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To whom it may concern,

Consultation Response: Community Benefits from Net Zero Energy Developments

Scottish Renewables is the voice of Scotland's renewable energy industry. Our vision is for Scotland leading the world in renewable energy. We work to grow Scotland's renewable energy sector and sustain its position at the forefront of the global clean energy industry. We represent over 360 organisations that deliver investment, jobs, social benefits and reduce the carbon emissions which cause climate change.

Our members work across all renewable energy technologies, in Scotland, the UK, Europe and around the world. In representing them, we aim to lead and inform the debate on how the growth of renewable energy can help sustainably heat and power Scotland's homes and businesses.

We are pleased to engage with the Scottish Government on this consultation to ensure that national guidance helps communities and developers get the best from community benefits.

The renewable energy sector delivers one of the key strategic priorities of both the UK and Scottish Governments. While doing this, it generates more tax revenue than developer profit. The sector is less profitable than average for the UK economy, and it is currently struggling to attract the investment needed to meet the Scottish and UK targets for net-zero.

However, since 1990, renewable energy developers have voluntarily invested over £200 million in community benefit, delivering positive change in partnership with communities across Scotland. For onshore wind farms, under the CfD scheme, community benefit is equivalent to approximately 15-20% of the developer's profits. Community benefit is a unique feature of the renewables industry and should be celebrated. No other industry in Scotland or the rest of the UK.

A common misconception is that community benefit is compensation for communities that host infrastructure. Compensation would imply that local communities bear economic costs that remain after avoidance and mitigation. If community benefit were compensation, payment would depend on the Environmental Impact Assessment process identifying significant adverse economic effects on local communities and then scaling payment depending on the scale of any effects. This is not the case for community benefit, and discussions of community benefit must challenge this misconception.

Far from experiencing economic costs, communities that host renewable energy projects experience economic gain. For example, analysis by BiGGAR Economics[1] has shown that Achany and Rosehall wind farms – located next to each other near Lairg in central Sutherland - have invested £2.8 million in community benefit funding since 2010. To date, this funding is estimated to have supported the creation of around £11.8 million in local economic value and enabled the creation of around 18 long-term jobs. This implies that every £1 of funding has generated around £4.18 in economic value.

While community benefit should be celebrated, it mustn't eclipse the renewables industry's wider socio-economic impact. As the Acting Cabinet Secretary for Net Zero and Energy states in her Ministerial Foreword to this consultation, "*The importance of green energy to our future economy and environment has never been clearer. It will provide thousands of highly skilled jobs, decarbonise many of our industries, transport and heating systems and be the driver of huge economic growth for our country.*"

The majority of the value of renewable energy projects to Scotland is captured in the supply chain. BiGGAR Economics, using actual supply chain data, analysed the expenditures and economic impact of seven onshore wind farms in Highland and found that the impact within the supply chain was six times greater than the value of the community benefit funding.

Scotland's offshore wind sector holds the potential to deliver substantial economic benefits, with the capacity to transform the national economy and create meaningful value for society. Realising this potential requires major investment—not only in building offshore wind farms but also in the infrastructure and supply chains that support them. While this can drive economic growth and deliver widespread social gains, escalating development costs are raising the level of investment required and any additional costs imposed could render projects unviable.

The founding rationale for community benefit was to recognise communities that host renewable energy generation infrastructure of national importance by partnering with them to deliver long-term, tangible benefits in the areas surrounding our projects. This remains the rationale to this day.

[1] https://biggareconomics.co.uk/community-benefit-funds-creating-a-legacy

To balance industry's commitment to being a good neighbour with the need to deliver a low-carbon energy system at an unprecedented pace, it is essential that community benefit arrangements:

- Are sustainable for developers and reflect the commercial realities of individual technologies.
- Deliver a strategic and long-term legacy to local communities across Scotland.
- Strengthen the positive perception of renewable energy developments.
- Not push up the price of electricity.

Scottish Renewables would be keen to engage further with this agenda and would be happy to discuss our response in more detail.

Yours sincerely,

Morag Watson | Director of Onshore - Scottish Renewables

Background Information

The following information explains terms used in this consultation response with which readers may be unfamiliar and provides context and timelines for how the economics of the renewable energy sector have changed over time.

Understanding the Electricity Market

Electricity is a commodity market, which means the wholesale price of electricity—the price that electricity generators can sell their electricity for—goes up and down depending on the balance between supply and demand.

In the past, demand was the main driver of the market price with high demand periods (such as 7am-10am when people are getting ready for the day) typically leading to the highest prices. However, as we roll out renewables, which have a relatively low operational cost, periods of high renewable availability tend to drive periods of low pricing.

Renewable energy is intermittent and uncertain - it can only be generated when the wind blows, there is enough daylight, or sufficient water flow. This uncertainty means that its availability in the future, whether an hour, a day or a year in advance, cannot be perfectly predicted. The unpredictability of renewable generation also drives uncertainty in the fluctuations of the wholesale electricity price.

This uncertainty means it is possible to *estimate* how much money a project will make from selling its electricity, but it is *impossible to calculate this precisely*.

How Renewable Energy Projects Get Built

Almost all renewable energy projects are built with project finance – the renewables equivalent of a mortgage. This involves three distinct entities: the developer who physically constructs the wind farm, the equity investors who contribute their own money to the project as shareholders, and debt investors, usually banks. Developers are often also equity investors, but the two roles are separate.

Like applying for a mortgage, the lender (the bank or 'debt investor') wants evidence of how much a project will earn to ensure that the project will generate enough income to repay the borrowed money and interest. The owners (equity investors) will also want to ensure they have a reasonable opportunity to make a return on their investment. But, like getting your deposit back when you sell a house, equity returns only come after the bank has been paid.

If a renewable energy project sells its electricity on the wholesale market, its income will be uncertain. As the project cannot provide evidence of exactly what it will earn, the bank will need to consider the risk it is exposing itself to. Banks are only interested in getting their money back, and if they see significant risk that the project won't make as much money, the equity investors will have to contribute more.

To produce electricity at the lowest possible cost, (1) the cost of borrowing needs to be kept as low as possible, (2) the fraction of the cost that are financed through debt finance via a bank loan needs to be as high as possible, and (3) equity investor confidence in the potential of a reasonable return over the lifetime of the project needs to be high ensuring investors don't feel that their money is at risk. These are key drivers in the UK renewable energy policy.

The exception to project finance is balance sheet investments. These are the equivalent of 'cash buyers' in the housing market: people who don't need a mortgage. Balance sheet finance is only possible for the largest companies, which can manage the full project risk themselves.

Renewables Obligation Certificates (ROCs)

The UK initially supported renewable energy projects through Renewable Obligation Certificates (ROCs). ROCs were intended to encourage investment and kick-start the UK's renewable energy sector. They worked by increasing income from renewable projects by a largely fixed amount above the revenue from the wholesale market. As such, it reduced the risk of investing. The ROCs scheme offered a subsidy. This subsidy helped cover the renewables industry's 'start-up' costs.

ROCs were very successful at kick-starting the UK's renewable energy sector, but whilst ROCs added revenue, those revenues still fluctuated due to the volatility of the electricity market. This also meant that when electricity prices increased above the predicted levels, consumers were paying both higher electricity prices and ROC payments.

ROCs began in 2002 and closed on April 1, 2017. The oldest ROCs will expire in 2027, with the final ROCs expiring in 2037.

Contracts for Difference (CfDs)

Once the renewable energy sector got underway, the UK Government introduced a more stable and cost-effective system known as Contracts for Difference (CfD), which was established in 2014. For fully commercialised technologies such as wind and solar, CfDs are an income stabilisation mechanism; they are not a subsidy. We have seen that in the clearing prices since Allocational Round 3 (AR3 - 2019).

Rather than selling their electricity at the fluctuating wholesale market price, renewable energy projects bid for a CfD that guarantees them a fixed electricity price, known as the "strike price." If wholesale market prices fall below this level, the government tops up the difference; if prices rise above, wind farms pay back the surplus. CfDs last for 15 years, and the first CfD-supported projects were built in 2016/17.

There are more projects wanting CfDs than there are CfDs available. Since AR3, the strike price has been below the average wholesale price of electricity, driven down through though highly competitive CfD Auctions. This competition, along with the design of the auctions, ensures that strike prices deliver just enough profit to attract investors but no more than that.

The CfD mechanism has been highly successful, and renewables are now the cheapest source of electricity.

Why Electricity Bills Have Gone Up

Historically, electricity generated using gas was the cheapest source and predictions for future prices tended, at the time, to reflect an expectation that would remain the case.

However, the reopening of economies in 2021 after the COVID pandemic and Russia's invasion of Ukraine in 2022 pushed gas prices much higher than market analysts ever expected. This has driven up the wholesale price of electricity to unprecedented levels.

The price renewable energy projects with ROCs receive is effectively the wholesale price plus the ROC price, regardless of the wholesale price. Therefore, projects built between 2002 and 2017 with ROCs have seen their income increase because of increases in the wholesale electricity price. These increases were way beyond what was envisioned when the system was designed.

On January 1, 2023, the UK Government introduced the Electricity Generator Levy (a windfall tax) to address this. This is a temporary 45% tax on extra profits made by nuclear, renewable, biomass, and energy-from-waste projects, resulting from rising electricity prices. This tax will be in place until March 31, 2026.

This means that the difference between the income that projects with ROCs could reasonably expect and what they receive due to the sharp rise in gas prices is subject to this windfall tax.

Revenues for CfD-supported generators work very differently. Because they pay back when the wholesale price rises above the strike price, consumers benefit from the hedge that is created. At the peak of the price crisis, CfD generators were paying back to consumers.

This was despite the fact that most CfD generators operating at the time were from early allocation rounds with relatively high strike prices. Throughout the 2020s, we will see more capacity commissioning with CfD strike prices around £50 / MWh, and the hedging benefit to consumers will also grow considerably.

Offshore wind communities

The question of community benefit from offshore wind is a relatively new area of policy development. The following information provides readers with context for our responses to the consultation questions related to offshore wind.

Scotland hosts an unprecedented offshore wind project pipeline totalling more than 40GW. This project pipeline is integral to the UK delivering the ambitions of the Clean Power 2030 Action Plan, lowering energy costs in the long term and helping to reach our net-zero goals.

The offshore wind sector brings a multitude of socio-economic benefits, positively impacting local communities and Scotland as a whole. Recent economic analysis by BiGGAR Economics of the *Public Value from Offshore Wind* (included as an annexe to this response) shows a total of £96.1 billion of expected investment from ScotWind and INTOG projects. This is based on Supply Chain Development Statements (SCDS) and modelling, with the Scottish share anticipated to be £28.6 billion, based on commitments in the SCDS. This increases to £34.8 billion based on 'Ambition' in SCDS.

During the development and construction stage of offshore wind, this translates to £15.6 billion GVA in Scotland and 229,800 years of employment. Once wind farms become operational, Scottish offshore wind has a projected sustained impact of £698 million GVA, with 9,500 jobs to be delivered in Scotland alone. This increase to £23.2 billion GVA and 343,100 years of employment based on 'Ambition' rather than 'Commitment' figures in SCDS's.

This means that for the development and construction of every 1GW of offshore wind, the GVA impact in Scotland would range from £450 million - £670 million, and 6,600 – 9,900 years of employment, once these wind farms become operational, Scottish offshore wind will generate impact over long time frames of £698 million - £772 million GVA in Scotland. The tables below summarise these GVA and employment figures and their lifetime impact:

Economic Impact Summary

Over the next 40 years offshore renewables could generate £900m GVA/year for the Scottish economy.

	Commitment (£m)	Ambition (£m)
Development and Construction	15,600	23,200
Operation and Maintenance	20,900	23,200
Total	36,600	46,300
Per GW	*1,000*	*1,300*
Annual	900	1,200

Over the next 40 years offshore renewables could support 12,870 jobs in Scotland.

	Commitment	Ambition
Development and Construction	229,800	343,100
Operation and Maintenance	285,000	315,000
Total	514,800	658,100
Per GW	*14,100*	*18,070*
Annual	12,870	16,450

Offshore wind is also projected to create a critical mass of opportunities, current examples being the development of cable manufacturing at Nigg (Sumitomo) and Hunterston (XLCC). With Scotland's position as the leader in the offshore wind sector, there is also export potential for knowledge and supply chain capabilities.

Domestically, communities near critical infrastructure for offshore wind deployment and maintenance, such as rural ports, will benefit from long-term employment opportunities and large-scale manufacturing. These areas have the potential to experience revitalisation through economic drivers, such as attracting people to rural areas, increased demographic sustainability and vibrancy, and higher investment in local areas and infrastructure.

Offshore wind also contributes to public finances; the ScotWind leasing round raised £755 million in one-off payments made by developers, equivalent to the cost of a large new hospital or nine new secondary schools. These payments to Crown Estate Scotland amount to approximately £1 billion when including the INTOG fees and were or will be passed directly to the Scottish Government to support general public spending.

Once operational, offshore wind farms will pay £171 million per annum in rent to Crown Estate Scotland, which will be passed on to the Scottish Government, and £76 million per annum in non-domestic rents, totalling £247 million per annum to the Public Finances. **Over the lifetime of these projects, Crown Estate Scotland will receive £6.6 billion in rents. This is equivalent to £4,700/MW per year.**

The table below illustrates lifetime contribution to Public Finances from offshore wind:

Contributions to Public Finances Summary

Over the next 40 years offshore renewables could contribute £8.4 billion to public finances .

