Department for
Energy Security
& Net Zero

Community Benefits for Electricity Transmission Network Infrastructure

Government Response

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Contents

Introduction

This document details the UK government's response to a consultation on community benefits for electricity transmission network infrastructure published in March 2023, and outlines the decisions made and next steps.

Overview

As we increase the development of low-carbon and renewable electricity generation within the UK, we will also need to increase the scale and pace of development of the electricity transmission network. The electricity transmission network is required to move electricity from where it is generated to where it is needed, and it will not be possible to deliver a secure energy supply, that is vital to growth and prosperity, without developing the electricity transmission network to support it. This means in Great Britain, around four times as much new transmission network will be needed in the next seven years as was built since 1990.[1] This will mean more communities across the country living close to electricity transmission network infrastructure, which can raise concerns about impacts in the local area.

In July 2022 the government appointed Nick Winser CBE to the role of Electricity Networks Commissioner to create an independent report[2] setting out recommendations to halve the total development time for transmission infrastructure. These recommendations were published in August 2023 and have included recommendations which could help to improve community acceptability of new infrastructure, including increasing public engagement on the need for new infrastructure, creating a new design principles document and greater spatial planning to determine where infrastructure is best placed. Further details on this work have been published within the government's Transmission Acceleration Action Plan[3].

It is vital that we bring communities with us in the transition to net zero. We are therefore trying to keep future network requirements to a minimum, by delivering a smart and flexible energy system that is essential for helping manage network capacity as an alternative to building more physical infrastructure.

Where infrastructure needs to be built, impacts will be reduced and mitigated through strategic network planning, and the planning system. Communities can give their views on the design and development of a project within the planning system. Alongside these measures, we want communities that are hosting future electricity transmission network projects to directly benefit from the contribution they are making to supporting the delivery of cheaper, secure and low-carbon energy that benefits all of Great Britain.

[1] Calculated using data held by the Department on the length of historic and future transmission networks.
[2] https://www.gov.uk/government/publications/accelerating-electricity-transmission-network-deployment-electricity-network-commissioners-recommendations
[3] https://www.gov.uk/government/publications/electricity-networks-transmission-acceleration-action-plan

There are a wide variety of community benefits that can be delivered, but broadly they can cover finance for local projects, outreach initiatives or direct benefits to individuals in a local area. Community benefits can enhance the economy, society and/or environment in a local area. They can also be used to deliver investment and growth in the local area, especially when used to invest in local infrastructure, supply chain and skills.

Currently, transmission operators and developers voluntarily provide benefits to communities close to electricity transmission network infrastructure. However, there are different approaches taken by different industry stakeholders, creating some inconsistency and perceived unfairness between projects. Given the scale and rate of deployment necessary to deliver a fully decarbonised electricity sector by 2035 and net zero by 2050, now is the right time to review how community benefits are delivered.

In March 2023, the consultation on community benefits for electricity transmission network infrastructure was published alongside the Powering Up Britain: Energy Security Plan[4]. This plan set out the steps government is taking to ensure the UK is more energy independent, secure and resilient.

The consultation proposed to introduce voluntary guidance on the appropriate levels and forms of benefits a community could receive as part of a benefits package. The intention of the guidance would be to give communities the knowledge, power and flexibility to decide what benefits they want in consultation with the project developer. We also proposed to introduce a recommended level of funding for community benefits, which we believe will increase the level of funding from that seen in existing examples of community benefits for electricity transmission network infrastructure.

[4] https://www.gov.uk/government/publications/powering-up-britain/powering-up-britain-energy-security-plan

Consultation responses

The consultation received a total of 234 responses from a range of stakeholders, including energy developers, transmission network owners, trade associations, local councils, community groups, charities, consultancies and individuals.

As part of this, we received campaign responses from communities based in East Anglia and the Scottish Highlands. These campaign responses related to new proposed transmission network infrastructure, stating their objection. The government does not make planning applications, or choose precise routes for energy transmission infrastructure, but does set the rules for a robust and independent planning process. As such, it is not the role of government to undertake any assessment of alternatives to the locations chosen by transmission owners and developers. Individual developers must demonstrate how their proposal meets nationally set criteria and has fairly considered alternatives. Each project holds statutory consultations to ensure community views are considered.

As well as the consultation document, we held four webinars aimed at community and industry representatives, on 6 and 14 April, 4 and 11 May 2023. We also held two additional webinars on 20 and 21 September 2023 with representation across a broad group of stakeholders. These events were well attended, and we wish to thank all attendees for their input and questions. This feedback has informed the development of our proposals. Alongside this consultation, the government commissioned social research to understand views on community benefits, and how acceptability of new infrastructure could be improved, using surveys and workshops with communities surrounding a number of proposed future network infrastructure projects. Further information on this can be found in the "Note on community benefits social research" section within the Supporting Analysis.[5]

The next section details a summary of the responses we received to the consultation and the government's response. As this is a summary, it will not detail all responses, but instead group together where we received similar feedback and areas of note.

In this document, we have used the following terminology to reflect respondent views:

- Most respondents" indicates the clear view of more than 75% of respondents;
- "Many respondents" indicates the view of 50%-75% of respondents;
- "Some respondents" refers to the range between 25% and 50% of respondents; and
- "A few respondents" refers to the range between 0% and 25% of respondents.

[5] The research included a survey achieving 2,359 responses from randomly selected members of the public in three case study areas where new network infrastructure projects have been proposed. The survey was followed by three workshops (one per case study area), with 11-12 community members per workshop.

Summary of consultation responses

1. What are your views on how community support for electricity transmission network can be improved? This includes any electricity transmission network infrastructure developed by Transmission Operators and developers within scope of these proposals. We would welcome supporting evidence if available.

Many respondents indicated that community support for electricity transmission network infrastructure could be improved, reflecting that community benefits can offer an opportunity for communities to share the benefit of important national assets. A number of respondents understood the objectives that the government are trying to achieve, including the need to increase the volume of transmission network infrastructure to meet new renewable and low carbon energy demand. A few respondents agreed there was need for new transmission infrastructure, citing net zero targets and the need to reduce dependency on the global energy market as key factors.

Improving engagement within the planning process was raised by some respondents, including the importance of early engagement with communities to help build trust with developers. Introducing guidance on community benefits was also a popular recommendation, followed by the use of undergrounding and subsea cabling rather than overhead transmission lines. Suggestions around a community liaison role were raised within the consultation, and workshops as another way to improve relationships between developers and the local community.

Finally, a few respondents stated that they were generally against proposals to introduce community benefits, stating that they felt benefits were a bribe and that this would not help to build support for new transmission infrastructure but could have the opposite effect. A few respondents supported the separation of community benefits from the planning process.

Government response

Following this feedback, we are confident that there is support for community benefits and we are continuing to develop an approach to community benefits for transmission network infrastructure. Community benefits are one of many methods to help improve community acceptability, which in turn could lead to a decrease in delays to network build needed to reach net zero targets.

The government is seeking to improve engagement between developers, and local authorities and communities within the planning process. Government therefore committed within the Nationally Significant Infrastructure Project Reforms Action Plan[6] to develop guidance on community engagement expectations. This will ensure that infrastructure developers consider at the outset of their programmes how their projects can address the legitimate concerns of

[6] https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-nsip-reforms-action-plan/nationally-significant-infrastructure-action-plan-for-reforms-to-the-planning-process#reform-area-4--recognising-the-role-of-local-communities-and-strengthening-engagement

affected communities, regularly engaging with them throughout the pre-application phase and beyond.

To reconfirm our position within the consultation, it is critical that the planning process remains a robust system through which communities can raise any concerns with the proposed project. The proposals on community benefits for electricity transmission network infrastructure discussed within this document will remain separate to the planning process. It will not be a material consideration in planning decisions, and not secured through those decisions.

2. Do you agree with the proposed types of infrastructure and projects we would include in these proposals? Please explain why.

Many respondents agreed with the scope proposed within the consultation to cover onshore transmission network infrastructure, and onshore infrastructure associated with offshore wind and interconnectors. Some community and industry stakeholders asked for clarity around several aspects of the proposals, including whether transmission lines within Scotland at 132kV would be within scope of the guidance. Respondents asked for clarification on the types of infrastructure which would be included within the definition, including offshore transmission links, and whether the guidance would apply for new infrastructure only, or include replacement infrastructure. A few industry respondents questioned if communities who may have underground cabling built near them should receive the same benefit as those who would experience a more prominent visual impact from an overhead line.

Some stakeholders requested that the scope of the community benefits guidance was expanded further to cover more electricity infrastructure, such as solar, battery storage and distribution level infrastructure. Additionally, a few respondents also asked if network infrastructure associated with other technologies, not just offshore wind and interconnectors, would be included (e.g. nuclear and solar). An industry stakeholder also requested that further clarity was provided on how the guidance would interact with the Scottish Government's Scottish Government Good Practice Principles for Community Benefits from Offshore Renewable Energy Developments.[7] The concern was that this could create confusion for developers and communities in Scotland about which guidance they would need to follow.

A few respondents requested clarity on what projects would be expected to comply with the guidance once published. A few community stakeholders thought that the guidance should cover projects which have already started construction, to ensure these communities would not miss out on receiving benefits.

Overall, some respondents felt that further clarification of these points was needed to make it easier for developers and communities to understand what would be covered under the guidance, but there was agreement that the infrastructure proposed in the consultation to be included within scope was the right approach.

Government response

The government has noted that clarity around the infrastructure covered under community benefits guidance could be improved. We therefore want to clarify that we intend for the community benefits policy to cover new onshore electricity transmission network infrastructure developed by transmission operators, offshore wind developers and interconnector developers. This would include transmission lines[8], usually at voltages of 275kV and 400kV, both overhead

[7] https://consult.gov.scot/energy-and-climate-change-directorate/onshore-renewable-energy-developments/user_uploads/community-benefits-offshore-gpp.pdf

[8] As stated in the Electricity Act 1989, the transmission system is defined as high voltage electric lines which, if it is in Scotland or is a relevant offshore line, is of a nominal voltage of 132 kilovolts or more; and in any other cases, is of a nominal voltage of more than 132 kilovolts.

and underground[9], and associated infrastructure, such as substations and converter stations and cabling from the foreshore. This includes transmission lines of 132kV in Scotland only. This would also apply to projects delivered by licensees under the competitively appointed transmission owner model. Interconnectors include point-to-point, and offshore hybrid assets (Multi-Purpose Interconnectors and non-standard interconnectors)[10].

Our intention is that the community benefits policy will apply to:

- New transmission lines, substations and converter stations which are not intended to replace or divert existing infrastructure.
- Any onshore infrastructure (transmission lines, substations or converter stations) associated with HVDC cables, subsea transmission and bootstraps.

Whilst developers are expected to comply with the scope set out above, we believe a degree of flexibility is needed to avoid unintentionally omitting projects or infrastructure where the local community should be entitled to a community benefit package. For example, this could include an extension of an existing substation or converter station which significantly increases the footprint (area of land required) of the existing infrastructure. We expect project developers to be pragmatic and develop community benefit packages where communities are likely to be significantly affected by the development of infrastructure.

We want to clarify that the community benefits policy will only cover transmission network infrastructure and would not be applied for distribution lines in England and Wales which operate at 132kV. This is because individual transmission projects will have a significant impact in supporting the delivery of low-carbon generation targets by increasing capacity on the network and is therefore where benefits can be most clearly justified.

