So, renewables, looking into generation as a support to get you self sustaining in the future.

CH: yes and we'll be hoping that things will come out of this network,

SC: by sharing?

CH: by sharing, yes, by being involved in the group. We have a fair bit of interchange with other groups around the country and we'd be learning the whole time. We're trying to decide exactly what priority steps we should take at the moment in the whole generation area. And that takes a good bit of tossing around and thinking about it and talking about it and planning.

SC: and probably moving up a gear in terms of measuring baseline and measuring savings.

CH: yes, definitely that needs to be done. We're weak on that, we haven't done that adequately, we know that.

SC: do you think with the new structure that you might be better set up to do that?

CH: oh yes, I'd say that. But we'd be still hoping that SEAI, you see they measure their success by the kWh savings generated and we threw in new measures about the impact on the community on top of savings, that would be the difference. We tried to convince SEAI that they could become a sort of community development organisation as well as being an energy saving organisation by being more in the direction of communities.

SC: its not really in their remit..

CH: ah yes, I can see their point.

SC: OK, so I'll finish up but if you were to say, how would you measure success in three years time?

CH: I think I would tend to measure it by saying number one we'd become more educated about the whole energy area but number two is to be on line to do something by way of energy generation in the community, renewable energy generation. Nothing will happen in two or three years, it doesn't happen that quick but if you could see yourself on the way of a community venture generating electricity for our own people that live here and then maybe selling it on to the grid, that would be a huge, huge thing for the future, long term. I've a notion that sometimes it's as easy do fairly biggish things as do small things in a community. If you can get support behind you and get maybe a bit of share capital. We're thinking about the idea of getting share capital paid in by various members of the community into some sort of a co-operative company.

SC: OK, so last question, what would you say to another community who wanted to start and looking to replicate you?

CH: I would say most communities have the capacity to do it and I think it would be an enormous benefit to the communities themselves and nationally, if we could get an increase in the number of communities who did it. I mean this big issue about climate change and all that, we have the Pope talking about it and everybody talking about it and it's good in a way philosophically to think you're doing something for your own community and you still feel you're doing something at higher levels in the world that's in line with their thinking, you'd say you're killing two birds with the one stone, by going world wide on one level.

SC: the global issues and that you're also dealing with the local issues

CH: yes and like and a certain level of satisfaction associated with all that.

SC: yes, so you'd say to people

CH: well I suppose it requires, the whole question of interdependence between the community and the agencies, that's hugely important in my books. Because you get some communities that do a whole lot on their own bat, things they can do themselves it's fine but I don't think that you'll ever break into the energy area doing much without substantial help from outside, and you need to recognise that. That you can avail of help and that there's help there, the amount of help that we've got from LEADER is enormous, and I'm not talking about money. We got small bits of money for bits and pieces, but it's the effort put in by people, by the likes of Géaroid in particular, TEA and the college here, they're all quite helpful. But we must go a distance to help them then, in other words if we stand back, we can't expect agencies like that to come into a community

SC: and do it all for you

CH: the community must say to themselves, look we have to put our best foot forward and be part and parcel of this and try and push along as hard as we can and other people will help us. That's a crucial thing I think in getting interdependence between agencies and communities, that's a huge issue I think.

SC: that's great, that's really interesting, thanks very much Con.

Transcript No. 2: Aileen Campion, Birdhill

03 March 2016

SC: thanks for participating Aileen, could we start by you explaining the background to how you became involved in the ECTC project?

AC: Well, Vincent Carraher, TEA was involved in another programme called Gruntvig, which was European led and Ireland, Italy, Romania, Belgium, Holland were involved. So Terry Griffith and I from the village, went as part of the Irish contingent to Belgium and met Paddy Gleeson from Drombane who was involved in their energy project there and that's where we heard about it, in Belgium! So we came back, spoke to Géaroid Fitzgibbon in LEADER and then in conjunction with them, we held an information evening just to see was there interest having presented it to the Tidy Villages, there seemed to be interest there but let's see what's the interest in 200 households

SC: how many would have turned up?

AC: full! Well full room in the hall, we had to get extra seats in the hall.

SC: so most people?

AC: yes most people, but when you presented it as 'save money, get a grant and make your home more comfortable and we also would have said, like BER's, at that time, 3 or 4 years ago, not everyone knew the terminology, now everybody knows it or there's a much greater awareness of it, and we were saying to people if you do this you're increasing the value of your home and saving on the fuel costs.

SC: and at that time money was tight.

AC: money was tight, the recession was certainly down here, the oil prices you were looking at not far off .90c a litre. And having held the information meeting and the good turn out at it we said yes we'll start running it here locally. And at that time we were running it in each locality and because we were operating out of the Birdhill Tidy Villages account we ran it here because we did not want, we ran it ourselves so we dealt with the contractors

SC: so you used the structure of the Tidy Towns (villages) to

AC: exactly and I suppose the respect that the Tidy Towns has in order to built on it, we ran it in conjunction and the network because we have our email distribution list, our newsletter, we have our website, Facebook

SC: so you kind of piggy-backed on that?

AC: yes, had to, like, it's important in a small community and that's the whole thing about trust. If SEAI came down here and did a presentation, people would turn out because they'd be polite, because they were asked to turn out and then that would be it. But because we were known locally it just made, people trusted us to run it. Now that's a lot of onus on volunteers so it is and I would say that summer it practically took over, Terry and I. Because you're dealing with other people's money in the Tidy Villages account, trying to keep that separate and making sure that you have all of your documentation for SEAI in place, like we were down to being 1c out and we were trying to find it. These people are our friends and next door neighbours and you just couldn't have it fail. Because you'd be going out and where am I going to live?! Now the first year we had 30 houses and the community hall. We did the community hall which was fantastic because it was like a showcase, so now you had this fantastic lighting so painting classes being run that couldn't run before because the lighting was appalling and the heat then for people, it was holding the heat. So they spent €12,000 and they got €6,000 spend back, now I had to sit in front of the whole hall committee twice, getting grilled.

SC: because this was coming out of their hard gathered funds?

AC: yes, to justify the spend but they kept saying well if they

SC: did they want to know the payback and what their bills would be?

AC: oh yes, that was all worked out. We have Marcella as our project manager, so when we get the quotes in she basically she does up all the paybacks for each individual item, for every house. So that was great for the community hall because you had to sell it from both the monetary point of view and long term investment. But then it's been great as a showcase. And the fact then when Duncan (Stewart) came down for EcoEye it was there that we all met, so you could see. And it has made a big difference, and they're getting more business then for the community hall because it's warmer.

SC: so would they be renting it out for things?

AC: yes, small like but it makes a difference, it pays the utility bills. Particularly the lighting now, they've noticed that has dropped significantly.

SC: they've put in LED lighting?

AC: yes, exactly and zoned heating and Margaret who's in charge of it, she can do it from her phone so she doesn't have to be up and down to the hall to change things, so that's great. And then with householders, you would get someone doing it, now the first year I suppose it was very *flahulach* in

the sense that we could do doors and windows and the attic and the cavity. Now I know in one or two of the communities they put the stove in to find the attic wasn't insulated but you had to work with people and it's not always easy, people get fixated on, they have this done. Now the problem with SEAI is they want deep retrofits, now I don't have €12,000 this year to spend, I might say yes I'll do it over 3 years and that's €4,000 each year or I might do it over 4 years and that's €3,000 each year.

SC; so you need a logical way to do this,

AC: exactly that's it. In fairness the contracts go out for tender, the BER contract goes out for tender and we've had a local guy and he's been very good because it's all local, and he's been great to spend time with people so he goes in to do an audit initially he'll give advice at the same time but we can also provide it, not exact but Terry and I, we'd have an idea of how to approach it, just from the experience. Now SEAI are supposed to be providing some sort of three year programme but we haven't seen those supports, this needs to be in place like last September! So we're building on it each year and people are telling people but now we're into the situation, with much more of a take up now, we've gone from 30% for what we call 'can-pays' to 35% there's a big jump in can-pay interest this year, I don't know what it is, perception even though it's only 6% more but it's made a big difference. But we're having to explain to people who say but I'm not paying €2,000 for a door that you're not comparing like with like. And then you've things like every year when we do the presentations, I say to people now look this is not, you have to go through a process and we go through the whole process with people and we tell them that we have contractors there from the previous year who give them a baseline average of what it will cost and we have the local Credit Union involved. This was something that came out of last year, you see we get feedback, I ring all the householders and say what could we have done better, what worked well, what did you like or didn't like. And one of them was could you have somebody there to tell us approximately the costs and then we were saying we'll get the local credit union involved and have them work out if you were borrowing what it would cost. So this gives people an opportunity to save towards it and to plan, because that's the one thing they say it's too tight if you're not telling me until May..

SC: and this is all working around the grant system.

AC: yes well you have to work around what you have, there's no option, that is what it is.

SC: so you said there' s I think 4 of you on the core group

AC: three now, in Birdhill but last year we set up the cooperative, we spent 6 months to get consensus,

SC: because you were bringing, that was 8 groups coming together?

AC: 4 were really invested in the original core and the other ones then are kind of, we're trying to get them in a bit tighter, they're kind of 'ah sure you know..'

SC: say here for example in Birdhill, you've got the core people. To what extent are the rest of the community involved?

AC: they're fantastic, when I ring and particularly those who were involved the first year, and I say to them will you come to the meeting because I want a householder there who got work done before and are you happy to be asked questions. So we have householders from previous years at the information meeting, after the presentation has broken up, who can talk to other householders. Householders who've had external insulation done have actually had other community members come to their houses and they've explained the whole thing to them.

SC: so you've had that kind of support

AC: It's brilliant support.

SC: So it is a community project,

AC: oh yes very much so

SC: because I don't want to define community energy initiatives just under BEC grant scheme, I'm trying to understand it in a more holistic way so I'm trying to get a sense of how you would describe your community, what is the motivation for people to get involved, to what extent are they involved or are they just waiting for something to be done for them?

AC: I suppose initially probably, suck it and see kind of attitude and then in fairness the brave souls that went for it benefited because there was a 100% grant for those under the three criteria, *(fuel poor*) I hate the expression, but that first year you qualified 100%. Like we had one householder who got external insulation, attic, windows, doors and stove and €100 was all they had to pay. Now that saying, they were all sleeping in the one bedroom because the place was so cold.

SC: so it's transformative for a family

AC: precisely and they are so on board, they couldn't be more helpful. Now, the one thing that is very important, very important was that complete discretion. Nobody knows who got what, people can guess given the amount of work that was done for people perhaps but I'm the only person who knows, none of the others know.

SC: because in a small rural community people would be worried about that?

AC: yes, I had to give assurances that I was the only person on the committee that knew anything.

SC: You mentioned earlier about people not knowing about the individual grants and that they weren't been taken up

AC: you see you say something down here to, like we had a house done, attic done, doors done, boiler done for a woman in her 90s, now I won't pass judgment on whether her four sons should have got it done for her but, it took an hour for the house even just to heat a bit there was no attic insulation. Not an old, old, old type of house and how was she going to know about it?

SC: and even all the paperwork and feeling that someone was knowing your business, all those issues. So the community approach helps, I'd call those, hard to reach households.

AC: it does because you see, we run our information evening and you get people talking, and actually one guy who had work done last year, he has given me so many people because he does work for people, bits and pieces, now he's kind of semi-retired but he goes 'are you thinking of getting that done, have you heard about what Aileen and Terry are doing up above there in Birdhill?'

SC: drumming up the support and the interest..

AC: yes, exactly and he's actually talking nearly to people I wouldn't, you see I wouldn't know everyone in the community because I'm a blow-in but at the same time it's through people, say there's a lady now, an older lady who had her house externally insulated last year and her son has been very grateful for it and has drummed up business. What I refer to it is like a capillary motion, you know the way with water you have a drip but the problem is over here and the drip is manifesting itself there so you start something like this you have no idea where it's going to go, you just don't. It kind of gives an idea I suppose of, I just think it has so much potential. And this is the bit that, like you're putting in stoves, our chairperson of the Limerick Tipperary Forestry Association, like they have first thinnings. I mean they wouldn't have to contact the lumberyard, they'd be getting a better deal and you could have two or three people employed, it just beggars belief.

SC: Great so I suppose we've been talking about what prompted you to focus on energy, what are the drivers. Is fuel poverty an issue?

AC: I didn't think it was until we started this. I mean Birdhill would be very much, I would call it middle class compared to some of the other communities, but it is shocking what's hidden behind doors. Now if you had said to me that you'd have a family living in one bedroom because they could not afford to heat three bedrooms, like I was shocked. Now the other side of it is that there is an

element of well, you know 'the government should be providing this', for older people there's an element. So you have to say to people, make it perfectly clear at the information evenings what is allowed to be included in the grant applications, so you're not moving goalposts later which fundamentally undermines your credibility.

SC: Which comes back to your dependency on that as a funding source. I think you might have touched on it earlier on Aileen but just improving the community services as a driver, I think you were talking about classes in the hall?

AC: and that's been fantastic because on the one hand it's a showcase for energy efficiency so you have painting classes that can be run because the lighting is so much better, it's warmer for children's sit down activities. Even though they're not very expensive but the utility bills now could be paid from from the increased business

SC: rental income, so the savings are generating further

AC: exactly it's how would you say, it's building, so now you have this much nicer building, people are more inclined to use the facility locally.

SC: and then there's the non-energy benefits presumably?

AC: yes well from a community point of view you're actually getting people, it's fantastic. So whether it's cards, whether it's keep fit, whether it's cultural things, so you have concerts now more in the hall because it's pleasant to sit in it. People aren't going in going 'oh god I don't want to go down there because I'll be frozen'

SC: I'd prefer to stay here at home, even if I'm on my own..

AC: exactly, that in itself.

SC: and do you think that was anticipated?

AC: No, definitely not.

SC: so not a driver but it's an outcome

AC: it's a very pleasant outcome, delighted so we are but definitely not anticipated.

SC: but then potentially might inspire further..

AC: well this is one of my points. At this sustainability workshop that I was at and Lorraine Power from Cratloe, she's an Environmental Awareness Officer and she was giving it and I was chatting to her, and she rang me afterwards and now Cratloe are looking at doing it because she said it's freezing, it's absolutely freezing because they have no insulation behind the wall, nothing.

SC: OK, we talked about achievements but I'm just trying to establish level of activity, Con has filled me in and Marcella is going to help with this table but what aspects do you think have been most successful?

AC: I think awareness, I think that has been fantastic but I think also, if you think about it, people feel they've been gouged for the last number of years, and now there's the potential to be getting something back in your own home, so if you're paying for it yourself you're getting 35% back and you have a warmer home. And people have noticed it, even things like we had Owl monitors aswell and one or two houses were saying 'oh my electricity bills have gone sky high' and we've let them borrow them so they're monitoring, so they're noticing so there's much more focus.

SC: so the impact would have been on their heat but now they're realizing 'oh how's my electricity, what can I do about that maybe'?

AC: exactly, I suppose it's not just energy in terms of fuel it's also energy much wider and now even because Terry and I would be involved in it, there's much greater, you know people would be asking things of us. And even things like we're looking at doing things like the 'stop food waste' and we're putting in pig composters, so all of these things are tying in nicely. Terry was in the US and he brought back a solar panel for our information kiosk, we have an old telephone kiosk so that's on top of it. With the energy credits that we got from the first year, that we haven't got since as in we've had to use them to pay off the loan, we're putting in two solar lights down in the park, stand alone solar lights. And it takes time.

SC: you've greater awareness of green issues. So I'm interested in is does the community approach have potential to make the green, sustainability agenda more 'normal' for people?

AC: yes, it's not just the sandal brigade! Or 'Aileen won't let us use', the slagging I get because I'm the only girl down on the allotments, 'Aileen won't let us use pesticides'..

SC: so do you think it's coming around more to the norm that you would be energy conscious?

AC: oh I think so, definitely.

SC: About measuring the success of the project, do you think it's useful to measure the kWh's saved, has that been happening?

AC: yes, I suppose the focus on measuring it has really been on the energy credits but people just love telling you that their electricity bill has been reduced or that they're not using as many fills of oil. And that would be the best way of measuring the effectiveness of it.

SC: so they need to know the results.

AC: oh yes, definitely, without a doubt.

SC: and is it being done? I know you've to estimate it at the beginning but are people going back say 12 months later and measuring it.

AC: no, it's not being done in a structured way.

SC: but in an anecdotal way you're hearing it. But do you think there would be a benefit in doing that?

AC: you could but then, people would be like 'why do you want to know that?' you've got to be very careful about the level of information you're requesting from people that it's not too intrusive.

SC: So useful for people to know but they're not necessarily at the the stage of wanting to share that?

AC: no, no, I would say definitely there's a whole issue about confidentiality and that would be a big factor in terms of people even going along with the project. That's a big factor, they want to make sure that this is not being shared far and wide. On the other hand, you have the same people if something was done on their houses, part of the scheme, they are quite happy to have another community member come up and they'd show around.

SC: OK, so renewable energy hasn't been a huge part of it to date?

AC: well no one of our householders put in a wood log acidification boiler, because he has forestry, that's a huge expenditure for him and he had two years of research gone into it, as he said himself, perfect timing for him.

SC: Would he have done it anyway?

AC: Well, he could have spent another 2 years thinking about it, whether he'd have done it, but here was the opportunity to get a third back.

SC: so that was the nudge to get him over the line?

AC: oh nudge, you said it!

SC: and then that's a demonstration then,

AC: yes and it was a pity that it wasn't included in the Ecoeye programme, it was filmed for it.

SC: so are there other ways that you'd measure success apart from the kWhs?

AC: I would say just on the whole change of focus and the potential now to have a conversation about local jobs. What you could do locally, like the brilliant thing was, it's local employment, all our contractors are from North Tipperary. They're employing guys, they're training people, they're getting better themselves, their standards are getting better because they're being inspected. Not

saying they wouldn't have been good but now there's an outside focus, not just the customer. And the feedback, they're getting positive feedback, they know I ring all the householders every year. They would say whatever about the inspectors coming, they would probably all dread a phone call from me more, because I don't care, I'm not putting a tooth in it. Like Terry and my name would be most closely associated with this and I don't want my name sullied because of work they haven't done properly. They're being handed this work to them on a plate, they know there's no gaurentees every year but it's amazing how few are interested.

SC: so that's another way of measuring success..

AC: And also I would say that its no longer a clappy, happy, alternative conversation to be having. So from that point of view that has made people, like solar panels now, people are actually interested, renewable technologies like PV are being spoken about, now people are talking about their family who are living abroad and their' bringing that back.

SC: so has it triggered other energy conservation initiatives?

AC: well the solar panels down in the park, the little solar light on the information kiosk

SC; and how were they funded?

AC: the energy credits but now we're hoping to fund raise to add a third one,

SC: so it sounds like there are other initiatives happening as a result?

AC: yes and what I would be hoping then is you have eight communities and all those householders who had stoves put in and what you could now start looking at is you have first thinnings in conjunction with the Limerick and Tipperary Forestry Association, so to try and get that but that takes time.

SC: Do you think that it's having influence beyond your community? You could maybe say, you started with four and now you have eight.

AC: and Cratloe, and we have other communities looking to join, but we need to bed this down, like there's no point in us taking on loads and finding that we're.. the message at our information evenings needs to go out, the contractors, the credit unit, the householders they are all there, this year we had Boru Stoves with their, it was brilliant. But it has to be professionally run.

SC: so volunteerism but you need an organisational structure.

AC: yes, it has to be. Because people have so many questions and they want them answered.

SC: is there influence beyond the community?

AC: oh we have communities waiting to join us, like this time we have Cratloe out in Clare.

SC: and do you then start to question well how do we define our community.. I'm interested in how they are defined, are they defined geographically?

AC: well you see, if you can get, I think your community hall is your key in. And I'm saying to Lorraine this, if you can get a cohort of people to establish what we've done and get going from there then you have the potential to set up a cooperative in Clare. And I'd love to see a coop in Tipperary, Clare and so on and so forth.

SC: I think what you're saying is that you don't just want to keep expanding and expanding out

AC: no

SC: but you're very happy for others to learn from your model..

AC: yes, I don't think the model works unless it's kept local, as in county local. I know that sounds very parochial but that's where it's all about trust.

SC: yes, trust. And like I was saying at the beginning, community energy being defined by ownership of the process and benefitting from the outcomes locally.

AC: yes, exactly, that has to be it.

SC: I was going to ask you about the change in the organizational model, how do you feel about that, having gone from two, three parishes to ?

AC: to directors within a cooperative?

SC: yes

AC: your decision making is so much longer, I'm not used to that. I'm used to making decisions and it's just 'go with this' but this consultative process has my head done in. I understand it and only for Géaroid being there as the facilitator, mediator it would not work, it wouldn't! You need someone.

SC: so he's the champion then?

AC: oh definitely, definitely like if he wasn't there it wouldn't have got to this stage. He has the patience of Gandhi. I'd have walked out..

SC: do you think there are benefits to the new structure?

AC: oh no I do think, because it moves it onto a more professional basis so it does. Now it was three to six months of trying, we had a path worn into Nenagh, two meetings a week maybe at times trying to get this ironed out and sorted!

SC: I wanted to tease into the obstacles you've had to face, the challenges, what hasn't worked?

AC: emm, SEAI have not been easy to deal with, that's been our biggest challenge, funding and the fact that it's every year and you do not know from year to year where you stand. So we can't say to

householders, plan for three years, because we can't plan for three years. And the other thing is what they are looking for, they're looking for 150-200kW jump in energy savings. I don't have money every single year to do that, so this year I do my attic, next year I do my cavity, next year then it's my stove and maybe my front door. But the year it comes to the front door, they don't want to allow that so they're not allowing a momentum to build, then they're not taking into account the vagaries of household budgets so you have this, they want you to spend like €10,000! It's not realistic is just isn't.