	Lifetime (£m)	Annual (£m)
Option fees (one off)	1,017	-
Rent (annual)	5,122	171
Non-domestic rates (annual)	2,280	76
Total	**8,418**	**247**

However, the offshore wind sector faces a complex set of barriers to growth. Significant investment is needed to develop offshore wind farms, as well as the supply chain, port and harbour infrastructure required to support them. This will drive economic growth and social benefits throughout Scotland. However, the cost of development is rising, increasing the level of investment needed and putting significant strain on the financial viability of offshore wind projects.

Offshore wind projects in Scotland incur additional costs compared to those in the rest of the UK for several reasons, including greater water depth, higher connection costs to the National Grid, and higher Transmission Network Use of System (TNUoS) charges. In the UK, offshore wind farm developers bid for a Contract for Difference (CfD) against other developers with these conditions making it very challenging for Scottish projects to compete. In this environment, marginal differences in a competitive auction may make the difference between projects being able to progress or not.

The BiGGAR Economics analysis highlights that, based on available information, a notional offshore wind community benefit payment of £1,000 per MW would likely increase the bid price for a CfD by around £0.20-£0.30 per MWh. The UK consumer would ultimately pay this additional cost.

The margins for projects moving forward are becoming narrower as the sector matures. Given the costs associated with developing in Scottish waters, it is realistic to say that community benefit could be the difference between projects progressing or not. If the Scottish offshore wind sector is not able to deploy at scale, the significant socio-economic impacts inherent in offshore wind development will not be realised. Considering this, the Scottish Government should be cautious about placing requirements on offshore wind projects in Scotland that projects in the rest of the UK do not face, as this would be detrimental to the delivery of offshore wind in Scotland.

Notwithstanding the above, offshore wind developers engage closely with local communities and have deployed community benefit. However, to ensure the balance is right to enable projects to progress, it is vital that different offshore wind projects, which have different circumstances, can implement what is feasible for them regarding any potential community benefit.

Responses to consultation questions

Question 1: In the context of offshore wind development, what or who or where do you consider the relevant communities to be?

The introduction of the UK Planning and Infrastructure Bill deals with transmission infrastructure for offshore wind farms across the UK. Therefore, our response focuses only on the generation infrastructure of offshore wind developments.

The founding rationale for community benefit was to recognise communities that host renewable energy generation infrastructure of national importance. For proposed developments located near or beyond the horizon from the coast, a limited number of communities will be affected by hosting the offshore wind project.

In identifying relevant communities, key factors include the proximity of coastal communities to the site, the location of operations and maintenance bases and the temporary onshore construction works.

However, due to the highly varied distribution of offshore wind development in Scottish waters – from near shore to over 30 miles out to sea - defining relevant communities will require flexibility.

Question 2: When defining the relevant communities to receive benefits from offshore wind development, which factors should be considered, and by whom? Are there any factors which are most important, and why?

As is the case with onshore developments, developers are best placed to understand where their projects' onshore activities will be located. The key factors developers consider include the proximity of coastal communities to the site, the location of operations and maintenance bases and the temporary onshore construction works. Within these parameters, the existing GPPs provide an effective framework for identifying eligible communities and encouraging openness while retaining the flexibility to respond to each project's specific characteristics, unique local circumstances, and needs.

The industry recognises that clusters of offshore wind farms and the associated infrastructure could exist, and developers are open to working collaboratively to consider innovative ways of delivering impactful community benefits for the relevant communities.

The development of the sectoral marine plans strategically sited the optimum location of offshore wind farms to minimise industry-to-industry interactions. However, a certain level of interaction is inevitable. There must be a clear separation between commercial industry-to-industry interactions subject to compensation arrangements and voluntary community benefit arrangements.

During the development of an offshore project, the commercial fishing industry is consulted as a key stakeholder. Interactions between offshore renewables and the commercial fishing industry are assessed through the Environmental Impact Assessment (EIA) process to identify any necessary compensation measures. As interactions with the commercial fishing industry are dealt with through the EIA/compensation process, the commercial fishing industry should not be included in the GPPs as a relevant community that should receive community benefit.

Maximising the impact of community benefits from offshore wind developments

Question 3: Who should decide how offshore wind community benefits are used (decision-makers)? Are there any groups, organisations or bodies you feel should have a formal role in this?

A core principle of the current GPPs is that host communities should be at the centre of discussions on how community benefits are distributed. It can be helpful to involve regional bodies in discussions, but their views should not supersede those of the host community. This core principle should apply to both onshore and offshore community benefits.

The GPPs should not recommend a formal role for any organisation or body, as the relevance of any organisation or body will differ depending on local circumstances.

Question 4: What are the best ways to ensure that decision-makers truly reflect and take into account the needs and wishes of communities when determining how community benefits are used?

Communities are best positioned to determine how community benefits should be utilised to address their needs and priorities. The role of any other decision-makers should be to empower community decision-making and enhance their capacity to deliver strategic change.

The existing GPPs provide an effective framework for community-led decision-making, empowering communities to make decisions that support their long-term sustainability. A community-led decision-making process should include:

- **Widespread Consultation** – Conducting early, meaningful, and consistent consultations with mainstream and hard-to-reach groups within the community to ensure the fair and effective distribution of benefits.
- **Existing Plans** – Where they exist, Community Action Plans (CAPs) and Local Place Plans (LPPs) should guide the development and delivery of community benefit options. Options should focus on maximising long-term impact.
- **Collaboration**— Stakeholders, including community councils, development trusts, other community anchor organisations, local authorities, enterprise agencies, developers, and other private sector organisations, should collaborate with communities to enhance their capacity to deliver ambitious, strategic projects but must let communities take the lead.
- **Flexibility** – Every project and community has unique challenges and opportunities. There must not be a one-size-fits-all approach. Every location is unique and presents distinct challenges and priorities, so the GPPs must accommodate a flexible approach.

Question 5: What could be done to help maximise the impact of community benefits from offshore wind? What does good look like?

The first principle of community benefits, outlined on page 10 of the existing GPPs, is to ensure a lasting legacy. This principle should be enhanced to *a lasting strategic legacy*. Creating a lasting strategic legacy of the energy transition, utilising community benefits, should be the primary focus.

Local communities and regional stakeholders should establish strategic priorities that benefit the community. The specific priorities must reflect Community Action Plans (CAPs) and Local Place Plans (LPPs). It is recognised that local and regional/national priorities are frequently aligned, for example, in housing and skills development; however, tailored and flexible responses are needed to achieve these priorities in local areas.

Question 6: How do you think directing community benefits towards larger scale, longer term, or more complex projects would affect the potential impact of community benefits from offshore wind?

One of the key strengths of community benefit is that it creates a significant long-term positive impact focused in a local area. Directing community benefits toward larger, longer-term projects can maximise impact, but capacity building is often required for communities engaging with community benefit for the first time.

Based on the experience of onshore developers, such communities benefit significantly from early capacity-building support to maximise their ability to deliver long-term impact. The GPPs should encourage developers and communities in this situation to prioritise capacity building, especially in the first five years of funding. This capacity building should include a focus on using community benefit to leverage wider opportunities.

The industry recognises that reductions in public funding mean that public services are being cut. We also recognise that communities may consider using community benefit funds to maintain services that might otherwise be lost. While the community should make such decisions, the GPPs should make clear the risks inherent in using community benefit to provide services that should normally be and have historically been delivered through statutory funding. Particularly, the risk that once the community has taken responsibility for a service, the relevant public body may be unwilling to take back responsibility should public finances improve.

The renewable energy industry welcomes the work of the Scottish Government's Community and Renewable Energy Scheme (CARES). CARES can be a valuable resource for supporting communities' engagement with developers and community benefit. The Scottish Government should continue to fund CARES to ensure communities have support to maximise the impact of community benefit funds.

Based on developers' experience, communities that have no previous experience of community benefit funds benefit significantly from early capacity-building support to maximise their ability to deliver value with community funds. Encouraging this should be included in CARES support.

The Scottish Government should consider extending the CARES scheme to facilitate community mentoring. A community receiving community benefit funds for the first time would be matched with an experienced and successful scheme of similar socio-economic status. This would provide support and peer learning in areas where they have little or no experience of community benefit funds.

Question 7: The development of offshore wind is often geographically dispersed with multiple communities who could potentially benefit. To what extent do you agree or disagree that a regional and/or national approach to delivering community benefits would be an appropriate way to address geographical dispersal of development and multiple communities? Please explain your answer.

Spreading resources over too wide an area risks removing the key strength of community benefit and relegating it to being a source of small-scale, short-term funding that doesn't deliver the long-term benefits that are the hallmark of locally-focused funds. This undermines communities' ability to establish and run assets that make a long-term, strategic difference. Regional funds may be appropriate where there is a significant number of projects concentrated in an area. However, the GPPs must avoid seeking to establish regional funds where these are inappropriate.

Community benefit should not be distributed nationally. Community benefit is not of a sufficient scale to make a meaningful impact when distributed at the national scale. A national centralised mechanism would also remove the relationship between projects and their host communities.

Question 8: Are you aware of any likely positive or negative impacts of the Good Practice Principles on any protected characteristics or on any other specific groups in Scotland, particularly: businesses; rural and island communities; or people on low incomes or living in deprived areas. The Scottish Government is required to consider the impacts of proposed policies and strategic decisions in relation to equalities and particular societal groups and sectors. Please explain your answer and provide supporting evidence if available.

The renewables industry is committed to an inclusive approach to community benefit funding, and it should be available without discrimination.

Rural and island communities: 17% of Scotland's population live within rural or island communities (NISRIE | Rural Exchange | SRUC). These communities experience rural deprivation, including a higher prevalence of an ageing population, increased levels of extreme fuel poverty, reduced access to transport and core services, and lack of affordable housing. Their access to community benefit can contribute to equipping communities with the skills and abilities to achieve community wealth building. The GPPs must ensure that local control of resources is retained so they can be utilised to overcome the key challenges these communities face.

Deprived communities: as stated in our response to other questions in this consultation, the GPPs should encourage capacity-building support in the early years of community benefit so communities receiving community benefit for the first time can maximise the benefits of community resources in their area.

Age and English as a second language: GPPs and any supporting templates should be provided in a format which is accessible and easy to utilise.

Determining appropriate levels of community benefits from offshore wind

Question 9: In your view, what would just and proportionate community benefits from offshore wind developments look like in practice?

The economic differences between onshore and offshore renewables and between offshore projects are vast. Developing, installing, and operating wind farms anywhere in Scottish waters is exceptionally challenging. These challenges increase with distance from shore and are even greater for deep-water floating offshore wind. Therefore, there must not be any expectation that community benefit from offshore wind will match that from onshore wind.

It is important to note that the CfD mechanism was designed to drive down the cost of electricity generated by renewables. It works on the principle of providing developers with a guaranteed price for their electricity for 15 years in return for making a modest profit. Investors are willing to accept modest profits for low-risk, predictable returns over 15 years.

The CfD has successfully delivered this objective. However, project costs have risen sharply in recent years, primarily due to a steep increase in the prices of commodities such as steel and copper, a significant rise in grid charges in Scotland, and an increasing frequency of negative pricing periods in the electricity market. Offshore wind also faces significantly higher costs than onshore wind, including seabed leases, the expense of specialised vessels, and extensive cable routes.

Projects in development now cost more to deliver but are paid less for their electricity. The Review of Electricity Market Arrangements (REMA) currently being undertaken by the UK Government has also created huge uncertainty over the future of grid costs. Cumulatively, all these factors have reduced the profitability of projects while simultaneously pushing up risk. As a result, it is now increasingly challenging for project developers to secure the investment they need to build projects.

Developers must carefully balance financial viability, community impact and the long-term sustainability of their projects when considering the level of community benefit they can offer. Community benefit expectations must not jeopardise Scotland's offshore wind pipeline or impact Scotland's competitiveness in the UK and global offshore wind market.

Due to the wide variation in the economics of offshore wind projects, the GPPs should not seek to establish a set benchmark for community benefit from offshore wind. Each developer will need to determine the level of community benefit possible based on their project's business model and guided by the principles set out below:

1. **Degree of Community Interaction –** Offshore wind and infrastructure have entirely different community interactions compared to onshore wind. The type and extent of any community benefit would consider these interactions in the context of the specific project.

2. **Regional and Project-Specific Flexibility** – Community benefit must reflect project economics, location, and technology type, ensuring projects remain financially viable. They should also be considered in combination with the socio-economic benefits communities will experience from offshore wind deployment, such as long-term employment opportunities from operation and maintenance sites.

3. **Ensuring Scotland's Competitiveness** – Offshore wind projects in Scotland already face higher costs than projects elsewhere in UK waters. Any additional financial burden risks making projects even less competitive compared to English sites, potentially reducing investment and job creation in Scotland. At a time when investment in renewables is needed for Scottish projects, which have a higher levelised cost of electricity (LCOE), it is essential to minimise further risk and miss the opportunity of significant socio-economic benefits reaching Scottish communities.

4. **Avoiding Consumer Cost Increases** – Community benefit is often framed as sharing developer profits with the community. While this was the case in 2014 under the ROCs system, the competitive nature of CfDs means projects are now making the lowest viable profit needed to secure investment. Community benefit will likely require Scottish developers to increase their CfD bids. This means that under the CfD system, community benefit becomes a money transfer from UK consumers to the projects' host community.

Question 10: What processes and guidance would assist communities and offshore wind developers in agreeing appropriate community benefits packages?

