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Original research article

The Muillean Gaoithe and the Melin Wynt: Cultural sustainability and community owned wind energy schemes in Gaelic and Welsh speaking communities in the United Kingdom

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ABSTRACT

There is a shortage of scholarly research into understanding the cultural values, drivers and outcomes of community renewable developments. This paper contributes towards addressing this gap, by comparing four community renewable projects set in Scottish Gaelic speaking Scotland and in Welsh speaking Wales. Not only do cultural values drive the developments of these community energy projects, but evidence gathered here through qualitative interviews show that these communities aim to contribute towards the long term cultural sustainability of their respective areas. This research paper focuses on how community wind energy projects in Scotland and Wales have contributed towards the retention of cultural attributes, particularly language retention and revitalisation. It also contributes to a deeper understanding of the cultural reasons why historically indigenous communities are turning towards the renewable energy sector (and developing their own local projects) as a way to help achieve cultural sustainability through economic development.

“To preserve the islands’ unique language, heritage and culture by providing sustainable employment and a sustainable environment for people to live in.”

One of the aims and objectives of *Comharchumann Fuinnimh Oileáin Árann Teoranta*, a community energy cooperative on the Aran Islands, Ireland.

(Comharchumann Fuinnimh Oileáin Árann Teoranta [1])

1. Introduction

Community involvement in renewable energy generation and in regulating energy consumption has increased during the course of the past decade as concerns regarding climate change and energy prices intensify [2]. Although large scale, traditional power plants will continue to have a role to play in energy generation, it is becoming increasingly accepted that decentralised and community owned projects will also have a role in the future energy mix [3]. Community Energy Projects (CEPs) – energy projects that are part or fully owned by a recognised community of place or interest – are increasingly seen as a means of creating renewable energy in a sustainable way [4,5]. Indeed,

CEPs are being developed across Europe [6] and globally [3,7,8].

Community energy is an umbrella term used for a variety of initiatives managed by communities including projects that focus on generation of renewable energy, energy conservation, and the bulk-buying of energy for a community [9]. The national government of the United Kingdom (UK) has acknowledged a role for CEPs in the country’s future energy generating mix, with the administration of 2011–15 pledging support for the sector through the publication of the Community Energy Strategy [9]. This strategy also recognises, to a degree, the connected benefits of including communities in energy generation schemes such as the creation of stronger communities, opportunities for skills development and education, and financial benefits ([9][9]; p. 6).

Scholarly research has highlighted the ability of CEPs community energy groups to contribute beyond purely energy target measurements, towards *economic* and *social* sustainability (for example, [10,11]). Indeed, it is becoming widely recognised that the community energy sector ‘incorporates a wider range of sustainability objectives’ than merely the production of renewable energy ([12], p. 5). However, beyond the social and economic benefits of the sector, there has been little, if any, in-depth research or acknowledgement of the ability of

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community energy to contribute towards *cultural* benefits and sustainability. Despite the call for more ‘human-centred’ research methods within energy scholarship, such as in the field of cultural anthropology ([13], p. 1), specific research incorporating such approaches within the community energy field are rare.

Culture is an ambiguous term. It is one of the most difficult terms to define according to even the most experienced cultural studies academics [14]. It can be socially constructed, and imbued with a plethora of different meanings by different people and as such it is a ‘difficult’ phenomena to study ([13], p. 18). Academics from anthropology and cultural studies define the term as the thing that completes who we are, ‘without which we are “incomplete and unfinished animals”’ ([15], p. 12). If considered as an adjective, culture can include worldviews or ways of knowing and interpreting the world, symbols (such as language, dance, song, poetry, oral history), assets (sites, territories) and institutions (see Ref. [16]). Alignment with the symbolic definition is reached by Murphy and Smith [17] who use it as an umbrella term to include a people’s relationship to place, a language, dialect, the traditions of working the land, religion, history, values and heritage. Soini and Birkeland [18] emphasise that the sustainability of cultural attributes should bear as much value as that given to ecological, economic and social sustainability. Such attributes are seen as the basis for social and economic wellbeing [19]. It is a term increasingly incorporated within environmental management domains, although it can cause broad and complicated definitions [16].

There are campaigns by United Nations Educational, Scientific and Cultural Organisation (UNESCO) along with United Cities and Local Governments (UCLG) to ensure that culture is added as the *fourth* pillar of the sustainable development model [20]. This call requires national governments to be mindful of such matters within national sustainable development measures by including “a cultural dimension in all public policies” ([20], p. 7). A recent example of this is the Well-being of Future Generations (Wales) Act 2015, which recognises the importance of cultural wellbeing within future sustainability goals, and particularly the Welsh language as a facet of Welsh cultural life [21]. This law, recognises how the cultural wellbeing of a society can stimulate wider wellbeing, such as health and social cohesion. This issue is reflected in North American indigenous research that has shown a link between cultural, language and identity revitalisation and its beneficial effects on community and health wellbeing [22]. Similarly, in environmental management spheres, there are increased calls to consider cultural worldviews when managing and developing natural resources [16,23].

Despite an increased understanding of the need to include culture within the sustainable development model and environmental management practices, cultural sustainability tends to be maligned or excluded from more specific public policies, developments, and goals [18]. This is despite the damaging effects that neo-liberalism, capitalism, individualism and globalisation seems to have had on cultural communities [19]. Cultural values and sustainability within the energy sector remains an issue rarely discussed and a research area rarely explored. This is despite growing evidence showing that culture, world views, native language and history can play a significantly important role in the way that communities have shaped concerns and goals in relation to the energy sector [24]. Cultural factors, then, can be decisive in shaping ‘preferences about energy resource management decisions and energy use’ ([25], p. 9).

