Understanding community benefit payments from renewable energy development

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Abstract

It is increasingly common for renewable energy projects to make payments directly, or in kind, to local communities. These arrangements are variously described as 'benefit payments' or 'compensation schemes.' Similar approaches are now being recommended for other forms of development with potential to engender opposition from local communities (e.g., nuclear power and fracking). While such payments are common, level of payment, the institutional frameworks involved, and the nature of discourse, varies greatly. Existing literature has sought to make sense of this diversity, and to highlight the divergence of arrangements, meanings, and power balances, within benefits arrangements. Finally, a typology of community benefit arrangements is presented, together with policy considerations.

1. Introduction

It is increasingly common for renewable energy projects to incorporate financial packages that make payments directly, or in kind, to local communities. These payments are variously described as 'benefit payments' or 'compensation schemes.' Similar approaches are now being recommended for other forms of development with potential to engender opposition from local communities (e.g., nuclear power and fracking). While such payments are common, the level of payment, the institutional frameworks involved, and the nature of discourse, vary greatly. Existing literature has sought to make sense of this diversity, and to highlight the divergence of arrangements, meanings, and power balances, within benefits arrangements. Finally, a typology of community benefit arrangements is presented, together with policy considerations.

In reality there are multiple motivations, interpretations, and mechanisms at play. Different economic, legal, and institutional context results in different arrangements. This plurality is the focus of the research presented here, which has four key objectives:

- To establish the root causes of plurality in compensation arrangements.
- To understand how these vary between contexts.
- To develop an explanatory typology.
- To explain the policy implications of this plurality.

Policy makers wishing to encourage such benefits payments have to navigate the challenges of implementing such a strategy. This includes understanding the mechanisms of implementation. Other alternatives include the extension of property rights to communities. However, one side does not necessarily fit all; effective selectivity policy measures, and predicting outcomes, requires a clear understanding of the situation on the ground.

Various arrangements have been studied in this context, and these can be described as: 'delimitations', a list of alternative benefits arrangements, which best practices is described. (e.g., Rudolph et al., 2014; Cowell et al., 2012; Maucham, 2012) 'discursive' when meanings and motivations are explored (see Atkin, 2010; Cam et al., 2010; Marks, 2011; Rami and Billing, 2015; Walker et al., 2014; Warren and McFadyen, 2010).

2. Power

A key factor in any compensation scenario is 'power' and how it influences negotiations and the final settlement. In broad terms 'power' may be described as the ability of one individual to make another submit to their will. Galbraith (1985) identified three forms of power: reward (submission through force or punishment); compulsory submission received by payment; and conditioned (submission gained through persuasion). These forms of power are often combined. In the case of renewable energy, compensation (social norms), and conditioned power (financial norms) may exist together. Galbraith argues that, as society advances, there has been a gradual shift from concern towards the creation of compensatory and conditioned power. While useful describing how power is exercised, this tells us little about the origin and nature of power.

Conventionally power has been described as something that is possessed and 'wielded' at the will of the individual. Michal Foucault challenged this, arguing that power is dispersed and pervasive; not a 'thing', but rather something that exists in relationships between individuals (Foucault, 1996). In this worldview, individuals are not the recipients, or holders, of power. Instead, interactions between actors are the points where power is enacted, resisted, and created (Mills, 2003). "Discourse transmits and produces power, it reinforces it, but also undermines and exposes it, renders it fragile and makes it possible to change" (Foucault, 1998, p. 100-1). This challenges the simple Marxist interpretation of power as something inevitably negative, used by the powerful to oppress the powerless: the repressive hypothesis (Foucault, 1998). For Foucault, power is seldom evenly distributed and it is never absolute. In the context of neo-liberal economics, power asymmetry is normal, and not necessarily harmful. In markets a net social gain, and arguably fairness, is achieved through equivalence of exchange. Colloquially we talk about a 'fair price' even if it is exchanged between unequal parties (Wrye, 2013).

From Foucault's perspective power is pervasive: it is neither created nor possessed by individuals. Power is unevenly distributed, but it is never absolute. Power exists in discourse between actors and is at a constant state of flux. This perspective would predict that, in the context of renewable energy, power relations will: (i) be key determinant of outcomes; (ii) vary between contexts; and (iii) change over time.