Finally, in light of consultation feedback from industry, we do not intend to include underground cabling within the scope of direct benefits (electricity bill discounts). This is due to the additional cost of undergrounding (estimated at around five times more expensive than overhead lines) we therefore do not believe that communities hosting underground cabling should benefit in the same way as communities hosting overhead lines or substations and converter stations.

Additionally, we are aware that the Scottish Government is reviewing its Good Practice Principles for Community Benefits from Offshore Renewable Energy Developments. We expect offshore wind developers in Scotland to comply with the proposed guidance document on transmission network infrastructure and the revised Scottish Government Good Practice Principles for Community Benefits from Offshore Renewable Energy Developers but recognise that a degree of flexibility will be required. As the Scottish Government Good Practice Principles continue to be developed, we will review this guidance and update it as necessary.

[9] For wider community benefits only

[10] Section 205 of the Energy Act 2023 will, once commenced, amend the Electricity Act 1989 to introduce a new licensable activity for operation of a Multi-Purpose Interconnectors, and a definition of what a Multi-Purpose Interconnector is

For network infrastructure associated with other technologies other than offshore wind and interconnectors (e.g. solar and nuclear), this is predominately developed by the transmission operators and is therefore within scope.

On including generation technologies within the scope, the government has stated within its response to the Independent Review of Net Zero[11] earlier this year that we will seek alignment and consistency between energy technologies where appropriate, but that we believe it is important that the approach to community benefits for each technology reflects their unique scale and impact.

Our current intention is that we expect projects which have not yet commenced construction, which would include projects where work has not started on site for the full main works contract, to comply with the guidance and community benefits policy. We will work on a case by case basis if there are concerns with compliance for any well-developed projects. The guidance and community benefits policy will not be applied retrospectively (for projects where construction has already commenced or the infrastructure is already built), to ensure an approach that reflects the step change in the scale and pace of transmission network development in Great Britain, and to minimise costs that would be added to electricity bills to fund community benefits.

[11] https://www.gov.uk/government/publications/independent-review-of-net-zero-government-response#:~:text=Led%20by%20former%20Energy%20Minister,given%20the%20changed%20economic%20context.

3. What are your views on government's preferred approach of a voluntary benefit scheme underpinned by government guidance (covering both wider and direct community benefits)? Please explain why and provide any supporting evidence if available.

There was a mixed response to the proposal to provide voluntary guidance. Many community stakeholders cited a preference for a mandatory approach.

Some respondents advocated that voluntary guidance would be the best approach, as they have found from previous experience that voluntary guidance works well, as it can be flexible and adapted to suit the preferences of the local community. A few industry and community stakeholders agreed that a voluntary approach would be the best approach initially, though welcomed that the government intend to monitor the use of the voluntary guidance and to move to a mandatory approach if necessary. Other suggestions included that if a voluntary approach were to be used, then guidance should include detail that would set clear expectations for developers on what they would need to deliver as part of a community benefits agreement, such as early engagement with communities.

Other views included concerns on whether voluntary guidance would be enough to ensure that developers deliver community benefits as part of their projects. A few community and local council stakeholders shared experiences where similar schemes had not been as successful as they were hard to enforce, meaning that some communities could lose out. Others echoed these concerns, stating that a mandatory approach would be better for the communities receiving the benefits, as this would mean that developers would be obligated to provide suitable community benefits and consult with the whole community.

Government response

In light of consultation feedback, we will explore options to make community benefits for electricity transmission network infrastructure mandatory. This is to ensure communities benefit from hosting network infrastructure in a way that is consistent and fair. However, to avoid any delay in delivering community benefits in line with the guidance, we will first publish voluntary guidance on wider benefits, providing further information on the overall community benefits policy and options for developing a mandatory approach in 2024.

Whilst we continue to develop the voluntary guidance for wider benefits, we will consider whether to establish a Community Benefits Register. This would be a publicly available register, updated by local communities and/or developers involved in developing community benefit packages, setting out details such as the wider community benefit package and the level of funding. This would provide communities with the opportunity to benchmark their benefit package against others, as a way of ensuring compliance with the guidance. It would also provide local communities with the opportunity to identify best practice case studies and inspiration when developing their own community benefit packages.

4. What are your views on the information we have proposed to include within government guidance? This includes identifying eligible communities, consultation and engagement, governance and delivery and funding.

Some respondents agreed that including information on eligible communities, consultation and engagement, governance and delivery of funding should be included within the guidance. A few respondents used this question to reinforce their concern around the use of voluntary guidance, and that there would need to be some prescriptive guidance in certain areas, such as level of funding and type of benefit available, to provide confidence for communities that the guidance would be followed. A few industry and community stakeholders commented that there should be flexibility within the guidance so it can be tailored to different communities, using examples such as rural communities sometimes being spread over a wide area.

Feedback also requested that guidance was easily accessible to those who may not be familiar with how a benefit scheme should work, ensuring that communities would have the capacity to be able to understand what was being offered to them.

A few respondents commented that although they agreed with the information that should be included within the guidance, they would wish to see the content in detail and review this before being able to provide a view.

Government response

We intend for the guidance to contain information which provides communities and industry with clear guidelines needed to understand their role and that of the developer. We are pleased that respondents have generally agreed that the information we intend to cover within the guidance document is appropriate and understand that many will wish to see further details before taking a firm view.

We believe that community benefits need to be agreed between the developer and local community, and to assist this process, the guidance will contain key principles which will need to be considered as part of the development and delivery of community benefit packages. These principles include engaging early in the process with communities, engaging with the wider community, being transparent and fair, and being inclusive and incorporating a variety of views. We intend for these principles to assist developers to understand what they need to deliver, and for communities to understand what they should expect.

Addressing eligibility for wider benefits specifically, we want to ensure that there is enough flexibility within the guidance so that it can be adapted to the needs of the individual communities, so we intend for this to be agreed and applied on a project-by-project basis when applying for community wide benefits. For direct benefits, in light of the social research findings, we are considering whether to prioritise properties closest to the infrastructure.[12] This

[12] Further information on the research can be found in the "Note on community benefits social research" section within the Supporting Analysis.

will need further consideration as the scheme design for direct benefits continues to be developed.

Further information on what we wish to include within the guidance has been detailed in other question responses.

5. Do you agree with the government's proposals to focus on direct and wider community benefits, choosing not to pursue options such as community ownership and electricity bill discounts? Please explain why.

The most supported form of community benefit cited by respondents was towards offering community wide benefits, noting it can provide a lasting legacy to communities and can be naturally aligned to the delivery of wider societal benefits such as the transition to net zero or economic growth. Of those who supported wider benefits, some respondents noted that wider benefits would likely benefit more people than direct benefits. However, there were more mixed views towards the other options, including direct payments, bill discounts and shared ownership. A few respondents noted that communities should have choice, though concerns were raised by industry respondents, in particular on how direct benefits would be administered in practice. There was more opposition to direct payments, compared to shared ownership, bill discounts or community wide benefit. Some stakeholders raised concerns that direct payments could be viewed as bribes, which would not help to improve acceptability of infrastructure. However, direct payments were also seen by some respondents (in particular community members) as an appropriate way to help mitigate or compensate against the impact of new infrastructure being built near properties.

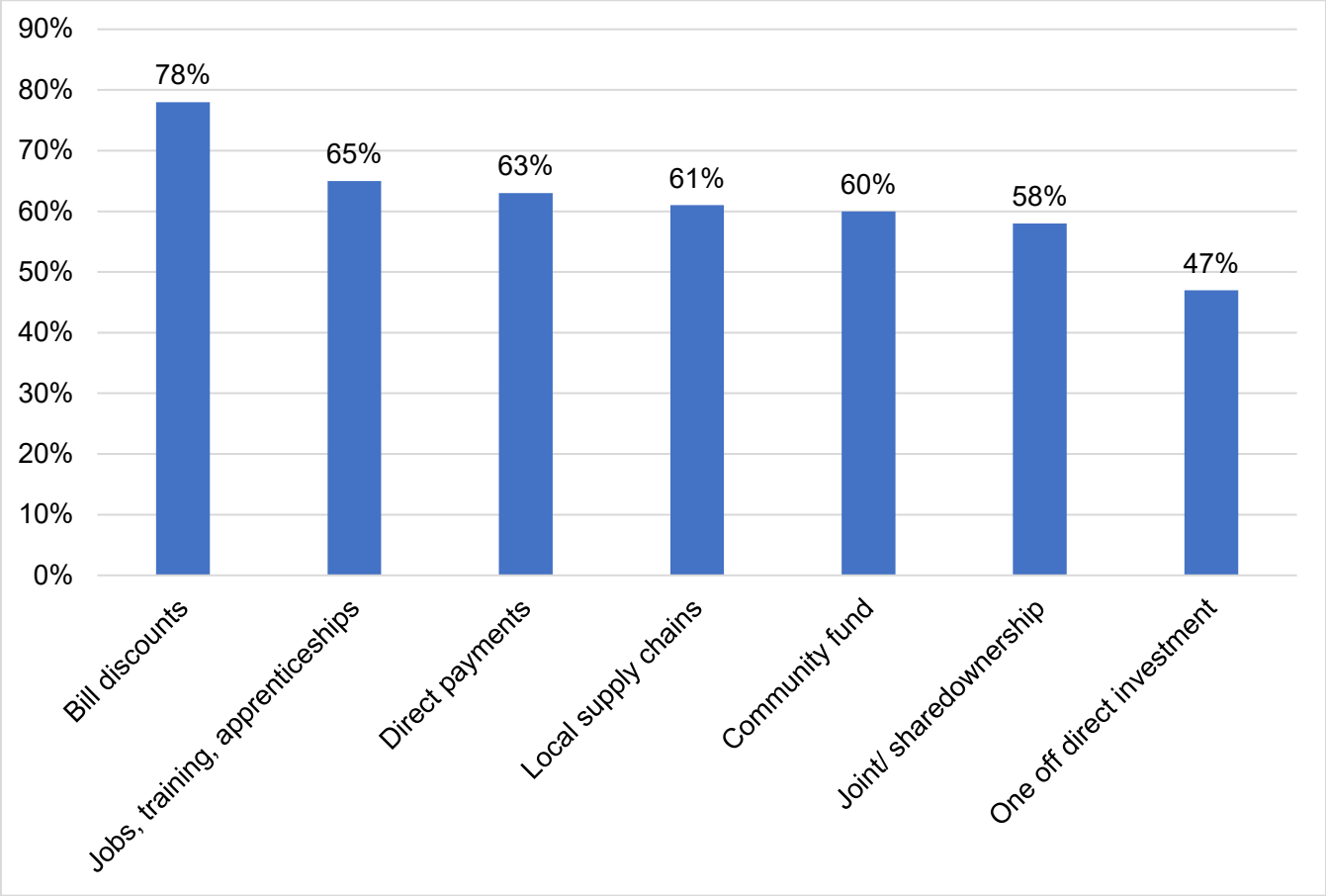
Government response

The government has decided to publish voluntary guidance on community wide benefits in 2024. This is in light of consultation feedback showing the greatest preference for community-wide benefits from community and industry stakeholders, with community wide benefits having the potential to support enduring benefits for the local community.