In this paper, we will bring into focus cultural sustainability within the community energy sector through exploring four CEPs within marginalised, peripheral communities in Scotland and Wales. These case studies will be discussed in relation to peripheral communities elsewhere, with the hope being that our findings relating to cultural sustainability in connection with community energy developments, will have wider international resonance. The remainder of this paper is divided into four sections, beginning with a more detailed review of cultural dimensions of energy developments.

2. Exploring cultural dimensions of proposed energy developments

Although literature focused on community energy and culture is scarce, some concepts can be drawn from previous research that attempts to touch upon these issues. Firstly, Murphy [24] argues that cultural attributes are a force that fuels *opposition* to large energy developments, be they fossil fuel or renewable projects (also see Refs. [26,27]). Energy projects can be resisted by communities who draw on their history and collective identity within an area, as evidenced in research based in an Irish speaking community in County Mayo, West Ireland [24]. Murphy [24] observed how this community interpreted sustainability in predominantly cultural terms through their identity, language (Irish), history, and relationship to fellow residents and place. It was this *cultural* attachment and desire to protect their *cultural* heritage that guided residents’ opposition to the gas refinery proposed for development in their area.

Other communities within various indigenous communities across the globe have challenged similar development of large energy projects or infrastructural developments, by drawing on cultural, historical, collective identity, and language features. Such an example is in recent opposition to oil/tar sands development by First Nation communities in northern Alberta, Canada. This particular campaign against the development of a large-scale fossil fuel extraction scheme, saw the indigenous Cree, Chipewyan, Dené and Métis people campaign on the grounds of being the traditional, cultural community of the area affected [28].

Large energy infrastructure has also been more recently opposed amongst First Nation Sioux communities at Standing Rock in Dakota. The proposed Dakota crude oil pipeline threatened the Oahe lake within the reservation in environmental terms but also ran through culturally important land for the Sioux people. The rejection of this development on the 4th of December 2016 (following a sustained protest which involved worldwide indigenous activists and environmentalists) was partly achieved through the involvement of the indigenous Sami people of north Norway, who persuaded a Norwegian bank, invested in the development, to pull out [29]. Many cultural rights issues were raised during this period, including the values and right to land and resources, as well as re-addressing the historical dispossession of indigenous peoples in the USA. However, this case is likely to be revived following President Trumps Executive Order in January 2017 which grants the developer access to the land to progress with the pipeline [30].

A similar case of opposition guided by cultural identification has been demonstrated on the Isle of Lewis in Scotland. Local residents objected to a privately owned, large-scale 234 wind turbine development on *Mòinteach riabhach Leòdhais* – the Brindled Moor (also known as Barvas Moor) on the Isle of Lewis [26]. The abundance of expressive Gàidhlig (Scottish Gaelic) words that the local communities had for describing the moor, and how the proposed windfarm threatened to eradicate this heritage of words through changing the landscape, fuelled protests against the development [26].

Another example of opposition guided by cultural identification is the case of the Roineabhal mountain on the Isle of Harris, which had been targeted as a potential mining opportunity for road chippings. The battle by local residents against the global mining developers was partly guided by cultural and historical underpinnings, particularly the cultural meaning of the Roineabhal to the local, indigenous, community [31]. Similarly, on Ynys Môn (Anglesey) in north west Wales, cultural drivers have spurred opposition to the re-development and expansion of a nuclear power plant on the site of Wylfa, particularly its possible impact on the nature of Welsh language communities of the area [32].

Murphy [24] suggests that there is a historical narrative of loss and dispossession within the Gaelic cultural context along with a specific, Celtic ‘place-based vision of sustainability’ ([24][24], p. 12) that could be fuelling opposition to large corporate interest groups. This notion of loss and dispossession could be a narrative shared by other post-

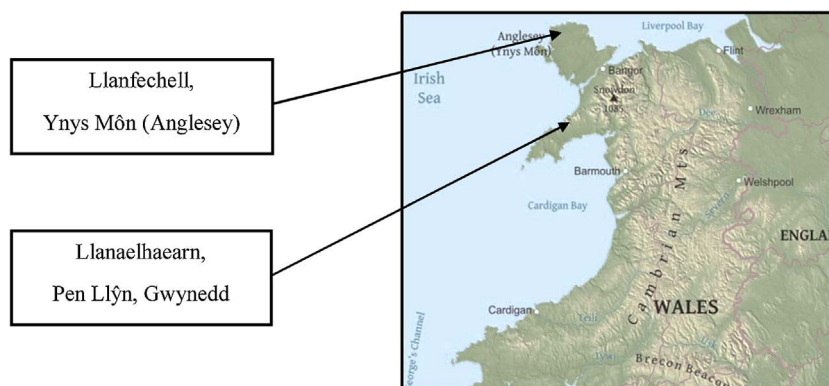


Fig. 1. Map of Wales showing location of Llanfechell and Llanaelhaearn [43].

colonial, indigenous and smaller world cultures. Such “indigenous and economically marginal communities” have been recognised as peripheral areas in which unjust energy processes can take place, such as the siting of energy infrastructure ([36], p. 5). These contemporary energy developments might very well be replicating historical experiences of dispossession and disempowerment imposed on peripheral communities [33] and indigenous communities [17,27].