There is a concerning lack of understanding of the economic realities of Scottish renewable energy projects. Rising international gas prices have primarily driven the rise in energy bills, which has also contributed to the excessive profits of some fossil fuel producers. During the energy price crisis, the amount renewable energy projects with CfDs were paid for the electricity they generated remained unchanged.

Renewable energy displacing gas saved UK consumers over £6.1 billion on their energy bills in 2021, equivalent to £221 per household. It also helped the UK avoid the need to buy nearly £12.5 billion of gas in 2022 during the gas price crisis. Analysis has shown that an electricity system mainly powered by offshore wind will be the most cost-effective for consumers by 2035.

The principal value of renewable energy projects to Scotland lies in the economic activity they generate and the supply chain and job opportunities they create. This is detailed in the recent economic analysis by BiGGAR Economics of the *Public Value from Offshore Wind* (included as an annexe to this response). The main benefit for all communities is the delivery of more affordable energy. This economic reality must not be forgotten in the process of agreeing on appropriate community benefits packages.

The Scottish Government and other stakeholders should make every effort to communicate this to communities. Debates around community benefit must avoid stoking unrealistic expectations by conflating them with sovereign wealth funds or implying they will be of a scale that can address significant social issues, such as the housing crisis.

Due to the wide variation in the economics of offshore wind projects, the GPPs should not seek to establish a set benchmark for community benefit from offshore wind. Each developer will need to determine the level of community benefit possible based on their project's business model and guided by the principles set out in our answer to Q9. Refer also to the background information on offshore wind in the letter accompanying this response.

Shared ownership of offshore wind developments

Question 11: What do you see as the potential of shared ownership opportunities for communities from offshore wind developments? Please explain your answer.

The renewables industry supports the principle of shared community ownership, but significant challenges must be overcome before this could become a reality in the offshore wind sector.

Shared ownership of any renewable energy project is complex and challenging to implement. Communities must be fully aware of the risks associated with shared ownership of any site. Experience from onshore wind has demonstrated that while initial exploration of shared ownership opportunities is often positive, once communities are fully informed of the likely risks and rates of return, the uptake of these opportunities is low.

Fifteen examples of onshore wind shared community ownership are listed on the Community Benefit Database maintained by Local Energy Scotland. Only one of these, Viking Wind Farm, has a CfD. All of the others were developed using Feed-in Tariffs (FiTs), Renewable Obligation Certificates (ROCs) or Power Purchase Agreements (PPAs). While the Viking Wind Farm does provide an example of a CfD-supported project with shared community ownership, it should be noted that Viking is a unique project. It was in development for 15 years, and the community invested in the early development phase of the project. We have not found any other projects with a comparable development pathway.

The total capital expenditure for offshore projects is substantial, with budgets exceeding billions. Recent research carried out by Development Trust Association Scotland (DTAS) found that: *"…to secure a 1% revenue stake in a 1GW offshore wind project a CBS [community benefit society] would require a substantial investment, estimated around £16 million. While community shares and bonds could raise portions of this sum, additional affordable funding sources would be necessary to make this financially viable for communities. This report details the different possibilities such as a mix of democratic finance and the need for a role of the Scottish National Investment Bank role, GB Energy, social investment finance and also the exploration of a Scottish National Wealth Fund."*

In addition to the challenge of raising the capital needed to invest, there are other significant challenges to shared community ownership of offshore wind, including (i) project economics are less certain and robust, (ii) rates of return on any community investment might be even less certain or attractive, (iii) the length of time (at least 5, more likely 10 years) before operational revenues commence means communities commit funding without seeing returns until future generations.

It can also be very time- and resource-intensive for both developers and communities to explore opportunities that ultimately do not match communities' aspirations. Ownership setup and financing will require a multi-year engagement and depend on a deep and sustained interest and time commitment from individuals in the community. A community information initiative that outlines the likely parameters for community investment or shared ownership schemes by clearly illustrating the economics of offshore wind would be welcome.

The challenges outlined above suggest that shared ownership models are less viable for offshore wind than for onshore wind. Notwithstanding this, taking examples from onshore wind and developing innovative approaches to community ownership should not be ruled out without further investigation. However, the feedback from the bulk of our members highlights a shared ownership model that is attractive to communities would be challenging to implement for offshore wind projects.

Question 12: Thinking about the potential barriers to shared ownership of offshore wind projects, what support could be offered to communities and developers to create opportunities and potential models, and for communities to take up those opportunities? Potential barriers include high costs of offshore wind development, community access to finance and community capacity.

Research and pilot schemes could be conducted to test models where shared ownership is facilitated by a specialist company that collaborates with a host community to pool their investments. This company could serve as the vehicle for individuals (and other retail investors) to invest in either the equity or debt of a particular offshore project.

The government could explore financial mechanisms to give communities access to finance. One comparison is federal or provincial loan guarantee programmes for Canadian First Nations to invest in renewable energy projects (albeit onshore rather than offshore).

Onshore consultation questions

Extending the scope of the Good Practice Principles

1. a) Which of the following onshore technologies should be in scope for the Good Practice Principles? Select all that apply.

Onshore Wind - Onshore wind should continue to be part of the GPPs.

Solar - Commercial solar farms over 5MW should be included in the GPPs.

Hydro power (including pumped hydro storage) - Hydropower and pumped storage hydro (PSH) schemes should not be included in the GPPs.

Hydrogen - Hydrogen projects should not be included in the GPPs.

Battery storage - Battery Energy Storage System (BESS) should not be included in the GPPs.

Heat networks - District Heat Networks (DHN) should not be included in the GPPs.

Bioenergy – SR will not be responding on this technology.

Carbon Capture, Utilisation and Storage (CCUS) - Carbon Capture, Utilisation and Storage (CCUS) should not be included in the GPPs.

Negative Emissions Technologies (NETs) - SR will not be responding on this technology.

Electricity transmission - Electricity transmission should not be included in the GPPs.

Other – please specify in question

Community benefit is only possible for commercial-scale projects. It is not possible for pre-commercial, research & development or innovation projects to provide community benefit as none of these projects makes a profit, and many require financial support. Therefore, such projects should not be included in the GPPs. The GPPs should also exclude behind-the-meter projects where energy is intended for on-site use.

1b 1. b) Please explain your reasons for the technologies you have selected or not selected and provide evidence where available.

Onshore Wind

Onshore wind should continue to be part of the GPPs.

Since 1990, renewable energy developers have invested over £200 million of community benefit funding into Scottish communities, most of which has come from onshore wind developments. In September 2023, the onshore wind industry signed the Scottish Onshore Wind Sector Deal with the Scottish Government. Within the deal, the industry re-committed to the GPPs, which were established in 2014 and built on a standard established via extensive industry workshops, consultation and input from developers. The onshore wind industry remains committed to providing community benefit in line with the current GPPs.

Solar

Commercial solar farms over 5MW *should* be included in the GPPs. However, the existing benchmark of £5,000 per installed megawatt per year, index-linked for the project's operational lifetime *should* not apply to solar farms.

The existing £5,000 benchmark was developed based on the economics of onshore wind projects supported by Renewable Obligation Certificates (ROCs). The economics of commercial solar farms being developed in Scotland today are vastly different from an onshore wind farm in 2014.

Scottish Renewables supports Solar Energy UK's recommended benchmark of £400 per MW (AC) capacity installed for the lifetime of the project—or an equivalent amount—as appropriate for solar farms above 5 MW in size. This approach takes the same form and structure as those established for onshore wind and as outlined in the GPPs and is therefore easily understood by communities. This benchmark was identified through two years of engagement with our members.

Hydro power (including pumped hydro storage)

Hydropower schemes should not be included in the GPPs.

Most of Scotland's large-scale hydropower stations were built between 1944 and 1985. The exception is Glendoe, which was commissioned in 2009. No hydropower project currently in development in Scotland has an installed capacity greater than 4MW—a single modern wind turbine has a capacity of 5MW. Due to their small scale, these projects should not be expected to have community benefit funds and should not be included in the GPPs.

Pumped storage hydro (PSH) schemes should not be included in the GPPs.

The UK Government's Clean Power 2030 Action Plan (CPAP) states that up to 7GW of new Long Duration Electricity Storage (LDES), expected to be mostly pumped storage hydro (PSH), will be required in Scotland by 2035 to support a clean, renewables-powered electricity system.

All the PSH schemes currently under development in Scotland have already determined the community benefits they will offer. Given the specific geography needed for a PSH scheme and the requirement for proximity to the transmission network, the potential for additional projects is very limited. Therefore, including PSH in the GPPs would lead to confusion.

Hydrogen

Hydrogen projects should not be included in the GPPs.

Hydrogen is an energy vector—a way of storing or moving energy—not an energy source. It can also be a chemical used for industrial purposes. In their *Seventh Carbon Budget: Advice for the UK Government*, published in February 2025, the Climate Change Committee states:

"*Hydrogen [will] play a small but important role, particularly in industrial sectors such as ceramics and chemical production which may find it hard to electrify. Hydrogen also has an important role within the electricity supply sector as a source of long-term storable energy that can be dispatched when needed and as a feedstock for synthetic fuels [for sectors such as aviation]*".

Energy must be used to make hydrogen. In the case of green hydrogen, the energy source is electricity from renewable energy projects. Scotland's primary renewable electricity sources are onshore wind, offshore wind, and solar. As all these technologies will be included in the GPPS, it would not be appropriate to expect additional community benefit as no additional energy has been generated.

Battery storage

Battery Energy Storage System (BESS) should not be included in the GPPs.

The UK Government's Clean Power 2030 Action Plan states that 7.6GW of batteries will be required in Scotland by 2035 to support a clean, renewables-powered electricity system. The function BESS projects is to balance the difference between when renewable can be generated and when it is needed on the grid. This does not change the amount of electricity generated; it simply changes the time it flows into the grid.

The electricity stored by BESS projects in Scotland will primarily be generated by onshore wind, offshore wind, and solar. As all these technologies will be included in the GPPS, it would not be appropriate to expect additional community benefit as no additional energy has been generated.

Heat networks

District Heat Networks (DHN) should not be included in the GPPs.

The founding rationale for community benefit was to recognise communities that host infrastructure of national significance by partnering with them to deliver long-term benefits in the areas surrounding our projects. The purpose of a district heat network (DHN) is to provide affordable, low-carbon heat to the community in which it sits. They are locally significant infrastructure from which the community directly derives long-term tangible benefits.

DHNs are also expected to become regulated utilities and as such would not be able to pay community benefit without regulator approval. For these reasons, DHNs should not pay community benefit and should not be included in the GPPs.

Carbon Capture, Utilisation and Storage (CCUS)

Carbon Capture, Utilisation and Storage (CCUS) should not be included in the GPPs.

The Acorn Project is Scotland's only advanced CCUS project. It reuses legacy oil and gas infrastructure to transport captured industrial CO_2 emissions from the Central Belt of Scotland to permanent storage 2.5km (1.5 miles) under the North Sea. The Acorn stores are connected to the Scottish mainland by existing legacy pipelines. Industry in the Central Belt of Scotland will be able to send their captured CO_2 to the Acorn storage sites via National Gas Transmission, repurposing an existing onshore natural gas pipeline

As CCUS does not involve building new infrastructure, has no new impacts on communities, is not fully commercialised and not mature in the market, it should not be expected to deliver community benefits and should not be included in the GPPs.

Electricity transmission

Electricity transmission should not be included in the GPPs.

Transmission is a regulated business and all electricity transmission infrastructure in the UK is regulated by Ofgem. Any community benefit arrangements related to electricity transmission must be consistent across the UK and will be subject to approval by Ofgem.

On March 10, 2025 the UK Government (DESNZ) published their Community Funds for Transmission Infrastructure Guidance. As there is now UK-wide guidance, any future GPPs produced by the Scottish Government must exclude electricity transmission infrastructure.

2. Should the same Good Practice Principles apply in a standard way across all the technologies selected, or should the Good Practice Principles be different for different technologies? Please explain the reasons for your answer and provide evidence where available.

The same GPPs for engaging with communities, identifying priorities and managing funds *should* apply across all technologies. The recommended benchmark of £5,000 per installed megawatt per annum *should not* apply to all technologies.

The existing GPPs provide an effective framework for delivering community benefit arrangements that meet the core principles of:

- Creating a lasting legacy
- Building trust and transparency
- Taking a flexible approach

- Developing a community action plan
- Decisions being best led locally
- Establishing fair processes between the renewables industry and the community.

The ways of working in the GPPs are familiar to communities that already host renewable energy projects. They work well and varying them across technologies would make community benefit discussions and arrangements more complex and confusing for communities.

The recommended benchmark of £5,000 per installed megawatt per annum index-linked for the project's operational lifetime is not applicable across all technologies. This figure was set in 2014 when most onshore renewables projects in Scotland were onshore wind delivered using Renewables Obligation Certificates (ROCs).

Over a decade later, the ROCs system has been superseded by Contracts for Difference (CfD), and a broader mix of technologies is involved in the energy transition. The capacity factors, operation, business models, and economics of low-carbon generation and storage have shifted substantially. Community benefit will only be viable if it is sustainable for developers and reflects the economic realities of individual technologies.

Improving the Good Practice Principles

3. Do improvements need to be made to how eligible communities are identified? For example, changes to how communities are defined at a local level, and whether communities at a regional and/or national level could be eligible. Please explain your answer and provide supporting evidence if available.

