epa Research
Climate - Water - Sustainability
Identifying pressures • Informing policy • Developing solutions

Report No.337

Responding to the Energy Transition in Ireland: The Experience and Capacity of Communities

Authors: Clare Watson, Evan Boyle, Gerard Mullally and Brian Ó Gallachóir

www.epa.ie

Rialtas na hÉireann
Government of Ireland

ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

The work of the EPA can be divided into three main areas:

Regulation: *We implement effective regulation and environmental compliance systems to deliver good environmental outcomes and target those who don't comply.*

Knowledge: *We provide high quality, targeted and timely environmental data, information and assessment to inform decision making at all levels.*

Advocacy: *We work with others to advocate for a clean, productive and well protected environment and for sustainable environmental behaviour.*

Our Responsibilities

Licensing

We regulate the following activities so that they do not endanger human health or harm the environment:

- waste facilities *(e.g. landfills, incinerators, waste transfer stations)*;
- large scale industrial activities (*e.g. pharmaceutical, cement manufacturing, power plants)*;
- intensive agriculture *(e.g. pigs, poultry)*;
- the contained use and controlled release of Genetically Modified Organisms *(GMOs)*;
- sources of ionising radiation *(e.g. x-ray and radiotherapy equipment, industrial sources)*;
- large petrol storage facilities;
- waste water discharges;
- dumping at sea activities.

National Environmental Enforcement

- Conducting an annual programme of audits and inspections of EPA licensed facilities.
- Overseeing local authorities' environmental protection responsibilities.
- Supervising the supply of drinking water by public water suppliers.
- Working with local authorities and other agencies to tackle environmental crime by co-ordinating a national enforcement network, targeting offenders and overseeing remediation.
- Enforcing Regulations such as Waste Electrical and Electronic Equipment (WEEE), Restriction of Hazardous Substances (RoHS) and substances that deplete the ozone layer.
- Prosecuting those who flout environmental law and damage the environment.

Water Management

- Monitoring and reporting on the quality of rivers, lakes, transitional and coastal waters of Ireland and groundwaters; measuring water levels and river flows.
- National coordination and oversight of the Water Framework Directive.
- Monitoring and reporting on Bathing Water Quality.

Monitoring, Analysing and Reporting on the Environment

- Monitoring air quality and implementing the EU Clean Air for Europe (CAFÉ) Directive.
- Independent reporting to inform decision making by national and local government *(e.g. periodic reporting on the State of Ireland's Environment and Indicator Reports)*.

Regulating Ireland's Greenhouse Gas Emissions

- Preparing Ireland's greenhouse gas inventories and projections.
- Implementing the Emissions Trading Directive, for over 100 of the largest producers of carbon dioxide in Ireland.

Environmental Research and Development

- Funding environmental research to identify pressures, inform policy and provide solutions in the areas of climate, water and sustainability.

Strategic Environmental Assessment

- Assessing the impact of proposed plans and programmes on the Irish environment *(e.g. major development plans)*.

Radiological Protection

- Monitoring radiation levels, assessing exposure of people in Ireland to ionising radiation.
- Assisting in developing national plans for emergencies arising from nuclear accidents.
- Monitoring developments abroad relating to nuclear installations and radiological safety.
- Providing, or overseeing the provision of, specialist radiation protection services.

Guidance, Accessible Information and Education

- Providing advice and guidance to industry and the public on environmental and radiological protection topics.
- Providing timely and easily accessible environmental information to encourage public participation in environmental decision-making *(e.g. My Local Environment, Radon Maps)*.
- Advising Government on matters relating to radiological safety and emergency response.
- Developing a National Hazardous Waste Management Plan to prevent and manage hazardous waste.

Awareness Raising and Behavioural Change

- Generating greater environmental awareness and influencing positive behavioural change by supporting businesses, communities and householders to become more resource efficient.
- Promoting radon testing in homes and workplaces and encouraging remediation where necessary.

Management and structure of the EPA

The EPA is managed by a full time Board, consisting of a Director General and five Directors. The work is carried out across five Offices:

- Office of Environmental Sustainability
- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiation Protection and Environmental Monitoring
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.

EPA RESEARCH PROGRAMME 2014–2020

Responding to the Energy Transition in Ireland: The Experience and Capacity of Communities

(2014-CCRP-MS.21)

EPA Research Report

Prepared for the Environmental Protection Agency

by

Department of Sociology and Criminology and School of Engineering, University College Cork, and MaREI Centre, Environmental Research Institute, University College Cork

Authors:

Clare Watson, Evan Boyle, Gerard Mullally and Brian Ó Gallachóir

ENVIRONMENTAL PROTECTION AGENCY
An Ghníomhaireacht um Chaomhnú Comhshaoil
PO Box 3000, Johnstown Castle, Co. Wexford, Ireland

Telephone: +353 53 916 0600 Fax: +353 53 916 0699
Email: info@epa.ie Website: www.epa.ie

ACKNOWLEDGEMENTS

This report is published as part of the EPA Research Programme 2014–2020. The EPA Research Programme is a Government of Ireland initiative funded by the Department of Communications, Climate Action and Environment. It is administered by the Environmental Protection Agency, which has the statutory function of co-ordinating and promoting environmental research.

The authors would like to acknowledge the members of the project steering committee, namely Dr Jeanne Moore (National Economic and Social Council), Dr Lisa Ryan (University College Dublin Energy Institute), Professor Geraint Ellis (Queens University, Belfast), Rebecca Minch (Department of Communications, Climate Action and Environment), John O'Neill (Department of Communications, Climate Action and Environment), Gemma O'Reilly (EPA), Marc Kierans (Department of Communications, Climate Action and Environment), Philip O'Brien (EPA) and Anne Mason (Research Project Manager on behalf of the EPA).

DISCLAIMER

This report is based on research carried out/data from January 2015 until July 2018. More recent data may have become available since the research was completed.

The EPA Research Programme addresses the need for research in Ireland to inform policymakers and other stakeholders on a range of questions in relation to environmental protection. These reports are intended as contributions to the necessary debate on the protection of the environment.

EPA RESEARCH PROGRAMME 2014–2020
Published by the Environmental Protection Agency, Ireland

ISBN: 978-1-84095-932-1 August 2020

Price: Free Online version

Project Partners

Clare Watson
Department of Sociology and Criminology and MaREI Centre, Environmental Research Institute
University College Cork
Cork
Ireland
Tel.: +353 (0) 21 490 1931
Email: clare.watson@ucc.ie

Evan Boyle
Department of Sociology and Criminology and MaREI Centre, Environmental Research Institute
University College Cork
Cork
Ireland
Tel.: +353 (0) 21 490 1931
Email: evan.boyle@ucc.ie

Gerard Mullally
Department of Sociology and Criminology and MaREI Centre, Environmental Research Institute
University College Cork
Cork
Ireland
Tel.: +353 (0) 21 490 2618
Email: g.mullally@ucc.ie

Brian Ó Gallachóir
School of Engineering and MaREI Centre, Environmental Research Institute
University College Cork
Cork
Ireland
Tel.: +353 (0) 21 490 1954
Email: b.ogallachoir@ucc.ie

Contents

List of Figures

List of Tables

Executive Summary

Recently, Ireland has witnessed a significant increase in interest in and policy focus on the role of citizens and communities in the energy transition to a low-carbon future. The 2015 White Paper on energy was a significant milestone and this project team contributed to the White Paper chapter on energy citizenship. The recent pronouncements by the Irish Government on climate action and the 2018 Renewable Electricity Support Scheme indicate potential alignment between community needs and policy development.

The role of communities is seen as essential in the energy transition, and yet it is poorly understood. This project addresses this gap in understanding.

We explore the concepts of citizen participation and community engagement. Two views dominate on the benefits of participation. One sees it as a way of increasing acceptance or the understanding of benefits, so enabling timely deployment. The other sees participation as a basic right that leads to collective action, inclusion, empowerment, transparency and accountability. The idea of community can be understood as a collective actor with agency that can interact with others. This can help us focus our attention away from the question of what community means and instead ask: what does community do?

Working with and for a community encourages active citizen participation, which contributes to citizen empowerment, the development of social capital and social cohesion. There is a strong tendency in the academic literature to invoke social capital to capture the intangible resources that allow communities to act collectively. In this report, we find societal capacity and community response capacities to be more useful concepts and framings to consider than social capital.

The project draws on the grounded theory methodological approach, which we understand as a "strategy of inquiry", as opposed to methods as techniques of research. The work is particularly influenced by the principles of second-order transformational research. Rather than just describing and analysing processes of change, second-order approaches see action, learning and the creation of new knowledge as being more closely connected. Second-order science encourages the sharing of knowledge and the active engagement of researchers in practice and practitioners in research, and puts a greater emphasis on discussion and exchange than on communication and dissemination. This project is thus a transdisciplinary research project.

Over a 3-year period of engagements with community energy groups, this project explored three key research questions:

1. What is the Irish experience of community energy?
2. How do we support the development of community capacity to engage in energy transitions?
3. What is the role of intermediary groups in supporting community-based responses to the energy transition?

The insights for policymakers and recommendations (see Box ES.1) are key outcomes of the very valuable interactions with the community energy groups that participated in this transdisciplinary research.

Box ES.1. Insights for policymakers and recommendations

Insights for policymakers

- Infrastructural support is emerging but needs more coherence and should respond more effectively to community needs.
- Energy citizenship is an accepted ambition, but energy communities are struggling to operate and to upscale their activities.
- There is significant untapped potential within intermediary groups that are not directly associated with the energy transition.

Box ES.1. Continued

- The Sustainable Energy Authority of Ireland (SEAI) is doing excellent work but needs to embrace community development methods, skills and experience.
- We expect a lot from volunteers. They need to be supported and adequately resourced.
- Core funding for the employment of skilled staff and for administrative costs is lacking and this needs to be addressed.
- Until there is clarity about addressing the policy barriers related to planning, grid access and finance, it is unhelpful to "talk up" the community ownership of energy.
- A lot can be learnt from an evaluation of the community energy experience.
- National leadership is key to giving community energy legitimacy and to helping with public engagement.
- Community energy does not guarantee community acceptability or acceptance, but it can contribute to delivery.

Recommendations

- Strong, continual and visible national leadership on climate action is critical to encourage energy citizenship.
- Approaches to support community energy should be developed that respond to the varied capacities of different communities.
- Mentoring in community development is currently lacking and should be provided as an essential complement to technical and financial mentoring.
- Reliable, multi-annual sources of core funding for community energy groups should be made available.
- Funding and governance of community energy should allow for exploration, experimentation and cross-fertilisation.
- Evaluating community energy projects should include evaluating societal capacity development, alongside evaluating CO_2 savings.
- Approaches that are proven to be successful should be encouraged and replicated.
- Existing policy barriers to community energy should be addressed, such as the lack of feed-in tariffs, and difficulties in securing planning permission, finance and access to the grid.
- A "one-stop shop" should be established where community energy groups can go for information, advice and support.
- Paperwork associated with community energy support schemes should be simplified and reduced, or assistance should be provided.
- Practical support should be provided for intermediary organisations, such as Tidy Towns, if their role is to be maximised.
- People with direct community development training and experience should be integrated into SEAI's community energy programmes.
- Further research into why so many community energy groups have not survived should be undertaken.

1 Introduction

Climate action, and in particular the key role of communities, has been highlighted as a national policy priority by the Taoiseach (Varadkar, 2018).

> It requires significant behavioural change and some tough decisions or trade-offs by government, by business, by communities and by individuals.
>
> It requires citizen and community engagement – from planning for renewable energy projects through to individual purchasing decisions; and
>
> It requires us to work collaboratively so that we capitalise on the ideas and the expertise that exists in different sectors and disciplines.

Climate change is a "wicked problem" (Rittel and Webber, 1973). "It is incomplete, contradictory, complex and constantly changing. There is no one point at which one has enough information to make decisions" (Marshall, 2015, p. 95). There is no silver bullet for climate change, and no one policy response will work on its own. "Complex solutions" are required for a "complex world" (Verweij and Thompson, 2006). This is also the case with socio-technical transitions (Geels, 2002), defined as major transformations in the way society functions that relate to areas such as energy, communication, transport, housing and food. No transition is planned and co-ordinated "from the outset" (Geels and Schot, 2007, p. 402). Transitions are likely to be non-linear – "two steps forward may be followed by one step back (or steps in a different direction if actors change their beliefs and goals or if there is growing contestation of particular pathways)" (Geels *et al*., 2016, p. 900).

Energy transitions are particularly complex. They involve different actors, with different interests and different goals. Agreeing short-term goals may be hampered by the contested prioritisation of values around, for instance, energy security, sustainability, freedom of movement and the exercise of democratic rights. Energy transitions are also complex because of all the uncertainties and socio-technical changes. "We do not know how the future system will behave, since we cannot be entirely sure what system we will build for the future" (Valkenburg and Cotella, 2016, p. 3). And there is the fact that for most people energy is "seemingly pure, invisible, clean and cheap". They do not understand what it takes to ensure that lights come on at the flick of a switch (Sovacool, 2009, p. 367).

When dealing with transitions in everyday life, the real challenge is that consumers, users and practitioners are involved in creating and recreating the systems and practices themselves, and so play as vital a role in the energy transition as the producers and promoters. It is not a case of "them" and "us", with one group of people governing the actions of the other (Shove and Walker, 2010, p. 475).

Therefore, experimentation will be necessary (Jackson, 2005; NESC, 2012; Valkenburg and Cotella, 2016). There is a need to adopt more "stretch and transform" approaches (Smith and Raven, 2012, p. 1030), whereby institutional, infrastructural and social systems are adjusted to allow for new innovations, rather than the "fit and conform" strategies that are currently more prevalent (Raven *et al*., 2016, p. 7).

Much of the policy focus on climate action in the past derived from a conviction that humans act rationally and that, once they know the facts, they will act out of self-interest. This has led to costly multi-media information campaigns and educational approaches that have ultimately failed to foster the required level of behavioural change. It is proposed here that the focus now needs to shift away from the individual towards looking at the existing social, institutional and infrastructural barriers, and in particular examining the role of collective action.

A policy change occurred in November 2015 with the publication of the Irish White Paper on energy, which states that the energy transition "will see the energy system change from one that is almost exclusively Government and utility led, to one where citizens and communities will increasingly be participants in renewable energy generation, distribution and energy efficiency" (DCENR, 2015, p. 9).

The role of communities is seen as being essential, and yet it is poorly understood. This project, "Responding to the Energy Transition in Ireland: The Experience and Capacity of Communities", addresses this gap in understanding.

1.1 Research Questions

The project has been guided by the following three research questions:

1. What is the Irish experience of community energy?
2. How do we support the development of community capacity to engage in energy transitions?
3. What is the role of intermediary groups in supporting community-based responses to the energy transition?

Chapter 2 introduces the concepts of societal capacities. Chapter 3 provides the policy context. Chapter 4 discusses the approaches used. The research findings are summarised in Chapter 5. The conclusions are outlined in Chapter 6. Chapter 7 outlines the implications for policy and the recommendations are summarised in Chapter 8.

2 Concepts

The concepts of citizen participation and community engagement are important for the community energy sector. But what do “participation”, “community” and “community energy” really mean?

2.1 Participation

A more “society centred” approach to social democracy, invoking the principle of citizen participation, has emerged in international institutions, such as the United Nations and the Organisation for Economic Co-operation and Development (OECD), since the 1980s. This has materialised in response to globalisation, the internet age and the need to share responsibility for resolving complex issues and “wicked problems” such as climate change. It has also been influenced by the desire to assist local areas and communities in managing their social, economic and environmental development, and the appreciation of the benefits of using local knowledge, involving local people in decision-making and increasing social capital (Head, 2007). Over the years, this has fed down into national policies.

Participation is a broad concept that can be defined in different ways, depending on the circumstances or the ideological or political context. For some people, “it is a matter of principle; for others, a practice; and for still others, an end in itself” (World Bank, 1996, p. xi).

There are three views on the benefits of participation. One view sees participation as a way of increasing acceptance or the understanding of benefits and so enabling timely deployment. Another view sees it as a basic right that leads to collective action, social inclusion, empowerment, transparency and accountability (Pretty, 1995). These views are not mutually exclusive.

A third view sees participation as a political process, rather than a technique – who is involved, why and on whose terms (Cornwall, 2008). Participation has the potential to challenge power dynamics, but it can also solidify existing power differentials. People’s perceptions of their efficacy and ability to influence decisions may determine whether or not they participate. People’s lack of participation or participation on other people’s terms can entrench their powerless position (White, 1996).

While much of the literature on renewable energy and its role in a low-carbon economy and society has hitherto focused on public engagement as a negative value, i.e. overcoming community opposition and social blockage (Burningham *et al*., 2015), more nuanced approaches have begun to emerge (Aitken *et al*., 2016; Fournis and Fortin, 2017). The contemporary motivation for community engagement in energy debates can range from instrumental rationales (persuasion, acceptance) and optimisation (improved outcomes or realising societal acceptability) to normative (“doing the right thing”) and substantive justifications (building social capital and capacity) (Aitken *et al*., 2016, p. 4). By adapting Arnstein’s classic ladder of participation (Arnstein, 1969), these alternatives are distilled into different modalities of participation, awareness raising, consultation and empowerment.

2.2 Community

A number of interconnected meanings of community, which are designed to be indicative rather than comprehensive (Walker, 2011, pp. 777–778), give a sense of the wide range of rhetorical uses of the concept. In the first instance, the idea of community is understood as a collective actor with agency that can interact with others. Agency here refers to “the many different forms of *capacity* [emphasis added] involved in shaping and performing (rather than controlling) social action” (Stirling, 2014, p. 84). Accordingly, agency underlines “the undetermined nature of human action, as opposed to the alleged determinism of structural approaches” (Fischer and Newig, 2016).

In a related understanding, community is understood as a scale of action within a hierarchy, above individuals and households but below the level of government. The association of community with “people” rather than “government” gives it a few negative connotations (Everingham, 2001). In some cases, however, community and local government have been conflated, e.g. administrative boundaries and electoral boundaries.

Place-related understandings imply a set of social relationships embedded in a geographical locality or territory, e.g. a neighbourhood and a village.

Communities as networks can denote social relationships that exist within but also transgress geographical boundaries, e.g. communities of interest.

When the idea of community is understood as a process, the emphasis is on collaborative, consensual and voluntary involvement in which the quality of social relationships draws on stocks of social capital and trust.

Community as identity denotes certain qualities of ways of living, including (self-) representation (Cohen, 1985).

2.2.1 Community, cohesion and social capital

Working with and for a community encourages active citizen participation, which contributes to citizen empowerment, the development of social capital and social cohesion. Social cohesion and social capital facilitate trust, and a community will accomplish more if it trusts and is trustworthy (Coleman, 1988). Identification with and involvement in the local community can empower and enable citizens; it can help to foster trust and social capital and also improve the transparency and accountability of government (Ercan and Hendriks, 2013).

Social capital refers to "the social ties, shared norms and relationships among people and communities" (NESF, 2003, p. 21) that allow communities to function smoothly (Putnam, 1995). Social cohesion is defined as "the willingness of members of a society to cooperate with each other in order to survive and prosper" (Stanley, 2003, p. 5), and can be described as the combination of a sense of community, a sense of belongingness, 'we-ness' and fellowship, attraction to neighbourhood and social interaction within a neighbourhood (Buckner, 1988, p. 773).

However, social cohesion can also be an ambiguous concept, often used to evoke nostalgic memories of a time when life appeared to be much easier and safer. It is important that local initiatives are mindful of their impact; strong social cohesion can hold communities together, but can also sharpen the boundaries experienced by those excluded from its embrace. Locally based initiatives can often reinforce existing power inequalities or restrict the scope and impact of participation (Parvin, 2009).

Historically, the "local" has been seen as a key site for building democracy and citizen participation (Gaventa and Jones, 2002). However, there is a danger of falling into the "local trap" (Brown and Purcell, 2005), whereby it is presumed that action and decision-making at the local level are more likely to reap social and environmental benefits. There are also visions of negative localism, through which the idea of community is about social control – places (and individuals) are imagined as islands, with the emphasis on the virtues of competition and self-sufficiency (Catney *et al.*, 2014, p. 716).

2.2.2 From social capital to societal capacity

There is a strong tendency in the academic literature to invoke social capital to capture the intangible resources that allow communities to act collectively (Devine-Wright and Wiersma, 2013; Feola and Nunes, 2014; Forrest and Wiek, 2014, 2015; Markantoni and Aitken, 2016; Moseley and Stoker, 2013, Oteman *et al*., 2014, Peters *et al*., 2010).

There are numerous definitions of social capital. In many cases, these are variations on and extensions of foundational sociological work by Pierre Bourdieu, James Coleman and Robert Putnam and a seminal article published in 2000 (Woolcock and Narayan, 2000). The OECD defines social capital as "shared norms, values and understandings that facilitate cooperation within and between groups" (Clinch *et al*., 2008, p. 11). A more nuanced approach (Edwards and Onyx, 2007, p. 20) defines social capital as "the norms (the informal rules and values) and networks that facilitate collective action". Ideas of trust, reciprocity and networks permeate the lexicon of social capital.

At least three types of social ties characterise social capital (Dale and Sparkes, 2011): bonding, bridging and linking (sometimes referred to as bracing) (Rydin and Holman, 2004). In the case of bonding social capital, we are talking about connections between like-minded people in a community, characterised by strong social cohesion, which can be both positive and negative (Edwards and Onyx, 2007). An apt metaphor here (Selman, 2001, p. 14) is that social capital is the "glue" that holds communities together through the bonds of organisations, structures and social relations

that are built up by communities and individuals, independent of governments and corporations.

Alternatively, bridging social capital is characterised by developing social relationships between diverse social groups. Bridging social capital has to be more "selective, focused and instrumental" (Rydin and Holman, 2004, p. 124), leveraging a diversity of information and opportunities for brokerage between people, rather than strong social cohesion. This can often be achieved through the development of formal (and informal) partnerships; for example, support from non-governmental organisations (NGOs) can play a facilitative role in gaining access to necessary resources (financial, technical, etc.) (McNamara and Buggy, 2017). This often involves an intricate stitching together of locally sourced funds, and local government funding and support. However, it also necessitates leveraging resources, including funding from national and international sources (McNamara and Buggy, 2017, p. 452), which requires a different form of social capital.

The idea of linking (or bracing) social capital pertains to linkages with people in power (politically or financially). Bracing social capital is primarily concerned with strengthening links across and between scales and sectors, but it operates within only a limited set of actors who provide a kind of social scaffolding for strengthening local capacities for sustainable development. In the community energy literature, actor-focused accounts have increasingly emphasised the importance of intermediaries in this respect (Avelino and Wittmayer, 2016; Barry *et al*., 2016; Bird and Barnes, 2014; Fuchs and Hinderer, 2014; Hargreaves *et al*., 2013; Hossain, 2016; Kivimaa, 2014; Klein and Coffey, 2016; Ruggiero *et al*., 2014; Sorrell, 2015).

In 2014, prompted by a heightened period of civil society mobilisation against national energy policy, associated implementation processes and specific projects (Mullally and Byrne, 2016), the National Economic and Social Council (NESC) published a significant report that, among other things, drew attention to the role of intermediaries in supporting niches for potential experimentation and the development of community energy in Ireland (NESC, 2014). Although it was primarily focused on wind energy, the report also highlighted the wider importance of building community engagement and social support for an energy transition. While the report's argument for giving due consideration to the role of intermediaries was premised on a combination of conceptual papers and case studies in the international literature, the insights that were revealed demanded further empirical investigation.

Quite often, in the context of the debate on energy transitions, capacity is framed by using technical terms such as production, generation, renewable energy and installed capacity. It should be quite clear that we are using the term capacity in a more sociological sense. The relational elements of community capacity can be understood as "social capital arising from social networks, norms of reciprocity and trustworthiness" (Park, 2012, p. 338). Limiting capacity to social capital is nevertheless regarded as being quite restrictive in this respect (Middlemiss and Parrish, 2010, p. 7562). Concepts such as social capital and capacity do not constitute rigorous theoretical frameworks for measuring the social dimensions of sustainable development. By assembling this literature here, we want to derive an adequate framework for understanding the elements of response capacity in civil society and, specifically in regard to communities, for contributing to a low-carbon transition. In the next section, we unpick the notion of response capacity as an umbrella term transcending mitigation and adaptation but including governance and institutions, as well as civil society and community capacity. Drawing on research on community energy (Middlemiss and Parrish, 2010; Oteman *et al*., 2014; Park, 2012), we look at elements of community capacity that might prove instructive.

2.2.3 Response capacity and community response

The concept of response capacity has been integral to the debate on climate change for some time. To a large extent, this approach draws heavily on seminal work on mitigative capacity (Yohe, 2001) and subsequent developments and extensions of this work for the adaptation debate (Tompkins and Adger, 2005, Winkler *et al*., 2007).

A key intervention in the debate (Burch, 2011; Burch and Robinson, 2007) suggests that response capacity is not simply the sum of adaptive and mitigative capacity but comprises "the resources that allow a group to respond to any risk, and a choice must be

made to utilise human capital, financial capital and institutional resources to address the climate change risk" (Burch, 2011, p. 178).

Response capacity is then clearly affected by the governance and institutional capacity available in any given context. Governance capacity can also be understood as "steering capacity" (Melo-Escrihuela, 2008) as a means of shaping behaviours, e.g. the deployment of tools such as legal and monetary incentives, substantial and procedural rights, and education. There are a number of different governance capacities through which (local) governments can orchestrate change (Smedby and Quitzau, 2016, pp. 324–325). These include "governing by provision", e.g. ensuring the provision of energy infrastructure; "governing by authority", e.g. performance criteria, prescribing specific technologies and development plans; and "governing by enabling", e.g. strategies based on persuasion or negotiation, such as finance, facilitation and information, and establishing shared goals and visions. We must, however, temper the notion that the capacity to act can simply be created by getting the mix of incentives and information right. The notion of a "governance trap" or incapacity has been used to characterise a situation in which both the governed and the governing seek action from the other but neither is forthcoming (Newell *et al*., 2015).

If we refer back to the fundamental bases of response capacity (Tompkins and Adger, 2005), namely technological innovation and building social response capacity, we can point out that innovation is usually understood in terms of a country's national innovation system and primarily in technological terms. The literature on grassroots innovation has considerably expanded our horizons in this respect and draws our attention to social innovation capacity (Hargreaves *et al*., 2011; Hossain, 2016; Longhurst, 2015; Martiskainen, 2017; Seyfang and Haxeltine, 2012; Seyfang *et al*., 2010; Smith *et al*., 2016). Drawing on the concepts of resilience and anti-fragility (Peter and Swilling, 2014, p. 1601), the response to external events (exogenous shocks) should not be understood minimally as resilience in the sense of a return to the status quo. Peter and Swilling suggest that we must be attentive to the "potentials that emerge from individual agents and groups, clusters or networks of agents (i.e. agency) … creative capacity for innovation, and what constrains agents and agency in society and environment" (2014). Quite often, innovations linked to low-carbon transitions are likely to cluster in specific geographical or regional concentrations (Bridge *et al*., 2013). This can often manifest as a scalar mismatch, in which local stakeholders, including local governments, have no seat at the table at which energy policy is made or have limited involvement in programme delivery (Bridge *et al*., 2013, p. 338).