Disempowerment is also reflected in some themes explored within energy justice literature – research that addresses the integrity of the energy sector, and the relationship between those who benefit and lose within that system [34–38]. It is argued that the energy sector has distributed benefits unequally through past models – economically, socially, spatially and through policy implementation. Cultural injustices can also take place as reflected in literature on justice as recognition – justice in relation to recognising and responding to the needs of different identities and groups within a society (see Refs. [35,37,39]), including culturally based identities. It is possible that cultural injustices could occur within low-carbon transitions as they have ‘the potential to distribute...costs and benefits just as unequally as past transitions without governance mindful of distributional justice’ ([59], p. 58). Without mindful governance of justice as recognition, energy transitions could be harmful to particular cultural groups within society. This is particularly the case if there is a lack of understanding of the context and settings within which energy justice issues take place [40].

Apart from fuelling opposition towards large energy developments, cultural underpinnings can also lead to greater sympathy being engendered towards smaller, locally owned projects. The successful opposition of the large windfarm development on Lewis discussed above [26] eventually led to the development of the smaller, community owned *Baile an Truseil* wind project on the Galson Estate in the north of Lewis [17]. In contrast to the proposed larger wind development, this smaller community wind farm was perceived by local residents to be a more considerate development in keeping with the socio-cultural qualities of the area [17].

The ability of cultural attributes to inspire the uptake of community energy can be seen in areas where there is a tangible link between place and people with a history of dispossession [24]. The colonialism and dispossession of territorial and natural resource rights experienced by the first nation peoples of Canada is an interesting case in point. Their culture, language and traditions, coupled with a historic narrative of loss and dispossession seem to play an intrinsic guiding role in their increasingly active participation in the development of local renewable energy projects in rural Canada [27]. Similarly, research involving the Navajo Nation in the USA, who have experienced a turbulent history of cultural dispossession and invasive infrastructural developments on their historical land, found that cultural sustainability was intrinsic to their views and values regarding the future of energy development [25]. Further research on the development of community driven (as

opposed to top-down development) wind and solar projects amongst indigenous peoples in North America also show that cultural identity (and a common history of cultural and environmental oppression encapsulated in mining and extracting developments that have been imposed on these communities) can drive the uptake for renewable energy in an integrated manner, capturing the need for cultural revitalisation and human well-being [41,42]. It could be that culture can inform and inspire the take up of smaller, less invasive and just energy projects, along with contributing towards cultural revitalisation. The aim of this paper is to look in depth at the cultural context in which community energy groups have been established and are being established in Wales and Scotland. Through a series of interviews, the research also looks at how community energy, and the income stream that it creates, can be a means of bolstering cultural features amongst communities. The paper also examines how community energy projects contribute towards communities’ cultural sustainability. Rather than being a force for opposing development as discussed by Murphy and Smith [17] and MacFarlane [26], we are open to the idea that culture could play an important role in propelling communities to pursue energy projects. The following section outlines the methods and methodology used to gather and explore the empirical data upon which this paper is based.

3. Case study selection and methodology

Semi structured interviews were undertaken across four case sites in rural north west Wales and north west Scotland at the end of 2013. Initial contact had been made through a scoping study period, and further illustrative sampling was made through introductions and enquiries via email, phone calls and snowballing. CEPs were chosen where Scottish Gaelic and the Welsh language are still used as spoken community languages. In Wales, the two case sites were ‘Ynni Llanaelhaearn’, Pen Llŷn (Lleyrn Peninsula) in Gwynedd and ‘Ynni Talybolion’ in Llanfechell, Ynys Môn (Anglesey) in Wales (See Fig. 1).

Llanfechell is a village on the outskirts of the coastal town of Cemaes on the north coast of *Ynys Môn*, the Isle of Anglesey. According to the 2011 Census, within the parish of Mechell (which includes the village of Llanfechell along with Carreglefn, Mynydd Mechell and Rhosgoch) the population is 1293 [44]. Llanfechell is based in a rural area in the north of the island, where agriculture is one of the main industries, along with employment in the public sector. Anglesey Aluminium had also been one of the major employers for the north west of the island until its closure in 2009. The Wylfa nuclear plant and its possible replacement, Wylfa B have also provided work for local islanders.

Llanaelhaearn is a village on the eastern arm of the *Pen Llŷn* (Pen Lleyrn) peninsula. The last census showed that the ward of Llanaelhaearn (including the village itself and the villages of Pistyll, Llithfaen and Trefor) consisted of 1683 citizens [45].

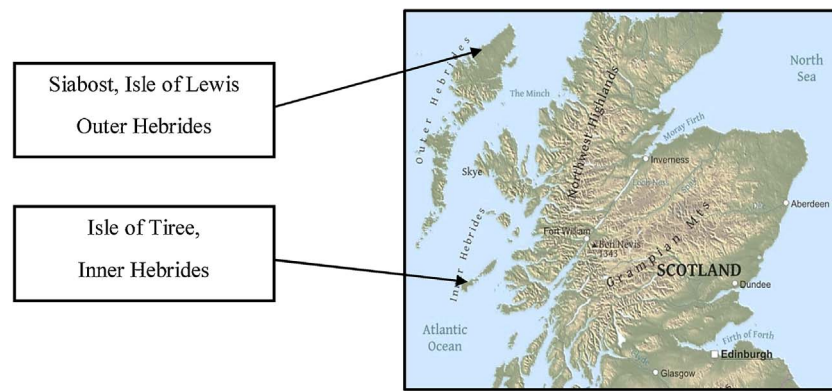


Fig. 2. Map of Scotland showing Siabost and Tiree [46].