As shown in Figure 1, within the social research, bill discounts were the preferred choice among communities surveyed. Feedback from the workshops carried out as part of this research suggested that this was preferred as this is a recurring benefit and eases the pressures of high inflation and recent energy bill increases. Bill discounts also clearly link hosting the local infrastructure with its societal benefits (cheaper bills).

Further assessment is required to better understand how the bill discount scheme would be designed and feasibility of implementation. We will work with industry, Ofgem and community representatives to ensure that the scheme works for communities and can be effectively delivered and administered. Its effectiveness will be reviewed once implemented.

Figure 1: Chart showing percentage surveyed reporting each type of benefit would help make a new electricity transmission network infrastructure project more acceptable[13]



[13] *Q: To what extent would each of the following types of community benefits help make the transmission infrastructure project acceptable to you (n=2359).*

6. How do you think guidance could be developed most effectively? How should different stakeholders be involved?

Overall, a few stakeholders wanted a second consultation on draft guidance before it is formally published by government, to allow for industry and community representatives to provide feedback.

Many respondents stated that it would be important to speak to particular groups during development of the guidance, in particular local communities, local councils, organisations and communities with experience of developments and community benefits and industry. A few respondents suggested different forums for how this could be achieved, including workshops. Other suggestions included reviewing similar community benefits schemes, to understand what has worked well and where improvements can be made. This included the 'Community engagement and benefits from onshore wind developments: good practice guidance for England'[14] and the Scottish Government's guidance for community benefits for onshore renewables[15].

Government response

The government needs to balance a decision on further engagement against ensuring that guidance can be published and used by as many new projects as possible, therefore allowing as many communities as possible to benefit. We also extended our initial consultation period from six weeks to eight, following requests from stakeholders and used workshops and the consultation feedback to help develop the government's current position. These workshops were held at the consultation launch and once the consultation analysis had taken place and included mixed representation from a range of stakeholders including industry and community stakeholders.

The government intends to work with industry, Ofgem and community representatives to further develop the proposals. We will also ensure that feasibility of implementation is tested with relevant stakeholders prior to publication of the wider benefits guidance.

[14] https://www.gov.uk/government/publications/community-benefits-and-engagement-guidance-for-onshore-wind
[15] https://www.gov.scot/publications/scottish-government-good-practice-principles-community-benefits-onshore-renewable-energy-developments/pages/2/

7. How do you think the effectiveness of this approach should be evaluated? Please explain why and provide any supporting evidence.

Responses on how to evaluate the effectiveness of the guidance were mixed. A few respondents saw it as important to seek feedback the local community on effectiveness, as they will be best placed to judge if the community benefit package has been successful. However it was noted that much of the feedback on the success of the guidance would be subjective, and that this would need to be taken into account during any assessment. A few industry and community stakeholders stated that using metrics would be the best way to evaluate the approach, with suggestions to use already established frameworks such as the UN Sustainable Development Goals or the Treasury Green Book.

Other suggestions included measuring the amount of community benefit that has been awarded in different areas and how this has been shared across particular areas.

Finally, a few stakeholders felt that having a poll of local communities or sharing online how many projects had been delivered, such as a Community Benefits Register, would be a useful way of evaluating how successful the guidance had been and would help to install trust in communities that there was accountability to monitor if community benefits were being delivered in line with the guidance.

Government response

In order to carry out an effective evaluation, the government believes that a two-phase evaluation could be an effective approach.

For the first phase, a process evaluation could be conducted to help government understand how effectively any guidance and the overall policy has been implemented. This phase of the evaluation would be able to identify any additional changes to the guidance that may be required.

For the second phase, an impact evaluation could be conducted. This would review the overall impact of the guidance and overall policy, and to what extent it has helped to achieve government objectives including reducing community opposition to new infrastructure projects, and communities feeling they are directly benefiting from new network infrastructure being built in their area. This evaluation may also assess broader impacts of community benefits, such as socioeconomic benefits where schemes have been provided.

We would also intend to collect monitoring data from a range of sources once the guidance and policy has been implemented, which can be used on an ongoing basis to assess how the guidance and policy is being delivered. We expect that monitoring and evaluation data will utilise a range of sources and represent the breadth of stakeholders' views, including but not limited to communities and developers. We would expect to commission the evaluation to an independent organisation(s) who would work with the Department for Energy Security and Net Zero to finalise the evaluation plans. Our approach to monitoring and evaluation would follow best practice guidance outlined in HM Treasury's Green Book: guidance on appraisal and evaluation in central government, and the Magenta Book.

In addition, whilst we continue to explore options for a mandatory approach, we will consider whether to establish a Community Benefits Register. This would be a publicly available register, updated by local communities and/or developers involved in developing community benefit packages, setting out details such as the wider community benefit package and the level of funding.

Additional detail on monitoring and evaluation is provided in the supporting analysis.

8. Do you have a preferred approach to how the level of funding should be calculated? Why is this your preferred approach?

Of those who expressed a preference between the two options listed, many respondents agreed that the approach of having a set value per type of infrastructure was the best way to determine the level of funding for community benefit, as this would help to ensure consistency and transparency for communities. Other comments included looking at other ways the level of funding could be determined, including calculating this figure by measuring the negative impact associated with network infrastructure development.

A few respondents were against the idea of linking the level of benefit to the percentage of overall capital expenditure. This was because of concerns that such a figure would not accurately reflect the impact of the infrastructure on the local community, meaning that some communities could receive a smaller amount of benefit even if it could be argued that the impacts from the infrastructure were similar or greater to that awarded to communities which received a higher level of funding.

A few respondents noted a preference for separate levels for direct and wider benefits respectively, rather than a recommended level per project. One respondent cited concerns about protracted debates and additional administrative burdens for developers, potentially presenting a risk of delay to project delivery.

A few industry respondents noted concerns around proposals to fund community benefits for infrastructure delivered by offshore wind developers through the Contracts for Difference (CfD)[16] scheme, which would create an uneven playing field in the competitive process and cited increasingly limited control over shared network developments. We also received feedback requesting further information on how community benefits would be added as a cost to the interconnector cap and floor scheme.

Finally, a few stakeholders stated that they did not feel it was fair for community payments to be ultimately funded through electricity bills and felt that alternatives should be sought.

Government response

The government agrees that the recommended level of benefit should be linked to the type of asset. This avoids a case-by-case assessment of the level of benefit, and ensures a consistent and fair approach.

In regards to developing the level of benefit based on an assessment of the level of negative impact, this has been considered but is not one of the key factors taken into account. Key factors are outlined in the government response to question 9. This is because community benefits are not compensation and are not intended to provide financial payment as a result of negative impacts. Our intention is that community benefits ensure communities can directly

[16] A Contract for Difference (CfD) is a private law contract between a low carbon electricity generator and the Low Carbon Contracts Company (LCCC), a government-owned company. Further information can be found here: https://www.gov.uk/government/collections/contracts-for-difference

and clearly benefit in recognition of the wider societal benefits of cheaper, more secure and low-carbon energy that hosting this infrastructure brings.

In order to avoid creating additional burdens for both developers and communities in agreeing an appropriate split between electricity bill discounts and wider benefits, we intend to set separate recommended levels of benefit for both.

On electricity bill impacts of community benefits, we want to clarify that the costs of building and maintaining the network are agreed through different regulatory processes, which are ultimately funded through electricity bills. Community benefits delivered by transmission operators are already funded via electricity bills. We believe that it is right that communities that host network infrastructure should more directly benefit from supporting the delivery of GB-wide benefits of cheaper, low-carbon and more secure energy. However, if community benefits can help avoid delays to network build by improving community acceptability, there could be overall savings or a neutral impact for electricity consumers funding this policy due to reduced constraint costs[17] and an increase in low-carbon and renewable generation connected to the grid. More detail on electricity bill impacts is provided in the 'Supporting analysis' section of this document.

Finally, following feedback on the use of the CfD scheme, we are continuing to explore alternative regulatory options for funding community benefits delivered by offshore wind developers and will provide further details within the guidance publication on community wide benefits. We continue to review the feasibility of the use of the interconnector cap and floor scheme.

Further details on the level of funding have been included in our response to question 9 and within the supporting analysis.

[17] Network constraints occur when the electricity transmission system is unable to transmit power to electricity users because the maximum capacity of the circuit is reached. National Grid Electricity System Operator manage constraints by paying generators to switch-off (turn-down) in locations where the network is congested and paying generators to switch-on (turn-up) in locations closer to electricity users. Managing constraints is ultimately paid for by electricity consumers.

9. What level of funding do you believe is appropriate? Why do you believe this? Could you please provide any evidence or data as to how you have come to this calculation.

Many respondents agreed that recommending a set level of funding that a community could receive was the best approach and would provide clear expectations for what should be provided to communities. Most respondents did not provide a figure for the most appropriate amount of benefit. This was because respondents did not feel they were able to advise on an exact figure and felt that this was a decision to be made by government. A few respondents provided examples of figures used in similar schemes internationally, suggesting that the options such as the proximity payments delivered by the Irish Transmission Operator EirGrid could be a starting point, as well as examples from the Australian Government.

There were mixed views on how best to calculate a funding amount, including based on proximity, set on the type of infrastructure or the wider impacts, including environmental impacts. A few community and industry respondents felt that more analysis was needed to determine a final figure which would be appropriate.

Government response

When developing the recommended level of benefit we have sought to balance the potential costs to electricity bill payers against delivering a level of benefit that is perceived as sufficient by communities. We have sought to develop options that, if community benefits can lead to avoided delays to delivery of new network infrastructure, would have a neutral or overall bill saving for all electricity bill payers. This saving would be the result of reduced costs of managing constraints on the network and an increase in low-carbon and renewable generation connected to the grid. However, the 'Supporting analysis' section includes options that we estimate could result in a net cost to consumers, to demonstrate the limits of the amount we believe we are able to recommend. See the 'Supporting analysis' section for more detail on options for the level of benefit.

We gained a greater understanding of community preferences for the level of benefit through social research.[18] The options are larger than those currently offered by transmission operators based on our assessment of publicly available information. The levels have also been benchmarked against community benefits delivered by other Network Operators internationally.

There are a number of scheme design variables, such as eligibility, duration of payment and the level of benefit provided that will influence the overall community acceptance of the benefits scheme and the cost to bill payers. Further work is needed to design the detail and implementation of the overall scheme, and we will work with industry, Ofgem and community representatives to ensure that the scheme works for communities and can be effectively delivered and administered. Its effectiveness will be reviewed once implemented.

[18] Further information on the research can be found in the "Note on community benefits social research" section within the Supporting Analysis.

We are also considering whether the recommended level should differ based on voltage type for transmission lines and size of substations up to the total recommended. This will be confirmed when the guidance on wider community benefits is published.

However, based on analysis to date, we are currently minded to move forward with a package of:

i. an electricity bill discount for properties located closest to transmission network infrastructure. Whilst the exact scheme design is still under development, we estimate this could offer, for example, up to £10,000 per property (£1,000 per year, ~£80 per month, over 10 years), in addition to

ii. a wider benefit for the local community of around £200,000/km (~£320,000/mile) for overhead lines, £40,000/km (~£60,000/mile) for underground cables, and £200,000 per substation.

This is an estimate as we continue to develop the proposals. The government however, believes that this represents a level of funding which balances the need for communities to feel they are benefiting from new infrastructure in their area, whilst minimising impact on consumer bills as much as possible.