Clearly, there is an opportunity here for intermediaries to play an important role. In this connection, we find the broader category of practical capacity (Park, 2012, p. 401), which includes technical capacities such as time, resources, expertise and skills.

2.2.4 From civic capacity to community capacity

Civil society capacity (or civic capacity) covers a broad range of elements from the global level to the local level. Bernauer and Betzold (2012, pp. 64–65) are quite clear that civil society participation has evolved into a necessary but not sufficient condition for effective and legitimate global environmental governance. Scaling down to the national level, civic capacity can be framed as "active capacity" (Carvalho *et al*., 2016), which relates to the elements of access, standing and influence.[1] At the regional/local level, civic capacity is defined as a relational concept in which civic and municipal capacity are intimately related (Hoppe *et al*., 2016). Hoppe *et al*. relate civic capacity to the demographic characteristics of local citizens (socio-economic profile, income, education), social capital, mobilisation ability and policy entrepreneurship (2016). Importantly, they also stress the importance of the presence of environmental groups as a key driver in the design and implementation of local climate policy (Hoppe *et al*., 2016, p. 5). For them, response capacity requires both civic and institutional (municipal) capacity, but

1 Access refers to opportunities to express one's choices and opinions, "to access sufficient and appropriate support, for instance, education, information, so that [one] can understand the process in an informed, active capacity". Standing refers not to legal status but to "civic legitimacy" or "the consideration [and reflection] that all stakeholders' perspectives should be given". Influence signifies the opportunity "to affect the criteria by which decisions [are] made" and to have one's ideas measured against alternatives (Carvalho *et al.*, 2016, pp. 23–25).

they stress that the optimum combination will vary significantly depending on the context.

In some of the earlier literature (Edwards and Foley, 1999, pp. 525–526), civic capacity is marked out as being clearly distinct from social capital and is understood as "the product of conscious strategies to use all available resources to enhance the self-governance potential of communities". Edwards and Foley (1999) link civic capacity to the related concept of the "entrepreneurial social infrastructure" of community action. A cognate characterisation (Saegert, 2004, p. 5), although recognising civic capacity as a subset of community capacity, sees civic capacity as comprising the ability to engage with the public domain; the capacity to influence the social agenda; the capacity to access public sector and private sector resources; and the capacity to influence the physical and social environment.

The process by which communities achieve their desired results collectively or individually includes the ability of individuals and families to demonstrate resilience in the face of adversity and positive change, including networks of people; exchange and reciprocity in relationships; accepted standards and norms of social support; and social controls that regulate behaviour and interaction (Peters and Jackson, 2008, p. 9). This process involves dynamic, reciprocal interrelationships between social networks (formal and informal), social capital (information, reciprocity, trust) and community capacity (shared responsibility and collective competence). One of the more comprehensive definitions of community capacity (Chaskin, 1998, cited in Saegert, 2004, p. 3) refers to "the interaction of human, organisational and social capital existing within a given community that can be leveraged to solve collective problems and improve or maintain the well-being of a given community. It may operate through informal social processes and/or organised efforts by individuals, organisations, and the networks of associations among them and between them and the broader systems of which the community is a part".

This generic definition already suggests that social capital is only one (albeit a significant) dimension of community capacity. Nevertheless, in the context of community energy, the concept of community capacity warrants closer attention. Drawing on a wide range of literature (Burch and Robinson, 2007; Burch *et al*., 2014; Middlemiss and Parrish, 2010; Oteman *et al*., 2014; Park, 2012; Wilson, 2014), we can distil broad societal response capacities into a more relevant framework for communities.

At the most abstract level (Burch, 2010; Burch *et al*., 2014; Middlemiss and Parrish, 2010; Oteman *et al*., 2014; Wilson and Chatterton, 2011), community capacity is concerned with the capacity for transformation. At the baseline, it is assumed that the pathways for low-carbon communities are economically and technically feasible and that the challenges reside in governance, policy and the search for solutions that avoid socially and politically unacceptable trade-offs (Burch *et al*., 2014).

For Burch (2010, p. 7583), translating social capacity into action is related to response capacity in terms of financial, human and social capital, as well as functioning institutions and structures, and strong decision-making procedures. Burch stresses that this changes over time: as contextual variables and political leadership are more critical in the early stages, factors such as organisational culture and technical leadership become more important as specific mitigation and adaptation strategies are designed and implemented (Burch, 2010, p. 2584).

2.2.5 Towards a framework for community response capacity

Frameworks for understanding community response capacities (Middlemiss and Parrish, 2010; Oteman *et al*., 2014) recognise that community responses to climate and energy challenges reside in multiple capacities, including cultural, organisational, institutional, individual and infrastructural capacities. Given our focus here, we have repurposed the category infrastructural capacity to connote an overarching category – social infrastructure – that we have labelled community response capacities. In existing frameworks, while recognising that infrastructure has a social dimension, the focus is often on the technical or administrative challenges of grid access or facilities for sustainability through which the local community can act as a laboratory for technology in action (Oteman *et al*., 2014) or existing (physical) infrastructures already present in a community, e.g. housing stock, transport, and energy and food systems, are more or less conducive to sustainable living (Middlemiss and Parrish, 2010, p. 7562). Given

this, we are minded in this instance to lay emphasis on the understanding of social infrastructure (Edwards and Foley, 1999) that highlights the interconnections between other elements of community capacity (Saegert, 2004). In addition to the categories of cultural, organisational, institutional and individual capacity, we also adapt a fifth cross-cutting category of technical/practical capacity (Lockwood *et al*., 2016; Marinakis *et al*., 2017; Park, 2012), henceforth practical capacity.

Cultural capacity

In general, the concept of cultural capital derives from the work of Pierre Bourdieu in the field of education but connotes the accumulated cultural knowledge that confers power and status. In the specific case of community energy, cultural capacity refers to accumulated knowledge, experience and dispositions to sustainability in the community (Oteman *et al*., 2014). Alternatively, it is understood as the legitimacy of sustainability in the context of a community's history and values and how this is framed in relation to place (Middlemiss and Parrish, 2010, p. 7562). This may have an overt linkage to energy or alternatively the concept of a sustainable community.

Organisational capacity

Organisational capacity is linked to the values of formal organisations in the community and their alignment with sustainability values, and the resources and support available through these organisations (Middlemiss and Parrish, 2010). While relevant organisations may have a specific sustainability remit/intent, they may equally be part of the existing social infrastructure of everyday life in communities, e.g. sporting, cultural, political, environmental and residential. Alternatively, the focus is on renewable energy through which community initiatives are advocated because they emphasise self-sufficiency, local determination, engagement, social cohesion and the empowerment of local communities (Oteman *et al*., 2014).

Institutional capacity

Institutional capacities (Oteman *et al*., 2014) relate to political, legal, economic and socio-cultural capacities for learning, problem perception and experimentation. Although previously well developed in discussions on local sustainability (Bridger and Luloff, 2001; Evans *et al*., 2006; Mullally *et al*., 2009), institutional capacity has only recently begun to feature in energy transitions (Gabler, 2010; Hoppe *et al*., 2016; Melo-Escrihuela, 2008; Nilsson *et al*., 2013; Smedby and Quitzau, 2016; Wang *et al*., 2012). The institutional dimension encompasses the normative elements of governance and steering, as well as the cognitive dimensions framing energy transitions. The institutional dimension must be understood in the context of multi-level governance (Jänicke, 2006; Jänicke and Quitzow, 2017), in which local action cannot be divorced from complex interdependencies with multiple drivers at multiple levels of governance.

Personal/individual capacity

Personal capacities refer to the resources held by individuals: their understanding of sustainability, their willingness to act and the skills that they draw upon (Middlemiss and Parrish, 2010). Since community initiatives rely on the resources of their membership (skills, knowledge, leadership, values and enthusiasm), encompassing both intrinsic motivations and the collective action capacities of members, this category is an important bridge between individual and collective actions. In earlier literature, this is often characterised as "champions", a somewhat hyperbolic categorisation that nevertheless speaks to key nodes in wider networks.

Practical/technical capacity

Practical capacity (Park, 2012), often labelled as technical capacity (Lockwood *et al*., 2016; Marinakis *et al*., 2017), is an emergent but largely underdeveloped concept in the literature on community energy. Although practical capacity could be characterised as a component of other capacities (organisational, institutional, personal/individual), we suggest that there is value in bringing it to the fore.

Although often framed as an incapacity, i.e. the lack of technical capacity for making technological choices (costs, strategic networks, long-term strategy), practical capacity is used here to denote the cluster of capacities linking available time, finance, experience and expertise (Park, 2012, p. 389) in projects with a technical dimension. We suggest that this in turn

provides a compatible link with Tompkins and Adger's emphasis on technological innovation (2005).

2.3 Community Energy

The 2012 NESC report *Ireland and the Climate Change Challenge: Connecting "How Much" with "How To"* (NESC, 2012) acknowledged that there is considerable uncertainty about how to decarbonise our economy and society, and that the transition to carbon neutrality can work only if local authorities, public agencies, civil society organisations, communities and families jointly explore new possibilities and learn how to upscale them. "The state (or the EU) cannot rely on lower-level implementation of known solutions, consultation to acquire the solid knowledge of others, nor wholesale delegation to achieve the desired goals. What it must do is organise joint exploration of challenges and possibilities" (NESC, 2012, p. 21). This will require governance that allows for experimentation and cross-fertilisation.

Community energy fits under this banner, as it is a broad term that allows a range of interpretations and implementations on the ground. Overall, it involves "citizen and local ownership and participation in renewable energy generation, distribution and energy efficiency" (Friends of the Earth Ireland, 2014, p. 3). According to a UK Government report (DECC, 2014, p. 20), community energy includes "community projects or initiatives focused on the four strands of reducing energy use, managing energy better, generating energy or purchasing energy". The projects or initiatives share "an emphasis on community ownership, leadership or control where the community benefits". In principle, community energy should create opportunities for all types of communities, not just the lucky few (Catney *et al*., 2013, 2014).

It is generally agreed that the catch-all definition allows flexibility in relation to approach, participation and implementation (Friends of the Earth Ireland, 2014; Hargreaves *et al*., 2013; Seyfang *et al*., 2013). It also facilitates experimentation (Walker and Devine-Wright, 2008). The lack of any required structure or outcome enables groups to respond to local contexts, conditions and needs, as well as the beliefs and aspirations of their members.

Research (Walker and Devine-Wright, 2008) demonstrates that projects differ depending on who initiates and runs them, who participates and makes the decisions, and who benefits both socially and – if profits arise – financially. Groups can be non-profit, with charitable status and no business interests, or they can be centred around a public building, such as a community centre. Local people may have a financial stake or shares, or be part of a community co-operative.

Community energy projects are seen as being conduits for the spread of sustainable energy awareness and knowledge, and the promotion of energy-related behaviour change (Seyfang *et al*., 2013). They can play a key role in supporting local authorities to cut their own carbon emissions (Pitt and Congreve, 2016). It is claimed that benefits accrue to the local community in the form of lower energy costs, job creation and investment, the fostering of a sense of engagement and civic duty, the development of resilience, stronger local networks that contribute to social cohesion and the influencing of policy, and that community energy contributes to a greater understanding of energy generation and efficiency, and empowers people to make informed decisions around their energy use (Friends of the Earth Ireland, 2014; Klein and Coffey, 2016). Community-owned models in the UK have shown that, when people have the chance to become shareholders and create their own energy, they become much more creative about using the profit for "mutual and social benefit" (Julian and Dobson, 2012, p. 5).

In the debate on the Irish energy transition, much of the focus – when it does consider community – has tended to be on the social acceptance of wind farms and associated infrastructures (Brennan *et al*., 2017; Walsh, 2016). Aside from more technically focused studies on the regional integration of renewable energy (Goodbody *et al*., 2013), the vast majority of research relates to social acceptance and the acceptability of renewables, mostly onshore wind (SLR Global Environmental Solutions, 2014; Warren *et al*., 2005), offshore wind (Reilly *et al*., 2016), community opposition to specific projects and infrastructures (Brennan *et al*., 2017; Lennon and Scott, 2015a,b; Mullally and Byrne, 2016), the use of "community gain" in the planning system (Fox-Rogers and Murphy, 2015), factors influencing wind farm planning approval (Van Rensburg *et al*., 2015), willingness to accept negative externalities associated with wind farm developments (Brennan and Van Rensburg, 2016),

consumer awareness of microgeneration technologies (Claudy *et al*., 2010) and the social engineering of energy efficiency through urban regeneration (Lee *et al*., 2012).

While most of these studies relate to mobilising civil society to participate in the Irish energy transition, there has been remarkably little attention paid to the role of community energy therein. This is beginning to change, with research addressing the state of play and potential benefits of community energy in Ireland (Comhar, 2011).[2] Equally, there is an emergent literature stressing the engagement of communities through agenda setting and engagement in the planning and development process, to ensure technical and financial support for communities and a more judicious usage of the label "community" in community energy (Walsh, 2016). Laterally, there have also been attempts to examine different means of redressing the (financial) capital gap for local citizen investors, including viewing communities as a means of mobilising civil society involvement (Curtin *et al*., 2017; NESC, 2014).

While the received wisdom is that Ireland is a largely inhospitable context for community energy, this was not always the case (Tovey, 2011). Tovey suggests that policy signals from the turn of the century to midway through the first decade of the 21st century were conducive to social sustainability and regional (rural) development. From the late 1990s to around 2004, there seemed to be rhetorical support in policy communities (e.g. the 1999 Green Paper on sustainable energy) and grassroots mobilisations through co-operatives such as Meitheal na Gaoithe, established to promote the community/locally led development (Tovey, 2011, pp. 28–29). By 2004, however, the conclusion was that the development of wind farms was driven by market considerations and that the "fiscal, regulatory and infrastructural policy framework" favoured the development of wind farms by large-scale developers. By 2010, McCarthy (2010) could still remark on the dearth of community-owned wind farms in Ireland.

From 2013 onwards, the "energy for export" or commodification narrative became institutionalised at the expense of a community-based response and the flashpoint for conflict through community opposition (Mullally and Byrne, 2016). Community energy in Ireland remains at the level of a relatively incipient phase of development (Cogan, 2017; Comhar, 2011; Lennon and Scott, 2015a; Mullally and Byrne, 2016; Mullally *et al*., 2016; Walsh, 2016).

Unlike commercial enterprises, community energy projects may well be driven more by symbolic, affective and socially constructed elements than by financial considerations (Walsh, 2016, p. 3). Rather than responding to the top-down challenges of climate change and energy transitions, these projects might be better understood as emerging from cultural structures such as *meitheal*[3] or established networks such as the Gaelic Athletic Association (GAA) and Tidy Towns groups, and more recently established networks such as the Transition Towns Network in Ireland (Aiken, 2014; Barry and Quilley, 2009; Cogan, 2017).[4]

At the same time, simplistic bottom-up solutions are no panacea either. While there is some potential for project- or site-specific, one-off solutions, we must also take account of structural relationships in terms of trust in institutions, political cultures and citizen relationships with energy systems (Ellis and Ferraro, 2016).

2 An SLR Global Environmental Solutions report (2014, p. 45) does contain a section on niche-level innovation, in which it explores different models of ownership in community energy in Ireland.

3 Loosely translated, this refers to a socio-cultural system of mutual aid and reciprocity that underpins socio-economic relations in communities.

4 The Transition Towns Network is often represented as being conceived in Kinsale (Ireland) but born in Totnes (UK).

3 Context

3.1 Irish Policy on Community Energy (1999–2015)

The European Commission's 1997 White Paper on renewable energy was followed in Ireland by the Green Paper on sustainable energy (1999). The Green Paper called for the installation of 500 MW of additional generating capacity from renewable energy sources – mainly wind – by 2005, and it also strongly endorsed the production of renewable energy "to meet one's own needs" and the development of projects by local co-operatives and other representative organisations (REP, 2004, p. 13).

In early 2000, the state appointed the Renewable Energy Strategy Group, which produced the *Strategy for Intensifying Wind Energy Deployment* (Fitzgerald, 2000, p. 88). It noted that part of the challenge of increasing local involvement in wind energy development was that it would involve a significant change in policy direction. "Wind energy development has followed a focus of specific targets being met at minimum cost through competitive means. While this approach has not excluded local involvement it has not encouraged it either". The study listed possible options to encourage local involvement, including fixed prices; net metering for wind energy projects up to 100 kW; and regulations (e.g. planning) to favour locally owned projects. Before deciding on options, the report noted that it would be useful to "first decide whether the objective is to reduce the number of objections to large wind farms at the planning stage or to increase local participation in wind energy development" (Fitzgerald, 2000, p. 88).

Essentially, the government needed to decide what it wanted. This sentiment was reflected in March 2000, in a letter to the *Irish Times* from Séamus Ó Drisceoil, Comdháil LEADER 11 Officer, Oileán Chléire, Cork (O'Drisceoil, 2000):

> … Comdháil Oileáin na hÉireann [Irish Islands Federation] and others have made repeated submissions to the Green Paper on Energy and elsewhere on the need for continuous access to the grid for small wind-power projects which could be promoted by individuals or communities. Given the right scheme we could have communities embracing wind power on a vast scale rather than uniting to oppose projects. So far absolutely nothing concrete has been achieved in this area.
>
> Here on Oileán Chléire and neighbouring Bere Island we have full planning permission and funding available for small .5mw wind projects. We could be in production within six months. This exercise could be repeated throughout the country as communities and farmers see the benefits of wind energy. The technology is tried, tested and absolutely reliable.
>
> So far our access to the grid has been blocked while the Department look to unproven and vastly more expensive technology which is, apparently, to be placed in "someone else's back yard".
>
> Not good enough!

Both the Oileán Chléire and Bere Island wind projects subsequently collapsed.

By 2003, there were only two community-owned wind energy projects in Ireland – three 225-kW turbines on Inis Meáin, County Galway, and a 660-kW turbine installed by the Burtonport fishing co-operative in County Donegal – which stood in stark contrast to Denmark, where a total of 377 turbines had been installed between 1979 and 1980 and wind power guilds had been set up all over the country, drawing on a rural co-operative tradition similar to that in Ireland.

In 2004, the *To Catch the Wind* report was produced by the Renewable Energy Partnership (REP), comprising two County Mayo community wind groups and the statutory Western Development Commission (REP, 2004). It noted that Danish communities became involved in wind energy at a time when the technology was in its infancy and the turbines and wind farms were too small to interest large developers, thus allowing small locally financed community projects to flourish. A significant shift in government policy and a

degree of protection was required if Irish communities were to gain a similar share of wind energy development. The report called for a feed-in tariff, free access to the grid, state support and incentives, and a "one-stop shop" for community groups needing expert technical, legal and financial advice on wind energy projects. In the absence of progress on this, the advice from the REP to communities was stark – do not invest in wind energy projects "as the level of risk and uncertainty is currently too high" (REP, 2004, p. 26).

3.1.1 White Paper on energy 2007

The government's 2007 White Paper on energy (DCMNR, 2007) acknowledged that submissions during the consultation process on the Green Paper had widely endorsed the development of "greater community involvement in renewable energy initiatives" (p. 15). The White Paper stated that constraints on the development of renewable energy technologies and meeting renewable energy targets exist, including "planning, and the issues of public acceptance and local community support", and that these "will be tackled through coordinated national, regional and local approaches" (p. 35). However, there was no reference to the development of community involvement in renewable energy projects or the elimination of barriers.

3.1.2 Policy development 2009–2014

In 2009, the Electricity Supply Board of Ireland (ESB) introduced a pilot microgeneration scheme that facilitated the payment for renewable electricity produced by householders or farms. The scheme was run through the ESB's retail arm, Electric Ireland, and was not replicated by other energy suppliers. It ended after 5 years in 2014 (Melia, 2014).

In 2011, the Sustainable Development Council, Comhar, released the report *Community Renewable Energy in Ireland: Status, Barriers and Potential Options* (Comhar, 2011), which reiterated the four main barriers to community renewable energy in Ireland – insufficient policy framework; inadequate support structures; lack of access to finance; and grid acces and planning delays.

A background paper to the 2012 NESC report (NESC, 2012), *Social and Behavioural Aspects of Climate Change* (Moore, 2012), noted how international experience suggests that a greater level of local ownership of wind energy projects is an important option for maximising local benefits. Again, it emphasised the challenges faced by groups, as exemplified in the 2011 Comhar report, of obtaining finance, securing planning permission and accessing the grid, and noted that, while community renewable energy had been mentioned in a number of government documents, specific measures to increase community involvement and reduce barriers had not been outlined.

In 2014, the NESC report *Wind Energy in Ireland: Building Community Engagement and Social Support* (NESC, 2014) stated that, as part of an inclusive community engagement process to shape and share the local value of wind development projects, national policy support should include "incentives and measures for promoting community [and] co-operative energy schemes and new financial mechanisms for public investment in renewable energies" (p. 5).

The 2014 Green Paper on energy policy (DCENR, 2014) posed the questions: "How can we encourage citizens to be part of our transition to future energy paths and the policy-making process that goes with it? Given the scale of changes needed, what are the right mechanisms to engage citizens?".

3.1.3 White Paper on energy 2015

In 2015, the White Paper on energy, *Ireland's Transition to a Low Carbon Energy Future 2015–2030* (DCENR, 2015), was published, and for the first time it seemed that policymakers were really beginning to take the issue of citizen and community engagement in the energy transition seriously.

> The transition will see the energy system change from one that is almost exclusively Government and utility led, to one where citizens and communities will increasingly be participants in energy efficiency and in renewable energy generation and distribution … Community-level energy efficiency and renewable energy projects, using a range of technologies, will play an important role in the energy transition … There will be opportunities for communities to collaborate, including with local government and energy agencies, to develop community energy efficiency and renewable energy projects. (DCENR, 2015, pp. 40–43)

In addition, the intention to address the challenges and barriers was very clear:

> We acknowledge the need to develop mechanisms and instruments to make this happen. We will work to widen the opportunity for participation by: facilitating access to the national grid for designated renewable electricity projects, and developing mechanisms to allow communities to avail of payment for electricity, such as the ability to participate in power purchase agreements; providing funding and supports for community-led projects in the initial stages of development, planning and construction. These will be defined using criteria such as scheme size and degree of community ownership; supporting, in particular, the emerging energy co-operative movement as one means of facilitating community participation. (DCENR, 2015, p. 45)

3.1.4 Citizens' Assembly

In the autumn of 2017, the Citizens' Assembly (Citizens' Assembly, 2018), comprising a chairperson and 99 citizens randomly selected to be broadly representative of the Irish electorate, met over two weekends to deliberate how the state can make Ireland a leader in tackling climate change. The group focused on the areas of energy, transport, agriculture, international best practice, and existing national policies and activities. Thirteen recommendations were reached by majority vote and were presented to the Houses of the Oireachtas[5] in April 2018. Overall, 99% of the members recommended that "the State should enable, through legislation, the selling back into the grid of electricity from micro-generation by private citizens (for example energy from solar panels or wind turbines on people's homes or land) at a price which is at least equivalent to the wholesale price". Furthermore, 100% of the members recommended that "the State should act to ensure the greatest possible levels of community ownership in all future renewable energy projects by encouraging communities to develop their own projects and by requiring that developer-led projects make share offers to communities to encourage greater local involvement and ownership" (Citizens' Assembly, 2018).

3.2 Role of the Sustainable Energy Authority of Ireland

In 2007, the state agency, the Sustainable Energy Authority of Ireland (SEAI), was granted 5-year funding under the European Union (EU) Concerto II programme for the HOLISTIC (Holistic Optimisation Leading to Integration of Sustainable Technologies in Communities) project, which involved two Irish and four European partners. As part of this, the Dundalk 2020 project was established, with the aim of being an "exemplar community" that would stimulate a national move towards sustainable energy practice, both in Ireland and Europe, by demonstrating how different energy technologies and techniques can be used in an intelligent and integrated way within the community, and how the public sector, private sector and local communities can work together to achieve energy targets.

The Dundalk 2020 project ended in 2013, but the experience informed the setting up of SEAI's Better Energy Community (BEC) scheme, which aims to support innovative energy efficiency projects at a community level. This is a competitive programme that was piloted in 2012 and now runs annually.

In 2011, SEAI put out a call for local authorities to partner with local groups and apply to become part of a national Sustainable Energy Community (SEC) programme – "to act as a catalyst on the ground to help stimulate a national move towards sustainable energy practice and to deliver national energy targets" (SEAI, 2011).

SEAI selected three communities – Kerry, Dublin City and South County Dublin (Tallaght).

In April 2016, SEAI re-launched its SEC programme, but this time it put out an open call for local communities to become SECs and join the SEC Network. An SEC is a "community in which everyone works together to develop a sustainable energy system for the benefit of their community. To do so, they aim as far as possible to be energy efficient, to use renewable energy where feasible and to develop

5 The Oireachtas is the legislature of Ireland and consists of the President of Ireland, Dáil Éireann (lower house) and Seanad Éireann (upper house).

decentralised energy supplies. An SEC can include all the different energy users in the community including homes, sports clubs, community centres, churches and businesses" (SEAI, 2018a). The SEC Network is a "support framework designed to enable a better understanding of how communities use energy and to save energy across all sectors. The Network's core purpose is to catalyse and support a national movement of SECs operating in every part of the country. There are now SECs operational across all regions of Ireland. Being a member of the Network enables SECs to engage and learn from project site visits, seminars, events, and case studies" (SEAI, 2018a).

By April 2018, 130 SECs had been registered by SEAI on its website.

3.3 Grassroots Community Energy Initiatives (1986–2010)

Table 3.1 provides a list of "grassroots" community energy initiatives that have been developed from the bottom up by local people (rather than by government or other agencies) between 1986 and 2010. It does not include the eight community energy groups in our research study. Information on the groups has been sourced from a number of documents, in particular the 2011 Comhar report (Comhar, 2011) and *To Catch the Wind* (REP, 2004), and from an internet search. Three of the 14 projects are currently operational.

3.3.1 Transition Towns

From 2006 until about 2009, spurred on by the leadership of the founding group Transition Town Kinsale, Transition Town groups sprang up around Ireland and soon became a global movement. Transition initiatives are set up and run as grassroots organisations, based in villages, towns and cities. The movement is based on four assumptions: (1) lower energy consumption is inevitable and so must be planned for; (2) communities and infrastructure lack the resilience to weather the shocks; (3) collective action is essential now; and (4) through creativity and proactive design, ways of living can be created that are more connected, enriching and sustainable (Hopkins, 2008).