In Scotland, the two case studies were, Tiree Trust on the Isle of Tiree (Inner Hebrides) and Horshader Trust in Siabost, Isle of Lewis (Outer Hebrides) (see Fig. 2):

Siabost is a township that comprises of north Siabost, new Siabost and south Siabost, and is on the west coast of the Isle of Lewis in the Outer Hebrides of Scotland. Siabost is to the west of *Mòinteach riabhach* – the Brindled Moor described as “several hundred square miles of bog, hag, crag, heather, loch and lochan that make up the interior of Lewis” ([26][26], p. 15). Siabost is approximately 40 miles away from Stornoway, the main town of Lewis and Harris. Unlike a traditional village that has a distinctive centre, Siabost is a dispersed township and its households are scattered across a few miles of coastline. North, south and new Siabost have a collective population of approximately 280 people [47].

Eilean Tiriodh, The Isle of Tiree is the furthest westerly island of the Inner Hebrides. The 2011 Scottish census reported a 15% fall in the population number from 770 to 653 since the 2001 census [48]. National Records of Scotland also supply projections for possible future population and demographic scenarios of Scotland, and predict that there will be further depopulation and aging of the communities of Argyll and Bute, including on the island of Tiree [49].

All four case sites were pursuing or had already constructed a community owned wind turbine (900 kW projects in Scotland, 500 kW projects in Wales). All four had been pursued under the initiative of local residents. The four community energy projects were in different stages of developing their respective community wind turbine projects (see Table 1). However, each project aimed to reach similar goals, most centrally the sustainability and long term viability of their communities. All four had included the retention and development of their cultural heritage, including language, as a clear project aim.

Rural west Scotland and rural west Wales have many cultural similarities. Most obvious of these are that Cymraeg (Welsh) and Gàidhlig (Scottish Gaelic) are community languages in both areas. These languages are depositories within which historical and cultural practices such as poetry, song and image, are encapsulated. Language was therefore a central cultural feature in each community and became a focal point for this research.

34 semi-structured in-depth interviews (lasting on average, between one and two hours) were conducted in November and December 2013 amongst active members of the community energy projects (e.g. involved with the initial development of the project itself, a part of a steering committee, directors, project officers or members of the Trust/Cooperative), and members who were on the periphery of these projects (e.g. residents of the area). Interviews in Wales were conducted in Welsh (amongst Welsh-speaking interviewees) and have been translated for use in this paper. Pseudonyms have been used, and no distinguishing descriptions of interviewees used – to ensure participants anonymity.

The analysis method was based on bricolage analysis which allows

for a ‘free interplay of techniques during the analysis’ ([60], p. 115). This involves the use of a number of different approaches in order to examine a wider array of aspects which make up the interview including themes, narrative and content. In contrast to a systematic approach, meaning is constructed through an interaction of analysis techniques [60]. Some codes were data-driven (that is they were created based on the words and meanings that were used within the interviews) and others were theoretically informed (based on literature review and discussions with a number of experts and community groups at the outset of the research) [54]. What follows is a discussion of the insights generated through the in-depth interviews.

4. Results: the cultural history, drivers and outputs of community energy

4.1. Background: sense of place and cultural glue

Emotion towards place, a tangibly strong sense of feeling towards a geographic place, its people, culture, common history and language, was acutely felt amongst many of the interviewees. These feelings included a strong bond with the history of the people (sea farers and captains in Tiree, granite quarry men in Llanaelhaearn), literature (the diarist William Buckley in Llanfechell, the Ballemartin bard on Tiree), artists and photographers (Dr Norman Morrison in Siabost), religious leaders (John Elias in Llanfechell), and the local dialect of a language. There were tangible links back to the early history of local saints, and even more ancient local standing stones and iron hill forts which were within or in close proximity to each community case site in this research. These communities’ history spanned back millennia. These deep roots in the past were a central part of the local culture. Certainly, a sense of being different and peripheral to a mainstream, homogenised, anglicised and globalised British culture was acutely sensed. This sense of place [55] is best left described by one of the interviewees, here describing the people of the western side of Lewis,

“There are roots there that run intuitively back over centuries... there are people living in the landscape...they can relate themselves to people who lived there hundreds of years ago and know intimately the way you know the back of your hand and the appearance of one side of your face...the history and the folklore of the area they live in. Now there are areas, many other areas in Britain I’m sure where that is the case, but they are increasingly isolated and development and change is eradicating that probably at a continuing if not an increasing pace”

Calum’s point reflects the concept posed that ‘where there is a stronger sense of the public or the common, a more anthropological and moral-political way of understanding culture...is still strong’ ([56], p. 10). The Gàidhlig and Cymraeg languages were found to be of central importance when interviewees were asked to describe their local

Table 1
The Case study sites and projects.

Community Energy Scheme	Village and area	Renewable Technology	Ownership model	Stage of Development (at time of interview)	Project Aims	No. of Interviews
Ynni Antur Aelhaearn	Llanaelhaearn Pen Llyn Gwynedd	500 kW wind turbine	Cooperative	Final planning phase	"[To] maintain and promote the existence...of the village of Llanaelhaearn...and in particular to halt and reverse the trend towards depopulation...to provide opportunities for the employment in the district...to provide housing, amenities and/or services [50] To develop and run a community wind turbine on behalf of and for the benefit of people living in south Siabost, Dalbeag and Dalmore "Supporting the Gaelic language and culture" [51] "...deliver projects which will promote environmental sustainability... promote and support social sustainability... and development of the linguistic and cultural education & heritage of the communities within the Mehell and Llanbadrig electoral wards" [52] "to encourage and facilitate the sustainable development of the Isle of Tíree, with due regard to the unique culture, heritage and environment of the Island." [53]	7
Horshader Development Trust	Siabost Isle of Lewis Outer Hebrides	900 kW wind turbine	Trust	Wind turbine up and operational since October 2012 (no annual income received at time of interview) Preparational planning		10
Ynni Talybolion	Llanfechell Amlwch Ynys Môn (Anglesey)	500 kW wind turbine	Trust			7
Three Community Trust and TREL	Isle of Tíree Inner Hebrides	900 kW wind turbine	Trust	Wind turbine was erected at the end of 2009 and the Windfall Fund launched in 2011		10
Total Interviews						34 (37 individuals)