SC: I suppose that's a challenge to do with that particular funding structure and back to are we too dependent on it or are there other ways?

AC: yes but how do you fund it? At the moment our energy credits are going to a half a million loan last year and we're still waiting on some of the energy credits to come in and pay for that. The interest bill on it now, even though its Clann Credo.. I just think like how do you build on it? You can't go door to door looking for it. So the thing is how do you fund it, that's the biggest difficulty so it is. And unless you have the energy credits in which to build, and you're just using your energy credits just to pay the loan well then how do you progress the project?

SC: so they're not going into a fund?

AC: no, there's no fund.

SC: Other obstacles?

AC: A big problem is keeping your 'can-pay's' who express interest in it, when they get their quotes and then you go back to them, keeping them on board and getting them over the line, that is a problem.

SC: do you think the community approach helps that?

AC: well the problem with it is insisting that 2-3 measures are being done, it's beyond the financial commitment that people are prepared to give, whereas if you could get them to commit for three years and the energy audit is done and OK you say your attic, your cavity and your front door needs doing, then you'd get them to sign up and commit for the three years, but sure how can we, we don't know from year to year.

SC: Yes, I'm trying to see is there a way that communities don't have to be so reliant on BEC as the only show in town. Anything else then on challenges?

AC: Time, time. The commitment of time that needs to be given to this, even with Marcella, because people don't know her. They want to talk to someone they know, my phone rings early in the

morning, late at night, I might get callers to the door at any hour, weekends! I don't know that there would be too many people that would take it on. Like Lorraine now in Cratloe, would say to me, like I know this question is going to come up from the committee, why are you allowing us in on this scheme? Why are you doing it and what are you getting out of it? Like other than grey hairs at the moment, you're doing it for, I know it sounds mad but you're doing it for altruistic reasons. That's the reason your doing it and why, I don't know!

SC: sort of a sense of duty?

AC: well when we ran it the first year both Terry and I said we'll just do this for one year. And then you hear stories of families and what they are going through and you see the difference it makes. And you feel a sense of social duty? I'm not quite sure, look it depends on your outlook on life. I just feel you're here on this planet once, you get one stint at life. I'm not religious but I think if you can do something then you should be doing something and I just think that it's the right thing to do, don't ask me, it's not to 'do good'.

SC: is it to do with climate change, the global thing?

AC: no, because it's more, you're looking at the homeless situation in Ireland and you're driving into Limerick and you're seeing void houses, boarded up and you kind of think, there are solutions sitting right on our doorsteps and I don't know what it is, have we not just got the will or the energy or the get up and go to just do it. This to me just has the potential to replicate this has the potential for a movement that is moving up rather than being told what to do, I detest being told what to do. So there's this, even with businesses, I've never had a tougher sell, I'd sell ice to eskimos easier, free €1,700 audit to businesses, 'why, what's the catch' is the first thing. We have a cynical race, it's always what's the catch.

SC: so energy isn't necessarily a driver?

AC: oh it is but there are so many businesses over the past few years, particularly small businesses up and down the countryside and basically like the wolf is at the door and they're basically at the other side with their shoulder to it, it's that tight. Now this Christmas, businesses in Nenagh, this was their first good Christmas in years, years. So you're not going to be thinking about energy because you know you don't have the capital funding, it's survival. But now, but yet still business people are very cynical about if it's coming from government but they see this project as being local.

SC: from the bottom up

AC: yes.

SC: so the supports then, obviously you've brought particular skills to it then and the people you were mentioning have brought their particular skills, anything else that the community brought to it?

AC: LEADER, this would not be happening without LEADER, that's the reality. Now I'm not here as a cheerleader for LEADER but there is no possible way this would be where it is today without GF, that's just the reality. He's mediated, he's facilitated, he's come off his holidays to get this over the line, like there isn't anybody I know who works for the government who gives a commitment like this.

SC: so you wonder is it replicable then if it's so dependent on the particular leadership skills of one person?

AC: well I also think now to be fair, I think LEADER in North Tipperary, the financial management of it was given over to their financial accountant Clare last year, and that worked much better, because Marcella, she'd say it herself, figures wouldn't be her stronger point and it was just cleaner and less problematic to have it from somebody who has those skills, like Clare would have been very involved last year, so that's two people within a small LEADER program. And then Vincent Carragher I would have said was very good, he was excellent in getting people thinking about it, probably where we would have come from, because it was Gruntvig and that trip that really was the catalyst for us.

SC: OK, technical supports, how did you approach that, did you have the technical supports that you needed?

AC: well we had a local BER guy, that was fantastic and then Terry, because of his background and he's installed solar panels himself he can talk about things and then our contractors are fantastic, they are great for explaining what's required, they know what's expected and they'll spend time with people.

SC: do they go back and help people use the new systems?

AC: yes, particularly the Climote, because you need to. Our plumber, the guy who installed those, 12 times he's called to one house, now if that isn't commitment!

SC: so those supports are working well?

AC: oh yes, no issues there, but what I would like to see and this is something that is supposed to be coming through SEAI, that you would have people locally who are trained, the same people that are on TÚS schemes or are long term unemployed or that and have them trained in providing energy audits. So that you'd actually do the energy audit first, it would make much more sense.

SC: If you were to think about what supports are needed to become self-sustaining?

AC: you'd want to have a business running that was generating money, that's the reality. How do you fund, you're talking about people that fall into those three categories *(fuel poor),* how do they fund it for them? Like external insulation, you're talking about paying €16,000, we don't have that type of funding model in place.

SC: have you thought about how, are there ideas for what that could be?

AC: see that's the thing, you know Vincent was saying that certainly when you get to a certain size that there would be funding models from Europe that are available there but the difficulty is it's very hard to get to that size if you don't have, if it's running from year to year. So we don't know next year is it going ahead, isn't it going ahead, so there's lack of stability that's the reality. I'd prefer us not to be dependent, it would be a much nicer way to be trying to operate because you could plan five years down the road, this way you can't plan. The only thing you can plan is to keep putting people on waiting lists.

SC: I know it's not an option at the moment but if feed-in-tarrifs were on the cards, could you see that as being a route you'd go? Would people have the appetite for scaling up?

AC: oh yes, well if you look at what Templederry have done, if you could say to people if you could actually say to people, look if we all invest so much in this we can be self sufficient in electricity and the excess we can sell on, I think definitely. They come in from outside, and that's the whole thing, forget about it. People are already, no, before it's even started no!

SC: because they're not going to see any benefit from it

AC: no they're not and the only thing you have is your view or whatever and it just doesn't matter all you need is a small cohort of people to get up in arms about it and people then don't want to fall out with their neighbor,

SC: so it just stops dead

AC: exactly, that's just it.

SC: do you think the fact that Templederry, I know it took them 13 years to get there but it's there now, it's a demonstration to people of how things can work?

AC: it is but it's amazing how very few people locally know about it.

SC: really?

AC; oh, I would say there's more awareness abroad about Templederry than there is in some quarters of Tipperary.

SC: and is that just because they're not interested in telling the story or..

AC: well what's the forum for the story? There isn't one no more than there isn't the forum for the energy communities, where were we going to hear about that other than North Tipperary, they don't even have an EAO (Environmental Awareness Officer). We went to Clare for our sustainability thing because we don't have one here in North Tipperary.

SC: even with the Energy Agency being here, you've got TEA?

AC: Like Vincent would have been very involved in the communities but I don't get the feeling they have the same community focus that they used to have, that's my feeling. Now Paul is one of the directors on our cooperative but we're not going with them this year on our project, so we're not. This time round we're keeping it separate.

SC: but is that a natural progression maybe?

AC: well we did it the previous time, they did our application but Marcella did our application now this year for us because that had to be tendered as well, but she'd probably have a better handle on the realities rather than on the what would be nice to do, and to be honest you have to deal in realities at a community level, you might have great ideas but if it doesn't work at a community level it's not going to go anywhere and you need buy-in.

SC: and within that you have the realities of each year and what you're doing but has the community signed up to an overall vision or target of where you're trying to get to? I'm looking ahead to how would you measure success in three years?

AC: well it's easy in a small community because what were hoping to do is with the transition year students in the Newport College is to get them involved in the project next year in looking at all of the 200 houses in Birdhill, because it's easier look at a smaller grouping. And get them asking have you attic insulation, and how much do you have, do you have an open fireplace. They're more inclined to answer questions from the kids doing the project maybe than they would be from me going around door to door. And that'll be a way and I'd like to be thinking that we've had an impact on, like in time I'd like it to be seen that because the scheme has been advertised and because people have looked for information even though they might not have gone through the scheme, like I had a text last night from one of the guys who had signed up because I'm going to get the cavity done separately myself. I don't care, he's got the cavity done. Yes he's not on the scheme but because of the scheme he's gone and got the cavity done anyway.

SC: so it's having that impact

AC: exactly and that's what we'd like to see, so the way in time that you would actually measure it when you look at the houses there'd have to be a question on it, have you heard about the local energy scheme and have you done some works as a result of it, not as part of it but as a result of it. So you have that going on.

SC: OK, well I was going to finish up with what advice would you give to a community who were looking to replicate, you've probably had those conversations with other people.

AC: The first thing I'd be saying is using the resources that we have, from the point of view of wordpress *(the website)*, documents we have, sitting in on our meetings, the information evening or roadshows that we run and this is something Con spoke to you about the roadshow that we want to do in North Tipperary and have the likes of Boru Stoves there, have contractors there, the credit unions, BER assessors, just people that you have general information, examples of different lights. So that it's, you know all of these energy shows are run in cities, they're never run out in the small localities, just to make it real.

SC: and is that something that you'd just fund yourselves?

AC: oh yes, that's volunteers.

SC: so learning from experience, the networking then is obviously really important.

AC: exactly, why would you reinvent the wheel if it's working here?

SC: Actually one thing I did want to ask you about was I know in Mayo they have a huge range of community buildings that they've retrofitted, the schools for example, are there other community buildings that you'd like to get involved. You've got homes and community halls

AC: thinking like the GAA pitches and then starting on the businesses this year. Marcella will talk to you about the GAA pitches, very expensive the lighting now presumably the technology is still relatively new so it's expensive, maybe in two years, but certainly we've done I think there were eight community facilities this time, now that incorporates everything, if you want to ask her about that. So yes, I'd love to see on a community hall, you look at the roofs of community halls; water harvesting, PV panels, solar panels. Like you know particularly in smaller villages that are villages, not like ours where the community hall is up here and the village is down there, you'd have distributed heating, it's a pity not to make use of it. Now probably it's different for us because we have a gas pipeline running through so that's not going to.

SC: but are there other people like the schools?

AC: the schools won't do anything because there's been talk for the last two years that the Department of Education is funding retrofitting. So they're saying no,

SC: they're holding back

AC: they don't have funds, it's a big problem.

SC : Are there other community services or other elements of the community that you could bring into the project in an ideal world?

AC: well I'd like to see farmers for solar heating for your dairy, there's a farmer on the way into Nenagh with a wind turbine behind the farm so I'd like to see more of that.

SC: I suppose in the ideal world you'd think a community, it's not just homes and one building, there's a whole range of components coming together. Or smarter travel options or whatever.

AC: through Vincent we've actually had an electric car demonstration down here so we have. And we're trying to keep our train!

SC: OK. I'd better finish then, so thank you Aileen.

Transcript No.3 : Gearóid Fitzgibbon, NTLP Offices, Nenagh, Co Tipperary

03 March 2016

SC: The aim of the research, as I explained in my email, is to explore the potential of community energy schemes, the particular benefits that might arise from a community approach, and what I'm interested in questioning is, is it a way of accelerating the energy transition, the factors that might contribute to this and the supports that are required.

GF: OK, so my two liner is yes and yes, but not without proper funding for the set up part and then some capital supports to make stuff happen, and that hasn't really been there. We've developed this project by default, by accident, because you've got an accident of parties both on the ground in terms of the communities and then myself and some others. And then having LIT near at hand and the Energy Agency. So the accident of those factors has produced what we've done over the last few years which is like, we've basically done 300 houses and leveraged funding for the community. So that really happened by accident and then SEAI had their scheme there, that's BEC, but really we needed that sort of capacity. There was about a year and a half or maybe even two that went into it before any houses were done.

SC: when you were doing the survey and gathering baseline information?

GF: yeah. Sorry I'm only kinda giving you, because I was thinking before you came down that if you were to ask me in response to your question, they would be my two lines.. and anything I say will basically be saying that.

SC: that's fine, so yes, it does have potential but yes, it definitely needs two key supports.

GF: yes, it needs the initial capacity building support to help groups get together, to help show them the model, to get the personnel there to go out and work with these projects and then follow up capital support. Now that is there but there needs to be more of it and it needs to be more tailored to communities. So that would be the headline response to the question!

SC: well it's a good start!

GF: but ask away whatever you want..

SC: well as an introduction, how did you first become involved with the ECTC project and what has been your role in the group?

GF: I got involved as a community worker and when one of the local community in Drombane came and asked us to do some community planning. That was my entry point.

SC: so it wasn't necessarily from an energy perspective at that stage?

GF: no it wasn't no, and not to speak for the local community but their objective all along has been local development. So we actually both came at it from a local development point of view. So we did a community planning exercise then over a number of evenings where we looked at what.. their question was can we get something going in the village, it was as simple as that. And the exercise I facilitated then, was well what's in the village currently? So we spent some time listing the assets of the area and then looking at the problems or the challenges and then looking at some solutions. So basically the three of those, that was more or less what we came up with. And then we looked at a list of potential solutions or actions that maybe we wanted to see and energy might have been 5,6 or 7 on the list but we started to go through those 10 points or whatever they were and gradually energy kind of, had been mentioned as a topic, but they were also looking at the heritage of the area. The idea of doing a village plan had been mentioned, energy as it was mentioned in a loose way, it was decided then in terms of the group discussion that we needed to explore that a bit more. So we did that. We had a themed evening on energy, where we were looking at well could we put up a wind turbine, could we look at maybe using some of the local timber in the area. It was Seamus Hoyne of TEA [*LIT?*] who said well you can do all those things but really you should start at stopping the waste of energy from the community. Well we hadn't thought of that, we hadn't thought of that as, it's not as obvious maybe in some ways..

SC: it's less exciting

GB: yes, it seems less exciting. So that was it. So my involvement all along then was tying that together, facilitating the meetings, trying to focus the conversations, trying to have a conversation where there's outcomes and actions and making sure that there's some follow up there. Because you know, it was with a sort of a weakish community, there was one or two main drivers there like Con, well, one driver there Con at the time. So there wasn't really a set group either.

SC: so you were really starting from the beginning?

GF: yes we were so, so all along it was that type of stuff. And then we went from there to then saying OK energy so let's look at this saving energy, how do we do that? And we were kind of scratching our heads for a while on that one. So we said well maybe we could do a survey in the community, because we're maybe not fully convinced about it and how are other people going to be convinced about it? So we need to see is there something there. So that was when we did a survey then.. LIT came in then from the local college. You probably got that part of the story anyway.

SC: well I've seen the report on the survey

GF: so that was fantastic because we got a student out and with her designed a 10 or 12 question, 14 question survey. That then was delivered by members of the community.

SC: you went around 200 homes was it?

GF: 400 homes and there was an 85% response rate but like we used the GAA's technique..

SC: what's that, like doorstopping them?

GF: no, it's like, we were at a meeting one evening and we were saying how do we get these surveys out to 400 homes, like we need to map or something, and one of the lads says oh yeah you'd have this *(picks up folder)* and they produced a map out of the blue which had the whole parish divided into 10 zones, and that was what the GAA used for fundraising. So it was fantastic, that problem had already been solved in the community. So we used that and we had two teams in each zone. We had a surveying team of 20 to get around the 10 areas.

SC: OK, 20 to get around the 400 homes. So I know they established their approximate energy spend and then you thought, well if we can save a bit of this then that's potentially worth this much to the community. I suppose one thing that I'm wondering from the discussions earlier is, they've done the work to a lot of homes but it's not really clear if the savings that were the driver for it have materialised.. you know, for various reasons. But that doesn't seem to be stopping the project or holding it back

GF: how do you mean?

SC: well there still seems to be enthusiasm, there's still a desire to do more, to continue on building, it's gone from 2 parishes originally to 4, to 8. But I'm wondering is it, because there's not a formal thing of following up on that survey to go back and measure and quantify what savings have actually been achieved. It's just the contrary view that I'm exploring, is it a bit anecdotal that people are saving and have they actually got financial benefits. I know the social benefits are coming to me loud and clear and that side of it I think is as important, but I'm just interested to tease that one out.

GF: well, yes, look the energy savings are calculated on the scheme and we have utility company partners that buy that energy saving off us

SC: that's based on BERs?

GF: based on BER, so it is an estimate, yes. And it's based on the values that SEAI attribute aswell to those measures carried out. Like, are people turning up the heat higher now that their homes are better insulated? Maybe they are. People have said that they're spending a lot less money. We have

done qualitative surveys for each year of the scheme, as in we've rung around all of the people that had work done and seen how are they getting along, were they happy with the workmen etc. What we haven't done is that piece of trying to quantify that, that would be a useful piece of research to do actually. So if you know anyone who wants to do that send them our way! The thing is we were never really, we were more about changing the technology and upgrading the materials in the home. We didn't do so much on the behavioral change, we did a little bit on it, in that it was always mentioned at the public meetings that we had but it wasn't the foremost. I know in another part of the county, Birdhill, they had a whole project on that, separate. But we were never going to win.. like it's the demographic in Drombane, is not 'save the environment'.. if you look at the survey that we did, originally we asked people what would be their motivation for getting involved and the top one was to save money. So that was the top motivation, the next one was to do something for the local community. And out of 10, probably 8 down the list was the environment, could have been 9.

SC: that comes out in other communities aswell, it's not necessarily the global picture, the global scale issues, it's often the local but at the same time if you were to ask that question about does it help accelerate the energy transition, it would be useful to know, what's it actually giving in terms of fossil transition.

GF: it would. And we're only going on, like SEAI set us targets and we try to meet them. So they look for a minimum BER uplift and we've tried to meet that, we've met that as an average across the project. As to going into the houses and saying well are they matching that with their own behavior, I don't know. So that is a gap there.

SC: OK. But there's a whole thing about the distinct benefits of a community led approach seem to be pointing to other things aswell as the energy saving.

GF: oh it is but I think across the board you'd find that, I think I have a presentation here, you might have seen that, one of SEAI's own events (*finds link to Dr Ruth Mourik*) I think she spoke at an SEAI briefing on behavioral change, she was speaking on relation to the experience in New Zealand, where she was saying there were huge stats there on the societal and health benefits of retrofit. She was saying about significantly people, in terms of people's asthma and less visits to doctors, that were actually quantified out there but that's a whole other kettle of fish I imagine!

SC: it is going on to..

GF: actually what that goes back to is, the focus is too narrow, that would be another thing I would say, the focus is too narrow.

SC: the focus of the BEC do you mean?

GF: yes, SEAI is only looking at energy savings and it doesn't really care a whit about the community benefit. Not that the people involved, OK are as you find them, and some care more, some care less but as a programme, it's not measured so therefore it's not important. And that's been a struggle for the community group over the past few years.

SC: well to start off with the positives, what aspects of the project do you think have been most successful?

GF: well, (*thinking*) just mobilizing rural communities around this, I think that's been quite successful. And I suppose the rate of return in terms of the areas has been quite good, the rate of interest that, our reach has been quite good.

SC: yes, Marcella is getting me the figures but it does that in terms of the number of houses that you've got to out of the total in each area, it's significant.

GF: exactly, it is. There's good local marketing there, and it could be more if there were proper supports.

SC: so what factors would have influenced the outcome, what would you point to?

GF: as in influenced that positive outcome? oh yeah, it's community buy-in, it's buy-in by people that they feel that their community's benefiting, and it's not just the energy saving, the local economy is benefiting, the fuel allowance homes and the elderly so there's a social benefit there too, there's community capacity building element of it. There's a potential for some funds coming back to the community, now small but, that could be invested in other activities in the area.

SC: I'd love to see if that is actually happening, if that model is working, but I don't know if it is yet.

GF: oh yes well it has, but it's been, SEAI have moved to eliminate that part of it

SC: is this in terms of the energy credits?

GF: yes, because they're not seeing the social or community benefit so much, just the energy saving benefit. But the energy saving benefit is only there because you're bringing the community on board with the other stuff.

SC: OK, so I have a question about what leadership qualities impacted on the project outcomes. You mentioned that you thought it was chance or it was that there was certain people here in this area, people like yourself and maybe in TEA, you've brought particular skills to it. Do you think that can happen in other areas?

GF: Oh yes, it can. All those factors are there, a lot of those are there in other areas, but they won't

always come together unless there's a political decision to get them to come together or a decision by agencies. And commitment to meeting the potential in the communities on behalf of state agencies. So if that isn't there it will only be an accident, but if it is there it won't, it has massive potential in my view if it is met.

SC: but at the moment, the way things stand it was the fact that the community got started themselves or were interested to start themselves and then you're here and TEA so it's a coming together of three things?

GF: yes well I saw the potential and a couple of people, including Con saw the potential, so we stretched the limits of what, I probably stretched the limits of what my organization could do, in terms of saying well this is something with potential, lets give it time. It wasn't so much money it was more time. But I suppose that's staff time then which is money in another way. So there was an investment there into that but that was a subjective decision on behalf of myself and the staff here to say let's put time into that.. to meet sort of the fertile soil on the ground in the communities.