There is a strong emphasis on the development of new practices as well as the rediscovery of old ones through re-skilling. However, while the Transition Town movement has been successful in spawning groups across the UK, it has been less effective in Ireland; even in the UK, the movement is having difficulty in scaling up (groups regularly report difficulties in expanding beyond a core of committed green activists) and translating the message into effective actions within the wider community (Haxeltine and Seyfang, 2009). While there is no clear database of Transition Towns past or present in Ireland, an internet search in the spring of 2018 determined that, out of 19 Transition Town groups with an internet presence, six were currently active and 13 appeared to be dormant or have ceased operations.

The REP report *To Catch the Wind* (REP, 2004) highlighted the importance of favourable national policy, access to the grid, obtaining planning permission, financial support and incentives, and access to information and support structures for community energy wind projects. Their analysis in this regard led them to conclude that, until these issues are addressed, communities would be ill-advised to invest in their own wind energy projects because of the high level of risk and uncertainty.

In 2011, the Comhar report *Community Renewable Energy in Ireland: Status, Barriers and Potential Options* (Comhar, 2011) listed the four main barriers to community renewable energy generation as being (1) an insufficient policy framework; (2) insufficient support structures; (3) a lack of access to finance and the grid; and (4) planning delays and issues.

In 2012, the NESC report *Ireland and the Climate Change Challenge: Connecting "How Much" with "How To"* (NESC, 2012) identified contemporary challenges to community energy as still including the planning process; insufficient policy support and drivers; a lack of support structures for communities; challenges with ownership (financial, grid connection and planning permission); and insufficient capacity building.

This research project endeavours to take over from where these excellent reports left off.

Table 3.1. History of community energy initiatives in Ireland 1986–2010

Start	Location	Group	Aim	Actions	Funding	Challenges	End result
1986	Cape Clear Island, Co. Cork	Cape Clear Co-operative	To develop the first successful variable pitch wind turbines in Ireland and to provide electricity for the island	Two 50-ft 30-kW turbines were installed on the island	German manufacturers, SMA Regelsysteme Gmbh, provided the technology and used the project as test bed	Turbines proved uneconomical and required intensive technical servicing; the underwater cable bringing electricity from the mainland was installed	Turbines went out of use in 1997
circa 1994 plans announced in 2009	Mount Callan, Co. Clare	WCRE – 30 local farm families, with 3000 acres of land; McCarthy Keville O'Sullivan managed project through Environmental Impact Assessment and planning stages	To install 29 3-MW wind turbines on western slopes of Mount Callan	Progressed through feasibility stage; planning approved by An Bord Pleanála (2011); WCRE partnered with Brookfield Renewable Energy Group	Group was keen for the project to be funded by local shareholders, but it appears that this did not occur	Grid connection system; local opposition	Wind farm comprising 11 N90/2500 turbines under construction (2017). Group committed to funding four local communities, each receiving €378,000 over the next 30 years
1995	Ballytobin, Co. Kilkenny	Camphill Community Ballytobin (with 80 residents) set up Bio-Energy and Organic Fertiliser Services to run the project; four people employed to operate the plant	To build an anaerobic digestion/biogas plant for the Ballytobin Camphill Community; to create work for residents and demonstrate the first centralised anaerobic digestion in Ireland	Construction began (1996); project began fuelling a small district heating system (1999), using slurry from local farms and food waste from waste management companies	Camphill Ballytobin; Camphill Community real estate used for bridging loans; Rural Development Programme; EU Leader Programme II; EU "Horizon"; EU "Altener"; gate fees funded two employees; two community employment scheme workers	Accessing capital funding; inability to obtain Power Purchase Agreement to connect plant to grid, so, in warmer months, excess biogas had to be flared off	Ballytobin was one of nine Camphill sites to benefit from SEAI BEC (2015) upgrades, which included a biogas CHP plant to generate electricity
1997	Cape Clear Island, Co. Cork	Cape Clear Community Council		Feasibility study for RE trail; report on energy conservation, recycling, waste management and wind; environment reports on the proposed upgrading of the wind energy system; planning permission granted for 0.5-MW wind turbine; two energy managers were trained	EU Partnership project under Regional and Urban Energy Planning Programme; Cork County Council; Údarás na Gaeltacht; LEADER programme	Accessing the grid	Project ended; wind turbine was not erected

Table 3.1. Continued

Start	Location	Group	Aim	Actions	Funding	Challenges	End result
Late 1990s	Inis Meáin, Co. Galway	Inis Meáin Island Co-op	To create electricity to power desalination plant	Three Vestas V27 225-kW wind turbines installed to power a new desalination plant (2002)	EU – Fifth Framework programme; Údarás na Gaeltachta; Galway County Council	Environmental groups objected to original planning application; local co-op became mired in controversy and subsequently disbanded	2011, the desalination plant closed down; turbines fell into disuse; ultimately dismantled for safety reasons
c. 1999	Bere Island, Co. Cork	Wind energy co-op, with 200 island residents and part-time residents as €1 shareholders; one person worked on project for 18 months	To sell electricity to the grid and use profits for island development projects	600-kW Vestas wind turbine, to be linked by undersea cable to the mainland grid; obtained Power Purchase Agreement (AER 5) and planning permission	€100,000 raised from island sources	Failed to secure EU Interreg and other funding; group unable to secure the €200,000 necessary for project viability; process very complex	Group lost momentum; project shelved (2003); turbine planning expired (2004)
1999	Freshford, Co. Kilkenny	"Freshford Alive" formed by Freshford 2020 development group; representatives of Barrow Nore Suir LEADER, Co. Kilkenny and Tipperary Institite; full time co-ordinator hired	To address sewerage system sustainably, using local waste for CHP plant producing electricity for grid and gas for local heating and to provide secondary sewage treatment	Feasibility study and development plan produced	Environmental Protection Agency, SEI and LEADER programme (€20,000 for feasibility study); EU Interreg (€41,799 for development phase)		Project appears not to have progressed; Freshford 2020 Rural Development Ltd dissolved sometime after January 2006
Planning permissions granted in 2000	Ballycogley, Co. Wexford	Wexford Wind Energy Co-op, in partnership with developer	To install four 3.5-MW turbines on 150 acres: two financed by developer, and shares for two offered to locals, with a preference for those closest	Progressed through feasibility stage; planning permission granted in 2000	EU Thermie grant; hoped to raise remaining funds through corporate tax relief scheme	High grid connection costs	Project did not proceed; Ballycogley Wind Energy Plc dissolved in 2007
2002	Killala, Co. Mayo	Killala Community Wind Farm Ltd (KCWF) (8 farmers, 3 directors and 17 shareholders), in partnership with Killala Community Council, with assistance from the WDC; the WDC assigned a rural development worker to work on the project	To develop a 23-MW community wind farm and encourage local people to invest through a number of "investment vehicles"	Project team (2006); the WDC provided initial project co-ordination, facilitation, and technical and management expertise, and assisted with the provision of information to the public; planning application submitted (2007); 45 people objected; An Bord Pleanála refused permission; planning permission granted (six turbines, 2010)	Farmers provided initial seed funding; SEI (feasibility phase and €39,000 to document how local communities can become involved in wind energy); WDC	Insufficient policy support; complexity of RE projects; negative media coverage of wind; length of process, strained resources and entrenched "anti" positions; difficult to demonstrate benefits to wider community; difficult to define community; difficult to communicate between parties	Killala Renewable Production Limited (parent company of KCWL) and Gaelectric Developments Ltd partnered (2015); applied for modifications to planning permission (2017); applicant intends to give €1000 per MW to a community fund each year

Table 3.1. Continued

Start	Location	Group	Aim	Actions	Funding	Challenges	End result
2003 (operational)	Burtonport, Co. Donegal	Burtonport Fishermens Co-op	To provide electricity for fish ice plant	One Vestas V47 660-kW wind turbine installed			This turbine remains in operation
2006	Co. Waterford	Waterford Renewable Energy Co-operative Society Ltd (established by Waterford County Council and Waterford Energy Bureau)	To be a pilot rural self-supply co-operative and develop a number of RE initiatives (bioenergy and wind) for the benefit of its members	Co-op secured 52 members; it was facilitating the development of bio-energy projects and three community wind farms (2012)	Energy Self-Supply in Rural Communities supported by Intelligent Energy Europe		No more online information on this group; their website has been disabled
2008	Kinsale, Co. Cork	Transition Town Kinsale	To develop a community-run anaerobic digester, converting local farm/food waste into heat, electricity and agricultural fertiliser	Feasibility study carried out on anaerobic digestion for the area	West Cork Development Partnership (€10,000 to determine project viability); Rethink, Recycle, Remake (Rx3) programme	Finding site; lack of interest from locals in home heating option; changed focus to provide gas for local vehicles, but local farmers not interested in any capacity	The project is currently dormant
2010	Ballylaneen, Stradbally and Bunmahon, Co. Waterford	BSB Community Energy Ltd, established by two local landowners, with a local committee and 50 local shareholders	To erect 11 wind turbines producing up to 33 MW of electricity and to set up a community-owned company	Investors were acquired and plans progressed over the next 4 years, but there was no public consultation		Local opposition group 'Mahon Valley Against Turbines'; protest meeting held in November 2016 with over 600 attendees	Consultant appointed; public meeting held too late as strong opposition mobilised (July 2017) deep divisions locally; proposal withdrawn (August 2017)
2010	Ballynagran, Co. Wicklow	Ballynagran Energy Plus Community project run by Zero Carbon Ltd; project manager worked on project	To become the first zero-carbon community within 15 years by reducing energy use, creating an energy independent region, producing RE locally, creating sustainable local employment and enhancing quality of life	Carried out local energy audits; substantial number of local houses retrofitted	Interreg North-West Europe Programme; Zecos project, Co. Wicklow; Greenstar Ballynagran Landfill Community Fund; Ballynagran environmental community projects and works grant scheme; SEAI; company donations; bulk buying	Unsuccessfully applied to become one of SEAI's SECs (2011); local objections to turbine proposal; complexity; lack of organisational experience and specialist skills; high capital costs of some schemes; financial risks involved; planning delays; lack of interest and mistrust	Permission granted by Wicklow County Council for 500-KW wind turbine (2015); local objections; An Bord Pleanála refused permission (2016) because of absence of "an overall strategy"; damaged group morale; current status unclear

CHP, combined heat and power; RE, renewable energy; SEI, Sustainable Energy Ireland, subsequently renamed Sustainable Authority of Ireland; WCRE, West Clare Renewable Energy Ltd; WDC, Western Development Commission.

4 Methodology

A lot of climate change research has been focused on providing knowledge on the causes, impacts and costs of the global problem. However, the research focus is now shifting towards the implementation of solutions and a more action-oriented approach that is clear about its relationship to society and societal problems, embraces creativity and innovation, and considers the role played by politics and policymaking (Fazey *et al*., 2018). This research project endeavours to contribute to this move.

The project is interdisciplinary in that it involves researchers from sociology and energy engineering. It is also transdisciplinary. Transdisciplinary research focuses on social problems, enables mutual learning among different academic disciplines, research bodies and civil society, and aims to create knowledge that is solution focused and useful (Lang *et al*., 2012).

The research draws on the methodological approach of grounded theory, which acknowledges that conditions and events evolve and that this has a bearing on what happens and on how actors react (Corbin and Strauss, 2014). We understand methodology as a "strategy of inquiry", as opposed to methods as techniques of research (Denzin and Lincoln, 1998). However, our approach is not fully grounded, in that we are not proceeding purely from an inductive analysis of the data. Rather, our work emerges from the constant interplay of the data, the researchers' experiences and the experiences of community energy practitioners (Pidgeon and Henwood, 1996). There is a focus on capacity building and facilitating co-evolution with policymakers and civil society actors (Haxeltine *et al*., 2013).

The work is particularly influenced by the principles of second-order transformational research. Rather than just describing and analysing processes of change, second-order approaches see action, learning and the creation of new knowledge as being more closely connected. Second-order science encourages the sharing of knowledge and the active engagement of researchers in practice and practitioners in research, and puts a greater emphasis on discussion and exchange, rather than communication and dissemination. The focus is more on producing "how to" practical knowledge and creating change from within the system being studied, rather than seeing it as an outside problem. It is assumed that researchers are not always the best people to know what knowledge is needed, and so they need to learn from practice and by involving practitioners in the research (Fazey *et al*., 2018).

The first network diagram in Chapter 5 (Figure 5.1) was generated using the multi-actor perspective (MaP) developed by Avelino and Wittmayer (Figure 4.1). The societal typologies of market, state, community and third sector were used to classify the different signatories. The need for visually stimulating representations of the support network surrounding community energy initiatives was a methodological necessity in order to develop useful indicators. The second map (Figure. 5.2) builds upon Figure 5.1 using intermediary/agency classifications from within the academic literature, namely knowledge intensive business services (KIBS), research and training organisations (RTOs) and semi-state bodies. A new classification, latent embedded organisations (LEOs), has also been added.

As part of the research on intermediaries, the Tidy Towns organisation, with its 870 local groups, was selected as a sample organisation that has the potential to provide assistance to community energy initiatives across the country. Tidy Towns groups

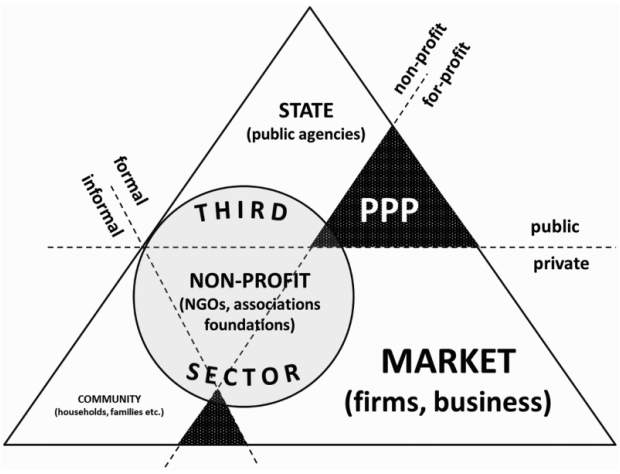

Figure 4.1. MaP framework (Avelino and Wittmayer, 2016).

can be described as middle actors (Figure 4.2) (Parag and Janda, 2014), as influence can occur upstream (to policy), downstream (to community energy initiatives) and sideways (to other Tidy Towns groups). The potential benefit of middle actors, with a focus independent of the energy transition, as noted within the literature, justifies investigation in the Irish context.

4.1 Methods

During the course of the 3-year research period, over 50 climate change and energy-related events and 17 community energy workshops and conferences were attended. This allowed the researchers to keep themselves informed about the relevant issues and, in particular, to monitor developments in the community energy sector. Networking, relationship building and trust formation were also key outcomes.

Following a recommendation by the then Assistant Secretary General, as part of a wider consultation process, a number of discussions on the role of citizens in the energy transition were held between the lead researcher and an official in the Department of Communications, Energy and Natural Resources (DCENR) during the process of drafting the 2015 White Paper on energy.

A day-long facilitated workshop was held at the end of August 2015 (Watson *et al*., 2015), with the aim of identifying lessons and learning from groups with hands-on experience of encouraging people at a local level to cut their greenhouse gas emissions, particularly in relation to energy use. It was envisaged that this would be of use in the development of any future policies and strategies around community engagement on energy and, in particular, for the drafting of the White Paper on energy. The event brought together the research team and representatives of SEAI, the DCENR, Dundalk 2020, the Growing Renewable Energy Applications and Technologies (GREAT) project in Belmullet, County Mayo, North Tipperary LEADER Partnership and Tipperary Energy Agency, and representatives of the grassroots organisations - Transition Town Kinsale, Energy Communities Tipperary Co-op and Terenure Energy Group. Numbers for the workshop were purposefully kept small (15 attendees) so as to ensure good discussions.

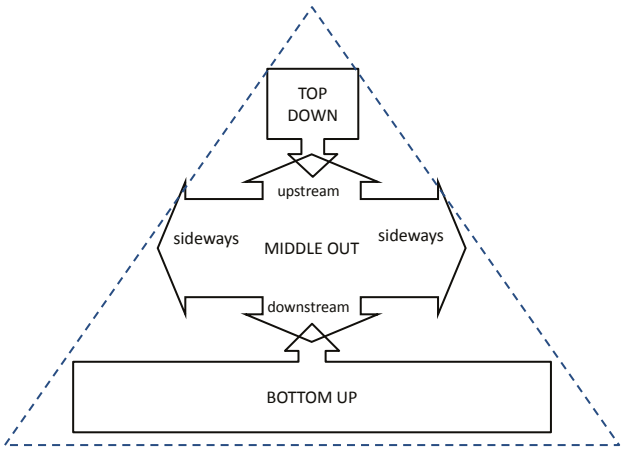

Figure 4.2. Direction of influence from the middle out (Parag and Janda, 2014).

Between October 2015 and March 2016, in order to gain a better understanding of the issues facing community energy projects, 16 semi-structured, face-to-face exploratory interviews were held with representatives of the following 10 organisations: SEAI; Dundalk 2020; the GREAT project and Erris BEC; Energy Communities Tipperary Co-op; Aran Islands Energy Co-op; Claremorris and Western District Energy Co-op; Sustainable Clonakilty; Kerry Sustainable Energy Co-op; Templederry Community Wind Farm; Terenure 2030; and Cloughjordan Ecovillage. Following these interviews, it was decided that more in-depth research would be focused on grassroots community energy groups. The term “grassroots” refers to activity that is led by civil society from the bottom up, as opposed to being driven by governments or other agencies from the top down (Klein and Coffey, 2016). Therefore, Dundalk 2020 and the GREAT project and Erris BEC were excluded from the study, and the Ballytobin Camphill bio-digester project was added. For reasons outside our control, the Ballytobin project had to be dropped at a later date.

Between November 2017 and January 2018, five 2-hour long workshops were held with representatives of the following six groups: Energy Communities Tipperary Co-op; Aran Islands Energy Co-op; Terenure Energy Group; Kerry Sustainable Energy Co-op; Templederry Community Wind Farm; and Cloughjordan Ecovillage. It was not possible to arrange workshops with members of Sustainable Clonakilty and Claremorris and Western District Energy Co-op. The workshops were clearly formatted and recorded. Respondents were asked to give

feedback on and discuss the following topics, which were organised into five sections:

1. what/who is the "community", and what is "community energy";
2. the benefits of community energy for the wider community/society (social, economic and environmental) and for group participants;
3. achievements of your community energy group and support received so far (financial, practical, training, etc.);
4. challenges faced both personally and as a group, disappointments experienced along the way and barriers to community energy;
5. additional support required by the group, future challenges expected, and plans for the future.

Participants were asked to individually write their responses to the headings on clipboards, which allowed for personal deliberation, prior to each heading being discussed by the group. At the beginning of the workshop, a questionnaire was given to each participant in order to gain an insight into the demographic nature of the group membership.

The MaP developed by Avelino and Wittmayer (2016) (Figure 4.1), has been used to develop network maps to illustrate the diverse support network and active intermediaries and agencies in relation to the nine community energy case studies (including Ballytobin Camphill). The support network organisations were classified (market, state, community, third sector) in order to depict which types of organisations are providing support to different community energy initiatives. The intermediary and agency organisations were classified (KIBS, RTO, semi-state, LEO) to illustrate the diversity that exists in relation to intermediary types.

Once a catalyst has emerged, such as SEAI, a space emerges for private actors to engage with the transition and see viable possibilities for involvement as the transition gains traction and moves to destabilise the dominant regime. As Stewart and Hyysalo (2008, p. 297) noted in their work, there is currently an absence of existing linkages between the top-down and bottom-up actors. This lack of connectivity between government and community cannot be successfully bridged by semi-state organisations such as SEAI because of them being linked too closely to governmental operations. The ability of intermediaries with the correct structural make-up, experiences, resources and personnel to act as the connecting agent in this process is worth further investigation.

In order to investigate the Tidy Towns competition as a potential intermediary vehicle through which community energy could be expanded upon, quantitative statistical analysis was conducted on the different categories, to see how groups scored in relation to different topics. Qualitative, semi-structured interviews were then carried out with eight Tidy Towns groups in County Cork, in order to better understand the current dynamics and the reasons for the poor scores in the "waste and resource" category, and to identify the challenges faced by the groups. Alongside this, secondary research was undertaken on the history of the competition to give a background to the current analysis.

4.2 Community Energy Groups in the Study

The following descriptions of each community energy study group were written in 2018. Please also see Table 4.1.

4.2.1 Aran Islands Energy Co-op, County Galway[6]

Established in 2012 as a sub-group of the Aran Development Company, the Aran Islands Energy Co-op aims to secure energy independence for the Aran Islands by 2022. By 2017, 250 homes and community buildings had been retrofitted and over 50 heat pumps, 35 photovoltaic (PV) systems, 9 electric cars, a Tesla battery, light-emitting diode (LED) lighting and energy monitoring had been introduced under the SEAI BEC scheme. There has been a 24% reduction in imported heating fuel. The group is an SEC and is keen to progress its wind energy proposal, but local concerns have meant that the range of potential sites is very limited.

6 The catchment area covers the three Aran Islands off the coast of County Galway (around 1300 people).

4.2.2 *Claremorris and Western District Energy Co-op, County Mayo*[7]

The Claremorris and Western District Energy Co-op was set up in 2015 as a sub-group of Progress for Claremorris, a community group responding to local opposition to a biopark/biomass proposal. The co-op promotes the benefits of anaerobic digestion and is hoping to develop a district heating system in the town. It has partnered with Templederry Community Wind Farm to submit a grid application for a 3-MW solar system. The group is an SEC.

4.2.3 *Cloughjordan Ecovillage, County Tipperary*

In 1999, Sustainable Projects Ireland Ltd was established to develop an ecovillage, and in 2003 a 67-acre site was secured in the rural village of Cloughjordan in the midland county of Tipperary. Following many financial, design and planning challenges, in 2009 the first residents moved in. The ecovillage was a key partner in the Sustainable Energy for the Rural Village Environment (SERVE) project (2007–2012). In total, 55 homes have now been built and a further 75 sites are available for development. Key features include a 1-MW wood-chip district

Table 4.1. Community energy projects investigated in this study

Name	Founded	Structure	Achievements	Future aims	SEC
Aran Islands Energy Co-op, Co. Galway	2012	Co-operative	Between 2012 and 2017, 250 homes and community buildings retrofitted and over 50 heat pumps, 35 PV systems, 9 electric cars, a Tesla battery, LED lighting and energy monitoring introduced under the SEAI BEC scheme	Energy independence; community wind development	Yes
Claremorris and Western District Energy Co-op, Co. Mayo	2015	Co-operative	Promoted the benefits of anaerobic digestion; partnered with Templederry on a 3-MW community-owned solar proposal	Develop district heating, community solar development	Yes
Cloughjordan Ecovillage, Co. Tipperary	1999	Company Limited by Guarantee	Sustainable Energy for the Rural Village Environment (SERVE) Project (2007–2012); 55 homes built; 1-MW wood-chip district heating system; community farm; tree plantations; solar panels fitted under the 2017 SEAI BEC scheme	Restore defunct 500-m^2 solar thermal panels	Yes
Energy Communities Tipperary Co-op	2015	Co-operative	Between 2012 and 2017, €7 million worth of retrofitting carried out in 800 houses and community halls under the SEAI BEC scheme; full-time project manager employed and local projects (park solar lighting, boiler upgrades, LED lighting) funded from carbon credits	Produce their own renewable energy	Yes
Kerry Sustainable Energy Co-op	2015	Co-operative	Ireland's largest community-owned co-operative (107 members); €450,000 worth of local retrofitting carried out under the 2017 SEAI BEC scheme; helped to secure an SEAI Smart Lighting grant (€5000) for local company; involved in local Heat Mapping Survey	Produce their own renewable energy	Yes
Sustainable Clonakilty, Co. Cork	2007	Company limited by guarantee	Organisation of action groups and public information events; study trip to Güssing, Austria; energy audit; Renewable Energy Roadmap; upgrades to local buildings and the Clonakilty Bike Scheme under the 2015 SEAI BEC scheme	Tree planting; public information events	Yes
Templederry Community Wind Farm, Co. Tipperary	1999	Company limited by guarantee	Two 2.3-MW turbines erected in 2012, powering the equivalent of 3000 homes; Community Renewable Energy Supply Company (CRES) established to buy and sell community power	Grid application for four community solar farms	No
Terenure Energy Group, Dublin 6	2013	Sub-group of local traders organisation	33 homes, 9 community buildings and 6 local businesses upgraded in 2016 and €0.5 million worth of retrofitting carried out under the 2017 SEAI BEC scheme	To become a co-operative and produce their own renewable energy	Yes

7 Claremorris town (around 4500 people) is situated in the north-west of Ireland.

heating system, a community farm and large tree plantations. A number of households installed solar PV panels under the BEC scheme in 2017. The group is an SEC and is currently trying to bring their defunct 500-sqm solar thermal panels back into production.

4.2.4 Energy Communities Tipperary Co-op

Responding to a need to revitalise their area, the Drombane/Upperchurch Energy Team was set up in 2010 in a small rural parish in the midland county of Tipperary. In 2015, the Energy Communities Tipperary Co-op was formed, comprising eight small rural communities. By 2017, 14 communities were involved. Between 2012 and 2017, over €7 million worth of retrofitting was carried out in 800 houses and community halls under the SEAI BEC scheme. The co-op employs a full-time project manager, and carbon credits have funded local projects, including park solar lighting, the upgrading of boilers and LED lighting. The co-op is an SEC and is keen to produce its own renewable energy.

4.2.5 Kerry Sustainable Energy Co-op[8]

Kerry Sustainable Energy Co-op was set up as a sub-group of Transition Kerry in 2015, after the publication of Transition Kerry's *Sustainable Energy Community Roadmap 2030*. As Ireland's largest community-owned co-operative (107 members), the co-op facilitated €450,000 worth of local retrofitting under the 2017 SEAI BEC scheme, helped to secure an SEAI Smart Lighting grant (€5000) for a local company and was involved in a local Heat Mapping Survey. The group also sells locally grown firewood to its members, organises public information events and is encouraging the establishment of other energy co-ops in the Kerry region. It is an SEC and plans to produce renewable energy.

4.2.6 Sustainable Clonakilty, County Cork[9]

Sustainable Clonakilty was established as a company limited by guarantee in 2007, with the aim of transitioning the town to energy neutrality by 2020. Activities included the organisation of action groups and public information events, a study trip to Güssing, Austria (2008), a local energy audit (2009) and a Renewable Energy Roadmap (2011). In 2012, the group went into temporary recess because of the economic downturn, volunteer burnout, and a lack of institutional support and core funding. Occasional meetings resumed in 2013/2014. In 2015, the group managed SEAI BEC upgrades to local buildings and the Clonakilty Bike Scheme. However, no further applications were made. The 2020 carbon neutral targets have been shelved, and the group is currently focusing on running occasional public information/ action events and planting trees to offset members' carbon emissions. The group is an SEC.