culture – the first and inimitable cultural symbol used by most of the interviewees (Section 4.3 discusses this phenomena in more detail). Cultural life was often tied up with the language of the community. Language sustainability was also cited as a *reason* for pursuing each community energy project (see aims in Table 1). Many indications were made to the importance of both languages as bearers of other cultural practices, such as poetry, song, history, depictions of the natural environment and traditions. However, these aspects considered so distinctive within each community, were depicted to be eroding. The impact of newcomers on local language and culture was documented in all four case sites. English was heard more frequently in local schoolyards and the language of volunteering was also changing, as committees had to accommodate English speaking members of the community. All of these factors had a cumulative effect on the stability and normality of Welsh and Scottish Gaelic language use.

Culture was also described as a glue that kept a community together and their relationship to a geographical place strong. Despite a desire to retain their knowledge of the past and maintain the bond with traditions passed on through history, this glue, which had kept a community together and their relationship to their place strong, was seemingly wearing away. The erosion of cultural life, such as the weakening of the traditional ceilidhs on Tíree (held in people's homes rather than public buildings), the tradition of calling on neighbours, diminishing storytelling traditions and the dwindling numbers of Welsh and Scottish Gaelic speakers were repeatedly touched upon in the interviews. There was a recognition that traditions, and the social bond created by these traditions, were weakening. However, there was also a strong desire to maintain and strengthen these features. This desire to preserve traditions not only included preservation of language, music and poetry, but relationships with the natural world such as the practice of crofting in the Scottish case studies. The natural environment was clearly treasured amongst many interviewees, although concurrently, there was a belief that communities, and the cultural features that they retained, deserved equal protection and support. It was repeatedly proposed by the interviewees that when speaking about the natural environment it was also necessary to consider the economic, historical and cultural aspects of that environment,

"The environment is more than just the physical environment, it's an economic environment, it's a cultural environment; social too, and that's where it's important to look at the environment more widely...it would be a dangerous triumph if somebody saved the surrounding landscape and that nobody would live [there]...that you had dying communities at the foothills of the mountain."

Culture formed a core part of a sense of place for many interviewees, and was something that carried an emotional weight in the form of duty – a duty to maintain their unique culture. CEPs that generated a new, sustainable income stream (from selling their generated electricity) were seen to be a means of taking responsibility for a place,

"Well, there's a feeling of duty to carry on particular traditions... there's a feeling of duty to look after the place, for the next generation...the emphasis on staying here and making the place better and...improve your own place, and that's what we're trying to do..."

The case study sites had correspondingly strong bonds to their cultural history and traditions. These communities should not however be over-simplified as being marginal, picturesque communities absorbed only with some remnants of 'quaint' cultural practices, history and language. They are areas where real human challenges are being faced. Poverty, perceived ineffective governance and threats to service provision were also a concern. Added to these are additional threats towards their cultural, historical, linguistic and place identities. These threats were compounded by what was described as a rapidly homogenizing world. It was perceived that deep-rooted, local cultures were being discarded in order to participate in a new international culture

[57] which was, according to Robert from Tiree, “not a bad thing. But... you lose as well as you gain in that choice”. Advancement of a mainstream cultural homogeneity could result in cultural poverty and a disconnection with local ‘psychohistory’ – the knowledge of one’s own history [31]. However, the communities under study in this project saw each of their CEPs, and the potential income stream that could be generated, particularly with the higher Feed in Tariff¹ rates prior to 2015, as a means of strengthening their indigenous communities.

It was believed that there were economic benefits arising from renewable energy project ownership that could contribute to the sustainability of the cultural features of all four communities. The need to strengthen the local economy in order to fortify local cultural aspects was a common goal across the case sites. There was also hope that the social benefits, the gathering of the community for a common goal, such as cutting peats communally and other ‘old’ traditions could be replicated, in a new form. There were communitarian benefits (gathering of the community to develop each CEPs, and the related projects developed as a result) as well as more tangible economic benefits (Feed in Tariff payments). However, there was no desire for there to be a regression towards an ‘old’ way of life, as Walter and Gladys articulate below,

Walter: People don’t want to live in a theme park either

Gladys: Or a museum

Walter: They want to be able to live here and now

Finding the balance between achieving cultural sustainability within a liveable economic structure was the intended goal amongst the four case studies. Economic uncertainty threatened the cultural aspects that were of such importance to the interviewees. The link between both matters were acutely felt, and at the heart of each community renewable projects strategy.

4.2. Community energy, the local economy and its contribution towards cultural sustainability

In the same way that the granite quarries, the tweed mills and agriculture had supported communities of the past in terms of employment; community-led economic development was perceived as being able to create work and provide an economic seedbed for cultural life to thrive. Each respective community wind turbine scheme was seen within this context – as being a means of developing a local economy, creating local jobs (through a new income stream that their projects could create and which could be re-invested) and allowing for a more prosperous future both socially and culturally. Despite uncertainty about the cultural future of their communities, there was a growing conviction that such aspects ought to be protected, and that CEPs could contribute towards this goal. Inward investment through the wind turbine on Tiree for example, was seen to make the island a more attractive place to live – subsequently having a beneficial effect on the culture of the island,

“If it [community energy project] helps keep people here and not leave, then by default, it’s supporting the culture... it’s a wider benefit to the culture by making sure that we don’t get any smaller and any weaker, or any more fragile.”