2.3. Community benefits: trends and examples

The past few decades have shown that there is demand for compensation from communities cited close to renewables developments, particularly from onshore sites (Allen, 2010; Casi et al., 2011). The rise in the philosophy of "corporate social responsibility" (CSR) provides a new source of benefit payments (Institute of Directors, 2012). CSR activities, such as charitable donations to worthy causes, are designed to send positive messages and maintain positive relations with external stakeholders (customers and society at large) (Deng et al., 2013). CSR activity can help reduce longer-term and diffuse risks of managing trust, legitimacy and social acceptability.

Demand for compensation has also been associated with developments that may otherwise be rejected by the local population. Current and anticipated developments are currently and adjacent to smaller rural communities, commonly associated with continuing economic disadvantage, which renewable developments can contribute to alleviate various externalities (Monday et al., 2011). Social acceptance of renewables infrastructure has been widely researched, and whilst provision of community benefits from renewables could be unexpected given the general acceptance that greener energy is necessary in this age of climate change, renewables are not without the same opposition as other energy amenities (Westerhagen et al., 2007; Cowell et al., 2011). Previous thought stipulated the need for community benefits as a way of bypassing widespread NIMBYism. However, recent arguments call for the exclusion of the NIMBY...
concept as a way to explain all local opposition, especially given its pivotal rejoinders (Devine-Wright, 2009; Walker et al., 2014). Indeed, opposition is being paid to specific forces of potential opposition, such as visual impact (Dobson, 2007), which was found to be the most significant element to consider when placing a renewable development (Britten Jr., 2002). As a result, opposition (Devine-Wright, 2011), and the symbolic value placed on specific aesthetics. Commentators have previously criticized the use of simple cost and benefit analysis, and point to more complex frameworks such as those nuanced aspects of symbolism and place attachment, which can be constructed through equally complex matters like historical relations (Bennett et al., 2009). Acknowledging, social acceptance of a project can come not through payments but through participation in the planning process. Local involvement in the development of a project can provide a source of community control over the environment that can result in greater acceptances (Bell et al., 2005). Oppression by developers by local communities has been, partly, circumvented by the introduction of property rights into the negotiation. Community ownership, or at least co-ownership, of infrastructure has been shown to improve acceptance of renewable developments in numerous countries, including Bonfadini (2010) and Germany (Masull and Kuri, 2011).

Nevertheless, community benefits, in their myriad forms, establish a crucial financial link between developers and the local community that predominantly aids in the acceptance of developments (Walker et al., 2014). In doing so, the potential negative effects are seen to be recompensed, at least from the view of local authorities (Abdennourouz, 2016). Simultaneously, significant benefits payments allow for the financing of the "network that will act in your best interest", between communities and developers (Bellamy, 2010, p. 2617). A rise in the demand for community benefits for host communities can create a situation that is akin to the adoption of non-statutory 'good practice' principles. The actual benefits behind these principles are that they need to equitably share the remuneration funds extended from exploiting a public or private resource (Lucas, 2015). The concept of 'benefit-sharing' is used routinely in environmental legislation to spread the costs and benefits of harnessing ecosystem services and their systems (Wynberg and Hauck, 2010). However, often, the underlying rationale behind such principles is viewed not as a measure of good intention, but as an attempt at bribery (Allan, 2010; Cass et al., 2010).

While the renewable industries provide the majority of compensation schemes, there are numerous other industries that have begun to implement benefits payments to local communities. In 2013, United Kingdom Onshore Oil and Gas (UKOOG), which specifically manages the extraction and fracking, announced the establishment of pilot schemes for exploration sites that include hydraulic fracturing (UKOOG, 2013). The schemes could pay up to £1,000,000 to nearby communities in the form of payments administered by third-party charity foundation, plus an additional 1% of all gross revenues generated by the site (the site is commercially viable). Furthermore, the UK coalition government announced in 2013 that communities which are set to host new nuclear power stations could potentially receive benefits payments of up to £100,000/MW over 40 years (UK Government, 2013). Other examples come from outside the energy sector. The Scottish Landfill Communities Fund is a tax credit scheme established to provide a proportion of funds to local projects generally related to environmental issues. Similar methods have been applied to landfill in the US (Jenkins et al., 2004). Defining the landfills as a constant issue within community benefits literature and policy, as placing constraints on agricultural groups can be counterintuitive, and geographical boundaries are often unclear. While most policies use community to mean a 'community of locality', i.e. a community based on geographical location, it is important to recognize that other definitions exist. The DTF (2005) reference 'communities of interest' as an alternative, grouping those who have common social outlooks. However, the process of establishing limits to community of interest is still highly defined. This work predominantly uses the 'community of locality' definition.