4.2.7 Templederry Community Wind Farm, County Tipperary[10]

The idea of Templederry Community Wind Farm emerged in 1999, after a development plan for the rural area highlighted renewable energy options. Templederry Energy Resources Ltd was set up in 2003 to manage the project. In total, 28 shareholders were recruited and two shares were put into a community co-operative for local use. Templederry Wind Farm Ltd was formed in 2010 to deal with financing and power purchase issues. After overcoming many planning and funding challenges, two 2.3-MW turbines were erected in 2012 and currently power the equivalent of 3000 homes. A proposal for a second phase was objected to locally and planning was refused by the county council and planning authority. The community wind farm was officially opened by the Ministers for Energy and Environment in 2013. In 2015, the group set up the Community Renewable Energy Supply Company (CRES) to buy and sell community power. CRES employs one person. Grid applications have been lodged for four solar farms, one in partnership with Claremorris and Western District Energy Co-op.

4.2.8 Terenure Energy Group, Dublin 6[11]

In 2013, Terenure 2030 was set up following a "seedling event" with 150 local attendees. The group

8 The group is based in Tralee town (around 23,700 people) in the south-west county of Kerry.

9 Clonakilty is a rural town (around 4700 people) in West Cork.

10 Templederry is a small rural townland (around 900 people) in the midland county of Tipperary.

11 Terenure is a southern suburb of Dublin City (around 9600 people).

is linked to the 'I Love Terenure' traders organisation and has been responsible for the development of a number of local initiatives, including the establishment of a weekly farmers' market and the Terenure Energy Group. The Terenure Energy Group is involved in retrofitting under the SEAI BEC scheme. Funding was granted but not given in 2015, but 33 homes, 9 community buildings and 6 local businesses were upgraded in 2016, and €0.5 million worth of retrofitting was carried out in 2017. The group is an SEC and is in the process of organising its group structure and building internal capacity, in order to manage their own BEC project and/or become the marketing arm for local contractors. They would like to set up an energy co-operative and produce renewable energy.

5 Research Findings – Community Energy

As previously outlined, the research team has been closely monitoring the development of community energy in Ireland. This involved an extensive review of the literature, attendance at many relevant events, and the organisation of an initial workshop in late August 2015, followed by exploratory interviews with a range of people involved in the area. The knowledge gleaned from this fed into the format of a series of 2-hour workshops held with representatives of six of the grassroots community energy groups in our study between November 2017 and January 2018. This chapter contains the key findings from the research and is broken into two sections.

Section 5.1 summarises the key points made by participants at the 2015 Community Engagement on Energy workshop. This workshop comprised 15 attendees from the DCENR, SEAI, 6 community energy initiatives and the research team. It raised crucially important issues and questions (e.g. around social capital, capacity building and energy citizenship) that helped to shape the subsequent research. In addition, the timing of the workshop was designed to feed directly into the policy process, occurring in sync with the consultation period and drafting of the 2015 White Paper on energy. This influenced the text of Chapter 4 on energy citizenship.

Section 5.2 focuses on the results and feedback from the workshops held in 2017/2018 with representatives of six of the grassroots community energy groups in our study, under the following headings: “What is community?”; “What is community energy?”; “The benefits of community energy for participants and the wider community”; “Capacity support available”; “Capacity challenges”; and “Capacity support required”. Relevant quotations and explanatory information are included.

5.1 Workshop on Community Engagement on Energy (2015)

Some of the key points made by participants at the 2015 Community Engagement on Energy workshop (Watson *et al.*, 2015) are outlined as follows.

5.1.1 Policy vision/gap

- There is clearly an absence of a nationally mandated energy management role.
- There needs to be a national plan and structure, involving all stakeholders, with clear roles and responsibilities that filter down to the local level.
- The involvement of all relevant agencies – local, regional, national and EU – is key to the roll-out of community engagement projects.
- The policy needs to be thought out and developed down to delivery level, and programmes need to be put in place to support it.
- There needs to be a focus on education and awareness raising.
- Political leadership is essential, in relation to both energy policy and energy strategy, and in communicating the message to the public.
- It is not realistic to expect people on the ground to change if they do not see change at the top.
- People need to hear government and political and business leaders talking about energy and what needs to be done, and that “we are all in this together”.

5.1.2 Energy citizenship

- Not only should energy citizenship be conceived individually, but the concept must also support and promote collective citizen action.
- Policymakers need broader metrics – not just kWh savings on a year-to-year basis – that include how we measure progress beyond money, what is gained within these communities, the capacity of local groups and longer term planning.
- The way that social capital is understood needs to be clarified.
- It is important to value social capital more and to be clear as to how it is valued.

5.1.3 Need for funding and support

- Funding is urgently required for group co-ordination at a local level.
- There is a need for support for project management.

- Funding needs to be consistent, continuous and multi-annual.
- Groups need to understand where the different sources of funding are, the mechanisms involved and how to use one funding source to attract other sources.
- There can be an over-reliance on SEAI funding.
- Intermediaries could be leveraged to provide support beyond established funding mechanisms.
- Funding should be ring fenced like the Environment Fund.
- The return on carbon credits could be invested into community projects.
- Communities need outside help in terms of finance, advice, guidance, education and on-going support.
- This help is best provided through intermediary groups, such as energy agencies, local community partnership groups and local authorities.
- Groups need to be equipped with information technology (IT), and building and technical knowledge and skills, to understand the costs involved and how to manage project financing.
- Momentum and innovation should be nurtured.
- Relevant templates should be provided to assist new groups in setting up and developing their projects.
- Local projects should be linked to a national network.

5.1.4 Importance of champions

- Community champions, energy champions and agency champions – people who are known locally, respected and trusted, and who can engage others – play key roles.
- Champions need to be supported.
- It can be difficult to identify a champion – people may not want the responsibility or have the time required.
- Although the champion is often linked to individuals and their personal capacities for action, it may also refer to the collective organisational capacities of groups, associations or co-operatives.
- While the individual/personal capacities of champions represent a considerable resource for communities, these are not infinitely renewable.
- There is a need to beware of burnout, disillusionment and over-reliance on individuals and volunteers.

5.1.5 Role of local authorities

- There is a blockage point – a disconnect between the different sectors about what is happening in the community energy space.
- The role of local and regional authorities is minimised and is not as yet an enabler.
- Targets should be put in place for local authority areas.
- Should there be a template for the involvement of local agencies and authorities?
- Should it be mandatory, given the scale of the national change required?
- Is a single role in an agency enough?
- Bottom-up structures need top-down support.
- Some local authorities are engaged more than others, depending on who the champion is.
- Problems emerge when that person changes job or role within the authority.

5.2 Community Energy Workshops (2017/2018)

In advance of each community energy workshop, questionnaires were given to participants in order to gain an insight into the demographic nature of the group membership.

Some key findings include the following:

- The majority of the 25 participants were over the age of 50, with only four in the 30–39 category.
- Most people with specific tasks within the group (e.g. secretary and chairperson) were also involved in other volunteer organisations.
- The main reasons given for getting involved in a community energy initiative were “climate change/ environment”, “community benefits” and “the need for an energy transition”.

5.2.1 What is community?

While community energy groups can represent communities of place or interest, a UK study (Seyfang *et al*., 2013) found that 89% of those surveyed identified themselves as coming from communities of place.

Similarly, when participants in our study were asked who or what they think "community" is, the general response was place based – for instance, the residents of the three Aran Islands, the county of Kerry, the parishes of Tipperary and, potentially, South Dublin.

> Everyone living and working locally, all ages and looking out for one another. (CE11)
>
> The county … including all its buildings, parks, rivers, people, animals and bio-diversity in which we live. (CE16)
>
> People that come together in an area/ organisation who work on behalf of all people in that area/organisation whether they are appreciated or not. (CE13)

One participant, while being specific about how the community members lived locally, added that geographical factors alone are not sufficient to designate community. Touching on aspects of social cohesion, they felt that common values, interests, the giving and sharing of time and connections between people were important.

A number of participants acknowledged that "community" can be a nebulous term, and that it can refer to both people who are like-minded and who have a vision for change and people who are working together on a common cause or issue, regardless of geography.

> So what is a community? It is whatever way you choose to define it. (CE25)
>
> Can mean different things – connected people with something in common, be it they live in the same area, or they have a particular interest in something or a goal they want to address. (CE15)
>
> The more values, interests, features which residents have in common, the more the "community" definition applies, with the opportunities for connections between residents becoming deeper and more emotionally based … we traverse the same roadways, see the same landscape, travel to the same town to shop, we are mostly the same religion, attend the same church for ceremonials, drink in same "locals", support celebrate and participate in same sports, we wear the same 'jersey'! … A community is in the main "our neighbours together". Strong communities emerge from social interaction at every level and amongst all age groups – where volunteering is seen as part of the normal living outside the home. Communities do not exist in the fullest sense if [there is] no volunteering. (CE12)

5.2.2 What is community energy?

Community energy initiatives have generally emerged from people coming together with a common sense of purpose to achieve specific objectives. There are four possible strands to community energy identified: (1) renewable energy production (producing energy from wind, solar, biomass or hydro); (2) energy efficiency (retrofitting/upgrading); (3) energy saving (behaviour change); and (4) creating an energy market for community-owned projects (DECC, 2014).

It is important to note that, while all the groups in our study aspire to create their own energy, only Templederry/CRES is actually doing so. The other groups are involved in retrofitting and upgrading building infrastructures, partly, it would appear, because that is where the support and funding is currently focused. However, when our workshop participants were asked what community energy is, their answers focused more on renewable energy production than on energy efficiency or energy saving.

For them, community energy involves the empowering of residents to collectively change their energy supply, a can-do-will-do attitude with people and groups coming together to get things done, striving to achieve positive outcomes, finding solutions to problems and using a bottom-up approach. It is the power required to keep the community going, and the strength and resilience that a community has to respond and gather around to address the issues that are relevant. It is free energy, a licence to sell, it is owned and wanted by the community, and it is a way of empowering the community to become energy citizens within a geographical area.

> … developed and planned by a community of people that is representative of a broad range of backgrounds. It is not elitist, is community

> owned, [and there is] buy-in from locals. (CE19)
>
> … energy that is generated within the community or bought collectively by the community where any profits go back to further investment in energy efficiency and renewables. (CE10)
>
> For me it is energy created, stored and used locally – owned communally and with benefits, including secondary benefits, going to the community. (CE2)

There is a general belief that involvement in a local energy initiative can increase people's understanding and acceptance of renewable energy *per se* (Walker and Devine-Wright, 2008), and that a degree of community ownership or gain can go a long way towards fostering approval for local renewable installations (Devine-Wright, 2005; Rogers *et al*., 2008; Seyfang *et al*., 2013; Warren and McFadyen, 2010). This thinking was reflected by one of the participants:

> Community energy is locally produced, clean renewable energy that creates benefits for that local community … and this is what stops the resistance towards these projects. (CE16)

However, as acknowledged by another participant:

> The difficulty is that what people say is a community development … some people think is clearly not a community development and will end up benefitting the few people who have the money to invest in the beginning without any real community ownership. (CE10)

As can be seen from the historical list of community energy initiatives (1986–2010), local acceptance of community energy initiatives in Ireland is not a given, especially when it comes to wind power. It is clear that local opposition was one of the main challenges faced by the Killala Community Wind Farm, West Clare Renewable Energy Ltd (Mount Callan), Ballynagran Energy Plus Community project (in relation to their wind turbine plan) and BSB Community Energy projects. Of the groups in our study, Templederry Community Wind Farm received local objections at all stages of the planning process, and the Aran Islands Energy Co-op has been working very hard over the past 4 years to gain the acceptance of the Inis Mór residents for their wind turbine proposal. In 2016, it was agreed (AIEC, 2017) that any potential site must:

- not be on a main tourist route on the island;
- not obstruct the primary view of any resident of Inis Mór*;*
- not be within 500 m of any home;
- not be in an area of visual beauty.

On a small tourist-friendly island of 31 km², with a population of about 840, this certainly limits the options.

5.2.3 Benefits of community energy

According to our study participants, community energy gives residents a feeling of pride in being clean, green and self-sufficient, in using local fuel and energy rather than imported oil, and in raising their Building Energy Ratings (BERs) and lowering the community's carbon footprint. People feel satisfied with the works completed and feel good about providing practical examples of climate action, showing other communities what is possible. It is believed that locally produced energy allows for the security of energy supply. Community energy citizens are empowered by local energy ownership, doing things for themselves and participating in decisions that affect them. There is a feeling of freedom. They are more resilient to weather storms and natural disasters.

> The feeling of taking control of our local world. I think that is a powerful feeling, because I think people, it is very easy to think there are forces out there over which you have no control. And I think there is something very powerful about taking control back. (CE25)

A "clean energy" and "green" image encourages tourism and creates awareness of wider environmental issues. Community energy creates local jobs and encourages local investment. It could help sustain or boost the population locally. Energy is cheaper, it helps to avert fuel poverty, and money spent on local energy remains in the community, contributing to the circular economy.

Retrofitting makes houses comfortable, gives householders a better quality of life and enhances health, particularly for the elderly.

> There is greater use of the community building. Because of things as simple as the LED lights we have had painting classes which we have never had before, even in terms of the cards and things like that, it is costing less and people are commenting that it is warmer. (CE11)
>
> Rather than just a developer coming in and creating a few jobs and leaving a million euro in the community, if we can achieve this community owned, the financial rewards are there. For instance, you own a hydro-plant or something like that and you all have a share of it, you are worried about the discharge of that plant now, because not only do you own it you feel responsible. (CE16)

Threaded through the responses is an acknowledgement of how community energy can contribute to neighbourliness, trust and social cohesion. How this can occur is more obvious when talking about retrofitting and upgrading houses and community buildings. What is not referred to is how cohesion can be negatively affected if some people are not supportive of a community energy installation, such as a wind farm and a solar farm. Implicit in many of the answers is a sense that the benefits of community energy, as seen by group members, will also be appreciated by the wider community.

> [Community energy] gets people talking to each other, allows the peace of mind because they are working with neighbours, less money spent on energy means more can be put back into other amenities, it helps reduce our overall energy demand and educates people about the process of what's involved. (CE23)

For group participants, there are benefits such as meeting and learning from other like-minded people, making new friends and connecting with people you would not otherwise connect with. Involvement gives a sense of place, belonging and being part of the community. There is satisfaction in working together, being part of Meitheal and seeing tangible results locally. There are social benefits, such as improving trust and belief among people and "growing into community". There is a feel-good factor and pride in doing the right thing, acting positively and responsibly, being part of a whole awareness-raising movement, giving back to the community and being a front runner in greenhouse gas reduction. It is better to volunteer and do something positive. It is a commitment.

> I think we were brought up with a sense of civic pride, to do something for your community whatever it happened to be [it] was all about people and there was a very strong sense that people did stuff and they did it for their community. (CE17)
>
> I would be quite involved with this as a spiritual commitment. People don't see that, the way I live my life, people go off and say their prayers and don't realise that what they put in their stoves is part of their spirituality … a commitment. (CE20)
>
> There is no point in just giving up, somebody's got to do something and it is, bit by bit, people talking to each other and then you start, small things like upgrading your homes, and then you think yes that is not miles away from the PV panels and then you take the fear out of listening to someone on the TV who is just beyond your level and you are saying "I don't understand that". (CE23)

There are also the educational benefits of learning more about the problem of climate change, the solutions and available technologies, and being able to test new concepts and pilot equipment in people's homes. One group said how much they had gained from participating in international projects, linking with other countries doing similar things, attending international meetings and contributing as much as they were learning. Another participant mentioned the importance of getting to know agencies and learning how to participate as partners.

However, despite all the benefits mentioned above, there was also a hint of the downside and feelings of frustration:

> If you actually got the community energy you could see some benefits of the work you have put in, you would feel the sense of achievement for slogging away – we have not got there yet. (CE6)

5.2.4 Capacity support available

The capacity support available to the community energy groups in our research was as follows:

- the SEAI BEC scheme;
- the SEAI SEC scheme;
- intermediary agencies.

Capacity support 1 – SEAI Better Energy Community scheme

According to the SEAI website (SEAI, 2018b), the BEC programme "supports new approaches to achieving high quality improvements in energy efficiency within Irish communities. By bringing together groups of buildings under the same retrofit programme, BEC projects facilitate community-wide energy improvements more efficiently and cost effectively than might otherwise be possible". The programme improves the energy efficiency of Ireland's building stock and supports the use of renewable energy by delivering a cost-effective approach, demonstrating sustainable financing mechanisms, creating innovative partnership approaches, stimulating employment and supporting small-scale renewable projects. Partnerships are encouraged and might include "collaborations between public and private sectors, residential and non-residential sectors, commercial and not-for-profit organisations, or financing entities and energy suppliers". Projects that are part of a larger energy efficiency project or that engage with other SEAI programmes are welcome (SEAI, 2018c). Project management is an eligible expense under the programme for the employment of experienced and skilled managers, to co-ordinate, manage and deliver the BEC project. Only external management fees are eligible, and they should not exceed 5% of the total eligible project costs. A project management bonus (3% of eligible project costs) is available for projects that meet the successful delivery requirements (SEAI, 2018b).

All of the groups except Templederry Community Wind Farm/CRES and Claremorris and Western District Energy Co-op have been involved in BEC schemes in their areas. The Energy Communities Tipperary Co-op is the only group to take on the role of lead applicant and manage the BEC scheme from start to finish themselves, working with local contractors and tradespeople. Aran Islands Energy Co-op, Cloughjordan Ecovillage, Terenure Energy Group and Kerry Sustainable Energy Co-op were the local partners for contractors that acted as lead applicants.

All the groups said they find the BEC process challenging, particularly the paperwork requirements, strict deadlines, criteria changes and the lack of multi-annual grant funding. However, there is also an acknowledgement that there have been improvements over the years.

> There is still a lot of pressure involved in it but it is workable more than it used to be. Of course people would argue maybe that rather than giving it on a yearly basis they could come to some sort of two or three-year scheme to be guaranteed funds. The fact you have to repeat the whole thing every year is a bit troublesome and tiring. (CE12)
>
> ... the biggest issue is your application. I mean, to look at the application and the process … and worst thing is SEAI would stand up in front of an audience and admit it is unwieldy. (CE14)
>
> The [BEC] application process is a big barrier … If you were faced with that as a group and that was your first thing, I would be holding up a white flag. (CE11)
>
> The other challenge I think we have faced as a group is the changes to the scheme midway from SEAI. One year [we] stood up, gave a presentation [locally], and then they changed the percentages and you are looking like a right eejit then. (CE11)
>
> It has got a little bit better. I mean the first few years it was torturous … in general, it has definitely improved, but are we saying it is perfect? It is far from perfect. (CE14)

A number of group members expressed the feeling that, while it appears that SEAI is supportive of the role that communities can play in the energy transition and that SEAI staff themselves are under pressure, SEAI has little experience of working in the community, and so it does not understand how it works or the challenges, and it does not take the role of community work seriously enough. This can lead to group members feeling that they are being used rather than appreciated.

> They have no experience of doing it on the ground and trying to run an energy project. Whether it is retrofitting a building or whatever it is. (CE21)
>
> … remember that night at the [SEAI] awards? that kind of brought it home for me, this was my feeling on it. Fine, that was grand- we won the national award … but it was interesting all the others that won that were businesses or companies, they were all taken away to have their picture taken and met individually and interviewed. (CE11)

The following is how one group explained their involvement in the 2017 BEC scheme and their frustrations:

> We promoted the BEC and then got all the expressions of interest … and then we got a contractor … to project manage it and be our lead applicant. We got them on board to help us deliver the project and essentially to be their people on the ground liaising with the community, to help them contact people about getting quotes in, working with local contractors to get involved. Then getting all that information into the big massive spread sheet. Helping them to write the proposal … once that was in, being their port of call on the ground if there were issues … We did a whole video to promote it.
>
> SEAI changed the deadline, they used to open in October and close it in February. Now they open it in November and they close it on the 26th of January. So over Christmas, essentially 2 weeks when you wouldn't do it. It is essentially six weeks, I guess they [building contractor] saw how many expressions of interest we had and they looked at it and said it is too much work we are not interested. (CE15)

Nevertheless, the group is determined to keep going.

> This comes back to that full circle of responsibility to the group now. When they are putting in work like that you feel responsible. How can you walk away from that? (CE16)

Members of the Energy Communities Tipperary Co-op emphasised the importance of using local contractors and providing local jobs. In 2017, €2.8 million was paid to local contractors under the BEC scheme across their 11 communities. Their local contractors are well trained, they get SEAI approval, and they do follow-up calls if anything goes wrong.

> They get paid first right, so they are not waiting. That is a big thing. If you do government work today, you could be waiting months. But equally they are expected – we had an issue with a house done three or four years ago where somebody came up and one of our contractors had to go out four years later to check the issue was not to do with him. Email came into me, I contacted [our project manager] and so a day later he was out on the site. So that is the response. It is no use to us if someone is coming down from the North. When are they going to come? (CE11)

Participants of the BEC scheme in our study proudly highlighted, in particular, the value of having trusted people from the local community on the ground to enlist and support householders through the process.

> What we are doing locally in our own community is looking out for houses that need upgrading, talking to groups locally and getting them interested in the whole concept of upgrading their homes energy wise. We are interested in our own people primarily … We do leaflet drops and we have done house to house calls … community meetings … notices at mass, we use everything, local paper articles, maybe a couple of photographs … The contacts come in in various ways. For instance, I was at a funeral the day before yesterday and I was in the graveyard, there was funeral praying going on and next thing some fella came over along near me and he said to me "aren't you involved in the energy project, I want to talk to you about that" … And I said (I have known him), "give me your mobile number" and when the thing was over the day afterwards I rang him and said "we can have a chat about it" … He has a lot of things to figure out but he will be going ahead on one of the fronts. (CE12)

Local group members are also around to help people.

Energy Communities Tipperary Co-op took part in SEAI's BEC pilot in 2012 and since then has expanded from 1 community to 14, with a vision of spreading throughout the county of Tipperary. Group members feel that they have learnt a lot over the past 6 years, and that their experience and feedback has certainly helped SEAI with the development of their BEC scheme and how it works at a community level. They believe that the way they have learnt to do it should be offered as a blueprint by SEAI and replicated in other areas.

Capacity support 2 – SEAI Sustainable Energy Community scheme

In April 2016, SEAI launched its SEC scheme and the SEC Network. As explained in section 3.2, an SEC is a "community in which everyone works together to develop a sustainable energy system for the benefit of their community. To do so, they aim as far as possible to be energy efficient, to use renewable energy where feasible and to develop decentralised energy supplies. An SEC can include all the different energy users in the community including homes, sports clubs, community centres, churches and businesses." The SEC Network is a "support framework designed to enable a better understanding of how communities use energy and to save energy across all sectors. The Network's core purpose is to catalyse and support a national movement of SECs operating in every part of the country. There are now SECs operational across all regions of Ireland. Being a member of the Network enables SECs to engage and learn from project site visits, seminars, events, and case studies" (SEAI, 2018a).

Those SECs that have joined the SEC Network are now being encouraged to enter into a 3-year Partnership Agreement with SEAI (SEAI, 2018d). There are two stages to the Partnership Agreement:

1. Partnership Foundation – "making a formal commitment to the programme, establishing your SEC's baseline energy use and identifying year one opportunities".
2. Partnership Implementation – "follows a 12-month cycle of planning projects, implementing the work and reviewing progress".

Funding under the SEC Partnership Agreement is split into two stages:

- Stage 1: "The completion of an Energy Master Plan and Register of Opportunities".
- Stage 2: "Utilising a Technical Panel and other financial supports for developing your SEC's core competencies in order to implement your Work Plan".

"Only external labour costs (e.g. consultant costs) are funded under the programme. Internal labour costs i.e. employees, are not an eligible cost" (SEAI, 2018d).

Members of the SEC Network who are intending to enter into a Partnership Agreement are assigned a regional mentor to work with them for a maximum of 4 days to assist in the preparation of their stage-1 application.

The groups in our study had different things to say about their experience within the SEC programme. One group is very appreciative of the help that they are receiving from their two SEC mentors.

> They have been very active and they have been ready to meet us at regular intervals and they said "you need a business plan" so I prepared a business plan. "We want some projections", so we did some projections and in filling in the two requests for quotations from three consultants they helped us. (CE24)
>
> They have been good they have also referred us to other people and they run a community networking event which could be very good in terms of building. (CE25)

Another group is hopeful.

> It is getting better every year but it is very, very slow. (CE9)
>
> There are supports now being put in place to help communities and that is going to be very good … meeting other groups is helping … the SEC is only starting, we were the first signed up member and that is only a year ago so it is very, very new. (CE2)
>
> I would be very optimistic. (CE3)

However, the following responses are not so positive.

> We have had only the few dealings with [SEAI] and it has been very disappointing … We have made a small application for 15,000 – we have everything ready all planned ready to go – last April, and we were told that it is being processed and we are still waiting [Jan 2018]. (CE22)
>
> I see this SEC being a complete drain on us more than lending us anything … getting dragged to all these meetings and most of the people at the meetings have no idea what they are doing and then [our mentor] is saying that we are the most advanced co-op and I am thinking bloody hell if we are the most advanced co-op, God help us all … We are certainly doing a lot, I am not putting us down. But at these SEAI things this is all [about] what SEAI want. So we went to these meetings and we kept saying what we wanted. But after two or three times you kind of say 'I am fed up to my teeth with saying it'. (CE17)
>
> SEAI are trying to channel us down a particular route and whether it is appropriate or not based on the effort people can give to it. It should be more individualised packages. (CE15)

After attending an SEC Network meeting, one participant had this to say:

> I personally don't feel it has helped us, we have met a lot of other people [in the SEC Network] but we all seem to be on very different paths. Some people are concentrating on particular issues. Just to give an example, there was an awful lot of conversation about renewable energy. And now the convergence between people who were supporters of PV and the people who are supporters of wind, they are off like this [gestures with hands] and now they are starting to argue over it. The wind people say wind is 30% efficient and PV is 13% efficient, and PV will give a counter argument and it was weird to watch this going on ... Let us put it to you this way, the bottom line is nobody is doing anything. And then you have people with total pie in the sky schemes. You know the ones you say will never fly. And I think a lot of people are wasting time on things … we could be doing far more practical things which have a proven payback with proven technologies, rather than taking off into left field … The thing is … the growth over the last 18 months, so you have so many brand new groups in there that are feeling their way around. They don't know what they are at. They want to be involved they want to do things. That was very manifest when *** and myself sat down with this group of people. They hadn't a clue where to start. They wanted to, they were all very enthusiastic … there is no question there is an awful lot of enthusiasm and commitment out there, but somebody needs to help these groups. (CE14)

There is frustration that the grants available through the SEC programme can only be used to pay outside consultants and cannot be used by the groups themselves. Moreover, the groups have no way of reclaiming value-added tax (VAT).