SC: in terms of challenges and things that haven't worked, what were the main challenges that the project faced and how did the community respond to them?

GF: it's trying to work in that environment where the agencies, you see you have, you've the Dept. of Energy and the Dept. of Environment and Community. So the community involvement in energy falls between the two you know, its falling between community development and energy and the departments operate in silos. So we're making this work within SEAI, they've liked the model that we've created but it's been very, it's been hard as well though because initially they were going very strong at like 'bigger and better', we had this in one community and then we were trying to replicate it in other areas and I put some time into that. Now we were already, between those four initial communities beginning to share information we had an informal network that had come about so we were sort of, the second year that came about we were sort of bounced into having a big group application..

SC of the four?

GF: between the four yes. So we went with it, but we did feel maybe we were a little bit bounced into it because that was suiting SEAI to an extent because one big project meant less paperwork for them. Now, it also meant less paperwork for us in a sense but the community buy-in is at the small level. Already it's a jump for people to start being concerned about stuff that's beyond their front door. So in the geographical sense, that unit is still of importance in this country, that community

unit. So that's the level that we were getting the buy-in at. Nobody really is interested say in Drombane in what happens in Birdhill, it doesn't really matter to them.

SC yes because it's quite a distance, when you drive from one to the other, you know the way on a map you think they are more or less in the same area but there's distinct geographical differences there.

GF: so that unit, that parish unit is a bit too small for SEAI. Now we've a broader network now and people are working together from the point of view of let's access the funding to do the work and to continue the project.

SC: so that change of organizational model, do you think that's delivering added benefit?

GF: oh well it is because it's allowing us to continue, but the win of the project is at the parish level, that's where there's a local marketing value, there's a reach into communities from there. But people don't identify so much with the bigger umbrella entity that's sort of the vehicle that's drawing down the funding, so it's been a challenge to manage that. It's been a challenge managing the finances as well. It was a huge bridging financing requirement because you have to spend upfront and to do that, there wasn't any banks willing to do business. It was only for the social finance body called Clann Credo, you might have heard of them

SC: yes

GF: it was only because of them that we managed to it

SC: the fact that its now a limited co-op, I'm not sure exactly..

GF: it's a company limited by guarantee with cooperative principles

SC: does that allow you access to other funding?

GF: No, no, they don't want to know you. So all those are issues there. I do think they derive from the fact that SEAI is mainly about energy, it's not about community development. But in this case the two go together.

SC: they do, yes

GF: Now we have militated strongly and had many, like we've some good people in SEAI that are on our side but at times it's been a struggle, there's been changes in personnel there and we've had to reach out. Like the year just gone, the project was more or less not going to work. We were awarded funding but the funding we got was so much lower that we had to reconfigure the whole project. Personnel within SEAI didn't really have time to do that and were probably going to drop us. We went the political route then, we went to the Dept. of Energy and we found it hard, at a certain point

we found that people weren't listening to us even though we'd put a massive project together, we had tendered for it and we had contractors out on the job but yet no commitment of money until late August.

SC: so this is the thing of the instability that I'm seeing. I wouldn't say limping, but trying to get from one year to the next. It doesn't seem to be viable in the long term, there doesn't seem to show a sustainable path.

GF: you see that's only because of the funding model, work out a different funding way and we can handle that. I think that's.. I think this year, well we're learning ourselves obviously. SEAI from their point, have been clearer about the funding levels, they've announced that right in January, not after the application goes in (laughs) so they're clearer on that and we've put in a tighter application now so if we get funding I think those problems won't arise.

SC: yes

GF: now they have also come up with a number of tweaks to the scheme, they've put a cap on the amount of funding, that's been good, they also have entry level for smaller communities. I think that's been largely, well I don't entirely claim the credit for that but we've pushed strongly for that, you know you have to have stuff that's at the level of communities. You allow smaller groups in. It can't be all the big mega projects.

SC: I suppose the thing that I'm wrestling with in my head is the idea of community energy projects is this bottom-up approach and communities having a high degree of ownership of the process and then benefitting collectively from the outcomes but here in a way, as I'm going around talking to people, it seems to be very much hung on BEC, a grant scheme essentially. And that to me is sort of limiting in a way, it's holding people back from what the full potential of the approach.

GF: sure, but invest in that. The communities are voluntary groups, so few enough of them will be flying the flag for saving energy, but if the state meets them halfway, if the state makes it attractive for them to be in that space, they will be in it. Whereas if it's going to be a struggle and a battle for them, they won't. We did actually write to SEAI and say (laughs) this will be our last year doing this, we not going to do it any more, because of that.

SC: it's an interesting point because there seems to be more and more rhetoric at government level, at policy level about the potential of community energy and it's going to do this and it's going to deliver that but there's a disconnect maybe between the reality of what the volunteer effort, the third sector can deliver and the pace that they can it deliver at without real proper supports.

GF; exactly

SC: and that's what I'm trying to tease out at the moment about what's not working and then what supports ideally are required,

GF: there's not the political will there, or the political vision, they're both missing.

SC: so what would your vision be for it in an ideal world?

GF: well commitment to the space, I think we're totally sold on the corporate model, we think that only large entities can do this. I don't think politically we believe in what our own people can do, we want big solutions so it has to be a corporate entity coming in and building wind turbines, you couldn't possibly have the community doing it, OK we've just done it here.

SC: yes, you've got one down the road.

GF: so that's right across the board. So we need to actually trust and believe people. Trust in the potential of groups to be active in this space, like they do in other countries. In Germany they have a whole movement of energy cooperatives but they have that because they have a legal framework for feed-in-tarrifs, they have supports, they have a national agency for energy cooperatives for gods sake, do you know what I'm saying, that's commitment. Like we've abolished our cooperative development unit a long time ago. ICOS (Irish Co-operative Organisation Society) which is a non-state body in the cooperative space, they don't want to know about it. They are working in the field of the agricultural co-operatives, and they might like the idea of the energy co-ops but they're not putting down the money to make it happen. If you look at the development of agricultural co-operatives in Ireland, it happened in ten years, between all that movement that we see, all those businesses that we see around the country, that whole movement started in ten years between 1880 and 1890 it went from zero to about 200 coops set up with massive membership. It was Horace Plunkett and two or three staff, so a bunch of enthusiasts but they got the finances to pay those enthusiasts, do you know what I mean! And that was needed. So what I'm saying what needs to change, you need that sort of involvement or commitment, to say this has potential, identify it and go out and show people what the model is and then give them a little bit of support.

SC: the means to do it?

GF: yes

SC: OK, so are there supports there generally that are working, that are useful?

GF: oh yeah, the BEC scheme is fantastic, it's great. I think that's really good, it's just the part at the beginning of it, that pre-start up phase. As in how does a community fund putting together an

application for the scheme.

SC: to get the ball rolling

GF: and then, like initially we were saying can we end up having completed the project with a few grand in the bank that can be rolled over for next year to ensure.

SC: has it got to that point?

GF: well it started at that point because we were keeping the energy credits there. Because the energy credits only arrived at the end of the project once we had done the work and achieved the savings and then SEAI sign off on them and the energy company comes along and says that's great, now we'll give you this wad of cash. And that was great, in year one the communities came out very well from it. But gradually SEAI began to pare that back and they said well we can't actually do that legally under the EEOS, all of that money from the energy companies has to be invested in the actual work.

SC: I thought that they were selling the credits back to the energy company?

GF: yes, the community are selling the energy credits and they're getting the money but the SEAI have quoted the words of the EU directive which says that 'the investment by the energy company must be demonstrably material to the project'. There's a wording there, that's come in. But isn't it demonstrably material if it's going to fund the next year's project? So, it's a matter of interpretation. Which goes back to your ethos of your agency and your politics saying stop being so legalistic about this and back the communities.

SC: Interesting, so, are there any synergies arising do you think from the community approach to energy initiatives, is there a spin-off or a knock on effect? Are there other things happening maybe that weren't envisaged?

GF: I'd say that the communities might tell you that better than I would. I think Con would have told you that. But from my point of view I'd see more people engaged in it, not everybody wants to be involved in Tidy Towns but I think if people are doing some volunteering for their community and they can see that it's creating employment, there's so many pluses to it. There are a lot of reasons for people to be involved, and we've gotten some people to be involved, new community volunteers have come forward. So they'd be the pluses I would see but at times it's been a struggle to keep it together because of the funding supports, we've been on shaky ground at times. As I said I think there's far more potential in it if the supports were right.

SC: so if someone was starting from scratch now and they were looking to replicate, because I think

from the outside people look at Tipperary and they think wow what's going on there it's great, what advice would you give them?

GF: well I think SEAI this year has stepped up very much so, with their new funding stream which allows smaller entrants with 5 or 10 houses and a couple of community buildings, so I'd say just go for it, get started. But there is a skill set needed at the same time, you nearly need a BER assessor or somebody like that or a quantity surveyor those type of skills to be able to put your application together

SC: in your core group?

GF: yes, you do need that, there's a skill set needed.

SC: Just on the renewables side of things. My take on it is that renewables is only one part of it, and I know it's more so in some communities than here. But I'm wondering if feed-in-tarrifs were to come in, is that a game changer do you think?

GF: I'd say so, I'd say it would be. We've been busy enough on the energy savings side to date, that we haven't strayed into the energy generation thing. Now we've spoken about it alright because two of the areas Drombane Upper Church, Kilcommon Rearcross are very wooded areas and yet people there are probably using a very small amount of wood for their heat.

SC: and they're putting in oil boilers..

GF: yes, we'd like to get into that space so I think what the group is looking at is having a sub-committee to begin looking at that. Like, between the 8 communities there's maybe 20,000 people so you could very easily do a share offering across that group and it could fund something significant.

SC: but at the moment from what I can see, there isn't the structure to make that worthwhile because you can't sell back to the grid.

GF: yes, the environment there isn't favorable

SC: I know down in the LA offices, so they've scaled the PV to match the demand of the building. I suppose for communities there's still the possibility of putting PV on community hall roofs

GF: exactly, there would be,

SC: without necessarily having to go looking for feed-in-tarrifs. Is that notching up a scale of complexity for people?

GF: it would be, yes. I think you can get people organized around the energy saving. It was funny actually when we had that original meeting in Drombane, we had John from the wind farm *(Templederry)* committee, John Fogarty, come down and say god now if we were starting again now,

we'd probably do what you're doing, because they were ten years into trying to make a community wind turbine work and they finally had managed it, it was a huge battle they had.

SC: One thing I'm curious about, the fact that Cloughjordan is here in the area as well, has that impacted on any of the conversations?

GF: well it's been positive as in the energy agency has done a good bit of work with them, it's a good exemplar project in the region. It hasn't had a direct influence but it's been a positive, exemplar in the region.

SC: So a lot of my questions with Con and Aileen were more about the nitty gritty of what they're actually doing and the level of activity, but you're an intermediary and I was looking at the case studies in terms of the case itself and the context of it. So you're in the context and it's interesting to get your perspective on it. I'm looking at the White Paper and all that reference to active citizen, I wonder how much of it can be a reality?

GF: well none if the political will isn't there. They're paying lip service to it and don't really see the potential of it, I think. Just send them all out on a tour of Denmark for a week or two.

SC: OK anything else, any other words of advice or words of wisdom?

GF: Again I think we haven't really see the full potential of it really, there are strong communities in Ireland, and they can be more active in this space. Just wake up the agencies, because it is a halfway house between community development and energy and you need a meeting of minds there at a higher level. Possibly you need the Secretary General of the Dept. of Environment to meet the SG of the Dept. of Energy and go right, we need to co-fund something here, because Energy on their own don't want to fund community development, it's none of their business and the Dept of Environment who are over all the community development supports don't see it as part of their remit. And you've agriculture in there as well of course. We've got a crisis in land use in the country where we want to increase agricultural output, the age profile of farmers is ever older and yet we need to make an energy transition. And the Dept. of Agriculture isn't talking to the Dept. of Energy either by the looks of it. So these three departments are key and the lack of imagination there, the lack of political will is not allowing things to move on. And you don't have to have any real politically, you could just be interested in the money or the jobs element of it to see what the benefits could be, you don't even have to be interested in energy savings really per say..

SC: but they come with it. It was interesting, you referred earlier to the co-op movement because there's an agricultural network, it's there to be tapped into.

GF: I had an excerpt from a book by Horace Plunkett and he was talking about that growth of the co-ops, there, those are the figures.. sorry I had my decade wrong it's 1889-1897 so the number of registered societies from 1 to 140, I was quoting this during my election campaign! But anyway, it's still a lot of people really and it grew again after that but that was down to Horace Plunkett and two people working with him, and now the descendants of those coops are worth billions and are major players on the world stage.

SC: the Community Energy Proclamation, I don't know if you were involved in that? What is that?

GF: it was just an attempt to influence the White Paper, which was largely written at the time, but it was useful in terms of raising profile,

SC: will anything come of it?

GF: I don't know! But it was positive. I think we need to meet the anti-wind lobby straight on and win them over by community benefit. I don't know, there's a bunch of them that are climate sceptics and are into questioning the validity of wind energy aswell. Maybe with not a lot of scientific rigor behind it but I think if you can ensure the community benefit you can win a lot of those people over.

SC: OK. Thanks very much Gearóid.

GF: yes, there's another little graph there, it was from a presentation by Andreas Wieg he was the head of the department for energy coops in Germany, they surveyed their members and asked them why they were involved and local economic benefit was one of the key motivations, I might be able to find that online, it might be interesting for you.

SC thank you, that's great.

Following the interview..

SC: when I started the project my definition of community energy from doing research into literature in the area is .. "quote'' so that's where I'm coming from, where I see it but..

GF: it can be a catch all term and everyone can say this is great and there's great things about it but what's it actually mean? Like SEAI themselves haven't defined it, they say it's nice to keep it open but at the same time then you do actually have different types of communities so I think you need to define those. So what suits a community of large businesses, like lets call that a community now, is very different than what might suit 8 or 10 volunteers in a small parish.

SC: which is where the whole thing about where are they .. I don't know if you've seen this diagram which is the range of the outcome and the process and this is the utility windfarm here *(pointing)*, I suppose I was putting Templederry possibly up here and I'm going to be trying to locate the ECTC

and Erris, and I think they are in and around there

GF: yes, they are..

SC: but my approach to community energy it's this space *(pointing)*, not the down around here.

GF: yes, and I think some of SEAI's has been verging into this, it's like a community of businesses, so is that really a community? It's questionable.

SC: Yes,

GF: and their argument is well let's leave it open, we're trying to do new things here, let's see what comes out.

SC: OK that's really useful, it's great to get that perspective.

GF: so hopefully that's of some use to you.

SC: it is, it's understanding all the conversations that are going on around it, like back to the definition, the fact that it's so diverse. It's a plus but it's also a negative because people don't really know what you mean when you're talking about community energy.

GF: Exactly. Like I mean if you're meeting Marcella, she'll probably take you through another part of it but we've been using Dropbox as a way of, we're trying to manage a project even when it was in one community, we had the community volunteers in different places. We had myself we had the project manager so we used Dropbox as a way of organizing information for the group. And as the thing has grown we've continued to use that. Now we've occasionally had Skype meetings as a way of lessening the need for people to travel, so we use those as well. Like we did calculate the number of meetings that were held in 2014, that was the number of volunteers who were coming to the umbrella group meetings and we also calculated the number of local meetings, so we actually put a number on the volunteer hours, if that's of use to you.

SC: I think I've seen that and it was phenomenal, I think it was about 4500 hours?

GF: there's a lot of time in it, but there's a spreadsheet there anyway, it's fairly exact, I don't think we were hugely exaggerating.

SC: it would be interesting; I've only seen it in a presentation but if it's available in a spreadsheet. I haven't seen that done elsewhere, people haven't quantified it.

GF: That's it, yeah.

SC: because the other difference up in Erris would be that they have two full time staff funded.

GF: *finds it*, something like this now, these were the meetings and number of meetings attended and the hours and the distance that the difference volunteers travelled, basically because SEAI

weren't recognizing any of this work, or the time or the cost we said right lads we're going to show you what the cost is.

SC: Did it make a difference?

GF: it certainly made an impact! Now maybe in the costs, maybe, I don't think we were amplifying it too much, certainly the hours were correct. In terms of putting a fee on it some of that might have been a bit subjective,

SC: but it's a really important exercise to do because it crystallizes it.

GF: it does yes.

SC: OK, well thanks again Géaroid.