3. Method

The approach adopted here relies heavily on work by Dobson (1996) who developed a strategy to analyse multiple interpretations of environmental situations. Dobson argues that it is impossible to merge the pluralism that lies within community benefit arrangements; their contexts, arrangements and motivations. Dobson argues that traditional approaches to analysing such schemes are often singular and that the pluralism of that is of interest. A method that requires users to approach the pluralism of that is of interest. Equality and justice is the naive description of all possible definitions, which can simply overcome the prevalent understanding lack any conceptual problem. There is not a single problem that can justify the lack of attention to this. The difficulty is the lack of attention to this. The difficulty is the lack of attention to this. Ultimately, the selection of questions is a matter of judgement. However, given these questions, they may not be clearly presented and understood, thus forming some analytical rigour in this paper.

This paper explores different compensation/benefit scenarios using a series of analytical questions. The hope is that groupings of related answers will emerge; in turn this may reveal a spectrum of compensation/benefit scenarios. A schematic representation is given in Table 1. A set of analytical questions produces the vertical axis. The answer to these questions forms the content of the horizontal axis. In its turn, reveals the conceptualised development on the horizontal axis.

There are three principal advantages to this approach:

* The terms of the analysis are clear.
* It highlights the critical difference between conceptualizations.
* It provides a framework within which alternative approaches to compensation can be located.

While this approach provides a degree of analytical rigour, there is a significant number of potential issues. The questions used to interpret conceptualization are based on a broad interpretation of desirable principles. In its turn, reveals the conceptualized development on the horizontal axis.

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<th>Question 1</th>
<th>Question 2</th>
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4. Analytical questions

A set of six questions were identified which illustrate diversity in conceptualizing compensation arrangements. These questions fall from the following four dimensions:

* Functions of compensation – institutional frameworks, agency, and discourse;
* The theory of power – its distribution, its context, and whose agenda;
* The basis of calculation and the role of property rights.

The list of questions is exhaustive. However, the selection is arbitrary, and the order of the questions have been selected based on questions. Arguably, the first three questions about power, compensation and property are similarly, if you have no power, and you arecompensation, the order of the questions have been selected based on key questions. In the context of the compensation schemes the selected questions have a specific response highlighting key differences between compensation arrangements. The questions selected are as follows:

* What is the balance of power?

The balance of power is a fundamental determinant of the outcome of any transaction. It is clear that the power relations can be highly uneven. At the extreme, compensation negotiations may take place between a multinational energy company and the smallest of community groups. From Foucault's perspective it is normal for power to be unequally distributed, never absolute and always in a state of flux. Even in a situation with the greatest power imbalance, the law may afford weaker parties some protection. Equality of the ability to protest and attract public attention through the mass media can rapidly change power relations.

* What is the level of compensation?

There are two stages of compensation in this question. First, how can there be 'levels of compensation'? Someone is either compelled to do something or not. Second, if you accept Foucault's view that power is always a possibility, can there be any compulsory power? Ultimately, the contradiction is not in the question but in the observed world of community benefits. For example, the law may compel developers to provide certain benefit payments or establish a community ownership model, as in the case in Denmark where wind turbines must be owned by local communities following the introduction of a statutory governance policy (Asker and Jergensen, 2015). However, the level of payment may be negotiable. Equally, a developer may choose not to proceed with a project where compensation would be compulsory. Evidently, in the real world, elements of compensation sit side by side with negotiated outcomes and choice.

* What is the motivation?