> This year we have got 15,000 to do an energy plan, now we won't, that money will come through our accounts to go to a consultant**.** It will come in one door and out the other. (CE2)
>
> SEAI will pay for us to get consultants in to do the work for us but there is no money that we can apply for to pay ourselves to do that work … and I don't know if they actually have money for training for us, is there any money in their pot for training? … We started the process [of doing the Master Plan] and then we decided not to. But now we are actually being forced down that route because the only way to do a BEC is to do the energy masterplan as an SEC, so they have got us … I think because we are [county] wide we can get €20,000 but it won't be for us it will be for consultants. (CE15)
>
> We got an approval for €15,000 but then VAT, we have no way of reclaiming the VAT … we just lose the VAT. Our 15k becomes 12k instead. (CE24)

Capacity support 3 – intermediary agencies

Energy Communities Tipperary Co-op and Templederry Community Wind Farm were very appreciative of the essential support and assistance they received, particularly in the early days, from staff in two intermediary groups: the North Tipperary LEADER Partnership and Tipperary Energy Agency. Kerry Sustainable Energy Co-op mentioned the key support they received from members of Transition Kerry.

> … if we had not had *** in the first couple of years we would have become a cropper, absolutely, there is no way we would be here. (CE10)

5.2.5 Capacity challenges

Capacity building is crucial for the overall success of participatory processes. Individuals and groups have very different starting points in terms of the knowledge and experience that contribute to effective participation (Head, 2007). Different communities will have differing skills and different access to funding and other resources. It is important to understand the structural obstacles that get in the way of low-carbon action – for instance, people in marginalised, deprived areas, even if they have a high level of concern about climate change, are limited in what they can do because of a lack of money and the fact that they do not own their own homes (Catney *et al*., 2014), or because they lack social cohesion, confidence and organisational resources (Catney *et al*., 2013). The question of who participates and who chooses not to also needs to be asked (Cornwall, 2008).

When there is a limited recognition of the uneven capacities and complex nature of "community", then untargeted, generic and reactive policies can result. "We need to understand not just the factors which lead community energy projects to get off the ground but also, and perhaps more fundamentally, why they do not – if the focus is only about the 'exemplars', and the success stories, it will be difficult to develop fair policies which allow for equal access to local RE [renewable energy] schemes" (Catney *et al*., 2014, p. 726).

The following capacity challenges were identified by our workshop participants:

- the institutional barriers to creating community renewable energy;
- the level of voluntary input and personal time required;
- managing group dynamics and conflict;
- the lack of experienced, supportive intermediary agencies across the country;
- difficulties in engaging members of the public.

Capacity challenge 1 – institutional barriers to creating community renewable energy

Some of the frustration expressed by participants is caused by the fact that so few of the groups have been able to move down the road of creating their own renewable energy. And for those that have, it has been a slow and arduous process. It took the Templederry Community Wind Farm group 10 years to begin generating electricity from their two wind generators. Cloughjordan Ecovillage is creating energy through its biomass direct heating system, but it has a large solar thermal array that has never worked and which they are having difficulties bringing back into production. The other four groups are very keen to move down the road of producing either wind, solar, hydro or biomass power. But they know that the barriers are many, not least of all the financial risk that has to be taken.

> There is no point in encouraging community groups to get involved if there are huge expenses they have to incur if they are to achieve anything … We can't afford to take a risk with 50 or 100 thousand euros when there is no guarantee of making that money back. (CE2)

As already outlined, local opposition can also be a disabling factor, as is currently being experienced by the Aran Islands Energy Co-op. However, the most pressing barriers mentioned by the groups are government regulation and the apparent lack of government leadership on community energy. The chances of community energy practitioners creating their own renewable energy are severely hampered by the amount of financial investment required, planning complexities, difficulties accessing the grid (which they say would be solved if groups were offered a dedicated access route) and the lack of a feed-in tariff. It has to be strongly noted that these barriers are the same as those pinpointed by the various policy

reports and experienced by previous community energy groups since the year 1989, as outlined in Chapter 3. Despite the fact that there appears to be some progress, as exemplified by the 2015 White Paper on energy and the report *Assessment of Models to Support Community Ownership of Renewable Energy in Ireland* prepared for SEAI in 2017 (Morris *et al*., 2017), the very slow policy response is causing cynicism and a lack of trust that promises will actually be delivered on.

> … the way the government seem to want to do it is that they want big business to do it and the way they think they can get big projects through is some community ownership, is 20% or whatever, they are not helping any people who actually want to do it themselves. (CE15)
>
> … they have removed the incentive for micro-generation. If you are generating electricity and you have surplus electricity … there is no feed-in tariff. The fact that wind generators, 1–2kW have definitely come down in price to the point where they are affordable but if you are not able to use the power then it is wasted, it is wasted. I can't understand why they have pulled the plug on that one. (CE14)
>
> If each community owned its own generation and supply, then it changes the whole aspect of our balance of payments. If we import 6 billion of oil and gas each year. If you can work from the bottom up and eradicate the biggest part of that it is a huge thing. Ireland has the potential to be an exporter of green electricity. It has just gotten such bad press and been handled so badly. I don't think any government minister should make any public appearance without saying we are in favour of renewable energy. I think that mind-set has to start from the top down. In many cases it is there from the bottom up. Many groups working away as best they can. If you had a Taoiseach who said "of course we are in favour", keep getting that mind-set across. You take the fear out of it for planners and local counsellors. (CE22)

Capacity challenge 2 – the level of voluntary input and personal time required

The United Nations proposed to run an International Year of Volunteers in 2001 (UNV, 1997), because it was felt that the need for the spirit that mobilises volunteers had never been greater.

In advance of the International Year of Volunteers, the Irish Government produced a *White Paper on a Framework for Supporting Voluntary Activity and for Developing the Relationship between the State and the Community and Voluntary Sector* (Government of Ireland, 2000). In the foreword, Taoiseach Bertie Ahern, Teachta Dála (TD), stated that "voluntary activity forms the very core of all vibrant and inclusive societies". Active citizenship was explained as "the active role of people, communities and voluntary organisations in decision-making which directly affects them. This extends the concept of formal citizenship and democratic society from one of basic civil, political and social and economic rights to one of direct democratic participation and responsibility". The government's vision for the community and voluntary sector is described as being one where citizens and communities are encouraged to look after their own needs, often in partnership with government agencies, but without expecting the state to meet all its needs (Gaynor, 2011). It could be concluded that such active citizenship covers for infrastructural deficits and poor state services, and "substitutes self-help for redistribution, self-reliance for state accountability" (Gaynor, 2011, p. 27).

Implicit in the concept of volunteering and active citizenship is the availability of people's free time.

Fast forward to 2018 and SEAI's SEC programme brochure *Change the Way Your Community Thinks About Energy* stated that "the Partnership Approach at the core of the Sustainable Energy Communities Programme is a two-way exchange between the SEC and SEAI". The SEC provides "local knowledge, time and people". SEAI provides a "technical panel, funding & mentoring" and "skills development". However, a very clear message from all the groups in our study is that they do not have enough time to fulfil the tasks required of them. When asked to list the challenges they face, time constraints and the limits to volunteering were stressed repeatedly.

To give the necessary time. (CE2)

Time involvement. (CE13)

As a volunteer the process is time consuming. (CE14)

Very time consuming – there is a limit to volunteering. (CE12)

Not having enough time to inform the committee what's going on. (CE15)

Time constraints, substituting time with the family for time with the co-op. (CE16)

Not enough time to do anything you want to do. (CE15)

We are volunteers – and its time consuming. (CE25)

Organising meetings and bringing people together, that takes a lot of time and energy. (CE10)

Filling in complicated forms – very time consuming. (CE25)

Time – work versus volunteering. (CE23)

We are spending now more time on red tape. (CE14)

Capacity challenge 3 – managing group dynamics and conflict

Volunteers in grassroots initiatives can face challenges that include hostility from local people, difficulties securing funding and burnout, "as the strain of volunteering with limited support takes its toll" (Middlemiss and Parrish, 2010).

An aspect of voluntary group activity that is often hidden is the time, effort and skill required to manage internal group dynamics, to keep people involved and enthused, and to prevent any internal conflict from having a destructive effect. This is particularly difficult to manage if group members feel frustrated and stymied by outside challenges and barriers that prevent action on the ground. Burnout, friction and resignations can result. This challenge was reflected by a number of our participants.

The challenges are to get commitment, to be committed as a group, to give the necessary time, the energy necessary for all of us to pull together. All those things are big challenges. To get along with each other. To resolve disagreements so we don't fall apart … finding the right people to be on the committee. (CE2)

And for new members, at our AGM we encourage people, if they want, to step into the committee. (CE18)

And that has led to issues with them parachuting into the group and causing some kind of upset, or that they don't turn up … it is something we have learned as we are going along. (CE16)

Commitment isn't always there. (CE18)

We have had enough of that … We found as a group what works and you try to keep with what works and we are hoping to build something over a couple of years. (CE17)

But when a group works well together there is a great sense of solidarity.

I don't want to let these other people down because they are so good and they are giving so much. Again it becomes a rolling responsibility … there are so many other good people trying to do their bit. One you are insignificant, but as part of a group … (CE16)

Meitheal. (CE20)

The Meitheal – that is the feel good factor, but again yes, I feel responsible to these guys to keep up the work. (CE16)

Capacity challenge 4 – the lack of experienced, supportive intermediary agencies across the country

Representatives from three of the community energy groups explained the valued support and assistance that they received from skilled people within intermediary organisations, particularly in the early stages of their group development. They also maintained that they were very lucky to have these organisations in their locality and recognised that

other community energy groups were not so fortunate. They acknowledged that the number of experienced and supportive intermediaries across the country was extremely limited.

Research conducted in the UK has illustrated in practice the importance of intermediary organisations in supporting community energy projects (Hargreaves *et al*., 2013). This is in keeping with the call for more intermediary support in the Irish context (NESC, 2014).

While the policy message is one of support, the role of the intermediaries must move beyond the successful work of SEAI as a catalyst to solidify developments at the grassroots level and enable scale-up and diffusion. The need for a diversified network of middle actors providing functions along different capacity classifications is a core development in the success potential of a niche development. The range of support required is vast.

> financial expertise, skillsets and a training program … to help us with financial and technical planning. (CE9)

Within this context, a singular state-led approach will prove difficult to deliver, meaning the support at policy level for the development of intermediary expertise could prove useful.

Capacity challenge 5 – engaging the public

Involving people in climate action is difficult, and many are hopeful that community energy will engage people more easily. However, this is certainly not a given. Research exploring one rural community's response to a proposed sustainable energy project in the UK found widespread support for local generation and use of renewable energy, with respondents expecting social and environmental benefits. However, desire for active involvement was lower, and residents saw themselves as "consultees", rather than project leaders. It was concluded that renewable energy projects are unlikely to become widespread without greater institutional support (Rogers *et al*., 2008). In further qualitative research on the social impacts of a community wood-fuel project as experienced by participants and local stakeholders, there was some evidence of increased engagement with sustainability issues among direct participants but not the wider public. This suggests that local projects "need to be supported by wider systemic change to maximise impacts" (Rogers *et al*., 2012).

Group members in our research voiced how they are also having difficulties engaging and involving members of the public in what they are doing.

> The uptake from the individual communities is sometimes disappointing considering the commitment of the directors. Knocking on the doors and you don't get a lot back in return for it. (CE14)
>
> [There is a] lack of awareness amongst the public around community energy … after the first couple of years [there is] a drop off from the local volunteers, once they have had their houses done, and then we have a tiny group to build support. (CE13)

And why are more people not getting involved?

> Distractions, life is full of options and distractions, I think. (CE18)
>
> The big one is television. Television came into this country in 1963 and it changed everything. (CE17)
>
> And now it is not TV, it is the smartphones. (CE19)
>
> Maybe people feel they are doing something by forwarding on a tweet or replying to an email. You know there are campaigns. Community campaigns online and they can sit at home and retweet and donate money … that is why they are not here … I have done my bit I have got my endorphin. (CE15)
>
> For any of us to change our habits around plastic it requires enormous moment to moment consciousness to not, you go in and you buy something and do you buy it in a carton or do you go to a shop where you can pick up your oranges and stuff? But then I was looking at this last week, it was cheaper to buy it in the net than buy it loose. You start to weigh up whether the plastic bag, which is light, is less bad for the environment than these nets. And it gets wearisome … and there are times when you want to go put on the television, give me a bottle of wine and … (CE19)

5.2.6 Capacity support required

The capacity support required by the participants in our study is as follows:

- the removal of barriers to the creation of community renewable energy and the provision of appropriate support;
- the availability of assistance from skilled people and intermediaries;
- access to core funding for administration and employment.

Capacity support 1 – removal of barriers and provision of appropriate support

The community energy groups in our study say that they cannot create community energy until they have dedicated access to the grid, assistance with funding, a feed-in tariff and an easing of planning restrictions. The spokesperson for Templederry Community Wind Farm quite clearly states in public forums that, until these barriers are addressed, they would not recommend that new groups even try to replicate what their group has achieved. The government needs to remove the barriers and introduce the appropriate support.

A number of references were made by workshop participants to the enviable services available in Scotland, especially through Community Energy Scotland (CES, 2018), a non-profit, membership-based organisation that provides independent and ongoing advice and support for all aspects of community energy project development and brings communities and policymakers together to address problems or difficulties. Scottish groups are also assisted by Local Energy Scotland (LES, 2018), a government-funded consortium made up of five agencies, including the Energy Saving Trust and the Energy Agency, that provides advice and support, and manages and administers the Scottish Government's Community and Renewable Energy Scheme (CARES), offering grants and loans to community energy groups.

There is clear support among the community energy sector for the setting up of similar organisations in Ireland and, in particular, for the provision of a "one-stop shop" to which groups could go for help, whether this is within an existing agency or a separate body.

> I think SEAI should have a dedicated department, they are a very broad umbrella group, they have so many parts it's very hard to know exactly … but I think there should be a dedicated department to encourage local community groups, community based organisations to generate and show them the planning, legal, and other hurdles. (CE9)

Capacity support 2 – assistance from skilled people in intermediary agencies

When asked about their achievements, two groups were very clear that the fact that they were still operational was an accomplishment. They attributed their survival to the help provided by people outside the group in intermediary agencies, with relevant experience, skills and time. However, concern was expressed that the intermediary groups that did exist were not getting the financial and policy support they needed to continue their good work.

> Who was a big help to us along the way was the agencies and *** who … worked with LEADER as the development officer and he helped us in facilitation sessions early on … He was paid by LEADER and energy became part of his job, LEADER accepted that energy was a developmental issue within the community and they said ok we are paying you to work and if you work on energy that is fine because that is aligned with our thinking …*** would go into new communities and call some sort of a meeting and try and pull a number of people together and then he would ask for presenters from our community to go out with him some night and have a chat with a new community about what we did and to tell him about our experiences and what is there to be gained as far as we are concerned. To say, "you might consider something like that?" That is the best selling process …*** is a brilliant guy on the job. To go into a new community to settle people down and get them talking about what their needs are without any hassle. A good communicator on the ground. Then he would try to put a step process in place … I am

> talking about a huge effort because *** used to come out to our community at 8 o'clock and it could be half ten when he is going home. It is very hard to get someone from the council to show that level of commitment. You can't ask them to do it because it is way beyond their remit … The support we get from the agencies has been essential to grow and you need the agencies to be supported money wise, financial wise and staff wise. Need that. That is not there at the moment it has got worse. It has got worse. (CE12)

> So they nurtured us and you know, they continue to do so … keeping us together, getting cohesion, organising meetings, the room, so we could actually sit down and discuss stuff instead of all that. She is a great facilitator she broke things down for us. Years of experience with these guys. (CE16)

If they were advising another group on how to replicate and expand the number of local communities involved in their BEC scheme and their co-operative, Energy Communities Tipperary Co-op members were clear that the role of project manager was crucial.

> Clone ***. (CE13)
>
> That is exactly what we have said to them many, many times. You have to find a competent person. (CE14)
>
> But a project manager, who is also I would say has some sort of construction, BER background who understands the technology, a technician something like that. (CE11)

This was echoed by people in two of the other groups.

> … basically, the woman who does the Energy Tipperary Communities, ***, she is the lynchpin of the thing. (CE10)
>
> We want to have a ***. And we want to get to that position where we have a *** who is doing the stuff … we as a group went down to visit with her at the end of December, just before Christmas, they were very kind, they got in a bunch of people from the various groups so we said that is where we need to be. (CE24)

A number of our workshop participants suggested that local people could be trained up with BER qualifications to provide objective energy audits, follow-up support and energy coaching for householders on behalf of the community energy groups.

> One night me and *** went out to see how people were getting on having done the job. To see were they happy with all aspects of it. We went in to one house and this lady and the place was real warm and we had a good chat and she said the place was lovely real comfortable. *** looked at me and said "it is awful warm". I'd say it must have been 25 or 26 degrees. I said to her "you have it turned up too high you are spending a lot of money". And she said "ah sure my son in Dublin he pays the bill" … she was not concerned with energy, she was concerned with being comfortable. That is an example now. We ended up by making some adjustments on the house. We said "why don't you change it up and down?" She said that she was told to leave it fixed. You need someone to call to someone like that fairly regularly and update her on it … I think it is a job and it is not being done. (CE12)

Capacity support 3 – core funding

One of the stereotypes applied to voluntary organisations is that they are "flexible, idealistic, rambling groups of enthusiasts who carry out good works on a wing and a prayer" (O'Donovan and Varley, 1992, p. 20). But even the best-resourced communities require support if they are to mobilise local resources towards sustainable ends (Robbins and Rowe, 2002). There is general agreement that community energy groups can have tangible benefits if given the appropriate support (Hargreaves *et al*., 2013, Seyfang and Haxeltine, 2012, Seyfang *et al*., 2013), and that their efforts need to be supported by wider policy and infrastructural changes, aimed at addressing the structural and social barriers, which cannot be overcome by a group's eagerness to "make a difference" (Hielscher, 2013, p. 18).

Agencies and local authorities should be more proactive in supporting the development of local

energy infrastructure. Community energy must feature across policy agendas, and a co-ordinated support programme that recognises the importance of building local community-led partnerships is central to opening up energy production and supply. (Catney *et al*., 2014). National policy must adopt an enabling role that allows and empowers communities to act freely as "producers, owners and partners in energy ventures … to broker local communities into national energy market reform" (Julian and Dobson, 2012, p. 5).

This call for core funding for community-based activities is nothing new. The argument around proper funding of the community development sector in Ireland has been ongoing since the 1980s, when it was accepted that community development groups, especially those in areas of extreme poverty and social exclusion, should receive a reasonable amount of core funding. In the absence of such resourcing, it was felt that the goal of broad community participation would be difficult, if not impossible, to achieve. State funding bodies, such as the Combat Poverty Agency (CPA) and the Community Development Programme (CDP), were established. In 1989, the CPA claimed that secure funding was one of the key criteria for an adequate and comprehensive state policy for community development (O'Donovan and Varley, 1992).

In 2009, the CPA was abolished, and in 2015 the CDP was replaced by the more commercialised Social Inclusion Community Activation Programme (SICAP), which, while having a limited scope for funding community activity in disadvantaged areas, is more focused on the delivery of services with numerical targets. "The consensus that the state should fund community development appears to have broken down" (Harvey, 2015a, p. 31). There appears to be a line of thinking that "if voluntary and community organisations wished to contribute to participation, policy and practice, they were welcome to do so, but entirely at their own expense" (Harvey, 2015a, p. 31).

Similarly, but to a much greater degree, the environmental sector in Ireland has always been struggling for money. A recent study carried out for the Irish Environmental Network (IEN) (Harvey, 2015b) has shown that, between 2011 and 2015, funding for Irish environmental NGOs fell from €8.2 million to €5.5 million, down by 32.3%. The Irish environmental sector is very small compared with its equivalent in Europe. Overall, Irish Government funding, comprising grants and contracted work, was €3.1 million in 2015 and has not increased since. In 2011, government funding for core operations, provided annually through the IEN, totalled €420,000, and by 2015 it had decreased slightly to €415,000. This amount was spread between IEN's 31 members, leaving an average of about €11,000 per group. These figures are "remarkably low" compared with Northern Ireland and the UK. In addition, in Ireland, neither lottery funding nor philanthropic bodies, apart from the National Toll Roads Foundation are interested in supporting environmental groups.

Environmental groups are advised to apply to the Local Agenda 21 Environmental Partnership Fund, which promotes sustainable development by assisting small-scale environmental projects at local level. The projects involve partnership arrangements between local authorities and various local groups, including community groups, schools and environmental NGOs, but grant amounts are very low. "The value of the scheme is enhanced by the voluntary effort that it facilitates" (DCCAE, 2018). Just over €450,000 was provided in 2017 to 834 projects around the country. The lowest grant was €60, the highest was €3500, and most were under €500.

It can be concluded that there is little scope for funding community energy groups from either the community development sector or the environmental sector. Some think that the LEADER programme is a probable source of funding. However, the programme for 2014–2020 focuses on social inclusion, poverty reduction and economic development in rural areas, and so resources are targeted at economic development, enterprise development and job creation; social inclusion; and the rural environment. Renewable energy is a subsection of the last category, but in 2017 €30,000 was available in this section for the South East Cork area, from Midleton to Skibbereen.

As outlined in section 5.2.4, SEAI provides a limited mentoring service to SEC groups, and funding is available for the development of a Community Energy Master Plan. However, its guidelines state that "only external labour costs (e.g. consultant costs) are funded under the programme. Internal labour costs i.e. employees are not an eligible cost" (SEAI, 2018d). Applicants are also told that "it is essential that the SEC is fully involved in the Energy Master

Plan process. Applications for funding to outsource the entirety of the Energy Master Plan will not be successful" (SEAI, 2018d), which means that core funding is not available but voluntary input is essential.

While a lack of core funding is a big problem, it is not necessarily a panacea for small voluntary organisations. There have been heated debates about the change that occurred as community development moved from being a largely voluntary activity in the 1980s to providing widespread well-paid employment in the 1990s. On the one hand, there is concern that the process has caused de-radicalisation, a co-option of voices that would have challenged the status quo, the de-politicising and neutering of paid "qualified" workers at the expense of voluntary activists, and the relegation of volunteers to more subservient roles because of a lack of skills. On the other hand, it is recognised that professionalisation has been central to the development of identity and status, which allows a group to be seen as a "partner" and gives it a greater say in decision-making (Powell and Geoghegan, 2004).

Funding gives rise to concerns about governmentality (Foucault, 2007), whereby civil society groups are shaped to fit the needs of the governing body. To be good partners, "voluntary bodies or user groups must be able to demonstrate measurable outcomes from their work, they must have performance indicators, a vision, a mission statement, a business plan and so on" (Ling, 2000, p. 89). There is a need for a careful design of funding and reporting schemes that can achieve an appropriate balance between the need for accountability for responsible use of the public purse and allowing flexibility and innovation in the manner in which those in receipt implement the agreed outcomes.

Taking on paid workers also requires good governance. The transition from being a self-help group to one with paid staff can create tensions between the volunteers and employees, and working relationships between volunteers and paid "professionals" can become strained. Poor pay and conditions, a lack of job security and career development opportunities, and the absence of career structures can all lead to staff turnover (O'Donovan and Varley, 1992).

Nevertheless, small voluntary groups find it very hard to survive and develop their work in the absence of any funding at all. Lack of money for administration, expenses and running costs was a challenge common to all eight groups in our study. However, there were differing views as to whether any potential funding should include the payment of staff or just cover administrative, travel and other "out of pocket" expenses. There is a recognition that employing someone brings new responsibilities for small groups and subsequent activities may be determined by the requirements of the funding body. However, a number of participants proposed the idea that a suitably skilled person could be employed on a full-time basis by another agency in the area and that that person could then assist them in their work. While some of the groups were thankful for the help they were receiving from the SEC mentors, this was not seen as being nearly enough, and they found it very difficult when money for consultants moved in and out of their bank accounts and nothing was available to cover their own costs.

There was a consensus that funding needed to be guaranteed over a specific time for financial security and to allow for forward planning.

> The thing is, last year I spent probably 50% of my time on this volunteerism and my business started to go south … So the point is it is volunteer work but it has to be done professionally, so the difficult thing is that transition to professional … Because once you start paying people … it is not an easy transition. (CE25)
>
> Money has to be made available for basic project management because organising meetings and bringing people together, that takes a lot of time and energy. (CE10)
>
> What community groups like us need is a regular guaranteed income, a very small amount, to cover the administrative costs to run a regulatory body where you need to have accounts audited every year and you might have to pay other basic costs like … to go to a conference in Galway or Athlone of wherever. You need to have 1000 euros guaranteed to you to cover all those costs from somewhere and if community groups are around long enough they can end up doing some project that can bring in that income, they need to be able to get to that point … For the development cooperative here they get funding every year from Údarás

Na Gaeltachta so that covers their costs, including employing staff here. So they don't have that problem. (CE2)

You are into a whole other discussion there once you no longer have a voluntary committee … it is a bit like the GAA wondering whether they should pay their players. It changes the dynamic. You look at Galway County Council – who has the real power? The employed staff like the manager or the elected counsellor? – you know, and in our community development cooperative here it is the same. Who has the real power the elected representative or the staff? (CE2)

The big difference when you are a volunteer co-op, you don't have anyone paid to do a, b or c. That poses huge challenges and then, in other groups I have been in, there is usually someone managing a lot of the day to day stuff and then the Board or management committee or whatever, we come in and make decisions around all of that but there is somebody there five days a week doing something, doing all that. (CE17)

But then the idea of setting up the co-op originally for me was because I worked for community groups before and they are always stifled by way of funding and they can't implement this, but with the co-op we can generate money so you are not always waiting for the next hand out, you are self-fulfilling … We are allowed to generate money for projects or for paid workers, so we can get away from this hand out. (CE16)

… getting tied into funding and then it sorts of snarls you up so that you are hemmed in by having to tick boxes and do things in particular ways … again it is how much can people give voluntarily? If you do get some money from the LEADERs or the [Environmental Protection Agency] or whatever there is an expectation of reports and admin to be done. But I think there is a great clú [i.e. honour and favourable reputation] in putting our shoulders to the wheel and really working together without some agency requiring you to really be doing it to tick their box. (CE19)

I think that is always the way with grant funding. A lot of people think … there are two different ways to go about it. "I need money, here is this grant call. Okay I will think of a project that will fit that call", or you might have a project you want but the grant call isn't quite a fit, so you are trying to put a square into a round peg. You do have to do things a certain way because at the end of the day they will say "we gave you all this money you said you were going to do x so you have to at least do most of x". (CE15)

Every time we talk to them [SEAI] … "guys we are volunteers but we can't keep doing this, you can't keep throwing stuff on top of us to do more and more admin and then not fund somebody in some shape or form" – we are not looking for someone at €100,000 a year. If there was somebody coordinating within [the county], my vision of it is very straightforward. Every county has a co-op umbrella and then one co-ordinator inside there at the very minimum. Paid to manage things within that county. That could be the same for Clare, for Galway and so on. (CE17)

I suppose if [the worker] was employed by ourselves we would have more direct influence in what he is doing. But I wouldn't see a big difference if you had the right person in the job it would not matter too much who is paying them. You first of all decide what the job is and if he is somebody who likes that sort of work and has the skills to do it he will become interested. It doesn't matter who is paying him at the end of the day. (CE12)

There is also this sense that we have to find a way whereby we are not every year chasing after funding, even €5,000 for an administrator. I understand if it is a new project and you have to put the leg work in. But there is a basic housekeeping that I think there should be somewhere where we know for the next three or even five years we don't have to go chasing somebody. (CE18)

A pick and mix funding option … even [for] paper, or a banner, or our own stand so we can promote ourselves to people – that is where all the money goes. (CE15)

There needs to be a recognition and value for the "soft stuff".