GF: no problem

APPENDIX E – ECTC DATA ANALYSIS MATRIX

Theme	Con Harrington (Drombane)	Aileen Campion (Birdhill)	Géaroid Fitzgibbon (NTLP)	Summary Findings
Identity and understanding of community energy	1. Difficulites of dealing with a loose community group - no entity 2. A small core group that lead things - feeling way along - wider group available to help out if called on. 3. Need for trust - in the process 4. Sense of pride in own efforts and achievements 5. Expectations of outside agencies, perceptation that they are seen as 'little machines down here whereas we're communities and in communities you have to bring a group of people with you, you can't bring them with you overnight' 6. Formalising into a coop structure. Sense that the formal structure (the coop) was driven by need to simplify the administration of SEAI grants - but within it each community can still 'do it's own thing'. Recognition of benefits of having a centralised admin and financial managment.	1. Built on the existing structure and networks of the Tidy Towns used to start from, 'the respect that the Tidy Towns has'; the importance of trust in a small commuity - being known meant that people trusted them to run it. 2. Four communities are 'invested in the original core', others are looser trying to pull them in tighter. 3. Managing scale - balencing pressure to spread to other communties against risk of taking on too much and not being able to deliver on expectation. 'I don't think the model works unless it's kept local, I know that sounds very parochial but that's where it's all about trust'. 4. Seen as a whole community project - wider community are committed and give support by showcasing their experiences to others. 5. Perception of being a 'blow-in' and needing more local people to facilitate making wider connections across the community. One person can't reach everyone. 6. Pride in achievements - high levels of willingness by householders to show what has been done in their homes to others.	1. Existing community was weak with only one key person and needed support to get a structure on the group. 2. Survey was key - realisation that existing GAA networks could be used to reach out to the whole parish. 3. Focus was on retrofitting: changing technologies and upgrading the materials in the homes - not behavioral change. 4. People don't identify with the bigger vehicle so readily - the community buy-in is at the small level 'it's already a jump for people to start being concerned about stuff that's outside their front door'. Geographical unit is important 'nobody really is interested say in XXX what's happening in XXX, it doesn't really matter to them'. 5. CE can be a catch all term and everyone buys into that but what does it actually mean? SEAI don't want to define it but you do need to define the different types of communities and recognise that what will suit a small group of parish volunteers is different to what a group of businesses needs. It's questionable if that is really a community.	- strong sense of local identity comes from grassroots origins - difficulties in holding onto people with the larger entity - need for trust in the process - sense of pride in achievements
Origins / Drivers / Motivation	1. Addressing rural decline; community development 2. Doing something positive locally 3. Saving money 4. Creating jobs 5. Household survey that identified potential in energy conservation 6. Possibility of availing of financial supports 7. Greater good - sense of satisfaction in being able to do something for climate change and your community at the same time, feeling a connection with what is going on in the world at a global level	1. Became aware of what was going on in Drombane through an EU initiative; during a trip to Belgium. 2. Recession and rising oil prices made achieving savings in fuel bills attractive. Accessing grants a driver given difficult economic circumstances. 3. Perception that property values would be improved by better BER rating. 4. Early adopters seen as brave to take it on - uncertainty of outcomes. 5. Social duty; doing something locally for others that makes a difference more so than concern over climate change; 'the right thing to do'.	1. Community worker / local development - involvement arose from request to facilitate some community planning. 2. Driver was local development not energy; began by looking at the assets they had, challenges they faced and some solutions. Energy was down the list, 'the demographic ... is not save the environment'. 3. Top motivation was financial savings and doing something for the community.	- addressing rural decline came before concern about energy efficiency; local development the driver - saving money, creating jobs - satisfaction in being able to do something for the greater good at the same time
Barriers and challenges to implementation	1. Burden of financial responsibility - volunteers taking on liability / risk for large loans 2. Level of volunteer effort required - an 'inordinate amount of voluntary input' 3. Need for technical expertise - ability to access supports locally - agencies were aligned with the group's aims 4. Feeling that energy was too big / technical / complex an issue for communities to take on 5. Bureaucracy / paperwork off putting for people generally, especially the eldery , too difficult to take on as an individual, feeling that easier to leave things as they are, 'it's fine'. 6. SEAI supports not in line with what the community needs, feeling of a lack of consultation or disconnect; time constraints of the grant scheme put huge pressure on communities.. timing 'just cramped up totally', individuals needing time to get personal finances in place; contractors need to be able to plan works. 7. Lack of long term funding, year to year grant scheme, upfront costs required to prepare applications with no certainty of success. Inablility to plan ahead. 8. Access to bridging finance and credit costs. Clann Credo great but creates an administrative burden as the require high levels of reporting due to lack of security for their loans.	1. A lot of onus on volunteers, taking on financial responsibility, administration; not wanting to let people down. Time commitment required for meetings, phone calls; 'people want to talk to someone they know'. 2. Not always easy working with people; managing expectations, steering them towards what's best over what they might 'have a fixation on'. 3. Community finances; being able to make the business case to justify the investment. 4. Personal finances; difficulties of accessing level of funds required for multiple retrofit measures in a single upgrade project which are required to deliver the required minimum BER uplifts for grants. Challenge to keep people on board. 5. Importance of confidentiality and discretion to personal circumstances. Privacy issues also a barrier to measuring actual savings - concern about level of personal data collection. 6. Timeframe of grant schemes makes financial planning difficult - dependancy on this as only funding source 'no option'. Not being able to plan for three years, prevents a momentum building 'we don't know from year to year'. 7. Over reliance on one source of funding; energy credits not available to fund future projects, credit costs, current lack of stability from year to year	1. Community energy falls in a space between the Department of Energy and the Department of Environment, Community and Local Government who operate independantly. Attempting to link them through SEAI but it's challenging, 'SEAI is mainly about energy, it's not about community development but in this case the two go together'. 2. Pressure from SEAI to replicate and increase the size of the model 'bigger and better' from the informal network of four initial communities to a much bigger group. 'Parish unit a bit too small for SEAI'. Feeling of having been 'bounced into having a big group application' which creates challenges to keep people on board. 3. Challenge of managing the finances, requirement for bridging loans without support of Clann Credo it wouldn't have been possible. 4. Funding uncertainties from year to year lead to instability, risk of project failing increases. 5. Tendencies for agencies to be too legalistic at the expense of communities, there needs to be an allowance for interpretation so that communities can be backed. Ref to the situation with energy credits - how and when they must be used. 6. The number of volunteer hours required, hours spent at meetings and distances travelled. Have tried to use Skype and Dropbox where possible but it's still a significant volunteer effort.	- finance responsibility, personal undertakings required by volunteers - difficulties for individuals to access money, timeframe for decisions - supports not fuly aligned with community needs, no long term funding - level of volunteer effort require to keep it going
Outcomes and benefits	1. Increased awareness of energy across the community spread through public meetings, flyers, local advertising, local radio, interest levels increase through word of mouth, conversations start between people which spur others on to replicate. Including those who were initially reluctant. 2. Creating jobs, upskilling of local contractors, confidence in locals, which alliveates concerns about intrusion into peoples homes, contractors motivated to maintain their reputation as known in the area. 3. Increased sense of community spirit and confidence; leaders emerge who are driven by success to take on other projects; keeping the community alive; 'Drombane was basically dead enough community-wise but when you get a project like that starting off other things spread out of it'. 4. Increased comfort levels, better homes, improved lifestyles - feedback is not statistically based but 'comforting' 5. Trust - promoting an initiative through locals more effective than through outsiders. Especially in rural communities.	1. Doing the community hall enabled it to become a showcase for energy efficiency; new lighting, heat and comfort levels meant that art classes can be run, children's sit-down activities, cards, keep fit, concerts - improved community services. 2. Demonstrates the financial and long term benefits; more business now because it's warmer. Additional income pays the utility bills. 3. Heating can now be operated remotely which saves journeys up and down to the hall to turn it on/ off - greater convenience. 4. Increased understanding of energy among community leaders, confidence in own abilities. 5. Quality of life; transformative for families in extreme fuel poverty 'they were all sleeping in the one bedroom because the place was so cold'. Ability to access these 'hard to reach' households who would otherwise not know about or know how to access grants. Elderly residents just don't know about them but can be accessed through the community approach. 6. Social engagement an unexpected outcome - people more inclined to use the local facility, it's more attractive to come out and meet socially rather than 'I don't want to go down there because I'll be frozen'. This wasn't anticipated. 7. Lower opposition to developments like wind farms if benefits are shown to be local, people more willing to consider the possibility of doing something together.	1. Mobilising rural communities around the project ambition; good rate of return with high levels of engagement and reach. Feeling that this could be better with proper supports. 2. Community buy-in key to positive outcome; buy in by people because they feel their community is benefiting. Not just energy saving, local economy and social benefits by improving quality of life for those in fuel poverty and the eldery. But 'the energy savings benefit is only there because you're bringing the community on board with the other stuff' 3. Building the community capacity to do more works through re-investing savings made. *(need to measure them to be able to do this though?)* 4. Broader network (Coop organisation) facilitates people to work together to access funds and continue the project, state agencies have preference for dealing with a larger entity. It also has benefit of streamlining the paperwork for the communities but this comes with its own challenges *(see above)*. 5. Possible to win over the anti-wind lobby if you can ensure the community benefit. 6. Need to promote the business case or the jobs case in it's own right 'you don't even have to be interested in energy savings really per say'	- increased awareness of energy - increased commuity spirit and confidence, social engagement through increased community services - positive outcomes are a result of the community buy-in, the energy savings come as people are on board because of the other elements - quality of life and comfort - feedback is comforting
Measuring success	1. Focus has been on 'getting work done', recognition that this needs to move on to maximising the benefits of whats been done. 2. Energy targets are only loosely set, priority has been completing retrofits; adequate time hasn't been allocated to other issues yet (at same time recognising volunteer effort). 3. General sense that savings have been achieved but without any measurement. 4. Seeking to widen how success is measured to include community impact in addition to kWh savings; can it be broadened to include community development.	1. Increase in levels of use of the hall and range of community activities on offer. 2. Increased energy awareness and interest in monitoring consumption. (using Owl monitors). Delight in knowing their bill has reduced or they are using less oil. More impact than energy credit figures. 3. Influencing others to take on similar initiatives (ref to project in Cratloe) 4. Normalisation - 'it's not just the sandal brigade' or an 'alternative conversation to be having'. People actively looking to find out more about renewable technologies, more open to outside influence. 5. Knock-on effects in other areas; stop food waste initiative, pig composter, solar lights for the park. 6. Recognition of what could be done locally to create jobs; raising standards and training has led to employment for contractors.	1. Have met SEAI targets for BER uplifts as an average across the project- based on BER calculations and domestic energy credits but only qualitative follow up has been done post-completion. Anecdotally people say they are spending less money but this hasn't been quantified. 2. This goes back to SEAI focus being limited to looking at energy savings - not concerned with community benefits, if they are not measured then they are not considered important. 3. The win is at parish level, the local marketing value and ability to reach into communities. 4. Levels of engagement across the community, i.e. increased levels of volunteering, new volunteers coming forward because they can see the benefits i.e. job creation. 5. It has been shaky at times, far more potential if the supports were right.	- need to widen how success is measured beyond just kWhs, knock on-impacts, community benefits - SEAI focus is limited to energy, if other benefits aren't measured then they aren't valued - recognition that more needs to be done on setting targets and measuring outcomes
Effectiveness of existing supports for community energy	1. Need for education; fear of technology; impact of behavioral awareness 2. Need for longer term arrangements i.e. three year scheme that people could commit to. 3. Interdependancy between agencies and communities: important to recognise that it's not possible to do much in the energy area without outside help - particularly time and effort by people who are willing to help more so than money - but communities must come forward and engage; a mutual effort is required. 'if we stand back we can't expect agencies like that to come into a community'	1. Leadership and the need for facilitation, mediation - LEADER was essential support to have. Commitment of key people to get something over the line. 2. Access to local BER skills and other technical support, background of key people in renewables. 3. Need for more training locally in energy audits so that they can be done at the outset. 4. Accessing funds critical to be able to plan ahead. . 5. Accessing information through shared website resources, information roadshows locally; using the networks that are there.	1. Initial capacity building supports at pre-start up stage required to help groups get together; show them the model, get the personnel there to go out and work with these projects. 2. Follow up capital support required that is tailored to communities 3. There is a need for political commitment to meet the potential in the communities, a conscious decision by agencies to come together otherwise supports will only be there by accident of parties / circumstance. 4. Can be a question of interpretation and down to a willingness to be open minded about what's needed. Time input from support organisations as valuable as money. 5. There's a need for entry level funding to allow smaller groups to get started, 'it can't be all the big mega projects' 6. 'Communities are voluntary groups so few enough of them will be flying the flag for saving energy but if the state meets them half way, if the state makes it attractive for them to be in that space, they will be in it. Whereas if it's going to be a struggle and a battle for them, they won't' 7. Look to the German example for supports: where they have a legal framework for feed-in-tarrifs and a national agency for energy cooperatives, but this needs a funding commitment. 8. Some specific skill sets needed within the core group like a BER assessor or a quantity surveyor, to help with detail of applications.	- approach to funding needs to be reviewed in line with community need i.e. pre-start up funding and longer term funding supports - political commitment needs to meet the potential that exists in the communities - leadership skills are key - groups need to be able to bring it in if they don't have it themselves, time is as valuable as money - specific skillsets are needed; more training to upskill locally
Future Opportunities / Vision	1. Ambition to look at opportunities for energy generation; wind, solar, forestry; in tandem with energy conservation. Templederry held up as an example of what's possible in contrast to large developer owned wind farms 'going up the hills now and they're not doing much for the community'. Vision to get support for a share ownership energy generation venture by the coop .. 'sometimes it's as easy to do fairly biggish things as do small things in a community' 2. Recogniton that there's a need to be less dependancy on one organisation (SEAI); 3. Continually learning from others, recognition that it's a slow process.	1. Make connection between heating and fuel source - using local forestry thinnings for wood burning stoves to reduce reliance on fossil fuels and create jobs. 2. Belief in potential to replicate: 'a movement that is moving up rather than being told what to do'. Project not seen as coming from government but as something local lessens typical cynicism. 3. Preference not to be dependant on grants but have a business that was generating money in order to funds works. Looking at the Templederry model to show how they can be self-sufficient (but notes this project may not be well known locally) 4. Using roofs of community halls for PV, Solar Panels, rainwater harvesting; considering district heating in small villages where buildings are co-located. Bringing the GAA and agricultural communities on-board, and transport. 7. Ambition to measure impact through what works have been done as a result of the community scheme not necessarily within it.	1. Potential is there if there is investment by government to meet the 'fertile soil on the ground in the communities', match the interest levels that are there with the supports that are needed. 2. There's a need for commitment to the community space, we need to have confidence in what they can do, that it's not only large entities that can do it. (ref Templederry project) It doesn't have to always be about big solutions; importance of trust and belief in people 'in the potential of groups to be active in the space' 3. Have spoken about energy generation, using local forestry products for heating, sub-committee to look at this, considering a share offering across the 8 communities to fund something bigger. Needs a more favorable environment for feed-in-tarrifs to suceed. 4. Easier to get people mobilised around energy saving, level of complexity required to take on a generation project requires a significant and long term effort. (ref Templederry project) 5. Need to wake up the agencies and get a meeting of minds at a higher political level to break down the current silos between Energy, Community and Agriculture. It needs imagination and political will to allow things to move on.	- ambition to move into energy generation, or find ways to partner with developers. This needs to be met with political vision that will help it to happen - essential to move away from dependancy on one funding source but need for an alternative business model - easier to get people organised around retrofit than generation - but need to have trust in potential of smaller entities to take this on

APPENDIX F – ERRIS PROJECT ACTIVITIES

ERRIS ACTIVITY TABLE

2014	Buildings Retrofitted	Renewables	Total Investment	Projected Savings*
1	**Teach Greannaí;** Cavity wall insulation pumped bead, joist level insulation, upgraded heating and controls	1x 7kW Solar array, 2 electric vans for meals on	**€350,000** broken down:	
2	**Halla Baingear;** Internal insulation, joist level insulation, double glazed windows, condensing oil boiler, low energy lights.		SEAI: €170,080	***Electricity*** *88,317 kWh*
3	**Ionad Pobail Inbhear;** Internal insulation, joist level insulation, condensing oil boiler, upgrade heating controls, low energy lights		Shell CGIF: €144,919	***Thermal*** *100,082 kWh*
4	**Halla Poll an tSomais;** Cavity wall insulation pumped bead, joist level insulation, condensing oil boiler, upgrade heating controls, low energy lights		Community groups: €35,000	***Fleet*** *2,175 kWh*
5	**Halla Pobail Gleann na Muiagh;** Internal insulation, joist level insulation			
6	**Club Teach CLG Cill Chomáin;** Cavity wall insulation pumped bead, joist level insulation, condensing oil boiler, upgrade heating controls, low energy lights & controls			*Equivalent to* ***18%*** ***Saving*** *on baseline consumption*
7	**Páirc Imeartha na Cille Móire;** Cavity wall insulation pumped bead, joist level insulation, condensing oil boiler, upgrade heating controls, low energy lights & controls			
8	**Sport Complex Belmullet;** Cavity wall insulation pumped bead, external insulation to metal wall cladding, external insulation to metal roof cladding			
9	**Scouts Den Belmullet;** Internal insulation, rafter level insulation, air to water heat pumps, low energy lights			
10	**Ionad Deirbhile;** Closed room heater (stove)			
11	**Turasoireachta Iorrais Teo (Carne Golf Club);** Cavity wall insulation pumped bead, joist level insulation, 'quantum' storage heaters, low energy lights & controls	1x 7kW PV panels (inc. connection electric golf buggys)		
12	**Halla Gaoth Sáile;** Electric van & charge points			
2015	Buildings Retrofitted	Renewables	Total Investment	Projected Annual Savings
1	**Western Care day-care centre** fabric insulation, heating system and new doors	Solar hot water	**€385,700** broken down:	
2	**Irish Wheelchair Centre**	11kW PV	SEAI: €162,000	***Electricity*** *97,460 kWh*
3	**Ionad Deirbhile Heritage Centre** energy efficient lighting			***Thermal*** *139,854 kWh*
4	**St Brendan's Hall Eachléim** internal insulation		Mayo CoCo €25,000	
5	**Eachléim Enterprise Centre:** microgrid demonstration site	11kW PV, 5-40kWh battery storage and 3 'quantum' heaters, BMS	Shell CGIF: €160,130	*Equivalent to* ***26%*** ***saving*** *on baseline consumption*
6	**Bangor National School:** cavity wall and attic insulation, heating system upgrade and new doors		Community groups €38,570	
7	**Inver National School:** cavity wall and attic insulation and new windows			
8	**Belmullet National School:** cavity wall and attic insulation, new windows			
9	**Barr na Trá National School:** dry lining and attic insulation, energy efficient lighting			
10	**Carrowteige NS:** new doors and windows			
11	**Pollathomais NS:** dry lining, cavity and attic insulation, energy efficient lighting			
12	**7 domestic fuel-poor upgrades** (sample pre-works BER E1 (306 kWh/m2/yr) to C1/C2 (174-224 kWh/m2/yr)			***Domestic*** *86,310kWh*
	*projected annual savings as calculated in NEAP/DEAP for BEC applications			*Domestic* ***34%*** ***Saving*** *on baseline consumption*

APPENDIX G – ERRIS INTERVIEW TRANSCRIPTS

Erris Interview Transcripts

Transcript No.1: Orla Nic Suibhne, Broadhaven Hotel, Belmullet

24 February 2016

SC So, just as an introduction this (showing diagram) is how I saw your project in terms of defining what you call the project, how you see it and the context within which it is operating.. Mayo Co Co, Udaras, WDC, mayby there are others, I suppose that is how I see you and what I'm interested in is how you would see yourself on this kind of diagram (showing fig 2) where we are looking at outcome and process but that will probably come out of the discussion. It's useful for me to define the case study as the case itself and the context within which it's operating.

OnS: OK, the case definitely came about from Údaras na Gaeltachta, so they were the lead partner on the GREAT project, so myself and a colleague were employed Feb 2014, that was 2 years full time basically to deliver the project, so we had 10 European partners, €3m to spend and a very tight timeframe because the project had to officially finish September 30th 2015. Basically when I joined we had so much to do, we had a whole project to deliver. So out of the GREAT project we started our first Better Energy Community project in 2014 with Mayo Co Council, so that's how MCC became involved and then in 2015 we did a second BEC project with MCC but also in 2015 UNG submitted their own application for the BEC, a large project so two projects ran side by side in 2015 so it was quite substantial and then following on from that, obviously our jobs were finishing so myself and my colleague Margaret, who you'll meet tomorrow, we started to put together a plan to see what could we do for energy and renewables in Erris. So SEAI had just kicked of their SEC group, so we persuaded UNG to sign up for the three year program and at the same time I got my post-doc funding. Margaret is now employed full time by UDG to deliver their SEC program. I'm working with Ruth (Ruth Buggie, SEAI) and Dr Lisa Ryan on looking at the implementation process of how to put SECs in on the ground. So I suppose the context is, it's quite exciting at the moment, we seem to have a lot of things set up, it's taken I suppose 2 years to put things in place but really looking forward to the next 3 years to see how it happens. Now, we are very lucky within the case study because the community are so on board.

SC: OK and I suppose where I just wanted to start was.. do you want me to define what I understand by community before we start?

OnS: Sure

SC: So, from lit review and reading into it is .. reading definition..

OnS: perfect, excellent,

SC: So it doesn't have to be just renewable energy, I know you have got quite a lot of that here

OnS: well we've also done a lot of retrofitting aswell but that's fits exactly into the BEC program, that is how they would promote, it really does.

SC: yes, and it also fits in with where research sees it. I mean community energy is a very diverse terminology with diverse meanings but I think it fits and that's how I'm approaching it.

Orla: Absolutely, OK perfect

SC: so what I'm interested in, is how would you describe your community?

OnS: mm, very similar, definitely bottom up approach, em, ownership is a huge part for us, so we're, so I wouldn't say we're against, but we wouldn't be in favor of a large utility company coming in and trying to put in 50 turbines, we're much more on a community ownership aspect. Its getting to the stage where I think people are becoming more aware of how it should be..

SC: I saw the signs, only two, well just in the one location..

OnS: yeah, it's a very strange situation here because we have lived alongside Shell for the past 20 years.

SC: yes, I'm wondering should Shell be in here in the context (pointing),

OnS: it's really, it's been very divisive, and people probably at the start would have just seen energy as a really bad thing, but now through what were doing and trying to promote and the ownership aspect of things, people are slowly coming around to say that actually it's nothing to do with Shell, it is looking for a sustainable future, it is something that we can do, that we can own, that we can be a part of. So we're slowly getting there and people are definitely changing but we were up against it! We really were.

SC: and just in terms of, I know you have defined it as being within the Barony of Erris, geographically, like how, do you have an idea of how many households you're talking about

OnS: we're just in the middle of our baseline study

SC: OK

OnS:.. so we haven't a clue! But we're also doing it for the Gaeltacht aswell.

SC: for the whole of the?

OnS: well we're picking 5 large communities, this one being one because we've done so much work here and then two in Donegal and two in Galway. So Margaret's job really for the first 12 months is

to try and get some sort of a base load demand for those regions, because you can't do anything until you measure it, you cannot.

SC: yes

OnS: So that's what I'm at now.

SC: so that's how you can maybe establish what percentage of people you have on board..

OnS: how many households, there's quite a lot of large business here, like this hotel, huge energy consumption. So definitely our first job now for the first 6 months. With the help of SEAI, their Energy Map program.

SC: you're using that?

OnS: yes.

SC: how would you describe your role in the group?

OnS: I suppose for the past 2 years I was coordinating GREAT so my role would have been, it's a kind of a hard one to define, definitely delivery of the project (the GREAT project) was absolutely paramount and then when the BEC programme started I co-ordinated the second one, I can't remember who co-ordinated the first one in 2014, Enda will know who did that, so I've only looked after the 2015 one and then I suppose from that really the community aspect really came out, there was definitely community remit with GREAT but SMEs were more of our focus, we did try and

SC: I don't want to go too much into GREAT but could you just synopses what the project achieved, what the outcomes were?

OnS: it was trying to inform communities, SMEs, different sort of stakeholders about smart grid. So that's how we ended up making the micro grid down in Eachleim and putting in more renewables and then thankfully the BECs brought in the whole retrofitting part of things, because it does fit in perfectly with it. But it was to promote smart gird, renewable energy, distributable generation.

SC: so you've moved from that to retrofit and working with renewables?

OnS: we kind of incorporated them all together, we didn't separate the BEC and GREAT or Mayo Co Council (MCC), we kept them all together to show the community that we were all moving forward on the same path.

SC: and just in terms of the extent that the community are involved in your case, as opposed to MCC maybe or other players?

OnS: UNG are probably in a very unique position, that they have a very close tie with the Gaeltacht communities. So they administer all of the FAS schemes, the rural social schemes, the community

employment schemes, so they have a really strong community network that they have direct access to. And that's what we used initially to start bringing the community groups on board. So we held information evenings, we went out to all of the Comharchumains *(Community Cooperatives)*, which are the co-ops and all of the supervisors that UNG would pay directly, so that they would have to engage. But then once you explain what the program is and what you are trying to do its very easy to bring them on board then. So we definitely used Údaras's network that MCC probably wouldn't have had access to on the ground. So definitely from a bottom up approach it's far easier to get buy in with Údaras. And even this year, now that we have divided from MCC, and they're doing a separate program and we're doing a separate program it will be interesting to see how much of a community aspect they've kept. Because we've done 100% community for the past 2 years

SC: so this year, when you say that you're doing your own thing, that's your own BEC application?

OnS: yes our own BEC, for the entire Gaeltacht, from Donegal down to Cork and over as far as Meath

SC: so it's part of the big Údaras one

OnS: and then MCC are doing their own one, and I presume that they will incorporate their own buildings this year because very few of them have been retrofitted.

SC: Well that's what I'll talk to Enda about tomorrow, because I can see there were only 6 houses, which is tiny. I mean, you've done a lot of schools

OnS: well all we wanted to do was to help the community! So I can understand why we separated..

SC: so is your community now the Údaras community, up and down the western seaboard or can you still define it around the Erris area?

OnS: our community is now defined geographically by Udaras,

SC: OK, how do you feel about that?