The overarching motivation of renewable energy developers is clearly to create a community benefit. However, individuals (employees, investors, or owners) may have alternative personal motivations that are generally unrelated to the project's success. Standard investment appraisal frameworks acknowledge this; however, they simply ask the recipient or company to provide a form of compensation. Instead, we consider the recipient to form an object of judgment of what is fair. This may involve considerations of fairness, to society or to other stakeholders. Compensation may take the form of an export judgment of what is fair. This may involve considerations of fairness, to society or to other stakeholders. Compensation may take the form of an export judgment of what is fair. This may involve considerations of fairness, to society or to other stakeholders. Compensation may take the form of an export judgment of what is fair. This may involve considerations of fairness, to society or to other stakeholders.
and benefit payments in the UK, while the case of community ownership represents an emerging alternative means of securing benefits payments for local communities.

5.1. Case 1: Offshore wind in the UK – corporate social responsibility accounting?

The UK has been the world leader in offshore wind since October 2008. At present, there are 27 wind farms operating off the coast of the UK, compared to around 130 in Norway (ReneWwW, 2016). Excluding demonstration sites, 24 working developments amount to 5046.4 MW of installed capacity in the waters around the UK, the largest of which is the London Array (Clewies et al., 2011). In the case of offshore wind developments generated 4.7% of the UK's electricity generation in Q3 of 2016. The increase in offshore wind developments is to be expected in the rise in the opinion that local communities should also benefit from renewable projects to be developed away from people and businesses. Haggott, 2008, provides a summary of the developments offshore wind provides the "solution" to the range of problems established in both popular and academic opinion, despite evidence to the contrary (see Gibbons, 2015; Haggott, 2008).

Where developments are sited at sea, the role of property rights takes on a very different guise than on land. There is a well-known dichotomy found in literature, and routinely played out in legal systems, which places the ocean in direct opposition to the land, where the land has "emerged as a commodity or property which has an economic value" and the sea remains beyond this realm (Jackson, 1995, p. 87). This binary in part constructed through imperialisitc notions of border-making (D第一部, 1995), has endured through centuries of UK legislation that asserts property, particularly private property, coaxes at the mean high water mark, above the mean low water mark, beneath the mean low water mark, and above the mean low water mark (state property). These state property owners can surpass this mark).

The UK begins at the mean low water-mark and extends out to 12 nm, is administered by the Crown Estate on behalf of the state, as decreed by the Crown Estate Act 1961. These waters can be considered off "state property". However, the basic property rights typology outlined by Brenly (1960) in order to gain access to areas of seashore and the water column, developers must lease sites at the discretion of the Crown Estate. Development sites are made available by the Crown Estate via leasing rounds, of which there have been four (three UK-wide rounds, and one Scotland-only round). Given that, under the UK legal systems, there is little opportunity for individuals or communities to gain benefits of rights that amount to a sense of ownership at sea, communities similarly have little jurisdiction over adjacent marine spaces. That is not to say that community groups have a complete inability to enact change from their terrestrial positions. Lowobally, events such as state "property" is, sometimes in the case of quite vociferous protest, has at times ensured potential developers are refused consent by authorities (e.g., the Navajo Bay project off the coast of Maine). However, in the absence of meaningful consultation and an almost unanimous opposition from local communities and organizations.

However, it still remains difficult for communities to voice their opinions. In order to develop wind farms, a 1 MW in the marine environment, developers must gain consent in the form of Section 36 consent by way of applications put to the relevant government departments. Marine licences are either issued by Marine Scotland for Scottish developments, or the Department for Business, Energy and Industrial Strategy (BEIS), which superseded the Department of Transport, Local Government and the Regions in 2006 for grants (see English developments. These ministerial departments, individually responsible for offshore wind developments, will also hear from private landowners who rent the taking of a pre-conceived asset or a share of profits. All developments require planning consent. Smaller developments (<20 MW) require permission to be granted by English coastal authorities (LA). Larger developments (>50 MW) must apply to Scottish

<table>
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<th>Table 2</th>
<th>Community benefit arrangement from UK offshore wind projects.</th>
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<tr>
<td>Category</td>
<td>Annual community fund</td>
</tr>
<tr>
<td>Fixed</td>
<td>Variable</td>
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<tr>
<td>Food</td>
<td>5</td>
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| Data source: see Appendix 1. Information correct as of September 2016. |

With limited ability by the public to intervene in consent processes, and without formalised property rights at sea, the composition of developers to provide benefits payments must come from a type of corporate social responsibility agreements (Thompson, 2013). This has been self Generally promoting a positive public image and reducing corporate risk. They are usually at the discretion of the company, which can ultimately choose what and how much to give.