> Even when we were developing the eco-village concept, we went and we identified the key influencers in the village, the local politician and we had community consultation, we did monthly newsletters, we delivered them to every house, "this is where we are at, this is what we are doing" … it is the soft stuff that is not seen but has to be done. (CE21)

5.3 Role of Intermediary Agencies and Networks

Intermediaries and agencies have been seen to play a key role in the establishment and development of energy initiatives in the Irish context, as initially outlined by the NESC report *Wind Energy in Ireland* (NESC, 2014). Groups cannot function independently of outside support, be it technical, financial, legal, etc. SEAI has been influential in stimulating the emergence of energy initiatives, with over 130 community energy groups signed up to the scheme as of April 2018. While the agency support provided by SEAI is essential in initiating community projects, there is a wider net of intermediary assistance that must be acknowledged.

Building upon the empirical evidence outlined above, further investigation of intermediaries and agencies has been undertaken in relation to the community energy initiatives selected. The earlier part of this section has highlighted the need for and benefit of intermediaries and agencies in supporting community energy initiatives. Here, the intermediary infrastructure evident in Ireland will be developed into an analytical framework. By mapping different intermediary and agency support and the capacity of these diverse organisations (5.3.1 and 5.3.2), a better understanding of the support infrastructure provided to community energy groups can be achieved. Subsequent to this, the Tidy Towns competition was selected as a potential intermediary organisation for further investigation (5.3.3).

5.3.1 Stakeholder mapping

The development of a new analytical framework built upon middle actors has been established by Parag and Janda (2014) (Figure 4.2) to represent actors often ignored within the system and help interpret their potential effectiveness in advancing the transition to a low-carbon society. A framework that indicates the influence of middle actors and intermediaries helps to avoid them being viewed solely as "go-betweens" of top-down and bottom-up engagement, one step removed from the process.

A network diagram of nine of the more successful community energy initiatives in the Irish context has been developed (Figure 5.1), which clearly demonstrates the diversity of support linked to the community energy initiatives, as well as the interrelationships between the groups and the supporting organisations. The central role that SEAI has played to date is clearly illustrated by the fact that it is linked to eight of the nine groups. While the importance of SEAI is evident, this map also shows the diverse range of other intermediary and agency support used, at different levels of engagement, by the community energy groups in order to establish themselves and scale up.

5.3.2 Intermediary mapping

The second mapping exercise (Figure 5.2) focuses specifically on intermediaries and agencies (semi-state bodies), while non-intermediary groups have been faded from the map. By matching intermediaries with classifications found within the literature (knowledge intensive business services, RTOs and semi-state organisations) the majority of intermediaries/agencies were classified. The remaining intermediaries' description appeared as a more specific type that was previously missing from academic discussions on intermediation. This led to the suggestion of LEO as a descriptor for these groups. The primary focus of these groups is removed from the provision of support with relation to energy; however, they are embedded in the local context with the potential to support community energy initiatives. The selection of which groups provided an intermediary function and which were faded from this map was undertaken through analysis of the nine exploratory interviews, desk research into the functions of organisations and their relationships to the community energy initiatives, and fact checking with the participants of the nine exploratory interviews. While subjective claims could be made that any organisation or individual could provide an intermediary role, particularly in light of the ambiguities within the literature referenced previously,

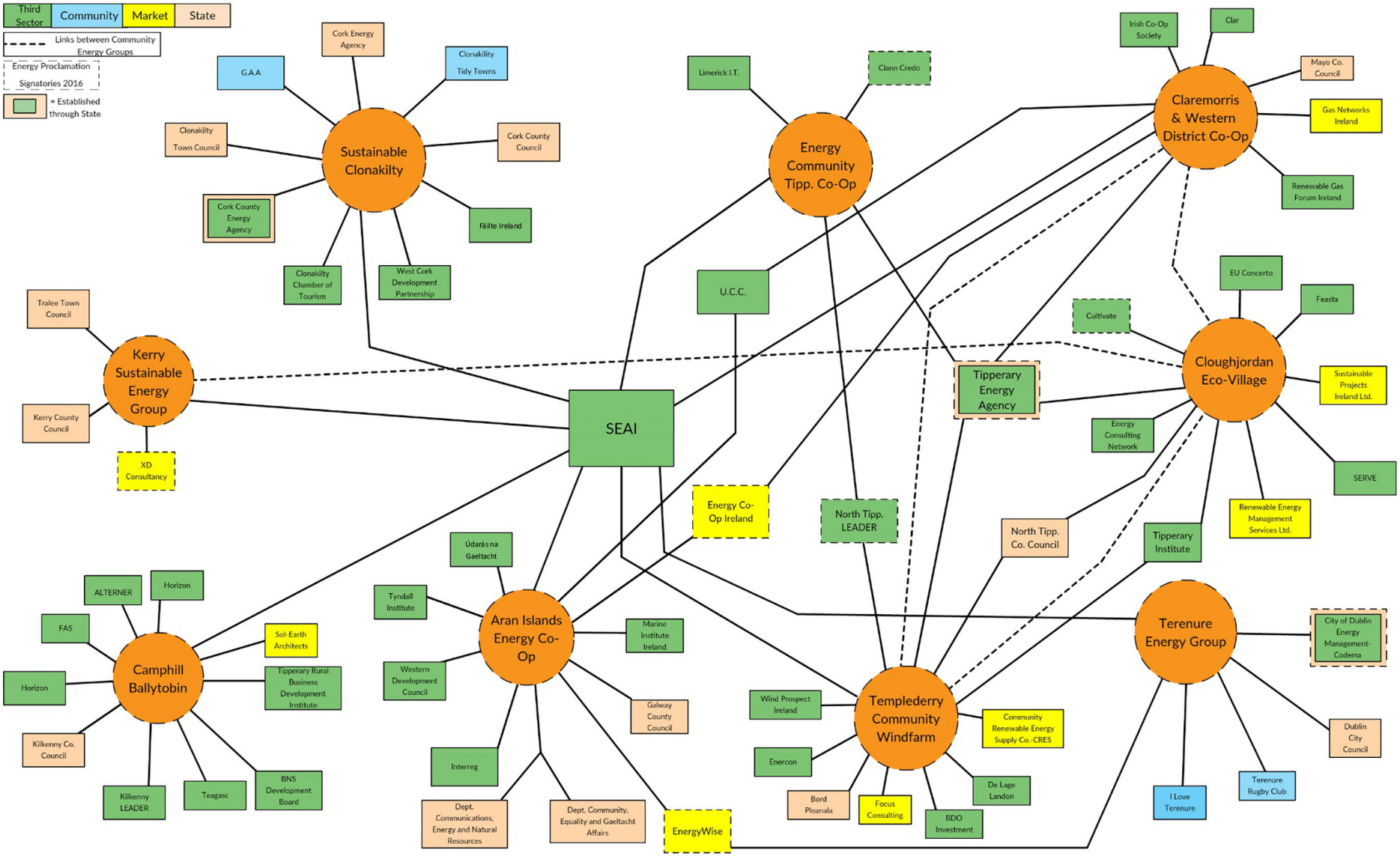

Figure 5.1. Support network for nine community energy initiatives.

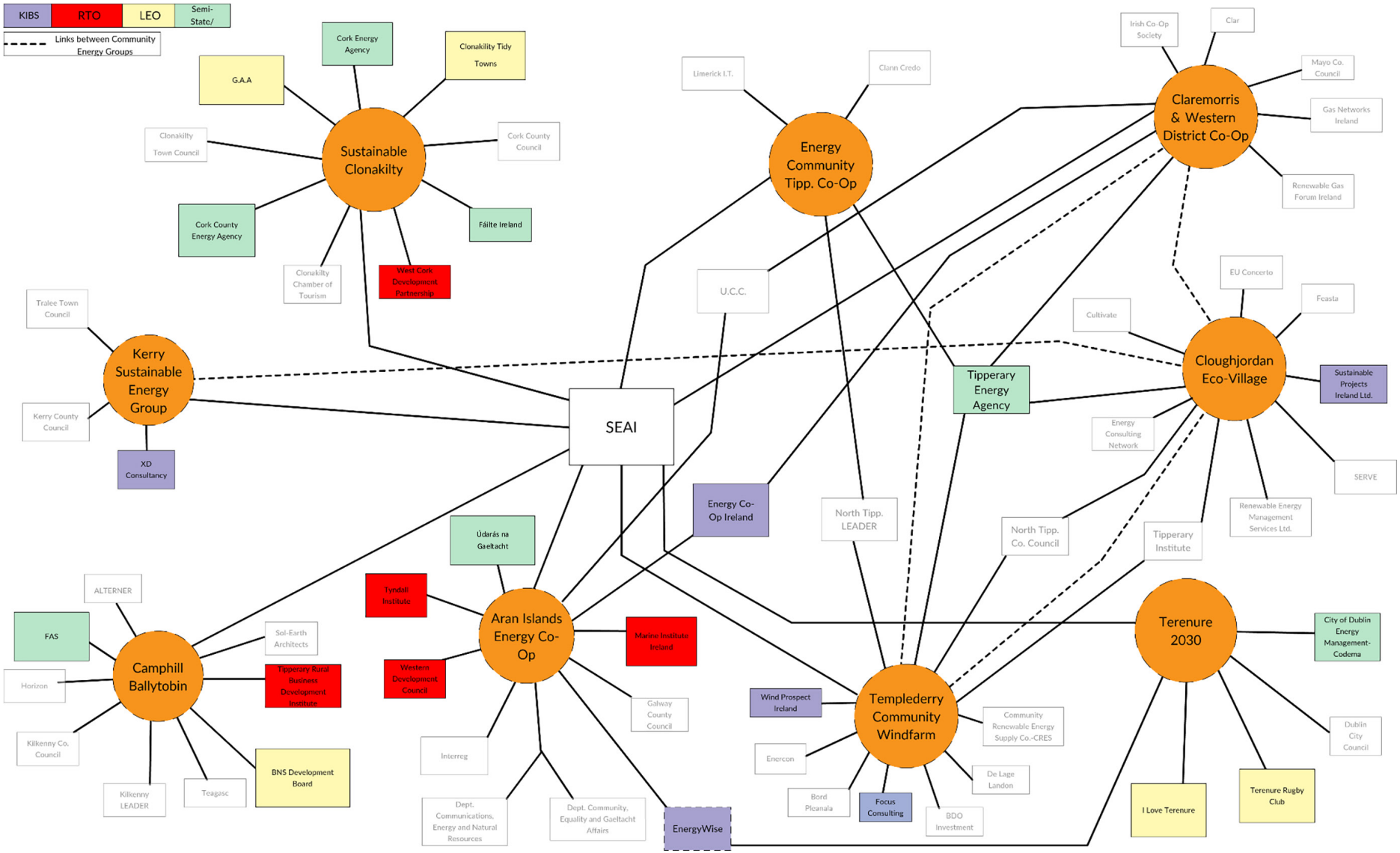

Figure 5.2. Intermediary/agency network for nine community energy initiatives.

this research project took a stance on interpreting who is/is not acting in an intermediary role in order to gather insight on intermediation and its functionality in relation to community energy initiatives.

Of the total 23 intermediaries highlighted in Figure 5.2, a relatively even distribution between the four classifications outlined is evident. Knowledge-intensive business services account for 26%, RTOs for 22%, LEOs for 22% and semi-state organisations for 30%. SEAI, as a public body, appears as the most influential group, although it is not an intermediary as it is a state body. It has not been faded from the graph because of its centrality. The Tipperary Energy Agency is the most active intermediary group, with links to four of the community energy initiatives under investigation. Four relationships are evident between groups, with Cloughjordan Ecovillage, as noted, being the most active in this regard with relationships to three other community energy initiatives, highlighting the potential of developed projects to act as intermediaries with regard to knowledge exchange and capacity building.

5.3.3 Tidy Towns as a community-based intermediary

As an embedded (i.e. a group that is already grounded in a local context) organisation with a primary function that is not related directly to energy, Tidy Towns – with its 870 local committees spread throughout Ireland – offers a useful insight into the potential role of community-based intermediaries. The Tidy Towns organisation has been studied here as a potential intermediary for community energy, although it is not currently directly related to the energy transition. By running on a competition basis, Tidy Towns already has community buy-in across the country that could be utilised, with regard to community energy, to a greater extent than it currently is. Currently, by including a scoring criterion within the structure of the competition related to resource management, Tidy Towns is encouraging all the communities within the competition to think about their resource needs, including energy, and their consumption patterns. This could be further developed into a more clearly defined category over time. Other national community-based organisations, such as the GAA, the Irish Countrywomen's Association, the Irish Farmers' Association and the Scouts, could also become potential intermediaries by engaging their local groups in the energy transition. The aim of this part of the project research was to explore the value of embedded intermediaries, taking Tidy Towns as the sample organisation.

5.3.4 A brief history of Tidy Towns

An economic development report, published by the Secretary to the Minister for Finance, T.J. Whittaker, in 1958, set out plans for facilitating economic growth within Ireland (Whitaker, 1986). In this context of aiming for economic upturn and rejuvenating rural Ireland, in April 1958 the first Tidy Towns competition was announced by Bord Failte (tourism board) as a new manifestation of the An Tóstal festival, which had been running since 1952. In its first year, the competition gained 52 entrants; by the second year, this had increased threefold, with every county represented by one or more entrant and 305,613 people involved in the competition with different centres across the country.

The competition has continued to grow throughout the decades, with 870 entrants recorded nationally in 2017. The strong network of Tidy Towns committees across the country is aligned with the notion of Ireland as a country that mobilises best at the community level (L'Estrange, 2007). In its contemporary form, the Tidy Towns competition has been split into a number of categories with a tiered scoring system for weight of importance. The "sustainable waste and resource management" section was established in 2013, as a new form of the "waste minimisation" category. The topic of energy is included within the outline provided to participants, including the undertaking of measures to "promote efficient use of resources (e.g. water, energy, transport) within your community". A number of special awards have been added to the competition over the years, with the inclusion, in 2017, of the Our Community Climate Action Award, sponsored by the Department of Communications, Climate Action and Environment. This award looks to promote actions at the community level that seek to deal with the challenges posed by climate change and reduce greenhouse gas emissions.

5.3.5 Cross-category analysis of Tidy Towns 2017

An analysis has been carried out on all 870 entrants of the 2017 Tidy Towns competition to investigate the scoring levels within the different categories. In each category, the average score has been ranked as a

percentage, as some categories are weighted higher than others. “Community involvement and planning” is scored out of 60 and “tidiness and litter control” is scored out of 90, while the remaining six categories are scored out of 50. The average percentage score within each category for 2017 can be seen in Table 5.1.

What is notable are the particularly low scores in the “sustainable waste and resource management” category. While this indicates that groups are struggling to perform well in this section – whether through a lack of awareness of what to do or through a lack of capacity – it also represents an opportunity to scale up group actions so as to increase overall ranking. Likewise, it can be suggested that a scaling-up process is occurring in places where, as society engages more effectively with water, energy and transport over time, scores are expected to increase. This may be the logic at the level of the adjudication of the competition. Nevertheless, bearing in mind that Tidy Towns is one of the most prominent community organisations in the country, involving a wide spectrum of Irish society, these low scores are concerning, as they reflect a lack of engagement in sustainable practice and suggest that citizen involvement in the energy transition, as outlined in the 2015 White Paper on energy, will not necessarily happen unaided.

To gain an awareness of the current dynamics, to further understand the reasons for the poor scores in the “waste and resource” category and to identify the challenges faced by local groups, eight interviews were conducted with representatives of Tidy Towns committees in County Cork (see section 5.3.8).

5.3.6 Sustainable energy communities and Tidy Towns groups

As previously outlined, an SEC is “a community in which everyone works together to develop a sustainable energy system” (SEAI, 2016). As of 9 November 2017, SEAI had recruited 120 community groups to their SEC scheme, with the aim of encouraging communities to be as energy efficient as possible, to use smart energy technology and to use renewable energy where possible (SEAI, 2018e). These activities align with the tasks expected in the “sustainable waste and resource management” category, in which Tidy Towns entrants are required to “describe activities on how you … promote efficient use of resources (e.g. water, energy, transport) within your community” (SEAI, 2018e).

Table 5.1. Average percentage scores within each of the eight categories for 2017 Tidy Towns entrants

Category	Average score
Community involvement and planning	68%
Built environment and streetscape	75%
Landscaping and open spaces	77%
Wildlife, habitats and natural amenities	56%
Sustainable waste and resource management	29%
Residential streets and housing areas	63%
Tidiness and litter control	61%
Approach roads, streets and lanes	67%

The 120 SECs were examined to investigate if SEC participation has a positive impact on scoring within the “sustainable waste and resource management” category. All businesses or third sector organisations were excluded. Any group that signed up after 15 May 2017 (when the Tidy Towns submission processes closed) were also excluded. The SECs that did not share a single location with a Tidy Towns committee, including established groups such as Aran Islands Energy Co-op, Kerry Sustainable Energy Co-op and Energy Communities Tipperary Co-op, were not considered. This left 24 SEC groups for analysis. It was found that the 24 Tidy Towns groups that had these SECs in their catchment area scored 16.79 (34%) on average, compared with the overall score of 14.72 (29%). This represents a considerable difference, considering that established and well-scoring Tidy Towns committees such as Birdhill in North Tipperary and Killorglin in Kerry could not be included.

This demonstrates the potential role that can be played by a local SEC in enhancing the scoring in the “sustainable waste and resource management” category of the Tidy Towns competition. Moreover, both Tidy Towns and SECs can act as useful intermediaries for each other, with each group benefitting from the work of the other. As one Tidy Towns interviewee – who is also heavily involved in the local SEC – said, “The benefit from Tidy Towns is, which was said to us by a number of people, ‘the fact that you are Tidy Towns we can trust you’”. However, a Tidy Towns committee may not be aware of or be

in contact with the SEC group in their area and vice versa. An instance of disconnection between Tidy Towns and SEC groups was seen on the adjudicators report given to the Upperchurch Tidy Town group, which asked "Is Upperchurch a member of the SEAI Sustainable Energy Communities?", despite the fact that Upperchurch and Drombane was a founding member of the Energy Communities Tipperary Co-op, which is an SEC. The fact that the adjudicator made reference to the SEC shows that he/she values the connection.

It would be advisable for the Tidy Towns organisation to give a clearer indication of what is expected of groups so that they can improve their scores in the category and to recommend that participants should link up with their local SEC if there is one; if there is not a local SEC, they could help set one up.

5.3.7 Birdhill – Tidy Towns 2017 winner

Over the past few years, the village of Birdhill in North Tipperary has been performing well in the Tidy Towns competition, and in 2017 it was crowned the overall winner. Its score in the "sustainable waste and resource management" category was 23, well above the national average of 14.72. In 2013, Birdhill scored a respectable 16 in this category, but further work was needed to bring this score up to a prize-winning level. In 2014, Birdhill joined the Energy Communities Tipperary Co-op and began upgrading local buildings under SEAI's BEC scheme. In the same year, Birdhill increased its score in the "sustainable waste and resource management" category to 20, gaining credit from the judges for "the energy project with SEAI". In 2015, the group was commended by the judges who stated that, "while some groups struggle with what is required under this category, that definitely cannot be said about Birdhill". The following year, the community benefits of Birdhill's involvement with Energy Communities Tipperary Co-op were noted: "the Energy Project has benefitted Birdhill community with funding for solar lighting for your information kiosk, and help to install solar lighting in the community park". By 2017, Birdhill Tidy Towns was already raising awareness in other localities of the benefits of community energy projects, with the judges stating that "the Community Energy Project has certainly been active, and presenting your 'Road Show' to other local communities is to be commended". Since 2014, thanks to its involvement with the energy co-op, Birdhill has increased its score within this category year on year, culminating in its eventual success as overall competition winner in 2017. This is something that could be replicated by other Tidy Towns groups.

5.3.8 Themes arising from the "sustainable waste and resource management" category

The first point to note when looking at Tidy Towns committees is the level of volunteerism and commitment that drives groups to achieve as much as they can within the competition.

> [We are active] all year round and in summer we up the ante and do an evening as well. (TT3)
>
> We are out 52 weeks a year. We take one week off at Christmas. But they are still out. They were out Christmas Day; they were out Stephens Day. (TT6)

With regard to the "sustainable waste and resource management" category, some respondents were quick to suggest the limits of volunteerism and a concern that they are being asked to do too much.

> It is very time consuming. (TT7)
>
> There is too many [categories]. I would like to go back to basics, the concept that was built in 1953. This has become a fruit bowl. There are too many challenges there to be met. I think it was better in its original form and all these additional challenges that were brought in, they should have found a home for them elsewhere. (TT3)
>
> It is a category that should not be in the Tidy Towns at all. Tidy Towns is made up of just a group of voluntary people with limited time and limited resources. That I think is really stretching peoples' skills and their time, I think that is a category for some other body, you know? It really is. (TT4)
>
> It is stretching it for Tidy Towns groups. (TT4)

As is evident, some respondents were unhappy with the expansion of the competition over time. While this is to be expected, and does not necessarily represent

the majority, it is important to deal with such issues before they lead to volunteer burnout, disillusionment and the degradation of the trust in and good will towards the competition.

> I think that someone got the bright idea that "Oh we will give that to Tidy Towns they will do that for us". (TT4)
>
> It is nearly something that should be a government led program. Sometimes you say "we are the biggest mugs in Ireland", the people who are avid Tidy Towners. (TT7)

Not all respondents were as pessimistic about the "sustainable waste and resource management" category, but they all had some criticisms to aim at it. Therefore, while the potential for Tidy Towns to act as an intermediary for community engagement in the energy transition is clear, the concerns that people have about the category must be recognised.

> It is a fairly new category and a lot of people didn't know what to do when that first came out. It is completely changing the mind-sets and behaviours and things like that and you are trying to find creative angles to do that. (TT4)
>
> In a lot of cases you have to change people's mind-sets. "We always did this; we never did that". If you put savings in front of them … (TT6)

The need for clarity within the category was repeatedly mentioned, with it seeming to some like a mixed bag with no core focus, unlike how other sections are structured (e.g. the "tidiness and litter control" category).

> It is a difficult area to zone in on and to identify really what they are looking for. (TT2)
>
> It is just a bit too much up in the air. (TT2)
>
> It is just too broad and people just don't know what to focus on in that category. (TT5)
>
> We just struggled with it, sustainable waste and resource management, I mean it is a long title anyway. (TT3)

A better definition of what is being asked of participants, starting with clarity in the category titles, seems like a starting point to achieve a better buy-in from the 870 groups. While there are instances of big-scale projects, an approach in which small-scale manageable acts could be taken nationwide may prove more useful in diffusing sustainable practices into the wider community. The work Tidy Towns has done in raising awareness of litter control is a perfect blueprint that could be followed. However, as resource management is far more ambiguous then litter control, groups need help.

> It would be assistance for Tidy Towns groups across the country if a template was put in place. If areas were identified that Tidy Towns' committees could work on, and then there was a measurement process. (TT2)
>
> People have a handle on the traditional categories in a way they don't with this category as it is so new … make it clearer, educate them. (TT4)

It needs to be acknowledged that Tidy Towns members are not unique in their lack of awareness of the energy transition and the actions that are required. This is a much broader problem. The difference, however, is that, if you present Tidy Towns groups with clear and comprehensible information on the measures that need to be taken in relation to energy, they will take them, in keeping with the competitive nature of the competition. As noted by one interviewee, Tidy Towns groups play an important role in communities "in pulling people together to co-operate and collaborate". Moving towards activating the energy citizen, Tidy Towns committees seem a useful place to start, as through these the diffusion of sustainable practices into wider society can occur. But clear and achievable measures should be offered to competitors in order to get them engaged. As one respondent noted "it is not like looking at flowers".

6 Mapping Research Findings to Community Response Capacity Framework

The development of a capacity framework (see Chapter 2) acts as a fundamental theoretical model through which the empirical findings of this research project have been framed. The five capacity classifications identified within the framework are (1) cultural capacity, (2) organisational capacity, (3) institutional capacity, (4) individual capacity and (5) technical/practical capacity.

The results of this research have been presented in Chapter 5; capacity challenges and capacity support required have been illustrated in Tables 6.1 and 6.2 across the five aforementioned capacity typologies. By fitting the research results (see Chapter 5) into the capacity framework, insights can be drawn in relation to where capacity is and is not present with regard to challenges and support required across the different capacity classifications.