As a regulated monopoly, transmission operators are funded through electricity consumer bills. Due to the regulatory price control framework, under which Ofgem determine allowable costs for electricity transmission operators, any level of funding for community benefits will need to be agreed with Ofgem, who have a duty to protect energy consumers' interests by ensuring they are treated fairly and benefit from a cleaner, greener environment. We will provide further details within the publication of guidance on community wide benefits.

10. Is there anything further we should consider as part of next steps?

Many respondents used this question to highlight points made earlier in their responses.

This included a request for the government to look at policies more broadly to encourage engagement with communities from developers through the planning process, as well as clarification of next steps for the community benefits guidance and if there would be an opportunity to engage again after the consultation. This also included reiterating concerns of building more infrastructure onshore, and that the government should consider offshore alternatives for new infrastructure instead of offering community benefits.

Government response

We want to again thank respondents for taking the time to contribute to this consultation and acknowledge the feedback around the building of new infrastructure. To support new home-grown renewable and low carbon generation, new transmission network infrastructure will need to be built in order to transport this energy from where it is generated to where it is needed most. There is a need to bring communities along with us and ensure that they feel the benefit of hosting network infrastructure in their area, and community benefits is just part of a package of measures we are introducing to improve community acceptability.

We will continue to develop voluntary guidance for community wide benefits which will be published in 2024. We will provide further information on the overall community benefits policy including options for developing a mandatory approach, community benefits register and a bill discount scheme in 2024.

Supporting analysis

This supporting analysis sets out the expected impacts if the community benefits guidance and overall policy is followed. This builds on the consultation analytical annex[19] by quantifying impacts where possible and incorporating feedback from the consultation analytical annex. Section 1 outlines the rationale for government intervention; section 2 sets out the policy options; section 3 outlines expected impacts of the policy options; section 4 sets out the methodology for quantified impacts; section 5 sets out risks and assumptions; section 6 sets out monitoring and evaluation; and section 7 is a note on the social research.

1 Rationale for intervention

The overarching rationale behind government action to decarbonise the power sector is to correct the negative externality of emissions. Therefore, government intervention is required to address the external cost of emissions from fossil fuel energy sources. In the absence of government intervention, energy from fossil fuel sources will be over-produced because the private cost of their provision is lower than the social cost, which includes emissions costs borne by wider society.

Government has committed to decarbonising the electricity sector by 2035, subject to security of supply, in order to meet net zero.[20] The sector must also accommodate an expected doubling of electricity demand by 2050 as sectors, such as transport and heat, shift to electricity as a fuel source. The electricity network is fundamental to achieving this, yet there are two significant issues with the network – a) substantial electricity transmission network constraints are expected over the next decade, a key driver of which is the rate of network build, and b) grid connections are considered a significant barrier to connecting new cheaper, greener renewable generation.

Network constraints

Electricity transmission network constraints occur when the electricity transmission system is unable to transmit power to electricity users because the maximum capacity of the circuit is reached. Network constraints are expected to increase as renewables form a larger share of electricity generation due to the net zero transition. This is because the optimal location for non-renewables, which the grid was initially built around, differs from the optimal location for renewables, which tends to be further from electricity users because it is driven by where it is windy and sunny. This means the network must transmit power further, so larger parts of the network are facing congestion issues more frequently.

[19] Community benefits for electricity transmission network infrastructure, Analytical annex, https://www.gov.uk/government/consultations/community-benefits-for-electricity-transmission-network-infrastructure

[20] BEIS, 2021, Net Zero Strategy: Build Back Greener, p. 19, https://www.gov.uk/government/publications/net-zero-strategy

National Grid Electricity System Operator (ESO) typically manages constraints by paying generators to switch-off (turn-down) in locations where the network is congested and paying generators to switch-on (turn-up) in locations closer to electricity users. This is costly and has emissions implications because renewable generation is usually curtailed (switched off) whilst non-renewable generation is usually switched on to meet demand. National Grid ESO analysis indicates that, if delays to network build persist[21], annual constraint costs could rise from around £2bn[22] per year in 2022 to around £8bn[23] per year (£80 per household per year) in the late 2020s.[24]

One of the drivers of this problem is that renewables build is outpacing network build. As a result, network capacities are reached during periods of high renewable output, leading to curtailment. Rapid expansion of the electricity transmission network is required to solve this problem and ensure it can deliver cheaper, cleaner, secure energy.

Grid connections

Grid connections are required to connect electricity generation and electricity users to the network. Applications to connect to the electricity network from renewable energy projects have outstripped the available infrastructure for it to connect to. This is one of the drivers behind developers receiving lengthy connection dates, which delays investment in and availability of clean electricity. It can also result in renewable developers accepting 'non-firm' connections[25] which does not fully utilise the output of their projects. At the transmission level, and for distribution connections that impact on the transmission network, connection dates can be into the late 2030s. Accelerating network build times will help to connect renewable projects and utilise the generation faster, enabling consumers to benefit from cheaper, greener, more secure electricity.

Communities that host new network infrastructure are therefore a critical support in delivering cheaper, cleaner, secure energy – there is a positive externality for wider society. In the absence of government intervention, these external benefits are unlikely to be considered, leading to under provision of network infrastructure and community benefits. Government intervention is required to internalise this external benefit and ensure communities can gain from hosting network infrastructure that delivers a national need.

2 Policy options

This section sets out the policy options for the community benefits guidance and overall policy. A preferred option has not been selected at this stage as the detail of the policy is still under

[21] FTI Consulting (2022), Updated modelling results, slide 12, https://www.ofgem.gov.uk/sites/default/files/2022-11/Workshop%20Slides%2020th%20October.pdf
[22] National Grid ESO, Monthly Balancing Services Summary (MBSS), 2022, https://www.nationalgrideso.com/data-portal/mbss
[23] Undiscounted, 2022/23 prices.
[24] The Department for Energy Security & Net Zero commissioned National Grid ESO to estimate constraint costs with a 3-year delay to network build. Limitations of this analysis are set out in the 'Risks and assumptions' section.
[25] In return for quicker and cheaper connections, developers accept that under certain circumstances their projects will not be able to export their generation.

development, but these options illustrate approximate levels of benefit and, for bill discounts, approximate distances from the new infrastructure. We are exploring whether the level of benefit for substations could be based on the size of the substation, rather than a fixed level per substation. We are also exploring whether a stepped approach to distance for bill discounts could be used, so properties nearest the new infrastructure receive higher benefits than those further away. Direct payments have not been included in these options because feedback from consultation responses and social research indicate that bill discounts are preferred – see figure 2.[26]

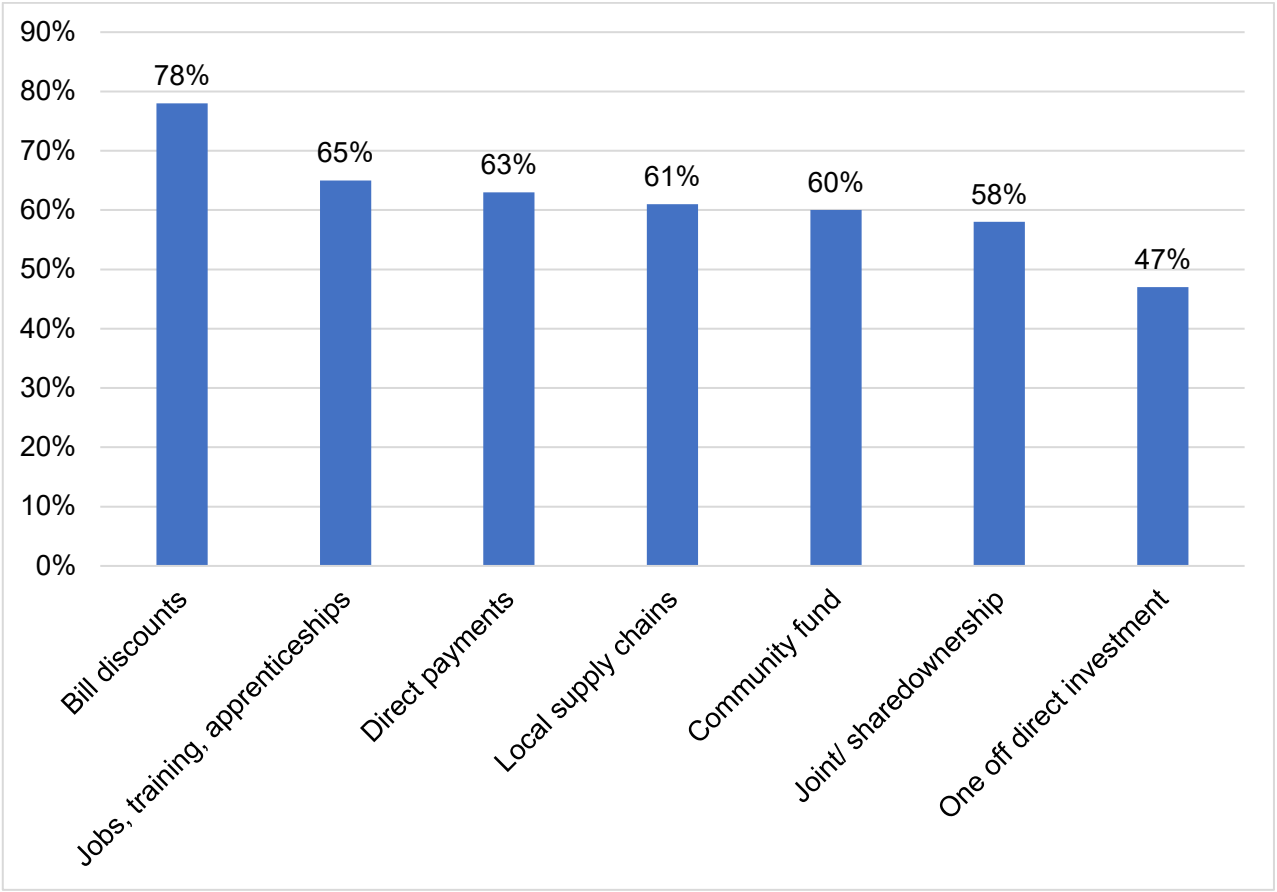
- **Do nothing**: Community benefits continue to be provided on an inconsistent, ad-hoc basis, with hosts of only a few transmission network projects benefitting by a small amount. No community benefits guidance is published. The analysis assumes a 0% likelihood that this option prevents a 1-year delay to network build.
- **Option 1**: A wider benefit for projects in the local community of £50,000/km (~£80,000/mile) of overhead line, £10,000/km (~£15,000/mile) of underground line, and £50,000 per substation, and a bill discount of £10,000 over 10 years (£1,000 per year, ~£80 per month) for households within 200m. The analysis assumes a 55% likelihood that this option prevents a 1-year delay to network build, based on social research.
- **Option 2**: A wider benefit for projects in the local community of £200,000/km (~£320,000/mile) of overhead line, £40,000/km (~£60,000/mile) of underground line, and £200,000 per substation, and a bill discount of £10,000 over 10 years (£1,000 per year, ~£80 per month) for households within 200m. The analysis assumes a 59% likelihood that this option prevents a 1-year delay to network build, based on social research.
- **Option 3**: A wider benefit for the local community of £200,000/km (~£320,000/mile) of overhead line, £40,000/km (~£60,000/mile) of underground line, and £200,000 per substation and a bill discount of £5,000 over 10 years (£500 per year, ~£40 per month) for households within 300m. The analysis assumes a 57% likelihood that this option prevents a 1-year delay to network build, based on social research.
- **Option 4**: A wider benefit for the local community of £200,000/km (~£320,000/mile) of overhead line, £40,000/km (~£60,000/mile) of underground line, and £200,000 per substation and a bill discount of £10,000 over 10 years (£1,000 per year, ~£80 per month) for households within 300m. The analysis assumes a 59% likelihood that this option prevents a 1-year delay to network build, based on social research.
- **Option 5**: A wider benefit for the local community of £200,000/km (~£320,000/mile) of overhead line, £40,000/km (~£60,000/mile) of underground line, and £200,000 per substation and a bill discount of £20,000 over 20 years (£1,000 per year, ~£80 per month) for households within 300m. The analysis assumes a 60% likelihood that this option prevents a 1-year delay to network build, based on social research.
- **Option 6**: A wider benefit for the local community of £500,000/km (~£800,000/mile) of overhead line, £100,000/km (~£160,000/mile) of underground line, and £500,000 per substation and a bill discount of £20,000 over 20 years (£1,000 per year, ~£80 per month)

[26] Further information on the research can be found in the "Note on community benefits social research" section within the Supporting Analysis.

for households within 300m. The analysis assumes a 61% likelihood that this option prevents a 1-year delay to network build, based on social research.