Companies have been quick to point out the "difficulties" in providing benefits payments from offshore developments, specifically a) identifying nearby communities, and b) the infancy of the industry and project economics. This comes in spite of the range of non-statutory measures for community benefits from offshore developments being recommended by regional councils and the government. For example, the Highland Council policy states that developers should provide £500000 installed capacity per year from offshore renewables projects, equal to onshore developments (Highland Council, 2013). The Highland Council confirmed that as of 2014, no offshore developments had been proposed (Haggott, 2013, pers. comm.). Rather, as Table 2 below shows, the community benefit arrangements from offshore wind appear to centre on other community funds, unrelated to the capacity of the development, or in the case of community wind farms, the payments are usually at the discretion of the company, which can ultimately choose what and how much to give.

Financial support payments to fund one-off projects in the community (Vento Ludens, 2012). As the pace of development increased, local authorities began to demand annual payments linked to capacity. In 2004 and Angus and Bute Councils requested £200000/pa (Angus and Bute Council, 2005), following the claim from the Highland Council that payments should be raised from the custodians £100000/pa (Highland Council, 2003). In 2011 the Highland Council army adopted a strong policy position insisting that "developers will provide Community Benefit of not less than £50000 per installed Megawatt that will annually appropriate in line with the UK Retail Price Index" (Highland Council, 2013, p.1). This figure was quick adoption by local authorities as it is expected to increase with over £100000 annual community payments (LES, 2016).

In both England and Scotland development "industry initiatives have been established to register community benefits, that can be viewed online (ERCBE, 2016; LES, 2016). These public databases offers a first point of contact for public recognition. This is analogous to the public registration of land purchase, where a private exchange between two parties, is confirmed by the state, and then made public.

LES are central to this emerging situation: they have driven expectations regarding the level of payment. It is possible to explain the enhanced role of LES in the context of decentralisation of the state, increasing localism, and community empowerment, observable within UK planning systems (Hodman and Ryden, 2012). LES act as agents on behalf of the communities. Developers, collect data and then distributing payments. LES are also key players in the consenting processes, generally between the developer and the LES. This is not a material consideration in the planning process (PPC, 2014). However, the level of public opposition is a consideration for planners particularly with regard to visual impact. Benefits payments are naturally a feature of local discourse around proposed developments (Cowell et al., 2012). The rationale for payment is to compensate for loss of public benefit. From the developer's perspective, payments serve to reduce public opposition and help secure consent (Allken, 2010; Caso et al., 2010). This represents what we might call a shadow compensation, an act unperformed to present a better case. They are made, even if they are technically voluntary and often described as a "goodwill contribution." (Highland Council, 2016).

5.2. Case 2: Onshore wind – community benefit funds in Scotland

By March 2016 there were 7888 MW of installed renewable energy capacity in Scotland with 5202 MW of this in the form of wind turbines (DECC, 2016), a capacity generated 13,267 MWh, approximately two thirds of all renewables which is equivalent to 38% of Scotland's electricity demand. This is set to expand with another 3.9 GW of capacity already committed and a further 4.1 GW in planning (Scottish Renewables, 2016). Typical turbines range in size from 900kW to 3 MW, Developments range in scale from single dwellings to farms with access of devotions. The largest, Whitehills Wind Farm in East Fife, has 215 turbines with a combined capacity of 539 MW. Typically, developers will lease land from private landowners with rent taking the form of a pre-conceived asset or a share of profits. All developments require planning consent. Smaller developments (<20 MW) require permission to be granted by English coastal authorities (LA). Larger developments (>50 MW) must apply to Scottish

5.3. Case 3: Community ownership - the power in the land

Renewable energy developers generally secure access to land through private agreements with individual landowners. Community benefit payments are something separate and additional. Community ownership of land presents an alternative scenario where compensation for impacts on the public good becomes part of the negotiated rent. Community ownership of land creates a rare example of genuine UK co-operative community land ownership. The community effectively holds property rights in the environment.