Creating a community income stream allowed groups to provide finance for certain cultural events, community services, job creation and other project development. These included the development of traditional music events, language courses, projects to develop traditional skills, allotments, community museums, nurseries, historical events, a community swimming pool, and community parks. Each community foresaw the capacity to employ project officers to deliver

these activities through their new income stream and additional match funding. This was a clear aim for the Talybolion energy project in Llanfechell, who, despite not being able to invest in such activities at time of interview, intended to do so with their projected income,

“...we wanted to keep the values and the cultural pattern that are in this vale. We felt that that we could do that if we had our own income rather than depending on other people.”

Tiree (being the most developed of the four community energy projects at time of interview) already had examples of how their new income stream from the wind turbine, distributed through what the Tiree Trust had called the ‘Windfall Fund’,² was being used for cultural stimulation. One such example was donating funds towards the annual Tiree Music Festival, which had been bringing hundreds of people to the small island and “putting Tiree on the map...helping bring people here which is then helping the tourist industry and [is an] income stream to the whole island” (Jessie, Tiree). Another group that benefited from the ‘Windfall Fund’ was the Tiree and Coll Gaelic Partnership, a charity group that specifically worked on the development of the Gaelic language, historical knowledge and archives on the isles of Tiree and neighbouring Coll,

“I think if it hadn’t been for the Windfall Fund...[we] would have... gradually ended up tired... it’s made a difference between viable and disintegration and when it comes to sort of heritage infrastructure and sort of producing employment for lovely bright young Tiree people...it’s a fantastic energy boost to the economy and the... I think the energy of the community.”

Similarly, the *Fèis Thiriodh*, a Tiree based group teaching and learning traditional Scottish and Tiree Gaelic music received funding from the ‘Windfall Fund’ to promote ‘*ar ceòl, ar cànan ‘s ar dualchas*’ – our music, our language and our culture (there were also hopes that there would be funding available for developing a similar project in Siabost, Llanfechell and Llanaelhaearn). The ‘Windfall Fund’ also part funded the post of a staff member at the Tiree Trust, responsible for developing cultural projects on the island. Such was the case in Siabost, and the hope in Llanfechell and Llanaelhaearn.

Other projects that the ‘Windfall Fund’ funded on Tiree included a local drama group that had developed Gaelic language performances, a community tapestry project depicting the history of the island, and funding for the Tiree Maritime Trust. Money was given to build a boat house to store the traditional lug boats used on the island, and retell the maritime traditions of the island;

“...[Tiree Maritime Trust] do little training courses every now and then on how to restore boats and things like that so...apart from that fact...it’s built an asset for the community, a physical asset for the community. It’s also helping to promote the culture and heritage side of the sailing on Tiree.”

There certainly seemed to be more confidence in Tiree due to their new income stream and how it could contribute to the protection and promotion of cultural aspects on the island particularly for *An Iodhlan*, the historical centre,

“Well it just makes it all a bit more positive doesn’t it... knowing that there’s this huge pot of money – it will be once the loans payed off – that all community groups can apply to...to keep them going, instead of everyone having to worry about, oh, where’s the money going to come after fund-raising...it’s a much, much more positive thing and that...makes you plan more for positive projects that you want to do with your community group...because we know we’re in a secure position, where we’re not going to have to worry next year about whether we’ll be open or not ...”

¹ A payment for small renewable energy producers.

² The Windfall Fund, the income generated by the community wind turbine, could be applied for through a community ran bid process.

Horshader Trust in Siabost, who will be managing the money generated from their community turbine, were already supporting cultural projects. The *Tormod an t-Seòladair* project developed knowledge about glass plate negatives taken by Dr. Norman Morrison – a native of Siabost who had used local people as his subjects for photographic negatives taken in the early 20th century. Although not funded by Horshader (who did not have their income stream established at the time of interviewing), in kind contributions (for example, volunteer time) were given, and a tangible desire to pursue similar cultural programmes and projects in future was clear.

Using income generated by the wind turbine to build upon the success of existing historical groups, there was a desire for the cultural aspects of the past to be imparted from older generations to younger generations and that there was a need to “repatriate these things” (Caitlin, Siabost). Specifically, Horshader hoped that they could fund a museum project in the area to facilitate this repatriation of history and culture for local people and visitors to the area,

“The idea is to restore that museum and that really does... brings back to life if you like, the crofting ... as well as the language as well, so that’s a...that I hope will be supported by the turbine project”

Community energy was seen as a way of being able to develop community facilities and amenities, contributing towards turning the tide on depopulation patterns, and thereby allowing local cultural practices a seedbed in which to thrive. Similarly, the community wind turbine projects underway in Scotland, and particularly the activities that these projects could fund (community activities, events, allotment projects and so on) were seen as a way of encouraging more opportunities for people to socialise, and come back into contact with each other and thus again encourage the resilience of traditional cultural activities.

Although the Welsh case sites’ community energy projects were not operational and generating an income stream at time of interviewing, there were already many ideas about how the money generated by their proposed wind turbines could be used towards cultural sustainability. In Llanaelhaearn, this had already been the remit of their community cooperative ‘Antur Aelhaearn’. Established in 1974 the cooperative aimed to protect and develop the area as a culturally strong Welsh and Welsh speaking region and instil a sense of local confidence. The wind turbine project was seen as being of vital importance in the continuation of this vision,

“That’s why I think the work with this turbine is important and I think that it gives a chance for us to do things that would help in relation to keeping the language...the heritage you know – [there are] all kinds of things that we could do with it to help...”