- **Option 7**: A wider benefit for the local community of £500,000/km (~£800,000/mile) of overhead line, £100,000/km (~£160,000/mile) of underground line, and £500,000 per substation and a bill discount of £20,000 over 20 years (£1,000 per year, ~£80 per month) for households within 500m. The analysis assumes a 62% likelihood that this option prevents a 1-year delay to network build, based on social research.

Figure 2: Chart showing percentage surveyed reporting each type of benefit would help make a new electricity transmission network infrastructure project more acceptable[27]



3 Impacts

This section outlines the expected impacts of the community benefits policy options and quantifies these where possible. Expected impacts include:

Transfers

- **A transfer from all electricity consumers to communities hosting new transmission network infrastructure** – Funding this policy via network charges will result in a transfer from all electricity consumers to communities that host new transmission network

[27] *Q: To what extent would each of the following types of community benefits help make the transmission infrastructure project acceptable to you (n=2359).*

infrastructure. This is because network charges are paid by electricity consumers via their electricity bill. This transfer has been quantified – see table 1.

Costs

- **Earlier network investment costs** – If this policy reduces delays to network build, network investment will occur sooner which will increase investment over the appraisal period. This cost has been monetised – see table 1.
- **Familiarisation costs** – Transmission Owners (TOs), developers, host communities, electricity suppliers, and Local Authorities could incur time costs to familiarise themselves with the new guidance, including time taken to read the guidance and formulate a plan to respond to it. This cost has been monetised – see table 1.
- **Administration costs** – Government, Ofgem, electricity suppliers, TOs, developers, host communities, and Local Authorities may incur costs to administer wider benefits and bill discounts. This cost has been monetised – see table 1.
- **Costs associated with network infrastructure being in place sooner** – If this policy reduces delays to network build, host communities may face costs associated with network infrastructure such as disruption costs, noise impacts, and landscape impacts (this list is not exhaustive), *sooner*. These costs would still be incurred in the baseline scenario, but they may be incurred sooner if this policy reduces delays to network build. These costs have not been monetised.

Benefits

- **Reduced network constraint costs** – If this policy reduces delays to network build, this will reduce congestion on the network and reduce constraint costs, resulting in savings for electricity consumers. This is because constraint costs are part of balancing charges, which make up a portion of a household's electricity bill. This benefit has been monetised – see table 1.
- **Emissions savings** – If this policy reduces delays to network build and decreases network constraints, there will be emissions savings. This is because renewable generation is usually curtailed (switched off) whilst non-renewable generation is usually switched on to meet demand. This benefit has been monetised – see table 1.
- **Shorter network connection times for new low carbon generation** – Enabling works must be completed before a new generation asset can connect to the electricity network. If this policy reduces delays to network build including enabling works, this could allow new low carbon generation to connect to the network more quickly, supporting households and businesses across the country in achieving cheaper, more secure and low carbon energy generation. This benefit has not been monetised.
- **Spill-over benefits** – There may be spill-over benefits due to this policy. For example, there may be local environment, social and economic benefits from wider benefits. In addition, third parties who are not eligible for community benefits may benefit from local investments funded by the scheme, or earlier network investment may enable wider benefits to the economy. This benefit has not been monetised.
- **Increased trust in TOs and developers** – Communities may have increased trust in TOs and developers due to this policy if they feel the process for deciding benefits is more

transparent and consistent amongst eligible communities. This benefit has not been monetised.

- **Lower legal costs** – Host communities may have lower legal costs due to this policy if they feel they are benefitting adequately from hosting transmission network infrastructure and are not required to legally challenge the infrastructure as a result. This benefit has not been monetised.
- **Increased confidence in decision-making** – TOs and developers may have increased confidence in decision-making due to the certainty the community benefits guidance and policy will provide. This benefit has not been monetised.
- **Potential supply chain benefits** – If this policy reduces delays to network build, there may be supply-chain benefits for TOs and developers if they are able to access materials sooner. This benefit has not been monetised.
- **Greater buy-in to the energy transition** – This policy aims to ensure communities are involved and considered in the energy transition, which may increase buy-in. This benefit has not been monetised.

Table 1: Summary of monetised impacts (2023 prices, £ millions, discounted)

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
Transfers							
Transfer from all electricity consumers to host communities	1,210	1,530	1,480	2,520	4,100	4,750	9,410
Total transfers	**1,210**	**1,530**	**1,480**	**2,520**	**4,100**	**4,750**	**9,410**
Costs							
Earlier investment costs	540	570	560	580	590	600	610
Familiarisation costs	5	5	5	5	5	5	5
Administration costs	2	3	5	4	8	9	20
Total costs	**540**	**580**	**570**	**590**	**600**	**610**	**630**
Benefits							
Reduced network constraint costs	2,200	2,340	2,290	2,370	2,400	2,450	2,500
Emissions savings	1,130	1,200	1,170	1,210	1,230	1,260	1,280
Total benefits	**3,330**	**3,540**	**3,460**	**3,580**	**3,630**	**3,710**	**3,780**
Net present value (NPV, benefits – costs)							
NPV	**2,790**	**2,960**	**2,890**	**2,990**	**3,030**	**3,090**	**3,150**
Benefit cost ratio (excluding Transfers)							
BCR	**6.2**	**6.1**	**6.1**	**6.1**	**6.1**	**6.1**	**6.0**

Table 1 summarises the costs and benefits of this policy, but it does not show who bears these costs or gains from the benefits. Therefore, table 2 is provided to show the costs and benefits of this policy to different groups.

Table 2: Groups impacted by this policy

Group	Costs	Benefits
Electricity consumers	Electricity consumer costs include: • the cost of the policy (funding the wider benefits + bill discounts), and • the cost of bringing investment forward if this policy reduces delays to network build. These costs will be borne by electricity consumers because both this policy and network investment are funded through network charges which form part of an electricity bill. Our analysis suggests these costs will be offset by bill savings, resulting in a net saving to electricity consumers overall – see table 3.	Electricity consumer savings include: • lower constraint costs if this policy reduces delays to network build, and • access to cheaper, more secure, low carbon energy if this policy reduces delays to network build, allowing new low carbon generation to connect to the network more quickly. These savings will benefit electricity consumers because both constraint costs and electricity costs are funded through electricity bills.
Host communities	If this policy reduces delays to network build, host communities may face costs associated with network infrastructure such as disruption costs, noise impacts, and landscape impacts (this list is not exhaustive), *sooner*. These costs would still be incurred in the baseline scenario, but they may be incurred sooner if this policy reduces delays to network build. Host communities may also incur familiarisation costs to understand the guidance and administration costs to administer the wider benefits.	The main benefit received by host communities will be the monetary benefits outlined in the policy options. They may also have increased trust in TOs and developers, lower legal costs, and spill-over benefits from the infrastructure being in place sooner.
Transmission owners and developers	TOs, and developers may incur: • familiarisation costs to understand the guidance, and • administration costs to administer the benefits.	TOs and developers may benefit from: • earlier network investment if the policy reduces delays to network build, • shorter connection times for new low carbon generation if the policy reduces delays to enabling works,

Group	Costs	Benefits
		• increased trust from communities, • increased confidence in investment decision-making, and • potential supply chain benefits if delays are reduced.
Electricity suppliers	Electricity suppliers may incur: • familiarisation costs to understand the guidance, and • administration costs to administer the benefits.	N/a
Local Authorities	Local Authorities may incur: • familiarisation costs to understand the guidance, and • administration costs if they are involved in how the benefits are administered.	Local Authorities may gain if local projects funded through community benefits support their local aims.
Government	Government will incur policy development and implementation costs.	N/a
Ofgem	Ofgem will incur policy development and implementation costs.	N/a
Society	N/a	Society overall may benefit from: • emissions savings if this policy reduces delays to network build and reduces constraints, • spill-over benefits to third parties, and greater buy-in to the energy transition.

Given that this policy will be funded by electricity consumers, table 3 has been included to highlight the expected overall impact of this policy on bill payers. ‘Monetised electricity consumer impacts’ below explains how these estimates were calculated. The first column shows the impact per household *per year* between 2023-32, whilst the second column shows the *total* impact per household between 2023-50. Both have been presented to show a clearer distinction in electricity bill impacts between options.

Table 3: Electricity bill impacts for those who are not eligible for community benefits, and estimated likelihood of improving community acceptability for each option (2023 prices, undiscounted)

	Average annual bill impact per household, 2023-32 (£)	Total bill impact per household up to 2050 (£)	Likelihood of improving community acceptability (%)
Option 1			
Cost	2-3	26-46	55%
Saving	3-4	30-77	
Net saving	1-2	4-30	
Option 2			
Cost	2-3	31-55	59%
Saving	3-5	31-81	
Net saving	~1	1-26	
Option 3			
Cost	2-3	30-53	57%
Saving	3-4	31-80	
Net saving	~1	1-26	
Option 4			
Cost	3-5	50-84	59%
Saving	3-5	32-82	
Net saving	~0	-18 to -1	
Option 5			
Cost	3-5	96-148	60%
Saving	3-5	32-84	
Net saving	~0	-64	
Option 6			
Cost	4-6	106-164	61%
Saving	3-5	33-85	
Net saving	-1 to -2	-73 to -79	

	Average annual bill impact per household, 2023-32 (£)	Total bill impact per household up to 2050 (£)	Likelihood of improving community acceptability (%)
Option 7			
Cost	7-11	215-322	62%
Saving	3-5	34-87	
Net saving	-4 to -6	-182 to -235	

Distributional impacts and small and micro business impacts

Distributional impacts: This policy intends to redistribute funds from all electricity consumers to communities that host new transmission network infrastructure. It is likely that new transmission infrastructure will primarily be hosted in rural areas to transport electricity from areas of generation to areas of demand. The demographic of rural areas in Great Britain includes a higher proportion of those aged over 65 and 'white ethnic groups'.[28] These groups are therefore more likely to receive community benefits. This impact cannot be mitigated given the need for new transmission infrastructure in rural areas. Any increase in bills may disadvantage particular groups that are more likely to live in fuel poverty including disabled people,[29] ethnic minorities, younger households and households with children and people under 24.[30] This will be mitigated as our analysis suggests savings to bill payers could outweigh costs under some options (see table 3). To mitigate the risk that women may be less engaged in the decision-making process due to time constraints associated with unpaid household work and unpaid childcare commitments,[31] the guidance will outline the minimum expectations and recommendations including early engagement. This will provide the opportunity for all groups to be involved in decision-making.