The existing GPPs provide an effective framework for identifying eligible communities and encouraging openness while retaining the flexibility to respond to unique local circumstances and needs. Settlement densities vary widely across Scotland, which was recognised when the GPPs were first developed. What is appropriate in the densely populated Central Belt will not be appropriate in remote rural areas. The GPPs must retain the flexibility to respond to unique local circumstances and needs.

A core principle of the current GPPs is that host communities should be at the centre of discussions on how community benefits are distributed. It can be helpful to involve regional bodies in discussions, but their views should not supersede those of the host community.

One of the key strengths of community benefit is that it creates a significant fund that will be in place over the lifetime of a project and is focused in a local area. This enables these communities to undertake large projects, such as acquiring a building and establishing a community hub, which makes a long-term tangible difference to a community.

An analysis by SSE has found that 21% of Scotland’s population have access to their community benefit funds. The percentage of the Scottish population that can access community benefit funds increases when other developers are included. Therefore, funds are already available to a significant portion of the population.

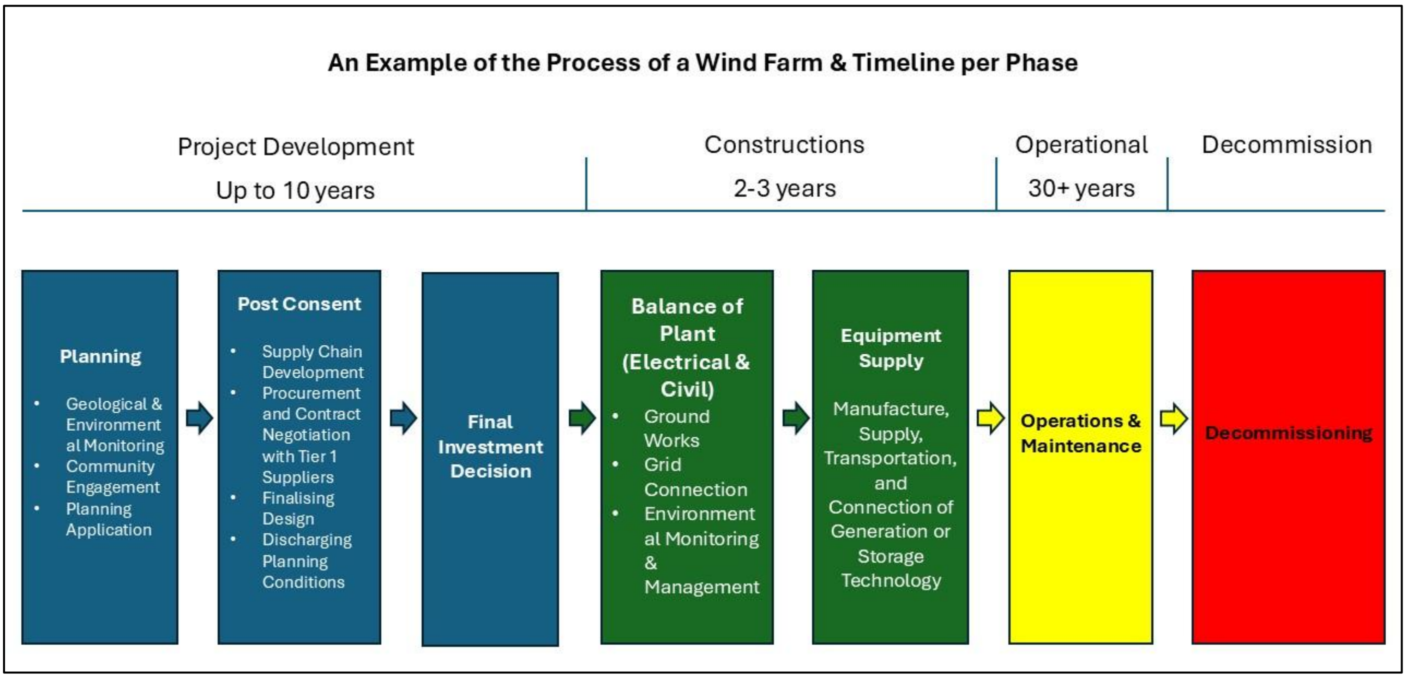
Spreading resources over too wide an area risks removing the key strength of community benefit and relegating it to being a source of small-scale, short-term funding that doesn’t deliver the long-term benefits that are the hallmark of locally-focused funds. This undermines communities' ability to establish and run assets that make a long-term strategic difference. Regional funds may be appropriate where there is a significant number of projects concentrated in an area. However, the GPPs must avoid seeking to establish regional funds where these are inappropriate.

Community benefit should not be distributed nationally. Community benefit is not of a sufficient scale to make a meaningful impact when distributed at the national scale. A national centralised mechanism would also remove the relationship between projects and their host communities.

4. Should more direction be provided on how and when to engage communities in community benefit opportunities, and when arrangements should take effect? Please explain your answer and provide evidence/examples of good practice where available.

The existing GPPs provide appropriate guidance on the principle of early and effective community engagement, which should be retained and does not need further elaboration. However, the commitments made on pages 9 and 10 of the Scottish Onshore Wind Sector Deal should be incorporated.

Developers are committed to building positive relationships with the communities that host their projects. However, developing renewable projects is a long process that can take up to 20 years. Below is a typical development timeline for an onshore wind project.



'Consultation fatigue' is already recognised as an issue for communities. The project developer is best placed to understand the timeline of their project and identify when the project is sufficiently developed to provide a meaningful level of information to the community but still early enough in the process for community input to shape the community benefit arrangements. Flexibility must be maintained to prevent developers from having to re-consult with communities as the project evolves, which would exacerbate the issue of consultation fatigue.

An appropriate level of flexibility is also essential for site-by-site considerations such as the timing of holidays, tourist seasons, or commercial sensitivities, for example, where multiple developments may compete for land rights, grid capacity, or planning issues.

It would be counterproductive to seek to be more directive on when and how developers engage with communities when project development timelines and community circumstances vary so widely.

5. How could the Good Practice Principles help ensure that community benefits schemes are governed well? For example, what is important for effective decision-making, management and delivery of community benefit arrangements? Please explain your answer and provide evidence/examples of good practice where available.

Most community benefit funds are well governed, and good practice is widespread. There are also many existing sources of guidance on good governance, including the Scottish Government's Community and Renewable Energy Scheme (CARES), the Scottish Charity Regulator (OSCR), the Development Trusts Association Scotland and the Office of the Regulator of Community Interest Companies.

The GPPs do not need to include any additional guidance on good governance but should direct developers and communities to existing sources of guidance. They should also direct developers and communities to guidance and training that supports expanding the diversity and skill set of those with decision-making roles within community benefit funds and upskilling decision-makers once they are in their roles.

Additionally, the GPPs should signpost guidance on fund management, due diligence and suitable IT solutions for fund management.

For example, ScottishPower Renewables enters into a legal agreement with the community organisation that will manage and administer funds. This agreement sets out the obligations for both parties and the legal parameters around several governance risks that must be adhered to. In addition to the legal agreement, all fund administrators must complete an annual Due Diligence statement confirming that no decision makers have been or are being investigated for fraudulent activity, that all decision makers are aware of their legal obligations, and that there are good practices around conflicts of interest when making decisions about allocating funds. This enables effective management while supporting community-led decision making.

Based on developers' experience, communities receiving community benefit for the first time benefit significantly from early capacity-building support to maximise their ability to deliver value with community funds. The GPPs should include encouraging developers and communities in this situation to prioritise capacity building, especially in the first five years of funding.

6. How could the Good Practice Principles better ensure that community benefits are used in ways that meet the needs and wishes of the community? For example, more direction on how community benefits should or should not be used, including supporting local, regional or national priorities and development plans. Please explain your answer and provide evidence/examples of good practice where available.

The first principle of community benefits on page 10 of the existing GPPs is to ensure a lasting legacy. This principle should be enhanced to *a lasting strategic legacy*. Creating a lasting strategic legacy of the energy transition using community benefits should be the primary focus of community benefit funds.

Local communities and regional stakeholders should set strategic priorities for community benefit. The specific priorities for a fund must reflect Community Action Plans (CAPs) and Local Place Plans (LPPs). It is recognised that local and regional/national priorities are frequently aligned, e.g., housing and skills development, but tailored and flexible responses are needed to achieve these priorities in local areas.

The industry recognises that reductions in public funding mean that public services are being cut. We also recognise that communities may consider using community benefit funds to maintain services that might otherwise be lost. While the community should make such decisions, the GPPs should make clear the risks inherent in using community benefit to provide services that should be or have historically been delivered through statutory funding. Particularly, the risk that once the community has taken responsibility for a service, the relevant public body may be unwilling to take back responsibility should public finances improve.

7. What should the Good Practice Principles include on community benefit arrangements when the status of a new or operational energy project changes? For example, reviewing arrangements when a site is repowered or an extension is planned, or when a new project is developed or sold.

Within the Scottish Onshore Wind Sector Deal, industry has already committed to maintaining community benefit arrangements when a project is sold. This continues to be industry's position.

Repowered projects (where the old turbines are removed and replaced with new, modern turbines) or extensions to the site should be considered new projects. When developing the business model for repowering or site extension, community benefit arrangements should be established in accordance with the GPPs in place and the project's economics at the time.

For clarity, the term *extension* in this context refers only to the extension of a site where additional turbines are installed. It does not apply to lifetime extensions where turbines continue to operate beyond their original predicted lifespan. The GPPs already state that community benefit arrangements are for the lifetime of the asset, so there should be no expectation that the community benefits will change if the lifetime of the asset changes.

It should also be recognised that repowering and site extension provide an opportunity to re-consult with the community to determine if they wish to change how the community benefit is delivered.

For example, when ScottishPower Renewables repowered Hagshaw Hill, the first commercially owned wind farm in Scotland and first to be repowered, they provided local communities with an enhanced and updated community benefit fund, which reflects the increased energy generation from the project.

When an SSE-owned project in South Lanarkshire was extended, communities highlighted that they were unhappy with the impact delivered through the original local authority-controlled funds established during the project's first phase. This was due to a lack of community involvement in decision-making and limited flexibility in how funds were spent. The community chose to establish a community-led fund for the project extension – this has increased local capacity and the impact of the fund.

8. Should the Good Practice Principles provide direction on coordinating community benefit arrangements from multiple developments in the same or overlapping geographic area? If so, what could this include? Please explain your answer and provide evidence/examples of good practice where available.

Developers already seek to coordinate their community benefit arrangements when requested by local communities. Scottish Renewables has established regional forums through which developers with projects in the same geographical area can communicate with each other to support such collaboration.

For example, SSE and RWE jointly administer the Achany and Rosehall Community Funds, ensuring the community can maximise the value of community benefits in their area. A recent BiGGAR Economics study[2] identified that the collaborative approach had an enhanced impact in the local area, with the £2.8 million community benefit generating £10.1 million in wellbeing benefits and supporting 18 local jobs.

The GPPs should encourage such coordination but not set it as an expectation.

As explained in our answer to Q4, project development timelines are long, and the points at which decisions must be made are fixed within the process. While developers with neighbouring projects may wish to coordinate their community benefit approaches, their project timelines may dictate that one has to decide on arrangements before the other can do so.

9. What improvements could be made to how the delivery and outcomes of community benefit arrangements are measured and reported? For example, the Good Practice Principles encourage developers to record and report on their community benefit schemes in Scotland's Community Benefits and Shared Ownership Register. The register showcases community benefits provision across Scotland using a searchable map.

The GPPs could be improved by:

- Showcasing successful approaches to evaluation that already exist in the renewable energy sector.
- Ensuring reporting complements the Scottish National Outcomes and UN Sustainable Development Goals.
- Providing capacity-building examples and templates for communities.
- Providing guidance to ensure that any evaluation and reporting requirements are not overly bureaucratic for communities.

[2] https://biggareconomics.co.uk/community-benefit-funds-creating-a-legacy

10. In addition to the Good Practice Principles, what further support could be provided to communities and onshore developers to get the most from community benefits? For example, what challenges do communities and onshore developers face when designing and implementing community benefits and how could these challenges be overcome? Please explain your answer and provide evidence/examples of good practice where available.

The renewable energy industry welcomes the work of the Scottish Government's Community and Renewable Energy Scheme (CARES). CARES can be a valuable resource for supporting communities' engagement with developers and community benefit. The Scottish Government should continue to fund CARES to ensure communities have support to maximise the impact of community benefit funds.

Based on developers' experience, communities that have no previous experience of community benefit funds benefit significantly from early capacity-building support to maximise their ability to deliver value with community funds. Encouraging this should be included in CARES support.

The Scottish Government should consider extending the CARES scheme to facilitate community mentoring. A community receiving community benefit funds for the first time would be matched with an experienced and successful scheme of similar socio-economic status. This would provide support and peer learning in areas where they have little or no experience of community benefit funds.

Setting a funding benchmark

11. Do you think that the Good Practice Principles should continue to recommend a benchmark value for community benefit funding? The current guidance recommends £5,000 per installed megawatt per year, index-linked (Consumer Price Index) for the operational lifetime of the energy project.

Yes

In line with our answer to Q1a, the GPPs should include only onshore wind and solar farms over 5MW and include benchmarks for these technologies.

12. a) Should the benchmark value be the same or different for different onshore technologies? Please explain your answer.

The benchmarks for onshore wind and solar farms cannot be the same due to the vastly different capacity factors and business models of these technologies.

Onshore wind—the benchmark £5,000 per installed megawatt per year, index-linked for the project's operational lifetime—should be maintained at the current level *where it does not undermine the financial viability of the project*.