OnS: well, it's a good thing, it's a good thing. Because the Gaeltacht starts just out the road where you came in, so we're probably loosing half of Erris but.. it'll be fine. I'm going to use this part of the Gaeltacht for my post doc, and then with Margaret we'll be taking the five communities. I think it will be fine. Declan Meally *(SEAI)* always says that you cannot define a community but geographically the Gaeltacht is defined.

SC: Whether it's the parish boundary or the Gaeltacht, I'm curious to see how people see themselves, can you draw a line around it.

OnS; well we have to, for our BEC application, which we just got in today, we can only take anybody inside the Gaeltacht, we're not allowed to go outside it. But our community now is defined by public,

private, education, it's every stakeholder. So when I say community I probably in my head mean a community group or a charity or people who actually need help with energy but in fairness we've had a lot of private companies on our application this year. We have a lot of waste treatment plants, public lighting, but the SEC part of things for ourselves now is all encompassing, we have to take everybody on board, absolutely…

SC: so there is that thing about who is it benefiting? Is it private business or is it benefiting the community in the wider sense?

OnS: well it is the community in the wider sense, but obviously the private companies are going to benefit directly through the energy savings, but then I suppose they'll have more money to invest or more money to employ more people or do other things with, so there is an indirect benefit… I'm dieing to see where we end up on this *(diagram)*

SC: I know, I thought I would try and do it and then I said I would wait until I know more.

OnS: OK..

SC: so just thinking about aims and objectives I know you've spoken with Clare Watson in the workshop you did with her, but we'll just summarise what's the project trying to achieve?

OnS: emm, things have probably changed a lot since I spoke to Clare,

SC: That was around the end of last year when the GREAT was finishing, there was a lot of uncertainty at that point..

OnS: yes, and we had no funding at that time so I suppose the focus now is to write a new lit review (laughing) straight back into academia!

SC: so do you think that project's focus is energy, would that be right?

OnS: Absolutely

SC: and what's prompted that?

OnS: well the focus for me would be enabling a low carbon transition in a rural area, so that's the exact focus, how to implement an SEC in a rural area. So myself and Ruth and Lisa *(Dr Lisa Ryan UCG)* met 2 weeks ago and we were wondering what aspect would be most interesting because obviously Lisa's coming from a very strong economic background, so very interesting to see what would interest her and what would interest us *(Ruth and Orla)* so anyway we spoke at length and we have decided on core competencies in rural areas, what exactly is needed on the ground. Because, have you seen their SEC model?

SC: we're working that up with them actually

OnS: yeah, it's lovely and I like the segments in it so I'm going to do some sort of a measurement.. we're going to take this community here and practically try and apply it here.

SC: and rate yourselves?

OnS: Yes, yes to see what.. because there is lots of SEC training promised, there's lots about the SEC network, looks like it's going to be very interesting.. so we're going to engage fully and see. Because myself and Margaret are coming from very strong academic backgrounds but at the same time very strong community backgrounds, so it's kind of a good mix of both. Margaret's coming from a very strong management background so it'll be interesting to see when we look at the SEC agenda? .. to see what's needed or what's lacking

SC: do you think the energy thing is being prompted by local issues more than global issues?

OnS: ah well suppose for the two of us global, because that's how our jobs came about. There's nobody in Belmullet worried about climate change.. I'm sure there are individuals..

SC: but have the local issues, saving money on energy locally, has that message got through, would that be a driver?

OnS: No, we didn't have that driver here, to be honest, the driver would have been, there's people in place that were employed to do a job and they enabled communities to come on board. There's definitely a lot of individuals who would be very climate change aware and energy aware but as a collective there was nothing happening on the ground. This is the first time that there's two people employed fully to look at community energy

SC: so it's taken having that formal support really?

OnS: mmm, no it's definitely taken the formal support of having two people there, and somebody driving it. You absolutely need that energy champion because we're spoken a lot about people volunteering and burn out and it's a realistic thing, it happens, people just get tired of doing everything.

SC: Yes. So you said that retrofitting was important, what do you think the drivers were for that?

OnS: Energy savings, absolutely, has to be.

SC: Fuel poverty, is that an issue?

Orla: eh, would be a big driver from MCCs point of view because that was the houses they uplifted last year, we haven't done, we haven't had a domestic focus and that's where we need to focus on now. We've done a lot of buildings, a lot of schools.

SC: so when you say reducing bills, it's in the community buildings, in the schools..

OnS: yes, so we need to now take a domestic route, we have to.

SC: Obviously renewable energy is a big part of your project,

OnS: huge part

SC: and behavioural change?

OnS: behavioral change is now becoming a important because of the SEC model. Did I send you the agenda of the information day I'm having, at the moment I have a behavioral change section there and I can't find anyone to deliver it… you know behavior is definitely becoming more important because people are definitely becoming more aware and then what I want to show from that segment are maybe the repercussions of walking out of that room and turning off the light and closing the door, there has to be a financial analysis done of people if they change their behavior, like slowly, slowly, what the implications are,

SC: in terms of achievements what measures have been implemented, what energy efficiency measures?

OnS: I'd have to send you a full list from both years.. emm

SC: I tried to synopsis it, *(shows table)* from the stuff you sent me and from trawling through all the presentations

OnS: oh great, excellent

SC: But I need to verify that and there are some gaps but it would be great to try to establish the level of activity, if you could populate that?

Orla: Absolutely

SC: Great, it would be great to get the number of technologies, project types, the activities

OnS: and that community fund has actually just kicked into our application this year. The Udaras one, you should meet Gerry Darcy, the engineer down in Udaras, he's brilliant he's very progressive in what he's doing. Last year he sold off half of his energy credits and he got back €20,000 and that €20,000 is now funding four of our community projects, as in co-financing. So the 50% is coming from SEAI and the rest is coming from the community fund.

SC: So it's exactly the virtuous circle?

OnS: It's brilliant. So this year now we're making €30,000 on our credits and that €30,000 is being fed directly back into next year's fund for community groups. It's brilliant, that was his idea. The green educational tourism, this is what we are kind of testing tomorrow, just to bring groups in and see what we're doing..

SC: like in the Aran Islands?

OnS: yes, Dara Molley is great, they have really strong targets. That's what we need now. That'll be us in a few years time!

SC: If you were to say what aspects have been most successful?

OnS: the schools last year were brilliant, that was a fabulous project, we did a case study for SEAI, but it was just brilliant because you were getting into the schools, you were getting to the kids, the kids totally got what we were doing. We brought down their *(SEAI's)* energy monster Guzzler, we had such fun for two days, my husband dressed up in it and we went around visiting the six schools. But the kids knew who Guzzler was, the teachers are obviously using SEAI's aids to teach it.

SC: so this begins to link to the behavioural change? And it's from the kids upwards in the households, you're getting into all the households?

OnS: absolutely, and I think we had around 350 children within those six schools. The other thing we were very lucky when we partnered with MCC was that we had access to the Shell fund, MCC administer the Shell fund. It was the community gain fund, €7.5M was put in place after the oral hearing and they administer it, so our community groups got all of those upgrades for 10% of the cost, it was incredible. So their payback was 8 or 9 months. So this year it was a much harder sell, we've realized how lucky we were.

SC: so it was a once off?

OnS: well it was twice-off, two years, but the fund is now closed, the money is gone, it's used up, it was a lump sum €7.5M over 5 years. People are kid of wondering is it going to be topped up is that going to happen but we don't know. But anyway it's irrelevant.

SC: so the schools being most successful.. you've sort of answered the question which was following that which was what influenced the outcome?

OnS: The children, access to the younger generation, education. Education is a massive part of what we're going to do. Even in the information day that we're going to do in April, people have got to be made aware of the possible repercussions of not transitioning to a low carbon future, like we have no choice at this moment. We have to, but every measure that we're taking is helping, towards the final measure.

SC; could you describe how the energy savings then have benefited the community?

OnS: emm, it's probably in different ways. I'm currently monitoring all the PV sites. So the bills have absolutely decreased and I suppose the biggest place where we're seeing it is in Teach Greannai

where we'll have lunch tomorrow, so their bills have decreased by approximately €300 per bill, every 2 months. That's the community centre where we have the electric van, the insulation retrofitting and the PV panels. So they're absolutely seeing savings. The IWA that we've put in PV this year, that'll be an interesting outcome because they couldn't afford to open for more than 3 days a week because of their bills so that electrical load should make a huge difference, I'm dying to see in 6 months time if there are repercussions..

SC: if they're able to provide extended services?

OnS: it would be incredible.

SC: Anecdotally that's what I've seen is happening in other energy communities, it would be fantastic to know that that is actually happening.

OnS: Absolutely. The schools have given us feedback that most of them didn't have to turn on the heating until much later this year. So I'm going to go back to the schools now, in April and ask them to compare their bills for the last two years to see is there a difference, there has to be.

SC: are they opening, doing an extra evening classes do you know? Or even in the community centre?

OnS: the community centre is very interesting that you'll see tomorrow, that was a huge retrofit in 2014, we did windows, insulation, full heating system and they are now booked out solid. They filmed it for Eco Eye, but you can't get a booking now, before it was a run-down centre, freezing cold, no heaters.

SC: They are the kind of benefits that we don't often realize, when you're only looking at kWh?

OnS: huge, the community are just delighted and they keep coming back to me every year going can we do anything else.

SC: so I suppose that is touching into the non-energy related benefits, having those extra classes running or whatever they're offering does that help with community spirit or social cohesion?

OnS: it has to, I think in rural areas there's quite a large older population so now with the hall they run bingo twice a week, they run a mini-bus out to collect people to bring them in, there has to be a massive advantage, like those people might not have seen people all day long, now they're in twice a week knowing that's an outing. The meals on wheels with electric vans, again, it's an old community, older population that's being served through that and that's probably the only person they see all day, it's vital.

SC: do you think it's done anything to raise general awareness about the green issues, getting that

message across about why the energy transition is important?

OnS: I don't know if people are talking like that yet, but definitely there's been an increase in awareness of what we're doing like people are talking about it, people are talking about the savings, about the new technologies, they are talking about the fact that PV is not impacting on anybody, it's a passive technology. We've two wind turbines going in this year, two community turbines.

SC: so they are going ahead?

OnS: well it's a different location, so they're going down to Connemara. Very exciting and we've done a lovely partnership with Kingspan. We had a very persuasive conversation with Kingspan after another company pulled out and they've come on board and partnered with the community and given us half price turbines. Amazing. I didn't mind begging, I quite enjoyed it!

SC: do you think it's useful to measure the success of the project in terms of the kWh?

OnS: Absolutely.

SC: is that information that you have, or are you only starting to gather it?

OnS: well we have to because there has to be a financial saving for the BEC. All of our implementations would have been through the BEC because GREAT didn't allow capital expenditure. All of our implementations and uplifts were through the BEC, we just used GREAT to enable the BEC to be implemented because we had the people, so myself and Margaret and Enda basically would have done that for free, it was part of our normal jobs. But if you didn't have those three people..

SC: so GREAT brought the human resources to it and BEC brought the finance?

OnS: absolutely. So in those applications there has to be a very strong CVA *(?)* in it

SC: but are people actually going back 12 months later and verifying the savings achieved?

OnS: Well yeah there's 4 sites that have to be verified after the 12 months, I will be doing it for all the renewables because I have to see the difference, but I'm sure people would within their own buildings.. they must be but that wouldn't be our remit.

SC: do you think that it's important? Do you think there's a benefit in doing that exercise?

OnS: you have to, you have to see the savings because what's the motivation otherwise? If people are not seeing like a saving in the pocket or a decrease in bills? Why would they do it otherwise, honestly Susan I don't think people are that concerned about climate change

SC: they're not doing it for the wider good, necessarily?

OnS: Not yet, I don't think, not yet, even watching the leaders debates at the moment, climate

change it's a non runner, they don't want to talk about it. They don't have anything planned. So I think if you don't show the financial benefit, people always worry about money, it has to be measured.

SC: but do you think there are other ways of measuring success?

OnS: we haven't .. warmer houses?

SC: does it deliver projects that wouldn't otherwise happen?

OnS: it's difficult to measure, you have to have a starting point, something to measure from. Level of comfort? Couple of houses last year that had no heating system before so I'm sure after installing a boiler and radiators, there has to be comfort changes, lifestyle benefit? We didn't measure them. It would be interesting to do a pre and post questionnaire though, wouldn't it to see how they perceived the benefits.

SC: yes, on the domestic. So has the project triggered other initiatives within the community, other energy conservation initiatives?

OnS: no, not that we're aware of, but we're always open to suggestions. There's lots of people coming in looking to put in a lot of solar so were definitely interesting in putting in some sort of a 500kW PV farm, or something on a larger scale but not quite commercial. There's loads of people interested, it's definitely kick started interest but I haven't seen any other projects that have started yet.

SC: so the projects like you said earlier, have all been BEC funded projects, there hasn't yet been other stuff happening around the edges or independently of BEC?

OnS: No, Tidy Towns have done a bit, Margaret actually is very involved in TT, they have added I think some sort of sustainability to their application this year as a result of them, which is very interesting so its definitely been incorporated in the wider community. Margaret would definitely know more about that.

SC: Do you think the project has influence beyond your community, I know it's difficult in your case to say, because it's really wide area if you talk about the whole Gaeltacht, I suppose has it has influence beyond the Erris community?

OnS: I don't know. Like we've done presentations at the Energy Show, a lot of people interested in what we are doing. A lot of people always contact me about the electric vans it's quite unusual they work in rural areas. I'd love to say yes but I don't know. But there's definitely lots of outside interest and I get a lot of emails every week, people asking about the project asking what we are doing and

why we are doing it and why we've been so successful.

SC: people from other potential community groups in Ireland?

OnS: yes, so people have definitely heard about us, but it's through SEAI, I mean we work so closely with them. And we couldn't do, I don't think we could do these projects without them. Like we've used their RD&D fund, we've used the BEC fund, they're now partially funding my post-doc. Like they've been incredibly supportive. I suppose because we are on the ground here and they can't be. So they're probably grateful that there are people here delivering for them.. but definitely couldn't do it without them.

SC: So challenges then, probably a good time to move on to the thorny issues then? I suppose, in some ways there's more to be learned from what hasn't worked than from all the good things? What kind of obstacles have you had to overcome?

OnS: The major barrier has been financial, trying to organize, as soon as GREAT was over, trying to organize two salaries that myself and Margaret could continue doing what we're doing because we knew if we finished last December like there would be nobody continuing on what we're doing. Like I don't know who would be looking after the battery. I don't know who's job it would actually fall onto to make sure that the battery was working today. Or who would monitor the PV? It probably wasn't even crossing anybody else's mind but it was huge on mine because we'd invested two years in starting all of this and then you have to see it through, you have to see it continue. So financial has been huge. But I suppose we are lucky now because we have a three year commitment, we have money for three years, we have funding for three years,

SC: are you talking about through the SEC network?

OnS: through the SEC Network and through Údaras, Údaras has put in substantial amount of money to make sure that myself and Margaret are employed.

SC: yes OK. So financial being the top barrier. Would there be top 3 barriers or is that out and away the biggest thing?

OnS: absolutely the biggest thing by far. I mean we've always had huge community support, we've never had problems on projects, we've never had trouble with people signing up.

SC: getting people to put time into it?

OnS: but I think that's down to our financial model to be honest, I can't take any credit for that. Like I think as soon as we did the information nights and then we followed up with one-to-one sessions, as soon as people hear that it's a 10% contribution, it's a no-brainer. Like I don't think we would

have been as successful if we had to look for 50% funding.

SC: right. And that may be the case in another year?

OnS: It possibly could be..

SC: Like I was going to say how easy or difficult was it to involve the community, so you're saying easy but..

OnS; yes easy but.. exactly.

SC: it wasn't a huge financial commitment required.

OnS: no.

SC: What do you think hasn't worked?

OnS: My poor electric vans..

SC: Oh? Really?

OnS: they haven't worked no, we didn't realize when we started.. you see in 2014 I wasn't as involved in the BEC and at the time the community groups weren't informed about the battery rental and there's a €120 a month battery rental on the commercial vans

SC: these are for the meals on wheels?

OnS: yes, so the savings they were making through their diesel bills they were automatically gone straight away. So when Michael, who was employed first of all, when Micheal left in Sept 2014 I had to try to pick up the pieces because the BEC wasn't finished and we had to finish it. So when I realized when I saw the contracts, the community groups hadn't been informed I kind of went oh my god this is not going to go down so well. So in the last 4 months I kind of negotiated with a local shop here, Eurospar. So Eurospar now sponsor the batteries and they've agreed to do it for a 2 year period so that will bring the community groups through to about 2018 so at least they will see their monthly savings now. Because they literally, they couldn't afford to run the vans. They weren't making any difference to them and they had to live with the fact that they could only drive 100km, they had to live with all the constraints of an electric van. Because they are not designed for rural areas, they really are not and that's why people were so interested they're working over here but they have all said that after the 2 year sponsorship is up they are going to sell them.

SC: So that's a bit of a blow isn't it?

OnS; it's a disaster. Now I've spoken to SEAI at length about it, you see at the point of signing the contract with Renault, like we had power to negotiate something there but just they didn't do it.

SC: so lesson learnt?

Orla: Huge lesson learned. I think we could have negotiated a 50% battery charge because it was a community group or we could have lessened the number of kilometres. Because it's charged based on the annual usage (mileage)..

OnS: Wind has been a big learning factor.

SC: You've had opposition to that, even though it was community owned? Was it a community share ownership model?

OnS: yes, it was absolutely community owned, we were giving them 100% ownership and giving them 90% funding and they still said no. But I think the problem was the financing from Shell.

SC: they didn't want to be taking..?

OnS: they didn't want to be taking money from Shell, because you see it was in Rossport, the Rossport water scheme. I'm hoping, well we have two going in this year down in Galway. Obviously the deal with Kingspan is helping and there is 50% financing through SEAI and community seems really positive and really on board and we've had 2 consulations with them

SC: and how is the community for those two wind turbines defined?

OnS: one is a group water scheme so it's the people on that group water scheme and the second one is Muintearas. Have you heard of Muintearas?

SC: No

OnS: Muintearas is a community organization that's actually a subsidiary of Údaras and they're a training and development community based. So the second turbine is going to feed directly into their building. So maybe that's why they've been so positive about it because they are seeing huge direct benefits.

SC: that's an interesting model then, it's linked to a group water scheme so it's very clear.

OnS: yes

SC: the organizational model, it has changed it seems over time

OnS: it has, it really has changed

SC: How do you feel about that?

OnS: it's brilliant, because we still have the support of Udaras. And We were kind of worried when our jobs finished with Udaras because it's great to have that kind of an organization behind you because if you want to do like projects such as the micro grid, its not such a big deal. Like €100,000 is a lot of money for a community group to get together but when you have the support of SEAI and the support of Udaras and they can see the bigger picture it's much easier to put together a project

like that. So myself and Margaret were definitely nervous when the Udaras contracts were coming to an end but thankfully we have negotiated new ones for the nest 3 years. So yeah the model has changed slightly but we still have..

SC: The fact that you're moving into a wider, a bigger group, isn't a concern?

OnS: No it's brilliant

SC: You see that as a positive?

OnS: oh fantastic, the SEC network we see as a huge positive benefit to all of us and we are going to embrace it. Absolutely!

SC: I can see that! So just supports then, were there skills of the community members brought to the project? You've talked a lot about yourself, Margaret, and obviously the two of you have been key to it but have the community brought other skills?

OnS: well I suppose a lot of patience. Enthusiasm and patience, it's easy to say yes but then it's quite hard to see it through. And then when you're in the middle of a building site and you've two weeks to finish and there's contractors running around the place and the kids are due back to school in two days time. No, I, we've always been really well supported by them they've obviously seen the benefit. Like people don't just do things for the sake of doing things, the community must have seen the benefit of. I'm sure if you interviewed them and asked them it must be financial.. although there are some aware people. It would be interesting, I don't know.

SC: financial supports I think we've covered already, so you were able to access supports that as individuals wouldn't have been available, by being a group?

OnS: Yes, definitely much easier, although SEAI have changed the model slightly this year. They've allowed projects in under €50,000, that won't need the same approval, is that true?

SC: yes they have a category. I suppose I'm trying not to be too.. I'm very familiar and I suppose I'm very close to what's going on with SEC, BEC and all of the grant programs but in looking at it as a research study I'm trying not to equate BEC or SEC with community energy, so I'm trying to keep it a bit more open that it doesn't mean one and the same thing necessarily.

OnS: no, no. We probably depend way too much on the supports of SEAI!!

SC: well it's interesting to find that out.

OnS: no we definitely do.. yeap we do

SC: and maybe there are other ways of making what's happening happen. But in terms of support that is one of your key supports then. And in terms of technical support are you looking to them

aswell or do you get that somewhere else?

OnS: No they would be my first port of call

SC: You mentioned the engineer..

OnS: Gerry D'Arcy, well in the last couple of months but Joe Durkan *(SEAI)* would have been my go-to person since the very start and would have been an integral part of all our applications. Brilliant advice on the renewables, he was brilliant.

SC: and you don't have an energy agency, in MCC?

OnS: They have an energy agency but we just haven't had that much help from them. It's kind of been a one man show for the past 10 years. Myself and Margaret would have at different times engaged or asked for help but it's very difficult to run something by yourself, so we just haven't. I suppose we gave up, he was never our go-to but he wouldn't be. And there's probably very little he can do by himself. Yeap, but the other thing to say is that myself and Margaret are not technical, as everybody keeps asking me I'm not an engineer, Margaret's not an engineer

SC: so you do need technical support?