Plans to help the community included developing a heritage centre in the chapel building the cooperative had acquired. The heritage centre would include information on local historical and cultural figures, including a section for interpretation of the *Tre Ceiri* site – the Iron Age Hill Fort above Llanaelhaearn. The museum was also a cultural focus that could showcase their musical heritage in the area, and a hub for developing language classes. There were also plans to develop a nursery in the village, retaining young families and attracting others – again, seen as a way of bolstering cultural attributes within their community.

Llanfdechell also had plans to ensure that the cultural heritage of their area was to be protected through their community energy project, a vision that was included within their memorandum,

“One of the objectives [in the memorandum] is... ‘to utilise revenue to support assistance and development of the linguistic and cultural education and heritage of the communities of Mechell and Llanbadrig’...it’s...very important to have that clause in...that

Welsh cultural realities would be [a] prominent part of the thinking.”

Here too, there was a desire to develop a community historical hub, musical events and language activities, as well as to develop their allotment site and buy a community shop, in order, partly, to stimulate their cultural heritage.

However, interviewees across the case sites also indicated that it would be disingenuous to presume that a wind turbine alone could ‘save’ a culture. The struggle between preserving small cultures against the perceived homogenising effects of globalisation is considerable, as highlighted below,

“...the forces of...cultural homogenisation are not just felt on Tiree. These are very strong forces...technology has shrunk the world and homogenised the world...and I think you can have a million community turbines but I don’t know [if they] can compete with that.”

Nevertheless, there was a clear will amongst interviewees that their community energy project would contribute somewhat towards the cultural growth and sustainability of their communities. Bolstering economic structures was imperative for this aim. The development of the Welsh and Scottish Gaelic languages was also central to how these communities framed their cultural sustainability.

4.3. Language sustainability and community energy

“[the Isle of Lewis] has more of the aspects of a real, live, cultural island, divorced from the mainland... [that] has led to a more distinctive identity and culture which has been largely expressed through the Gaelic language.”

Language was repeatedly used to illustrate cultural distinctiveness amongst the interviewees. It was predicted by interviewees that through strengthening the local economy the language in turn would be strengthened, as a strong local economy would allow local people to stay rather than move away, thereby preserving the language amongst community members in both Wales and Scotland as, “...you’re allowing Gaelic speakers to stay and use their Gaelic – it keeps it alive...” (Gladys, Siabost). Tiree was already providing practical support for language initiatives. On Tiree, projects that were supporting language sustainability were seen in the same light as other sustainability measures;

“[there are] various criteria that we want the projects to hit and it’s – involving young folk, involving Gaelic, involving sustainable environmental things, involving old people, and...it’s just a scoring thing that we have...”

Indeed, the subsidising of Ulpan³ courses via the Windfall Fund made courses more affordable for locals on Tiree. Funds were also used to contribute towards the employment costs of a culture officer also now trained as an Ulpan tutor. Although the connection was not conspicuous at first glance, the turbine was in fact contributing towards supporting the language on Tiree,

“You don’t see the connection between the turbine there and supporting Gaelic on the island, but that’s what it’s doing. It’s doing it indirectly by being able to fund that project that makes it easier for people that are resident to access courses.”

Developing the Ulpan courses on the island, also had the benefit of attracting further funding. The local Argyll council had shown an interest in sending staff (all eligible for language classes) to learn Gaelic on the island. There was also a potential for Tiree to develop into a language learning hub, a vision included in Tiree Trusts’ Community

³ A standardised Scottish Gaelic language course.

Growth Plan [53]. A development of this sort was viewed as being able to provide a new economic benefit for the island, as well as encouraging more uptake of the language locally.

“...we’re now running a project to have Ulpan courses on Tíree so hopefully it could turn Tíree into a bit of a hub for Gaelic learning... that’s our long-term plan. As of early next year, we’ll be running parent classes for locals...that essentially would lead to [a] nine-week residential course that hopefully we’ll be advertising internationally, so that’s the grand plan.”

However, there remained difficulties in inspiring residents to engage with language learning itself on Tíree, and that money on its own would not be a panacea for language revival;

“I mean the problem...is getting people wanting to go to it, ‘cause there is...sort of a large investment in learning a language...I think many people living on Tíree today would say...it’s not worth it... that’s what seems to be the calculation that people are making, whether you’re putting ten or a hundred thousand pounds into that project, that doesn’t make a huge difference. So...it certainly, it’s a positive influence, but it probably needs more than just money. Unless you can conceivably drag Tíree a hundred and fifty miles north – which would be good!”

Support was also offered through Horshader in Siabost for groups that were focused on Gaelic language activities. Supporting the language and cultural heritage was a part of their criteria. As Siabost is considered a stronghold for the Gaelic language (with over 70% native speakers), it was suggested that the area could benefit from further Gaelic language developments. There was certainly an appetite amongst the interviewees that there should be investment made into the Gaelic language, even in practical terms with the running of the project. The language was already being used in Horshaders’ offices by the Development Officer, allowing local people to feel comfortable in communicating ideas about developing the area,

“I can speak to them in both languages, the elderly like that...so I think it’s easier, I think it’s definitely easier. I think it’s easier for them to also say to me what kind of projects they want...and to speak in both languages”

Support was also in line for developments in case studies in Wales despite not having yet reached the development phases of the examples in Scotland. Firstly, in Llanaelhaearn there was already a contract by Antur Aelhaearn to conduct a language impact study (along with an economic benefit study) to show the possible benefits that ownership of a community wind project could entail for the Welsh language. Interviewees believed that the community turbine would contribute towards strengthening the language,

“...this is a chance to strengthen the language locally. Certainly, it won’t weaken her and...there’s a chance for the wider strategy to strengthen the language and her foundations, and keep her for many years hopefully.”