Analysis by BiGGAR Economics (included as an annexe to our response) shows that community benefit is now equivalent to twice as much of the revenue (2%) of an onshore wind project as it was in 2014 (1%). Revenue must not be confused with profit. Under the CfD scheme, community benefit is equivalent to approximately 15%—20% of the developer's profits.

Analysis by The Energy Landscape (included as an annexe to our response) shows that wind farms in Scotland are on the very edge of financial viability. The current benchmark of £5,000 per installed megawatt per year is the maximum developers can deliver. An increase to £6,000 per installed megawatt per year would render projects financially inviable.

To understand this situation, it is important to note that the CfD mechanism was designed to drive down the cost of electricity generated by renewables. It works on the principle of providing developers with a guaranteed price for their electricity for 15 years in return for making a modest profit. Investors are willing to accept modest profits for low-risk, predictable returns over 15 years. As the CfD mechanism is competitive, it drives developers to submit the lowest possible bid, resulting in projects designed on the lowest profit level possible to keep them viable.

The CfD has successfully delivered this objective. However, project costs have risen sharply in recent years, predominantly due to a steep rise in the price of commodities such as steel and copper, a steep increase in grid charges in Scotland and the increasing frequency of negative pricing periods in the electricity market.

Projects in development now cost more to deliver but are paid less for their electricity. The Review of Electricity Market Arrangements (REMA) currently being undertaken by the UK government has also created huge uncertainty over the future of grid costs. Cumulatively, all these factors have reduced the profitability of projects while simultaneously pushing up risk. As a result, onshore wind is no longer the modest profit/low-risk proposition it used to be, making it increasingly challenging for project developers to secure the investment they need to build projects.

Many projects will struggle to attract investment at an Internal Rate of Return (IRR) of 7%. A few investors may accept an IRR as low as 6.5%, but anything below will not secure investment. This means that for every £100 of revenue a wind farm generates, projects will struggle to attract investment if profit is less than £7. No one will invest in it if the profit is less than £6.50.

The Energy Landscape analysis shows that a 51MW wind farm in the north of Scotland would have an IRR of 7% if it had a lifetime of 30 years. This drops to 6.5% for a lifetime of 25 years. This IRR rate can only be achieved if the wind farm pays no community benefit. If the wind farm has a lifetime of 30 years and pays community benefit at £5,000 per installed megawatt per year, it will have an IRR of 6.62%, making it barely investable.

For wind farms in Scotland to pay community benefit, they need to increase their bids in CfD auctions. Assuming a 40% load factor, a £5,000 / MW community benefit payment would result in a £0.43 / MWh increase in strike price. If 1GW of onshore wind gets a CfD where the strike price is £0.43 / MWh higher due to community benefit, this would cost GB billpayers £7.5 million / year during the CfD period in return for a £5 million / year community benefit payment for the duration of the wind farm's life.

Scottish wind farm projects are already at the very edge of viability and community benefit is currently equivalent to approximately 15%—20% of the developer's profits. The Scottish Government and other stakeholders should be fully aware that seeking to increase community benefit risks the viability of projects that can deliver millions of pounds of economic activity and create thousands of jobs. It will also increase CfD strike prices and increase electricity costs.

Solar farms - Scottish Renewables supports Solar Energy UK's recommended benchmark of £400 per MW (AC) capacity installed for the lifetime of the project—or equivalent—as appropriate for solar farms above 5MW in size. This approach takes the same form and structure as established for onshore wind and as set out in the GPPs and is, therefore, easily understood by communities. This benchmark was identified through two years of engagement with our members.

12. b) How could we ensure a benchmark value was fair and proportionate for different technologies? For example, the current benchmark for onshore is based on installed generation capacity but are there other measures that could be used? Please provide any evidence or data to support your preferred approach.

See answer to Q12a.

What different stakeholders consider fair and proportionate is highly subjective. Community benefit from onshore wind is currently equivalent to approximately 15%—20% of the developer's profits, yet industry regularly hears other stakeholders describe this as "crumbs from the table."

When considering community benefit, the Scottish Government should focus on what is economically viable and does not drive up electricity prices.

Over three-quarters of our climate change emissions come from our energy use. Our energy bills are too high, with 34% of households in Scotland currently living in fuel poverty. The North Sea supplies just 29.5% of the UK's gas, making us heavily reliant on imports.

However, the UK and especially Scotland are uniquely blessed with enough renewable energy potential to meet our own energy needs and, if we choose, generate extra to export. Something that is not true of many of our European neighbours. The key to achieving a clean, affordable, secure energy supply in the long term is to generate the energy we need from renewable energy and electrify transport and heating using EVs, heat pumps and district heat networks.

The majority of the value of renewable energy projects to Scotland is captured in the supply chain. Analysis of the expenditure and economic impact of seven onshore wind farms in Highland, undertaken by BiGGAR Economics, using actual supply chain data, showed that they will generate £113 million in capital expenditure, £398 million in operational expenditure, and £82 million in community benefits over their operational lifetime. The analysis of the projects found that the impact within the supply chain was 6 times greater than the value of the community benefit funding.

However, as the economic analysis included in the annexe to this response demonstrates, fewer and fewer of our renewable energy projects are economically viable. By setting unrealistic expectations of community benefit that do not reflect the economic reality of the energy transition, the Scottish Government risks undermining the contribution that the energy transition can make to the Scottish economy and achieving a system that delivers clean, affordable secure energy we need for our long-term prosperity.

Assessing impacts of the Good Practice Principles

13. Are you aware of any likely positive or negative impacts of the Good Practice Principles on any protected characteristics or on any specific groups in Scotland, particularly: businesses; rural and island communities; or people on low-incomes or living in deprived areas? The Scottish Government is required to consider the impacts of proposed policies and strategic decisions in relation to equalities and particular societal groups and sectors. Please explain your answer and provide supporting evidence if available.

The renewables industry is committed to an inclusive approach to community benefit funding, and it should be available without discrimination.

Rural and island communities: 17% of Scotland's population live within rural or island communities (NISRIE | Rural Exchange | SRUC). These communities experience rural deprivation, including a higher prevalence of an ageing population, increased levels of extreme fuel poverty, reduced access to transport and core services, and lack of affordable housing. Their access to community benefit funding can contribute to equipping communities with the skills and abilities to achieve community wealth building. The GPPs must ensure that local control of funds is retained so they can be utilised to overcome the key challenges these communities face.

Deprived communities: as stated in our response to other questions in this consultation, the GPPs should encourage capacity-building support in the early years of community benefit funds so communities receiving community benefit for the first time can maximise the benefits of community funding in their area.

Age and English as a second language: GPPs and any supporting templates should be provided in a format which is accessible and easy to utilise.

ANNEX

Renewable Energy and Community Benefit

Project Economics Data Pack

This data pack provides project economics data and analyses to help readers understand the economics of renewable energy projects in Scotland.

The first section of this pack contains background information on the electricity market and the UK Government finance mechanisms used to encourage investment in renewable energy projects.

The subsequent sections contain three analyses commissioned by Scottish Renewables.

BiGGAR Economics: Evolution of Community Benefit Funds

An analysis of how project economics for onshore wind farms in Scotland have changed between 2014, when the Scottish Government Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments were first published, and 2024.

The Energy Landscape: Understanding the impact of community benefit payments on the investability of wind farms

An analysis of the impact of various levels of community benefit payments on the viability of onshore wind farms in the north of Scotland.

BiGGAR Economics: The Public Value of Offshore Wind

An analysis of the socio-economic value of offshore wind farms to Scotland.

Background Information

The following information explains terms used in this data pack with which readers may be unfamiliar and provides context and timelines for how the economics of the renewable energy sector have changed over time.

Understanding the Electricity Market

Electricity is a commodity market, which means the wholesale price of electricity—the price that electricity generators can sell their electricity for—goes up and down depending on the balance between supply and demand.

In the past, demand was the main driver of the market price with high demand periods (such as 7am-10am when people are getting ready for the day) typically leading to the highest prices. However, as we roll out renewables, which have a relatively low operational cost, periods of high renewable availability tend to drive periods of low pricing.

Renewable energy is intermittent and uncertain - it can only be generated when the wind blows, there is enough daylight, or sufficient water flow. This uncertainty means that its availability in the future, whether an hour, a day or a year in advance, cannot be perfectly predicted. The unpredictability of renewable generation also drives uncertainty in the fluctuations of the wholesale electricity price.

This uncertainty means it is possible to *estimate* how much money a project will make from selling its electricity, but it is *impossible to calculate this precisely*.

How Renewable Energy Projects Get Built

Almost all renewable energy projects are built with project finance – the renewables equivalent of a mortgage. This involves three distinct entities: the developer who physically constructs the wind farm, the equity investors who contribute their own money to the project as shareholders, and debt investors, usually banks. Developers are often also equity investors, but the two roles are separate.

Like applying for a mortgage, the lender (the bank or 'debt investor') wants evidence of how much a project will earn to ensure that the project will generate enough income to repay the borrowed money and interest. The owners (equity investors) will also want to ensure they have a reasonable opportunity to make a return on their investment. But, like getting your deposit back when you sell a house, equity returns only come after the bank has been paid.

If a renewable energy project sells its electricity on the wholesale market, its income will be uncertain. As the project cannot provide evidence of exactly what it will earn, the bank will need to consider the risk it is exposing itself to. Banks are only interested in getting their money back, and if they see significant risk that the project won't make as much money, the equity investors will have to contribute more.

To produce electricity at the lowest possible cost, (1) the cost of borrowing needs to be kept as low as possible, (2) the fraction of the cost that are financed through debt finance via a bank loan needs to be as high as possible, and (3) equity investor confidence in the potential of a reasonable return over the lifetime of the project needs to be high ensuring investors don't feel that their money is at risk. These are key drivers in the UK renewable energy policy.

The exception to project finance is balance sheet investments. These are the equivalent of 'cash buyers' in the housing market: people who don't need a mortgage. Balance sheet finance is only possible for the largest companies, which can manage the full project risk themselves.

Renewables Obligation Certificates (ROCs)

The UK initially supported renewable energy projects through Renewable Obligation Certificates (ROCs). ROCs were intended to encourage investment and kick-start the UK's renewable energy sector. They worked by increasing income from renewable projects by a largely fixed amount above the revenue from the wholesale market. As such, it reduced the risk of investing. The ROCs scheme offered a subsidy. This subsidy helped cover the renewables industry's 'start-up' costs.

ROCs were very successful at kick-starting the UK's renewable energy sector, but whilst ROCs added revenue, those revenues still fluctuated due to the volatility of the electricity market. This also meant that when electricity prices increased above the predicted levels, consumers were paying both higher electricity prices and ROC payments.

ROCs began in 2002 and closed on April 1, 2017. The oldest ROCs will expire in 2027, with the final ROCs expiring in 2037.

Contracts for Difference (CfDs)

Once the renewable energy sector got underway, the UK Government introduced a more stable and cost-effective system known as Contracts for Difference (CfD), which was established in 2014. For fully commercialised technologies such as wind and solar, CfDs are an income stabilisation mechanism; they are not a subsidy. We have seen that in the clearing prices since Allocational Round 3 (AR3 - 2019).

Rather than selling their electricity at the fluctuating wholesale market price, renewable energy projects bid for a CfD that guarantees them a fixed electricity price, known as the "strike price." If wholesale market prices fall below this level, the government tops up the difference; if prices rise above, wind farms pay back the surplus. CfDs last for 15 years, and the first CfD-supported projects were built in 2016/17.

There are more projects wanting CfDs than there are CfDs available. Since AR3, the strike price has been below the average wholesale price of electricity, driven down through highly competitive CfD Auctions. This competition, along with the design of the auctions, ensures that strike prices deliver just enough profit to attract investors but no more than that.

The CfD mechanism has been highly successful, and renewables are now the cheapest source of electricity.

Why Electricity Bills Have Gone Up

Historically, electricity generated using gas was the cheapest source and predictions for future prices tended, at the time, to reflect an expectation that would remain the case.

However, the reopening of economies in 2021 after the COVID pandemic and Russia's invasion of Ukraine in 2022 pushed gas prices much higher than market analysts ever expected. This has driven up the wholesale price of electricity to unprecedented levels.

The price renewable energy projects with ROCs receive is effectively the wholesale price plus the ROC price, regardless of the wholesale price. Therefore, projects built between 2002 and 2017 with ROCs have seen their income increase because of increases in the wholesale electricity price. These increases were way beyond what was envisioned when the system was designed.

On January 1, 2023, the UK Government introduced the Electricity Generator Levy (a windfall tax) to address this. This is a temporary 45% tax on extra profits made by nuclear, renewable, biomass, and energy-from-waste projects, resulting from rising electricity prices. This tax will be in place until March 31, 2026.

This means that the difference between the income that projects with ROCs could reasonably expect and what they receive due to the sharp rise in gas prices is subject to this windfall tax.

Revenues for CfD-supported generators work very differently. Because they pay back when the wholesale price rises above the strike price, consumers benefit from the hedge that is created. At the peak of the energy price crisis, CfD generators were paying back to consumers.

This was despite the fact that most CfD generators operating at the time were from early allocation rounds with relatively high strike prices. Throughout the 2020s, we will see more and more capacity commissioning with CfD strike prices around £50 / MWh, and the hedging benefit to consumers will also grow considerably.

BiGGAR Economics: Evolution of Community Benefit Funds

An analysis of how project economics for onshore wind farms in Scotland have changed between 2014, when the Scottish Government Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments were first published, and 2024.