OnS: Absolutely! Like we're very enthusiastic and we love the technology but we're far from experts..

SC: I think it's interesting that it's Joe that is filling that gap then at the moment. Maybe, I don't want to preempt anything but maybe its not the most sustainable solution. I suppose there are other cases where the energy agencies play a big role.

OnS: Absolutely, the likes of Paul Kenny, he's great. He's a technologist, he's an engineer so he knows all the stuff but he has great support through his agency.

SC: OK. if you were to say what support the project would need to become self sustaining into the future?

OnS: that's a tough one, try to come away from grants? It's very difficult. I don't know, everyone keeps asking us how we're going to wean ourselves off grants..

SC: you mentioned earlier one, the community fund either, the €20,000 or €30,000 going back each year, I mean it's a different scale of project but..

OnS: it's a start, it's absolutely a start, I mean the value of the energy credits is definitely something that Udaras recognize and they are trying to utilize. I think on a larger scale, like even the application we put in today, like there's €250,000 worth of grant aid on a project of €900,000. I don't know how you would deliver that, and that's really, like that's after spending the last few weeks trying to get

the community groups paid for, trying to get a little bit more off the private companies, trying to jiggle, squeezing everything to give the community the biggest benefit, because they can't afford to pay whereas the other groups can afford to pay. Like Udaras can afford to pay because they are state funded and part of their remit is to upgrade their buildings. So they are an ideal partner for SEAI because they have a massive building stock, they have to maintain it and retrofit it

SC: and SEAI have the national remit to reduce our energy consumption..

OnS: exactly, exactly. But em., Susan I don't know in the future, how, it's a huge challenge. We've had Clan Credo down, we've spoken to the banks and I looked at Paul Kenny's finance model last year, it was really clever. I just don't think I would have the expertise to put one of those together.

SC: how do you feel about Feed-in-Tarrifs as a, it seems to work in the UK in terms of generating an income stream?

OnS: I would welcome it, I would absolutely welcome it. They're talking about it for micro generation here, they're meant to be to be making an announcement on it, I hope they include PV. Feed in tarrifs I would absolutely welcome it.

SC: OK, so just to wrap up, how would you describe the distinct benefits of a community led approach as opposed to individual actions to saving energy or energy efficiency?

OnS: I think both are really important. It's probably easier to see the direct benefits from a larger project because it's easier probably to quantify and measure them as opposed to individual but absolutely both are essential and we have to start looking at the individual approach and we have to get people to change what they're doing and how they're doing it. And look at the bigger picture. It's a huge job, it's no easy task, it's going to be so difficult. I don't go out of a room and turn off the light. And here's me telling everyone else to go and do it. But we need that to become the norm.

SC: how would you measure success do you think for your project in three years?

OnS: Oh that's hard. I suppose having achieved another funding stream to continue because obviously we've done a good job for the next 3 years so we can continue on, so definitely accessing more finance. I think looking at the baseloads, it'll be very interesting to see when we actually do some measurement if we reach our targets.

SC: so have you set target figures?

OnS: not yet but that's now for the first few months of 2016 that's the first job to actually measure what the load is

SC: and say 20% of that or

OnS: exactly..

SC: do you have any idea of what you are trying to..?

OnS: I don't know, but we're going to work very closely with Ruth to see what the other SECs are doing and to see is it different in rural areas, is it easier in urban areas. I'm sure it's going to be quite difficult here because its definitely more difficult to access people and to bring a crowd together, you have to actually put a lot of work into bringing the crowd together whereas in an urban area it's much easier to gather people together. Yeah hopefully we'll have 20% reduction in the energy bills..

SC: that would be a typical target for a lot of people and then you have the likes of Aran who are looking to go energy neutral and they've achieved 20% in three years.

OnS: Amazing, yes.

SC: So, last thing. Just from your experience, what advice would you give to another community, like the ones you were saying who are contacting you trying to replicate your project?

OnS: Just start, the only thing I say to people is just start somewhere, even if its one house, if it's one community building, just start to get the experience and to see that you can do it. Access money where you can, get people on board where you can but just do something. Like get a group together, form a committee and start. Because once you get a few people together it's definitely much easier to drive a project.

SC: a lot of people are talking about community energy being the key to accelerate the energy transition. But you know, that's ambition, and then there's reality. How do you get there?

OnS: yes, because you do need the support on the ground. Like you do need to motivate people to come along on the same bus, it's quite difficult, it's definitely easier for me because I'm paid to do it but I don't know if I would be that motivated Susan, if I had to do this every day with no job and on a voluntary basis. I wouldn't, I know I wouldn't be as motivated as I am, not a chance.

SC: So that's a critical distinction then for this community, the fact that it has that resource, you know two people, both full time allocated to it.

OnS: yeah, I think so. It's definitely easier for everyone else to become involved because you know that people are going to look after ... Like I spend 2 hours today scanning in tax clearance certs and declarations of insolvency. Like who is going to do that seriously after their day job, kids running round, like who's going to do it. I only did it because I'm paid to do it. And it has to be done.

SC: that's interesting and I know it probably helps to avert the burn-out and the fatigue issue for the volunteer effort if you've got a resource.

OnS: Mmm and then you've the likes of Paul Kenny who is paid and because his task is mammoth, like he seems to do so much, he's incredible, and where he gets his energy from I've no idea because he's two small kids. He's incredible. Every time I meet him I pick his brains, I think he's definitely the model to follow, he's doing it correctly.

SC: I'm trying to speak to him, he's said he's available.

OnS: When you have him, he's incredible, really motivating.

SC: Well there does seem to be something, Tipperary is my other case study and there does seem to be this clustering and spillover effect happening down there.

OnS: they're definitely doing it, I think the most successful way at the moment. Every year with his BEC's I wait to see what he's doing because I know it's going to be something really innovative, like his PV project

SC: the Local Authority one?

OnS: yes, his financing model last year for the housing? He upgraded was it 50 homes to near zero and had a deal going with the credit union.. very clever. I don't know how he does it, I want to be him!

SC: and would you have looked to Tipperary as a model before you started?

OnS: absolutely, yes Paul would have been a huge influence just because he's so competent and so helpful, so generous with his advice, he's brilliant and he's always at the end of the phone, and he'd always reply to your emails. We need to clone him and send him around the country!!

SC: So thanks a million, thanks for your time;

OnS: No worries..

Transcript No.2: Margaret Tallott, Údarás na Gaeltachta offices, Belmullet

25 February 2016

SC: thanks very much for doing this at the end of a long day. The aim of the research, as I explained at lunch, is to explore if community-led energy initiatives or community energy has the potential to increase the pace of retrofit and I'm looking into the factors that would contribute to this and the supports that are required. My understanding, from reading into the area, as I've had to come up with a definition of community energy, because it's very diverse and that's what the potential weakness is as people don't necessarily know what you mean when you're talking about it. My understanding of it would be (reads definition) .. So that's where I'm starting from.

MT: OK

SC: I'm interested in how you would describe your community energy project here.

MT: OK, so we're talking about the 2014 and the 2015 projects?

SC: Well I suppose I don't need it to be hung particularly on a BEC's, I'm more interested in how you see it overall, BEC being one component of how it's being implemented.

MT: so in terms of the community here, I just need to clear this up in my own head, the Erris community as opposed to all of the Gaeltachts along the west coast.

SC: yes, this has evolved now since I spoke to Orla yesterday. I came to it thinking that it was the Erris community specifically but I understand, I see now that that's evolved into slightly different project..

MT: ..all of the Gaeltacht regions. But I suppose the fact that we're based here in Erris means that this is where it will start and spread out from here. So repeat the question for me now please?

SC: I suppose I'm interested in how you would describe your community in terms of process and outcomes (showing diagram), a lot of people would try to position their project on this kind of scale..

MT: how would you see this community and how it would sit in this framework? Well in terms of the outcomes, the community sits pretty well in this direction because all of the projects that have been done have a particular community focus in them so I see that the outcomes of those projects would certainly be high in terms of the community. In terms of the process then, again I think that the process was quite open because the community was engaged from day one, you know there were open calls for people to come in. So from that point of view I think that it's sitting relatively here somewhere.

SC: and who would you see as being your community? Is it the schools, the community centres?

MT: we would see the community as being the entire Erris region and that would encompass private residents, private housing, it would encompass the schools, all of the community groups, it would encompass the SMEs so we would see it in a kind of very holistic manner with everybody being involved. And particularly voluntary groups as well. Tidy Towns is very interested and very involved, and I'm involved in Tidy Towns myself and they have a sustainability plan in place and that's one area that they intend to focus on for the next three years. So then there are other groups, there are men's sheds groups, there are various other groups that would engage with the process as well. So it's quite holistic I think.

SC: and you mentioned domestic there, the housing retrofit there has probably been a lesser proportion of the work

MT: yes and I think the reason behind that is our focus was on getting technologies deployed so that people could see them as opposed to, again to start off it's very tricky to take specific individual houses and then you've got people in the community saying oh why what that house picked or. Whereas if you take a community building it's there for everybody to use and there's much less you know, antagonism as to why you picked it because it benefits everybody.

SC: that's interesting,

MT: so from the point of view of the community projects I think it worked..

SC: to start that way?

MT: yes.

SC: would you see, it would develop that way, that you would move into the residential projects?

MT: Absolutely, the plan or the idea behind it was that we would showcase the technologies and that it would generate an interest and some people would actually go and do it themselves and that other people would engage with the BECs and try and do it that way.

SC: So how does Udaras sit in relation to the private housing, do you have a remit to support or encourage it?

MT: well to encourage it certainly, that would be no difficulty in encouraging it. From the point of view of including it in a BEC, I suppose at some point it might be something that we would get involved in, or maybe get involved through another group or an organization, exactly take on a partner who were into the whole residential side of things. Because it's not an area that Udaras would typically have engaged in.

SC: you probably have enough buildings, a lot of buildings to be looking after.

MT: it's interesting that you should say that because going back a few years, actually it was Rinne na Gaeltachta, did have a grant scheme available for housing in Irish speaking areas. So people who were fluent Irish speakers could apply for grants as opposed to people who were just applying to local authorities. But that's going back a bit, I don't know if it still applies.. but that was something that was in place in the past. But I don't see Udaras would actually get involved directly but it could certainly be part of the BEC approach.

SC: how would you describe your own role in the community energy project?

MT: on a day to day basis, well I suppose in terms of working, I would be involved in trying to ascertain the baseline study data for the SEC so that one be one aspect, pretty much all the time. Then outside of work I would be pretty involved in it through community groups that I'm involved in anyhow.

SC and would your motivaton for getting involved, would it have been because it was your job or..?

MT no that would never have been the motivation actually because, back in 2007 we fitted a wood pellet boiler in our own house and since then we fitted solar panels so it's an area that we would have been interested in for a long time. And its something that we noticed ourselves, back in 2007 when there weren't very many of them around that the time and lots of people would have been calling around to ask us how they worked. And I'm surprised that the take up has been so slow actually. I do think that focusing on community buildings and focusing on having things in places that are visable to everybody and everybody can experience them first hand..

SC moving on to the aims and objectives and what the project is trying to achieve. What would have prompted you to focus on energy efficiency?

MT well I suppose the whole environmental problem is something that's particularly close to very bodies mind, it should be at this stage, that would have focused us on energy efficiency. And then of course it makes sense from a financially point of view.

SC so the global issues were a concern?

MT Absolutely, yes

SC and do you think that's something that as a community would have been recognized or maybe just within Udaras?

MT I think as a community I think they recognized the issues but until people can actually see the benefits...because I think the whole environmental debate has been sold wrong from the start in so

far as you know Martin Luther King says I have a dream, from a Ted Nordhouse book.. I think this typifies what has happened with the whole environmental debate, he says.. MLK declared I have a dream, he didn't declare I have a nightmare. Which is what we're doing with the whole environmental situation, we're trying to warn people well what's going to happen if they don't change. Whereas I think there's as a huge opportunity, and that has always been my view and in terms of business and my interaction with small businesses, there is a huge opportunity here and business and small communities, everybody needs to see the opportunity and sell it as a positive.

SC: and the next question was what were the drivers for retrofitting homes or the community buildings in this case?

MT well .. reducing energy dependencies and reducing fuel costs, and not being tied to fossil fuels and I think this community is probably unique in terms of the whole debacle that has gone on in terms of the Shell thing. That has heightened peoples awareness in terms of fossil fuels and in terms of environmental issues and I think that it has sort of forced people to take a view one way or the other..

SC I know you've had some difficulties with the wind turbine..

MT yes but I think that has certainly flavoured people's views.

SC and RE we've covered a lot on that today, my question was how important is RE generation to your project?

MT hugely important to it, yes absolutely key to it..

SC So just on achievements, Orla is going to help me fill in this table in order to establish the level of activity, but I'm just wondering what aspects do you think have been most successful?

MT: that's interesting.. yes.. do you mean in terms of the technologies?

SC no, not necessarily in the technologies, in the activities and including retrofitting as well or I don't know if there has been much in behavioral change programmes, no, in terms of any of the initiatives..

MT I think that the awareness has been one of the big bonuses of the various projects. People are starting to talk, people are asking questions about it. And when you have data, as we've seen today from the PV arrays and when you've data from, say in our scouts den we have an air to water heat pump installed there and there are people coming in and out and asking us about that, I think that whole awareness issue and showing people how things work, I think that's been a huge plus of the project. The best thing, yeah, I think it's just the fact that it has actually started a ball rolling and I

think it can only continue on from there. And I think we have accessed people who wouldn't normally be accessed in other programmes that are going on,

SC so accessing them because they are coming into those buildings and they're seeing in it action?

MT yes, absolutely

SC: we talked about the energy savings earlier and how they have benefited the community already but do you think there have been non-energy related benefits?

MT oh absolutely. In terms of people's awareness of environmental issues, in terms of even the social interactions that are taking place as a result of the projects

SC like what kind of..

MT like when would you have had a group coming about a table to talk about energy on a social level here? So it has started that whole conversation going and I think there's been huge benefits to it and people are comparing what they're doing with each other..

SC are they? Between the parishes?

MT yes and even between individual groups they're saying, like between the community halls definitely.

SC is that a sense of community spirit then?

MT oh yes and particularly, you saw in Bangor hall, I mean the hall has been rejuvenated far beyond the energy efficiency that has been introduced. That hall was closed, you wouldn't go into it and the drama group would be out of it after an hour because it was so cold. And that has opened up a huge social aspect, you heard him talking about 180 people at bingo on a Tuesday night. Now most of those are probably elderly ladies, a lot of them living on their own and that's their only social interaction for the week. If that hall didn't exist, if they weren't able to use that hall, and they haven't been in the past, then they weren't having any social interaction over the course of a week.

SC I think that is a fantastic example, it was really clear today.

MT and the same with the meals on wheels, that might be the only person they see all day, the guy that drives round and delivers their meal in the electric vehicle.

SC and are they doing more of that now than they were?

MT they are and they have also introduced a laundry service that they didn't have before. So they have a community laundry service.

SC because that's something that I would be interested in, have the quality or the level of the community services improved as a result of..

MT yes, absolutely I think so, yes. And even from a security point of view, someone living alone out in.. they are quite remote areas that we were in today, and for them to see somebody be it with their dinner or their laundry during the course of the day that's a huge source of comfort I think to them.

SC a lifeline for rural communities..

MT yes.

SC so that's talking about how would you measure the success of these projects, so it's not just about KWh's saved?

MT no, and I teach maths myself so I love looking at the KWhs and I love looking at the savings and the whole PV thing it's great tracking it and all of that but I do think that the measures have to be far beyond that in terms of the social engagement and in terms of the community coming together there's a huge spin off.

SC do you think that, you said about other people coming on board just to do projects themselves, I'm interested has the community project triggered other energy conservation initiatives?

MT well certainly I would see people who are building new houses are looking to see what's the best technologies they can put in.

SC. OK so you would see that through your Udaras role?

MT I would see it through my Udaras role but my husband is a contractor and went back to college to train in sustainable building technology so lots of people would be coming asking him, what about this and what about that and certainly people who are building new houses are much more aware of the whole energy situation and they are looking for the best technology.

SC: and do you think that this project here..

MT: yes I think it's as a result of seeing these things going on and maybe knowing where to come for advice... I know that when we started in 2007 we decided to change over to wood pellet, it was very difficult to get information, apart from interacting with SEAI there wasn't really anybody else you could go to ask advice and there certainly wasn't anywhere you could say here's one you can go and look at.

SC: so having access to that kind of advice has a spin off? I suppose the question is can it accelerate the rate of retrofit.

MT I think so, yes.

SC and the next question is has it had influence beyond the community? I suppose you could look

at this in terms of starting with Erris and where you are going now.

MT starting with Erris and spreading that out through all the Gaeltacht regions… well Udaras has had BEC projects in the Galway region as well and I think the combination of the two has certainly been instrumental in terms of spreading it to the rest of the regions. I don't think that would have happened had the two projects not been going on. And I suppose we probably have been egging each other on! The Galway office and Gerry D'Arcy's working out of there and he's been instrumental in doing the BEC schemes there and us here and us comparing notes on what he's doing and what we're doing and has spread it out.

SC: now you've gone from Erris, to Galway, you've got 5 is it altogether..

MT: yes there's Donegal, Mayo, Galway, Kerry and I think Meath, yes Meath are included this year.

SC: is it the full Gaeltacht area within those counties or is it a smaller area?
MT it would be the full Gaeltacht area, I don't think we've anything in Cork but if there were projects it would be included.

SC: so in terms of geographically defining your community, it's big!
MT it's big yes, and I think that's the fact that it started in Mayo and Galway, we're both close together and it's going both ways, it's spreading out in both directions.

SC: Just in terms of challenges then, what obstacles would you have faced in getting started?

MT: The main obstacle we would have found would be in convincing people of the benefits. Initially the financial, it has to come down to finance initially because if people can't afford to do it then that's a huge problem. So I think finance is one of the main issues and the main barriers.

SC: and that's why BEC is such a key for all of that?

MT: absolutely, it enables all of it. Now I do think that at some point it's going to have to stand on it's own two feet. The whole energy efficiency thing it's going to have to have a business case, it's going to have to have a domestic or a financial case for itself in its own right. But I suppose at the moment when oil prices are falling it's a hard sell. But I think in order to get to that stage I do think that there has to be a level of financial incentive to actually get the whole thing going. And then when you have the projects and people can see the benefits and they can see their electricity bills going down it's easier. So finance is one of the main barriers.

SC: Would you think there were failures in the project, there were things that didn't work? I don't mean necessarily just in the technology..

MT: I probably keep going back to the BECs but it's because they're so instrumental in kicking off

the whole thing, the timeframe is quite difficult to work around. You're asking people to make decisions about financial investment in a very short space of time and the fact that we never knew that it was going to continue… like if we knew it was going to come up next year anyone who didn't get on this year's scheme you could work with them to get on next year's scheme. So I think the timing is a big issue.

SC: having some kind of stability?

MT: yes, that people can look in the future and say well this is going to be available to me in say 6 months time or 8 months time if I can find the money to fund the rest of it. But it's having the finance to put in place over a very short time I think proves difficult.

SC: I was interested in how the organizational model has changed, it's obviously grown, you've talked about that. It was already quite big I suppose, the barony of Erris is..

MT: the same size as Co Louth!

SC: but how do you feel about the change now, is it manageable? I know you have the two of you..

MT: yes and there is the steering committee,

SC: could you explain how that works?

MT: so the steering committee is quite broad and wide, so we have people from Donegal, there's ourselves, the Galway head office and we have someone from Kerry. That's for the Sustainable Energy Community project. So that body is in place, and I suppose it remains to be seen how well it's going to work. But I don't think you can go into an area, like me going to Donegal and trying and implement something in Donegal, I think you need key people on the ground there so that was the whole basis of setting up the committee that you would engage people from all of the regions in it. So it does remain to be seen how well it's all going to work but every effort has been made to engage all of the regions in it.

SC: and say if you have a representative from Donegal, will they have their own more local sub-group?

MT: I think so, I think that's how it will have to be developed because there will be quite a lot of baseline data to be gathered and that can't really be done from here. So I do think they will have to form a sustainable energy group in Donegal..

SC: like little satellites linked with this steering group?

MT: yes exactly. And that in itself will spread the word.

SC So just supports, and what's worked and what hasn't worked? You talked about BEC being a key

financial support, were there other supports that you needed or sought?

MT: well we will engage with training.

SC: what sort of training do you think you'll need?

MT: I'm not absolutely sure but training about how to go about how to collect baseline data, how to populate the various programmes that they *(SEAI)* have with the data, how to update that, really getting to grips with the software and how that operates and what you need to collect. And of course I'd be interested in hearing from other areas how they've got on.

SC: typically, the sort of supports people would be looking for would be technical support, financial support, PM support,

MT: I suppose technical supports would be good to have, we have already gathered a fair bit of knowledge ourselves from simply being involved in the projects and learning on the job but it would be good to have technical support and just to be able to fall back on someone when you have a question.

SC: and to date, how would you have gone about getting that?

MT: I suppose we've been fairly tenacious about finding stuff we need, it's purely been on a need to know basis so anything we've needed to know we've sort of gone well who would have that information.

SC: DO you think being hooked into the EU projects helped?

MT: That has been a big help, definitely it has. And you can see the knock on from the GREAT project now, the GREBE project so we'll keep in contact with GREBE. I've also, prior to that when I started with the GREAT project my first networking event was the REMNET project in Donegal, Donegal Co Council they were the lead partner on an EU project called REMNET and I would have engaged with them initially and they would have been a source of information and SMEs would have engaged with them who keen to engage with us in GREAT aswell and now those SMEs in turn are keen to engage with GREBE. Like I said this morning those SMEs, the life of the SME goes on even though the life of the project has finished.