Table 6.1. Mapping results on capacity challenges to the capacity framework

Capacity challenges	Cultural capacity	Organisational capacity	Institutional capacity	Individual capacity	Technical/practical capacity
Institutional barriers to creating community renewable energy	Diminishing of local community capacity due to emigration and rural depopulation (e.g. can we field a hurling team next year?)	Structural obstacles (gaps in social cohesion, confidence and organisational resources)	Very slow policy response to enable community energy; externally imposed administrative burdens	–	–
Level of voluntary input and personal time required	–	–	Active citizenship expected to compensate for infrastructural deficits and poor state services	Time constraints and the limits to volunteering were stressed repeatedly	Grants available through the SEC programme can only be used to pay outside consultants and cannot be used by the groups themselves
Managing group dynamics and conflict	–	Significant voluntary time, effort and skill are required to prevent internal conflict, which is difficult to manage if group members feel stymied; burnout, friction and resignations can result	–	–	–
Lack of experienced, supportive intermediary agencies across the country	–	Need for diversified network of middle actors providing functions along different capacity classifications	Need for policy support for development of intermediary expertise	–	Developed projects, such as Cloughjordan Ecovillage, can act as intermediaries with regard to knowledge exchange and capacity building through hands-on experience
Difficulties in engaging members of the public	Volunteers in grassroots initiatives can face challenges, which include hostility from local people	–	Need wider systemic change to increase social learning and public support for community energy projects	Changing habits requires significant moment-to-moment consciousness	–

Table 6.2. Mapping results on capacity support required for the capacity framework

Capacity support required	Cultural capacity	Organisational capacity	Institutional capacity	Individual capacity	Technical/practical capacity
Removal of barriers to the creation of community renewable energy and the provision of appropriate support	–	–	The community energy groups in this study say that they cannot create community energy until they have dedicated access to the grid, assistance with funding, a feed-in tariff and an easing of planning restrictions	–	–
Availability of assistance from skilled people and intermediaries	–	The role of project manager is crucial, as is the community development role (positioning energy as a developmental issue within the community)	There is clear support among the community energy sector for setting up organisations here in Ireland that are similar to those in Scotland, in particular Community Energy Scotland, Local Energy Scotland and CARES	–	Community groups recommend that SEAI should have a department dedicated to encouraging and supporting local community groups and community-based organisations in overcoming planning, legal and other hurdles
Access to core funding for administration and employment	–	While a lack of core funding is a big problem, it is not necessarily a panacea for small voluntary organisations	While community energy groups can have tangible benefits if given the appropriate support through wider policy and infrastructural changes, aimed at addressing the structural and social barriers, a group's eagerness to "make a difference" is not enough	–	By recognising that employing someone brings new responsibilities for small groups, in addition to the SEC mentors, a suitably skilled person could be employed on a full-time basis by another agency in the area, and that person could then assist them in their work

7 Conclusions

From the outset, this project has been guided by the following three research questions:

1. What is the Irish experience of community energy?
2. How do we support the development of community capacity to engage in energy transitions?
3. What is the role of intermediary groups in supporting community-based responses to the energy transition?

The key results of the research have demonstrated the following:

7.1 Irish Experience of Community Energy

A key feature of the Irish experience of community energy is the sense of enthusiasm and resilience expressed in meeting significant barriers and challenges. This runs counter to the government policy statements that strongly endorse the production of renewable energy "to meet one's own needs" and the development of projects by local co-operatives and other representative organisations. The results of this research reaffirm previous analysis (Comhar, 2011) that highlighted the four main barriers to community renewable energy in Ireland – (1) insufficient policy framework; (2) inadequate support structures; (3) lack of access to finance; and (4) grid and planning delays. The message received during early fieldwork on this project was that the same barriers and challenges were present, and, while participants and groups displayed enthusiasm and resilience, it was obvious that the Irish community energy sector was still struggling with capacity issues, which affected its ability to function and survive. This was also reflected in the "Community engagement on energy" workshop, held with community energy practitioners and policymakers in 2015, which raised crucially important issues around social capital, energy citizenship, capacity building, and the need for support and core funding for grassroots groups, and again in the five workshops held with the representatives of six community energy groups in late 2017 and early 2018. While all the groups aspired to create their own renewable energy, only Templederry/CRES was selling energy to the grid. Cloughjordan Ecovillage had a biomass district heating system serving its residents. The other groups were involved in retrofitting and upgrading building infrastructures, largely because this was the only source of state-sponsored support. The feedback received from participants at these workshops confirmed the existence of and elaborated on the restrictive barriers and capacity challenges outlined in the initial workshop.

7.2 Development of Community Capacity to Engage in Energy Transitions

Five main capacity challenges were identified by our research participants: (1) institutional barriers to creating community renewable energy; (2) the level of voluntary input and personal time required; (3) managing internal group dynamics and conflict; (4) the lack of experienced and supportive intermediary agencies across the country; and (5) difficulties in engaging members of the public.

The key capacity support required by the participants in our study, in order to both support their work and encourage the expansion and development of the community energy sector, were the removal of barriers to the creation of community renewable energy and the provision of appropriate support; the availability of assistance from skilled people in intermediary agencies; and access to core funding for administration and employment.

The development of a capacity framework (see Chapter 2) acts as a fundamental theoretical model through which the empirical findings of this research project have been framed. The five capacity classifications identified within the literature are (1) cultural capacity, (2) organisational capacity, (3) institutional capacity, (4) individual capacity and (5) technical/practical capacity. The capacity challenges and capacity support required have been illustrated in Tables 6.1 and 6.2 across the five aforementioned capacity typologies. By fitting the research results (see Chapter 5) into the capacity

framework (Chapter 6), insights can be drawn in relation to where capacity is and is not present with regard to the challenges and support required across the different capacity classifications.

7.3 Role of Intermediary Groups

Within the wider international scene, the importance of intermediaries for community energy has been highlighted (Bird and Barnes, 2014). The emergence of intermediary bodies in Germany, Scotland and Denmark has been shown to have a positive impact on the success potential of community energy projects (FOE, 2015). In the Irish context, NESC (2014) has highlighted the importance of intermediation and the role of intermediaries in supporting niches for experimentation and the development of community energy. Through this research project, the diverse range of intermediary types has been illustrated. An awareness of this diversity of intermediary types (Kivimaa *et al*., 2019) enables a more holistic understanding of the support structures required at policy level to build capacity at the community level in response to the energy transition. Through investigation, it has emerged that, because of the diversity of intermediary types providing support to local community organisations and building local buy-in, intermediaries and agencies have been seen to play a key role in the establishment and development of energy initiatives in the Irish context. Groups cannot function independently of outside support, be it technical, financial, legal, etc. SEAI has been influential in stimulating the emergence of energy initiatives across the country, and, while the agency support provided by SEAI is essential in initiating community projects, there is a wider net of intermediary support and potential support that must be acknowledged. Tidy Towns has been used here as an example of the need to expand thinking on who can serve as an intermediary in relation to community energy projects. Moving forward, both pre-established intermediary organisations and potential intermediary organisations must be involved in discussions on how to support the energy transition at the community level going forward.

8 Implications for Policy

- **Infrastructural support is emerging, but it requires greater coherence and should respond more effectively to community needs.** Recent new infrastructural support includes increased funding from SEAI for community energy and the establishment of local authority regional climate offices. While welcome, support should engage more with communities and be more responsive to community needs. In addition, greater coherence is required in exploring new possibilities and learning how to upscale them. This requires governance that allows for exploration, experimentation and cross-fertilisation.
- **Energy citizenship is an accepted ambition, but energy communities, while growing, are struggling.** Community energy practitioners were palpably excited by the content of the 2015 White Paper on energy, and expectations for follow-through were very high. Since then, policy progress, particularly around the elimination of barriers to creating community energy and the provision of core funding, has been very slow. In addition, no two communities are the same, and they have differing levels of capacity, cohesion, local leadership and access to funding and resources. Likewise, groups that join the SEC Network have varying levels of experience of the work involved. Therefore, distinct approaches are required that respond to capacity levels.
- **Intermediaries have significant untapped potential.** In addition to top-down support from agencies and bottom-up community activities, there is significant untapped potential within intermediary groups that are not directly associated with the energy transition. Our research shows that there are a number of agencies and organisations that are already assisting community energy groups, some to a greater extent than others. But it is down to luck as to whether one of these is in your area or not. In addition, the potential role of Tidy Towns is beginning to be realised through the focus on resource use and sustainability, but these groups are feeling the pressure and require more support.
- **SEAI is doing excellent work but needs to embrace community development methods, skills and experience.** Technical and financial support is necessary but not sufficient for community energy to thrive. Community development and community engagement are also essential. Successful energy communities in our study have been helped by community development expertise. We did not find the “ideal” community that is able to pull itself up by its bootstraps and become increasingly resilient, self-reliant, innovative and responsible.
- **We expect a lot from volunteers.** Volunteers have only a certain amount of time to give. Anything over and above that can cause stress and burnout. The lack of young members was discussed in one of our workshops. Skilled assistance is essential for new groups to get up and running. The level of form filling and paperwork that volunteers in an SEC group are faced with, for example, can be daunting and paralysing. There needs to be a way that this burden is either lifted or carried by an intermediary person.
- **Core funding is lacking and needs to be addressed.** Multi-annual core funding for administrative costs and for staffing is essential for groups to expand and to function effectively. Limited mentoring, and technical and networking support is offered by SEAI through its SEC scheme. Funding is also available to pay an external project manager to co-ordinate, manage and deliver SEAI BEC projects. However, this is not enough – there needs to be a clearly defined source of core funding for groups that are ready for it.
- **Are we talking up community ownership?** What is obvious from our recent workshops with existing community energy groups is that the same challenges and barriers that existed in 2000 – e.g. a lack of core funding, a lack of feed-in tariffs, and difficulties in gaining planning permission and securing investment finance and access to the grid – also existed in June 2018. All of the community energy groups in our study want to

produce their own renewable energy but face too many financial and infrastructural barriers for this to happen. Therefore, until there is clarity about addressing the barriers, it is unhelpful to "talk up" community ownership of energy.

- **A lot can be learnt from an evaluation of community energy experience** Experimentation is important, as it allows for the trialling of new social innovations, but it will be truly effective only if coupled with a mechanism for evaluating and learning from successes and failures. Successes should be replicated, past mistakes should not continue, and barriers that existed years ago should not remain in place.
- **National leadership is key to giving community energy legitimacy and to helping with public engagement.** Our research has shown that engaging people on climate action is difficult, even for local community energy groups. There should be a sense that "we are all in this together". People need to hear political and business leaders and government ministers from all departments (not just the usual voices from environment, energy and weather) talking about climate change and the energy transition, and they need to hear and see what they are doing about it. We see the recent positive leadership pronouncements on climate action and the 2018 Renewable Electricity Support Scheme as an indication of alignment between community needs and policy development.
- **Community energy does not guarantee community acceptability or acceptance.** Community ownership of energy does not necessarily mean that local people will not have concerns about the proposed renewable energy installation. Plans by the Aran Islands Energy Co-op to install a wind generator have been held up by local concerns around siting. Local planning objections were made for both phase 1 and phase 2 of Templederry Community Wind Farm. National leadership, extensive local engagement and clear community benefits are required if local opposition to wind (and possibly solar) developments, even if they are community led, does not continue to be a problem.

9 Recommendations

The following recommendations arise from this research project on community energy:

- Strong, continuous and visible national leadership on climate action is critical to encourage energy citizenship.
- A range of approaches that respond to the varying capacities of different communities should be developed to support and encourage community energy.
- Mentoring in community development and community engagement is currently lacking and should be provided as essential complements to technical and financial mentoring.
- Reliable, multi-annual sources of core funding for community energy groups are currently lacking and should be made available.
- Funding and governance of community energy schemes should allow for exploration, experimentation and cross-fertilisation.
- Mechanisms for evaluating community energy projects should value social capacity development, alongside CO_2 and kWh savings.
- Approaches that have proven to be successful should be encouraged and replicated.
- Existing policy barriers to community energy should be addressed, such as the lack of feed-in tariffs, and difficulties in gaining planning permission, securing investment finance and obtaining access to the grid.
- A “one-stop shop” should be established, where community energy groups can go for information, advice and support, within an existing agency or a separate body.
- Detailed paperwork associated with community energy support schemes from SEAI and other bodies should be reduced or simplified, or assistance should be provided.
- Practical support and assistance should be provided for intermediary organisations on community energy, such as Tidy Towns, if their role is to be maximised.
- People with direct community development training and experience should be integrated into SEAI’s community energy programmes.
- Innovative and creative ways of engaging and mobilising younger people in community energy should be tested, to address the current “age gap”.
- An evaluation of past mistakes should be undertaken, to avoid repeating them in the future.
- Further research into why so many community energy groups have not survived should be undertaken.

References

AIEC (Aran Islands Energy Co-op), 2017. Generating community owned energy on Aran. Available online: http://www.aranislandsenergycoop.ie/latest-news/news/generating-community-owned-energy-on-aran/ (accessed 11 May 2020).

Aiken, G.T., 2014. Common sense community? The climate challenge fund's official and tacit community construction. *Scottish Geographical Journal* 130(3): 207–221.

Aitken, M., Haggett, C. and Rudolph, D., 2016. Practices and rationales of community engagement with wind farms: awareness raising, consultation, empowerment. *Planning Theory & Practice* 17(4): 557–576.

Arnstein, S.R., 1969. A ladder of citizen participation. *Journal of the American Planning Association* 35(4): 216–224.

Avelino, F. and Wittmayer, J.M., 2016. Shifting power relations in sustainability transitions: a multi-actor perspective. *Journal of Environmental Policy & Planning* 18(5): 628–649.

Barry, J. and Quilley, S., 2009. Chapter 1 The transition to sustainability: Transition Towns and sustainable communities. In Leonard, L. and Barry, J. (eds), *The Transition to Sustainable Living and Practice*. Emerald Group Publishing Limited, Bingley, UK, pp. 1–28.

Barry, J., Hume, T., Ellis, G. and Curry, R., 2016. *Working Paper 1: Society-wide Transitions.* Queen's University Belfast, Belfast.

Bernauer, T. and Betzold, C., 2012. Civil society in global environmental governance. *The Journal of Environment & Development* 21(1): 62–66.

Bird, C. and Barnes, J., 2014. Scaling up community activism: the role of intermediaries in collective approaches to community energy. *People, Place & Policy Online* 8(3): 208–221.

Brennan, N. and Van Rensburg, T.M., 2016. Wind farm externalities and public preferences for community consultation in Ireland: a discrete choice experiments approach. *Energy Policy* 94: 355–365.

Brennan, N., Van Rensburg, T.M. and Morris, C., 2017. Public acceptance of large-scale wind energy generation for export from Ireland to the UK: evidence from Ireland. *Journal of Environmental Planning and Management* 60(11): 1967–1992.

Bridge, G., Bouzarovski, S., Bradshaw, M. and Eyre, N., 2013. Geographies of energy transition: space, place and the low-carbon economy. *Energy Policy* 53: 331–340.

Bridger, J.C. and Luloff, A.E., 2001. Building the sustainable community: is social capital the answer? *Sociological inquiry* 71(4): 458–472.

Brown, J.C. and Purcell, M., 2005. There's nothing inherent about scale: political ecology, the local trap, and the politics of development in the Brazilian Amazon. *Geoforum* 36(5): 607–624.

Buckner, J.C., 1988. The development of an instrument to measure neighborhood cohesion. *American Journal of Community Psychology* 16(6): 771–791.

Burch, S., 2010. In pursuit of resilient, low carbon communities: an examination of barriers to action in three Canadian cities. *Energy Policy* 38(12): 7575–7585.

Burch, S., 2011. Sustainable development paths: investigating the roots of local policy responses to climate change. *Sustainable Development* 19(3): 176–188.

Burch, S. and Robinson, J., 2007. A framework for explaining the links between capacity and action in response to global climate change. *Climate Policy* 7(4): 304–316.

Burch, S., Shaw, A., Dale, A. and Robinson, J., 2014. Triggering transformative change: a development path approach to climate change response in communities. *Climate Policy* 14(4): 467–487.

Burningham, K., Barnett, J. and Walker, G., 2015. An array of deficits: unpacking NIMBY discourses in wind energy developers' conceptualizations of their local opponents. *Society & Natural Resources* 28(3): 246–260.

Carvalho, A., Pinto-Coelho, Z. and Seixas, E., 2016. Listening to the public – enacting power: citizen access, standing and influence in public participation discourses. *Journal of Environmental Policy & Planning* 21(5): 563–576.

Catney, P., Dobson, A., Hall, S.M., Hards, S., MacGregor, S., Robinson, Z., Ormerod, M. and Ross, S., 2013. Community knowledge networks: an action-orientated approach to energy research. *Local Environment* 18(4): 506–520.

Catney, P., MacGregor, S., Dobson, A., Hall, S.M., Royston, S., Robinson, Z., Ormerod, M. and Ross, S., 2014. Big society, little justice? Community renewable energy and the politics of localism. *Local Environment* 19(7): 715–730.

CES (Community Energy Scotland), 2018. Community Energy Scotland. Available online: http://www.communityenergyscotland.org.uk/index.asp (accessed June 2018).

Chaskin, R.J., 1998. Defining community capacity: a framework and implications from a comprehensive community initiative. Paper presented at the Urban Affairs Association Annual Meeting, Forth Worth, TX, 22–25 April.

Citizens' Assembly, 2018. How the state can make Ireland a leader in tackling climate change. Available online: https://www.citizensassembly.ie/en/How-the-State-can-make-Ireland-a-leader-in-tackling-climate-change/ (accessed February 2019).

Claudy, M.C., Michelsen, C., O'Driscoll, A. and Mullen, M.R., 2010. Consumer awareness in the adoption of microgeneration technologies: an empirical investigation in the Republic of Ireland. *Renewable and Sustainable Energy Reviews* 14(7): 2154–2160.

Clinch, J.P., Brereton, F., Bullock, C., O'Neill, E. and Russell, P., 2008. *Quality of Life and the Environment*: *Final Report*. Environmental Protection Agency, Johnstown Castle, Ireland.

Cogan, S., 2017. Community-led energy initiatives in Ireland: accelerating the energy transition? Reflections on the impact and outcomes of two case studies. *Irish Journal of Social, Economic and Environmental Sustainability* 1(1).

Cohen, A.P., 1985. *Symbolic Construction of Community.* Ellis Horwood Ltd, Hemel Hempstead, Hertfordshire, UK.

Coleman, J.S., 1988. Social capital in the creation of human capital. *American Journal of Sociology* 94: 95–120.

Comhar, 2011. *Community Renewable Energy in Ireland: Status, Barriers and Potential Options*. Comhar Sustainable Development Council, Dublin. Available online: http://files.nesc.ie/comhar_archive/Comhar%20Papers/Comhar_Paper_11_2011.pdf (accessed June 2018).

Corbin, J. and Strauss, A., 2014. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory.* SAGE Publications Ltd, Thousand Oaks, CA.

Cornwall, A., 2008. Unpacking "participation": models, meanings and practices. *Community Development Journal* 43(3): 269–283.

Curtin, J., McInerney, C. and Gallachóir, B.Ó., 2017. Financial incentives to mobilise local citizens as investors in low-carbon technologies: a systematic literature review. *Renewable and Sustainable Energy Reviews* 75: 534–547.

Dale, A. and Sparkes, J., 2011. The "agency" of sustainable community development. *Community Development Journal*: 476–492.

DCCAE (Department of Communications, Climate Action and Environment), 2018. Community Environment Action Fund – Local Agenda 21. Available online: https://www.dccae.gov.ie/en-ie/environment/topics/environmental-protection-and-awareness/local-agenda-21-partnership-fund/Pages/default.aspx (accessed June 2018).

DCENR (Department of Communications, Energy and Natural Resources), 2014. *Green Paper on Energy Policy in Ireland*. DCENR, Dublin. Available online: https://www.dccae.gov.ie/documents/DCENRGreenPaperonEnergyPolicyinIreland.pdf (accessed June 2018).

DCENR (Department of Communications, Energy and Natural Resources), 2015. *Ireland's Transition to a Low Carbon Energy Future 2015–2030*. DCENR, Dublin. Available online: https://www.dccae.gov.ie/documents/Energy%20White%20Paper%20-%20Dec%202015.pdf (accessed June 2018).

DCMNR (Department of Communications, Marine and Natural Resources), 2007. *Energy White Paper – Delivering a Sustainable Energy Future for Ireland.* DCMNR, Dublin.

DECC (Department of Energy and Climate Change), 2014. *Community Energy Strategy: Full Report*. DECC, London. Available online: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/275163/20140126Community_Energy_Strategy.pdf (accessed May 2018).

Denzin, N.K. and Lincoln, Y.S., 1998. *Strategies of Qualitative Injury*. Sage Publications, Thousand Oaks, CA.

Devine-Wright, P., 2005. Beyond NIMBYism: towards an integrated framework for understanding public perceptions of wind energy. *Wind Energy* 8(2): 125–139.

Devine-Wright, P. and Wiersma, B., 2013. *Opening Up the "Local" to Analysis: Exploring the Spatiality of UK Urban Decentralised Energy Initiatives*. Report on community renewable energy in Scotland. SCENE Connect Ltd, Edinburgh.

Edwards, B. and Foley, M.W., 1999. Social capital and civic capacity: Volume 21, Number 4 – Review of the symposium on community capacity, social trust and public administration. *Administrative Theory & Praxis,* 21(4): 523–531.

Edwards, M. and Onyx, J., 2007. Social capital and sustainability in a community under threat. *Local Environment* 12(1): 17–30.

Ellis, G. and Ferraro, G., 2016. *The Social Acceptance of Wind Energy: Where We Stand and the Path Ahead.* JRC Science for Policy Report. European Commission, Brussels.

Ercan, S.A. and Hendriks, C.M., 2013. The democratic challenges and potential of localism: insights from deliberative democracy. *Policy Studies* 34(4): 422–440.

Evans, B., Joas, M., Sundback, S. and Theobald, K., 2006. Governing local sustainability. *Journal of Environmental Planning and Management* 49(6): 849–867.

Everingham, C., 2001. Reconstituting community: social justice, social order and the politics of community. *Australian Journal of Social Issues* 36(2): 105–122.

Fazey, I., Schäpke, N., Caniglia, G., Patterson, J., Hultman, J., Van Mierlo, B., Säwe, F., Wiek, A., Wittmayer, J. and Aldunce, P., 2018. Ten essentials for action-oriented and second order energy transitions, transformations and climate change research. *Energy Research & Social Science* 40: 54–70.

Feola, G. and Nunes, R., 2014. Success and failure of grassroots innovations for addressing climate change: the case of the Transition Movement. *Global Environmental Change* 24: 232–250.

Fischer, L.-B. and Newig, J., 2016. Importance of actors and agency in sustainability transitions: a systematic exploration of the literature. *Sustainability* 8(5): 476.

Fitzgerald, J., 2000. *Strategy for Intensifying Wind Energy Deployment*. Government of Ireland, Dublin.

FOE (Friends of the Earth), 2015. Community energy. Available online: https://www.foe.ie/assets/files/pdf/supporting_communities_in_renewable_energy.pdf (accessed 6 May 2019).

Forrest, N. and Wiek, A., 2014. Learning from success – toward evidence-informed sustainability transitions in communities. *Environmental Innovation and Societal Transitions* 12: 66–88.

Forrest, N. and Wiek, A., 2015. Success factors and strategies for sustainability transitions of small-scale communities – evidence from a cross-case analysis. *Environmental Innovation and Societal Transitions* 17: 22–40.

Foucault, M., 2007. *Security, Territory, Population: Lectures at the Collège de France, 1977–78.* Palgrave Macmillan, London.

Fournis, Y. and Fortin, M.-J., 2017. From social "acceptance" to social "acceptability" of wind energy projects: towards a territorial perspective. *Journal of Environmental Planning and Management* 60(1): 1–21.

Fox-Rogers, L. and Murphy, E., 2015. From brown envelopes to community benefits: the co-option of planning gain agreements under deepening neoliberalism. *Geoforum* 67: 41–50.

Friends of the Earth Ireland, 2014. *Community Energy Policy Position Paper*. Available online: https://www.foe.ie/download/pdf/community_energy_policy_position_paper.pdf (accessed August 2018).

Fuchs, G. and Hinderer, N., 2014. Situative governance and energy transitions in a spatial context: case studies from Germany. *Energy, Sustainability and Society* 4(1): 16.

Gabler, M., 2010. Norms, institutions and social learning: an explanation for weak policy integration in the WTO's committee on trade and environment. *Global Environmental Politics* 10(2): 80–117.

Gaventa, J. and Jones, E., 2002. *Concepts of Citizenship: A Review.* Development Research Centre on Citizenship, Participation and Accountability (IDS), Brighton.

Gaynor, N., 2011. In-active citizenship and the depoliticization of community development in Ireland. *Community Development Journal* 46(1): 27–41.

Geels, F.W., 2002. Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. *Research Policy* 31(8–9): 1257–1274.

Geels, F.W. and Schot, J., 2007. Typology of sociotechnical transition pathways. *Research Policy* 36: 399–417.

Geels, F.W., Kern, F., Fuchs, G., Hinderer, N., Kungl, G. and Mylan, J., 2016. The enactment of socio-technical transition pathways: a reformulated typology and a comparative multi-level analysis of the German and UK low-carbon electricity transitions (1990–2014). *Research Policy* 45: 896–913.

Goodbody, C., Walsh, E., McDonnell, K.P. and Owende, P., 2013. Regional integration of renewable energy systems in Ireland – the role of hybrid energy systems for small communities. *International Journal of Electrical Power & Energy Systems* 44(1): 713–720.

Government of Ireland, 2000. *White Paper on a Framework for Supporting Voluntary Activity and for Developing the Relationship between the State and the Community and Voluntary Sector*. Available online: https://socialpolicy.ucc.ie/Supporting_Voluntary_Activity%20_A_White_Paper_415709.pdf (accessed 7 May 2020).

Hargreaves, T., Haxeltine, A., Longhurst, N. and Seyfang, G., 2011. *Sustainability Transitions from the Bottom-Up: Civil Society, the Multi-Level Perspective and Practice Theory*. Centre for Social and Economic Research on the Global Environment (CSERGE) Working Paper 2011-01. CSERGE, University of East Anglia, Norwich, UK.

Hargreaves, T., Hielscher, S., Seyfang, G. and Smith, A., 2013. Grassroots innovations in community energy: the role of intermediaries in niche development. *Global Environmental Change* 23(5): 868–880.

Harvey, B., 2015a. *So You're either in or You're out – Community Participation in South Dublin – The Experience of the South Dublin Community Platform*. South Dublin Community Platform, Dublin.

Harvey, B., 2015b. *Funding Environmental Non-governmental Organizations in Ireland*. Irish Environmental Network, Dublin.

Haxeltine, A. and Seyfang, G., 2009. *Transitions for the People: Theory and Practice of "Transition" and "Resilience" in the UK's Transition Movement*. Working Paper 134. Tyndall Centre for Climate Change Research, Norwich, UK.

Haxeltine, A., Avelino, F., Wittmayer, J., Kemp, R., Weaver, P., Backhaus, J. and O'Riordan, T., 2013. Transformative social innovation: a sustainability transitions perspective on social innovation. Paper presented at the international conference Social Frontiers: The Next Edge of Social Innovation Research, London, 14–15 November.

Head, B.W., 2007. Community engagement: participation on whose terms? *Australian Journal of Political Science* 42(3): 441–454.

Hielscher, S., 2013. *Carbon Rationing Action Groups: An Innovation History*. University of Sussex and University of East Anglia, UK.

Hopkins, R., 2008. *The Transition Handbook: From Oil Dependency to Local Resilience.* Green Books, Totnes, UK.

Hoppe, T., van der Vegt, A. and Stegmaier, P., 2016. Presenting a framework to analyze local climate policy and action in small and medium-sized cities. *Sustainability* 8(9): 847.