BiGGAR Economics

Evolution of Community Benefit Funds

March 2025

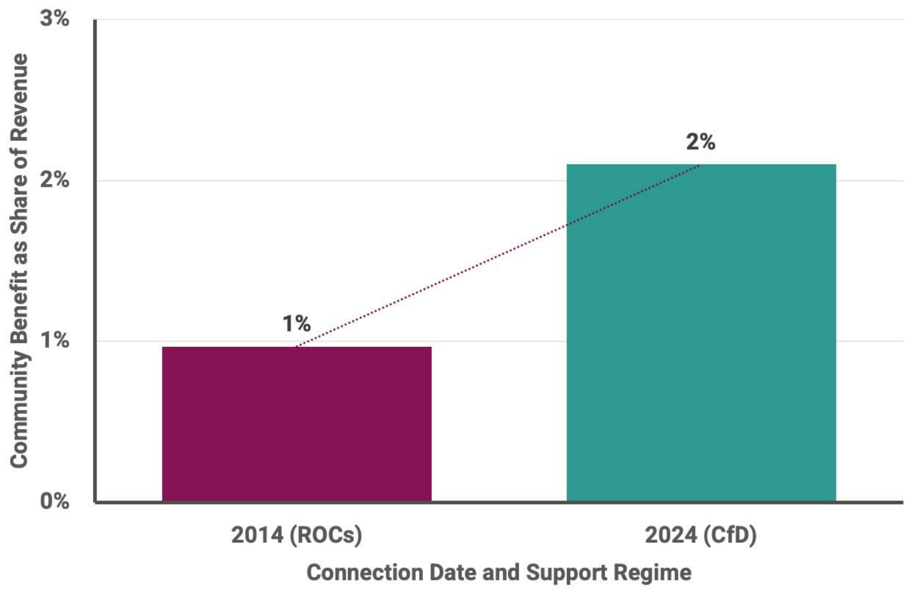
A presentation to Scottish Renewables

biggareconomics.co.uk —

Executive Summary

The move from Renewable Obligations Certificates (ROCs) to Contracts for Difference (CfD) has made Community Benefit Funding twice as expensive for onshore wind in Scotland.

- The £5,000/MW guidance for onshore wind community benefit funding was designed for onshore wind in a **subsidy-based support system**.
- This subsidy regime no longer exists, onshore wind projects in Scotland now **compete at auction** for a price-stabilising CfD.
- As a result, onshore wind developments that connected to the grid in 2014 receive more income per unit of electricity sold than projects connected in 2024.
- Community Benefit Funding is now **equivalent to twice as much of the revenue** (2%) of an onshore wind project than it was in 2014 (1%).



Context

Introduction

Scope of the Study

This presentation assesses how the value of community benefit contributions has changed over time relative to the income earned by wind farm developers.

- Specifically, it compares projects built under the Renewable Obligation Certificates (ROCs) scheme in 2014 with those developed under the Contracts for Difference (CfD) scheme in 2024.
- The goal is to highlight how ROCs were originally designed to stimulate investment in a growing renewable energy sector, leading to the establishment of a standard £5,000/MW community benefit contribution.
- By examining changes in profitability and support mechanisms, this study will explore whether community benefits have evolved in line with industry growth and developer earnings.

Context and History

From ROCs to CfD: Evolution of Renewable Energy Support

The UK initially supported onshore wind through **Renewable Obligation Certificates (ROCs)**, where wind farms earned tradeable certificates for generating electricity. Energy suppliers had to buy these, ensuring extra revenue for wind farms. However, fluctuating ROC values made income unpredictable, and costs were passed to consumers. ROCs closed on 1st April 2017.

To create a **more stable and cost-effective system**, the government introduced **Contracts for Difference (CfD)** These were established in 2014. Wind farms now bid for a fixed electricity price ("strike price") in competitive auctions. If market prices fall below this level, the government tops up the difference; if prices rise above, wind farms pay back the surplus. The first CfD-supported wind farms were built in 2016/17.

This shift reduced costs, improved price stability, and encouraged competition, making renewable energy more affordable and sustainable.

Onshore Wind & Contracts for Difference (CfD) Strike Prices

The Strike Prices for Onshore Wind have increased between 2019 and 2024.

The **CfD Allocation Rounds (AR)** for onshore wind, including remote island wind in Scotland, have shifted to an **annual** schedule starting from **AR5 (2023)** instead of every two years.

The **strike price** (the guaranteed price per MW of electricity) has evolved as follows:

- **AR3 (2019):** £39.65/MWh
- **AR4 (2022):** £42.47/MWh
- **AR5 (2023):** £52.29/MWh
- **AR6 (2024):** £50.90/MWh

Note: *CfD strike prices are always quoted in 2012 prices to make them comparable between Allocation Rounds*

This trend reflects changes in market conditions and government policy, ensuring financial support for wind energy projects

How the CfD have been allocated in Scotland

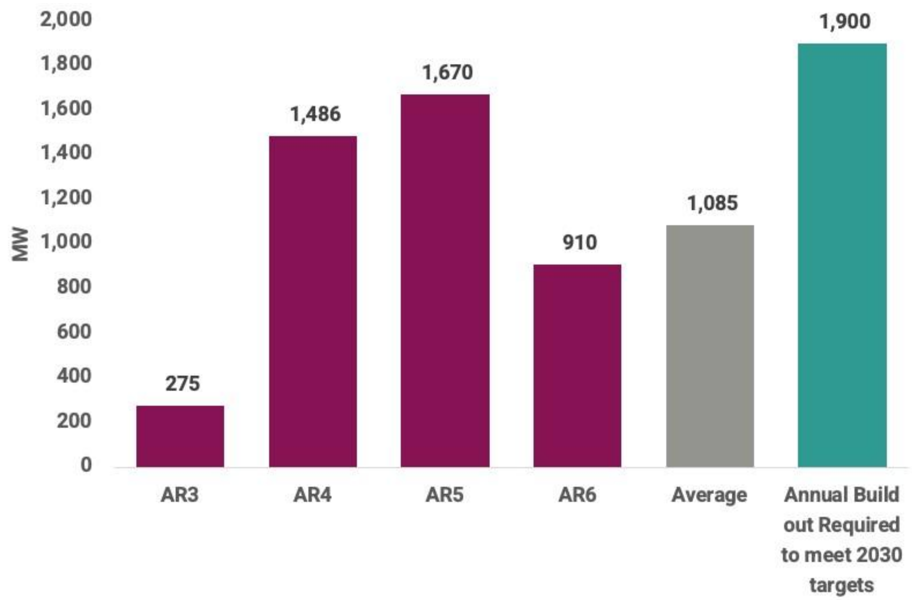
Scotland has an ambitious target to deliver 20GW by 2030

Onshore wind in Scotland, including remote island wind, has received CfD Allocations for between 275MW and 1,670MW across AR3 to AR6.

On average, **just under 1,100 MW** of onshore wind in Scotland has been allocated Contracts for Difference.

To achieve the targets set out by the Scottish and UK Governments, Scotland needs to build **at least 1,900 MW** of onshore wind each year for the next five years and attract **£13.5 billion in investment**

Currently, **Scotland is not on track** to meet this target.



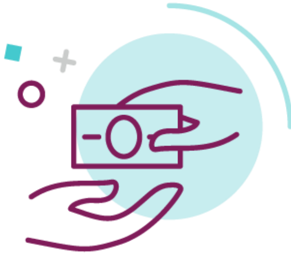
Evolution of Community Benefit Funding: ROC to CfD

Price stabilisation is better value for consumers than direct subsidy for developed technologies.

The transition from the ROCs scheme to CfDs marks a shift in focus within the wind energy sector. While the ROC scheme was instrumental in driving initial industry growth, the CfD program ensures a more suitable long-term return for onshore wind developers to reflect its position as a mature technology.

Key insights from this evolution:

- ROCs prioritised infant industry expansion, while CfD supports a **mature wind energy sector** to deliver low-cost electricity.
- The largest annual build-out of onshore wind was in 2017 when 1,600MW of onshore wind was built in Scotland, under the ROCs scheme.
- The shift reflects a move from industry **stimulation** to **sustainability.**



Analysis

Impact of change of scheme for developers

The change of support scheme has reduced the income for onshore wind projects

The ROCs paid an additional sum to developers, in addition to the value the energy would sell for on the open market.

The CfD scheme will top up, or charge, the developer for the electricity produced depending on how the market price at the time relates to the CfD level.

In the indicative example on this slide, at 8:00 am the wholesale electricity price is £96/MWh. The onshore wind project that is connected under ROCs will receive £131/MWh, while the CfD connected project will receive £70/MWh.

The CfD project would, therefore, need to **generate 87% more electricity per installed MW** to pay a fixed community benefit fund set at £5,000 per MW of installed capacity.

Impact on Affordability

Community Benefit Funding accounts for a greater share of onshore wind revenue

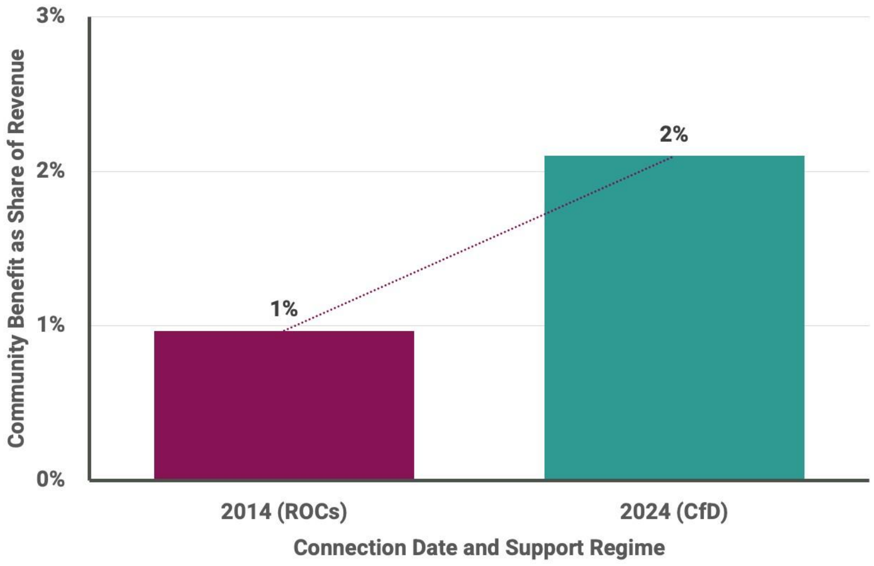
Innovation and increases in project scale have reduced the levelized costs of electricity for onshore wind projects in the past ten years.

However, supply chain constraints, land value increases and commodity price increases have pushed costs up.

BiGGAR Economics has gathered data from onshore wind developers in Scotland that have both ROCs and CfD onshore wind projects. This found that the fixed £5,000/MW Community Benefit Funding accounted for approximately:

- **1% of revenue** for a ROCs project; and
- **2% of revenue** for a CfD project.

Under the CfD scheme, Community Benefit Funding is equivalen to approximately **15% - 20% of the developer's profits**



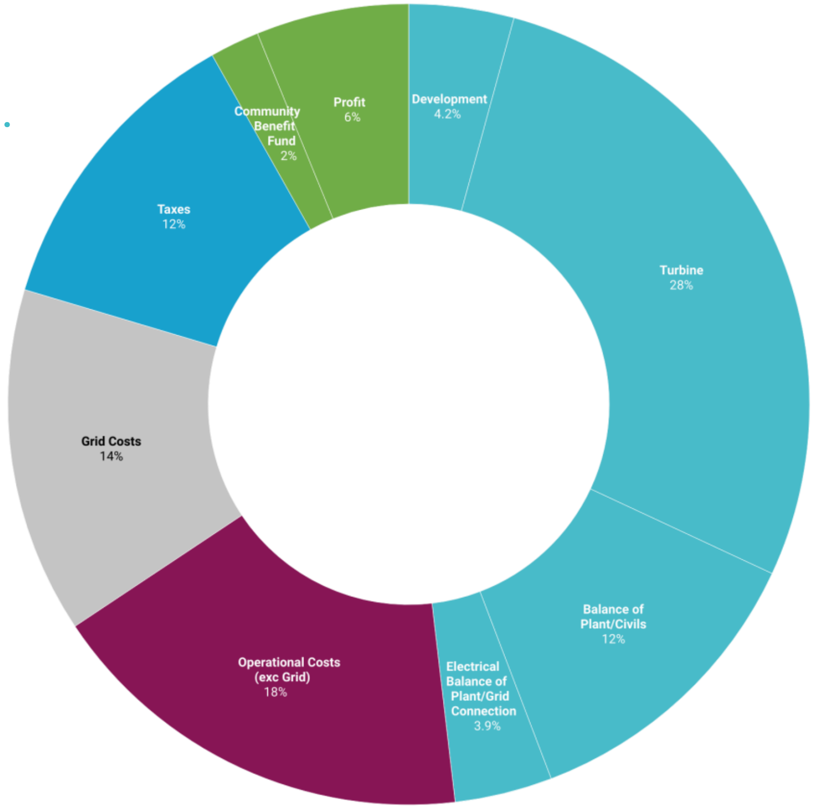
Community Benefit Funding in Context

The majority of the value of an onshore wind farm in Scotland is captured in the supply chain.

Onshore wind represents an opportunity for economic development in Scotland because of the demand that it will generate through supply chain contracts.