SC: I suppose in your case, this community, there's an agency at the head of it, would you see it that way? Because my question was going to be what agencies or organisations did you go to for help but.

MT: we'd be the help! We'd be seen in that light, yes. I think it's important that the community have somewhere to go, and it's not that we'll have all the answers but at least we'd be able to point them

in the right direction to get the answers for what they need.

SC: and how represented are the community, say when you started off in Erris, and Iknow Orla was involved but was it all being done by the GREAT project or was it coming from the bottom up as well would you say?

MT: there would have been a bit of both. Now certainly there was an enormous amount of work done through the GREAT project in terms of community engagement and Orla did run a very successful community event last February and that was really well attended and that engaged a lot of people that wouldn't previously have been engaged.

SC: did they continue their engagement?

MT: yes, they did definitely and Orla's got another event planned for April so I think that will be very useful in engaging local people.

SC: I'm just trying to get a handle on what the percentage of the community, and I suppose I'm not counting Udaras or Mayo Co Co as the community even though they're part of the overall group. I'm trying to get a sense of what percentage of the work or the effort is being put in by local people.

MT: I would say there's a considerable effort being put in by local people, through their engagement with the schools, with the community projects they're involved in

SC: so like the school principles?

MT: the whole green schools initiative ties into it, as I said Tidy Towns they have focused on sustainability for the next three years in order to improve their mark and they're looking for information and they're looking for, they want to know what projects are going on so they can tie in.

SC: Going back to the graph, you know, you'd wonder how much the community are doing for themselves as opposed to an organization like yourselves being able to make it happen for them which would push you maybe down there..(*pointing*)

MT: It might, exactly but I do think that as a result of the work we are doing that it will start to come back, you know there's community will start to, have started to.. You might say that initially it's being pushed by the organisations but that's only to get it ignited. And it is ignited because we're having lots of interaction, people are coming in and asking you know about PV, people are coming in and asking about heat pumps so I do think that the community respond, you know when they see something happening I think they respond and they look for more.

SC: Leading on from that then, to help the project to become self sustaining into the future, it has

to have some sort of stability or certainty. What supports or what do you think is needed to make that happen or enable it?

MT: Well I do think advice and consultation with the local community, somewhere that people can go and get advice on various aspects because the whole greening of the community is going to get progressively, what would you say, I mean what we consider green today, in 5 years time will be considered standard so even though the community are engaging now it's going to be a continuous process, it's never going to end. I think it's going to be a continuous improvement process and in that process people are going to need to be able to go somewhere for advice because the technologies are going to be changing so I think advice and support is a big support that will be needed into the future. I think financial support is needed at the outset to get the whole thing started but I do think that it should become financially self sustaining.

SC Orla had mentioned yesterday the community fund, from selling the energy credits.

MT oh yes, Udraras had a very clever way of doing that, they have put it back into a community fund, so if community organisations can't come up with the funding that they will be able to bridge that gap in some way.

SC that sounds to me like a start, scale wise it might be smaller, it might only deliver a certain amount but..

MT yes and that is the other thing that needs to be looked at is the whole financial thing. As I said about the energy-strong project this morning, if you can simply change someone's energy bill into someone's loan repayment on their retrofit that's a no brainer really, isn't it.

SC and then this is being paid for a period and then they're out of it.

MT absolutely. So I do think it should be self sustaining but I do think there is a lot of work to be done to find models, to find self sustaining models for doing it and to engage with the likes of Credit Unions. I think those sort of things are important as supports for building it. That you find financial supports so that really it makes no sense not to do it.

SC and I suppose that given the limitations of the year to year grant thing where you're limping along not knowing what's ahead, it's a better model I would have thought.

MT yes

SC great, so just to finish up, what would you think are the distinct benefits of a community-led energy project?

MT well the obvious ones are the energy efficiencies and also the financial efficiencies that can be

gained and that can be reinvested to do more things... I think it's essential that it's a community led approach to be honest because otherwise you're enforcing something as opposed to implementing something and I don't think that's ever going to gain acceptance at the same level.

SC That's interesting, so it's something that comes from the bottom up or the ground up. And if you were to look ahead three years, what would you like to see or how would you measure success?

MT How would I measure success, well kilowatt hours!!

SC Would you yes?

MT I would, I have to!

SC I think Orla said that you're going to work out a plan but would you be looking to reduce say 20% or

MT Yes I do think that would have to be the initial focus but I do also think that we will also gather data on the social benefits and all the other spin-offs. And on the business benefits because I do think that this whole area can be created into a circular economy whereby you know it has a knock-on effect. Systems theory is something that I'm particularly taken with! So the whole idea that systems impact on other systems so the whole thing of having a sustainable energy community will impact on the businesses, it will create businesses because people will get involved in that space and there's plenty of room you know, it's not a niche market, we need all the SMEs that we possibly can to get engaged in it. So I do think that it will have that effect, that aswell as people doing their own retrofits, or their community buildings that they'll be thinking well there's a business here, and I do think that it will impact. So the measures that I'd like to see would be, kWh would be one, the social benefits would be a second one and the economic benefits in terms of business you know for SME's, strengthening the local economy and growing jobs. I think jobs has to be a key metric in all of this.

SC I looked at your project because I thought Erris seemed to have started because it looked at Tipperary (my other case study) but if a community was looking to you for advice in terms of replicating successes, what would advice would you give them?

MT: well I think the first advice I would give is to get a project going, get something on the ground, be it PV, be it whatever technology and get it somewhere that's central that everyone can see it where it starts to generate discussion.

SC I know a lot of your initial work has been RE generation but would you encourage them in the area of generation or energy conservation and energy efficiency?

MT Both I think both need to go in tandem with each other to be honest. Going back to Tidy towns the whole focus of the Tidy Towns is conservation and biodiversity and all of that but I do think that both things need to be done in tandem.

SC it definitely seems that you're doing that here anyway from what we saw today! Thanks so much for your time Margaret.

MT Not at all.

Transcript No.3: Enda Casey, Mayo Co Council LEO office, Castlebar

26 February 2016

SC: Thanks Enda, the aim of the research, as I explained earlier, is to explore if community-led energy initiatives or community energy has the potential to increase the pace of retrofit, the factors that might contribute to this and the supports that are required. Just to say that you will remain anonymous in any reports that come out of this and all information gathered will be treated confidentially, are you OK with me to record?

EC yes, no problem

SC To start, I've had to come up with a definition of community energy, because it's very diverse term and a lot of people have different interpretations of it. So my interpretation of it as a starting point would be that CE is (reads definition) .. So that's a working definition that I have. So just to start, a bit of background about how you became involved, what your role was..

EC So Enda Casey is my name, I'm a qualified town planner, I had been working in the planning office for 6 years in development control and management up in the Erris region. The county manager set up what's known as Enterprise and Investment unit in Mayo Co Council and that had a remit basically to focus on specific sectors where there was the potential for new jobs. So one of those sectors was renewable energy which was, obviously Mayo, the resource that it had was huge. So that was my brief to fall into that sector. We've other people in food and tourism sectors and the diaspora so in terms of getting involved in the energy side of things that was how I became involved. It's very much in terms of renewable energy but that has disversed its way into very much localized community projects where the energy has gone wider in terms of looking at retrofitting and introducing the renewable technologies, which is I suppose which the SEAI schemes are all about. So in that regard we've immersed ourselves and got involved the last two years in partnership with Udaras in sending in applications under the SEAI Better Energy Community Scheme. The idea we would see is a role as MCC is that individuals, communities, businesses, organisations, they mightn't be too familiar with the systems so we try to bring together

SC with the technology, do you mean, when you say systems?

EC yeap, sorry, well the technologies but no they mightn't even be familiar with perhaps the grant schemes, how to access them, and again going as far as the technologies their understanding of their buildings, or what can be done, can be an obsticle. So we kind of bring together that expertise and technical resources.

SC: great so that's MCC's role, how would you describe or define the role of the community then from your perspective? How involved do you think they are?

EC I think once they find out about it they're very much interested, it's a no brainer, once they find out that, the pillars over the community, that there's ways of reducing their energy bills they're automatically interested. So cost is one thing. So that has a huge benefit and then the idea that they're able to reduce their carbon footprint and stuff like that. If they're building and it's suitable for introducing renewable technology or they can be autonomous in terms of generating their own energy for their building, they very much have the interest for it.

SC so do you think are they getting involved in the process then as well as being interested in the outcome? Are they involved in the process of getting there or is it more being led by yourselves or other agencies?

EC what we did and the best approach to it, what we did last year was we had an open day to harness peoples interest into seeing if they wanted to be involved in the project, and to understand the project and what they could achieve. That was down in Belmullet. So basically you seek expressions of interest from right across the various sectors, be it community, business, homeowners and again because each sector can get different percentages of grant funding.

SC and have people come forward then, say from the community hall or the meals on wheels, as leaders and they have actively engaged in it, is that how it happens?

EC I suppose the engagement with those is that they've expressed an interest that they would like to see something carried out with their building so throughout the application we keep them briefed and obviously when the works have to be carried out then they have to have a point of contact on the ground so they become involved in that way. In terms of the administration and the financial side of things during the course of the application we would be directly involved

SC so you are managing that side of things for them?

EC yes, for them exactly.

SC you've touched on it already but in terms of the aims and objectives, jobs primarily, is that where it's really coming from?

EC absolutely, so as I said the resource down in Erris itself is huge, and the value is in the resource

SC and when you say resource.. do you mean wind?

EC like wind exactly, and through the last couple of schemes, the pilot PV that have been rolled out, they've showed that there is alternative technologies that can work, you know.

SC so that's what's prompted the focus on energy essentially. So are they local issues really?

EC Correct yes, I suppose the local issues in terms of with the scheme as well, we'd like to employ particularly through the SEAI BEC schemes, obviously we have a public procurement remit that we have to follow at all that and it'd be great but the idea is that when we are getting the retrofit works advertised and put up on etenders that we'd like to see local business and contractors coming forward and being able to get that work and carry out that work.

SC: and had that happened?

EC: to a certain degree yes, and to a certain degree no. They has been people involved in terms of project management and stuff like that, you know local guys, but in terms of insulation and mechanical and electrical work that's needed it's kind of an open competition.

SC so do they need to build up skills?

EC correct, again SEAI have a platform for that for contractors to get contractor training. So it's all about briefing them and having them best positioned to win the contracts for this.

SC Yes, so if people see that there is work coming out of it for local people maybe it's a virtuous circle..

EC absolutely it would have a knock on effect, if people within the area have the skillset to carry out the retrofit works, even as far as introducing the renewable technology.

SC: I'm interested in the project here because there is such a big emphasis on renewables and I can see why but when you look at how to approach energy efficiency typically you would say to start with reducing your demand. With the housing stock that you have probably that's a big issue, like before people start putting solar panels on the roof, I don't know what your view on that is?

EC: No absolutely. There's no point really in introducing RE technology to inefficient buildings. So for a starting point particularly the LA housing stock or any building stock should have the basics incorporated into it. And then once you have those basics incorporated into it then you can start looking at incorporating the RE technologies, whatever it is.

SC going into that a little bit then, how are you approaching tackling that problem?

EC: in terms of Mayo there's 4 municipal districts so we'd have a suite of housing in all of those districts so the idea is that we would look at schemes through the SEAI, the BEC schemes was one where we took a representative sample of 7 houses so we just showed what can be done.

SC in terms of achievements then, what were the outcomes of those particular houses then?

EC: those particular houses, so the requirement was that they had to have a minimum BER uplift of

between 150-200 kWh per year. So the average was that they went from energy poor, they all moved, with significant uplifts averaging about C or C1.

SC: and they would have been?

EC: and they would have been down there, your F's and Gs. They were as energy poor as you get.

SC: So that's a huge uplift then. And I know the tenants pay the bills but do you think they are taking the benefit of the extra heat or are they saving money?

EC well I think in terms of the 7 houses that we looked at in Erris, I think the main thing for those individual owners, would have to be the quality of life. In terms of their heating, they've warmer buildings.

SC: so even if they still can't afford to fill the oil tank, but the house is going to be warmer?

EC correct, the house is a lot warmer than it was, and they are quite vulnerable members of society, quite elderly people so there are health benefits particularly with the weather that we've having here.

SC I suppose there's a question about whether it's appropriate to be putting in, you mentioned that some of those houses have no heating system and when you're starting from a base like that, is it the right thing to be doing to be putting in oil boilers?

EC: probably not you know, again, the costs involved in the RE technologies are getting cheaper, in terms of the air to air and the ground water heat pumps and all the rest. I would say again budget permitting the ideal would be that you would look at the newer renewable technologies.

SC is that something that you might consider then?

EC that's definitely something that we would consider.

SC your presentation at the NUIG conference was very much about nearly-zero, you were approaching things with that in sight.

EC exactly, so I mean in terms of the footprint, when the opportunity presents itself that we would be leaning towards removing oil from the MCC housing stock.

SC within any timeframe?

EC it'll be a while because you're dealing with such a huge housing stock, but it's something that we definitely would consider.

SC in some parts of the country you'd see a link between wood based heating systems and supplying the fuel. It's not necessarily the same in all parts of Mayo here, it's more open bogland wouldn't be suitable, out in Erris.

EC there's not much forestry there but certain parts of the county there would be, yes.

SC What aspects would you think were most successful about those housing retrofits?

EC the most successful part I think of the scheme altogether is at the end of it when you can number crunch into total kWh savings of energy. That's bringing the housing, the communities and all the buildings involved and then you can bring in a euro value to that, that really demonstrates.

SC have you done that exercise?

EC yes, so that's been carried out for 2014 and 2015,

SC is that some thing you can share?

EC it is of course, so in 2014 which we had the community buildings and the 2.7 KW PV arrays, there was something like 200,000KWh of energy reduced, right across heat, transport and electricity sectors, because there was a couple of electric vehicles rolled out.

SC and how have you quantified that?

EC that's done through measurement, so we would do that with our partners in the scheme REIL, they do the measurement and verification the technical side of it.

SC so kWh savings translated into money, and presumably that's money that's staying in the local economy then?

EC exactly, that's money, that's savings and

SC: and is that message being disseminated back to people do you think?

EC: yes, I think so and on average the community buildings might have been savings anything from €1000 to €2000 on their bills so that's a nice little fundraiser that they can be putting into other initiatives.

SC I suppose that's one of the benefits of a community-led approach.

EC yes, they've a more efficient building, they're saving money and they can use that money into upgrading the building in other forms.

SC and in terms of housing do you think the community approach is a way to access people who wouldn't normally engage with retrofitting?

EC: yes, in terms of individual home owners, it's probably best if we were approached through a community representative, if they had that kind of go-to person, rather than going to them, as the local authority, on an individual basis. So if somebody could champion or there was an energy co-operative or some sort of organization that had an interest in retrofitting and introducing renewable technologies to their area it would be a good way to disseminate the information through that

network and then have MCC can come in and facilitate that through grant applications to SEAI or whoever else.

SC so you'd see that as getting better results rather than you guys just coming along

EC I think so

SC would you even have the contacts on the ground?

EC probably not, you know there is, the community organizations are out there but in terms of bringing all the stakeholders together, is kind of maybe where something could be looked at a bit closer so MCC in cooperation with the community champions and all the rest, could look at building up

SC you said that in relation to housing it can be difficult to deal with people, so maybe that relationship is easier done through their local community network.

EC yes, particularly in Belmullet being a primary example, being so dispersed and people being so isolated and that.

SC so the homes, they weren't in the town itself?

EC no the homes were all scattered right across the Erris region.. (*marking on the map*)… Carrotiege..etc seven in total.

SC and you said that you selected them as being representative?

EC yes, so they were as energy poor as you get, so they were in receipt of fuel allowance..

SC and the housing typology, were there different types?

EC They didn't vary significantly, so they were single story solid wall council house construction. So they might have varied from the 1970's to the 1980's.

SC did you put in attic level insulation, external wall or cavity insulation?

EC: it was cavity pumped insulation and attic insulation and then the boiler upgrades and lighting replacements.

SC: and the boiler with full controls and zoning?

EC: yes, all of that

SC and how have they managed with that new technology, the timers and the controls?

EC: so in terms of us having operatives on the ground, which is a good point, once the technology was installed there's that element of the guys getting used to it so we did organise that through the housing maintenance officer on the ground to do a workshop with the guys to make sure that they knew how to use it, because being elderly they needed that.

SC: Great. So the challenges then that the project would have faced in your opinion?

EC the challenges, I suppose with the SEAI scheme it has to be done in quite a short window. So when you get your application in be in February time and then you have a completion date of August – October time, but you mightn't know you have the money until June when you get the letter of offer and then you have to go through the tender process.

SC does that frame what you go to do?

EC it would limit what you can do in terms of, you wouldn't be looking at opening roads or anything like that in terms of bringing in a real technical infrastructure side of things. It's very much specific to getting the retrofitting, the building as energy efficient as possible within the required timeframe and the renewable element aswell if that allows.

SC so challenges, timeframe. Anything else?

EC: as I mentioned previously on the ground when the project has been implemented, we would like to see a lot more local people employed and we would get that issue with the local representatives from it. So in terms of us having to follow the public procurement issues, that is something that we're bound to, so in terms of getting that message across and on the ground.

SC do you think there's anything that hasn't worked there? I'm curious because sometimes you can learn from failures for other projects.

EC well no, since we've immersed ourselves in it, it's definitely a learning curve for us all the time in terms of sending in the application and all the rest, everything from paper management and us dealing with SEAI we're getting a lot more familiar.

SC but even apart from the grant end of it, on the ground are there things that haven't worked?

EC on the ground it definitely has worked and there's definitely been a benefit to individual owners and the community as a whole and there is a feel good factor when the communities come together and they can see their projects.

SC do you find are there other people coming forward and saying I want to get that done?

EC that's it yeah, so once it generates interest, so you find out on the ground that people are going to have a look at these buildings where the works have been carried out and then there's the appetite to see something carried out to their own building. So once they've seen that it can be done in the flesh that generates an ad-hoc interest in having their own building put forward.

SC I'm interested in the supports, and the relationship with the energy agency, Brendan was on the trip yesterday, how does that work?

EC again Brendan would be involved in the Mayo Energy Agency so he's very much involved in looking after our own particularly public buildings because we would have a remit that we'd have to reduce our own use by the 33% target which is quite substantial so his remit would be very much looking at that side of things. But in terms of us dealing with community and going for applications we'd very much try and immerse Brendan and get his level of expertise where it permits.

SC and in 2014 there weren't any homes done that year?

EC no

SC was that primarily a GREAT project at that stage?

EC well 2014 was the first year that we sent in an application under the BEC scheme, so there was 13 community buildings there, so there wasn't really the mix, it was very much focused on community, which was a good thing. So then in terms of us broadening the horizon the idea was to look at introducing housing and the business element into it. So the second scheme included community and housing.

SC I don't know but do you think was BEC the catalyst then for getting onto housing retrofits?

EC it was in this instance.

SC was that because of funding or other reasons?

EC I suppose funding was definitely one element that was there, if there's available funding to tap into that was something that MCC were interested in. So that was through the SEAI BEC scheme so then they'd be looking at for all the other housing stock is through other scheme, the SEAI Warmer Homes we'd be looking at taking stock of everything that's there.

SC and what supports were most important to the community to get people to engage?

EC I suppose the most important thing is the unknowns, the fears, that they've nothing to be afraid of. And when you introduce the scheme and we had that open day when you talk it through what it's about, how it's going to work and that we're looking for them to lend their name to it and you explain the benefits from the scheme and the idea is then that they participate in that and then other people in the region can.

SC so in a way it's the demonstration value is it?

EC well I think the demonstration value is definitely important, you know the outcomes, for example the PV arrays that have been installed, you can point to that and say this is how it works.

SC apart from BEC are there other existing supports that are working well?

EC the other supports in terms of energy.. that are available there, through the LEO we'd have SME

workshops and stuff like that so through businesses we'd have energy saving workshops to push the energy agenda that way.

SC and from your perspective what supports do you think are lacking to get this community energy approach working?

EC well I suppose the supports, what's lacking at the moment is that there're not as many out there at the moment as there should be. Now I think that's changing.

SC what do you mean by?

EC there's not as many energy communities, particularly in Mayo

SC like what's happening in Erris?

EC exactly, it is happening and these networks are growing in other areas, particularly in Claremorris aswell, there is energy coops that are coming together and I suppose the sustainable energy communities programme that SEAI are running is really the tool for setting the structures in place for organization to come together and look at everything that can be done in their community.

SC so I wonder what was different in Erris then to the other areas that you're talking about?

EC well in Erris, obviously Údaras was up there so there's the development agency that was up there. Being particularly the west, west of Mayo as it is, the renewable resource is up there and the idea is that they are really looking into tapping into that and looking at new enterprises setting up in their area and everything they might do to promote the whole energy sector up there.

SC so other parts of the county maybe don't have that focus?

EC they probably would have the focus but again it's on different areas and different strengths, as I said up in Belmullet the wind resource it's a huge thing but in terms of retrofitting that can be done anywhere in the county.

SC so you wonder what are the key bits of support infrastructure that are needed to help people to get started?

EC and again I suppose it's getting them through MCC, through the SEC programme, if we have an entity or an interested group that are interested in doing something for their particular community and they identify a series of houses, community buildings, whatever, then we can work with them.

SC I think what you're saying then is that you need the champion or you need that bit of leadership to come from the community in the first instance?