The idea of funding free Welsh lessons for local people in Llanaelhaearn was mentioned as a direct means of strengthening the language. Many interviewees saw the potential for their community energy projects to contribute towards funding such a venture and thereby support the development and sustainability of their language. This was seen in a wider context of ensuring the community’s economic and social sustainability as a whole. This was also the desire in Llanfechell, who had enshrined language development within their memorandum. These goals reflect the hopes that were held in the Scottish examples. However, it was argued, in all case sites, that before addressing the issue of language protection, community stability had to be achieved. A solid bedrock was needed for the language to develop, as alluded to in the excerpt below,

“I think that...you have to build a real community with a real life before you can address the issue of the language in a meaningful way.”

Economic stability was seen as the essential foundation that was needed for these communities’ culture, and attached languages, to thrive. In each case site, although their community wind turbines were not considered a panacea, they were seen as meaningful and potentially positive contributors towards cultural sustainability.

5. Conclusions

The cultural underpinnings of each community under study were of significant importance and value for interviewees. Ensuring a viable future for these cultural traditions, be it language use, traditional practices, repatriation of historical knowledge or reclaiming the relationship between people and land, was considered an imperative. We build upon past community energy research that suggest that CEPs contribute beyond purely energy target measurements, i.e. towards *economic* and *social* sustainability [10,11]. We propose that some CEPs also contribute, or aim to contribute, towards long term cultural sustainability, as evidenced through the case studies above.

It has been argued that the effects of neoliberalism and globalisation have had particularly harmful effects on place attributes such as culture, language, tradition, history, memory and community ([24]; see Massey [57] for a set of counter arguments). This is not only applicable to the cultures under study here, but amongst other indigenous communities across the globe, particularly North America and Canada [23–25,27,41]. The homogenising effects of these phenomena have been depicted by the case site interviewees, with descriptive analogies of how their communities are changing, local cultural attributes are abandoned, and socialising is becoming rarer in the face of modernity. There are fewer opportunities for communities to come together and create social bonds that can bolster local cultural activities and sustain local attributes such as language use.

CEPs, however, seems to present a way of re-kindling some of these social and cultural bonds by offering an opportunity for communities to gather once again for a shared aim, and to create objectives that include the strengthening of local cultural attributes along with posing a new reason for community members to socialise. Although inspiring engagement is a particularly modern challenge, in the face of increasing individuality [56] – community energy is perceived as offering an opportunity to turn the tide on this trend.

Furthermore, community energy is perceived as being counter to the history of cultural injustice [39] dispossession and exploitation experienced at the hands of past large infrastructural energy projects [17,24,27]. Rather than being ‘economically marginal communities’ where unjust distributional energy processes take place ([36], p. 5); peripheral, rural and culturally distinct communities, as illustrated by the case sites in this research, have become the owners and developers of their own local energy projects.

CEPs, as extolled by the interviewees across the four case sites in this study, can also invest new income streams (generated from their renewable energy projects) into cultural activities such as local language courses, events, and even employment opportunities for local people. These activities combine to create a more resilient community with strengthened facilities and services that encourage people to remain, return or move to the area, which in turn could contribute towards the flourishing of cultural practices and traditions.

Community owned renewable energy projects have been acknowledged as allowing communities to benefit from ‘natural resource wealth gains while simultaneously facilitating holistically sustainable development’ ([58], p. 85). This has been evidenced in this paper. Cultural sustainability [18] was considered to be of as much value as ecological, economic and social sustainability amongst the interviewees and a clear driver and aim for all projects. This acknowledgement of the value of

cultural sustainability and justice at community level, mirrors efforts in the global policy arena to ensure that culture is added as the fourth pillar of the sustainable development model [20,21].

Already, projects in Scotland are investing in initiatives that lead to cultural and language sustainability both directly and indirectly. Language and cultural sustainability are central to the Welsh case sites (see also, Forman [40]), and one of the factors that has driven the projects to develop. Language threat was also a reason for pursuing CEPs. This paper shows that rather than culture being a force for opposing energy developments [24,31], it can also be a force that drives communities to develop their own indigenous projects. Culture can be decisive in shaping 'preferences' within the energy sector ([25], p. 9), and lead to the uptake of indigenous, culturally sensitive natural resource use and renewable energy projects [17,27]. Further research could also reveal the importance of culture to CEPs in other communities of place such as within urban settings where multiple cultures coexist. Further research in this subject area would have a significant value to the community energy sector, and be of particular interest to communities whose cultural identity and language are under threat.

It would seem evident from this research, that communities themselves have always understood the interplay between economic, social, environmental and cultural sustainability. As seen from the case studies included here, communities themselves are best posed to know what their communities need in cultural terms, and being owners and administrators of their own community energy schemes could allow them to achieve their aims. They acknowledged the need for an economic pathway, offered through developing CEPs, to enable cultural benefits to take place. Scholarship on such issues is yet to catch up. We suggest that research in this vein could be developed within (and enhance) energy justice literature, i.e. further explorations into the cultural benefits and justices (and similarly, parallel disadvantages and injustices) that can arise within the low-carbon transition, be it within the community energy sector or large scale developments. This paper has taken an important step to begin addressing this knowledge gap, and opens the door to an avenue of research, which recognises that both place and culture matter.

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