Holding property rights in land gives communities the power of collective ownership. This power provides opportunity to either support or reject developments that fail to compensate sufficiently. This, of course, presupposes that communities have: (i) the capacity to negotiate, (ii) a belief that local collective ownership of land, and (iii) a capacity to act on that belief, in the face of opposition. The current policy context is challenging for communities, requires a lot of time and resources. Communities have long recognised how wealth, created by economic growth, is captured in land values. John Stuart Mill noted that landowners "grow richer...in their sleep without working, risking or economising" (Mill, 1848, V.2,8). Despite this, markets play an important role in allocating the land resource and the socialist remedy of nationalisation is criticised as grossly inefficient (Harries, 1995). Community ownership of land may offer an alternative with three benefits:

- Market structures are still in place and should lead to efficient use of land
- Communities can factor environmental and social impacts into their bargaining position
- Surpluses are returned to the community rather than a private landlord

Recent land reform in Scotland seeks to redistribute land, the ownership of which has over centuries become highly concentrated (Wightman, 2013). The Land Reform (Scotland) Act 2003 gives farmers an ownership since 2002, the Land Reform (Scotland) Act 2013 managed by a limited company, Urquharry Gighreagd Ghabhainn, which operates as a trust. The Trust has 10 directors and a voting member- ship of 21 members (of the population). The Trust are...
describe a shift from external dependency to long-term solution driven by local priorities. Increased social capital and the development of management viewed as the leading to larger, more sustainable impacts.

Where the community acts as developers, returns are maximized. However, the risk of project failure also lies with the community; project (and income) may be at risk for non-payment. In order to reduce risk, and hasten projects, some community trusts have entered into contracts to lend land to external developers (e.g. North Harris Trust, 2016).

In Case 1, the Galloway Trust negotiated a rental for a landfill from two proposed marine energy projects: (i) the 4 MW Slanard project promoted by Vortex, consented in 2007; and (ii) a 40 MW project promoted by Aquamarine, consented in 2012. All marine energy projects require a seabed lease from the Crown Estate. However, projects also generally require an adjacent land base for cables, switch gear, and electrical plant etc. Consequently, with a monopoly on landfall sites, the Trust found itself in a powerful position. For the Slanard project and rent, together with a levy of £2/MW on electricity exports, was agreed with the Trust (N. MacKinnon, pers. comm.). Assuming a device efficiency of 35% this is equivalent to £20/MW installed capacity. This agreement informed later negotiations around the larger Aquamarine project, the details of which remain ‘commercial in confidence’. Eventually, technical and financial difficulties stopped both projects. However, the negotiations have set an important precedent. This case illustrates how the monopoly ownership of land can put communities in a powerful position, even in the case of offshore developments. This has resonance with the oil industry in Shetland in the 1970s where compulsorily purchase powers were used to lever in revenue streams for the community (Wills, 1991; Johnson et al., 2013).

6. Analysis

It is now possible to consider the six investigative questions in the context of the three scenarios as described above. Case 1 offshore wind; Case 2 onshore wind; and, Case 3 community ownership.

(1) What is the balance of power?

The balance of power clearly shifts between scenarios. In Case 3 land ownership gives local communities the power to maximise benefit payments in the form of rent. Indeed the transfer of land rights to communities is routinely, and specifically, described as an act of ‘empowerment’ (Rome and Billings, 2013; Skerratt, 2013; Bryden and Geller, 2007). Communities may even elect to maximise profits by becoming project developers themselves. In Cases 1 & 2 the power balance shifts towards developer, with communities having a less influential role.

(2) What is the level of competition?

In Case 1 developers are not compelled to give community benefit. Where they do, it is part of a wider CSR agenda promoting a positive image. In Case 2, even though not compelled legally to give community benefit, there is tacit acceptance that compensation payments are a de facto requirement. This norm is recognized by the state, communities, and industry. In Case 3 payments to the community cannot be avoided if the project is to proceed.

(3) What is the motivation?

In Case 2 the motivation for payment is clear; without payment there is no access to land and no project. In Cases 1 & 2, benefit payments could be described in terms of mitigating risk. In Case 2 payments are not compulsory, however there is a strong expediency from government, local communities, and industry peers, that payments will be made (DECC, 2014; RewaneUK, 2013; *Park and Foxhall*).