Small and micro business impacts: Transmission owners do not qualify as small and micro businesses. However, this policy could impact small and micro businesses if they are funding this policy via their electricity bills, if they receive community benefits, or if the developers impacted are small businesses. Given our analysis suggests a net saving for bill payers under

[28]DEFRA, 2023, Population Statistics for Rural England, https://www.gov.uk/government/statistics/population-statistics-for-rural-england/c-ethnicity#:~:text=Overall%2C%20'white'%20is%20the,shown%20in%20Figure%20C%2D1
[29]Friends of the Earth, 2023, Who's impacted by fuel poverty in 2023? https://policy.friendsoftheearth.uk/insight/whos-impacted-fuel-poverty-2023
[30]DESNZ, 2023, Annual Fuel Poverty Statistics in England, 2023,https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1139133/annual-fuel-poverty-statistics-lilee-report-2023-2022-data.pdf
[31]ONS,2022, Families and the labour market, UK:2021, https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/familiesandthelabourmarketengland/2021#time-useONS,2022, Families and the labour market, UK: 2021, https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/familiesandthelabourmarketengland/2021#time-use

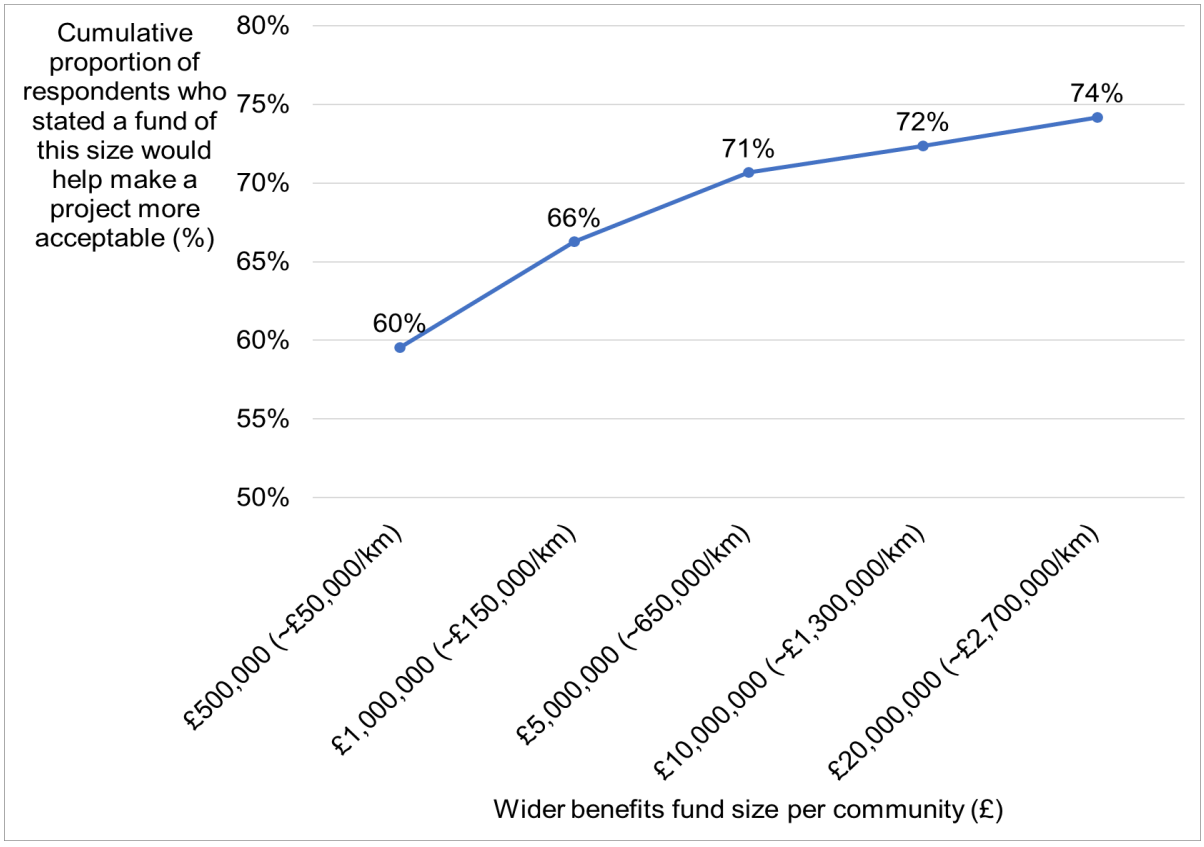
most options, we do not expect small and micro businesses to incur net costs due to this policy and instead expect them to benefit overall under most options (see table 3).

4 Methodology for quantified impacts

Likelihood of preventing delays

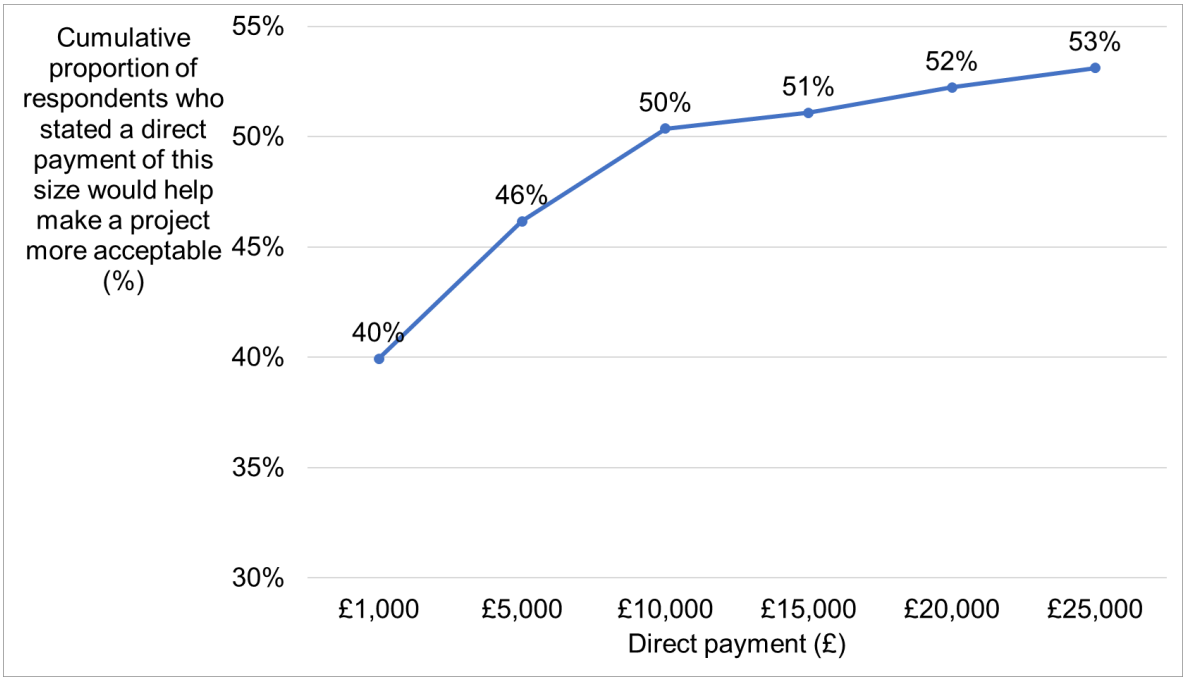
To support in developing the community benefits policy, government commissioned social research with communities surrounding a number of proposed future network infrastructure projects, using surveys and workshops to understand views towards community benefits and how acceptability of new infrastructure could be improved – see the 'Note on community benefits social research' section for more detail. Figures 3 and 4 below show the research outputs this analysis utilises. Figure 3 shows the 'wider benefits' fund amount survey respondents required to help make a hypothetical new network infrastructure project more acceptable to them, whilst Figure 4 shows the 'direct payments' amount required to help make the hypothetical network infrastructure project more acceptable. Figure 4 shows results for the scenario that they live right by the substation/ lattice pylon and can see it clearly from their home.[32] See the 'Risks and assumptions' section for limitations to how the social research is used in the analysis.

Figure 3: 'Wider benefits' amount required to help make a project more acceptable (%)



[32] Cumulative proportions in Figure 4 differ slightly from those in Table 22 because Figure 4 uses all respondents as the base (2359), whereas Table 22 uses respondents who reported a payment is needed in this scenario as the base (1889). Figure 4 also assumes those who said a direct payment was not needed in the scenario would accept a direct payment of any value.

Figure 4: 'Direct payment' amount required to help make a project more acceptable (%)



The analysis uses the average of the 'acceptance levels' in Figures 3 and 4 as a proxy for the likelihood of each policy option preventing delays – see table 4. This is highly uncertain and limitations to this approach are outlined in the 'Risks and assumptions' section. The amount of bill discount required was not directly tested in the social research, so we have assumed the amount of bill discount required is equal to the amount of direct payment required. Again, this is highly uncertain. See the 'Risks and assumptions' section for more detail.

Table 4: Estimated likelihood of preventing network build delays under each option (%)

Option	Estimated likelihood (%)
Option 1	55%
Option 2	59%
Option 3	57%
Option 4	59%
Option 5	60%
Option 6	61%
Option 7	62%

The analysis assumes there would be a 1-year delay to network build in the 'do nothing' scenario, then assumes the likelihood outlined in table 4 that the delay would be prevented with community benefits. The 1-year assumption is based on limited internal evidence of the length of Judicial Reviews – this is highly uncertain and limitations to this approach are outlined

in the ‘Risks and assumptions’ section. The ‘likelihood of preventing a 1-year delay’ is used to estimate the value of costs and benefits that would occur if this policy prevented delays to network build. These include:

- Earlier network investment costs
- Reduces network constraint costs
- Emissions savings from reduced constraints

Monetised transfers

Transfer from electricity consumers to host communities

Funding this policy via network charges will result in a transfer from all electricity consumers to communities that host new transmission network infrastructure as network charges form a portion of an electricity bill. This section outlines how this transfer is quantified.

Wider benefits

‘Wider benefits’ are the funds provided to host communities for them to spend on local projects of their choice. These are the £/km values outlined in the policy options. This will be funded through electricity bills, so is a transfer from all electricity consumers to communities hosting new transmission network infrastructure. Wider benefits were calculated by gathering data from Transmission Owners (TOs) on the length of overhead lines, length of underground cables, and number of substations they expect to build in the next 10 years. We then multiplied the level of benefit by these lengths of cables and number of substations to estimate a total cost, assuming wider benefits will be paid in the year construction starts. See table 5 for a summary of wider benefits estimates. Low and high estimates are calculated by applying -20% and +20% to the central calculation respectively, to ensure the degree of uncertainty is appropriately reflected.