The distribution of income for an onshore wind farm (*right*) shows that just under half of the revenue from an onshore wind farm will be used to pay for its development and construction. A further 18% will go towards the payment of non-grid operational costs.

The opportunities in development, balance of plant and operational activities represent economic activity worth £billions of GVA and thousands of jobs in Scotland. However, these economic impacts will only be realised if the projects go ahead.



BiGGAR Economics

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The Energy Landscape: Understanding the impact of community benefit payments on the investability of wind farms

An analysis of the impact of various levels of community benefit payments on the viability of onshore wind farms in the north of Scotland.

The following pages show illustrative financial modelling that reflects the realities of developing onshore wind generation in Scotland, with a focus on northern Scotland.

The project involved conversations with three developers. These allowed TEL to sense check and refine assumptions around the cost, revenue and financial parameters used in the financial models. It also aimed to elicit views on how costs might differ between small, medium and large projects.

Understanding this analysis

The analysis identified that projects with an Internal Rate of Return (IRR) of 7% are at risk of failing to attract an investor. A few investors may accept an IRR as low as 6.5%, but anything below will not secure investment.

This means that for every £100 of revenue a wind farm generates, projects will struggle to attract investment if profit is less than £7. No one will invest in it if the profit is less than £6.50.

The analysis looked at two scenarios for the operational life of the wind farm -25 years and 30 years. Prior to the adoption of National Planning Framework 4 in February 2023, it was common for wind farms to be given a time-limited consent of 25 years. However, modern wind turbines can operate for 30 years or more.

Note: CfD Allocation Round strike prices are always quoted in 2012 prices, so they are comparable between Allocation Rounds. This analysis has used strike prices in 2025 prices to make the calculations easier to follow and more understandable in terms of the purchasing power of money today.

Key Results

Assuming a 30-year operational life, the project would require a strike price of £68.87 / MWh in 2025 prices with no Community Benefit payments.

Each additional £1,000 / MW / year of Community Benefit payment increases the strike price required by £0.43 / MWh. Therefore, current levels of Community Benefit payment—£5,000 / MWh / year—would increase strike price payments by £2.15 / MWh in this scenario.

Under conditions of competitive CfD auctions with Scottish projects setting the clearing price for onshore wind, **Community Benefit payments represent a transfer from GB billpayers to specific Scottish communities, rather than a transfer from wind farm investor profits to Scottish communities**.

AR6 (2024) procured 990MW of onshore wind. Assuming a 40% load factor, a £5,000 / MW Community Benefit payment, resulting in a £0.43 / MWh increase in strike price **would cost GB billpayers £7.5 million / year during the CfD period in return for a £5 million / year community benefit payment for the duration of the wind farm life.**

Glossary

DEVEX (Development Expenditure) – the cost of getting a wind farm to the point where it can be built. This includes securing planning permission.

CAPEX (Capital Expenditure) – the cost of building the wind farm.

FID (Final Investment Decision) - the formal approval and commitment to proceed with a project, including the point at which equity investors commit funds and debt finance is taken out, marking the transition from planning to building. FID can only be reached if a project achieves its hurdle rate.

Hurdle Rate - The minimum IRR a project can have to secure investment is referred to as the hurdle rate.

Internal Rate of Return (IRR)—the rate of return (profit) expressed as a percentage. An IRR of 7% would mean that out of £100 of capital invested at the start of the project, the investors would expect to receive £107 back over the project's lifetime, making a profit of £7.

Load Factor – the actual output of a wind farm compared to its maximum potential production. A 100% load factor would require the wind to turn the wind turbine 100% of the time. As the wind does not blow 100% of the time, the load factor is always less than 100%.

Negative Pricing—negative pricing happens when there is more cheap (e.g. wind) and inflexible (e.g. nuclear) electricity generation available than the grid needs. Some generators, like nuclear power plants, cannot switch off, so instead of selling their electricity, they will pay energy suppliers to take it for short periods. Doing this is more cost-effective than shutting down a nuclear power plant and then having to restart it again.

O&M (Operations & Maintenance) – the cost of running and maintaining the wind farm.

TNUoS (Transmission Network Use of Service) – the charge a wind farm must pay to use the electricity transmission system.

Community benefit analysis interim and draft results

Simon Gill, The Energy Landscape
simon@energylandscape.co.uk
20th March 2025

Basecase Assumptions

All values in 2025 prices

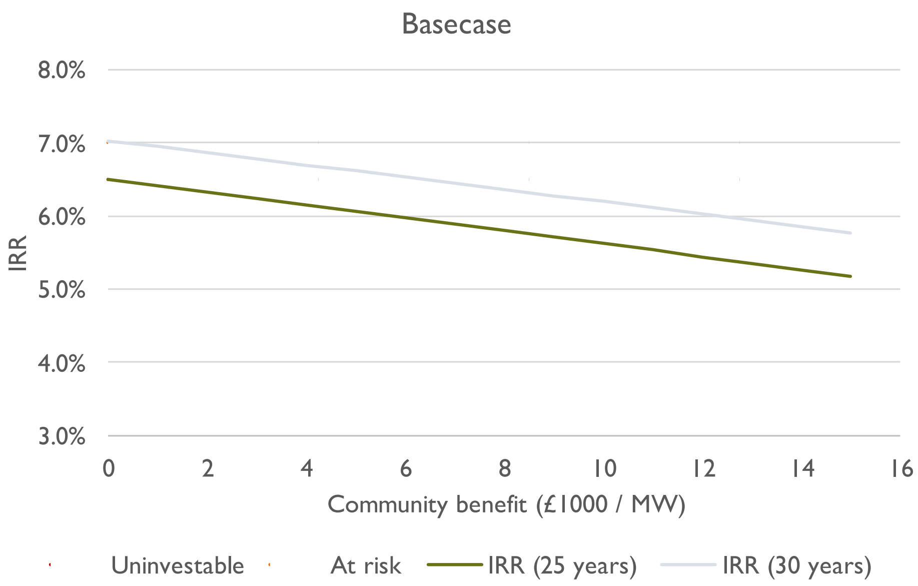
Basic Project information	Unit rate (if required)	Value	Units	Comments
Wind Farm		Onshore		
Installed capacity		51	MW	
Length of construction		2	Years	
Operational Lifetime		30	Years	
Hurdle rate		6.50%		Two hurdle rates are modelled: 'At risk' – 7.0% - many projects likely to struggle to get investment 'Uninvestable' – 6.5% - unlikely that project will get investment.
Expected available load factor		40%		
Technical plant availability (Years 1 -15)		95%		
Technical plant availability (Years 16+)		95%		
DEVEX Cost (Already sunk)	40.00 £/kW	2.05	£ million	
CAPEX cost	1450.00 £/kW	74.39	£ million	
Grid connection	107.21 £/kW	5.50	£ million	
Annual Fixed O&M	32.75 £/kW	2.45	£ million/year	
Variable O&M		7.26	£/MWh	
TNUoS		£35/kW/year		Assumes cap is introduced and retailed throughout lifetime. Consistent with feedback from developers
Negative Pricing		260 hours a year		Very low level, but consistent with feedback from developers
Wind capture discount		25% on baseload		Used post CfD only

TEL the energy landscape

Basecase – Internal Rate of Return

All values in 2025 prices

CB value (£1,000/MW)	IRR (25 years)	IRR (30 years)
0	6.50%	7.03%
1	6.42%	6.95%
2	6.33%	6.87%
3	6.24%	6.78%
4	6.16%	6.70%
5	6.07%	6.62%
6	5.98%	6.53%
7	5.89%	6.45%
8	5.81%	6.37%
9	5.72%	6.28%
10	5.63%	6.20%
11	5.54%	6.11%
12	5.45%	6.03%
13	5.36%	5.94%
14	5.26%	5.85%
15	5.17%	5.76%



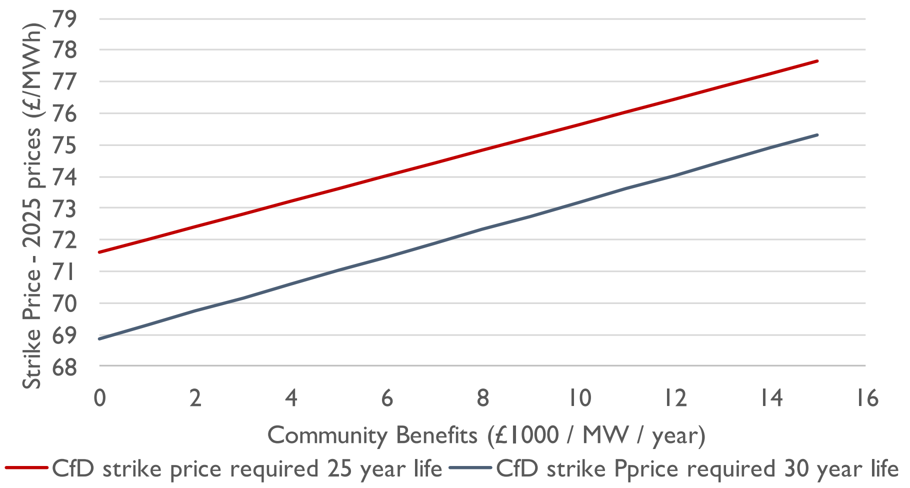
Basecase project is 'at risk' of failing to achieve FID even without a community benefit payments at AR6 strike prices. Using a 30year lifetime, the absolute maximum community benefit payment compatible with an investable IRR is £6k / MW

the energy landscape

Basecase – CfD impact

All values in 2025 prices

CB value	CfD Strike Price required 25 years	CfD Striker Price required 30 years	Delta 25	Delta 30
0	71.62	68.87		
1	72.02	69.30	0.40	0.43
2	72.42	69.73	0.40	0.43
3	72.82	70.16	0.40	0.43
4	73.23	70.59	0.40	0.43
5	73.63	71.02	0.40	0.43
6	74.03	71.45	0.40	0.43
7	74.43	71.88	0.40	0.43
8	74.83	72.31	0.40	0.43
9	75.24	72.74	0.40	0.43
10	75.64	73.17	0.40	0.43
11	76.04	73.60	0.40	0.43
12	76.44	74.03	0.40	0.43
13	76.84	74.46	0.40	0.43
14	77.24	74.89	0.40	0.43
15	77.65	75.32	0.40	0.43



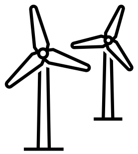
For a fixed IRR, as community benefit payment increases, projects will bid higher CfD strike prices. Every £1000 / MW increase in CB leads to an increase in strike price bid of £0.43 /MWh if the IRR is calculated on a 30 -year lifetime (CfD still remains 15 years).

TEL the energy landscape

All values in 2025 prices

Transfer from GB consumers to Scottish communities

AR6 example



Capacity		Load factor		Annual Energy
1GW	x	40%	=	3.5GWh

CB contributions of £5,000 / MW

£5m / year to communities

Individual communities

An additional £0.43 /MWh on CfD strike prices (2025 prices)

£7.5m / year from bills

All Scottish and GB billpayers

Assuming that community benefit leads to an increases CfD strike price bids and the auction clearing prices, GB consumers will pay more through their bills.

AR6 procured 990MW of onshore wind. Assuming a 40% load factor, a £5,000 / MW community benefit payment, resulting in a £0.43 / MWh increase in strike price would cost GB billpayers £7.5 million / year during the CfD period in return for a £5 million / year community benefit payment for the duration of the wind farm life.

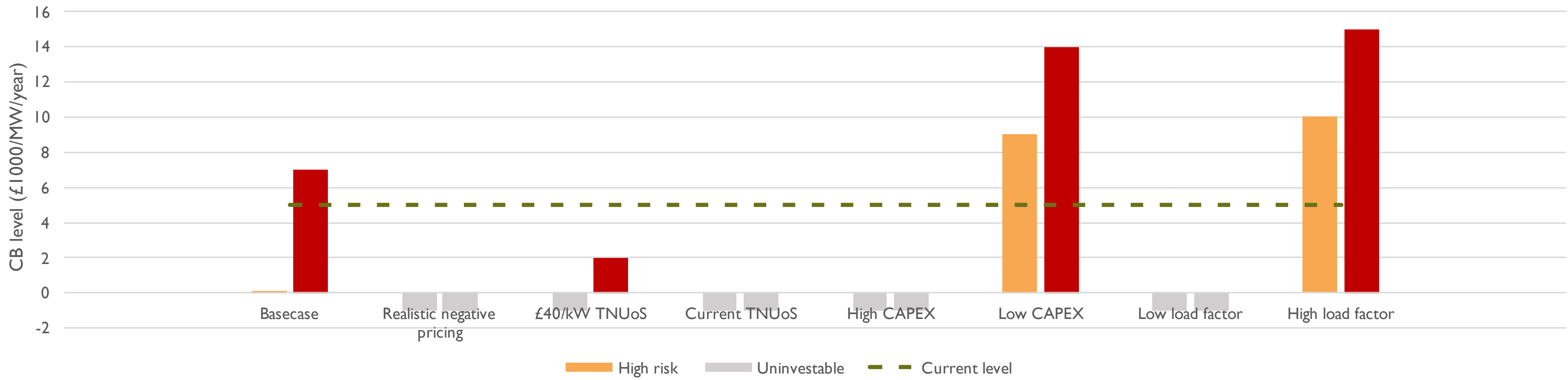
E&W onshore wind farms, which may not be subject to the same rules, would receive the same increased strike prices

TEL the energy landscape

Sensitivities

All values in 2025 prices

- **Realistic negative pricing:** Up from a max of 263 hours / year to a max of 1000 hours a year in 2030, then reducing
- **£40/kW TNUoS:** Up from £35 /kW TNUoS to reflect the potential for a higher cap and higher enduring TNUoS
- **Current TNUoS:** based on the 2023 Ten Year Forecasts for TNUoS and the North Scotland zone.
- **High capex:** Additional £100/kW of CAPEX costs (total £1,550/kW)
- **Low capex:** Reduction of £100 / kW in CAPEX costs (total £1,350/kW)
- **Low load factor:** Reduction from 40% to 38%
- **High load factor:** Increase from 40% to 42%



Graph shows the maximum level of community benefit payment which is compatible with the 'At risk' hurdle rate of 7% and the Uninvestable hurdle rate of 6.5% for each sensitivity. Bars in Grey means that under that sensitivity even with zero community benefit payments the project does not reach the relevant hurdle rate.

the energy landscape

BiGGAR Economics: The Public Value of Offshore Wind

An analysis of the socio-economic value of offshore wind farms to Scotland.