Table 2: Typology of Community Benefit Arrangements.

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<tr>
<td>(1)</td>
<td>CSR/ Community Benefit Package</td>
<td>In-kind benefits, with target/maintained support of community.</td>
<td>No legal obligations.</td>
</tr>
<tr>
<td>(2)</td>
<td>Benefits Scheme</td>
<td>A scheme to deliver benefits, with target/maintained support of community.</td>
<td>No legal obligations.</td>
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<td></td>
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</tr>
<tr>
<td>(3)</td>
<td>Fair Shares</td>
<td>Community can demand payment.</td>
<td>High legal obligations.</td>
</tr>
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*Fair Shares* payments are linked to the profitability of the development. This gives communities a financial interest in the success of marine energy developments, which can be realised through a variety of means, including share distribution, rent payments, and in-kind benefits.

7. Conclusion and policy implications

The results of this analysis have been summarised in Table 3, which presents a typology of community benefit arrangements. Three columns broadly correspond to the cases identified above.

- Column [1] is the domain of corporate social responsibility
- Column [2] is typified by standardised benefit arrangements
- Column [3] is characterised by direct negotiation between communities and the developer

Table 3 is not intended to imply that there are only three potential conceptions of community benefit. Many alternatives already exist, including shared ownership and profit sharing arrangements, providing varying levels of benefit (Allan et al., 2010; Koons & Becker, 2015). New alternative benefit arrangements will continue to emerge. The three cases here were selected specifically to highlight plurality.

Case 1 is taken for the sake of a gift; there is no obligation either to give and no legal contact. However, these arrangements are typically accompanied by significant publicity. This publicity is a form of legitimation, which thereafter becomes part of the ‘public record’.

(6) What is the basis of the calculation?

In Case 1 the level of payment is not directly linked to either CSR capacity or developer incentives. The two things being equal, one might expect larger CSR budgets to be associated with larger projects. However, there is no obligation to make payments. Some developers make no payments. The size of the CSR budget, and its use, is usually at the discretion of the developer. By contrast in Case 2 the level of expected payment is directly linked to the rated capacity of the development. This is transparent to all sides. This figure of £5000/MW, which is now the industry norm, was established through an iterative process, driven by local authorities totalling what the market could bear. In Case 3 the level of expected payment is linked to the profitability of the specific project in question. Both sides estimate the surplus profit that the project can generate; this forms the basis of subsequent negotiations.

This topic has significant policy relevance, not only to the future of renewable energy, but also in the context of alternative forms of development. The latter are not as yet widely discussed and could be recommended to manage the concerns of local communities (e.g. nuclear and fracking).

Power relations are at the heart of the matter. If policy makers are inclined to encourage benefits payments, they can adopt various strategies. However, light-touch approaches, in the form guidance and recommendations, may have limited effect in the absence of any institutions or arrangements through which communities can exercise power. To the right of Table 3, payments are fur and largely discretionary, as is the case with offshore wind in the UK. Guaranteeing, or increasing, community payments in this sphere may require direct intervention with government, including conditional (statutory) powers on behalf of communities. As noted above, this approach has been taken in countries like Denmark (Anker and Jørgensen, 2015). Alternatively, the case for fair shares payments may be maximised in the form of rent. This move us to the left of Table 3.

This last issue is of particular resonance in the UK, with the 2017 transfer of the Crown Estate (CE) management duties to the devolved Scottish Government (Scottish Government, 2017). Currently the CE acts on behalf of the UK state leasing the seabed on a commercial basis. Further devolution of these rights, from the Scottish Government, to the local level could allow rent for offshore energy development to pass directly to local communities. Precedents exist, including the transfer of marine rights to the Shetland community in anticipation of oil developments (Johnson et al., 2013).

The work presented here demonstrates that achieving, optimum benefit payment, outcomes requires policy that is adapted to underlying power relations, and institutional frameworks. Simply picking a preferred option from a list of “best practice” policy alternatives will not necessarily achieve the desired outcome.

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Appendix A: Supporting Information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.enpol.2017.02.054.