Table 5: Wider benefits estimates (2023 prices, £ millions, discounted)

Wider benefit		Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
Overhead lines	Low	80	320	320	320	320	790	790
	Central	100	390	390	390	400	980	980
	High	120	470	470	470	470	1,180	1,180
Underground cables	Low	5	20	20	20	20	50	50
	Central	6	25	25	30	30	60	60
	High	7	30	30	30	30	70	70
Substations	Low	3	10	10	10	10	30	30
	Central	4	15	15	10	10	40	40
	High	4	20	20	20	20	40	40
Total	**Low**	**90**	**350**	**350**	**350**	**350**	**870**	**870**
	Central	**110**	**430**	**430**	**430**	**430**	**1,080**	**1,080**
	High	**130**	**520**	**520**	**520**	**520**	**1,310**	**1,300**

Direct benefits

'Direct benefits' are the bill discounts provided to properties closest to the infrastructure. These are the £ per property values outlined in the policy options. This will be funded through electricity bills, so is a transfer from all electricity consumers to properties hosting new transmission network infrastructure. To estimate the number of households eligible for direct benefits, we used a 1998 study by National Grid Electricity Transmission (NGET) on the number of homes near NGET power lines.[33] We assumed a growth rate in housing stock of 22% between 1998 and 2023 based on official statistics[34] [35] [36], then applied this to the estimates in the study to estimate the number of homes near NGET power lines in 2023. From this, we estimated an average number of homes per km of transmission line (homes/ km) by assuming NGET lines have a length of 7,200km.[37] Next, we calculated the number of households eligible for direct benefits by applying this homes/ km to the length of overhead

[33] Stakeholder Advisory Group on ELF EMFs (SAGE), Precautionary approaches to ELF EMFs, 2.1 Homes near National Grid lines: overall numbers, p. 61-66, https://www.emfs.info/wp-content/uploads/2014/07/SAGEsupportingpapersfirstinterimassessment.pdf.
[34] Live tables on housing supply: indicators of new supply, table 213, sum cells M227:M231, https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building
[35] Live tables on dwelling stock (including vacants), table 104, cells A6:H67, A92:H92 & table 106, cells A60:G60, A79:G79, https://www.gov.uk/government/statistical-data-sets/live-tables-on-dwelling-stock-including-vacants
[36] StatsWales, New dwellings completed by period and tenure, period filtered by annual from 2017-18 to 2022-23, https://statswales.gov.wales/Catalogue/Housing/New-House-Building/newdwellingscompleted-by-period-tenure
[37] NGET website estimates around 4,500 miles (7,200 km) of overhead lines, https://www.nationalgrid.com/electricity-transmission/network-and-infrastructure

lines expected to be built in the next 10 years, using the same data as outlined under 'Wider benefits'.

To include non-domestic properties, we compared the number of domestic properties in 2023 from the sources above to the current number of non-domestic properties[38] to form a ratio. This suggested that non-domestic properties were 8% of domestic properties. We applied this uplift to our estimate of the number of households to arrive at the estimated number of eligible properties outlined in table 6. The range is calculated by applying -20% and +20% to the central calculation of the number of eligible properties, to ensure the degree of uncertainty is appropriately reflected.

Table 6: Estimated number of eligible properties (domestic and non-domestic)

Distance from transmission line (m)	Number of eligible properties
100	15,000 - 22,000
200	44,000 - 66,000
300	84,000 - 126,000
400	132,000 - 198,000
500	190,000 - 285,000

To calculate the size of the direct benefits transfer, we multiplied the estimated number of eligible households by the level of benefit, assuming bill discounts are paid for 10 years from the start of construction. This incorporated an assumption on annual housing stock growth of 0.8% per year[39] to ensure the estimated number of eligible households considered housing stock growth between 2023 and the year the benefits are paid. See table 7 for a summary of the direct benefits transfer estimates. Low and high estimates reflect the range in the estimated number of eligible properties outlined in table 6.

Table 7: Direct benefits estimates (2023 prices, £ millions, discounted)

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
Low	880	880	840	1,670	2,940	2,940	6,660
Central	1,100	1,100	1,040	2,090	3,670	3,670	8,330
High	1,320	1,320	1,250	2,510	4,400	4,400	9,990

[38] GOV.UK, Non-domestic rating: Stock of properties including business floorspace, 2023, NDR Stock of Properties Tables, 2023, Table SOP3.1, cell AA7, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1157951/NDR_Stock_of_Properties_2023.xlsx

[39] OBR, Economic and fiscal outlook, March 2023, Supplementary economy tables, Table 1.17, Housing market, Annual percentage change in cells H99:H104, https://obr.uk/download/march-2023-economic-and-fiscal-outlook-supplementary-economy-tables/?tmstv=1691425609

Monetised costs

Earlier network investment costs

Earlier network investment costs were calculated using transmission network investment estimates outlined in the Electricity Networks Strategic Framework (ENSF).[40] Low estimates reflect network investment required under the 'Net Zero Lower' scenario in the ENSF, whilst high estimates reflect network investment required under the 'Net Zero Higher' scenario in the ENSF. The central scenario is an average of the two. We assume there would be a 1-year delay to network build in the 'do nothing' scenario then assume a likelihood that this delay would be prevented with community benefits. See the 'Likelihood of preventing delays' section for more detail on this approach. To arrive at the estimates outlined in table 8, we multiplied the difference in network investment with a 1-year delay vs. no delay by the estimated likelihood of preventing the delay. See below for an illustration of this calculation for the option 2 central scenario.

Earlier network investment costs for option 2 (£570m) = Difference in network investment with a 1-year delay vs. no delay (£980m)[41] * Likelihood of preventing a 1-year delay under option 2 (59%)

Table 8: Earlier network investment costs (2023 prices, £ millions, discounted)

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
Low	230	240	240	250	250	260	260
Central	540	570	560	580	590	600	610
High	950	1,010	990	1,020	1,030	1,060	1,080

Administration costs

Direct benefits

'Direct benefits' are the bill discounts provided to properties closest to the new infrastructure. These are the £ per property values outlined in the policy options. There will be costs to administer bill discounts. Administration costs for bill discounts are calculated by assuming an administration cost of £2 – £4 per property per year. The lower cost is the estimated administration cost of the Energy Bill Support Scheme (EBSS)[42], whilst the higher cost is the estimated administration cost of the Warm Home Discount Scheme (WHD)[43]. Administration

[40] Department for Energy Security & Net Zero (2022), Electricity Networks Strategic Framework: Enabling a secure, net zero energy system, Appendix 1: Electricity Networks Modelling, Figures 8 & 9, https://www.gov.uk/government/publications/electricity-networks-strategic-framework

[41] This is the difference in transmission network investment outlined in the ENSF with a 1-year delay vs. no delay, across the appraisal period.

[42]Department for Energy Security & Net Zero (2022), Energy Bill Support Scheme (EBSS) Impact Assessment, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065787/Warm_Home_Discount_reform_final_stage_Impact_Assessment.pdf

[43] Department for Energy Security & Net Zero (2022), Warm Home Discount Impact Assessment, https://publications.parliament.uk/pa/bills/cbill/58-03/0159/AnnexC.pdf

costs specific to this policy are uncertain as the detail of how bill discounts will be administered is still in development. Therefore, using a range from existing schemes was deemed appropriate. We multiply these costs by the estimated number of eligible properties outlined in table 6 to arrive at a total administration cost for bill discounts. Low and high estimates reflect the range in the estimated number of eligible properties outlined in table 6.

Wider benefits

'Wider benefits' are the funds provided to host communities for them to spend on local projects of their choice. These are the £/km values outlined in the policy options. There will be costs to administer wider benefits. Administration costs for wider benefits are calculated by assuming these will be the same share of total costs as bill discount administration costs. Our calculations suggest administration costs for bill discounts are 0.1% to 0.6% of the total cost of bill discounts. Therefore, we apply these proportions to wider benefits total costs to arrive at the estimates in table 9. Limitations to this approach are set out in the 'Risks and assumptions' section.

Table 9: Administration costs (2023 prices, £ millions, discounted)

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
Low	1	1	2	2	3	4	8
Central	2	3	5	4	8	9	19
High	3	4	8	7	13	15	29

Familiarisation costs

To calculate familiarisation costs, we assume 10 people per Transmission Owner, 5 people per offshore wind developer, 30 people per host community, 1 person per Local Authority, and 1 person per electricity supplier will be required to familiarise themselves with the community benefits guidance. We assume reading, understanding, and responding to the guidance will take 1 day (8 hours) per person. This is uncertain, but we have tested this with external stakeholders.

Next, we assume a mean hourly wage for 'Chief executives and senior officials' of £51.37 (2023 prices)[44] and a non-wage labour uplift of 26.5%[45] to arrive at £64.98 (2023 prices) per hour per person. We assume there are 3 Transmission Owners[46], 46 offshore wind

[44] Annual Survey for Hours and Earnings (AHSE), earnings and hours worked, occupation by four-digit SOC, table 14.6a, hourly pay excluding overtime, 2022, 'all' tab, https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/occupation4digitsoc2010ashetable14

[45] TAG unit A4.1 social impact appraisal, para. 2.2.4, https://www.gov.uk/government/publications/tag-unit-a4-1-social-impact-appraisal

[46] P. 4, https://www.gov.uk/government/publications/electricity-networks-strategic-framework

developers[47], around 300 host communities[48], 317 Local Authorities[49], and 21 electricity suppliers[50]. This data is multiplied by the number of hours and number of people per business or organisation to arrive at the estimates outlined in table 10. Limitations to this approach are set out in the 'Risks and assumptions' section. Low and high estimates are calculated applying -50% and +50% to the central calculation respectively, to ensure the degree of uncertainty is appropriately reflected.

Table 10: Familiarisation costs (2023 prices, £ millions, discounted)

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
Low	2	2	2	2	2	2	2
Central	5	5	5	5	5	5	5
High	7	7	7	7	7	7	7

Monetised benefits

Reduced network constraint costs

Constraint cost savings were calculated using constraint cost estimates provided by National Grid ESO. They provided two possible data sources – a) additional constraint costs with a 1-year delay to optimal reinforcement, and b) additional constraint costs for each Accelerated Strategic Transmission Investment (ASTI) project if it was delayed by 1-year. 'ASTI' is the Accelerated Strategic Transmission Investment framework published by Ofgem[51], which identifies projects that are critical to meeting decarbonisation targets and aims to accelerate these. Optimal reinforcement is determined through the Network Options Assessment (NOA)[52] carried out by National Grid ESO, which is the process to recommend which network reinforcement projects should receive investment, and when. We used source 'a' as the high scenario, source 'b' as the low scenario, and an average of the two as the central scenario. Limitations of this data are outlined in the 'Risks and assumptions' section.

The analysis assumes there would be a 1-year delay to network build in the 'do nothing' scenario then assumes a likelihood that this delay would be prevented with community benefits. See the 'Likelihood of preventing delays' section for more detail on this approach. The analysis uses source 'a' as the high scenario for constraint cost savings if a 1-year delay is prevented, source 'b' as the low scenario, and an average of the two as the central scenario,

[47] Based on data held by the department on offshore wind projects.
[48] Based on data provided by TOs on the length of transmission network projects over the next 10 years, and an assumption on the distance that one community would span based on outputs from the community benefits social research which suggested 3 miles and 5 miles were the most popular distances for one community fund to span.
[49] Local government structure and elections, https://www.gov.uk/guidance/local-government-structure-and-elections
[50] Ofgem, Retail market indicators, https://www.ofgem.gov.uk/retail-market-indicators
[51] Ofgem (2022), Accelerating Strategic Transmission Investments (ASTI), https://www.ofgem.gov.uk/publications/decision-accelerating-onshore-electricity-transmission-investment
[52] National Grid ESO, Network Options Assessment (NOA), https://www.nationalgrideso.com/research-and-publications/network-options-assessment-noa

then multiplies this by the likelihood to arrive at the estimates outlined in table 11. See below for an illustration of this calculation for the option 2 central scenario.