Hossain, M., 2016. Grassroots innovation: a systematic review of two decades of research. *Journal of Cleaner Production* 137: 973–981.

Jackson, T., 2005. *Motivating Sustainable Consumption: A Review of Evidence on Consumer Behaviour and Behavioural Change: A Report to the Sustainable Development Research Network.* Centre for Environmental Strategy, University of Surrey, Guildford, UK.

Jänicke, M., 2006. *The "Rio Model" of Environmental Governance – A General Evaluation.* Available online: https://ssrn.com/abstract=926968 (accessed July 2018).

Jänicke, M. and Quitzow, R., 2017. Multi-level reinforcement in European climate and energy governance: mobilizing economic interests at the sub-national levels. *Environmental Policy and Governance* 27(2): 122–136.

Julian, C. and Dobson, J., 2012. *Re-Energising Our Communities: Transforming the Energy Market Through Local Energy Production*. ResPublica Green Paper. Available online: https://www.respublica.org.uk/wp-content/uploads/2012/02/rya_ResPublica-Re-energising-Our-Communities-FINAL.pdf (accessed August 2018).

Kivimaa, P., 2014. Government-affiliated intermediary organisations as actors in system-level transitions. *Research Policy* 43(8): 1370–1380.

Klein, S.J. and Coffey, S., 2016. Building a sustainable energy future, one community at a time, *Renewable and Sustainable Energy Reviews* 60: 867–880.

Lang, D.J., Wiek, A., Bergmann, M., Stauffacher, M., Martens, P., Moll, P., Swilling, M. and Thomas, C.J., 2012. Transdisciplinary research in sustainability science: practice, principles, and challenges. *Sustainability Science* 7(1): 25–43.

Lee, Y., Lee, S. and Gu, N., 2012. Person-centered approach in environment and energy regeneration of the most decayed area in Ireland. *Energy and Buildings* 46: 14–20.

Lennon, M. and Scott, M., 2015a. Contending expertise: an interpretive approach to (re)conceiving wind power's "planning problem". *Journal of Environmental Policy & Planning* 17(5): 593–616.

Lennon, M. and Scott, M., 2015b. Opportunity or threat: dissecting tensions in a post-carbon rural transition. *Sociologia Ruralis* 57: 87–109.

LES (Local Energy Scotland), 2018. Local Energy Scotland. Available online: https://www.localenergy.scot/ (accessed June 2018).

L'Estrange, S., 2007. "A community of communities" – Catholic communitarianism and societal crises in Ireland, 1890s–1950s. *Journal of Historical Sociology* 20(4): 555–578.

Ling, T., 2000. Unpacking partnership: the case of health care. In Clarke, J., Gewirtz, S. and McLaughlin, E. (eds), *New Managerialism, New Welfare?* SAGE Publications Ltd, Thousand Oaks, CA.

Lockwood, M., Kuzemko, C., Mitchell, C. and Hoggett, R., 2016. Historical institutionalism and the politics of sustainable energy transitions: a research agenda. *Environment and Planning C: Politics and Space* 35(2): 312–333.

Longhurst, N., 2015. Towards an "alternative" geography of innovation: alternative milieu, socio-cognitive protection and sustainability experimentation. *Environmental Innovation and Societal Transitions* 17: 183–198.

McCarthy, M., 2010. *Social Acceptance of Wind Energy Projects: Country Report of Ireland.* International Energy Agency (IEA) – Wind Task 28. IEA, Paris.

McNamara, K.E. and Buggy, L., 2017. Community-based climate change adaptation: a review of academic literature. *Local Environment* 22(4): 443–460.

Marinakis, V., Papadopoulou, A.G. and Psarras, J., 2017. Local communities towards a sustainable energy future: needs and priorities. *International Journal of Sustainable Energy* 36(3): 296–312.

Markantoni, M. and Aitken, M., 2016. Getting low-carbon governance right: learning from actors involved in Community Benefits. *Local Environment* 21(8): 969–990.

Marshall, G., 2015. *Don't Even Think About It: Why Our Brains Are Wired to Ignore Climate Change.* Bloomsbury Publishing, New York, NY.

Martiskainen, M., 2017. The role of community leadership in the development of grassroots innovations. *Environmental Innovation and Societal Transitions* 22: 78–89.

Melia, P., 2014. ESB ends scheme for homeowners who want to sell power. *Irish Independent,* 30 October 2014. Available online: https://www.independent.ie/irish-news/news/esb-ends-scheme-for-homeowners-who-want-to-sell-power-30706655.html (accessed June 2018).

Melo-Escrihuela, C., 2008. Promoting ecological citizenship: rights, duties and political agency. *Acme* 7(2): 113–134.

Middlemiss, L. and Parrish, B.D., 2010. Building capacity for low-carbon communities: the role of grassroots initiatives. *Energy Policy* 38(12): 7559–7566.

Moore, J., 2012. *Social and Behavioural Aspects of Climate Change*. National Economic and Social Council, Dublin. Available online: http://files.nesc.ie/nesc_secretariat_papers/ccbg_No3_Social_and_Behavioural_Aspects_of_Climate_%20Change.pdf (accessed June 2018).

Morris, S., Harvey, J., Bruton, T. and Vaughan-Morris, G., 2017. *Assessment of Models to Support Community Ownership of Renewable Energy in Ireland*. Report for Sustainable Energy Authority of Ireland. Ricardo Energy & Environment, Didcot, UK.

Moseley, A. and Stoker, G., 2013. Nudging citizens? Prospects and pitfalls confronting a new heuristic. *Resources, Conservation and Recycling* 79: 4–10.

Mullally, G. and Byrne, E., 2016. A tale of three transitions: a year in the life of electricity system transformation narratives in the Irish media. *Energy, Sustainability and Society* 6(1): 3.

Mullally, G., Dunphy, N. and O'Connor, P., 2016 Integration beyond the mainstream: recent innovations in public participation in climate policy integration in Ireland. Paper presented at the ECPR General Conference, Prague, 7–10 September.

Mullally, G., Henry, A., Motherway, B., O'Mahony, J. and Weyman, G., 2009. *Sustainable Participation? Evaluating the Role of the City and County Development Boards in Promoting Public Participation in Local Sustainable Development*. Environmental Protection Agency, Johnstown Castle, Ireland.

NESC (National Economic and Social Council), 2012. *Ireland and the Climate Change Challenge: Connecting "How Much" with "How To" – Final Report of the NESC Secretariat to the Department of Environment, Community and Local Government*. NESC, Dublin. Available online: http://www.nesc.ie/assets/files/Ireland%20and%20the%20Climate%20Change%20Challenge_Connecting%20How%20Much%20with%20How%20To_Main_Report.pdf (accessed June 2018).

NESC (National Economic and Social Council), 2014. *Wind Energy in Ireland: Building Community Engagement and Social Support*. NESC, Dublin. Available online: http://files.nesc.ie/nesc_reports/en/139_Wind_Energy_Main_Report.pdf (accessed June 2018).

NESF (National Economic and Social Forum), 2003. *The Policy Implications of Social Capital*. NESF, Dublin. Available online: http://files.nesc.ie/nesf_archive/nesf_reports/NESF_28.pdf (accessed January 2019).

Newell, P., Bulkeley, H., Turner, K., Shaw, C., Caney, S., Shove, E. and Pidgeon, N., 2015. Governance traps in climate change politics: re-framing the debate in terms of responsibilities and rights. *Wiley Interdisciplinary Reviews: Climate Change* 6(6): 535–540.

Nilsson, M., Lucas, P. and Yoshida, T., 2013. Towards an integrated framework for SDGs: ultimate and enabling goals for the case of energy. *Sustainability* 5(10): 4124–4151.

O'Donovan, O. and Varley, T., 1992. *Paid Employment in the Voluntary Sector: A Review of the Literature*. Combat Poverty Agency, Dublin.

O'Drisceoil, S., 2000. Energy from wind turbines. *Irish Times*, 7 March 2000. Available online: https://www.irishtimes.com/opinion/letters/energy-from-wind-turbines-1.252984 (accessed May 2018).

Oteman, M., Wiering, M. and Helderman, J.-K., 2014. The institutional space of community initiatives for renewable energy: a comparative case study of the Netherlands, Germany and Denmark. *Energy, Sustainability and Society* 4(1): 11.

Parag, Y. and Janda, K.B., 2014. More than filler: middle actors and socio-technical change in the energy system from the "middle-out". *Energy Research & Social Science* 3: 102–112.

Park, J.J., 2012. Fostering community energy and equal opportunities between communities. *Local Environment* 17(4): 387–408.

Parvin, P., 2009. Against localism: does decentralising power to communities fail minorities? *The Political Quarterly* 80(3): 351–360.

Peter, C. and Swilling, M., 2014. Linking complexity and sustainability theories: implications for modeling sustainability transitions. *Sustainability* 6(3): 1594–1622.

Peters, M. and Jackson, T., 2008. *Community Action: A Force for Social Change? Some Conceptual Observations*. Resolve Working Paper Series 01–08. University of Surrey, Guildford, UK.

Peters, M., Fudge, S. and Sinclair, P., 2010. Mobilising community action towards a low-carbon future: opportunities and challenges for local government in the UK. *Energy Policy* 38(12): 7596–7603.

Pidgeon, N. and Henwood, K., 1996. Grounded theory: practical implementation. In Richardson, J.T.E (ed.), *Handbook of Qualitative Research Methods for Psychology and the Social Sciences*. British Psychological Society, Leicester, UK, pp. 86–101.

Pitt, D. and Congreve, A., 2016. Collaborative approaches to local climate change and clean energy initiatives in the USA and England. *Local Environment* 22(9): 1–18.

Powell, F.W. and Geoghegan, M., 2004. *The Politics of Community Development: Reclaiming Civil Society or Reinventing Governance?* A and A Farmer, Dublin.

Pretty, J.N., 1995. Participatory learning for sustainable agriculture. *World Development* 23(8): 1247–1263.

Putnam, R.D., 1995. Bowling alone: America's declining social capital. *Journal of Democracy* 6(1): 65–78.

Raven, R., Kern, F., Verhees, B. and Smith, A., 2016. Niche construction and empowerment through socio-political work. A meta-analysis of six low-carbon technology cases. *Environmental Innovation and Societal Transitions* 18: 164–180.

Reilly, K., O'Hagan, A.M. and Dalton, G., 2016. Moving from consultation to participation: a case study of the involvement of fishermen in decisions relating to marine renewable energy projects on the island of Ireland. *Ocean & Coastal Management* 134: 30–40.

REP (Renewable Energy Partnership), 2004. *To Catch the Wind: The Potential for Community Ownership of Wind Farms in Ireland*. Available online: https://www.wdc.ie/wp-content/uploads/reports_To-Catch-the-Wind.pdf (accessed March 2019).

Rittel, H.W. and Webber, M.M., 1973. Dilemmas in a general theory of planning. *Policy Sciences* 4(2): 155–169.

Robbins, C. and Rowe, J., 2002. Unresolved responsibilities: exploring local democratisation and sustainable development through a community-based waste reduction initiative. *Local Government Studies* 28(1): 37–58.

Rogers, J.C., Simmons, E.A., Convery, I. and Weatherall, A., 2008. Public perceptions of opportunities for community-based renewable energy projects. *Energy Policy* 36(11): 4217–4226.

Rogers, J.C., Simmons, E.A., Convery, I. and Weatherall, A., 2012. Social impacts of community renewable energy projects: findings from a woodfuel case study. *Energy Policy* 42: 239–247.

Ruggiero, S., Onkila, T. and Kuittinen, V., 2014. Realising the social acceptance of community renewable energy: a process-outcome analysis of stakeholder influence. *Energy Research & Social Science* 4: 53–63.

Rydin, Y. and Holman, N., 2004. Re-evaluating the contribution of social capital in achieving sustainable development. *Local Environment* 9(2): 117–133.

Saegert, S., 2004. *Community Building and Civic Capacity*. Aspen Institute Roundtable on Community Change. Aspen Institute, Washington, DC.

SEAI (Sustainable Energy Authority of Ireland), 2011. New sustainable energy communities commit to energy saving projects. SEAI, Dublin.

SEAI (Sustainable Energy Authority of Ireland), 2016. SEC Network membership registration form. Available online: https://www.seai.ie/resources/forms/SEC-application-form-2016.pdf (accessed 6 May 2020).

SEAI (Sustainable Energy Authority of Ireland), 2018a. *Guidance Notes for the Energy Master Plan Funding Application Process*. Available online: https://www.seai.ie/community-energy/sustainable-energy-communities/community-partnerships/EMP-Funding-Application-guidelines-Oct-2018.pdf (accessed 6 May 2020).

SEAI (Sustainable Energy Authority of Ireland), 2018b. *BEC Programme 2018 Application Guide*. Available online: https://www.seai.ie/resources/publications/BEC-Application-Guide-2018.pdf (accessed 6 May 2020).

SEAI (Sustainable Energy Authority of Ireland), 2018c. Community grants. Available online: https://www.seai.ie/grants/community-grants/ (accessed 6 May 2020).

SEAI (Sustainable Energy Authority of Ireland), 2018d. *Sustainable Energy Communities Programme. Handbook 2018*. Available online: https://www.seai.ie/publications/Sustainable%20Energy%20Communities%20Handbook.pdf (accessed 6 May 2020).

SEAI (Sustainable Energy Authority of Ireland), 2018e. The Sustainable Energy Community Network. Available online: https://www.seai.ie/sustainable-solutions/community-projects/community-network/ (accessed 6 May 2020).

Selman, P., 2001. Social capital, sustainability and environmental planning. *Planning Theory & Practice* 2(1): 13–30.

Seyfang, G. and Haxeltine, A., 2012. Growing grassroots innovations: exploring the role of community-based initiatives in governing sustainable energy transitions. *Environment and Planning C: Government and Policy* 30(3): 381–400.

Seyfang, G., Haxeltine, A., Hargreaves, T. and Longhurst, N., 2010. *Energy and Communities in Transition – Towards a New Research Agenda on Agency and Civil Society in Sustainability Transitions*. Centre for Social and Economic Research on the Global Environment (CSERGE) Working Paper EDM F 10. CSERGE, University of East Anglia, Norwich, UK.

Seyfang, G., Park, J.J. and Smith, A., 2013. A thousand flowers blooming? An examination of community energy in the UK. *Energy Policy* 61: 977–989.

Shove, E. and Walker, G., 2010. Governing transitions in the sustainability of everyday life. *Research Policy* 39(4): 471–476.

SLR Global Environmental Solutions, 2014. *Wind Energy: The Challenge of Community Engagement and Social Acceptance in Ireland*. National Economic and Social Council, Dublin.

Smedby, N. and Quitzau, M.-B., 2016. Municipal governance and sustainability: the role of local governments in promoting transitions. *Environmental Policy and Governance* 26(5): 323–336.

Smith, A. and Raven, R., 2012. What is protective space? Reconsidering niches in transitions to sustainability. *Research Policy* 41(6): 1025–1036.

Smith, A., Hargreaves, T., Hielscher, S., Martiskainen, M. and Seyfang, G., 2016. Making the most of community energies: three perspectives on grassroots innovation. *Environment and Planning A: Economy and Space* 48(2): 407–432.

Sorrell, S., 2015. Reducing energy demand: a review of issues, challenges and approaches. *Renewable and Sustainable Energy Reviews* 47: 74–82.

Sovacool, B.K., 2009. The cultural barriers to renewable energy and energy efficiency in the United States. *Technology in Society* 31(4): 365–373.

Stanley, D., 2003. What do we know about social cohesion: the research perspective of the federal government's social cohesion research network. *Canadian Journal of Sociology* 28(1): 5–17.

Stewart, J. and Hyysalo, S., 2008. Intermediaries, users and social learning in technological innovation. *International Journal of Innovation Management* 12(03): 295–325.

Stirling, A., 2014. Transforming power: social science and the politics of energy choices. *Energy Research & Social Science* 1: 83–95.

Tompkins, E.L. and Adger, W.N., 2005. Defining response capacity to enhance climate change policy. *Environmental Science & Policy* 8(6): 562–571.

Tovey, H., 2011. Sustainable development in Ireland: blowing in the wind? *Irish Review* 43: 26–36.

UNV (United Nations Volunteers), 1997. *Proposed International Year of Volunteers, 2001 – Background Note*. UNV, Bonn. Available online: https://www.gdrc.org/ngo/iyv/bg-note.html (accessed June 2018).

Valkenburg, G. and Cotella, G., 2016. Governance of energy transitions: about inclusion and closure in complex sociotechnical problems. *Energy, Sustainability and Society* 6(1): 20.

Van Rensburg, T.M., Kelley, H. and Jeserich, N., 2015. What influences the probability of wind farm planning approval: evidence from Ireland. *Ecological Economics* 111: 12–22.

Varadkar, L., 2018. Speech of An Taoiseach, Leo Varadkar T.D., Project Ireland 2040 – Climate Action Thematic Event, Smock Alley Theatre, Wednesday 20 June 2018. Available online: https://www.gov.ie/ga/oraid/d66312-speech-of-an-taoiseach-leo-varadkar-td-project-ireland-2040-climate-/ (accessed 6 May 2020).

Verweij, M. and Thompson, M., 2006. *Clumsy Solutions for a Complex World: Governance, Politics and Plural Perceptions.* Palgrave Macmillan, New York, NY.

Walker, G., 2011. The role for "community" in carbon governance. *Wiley Interdisciplinary Reviews: Climate Change* 2(5): 777–782.

Walker, G. and Devine-Wright, P., 2008. Community renewable energy: what should it mean? *Energy Policy* 36(2): 497–500.

Walsh, B., 2016. Community: a powerful label? Connecting wind energy to rural Ireland. *Community Development Journal* 53(2): 228–245.

Wang, X., Hawkins, C.V., Lebredo, N. and Berman, E.M., 2012. Capacity to sustain sustainability: a study of U.S. cities. *Public Administration Review* 72(6): 841–853.

Warren, C.R. and McFadyen, M., 2010. Does community ownership affect public attitudes to wind energy? A case study from south-west Scotland. *Land Use Policy* 27(2): 204–213.

Warren, C.R., Lumsden, C., O'Dowd, S. and Birnie, R.V., 2005. "Green on Green": public perceptions of wind power in Scotland and Ireland. *Journal of Environmental Planning and Management* 48(6): 853–875.

Watson, C., Mullally, G. and Ó Gallachóir, B., 2015. "*Community Engagement on Energy Workshop" Report*. ERI/MaREI/UCC.

Whitaker, T.K., 1986. Economic development, 1958–1985. In Kennedy, K.A. (ed.), *Ireland in Transition: Economic and Social Change Since 1960*. Mercier, Dublin, pp. 10–19.

White, S.C, 1996. Depoliticising development: the uses and abuses of participation. *Development in Practice* 6(1): 6–15.

Wilson, C. and Chatterton, T., 2011. Multiple models to inform climate change policy: a pragmatic response to the "beyond the ABC" debate. *Environment and Planning A: Economy and Space* 43(12): 2781–2787.

Wilson, G.A., 2014. Community resilience: path dependency, lock-in effects and transitional ruptures. *Journal of Environmental Planning and Management* 57(1): 1–26.

Winkler, H., Baumert, K., Blanchard, O., Burch, S. and Robinson, J., 2007. What factors influence mitigative capacity? *Energy Policy* 35(1): 692–703.

Woolcock, M. and Narayan, D., 2000. Social capital: implications for development theory, research, and policy. *The World Bank Research Observer* 15(2): 225–249.

World Bank, 1996. *The World Bank Participation Sourcebook*. Available online: http://documents.worldbank.org/curated/en/289471468741587739/pdf/multi-page.pdf (accessed July 2018).

Yohe, G.W., 2001. Mitigative capacity – the mirror image of adaptive capacity on the emissions side. *Climatic Change* 49(3): 247–262.

Abbreviations

BEC	Better Energy Community
BER	Building Energy Rating
CARES	Community and Renewable Energy Scheme
CDP	Community Development Programme
CPA	Combat Poverty Agency
CRES	Community Renewable Energy Supply Company
DCENR	Department of Communications, Energy and Natural Resources
ESB	Electricity Supply Board of Ireland
EU	European Union
GAA	Gaelic Athletic Association
GREAT	Growing Renewable Energy Applications and Technologies
IEN	Irish Environmental Network
KIBS	Knowledge intensive business services
LED	Light-emitting diode
LEO	Latent embedded organisation
MaP	Multi-actor perspective
NESC	National Economic and Social Council
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
PV	Photovoltaic
REP	Renewable Energy Partnership
RTO	Research and training organisation
SEAI	Sustainable Energy Authority of Ireland
SEC	Sustainable Energy Community
VAT	Value-added tax

AN GHNÍOMHAIREACHT UM CHAOMHNÚ COMHSHAOIL
Tá an Ghníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaol a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ó éifeachtaí díobhálacha na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialú: *Déanaimid córais éifeachtacha rialaithe agus comhlíonta comhshaoil a chur i bhfeidhm chun torthaí maithe comhshaoil a sholáthar agus chun díriú orthu siúd nach gcloíonn leis na córais sin.*

Eolas: *Soláthraímid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhírithe agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.*

Tacaíocht: *Bímid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaol atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaol inbhuanaithe.*

Ár bhFreagrachtaí

Ceadúnú
Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaol:
- saoráidí dramhaíola *(m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistrithe dramhaíola)*;
- gníomhaíochtaí tionsclaíocha ar scála mór *(m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta)*;
- an diantalmhaíocht *(m.sh. muca, éanlaith)*;
- úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe *(OGM)*;
- foinsí radaíochta ianúcháin *(m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíocha)*;
- áiseanna móra stórála peitril;
- scardadh dramhuisce;
- gníomhaíochtaí dumpála ar farraige.

Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil
- Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
- Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
- Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
- Obair le húdaráis áitiúla agus le gníomhaireachtaí eile chun dul i ngleic le coireanna comhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, trí dhíriú ar chiontóirí, agus trí mhaoirsiú a dhéanamh ar leasúchán.
- Cur i bhfeidhm rialachán ar nós na Rialachán um Dhramhthrealamh Leictreach agus Leictreonach (DTLL), um Shrian ar Shubstaintí Guaiseacha agus na Rialachán um rialú ar shubstaintí a ídíonn an ciseal ózóin.
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaol.

Bainistíocht Uisce
- Monatóireacht agus tuairisciú a dhéanamh ar cháilíocht aibhneacha, lochanna, uiscí idirchriosacha agus cósta na hÉireann, agus screamhuiscí; leibhéil uisce agus sruthanna aibhneacha a thomhas.
- Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
- Monatóireacht agus tuairisciú a dhéanamh ar Cháilíocht an Uisce Snámha.

Monatóireacht, Anailís agus Tuairisciú ar an gComhshaol
- Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
- Tuairisciú neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus na n-údarás áitiúil *(m.sh. tuairisciú tréimhsiúil ar staid Chomhshaol na hÉireann agus Tuarascálacha ar Tháscairí)*.

Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn
- Fardail agus réamh-mheastacháin na hÉireann maidir le gáis cheaptha teasa a ullmhú.
- An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhair breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn.

Taighde agus Forbairt Comhshaoil
- Taighde comhshaoil a chistiú chun brúnna a shainaithint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

Measúnacht Straitéiseach Timpeallachta
- Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaol in Éirinn *(m.sh. mórphleananna forbartha)*.

Cosaint Raideolaíoch
- Monatóireacht a dhéanamh ar leibhéil radaíochta, measúnacht a dhéanamh ar nochtadh mhuintir na hÉireann don radaíocht ianúcháin.
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha.
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
- Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Faisnéis Inrochtana agus Oideachas
- Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
- Faisnéis thráthúil ar an gcomhshaol ar a bhfuil fáil éasca a chur ar fáil chun rannpháirtíocht an phobail a spreagadh sa chinnteoireacht i ndáil leis an gcomhshaol *(m.sh. Timpeall an Tí, léarscáileanna radóin)*.
- Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
- Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt chun dramhaíl ghuaiseach a chosc agus a bhainistiú.

Múscailt Feasachta agus Athrú Iompraíochta
- Feasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
- Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil
Tá an ghníomhaíocht á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóirí. Déantar an obair ar fud cúig cinn d'Oifigí:
- An Oifig um Inmharthanacht Comhshaoil
- An Oifig Forfheidhmithe i leith cúrsaí Comhshaoil
- An Oifig um Fianaise is Measúnú
- Oifig um Chosaint Radaíochta agus Monatóireachta Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltaí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

EPA Research Report 337

Responding to the Energy Transition in Ireland: The Experience and Capacity of Communities

Authors: Clare Watson, Evan Boyle, Gerard Mullally and Brian Ó Gallachóir

Identifying Pressures

Recently, Ireland has witnessed a significant increase in interest in the role of citizens and communities in the energy transition to a low-carbon future. The role of communities is seen as essential in climate action and yet it is poorly understood. This report explores how to shift focus away from the individuals acting to address climate change towards the role of collective action and looking at the existing social, institutional and infrastructural barriers to action. This requires an exploration of community capacities and social infrastructure.

Informing Policy

This research project has engaged with community energy groups over a 3-year period and investigated how we might support the development of community capacity to effectively engage in energy transitions. Key insights emerged for policymakers as follows: Energy citizenship is an accepted ambition, but energy communities are struggling to operate and to upscale their activities. Infrastructural support is emerging but needs more coherence and should respond more effectively to community needs. There is significant untapped potential within intermediary groups that are not directly associated with the energy transition. Infrastructural support is emerging but needs more coherence and should respond more effectively to community needs. We expect a lot from volunteers. They need to be supported and adequately resourced. National leadership is key to giving community energy legitimacy and to helping with public engagement. Until there is clarity about addressing the policy barriers related to planning, grid access and finance, it is unhelpful to "talk up" the community ownership of energy. Community energy does not guarantee community acceptability or acceptance, but it can contribute to delivery.

Developing Solutions

Working with and for a community encourages active citizen participation, which contributes to citizen empowerment, the development of societal capital and social cohesion. This project develops a framework focussing on (1) cultural capacity, (2) organisational capacity, (3) institutional capacity, (4) individual capacity and (5) technical/practical capacity. The framework is used to discuss the results from engaging with energy communities and to draw out capacity challenges. The solutions focus on building the required capacity supports including: Mentoring in community development as an essential complement to technical and financial mentoring; reliable, multi-annual sources of core funding for community energy groups; funding and governance of community energy which allows for exploration, experimentation and cross-fertilisation. Practical support should be provided for intermediary organisations, such as Tidy Towns, which already have community support and trust. People with direct community development training and experience should be integrated into SEAI's community energy programmes. Approaches to support community energy should be developed that respond to the varied capacities of different communities.

EPA Research: McCumiskey House, Richiew, Clonskeagh, Dublin 14.

Phone: 01 268 0100
Twitter: @EPAResearchNews
Email: research@epa.ie

www.epa.ie

EPA Research Webpages
www.epa.ie/researchandeducation/research/