Introduction

Background

- A massive expansion of Scotland's offshore wind energy sector is underway that is expected to unlock between **£29 and £35 billion investment in the Scottish economy**.
- This is likely to generate substantial benefits for the Scottish economy, which could be transformative for coastal communities.
- Despite this there is growing unease about how much public value is likely to be created in the process.
- It is important these concerns are considered as part of an **informed public debate**. This study was undertaken on behalf of the offshore renewables sector to help enable that to happen.

Public Value

- The public value created by the offshore wind sector is wider than the voluntary contributions some developers make to community projects. It includes:
  - economic activity generated by projects, which supports **jobs** and stimulates demand for goods and services produced by businesses in the **supply chain**;
  - **tax revenues and other fees** paid to local and central government; and
  - wider, unquantifiable **benefits for coastal communities** such as skills development opportunities, population retention, economic resilience, place making and community wellbeing.
- It is important policy discussions consider of all of this.

Economic Impact of Offshore Renewables

Over the next 40 years offshore renewables could generate £900m GVA/year for the Scottish economy and support 12,870 jobs.

- Expected investment of £96.1bn.
- Scottish share of between:
  - £28.6bn (commitment scenario) and £34.8 bn (ambition scenario).
- Annual operational spend of between:
  - £1.4 and 1.5 bn in Scotland.
- Development and construction Impact:
  - £15.6 - £23.2bn GVA*; and
  - 229,800 - 343,100 years of employment.
- Operations and maintenance impact
  - £698 - £772m GVA; and
  - 9,500 - 10,500 jobs.
- Over a 40 year period this could contribute:
  - at least £900m GVA/year to the Scottish economy; and
  - support at least 12,870 jobs.

**Gross value added, or GVA is a widely accepted measure of economic activity*

Economic Impact Summary

Over the next 40 years offshore renewables could generate £900m GVA/year for the Scottish economy.

	Commitment (£m)	Ambition (£m)
Development and Construction	15,600	23,200
Operation and Maintenance	20,900	23,200
Total	36,600	46,300
Per GW	*1,000*	*1,300*
Annual	900	1,200

Economic Impact Summary

Over the next 40 years offshore renewables could support 12,870 jobs in Scotland.

	Commitment	Ambition
Development and Construction	229,800	343,100
Operation and Maintenance	285,000	315,000
Total	514,800	658,100
Per GW	*14,100*	*18,070*
Annual	12,870	16,450

Who Will Benefit and How?

Offshore renewables could be transformative for coastal communities.

Tackling rural depopulation by helping attract and retain working age people and supporting the viability of public services that benefit everyone

Investing in port facilities that can support other sectors, **enhancing local economic resilience**

Creating **opportunities for training** and **high-quality employment** that enable local people to fulfil their full potential

Making places more attractive as destinations to live, work and invest, contributing to a **self-reinforcing cycle of prosperity**.

Contributing to community projects that improve quality of life and **support local wellbeing**.

Contributions to Public Finances

Mechanisms are in place that ensure returns to Scotland's natural capital are retained by the state.

- Access to Scotland's seabed controlled by Crown Estate Scotland (CES) – a public corporation – which charges developers:
  - one off options fees for the right to develop sites; and
  - annual rent once projects become operational.
- The annual rent is **equivalent to £4,700 per MW per year**.
- Onshore sites for grid connection infrastructure are also liable for business rates, which are paid to local authorities.

- These payments could contribute around **£8.4 bn to public finances over 40 years**, enough to pay for:
  - **at least one state of the art hospital or around 12 large new secondary schools;**
  - **up to 3,390 nurses or 2,700 secondary school teachers; and**
  - **residential care for 2,000 people or the maintenance of 5,500km of road.**
- Enough to fund a tax cut of £90 for every household in Scotland.

Contributions to Public Finances Summary

Over the next 40 years offshore renewables could contribute £8.4 billion to public finances .

	Lifetime (£m)	Annual (£m)
Option fees (one off)	1,017	-
Rent (annual)	5,122	171
Non-domestic rates (annual)	2,280	76
Total	**8,418**	**247**

Trade-Offs

Within current market parameters public value can only be increased through redistribution. This implies trade-offs.

- Community benefit funding is intended to redistribute value from offshore wind development.
- Common practice for onshore wind farms, but policy rationale is not transferable because:
  - coastal communities are already likely to benefit substantially from deployment of offshore wind;
  - Scotland's seabed is already publicly owned; and
  - It is not obvious how areas of benefit should be defined.

- Would increase the cost of delivering all Scottish projects but not projects elsewhere in the UK, which Scottish projects compete against.
- Scottish projects *already* cost more to deliver.
  - Each £1,000/MW community benefit funding would increase the cost of energy by £0.20-0.30 per MWh.
- This would make all projects less viable, and some marginal projects could become unviable.

Scenario Analysis

Within current market parameters public value can only be increased through redistribution. This implies trade-offs.

- It is not possible to accurately assess the impact of a community benefit funding requirement because there are too many unknown variables.
  - These variables are unknown to *everyone*.
- Scenario analysis can be used to help make decisions in conditions of uncertainty by modelling the ***most extreme outcomes*** that could occur.
  - Actual outcomes likely to lie between extremes.
  - Scenarios designed to illustrate not predict.

- Scenario One:
  - £5,000/MW community benefit funding required.
  - All Scottish projects become unviable.
  - Lowest possible amount of public value generated.
- Scenario Two:
  - £1,000/MW community benefit funding required.
  - Scottish projects become less viable.
  - Marginal net gains of public value in Scotland.

Scenario Analysis

The scenarios are based on an indicative auction process for offshore wind which was designed to illustrate the route to impact from changes in auction bids.

- The example auction has 7 hypothetical projects, three in England and four in Scotland.
- The projects in England have lower bid prices because they have lower costs, particularly around grid (TNUoS) charges.
- In this example, the Administrative Strike Price is £60/MWh.
- Two Scottish projects clear at this price, prior to the introduction of any community benefit funding.
- Two Scottish projects submit auction bids that are too high and so do not proceed, including Project 6, which has a bid price that is £0.25/MWh too high and therefore does not proceed.

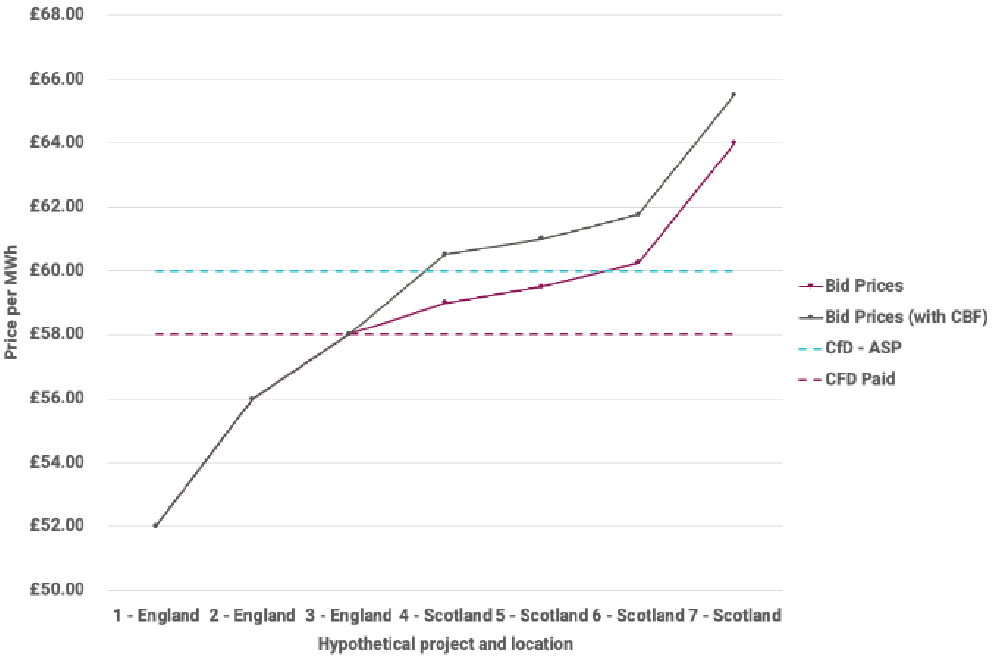
Scenario One: A Counterproductive Approach

A community benefit funding requirement of £5,000/MW could result in Scottish projects not happening, substantially reducing public value.

- Community benefit funding of £5,000 per MW
  - Increases bid costs by £1.50/MWh
  - Two projects become unviable and can not proceed
- Cost of electricity falls because (more expensive) Scottish projects do not happen.
  - £20m/year saving across UK (c.£1.6m in Scotland)

But

- No community benefit funding is raised
- Lifetime GVA lost = £2.0 billion
- Lifetime fiscal revenues lost = £399 million



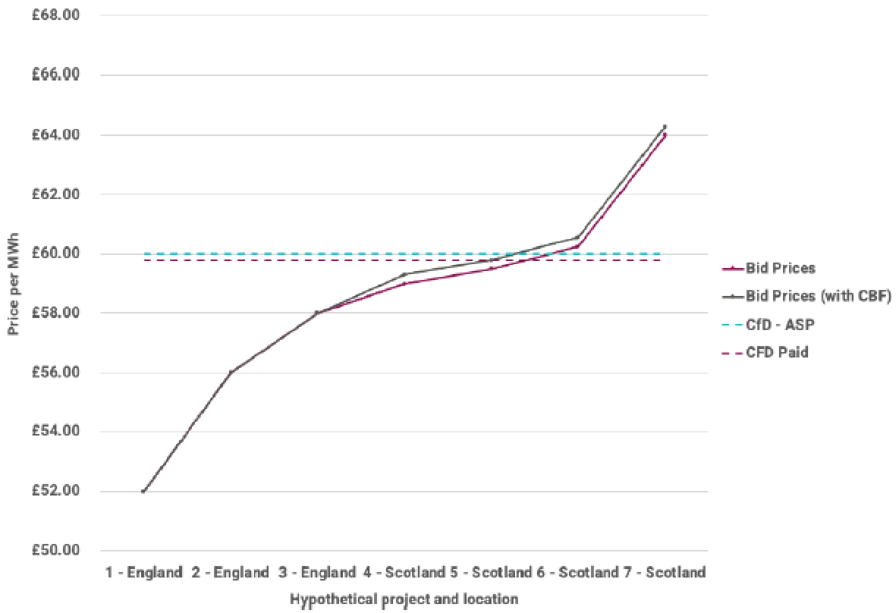
Scenario Two: A High-Risk Approach

A £1,000/MW community benefit requirement could only raise a small amount of funding, but the risk of making some projects unviable would be high.

- Community benefit funding of £1,000 per MW.
  - Bid costs increase by £0.30/MWh.
- Cost of electricity increases (because community benefit funding requirement increases average costs).
  - Cost to UK consumers increases by £6.6m/year (c.£0.5m in Scotland).
  - Developer profits increase by c£4.6 million.
- Only c.£2.0m community benefit funding raised.
  - Net improvement of £1.5 million public benefit.

But

  - Small variation in scenario parameters could result in a net-loss of public value as a project may not proceed.



Learning the Lessons from Onshore Wind

This established sector provides insights into generating increased public value

- **A planned and holistic approach** can create value across a wide range of measures, including value for communities and businesses.
  - Examples include engagement with supply chains and skills development.
- **Collaboration** with the public sector, the third sector and communities can utilise relevant experience, embed best practice and work economies of scale.
  - This creates strategic alignment across different stakeholders to increase benefits.
- **Placemaking**, which involves designing or redesigning spaces ensures that developments happen in ways that meet communities' needs.
  - Community development plans can be a useful tool.
- A **flexible approach** encourages innovation with bespoke solutions for each project and community.
  - A one size fits all approach risks undermining the relationships between developers and local areas, while delivering less value at greater cost

An Alternative Approach

Working together to identify and bring forward mutually beneficial projects could generate additional public value *and* higher private returns.

- **Strategic objectives** of renewable energy developers and public agencies are often **well aligned**, particularly in areas like:
  - workforce skills, supply chain development, local housing and population retention.
- Collaborative working has the potential to unlock *additional* public (and private) value that would not otherwise be created.
  - E.g. mutually beneficial port infrastructure investment with scope for joint investment.
- Would require a step-change in approach.
  - **Proactive.**
  - **Collaborative.**
  - **Ambitious.**
- Based on mutual trust and respect
- Focus on traditional redistributive models (like community benefit funding) is likely to make building these relationships more difficult.

BiGGAR Economics

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