EC exactly, that would be an ideal scenario.

SC I suppose in Erris they had that leadership through Orla, through Margaret, others?

EC exactly and through having open workshops and letting people know and familiarizing them with the schemes.

SC What supports or structures would enable projects like that to become self sustaining into the future in your view?

EC: the project in Erris it becomes self sustaining and their energy savings that everything that they accrue from themselves they can pump that money back in.

SC I think they are starting to do that, they have a community fund which is coming out of the energy credits?

EC: that's right, yes. So it's all circular and next thing they can use that money to go on and look at new renewables or something else.

SC and I suppose they did have the benefit of the Shell community fund but that's finished now.

EC that's right, that was the Community Gain Investment Fund. That was a huge tool for them to tap into down there.

SC it's like a seeding thing, where it was a pot of money that could be use to seed projects which now has a snowball effect.

EC it was the catalyst exactly.

SC yes it was the particular circumstance here it would seem.

SC OK so just to finish up then, from your perspective working in the Local Authority what do you think distinguishes community-led energy initiatives from the top-down approach?

EC the top down approach, it doesn't really work I don't think in terms of really rolling out good meaningful projects on the ground. Ideally it would be if the communities through engagement with the LA and in collaboration that you're working together and rolling out these projects as opposed to one entity going on their own solo run and another organization going on another solo run. I think by coming together and finding out what each person is about and then in collaboration then when you send in your send in your applications or whatever that you're stronger together.

SC I'm interested in what synergies come then from this community-led approach is it leading to other things?

EC in the first instance it's establishing a relationship with the LA so I think that's very important..

SC so that mightn't be there?

EC that mightn't be there, no. So we can then, through our networks, through information, we can feed back what may be available to the individuals or the communities.

SC in terms of your three year vision for retrofitting, could you summarise it?

EC there's no three year plan formally in situ at the moment, the different housing offices over the various municipalities are obviously looking at their housing stock and getting applications in to improve those as best fit. So I imagine then there's a budget set aside for those.. we'd like to think that in the next three years that we're going to take stock of everything and identify a series of our own housing stock that really could benefit from energy efficient works.

SC with the 2020 nearly zero target in mind?

EC yes, a lot of those buildings the idea would be to make them as warm as possible so the idea of near zero energy target it probably wouldn't be realistic at this stage. It's about taking stock and definitely getting the basics done.

SC is that because of cost it's not realistic, presumably the technology is there, it can be done?

EC I'd say cost would be an issue but I'd say it's more so definitely in stages, the immediate stage would be to make sure that you retrofit a building to a certain standard like a B or a C, because a significant amount of the housing stock would be well below that.

SC Finally, if you were going to give advice to another community who were looking to replicate the model?

EC absolutely, it's been demonstrated what can be done so the idea would be that we would encourage any communities interested in availing of schemes or looking to do works within their own communities to come to us and we'd be happy to find out what they'd like to get done, where they'd like to get it done and then in collaboration then with those we'd outline the benefits that can be accrued from them sending in an application and we'd be happy to take them through the process as we have done before.

SC I'm interested to see has the scheme this year scaled up?

EC Yes, the scheme this year has scaled up, we have a mix of housing, community and buildings. So the housing this year, we're working with St Vincent de Paul hopefully, they've a very poor housing stock, there's an elderly scheme in Charleston and there's a SVdP apartment scheme here in Castlebar so like that we put out the message that there is potential to have upgrade works done for your properties and then through organisations like the SVdP they've expressed an interest.

SC so it's a county-wide thing, you've gone separate from Erris now this year?

EC exactly so the idea is it's a cross-municipality application so the four municipal areas here in Mayo and we're looking at piloting projects in each of those individual areas and we hope that this will

generate interest then going forward that communities can come to the fore. I think in sustainable energy communities, the devil is in the detail so that it really is communities that ideally should be approaching us expressing what they would like to have done and then we can help facilitate that as best we can.

SC OK that's great. Thanks very much Enda.

EC no problem Susan

APPENDIX H – ERRIS DATA ANALYSIS MATRIX

Theme	Orla Nic Suibhne	Margaret Tallott	Enda Casey (Mayo Co Council)	Summary Findings
Identity and understanding of community energy	1. Definitely a bottom-up approach, community ownership is very important, for example with wind turbines; people are increasingly aware of how it should be and would resist a utility company coming in with large scale plans. 2. Shell has been very divisive and for a long time the perception was that energy was a bad thing, but people are coming around now to thinking that it can be something that they can be a part of as a result of the project. 3. Identity is evolving as the project becomes part of the larger Gaeltacht entity, Erris coming under the umbrella group. Positively embracing the opportunity to become part of a network. 4. Community includes all stakeholders, community groups and charities who need help but also private business, education, public services.	1. Community highly engaged in both the process the outcomes, they were actively involved from the beginning. 2. See the community as encompassing the entire Erris region with everyone involved, including householders, schools, community groups, voluntary groups ie. Tidy Towns, Mens Sheds and SMEs; 'so it's quite holistic'. 3. Residential sector would not be a typical area for Udaras to be directly involved in, would need to engage a partner to develop this aspect. 4. Unique situation created as a result of the Shell-to-Sea context, it has had the effect of heighting awareness of fossil fuels and environmental issues and 'forced people to take a view one way or the other'	1. See themselves as facilitators, role is to bring together communities, business interests, organisations and help them to access funding through grant schemes; also a technical resource provide help in understanding what retrofit technology options are available for their buildings. 2. Community are made aware of the project through open days, which aim to get people to commit to getting works done. MCC undertake to manage administration and financial aspects for home owners.	- Shell-to-Sea context influential - Community energy is a bottom-up approach, includes all stakeholders and ownership and engagement are key - Identity is evolving
Origins / Drivers / Motivation	1. Project origins were from Udaras as lead partners in the GREAT project and out of that the Erris BEC was established, which ran side by side with GREAT in 2014. Following that OnS and MT began to set up a plan for doing something around energy and renewables in Erris. 2. Existing networks: Udaras have used their very strong ties to the Gaeltacht communities to get support for the project, i.e. through rural social scheme and comharchumainn representatives. MCC would not have had access to that network and it made it much easier to get buy-in. 3. GREAT was more focused on SME's, smart grid and RE; the community element along with remphasis on retrofitting came from engaging with the BEC programme. 4. Helping the community a key driver 5. Focus is enabling a low-carbon transition in rural areas, actually implementing a sustainable energy community on the ground. Cross-over between academic / management and community backgrounds. 6. Personal concerns regarding global issues were what prompted action but as a community people were not concerned with climate change. 'There's nobody in Belmullet worried about climate change' some individuals alright but not as a collective. The driver came from having two 'people employed to do a job and they enabled communities to come on board'. 7. However financial savings are considered a key driver; 'you have to see the savings because what's the motivation otherwise if people don't see a saving in the pocket or a decrease in bills?' 8. Tipperary model would have been an influence, TEA hugely helpful.	1. Origins in the geographically defined region of Erris came about due to Udaras presence in Belmullet, is spreading from that. 2. Involvement in the Tidy Towns network pre-existed the community energy initiative - TT now encompasses a sustainability plan. 3. Raising awareness. Originally emphasis was on getting RE technologies deployed so that people could see them in action, this led them to look at community buildings as they had better demonstration or 'showcase' value and more equitable as the benefits are for everyone. 4. Long standing personal interest in sustainability and RE technologies, from own experience recognises that take up has been slow and there is a need to have more visability so that people can gain first hand experience - hence focus on community buildings. 5. Environmental concerns primarily but also the financial opportunity. Convinced that the environmental debate is not being sold in the right way, people need to see the opportunity rather than be presented with the nightmare situation. 'everybody needs to see the opportunity and sell it as a positive' 6. Reducing energy dependance on fossil fuels and fuel costs.	1. Originated from the Entreprise and Investment Unit focus on jobs potential of renewable energy sector, recognition of the huge value of that resource in Mayo. Diversified from there into local community and retrofit projects. 2. Partnership with Udaras to apply for BEC grant funds. 3. Community on board primarily because of cost benefits, reducing energy bills. Secondly would be reducing their carbon footprint. 4. Local issues a driver, aim is to encourage local contractors to apply for retrofit works but this is has to be done within public procurement routes. 5. BEC was the catalyst for LA to engage in retrofitting homes - availing of funds but also creates a route to reach out to community through the local representatives...	- Udaras and Tidy Towns networks - Recognising the jobs potential of RE technology to help the community - Personal sustainability concerns, not collective - Financial benefits / opportunity
Barriers and challenges to implementation	2. Major barrier has been financial, trying to organise salaries so that the work that was started in the first two years could be continued. Risk of there being no-one in place to be responsible for RE test sites once GREAT was over and loosing benefit of what had been set up. 3. Original financial model (using the CGIF) meant that it was easy to get people involved as the community financial commitment was minimal (10%) however this will become more challenging now. 4. Having necessary skillsets i.e. to negotiate contracts on electric vans, better deal could have been done - unanticipated battery rental costs now have to be subsided by the local Spar as they were cancelling out the diesel savings. Need for patience and enthusiasm to keep going. 5. Wind opposition; unsuccessful with first proposal for Rossport community-owned turbine to supply the group water scheme, but opposition linked to where funding was coming from, lessons learnt. 'You have to put a lot of work into bringing the crowd together' in rural areas.	1. Finance is one of the main barriers. Difficulty of convincing people of the benefits; finance is the main issue if people can't afford to do it. 2. Need for energy efficiency to have a business case in its own right in order to stand on it's own two feet. Difficult sell when oil prices are falling. 2.Accessing information and advice in the early stages, no-one to go to apart from SEAI. 3. Timeframe of the BEC is difficult to work around, people are being asked to make decisions about financial investment in a very short space of time with the uncertainty of not knowing if funding will be available the following year. The conditions don't allow them to plan ahead. 4.	1. Cost of renewable technologies a barrier to widespread implementation. Limited budgets and need to bring as many homes as possible up to a best-minimum standard. Ideal would be to remove oil from the housing stock but aspirational only at this stage. 2. Dealing with the range of people involved for a LA can be difficult, especially with dispersed settlement patterns, 3. Timeframe of completing works within a short window, limits the nature of works that can be undertaken. LA particularly constrained as they have to go through public procurement routes. 4. Local contractors haven't been well positioned to win contracts and this has been a difficulty with local representatives who would like to see the employment benefits coming back to the community. LA is bound by public procurement issues. 5. The local energy agency is primarily focused on their own LA building stock and achiveving their 33% target, that work load is significant for the resources they have so limited capacity to support the communities.	- Financial challenges (range of issues) - Accessing advice / having the skillset - Timeframe of the BEC - Difficulties of bringing people together - Procurement rules
Outcomes and benefits	2. Direct and indirect benefits to the community, if private business is making energy savings there is money to invest, create employment, other things. 3. Increasing emphasis on behavioural change outcomes 4. Energy credits achieved are being sold to fund further works, Udaras have a community fund now with €20,000 from last year's project which is co-funding this year. 5. Green educational tourism is something that is starting. 6. Reduced energy bills in the community buildings, from PV and retrofitting measuring. Teach Greannai bills lowered by €300 per bi-monthly bill. Facilities like the Wheelchair Association only opened three days a week previously because of the bills (to run their kitchen). Community centre is now booked out solid 'you can't get a booking now, before it was a run-down centre, freezing cold, no heaters'. Result is that the community are coming back now looking to do further works. But also importance of knowing especially for elderly people, that there are weekly social events to look forward to whereas before they might not see anyone all day long. 7. Other anecdotal evidence i.e. schools didn't turn on heating till much later this year but this is going to be measured now. 'The teachers used to teach in their coats here'. 8. Increased awareness; people talking about the savings, about new techologies, realising that PV is a passive technology and not impacting on anybody. 9. Easier to measure the direct benefits from a larger project than individual actions but both are essential.	1. Awareness has been a big bonus from the projects, people are talking about the technologies, asking questions. The data is available to the community and they can see how it works, 'a huge plus'. The community respond when they see something happening 'and they look for more'. 2. It has accessed people who wouldn't normally be accessed in other programmes that are going on - because they are using the community buildings and seeing the effects. 3. Building momentum - 'it has actually started a ball rolling and I think it can only continue on from there'. 4. Awareness of environmental issues but also non-energy related benefits; social interactions; groups coming together to talk about energy 'on a social level'. Conversations have started and people are interested to compare and see how others are doing, i.e. between community halls. 5. Social engagement; 'the hall has been rejuvenated far beyond the energy efficiency that has been introduced. That hall was closed, you wouldn't go into it and the drama group would be out of it after an hour because it was so cold. And that has opened up a huge social aspect, you heard him talking about 180 people at bingo on a Tuesday night. Now most of those are probably elderly ladies, a lot of them living on their own and that's their only social interaction for the week. If that hall didn't exist, if they weren't able to use that hall, and they haven't been in the past, then they weren't having any social interaction over the course of a week'. 6. Improved community services; meals on wheels, community laundry service, comfort and sense of security that these visits provide. 7. Difference with a community-led approach is that you are implementing something as opposed to enforcing something which won't gain same level of acceptance.	1. Rolling out PV pilot projects to demonstrate that alternative technologies can work. 2. Representative sample of 7 homes retrofitted to show what can be done - demonstration value. Raising BER from E1 to C3. 3. Better outcomes where the project is intitated by a community representative rather than the LA going out on an individual basis. Using networks like energy coops or local energy champions to disseminate information about benefits of retrofitting and renewable technologies. MCC don't have the contacts on the ground. 4. Increased positivity arising from the individual and collective benefits; 'there is a feel-good factor when communities come together and they can see their projects'. 5. Demonstration value, generating interest through others actually seeing the works that have been completed, technologies installed ie PV, gives an appetite to do something to their own buildings. 6. View is that 'the top down approach, it doesn't really work in terms of rolling out good meaningful projects on the ground.' It's preferable that the community and the LA work together and a collaborative approach to retrofit is seen as more effective than solo runs by individuals.	- Awareness and demonstration value - Reduced bills - Social engagement through improved community services - Knock-on effects; behavioural change, green tourism - Energy credits - Bottom up approach is preferable
Measuring success	1. Difficulty of quantifying how many households, businesses etc. what the baseline is. Need to measure baseline energy demand in order to measure success - establishing if targets have been met is important. 2. Have to start looking at implications of changing behaviour, financial implications? Changing behaviour is not easy but needs to be done, 'we need that to become the norm'. 3. Impact of retrofitting the schools has been hugely influencial and gets the message right into households across the community (ref 350 kids). Kids are very energy aware. 4. Learning from failures, have got support for two community wind turbines this year. 5. Measuring the energy savings is only starting now, will be done for all of the renewables - important to see the financial savings - people always worry about money, it has to be measured. 6. Difficult to measure other indicators, like warmer homes, comfort levels, lifestyle benefits. Would need pre and post questionnaires. 7. Increased levels of outside interest in the project, people wanting to learn from their successes.	1. Energy savings are important and are satisfying to track but success needs to be measured beyond kWhs in terms of social engagement and the spin-offs from a community coming together. Measuring social benefits. 2. Would see impact through people seeking best technologies when it comes to building new houses. People are coming in and asking about PV and heat pumps. 3. Activity is now spreading to other Gaeltacht regions from the Erris project (and the Galway project), comparing notes between these has the effect of 'egging each other on'; influencing a wider area now. 4. Developing existing networks: Tidy Towns now focusing on sustainability and actively seeking projects. Green schools initiative is also actively tied in. 5. Economic benefits, strenghtening the local economy and growing jobs. 'Jobs is a key metric in all of this'	1. Limited success with employment, project management has been done locally but outside contractors have been more successful at winning the insulation, M&E works. Need for training to upskill. 2. Improved quality of life, warmer homes. Health benefits for the elderly residents - all perceived benefits, not measured. Behavioural issues, follow up needed to assist homeowners in use of the new techologies. 3. Putting a kWh and euro value on the total calculated savings in the community demonstrates success. *(but this is only an estimate in reality)* 4. Average community building savings of €1000-€2000 annually which is money that can be put to other initiatives, upgrading the building further. 5. Building links between Agency and Community which allow a two way information flow.	- Measuring energy savings against a baseline - Impact spreading through schools and other networks - Learning from failure - Financial savings can be measured, difficult to quantify other indicators
Effectiveness of existing supports for community energy	1. Paid staff resources: Udaras have committed to supporting an 3-year plan to establish a sustainable energy community across all the Gaeltacht areas. This is funding one full time staff resource (MT) based in Erris. SEAI are part-funding ONS for post-doc research on the implementation of SEC's in rural communities. 2. Needed formal support of having people to champion the project to avoid volunteer burn-out: 'it's a realistic thing, it happens, people just get tired of doing everything.' Recognition of the effort that is required to motivate people to 'come along on the same bus, it's quite difficult ... I don't know if I would be that motivated if I had to do this everyday with no job and on a voluntary basis'. Pressures of work, family, kids, who's going to do it, but it has to be done. 3. Funding, they were lucky initially to have access to the Shell CGIF for two years through partnership with MCC, which meant that community groups needed to put up only 10% of costs, paybacks were 8 or 9 months only. This year it's been much harder as that is now finished. 4. Educational supports, accessing the younger generation through education, people need to be aware of the repercussions of not transitioning to a low carbon future. 5. SEAI financial supports are critical, using their R&D fund, BEC funds, very supportive; attributes this to need for people on the ground to deliver 'we are on the ground here and they can't be'. 6. Technical supports has come from SEAI, not the Energy Agency. Essential to have access to good advice as community leaders aren't necessarily engineers. 7. Feed-in-Tarrifs would be welcomed as a possible income stream, but there's a lot of uncertainty around the whole area, when it might come in, what will be included.	1. Need training in how to collect the baseline energy data for the community - in this case it is part of a paid role - but specific energy skills requirement for technical aspects. Need to have someone to fall back on. Importance of continuous learning supports to keep up with changing technologies. 2. Networking opportunities, learning from others is useful. 3. Knowing where to go for advice is important; Udaras is filling this role at the moment. Communities need to know where to go for answers. Initial push might be from agency but 'that's only to get it ignited'. 4. Need for a financial incentive to kick start activity - BEC is an enabler, when projects are done and people can see the benefits and their bills going down then it becomes easier. Ideal is that it becomes financially self sustaining through a community energy fund. 5. Need for key people on the ground, the umbrella organisation can only work if there are active sub-groups in all the regions. 6. Connections to EU research background is a support, knock on effect as networks create contacts with further projects (REMNET - GREAT - GREBE). One project can lead to another. 7. Community engagement was supported through GREAT, running information events which brought people in that wouldn't have previously been engaged.	1. BEC a key support (catalyst). Important to support people to overcome their initial fears or uncertainties about getting involved. Having open days was key to getting people to commit. 2. Through LEO there are SME workshops and energy saving workshops for businesses to promote the energy agenda. 3. MCC can facilitate and provide administrative support for communities in relation to co-ordination of grant applications. But they need an interested group to come forward with a proposal and engage, with a champion who can lead the process. 4. MCC can provide follow up support to homeowers demonstrating how to use upgraded heating systems and controls. 5. Unique factor in Erris was the presence of Udaras as a development agency who could lend support and who have a particular interest in tapping into the natural (RE) resources that are there as an opportunity to foster local development and jobs. 6. The ideal is that the energy savings that accrue can be pumped back in to support further projects, this has started with the setting up of a community fund from the energy credits. Specific circumstance in this case was having access to the Shell CGIF to start the ball rolling - this was significant 'a huge tool for them to tap into.'	- Importance of paid resources not just volunteers - Initial funding needed to kick-start activity - Educational and technical supports - Importance of networks
Future Opportunities / Vision	1. Ambition for a 500kW PV farm, larger but not commercial, interest has been kick started. 2. Influence on other projects like Tidy Towns. 3. Achieving another funding stream is critical. 4. Projects of scale needing backing of a bigger organisation - need to have supports behind you with vision to see the bigger picture to back investment. But need to balance this against becoming too dependant on those supports. It's difficult to see how to wean off grants. Figuring out alternative financial models is difficult and requires expertise, not everyone has that or has access to it.	1. Vision of changing someones' energy bill into a repayment on their retrofit would be the ideal, especially for SME's. Business models are needed so that it makes no sense not to do it - creating a circular economy and getting SMEs to engage. 2. Starting the process of gathering data on the social benefits and other spin-offs - potential impact of systems on other systems i.e. sustainable energy communities impacting on business, creating business. 3. Both energy generation and energy conservation need to go in tandem with each other, the important thing is to start and get a project going on the ground that can be seen and starts to generate discussion.	1. Aspiration of the LA is for more RE technology in buildings to lessen reliance on fossil fuels, in particular heating oil, and to move towards nzeb for the entire MCC housing stock but acknowledges that this is going to take time given the numbers of homes involved. 2. Need to encourage more community-led initiatives to lead the way in other areas of the county. Erris and Claremorris cited as good examples but recognition that more are needed. 3. No formal plan in place, each municipality has it's own approach but aspiration is that within three years they would have identifed which particular elements of the housing stock could best benefit from energy efficiency works. Nzeb target not realistic at this stage because of budget limitations but first step is to bring majority of homes up to a B or C rating, reality is they are starting from a very low base. 4. Aim to scale up projects with assistance of BEC grants through partnerships with entities like the St Vincent de Paul - this is what they have planned for 2016 across all four municipalities to show a model for others to follow.	- Opportunity for energy generation but need Feed-in-Tarrifs - Using retrofit savings to create a circular economy - Aspiration is to scale up