Constraint cost savings for option 2 (£2,340m) = Constraint cost savings if a 1-year delay is prevented (£4,000m) * Likelihood of preventing a 1-year delay under option 2 (59%)

Table 11: Constraint cost savings (2023 prices, £ millions, discounted)

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
Low	1,380	1,470	1,440	1,490	1,510	1,540	1,570
Central	2,200	2,340	2,290	2,370	2,400	2,450	2,500
High	3,210	3,420	3,340	3,450	3,500	3,580	3,650

Emissions savings

Emissions savings were calculated using estimates of emissions due to network constraints provided by National Grid ESO. National Grid ESO provided two possible data sources – a) emissions associated with the constraints outlined in Network Options Assessment 7 (NOA 7)[53], and b) emissions associated with some ASTI projects. We used source 'a' as the low scenario, source 'b' as the high scenario, and an average of the two as the central scenario, then calculated an average amount of emissions per £ of constraint costs (MtCO2e/£). We multiply this by the constraint cost savings from the 'Reduced network constraints' section to estimate total emissions savings. To monetise this, we use government estimates of social carbon values,[54] but remove private carbon costs[55] to prevent double counting as these are already included in the constraint cost savings estimates. Emissions savings are outlined in table 12.

Table 12: Emissions savings (2023 prices, £ millions, discounted)

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
Low	150	160	150	160	160	170	170
Central	1,130	1,200	1,170	1,210	1,230	1,260	1,280
High	3,630	3,870	3,780	3,910	3,970	4,050	4,130

[53] https://www.nationalgrideso.com/research-and-publications/network-options-assessment-noa
[54] BEIS, 2021, Valuation of greenhouse gas emissions: for policy appraisal and evaluation, Annex 1: Carbon values in £2020 prices per tonne of CO2, https://www.gov.uk/government/publications/valuing-greenhouse-gas-emissions-in-policy-appraisal
[55] FES 2023 Data Workbook, tab CP2, 2030, https://www.nationalgrideso.com/document/283061/download

Monetised electricity consumer impacts

Monetised impacts that will fall on electricity consumers who are not eligible for community benefits include:

Costs

- The cost to fund wider benefits (table 5) and direct benefits (table 7)
- The cost of bringing investment forward if this policy reduces delays to network build (table 8)

Savings

- Lower constraint costs if this policy reduces delays to network build (table 11)

Monetised electricity consumer impacts are outlined in table 3. These were calculated by converting the estimates outlined in table 5, 7, 8 and 11 to electricity bill impacts. This involved using internal estimates of total electricity consumption across Great Britain and dividing the costs and savings above, undiscounted, by total consumption to arrive at a cost or saving per MWh of electricity consumed. Next, we used internal estimates of average annual household electricity consumption to estimate impacts per household – see table 3.

We have carried out some breakeven analysis given uncertainty around whether this policy will reduce delays to network build by 1-year. Table 13 shows how much delays would have to reduce by for savings to equal costs (breakeven), for electricity consumers who are not eligible for community benefits. For options 6 and 7, the higher cost to fund the community benefits policy results in the breakeven point being higher than 1 year (12 months). For the purpose of this breakeven analysis, we have removed the 'likelihood of preventing delays' assumption.

Table 13: Number of months delays would have to be reduced by for electricity consumers who do not host transmission network infrastructure to breakeven

Option	Estimated months
Option 1	3-4
Option 2	3-5
Option 3	3-5
Option 4	5-8
Option 5	7-12
Option 6	8-14
Option 7	14-27

Results

Table 14 shows the total costs, savings, net present value (NPV), and benefit-cost ratio (BCR) of the policy options. The costs and benefits include:

Transfers

- The transfer of wider benefits (table 5) and direct benefits (table 7) from electricity consumers to communities hosting transmission network infrastructure. This is a cost to electricity consumers and a benefit of equal size to communities hosting transmission network infrastructure.

Costs

- The cost of bringing investment forward if this policy reduces delays to network build (table 8)

Savings

- Lower constraint costs if this policy reduces delays to network build (table 11)
- Emissions savings if this policy reduces network constraints (table 12)

Table 14 shows the total costs, benefits, net present value (NPV), and benefit-cost ratio (BCR) of all options. A preferred option has not been selected at this stage as the detail of the policy is still under development.

Table 14: Total costs, benefits, and NPV (2023 prices, £ millions, discounted)

		Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
Total transfers	Low	970	1,230	1,180	2,020	3,280	3,800	7,530
	Central	1,210	1,530	1,480	2,520	4,100	4,750	9,410
	High	1,450	1,840	1,770	3,030	4,920	5,700	11,290
Total cost[56]	Low	230	250	240	250	260	260	270
	Central	540	580	570	590	600	610	630
	High	960	1,020	1000	1,030	1,050	1,080	1,110
Total benefit[57]	Low	1,530	1,630	1,590	1,650	1,670	1,710	1,740
	Central	3,330	3,540	3,460	3,580	3,630	3,710	3,780
	High	6,840	7,290	7,120	7,360	7,470	7,630	7,780
Net benefit[58]	Low	1,300	1,380	1,350	1,400	1,410	1,450	1,470
	Central	2,790	2,960	2,890	2,990	3,030	3,100	3,150
	High	5,880	6,270	6,120	6,330	6,420	6,550	6,670
Benefit-cost ratio (BCR)[59]	Low	6.7	6.5	6.6	6.6	6.4	6.6	6.4
	Central	6.2	6.1	6.1	6.1	6.1	6.1	6.0
	High	7.1	7.1	7.1	7.1	7.1	7.1	7.0

5 Risks and assumptions

The below risks and assumptions should be considered when interpreting this analysis.

- **Length of prevented delays to network build** – The analysis estimates a likelihood of preventing a *1-year* delay to network build and applies this to earlier network investment costs, constraint cost savings, and emissions savings. There is limited evidence to understand the length of delays this policy may prevent and 1-year has been assumed based on some evidence on the length of historical Judicial Reviews. In addition,

[56] Excluding the transfer
[57] Excluding the transfer
[58] NPV, benefits - costs
[59] BCR, excluding transfers

community benefits are only one component in preventing delays to network build and this policy alone may not prevent delays without reforms elsewhere in the end-to-end process for transmission network projects. This has been mitigated by carrying out breakeven analysis in the 'Monetised electricity consumer impacts' section.

- **Likelihood of preventing delays to network build** – The analysis estimates a *likelihood* of preventing a 1-year delay to network build and applies this to earlier network investment costs, constraint cost savings, and emissions savings. The likelihood of preventing delays was estimated using the proportion of survey respondents[60] who said the level of benefit in each option would make the infrastructure more acceptable. An average of the wider benefits and direct payments acceptance rates were used as a proxy for the likelihood of preventing a 1-year delay. This is highly uncertain because:
    - The estimated acceptance rate may not feed through to preventing delays 1:1 and there is a possibility that delays may not be prevented at all.
    - Levels of bill discount were not included in the survey so we have assumed the acceptance for bill discounts would be the same as the equivalent level of direct payment.
    - Distance from the infrastructure for direct benefits (200m, 300m, & 500m in the policy options) were not specified in the survey and instead, respondents were given scenarios to consider. We have used the scenarios most closely fitted to these distances as a proxy.
    - The survey was designed to provide data representative of three case study areas where transmission infrastructure projects have been proposed, rather than nationally representative data. It is possible that other communities may have responded differently.
    - In a survey people may struggle to conceptualise sums of money (e.g. £500,000 over 10 years) when making an assessment of the level of benefit required to help make a hypothetical transmission infrastructure project more acceptable. Outside of a research setting they may respond differently. This was also raised by some workshop participants.

  This has been mitigated by carrying out breakeven analysis in the 'Monetised electricity consumer impacts' section.
- **Fairness, well-being & support** – Monetised benefits only capture the benefits of preventing a 1-year delay. This does not capture that a higher level of benefit may lead to increased fairness, well-being, and general support for the energy transition and transmission network infrastructure.
- **Number of households eligible for direct benefits** – To calculate this, we assume an average number of homes per km of transmission line based on a study by NGET on the number of homes near NGET power lines, which covers England and Wales only.

[60] Further information on the research can be found in the 'Note on community benefits social research' section within the Supporting Analysis.

This assumes that the number of homes per km of transmission line in England and Wales is the same as Scotland, which may result in an over-estimate of the number of eligible households since Scotland is less densely populated. It also assumes that the number of homes per km of *existing* power lines will be the same for *new* power lines, which may result in an under-estimate of the number of eligible households due to growth in housing stock. However, this is mitigated as an annual housing stock growth assumption is applied across the appraisal period. We also apply a range of -20% and +20% to reflect uncertainty.

- **Constraint cost savings if a 1-year delay is prevented** – To estimate this, National Grid ESO shifted network boundary capability in their Leading the Way (LW) Future Energy Scenario (FES) back by 1 year. This is a simplistic approach and uses different net zero scenarios to those used by the department. It assumes all generators connect as assumed in the LW scenario and they are not subject to a delay as a result of connection works being delayed. This could result in an over-estimate of constraint cost savings if a generator connecting 'behind' a constraint were delayed as this would mean they are not connected to the system to receive constraint payments. However, this potential over-estimate of constraint cost savings is mitigated by the fact that the benefits of shorter network connection times for new low carbon generation are unquantified. If quantified, this benefit may offset the potential over-estimate of constraint cost savings. This approach also neglects to change the boundary capabilities with changes in the generation. For example, it could be the case that the addition or removal of a generator changes the balance of power flows on circuits crossing a boundary such that the boundary capability increases or decreases despite there being no physical change to the transmission assets. The constraint cost saving estimate is therefore heavily caveated, but provides an indication of the sort of effects preventing delays to network reinforcements could represent. These limitations also apply to the constraint costs estimate in the 'Rationale for intervention' section.
- **Administration costs & familiarisation costs** – Evidence to quantify these costs was limited. In the absence of data, the estimate of administration costs for wider benefits simply assumes administration costs will be the same proportion of the cost of the wider benefits policy as bill discounts. This is highly uncertain but is low risk given the relatively low cost. In addition, the appropriate wage level and the number of people per business or organisation used to estimate familiarisation costs is highly uncertain. Again, this is low risk given relatively low cost.

6 Monitoring and evaluation

We could conduct a robust and proportionate monitoring and evaluation programme which would provide evidence on how effectively the guidance and policy has been implemented and to what extent intended outcomes are being achieved. We expect this evidence could be used to inform decisions such as whether the guidance should be updated in response to any challenges arising. Evaluation is also required to provide evidence on the effectiveness of community benefits in achieving objectives such as increasing community support, and wider

impacts (both intended and unintended). This could inform whether additional measures may be required to achieve objectives. We anticipate that insights arising from monitoring and evaluation activities could support future policy development within networks infrastructure as well as other sectors both in energy and more broadly.

We would expect to commission delivery of the evaluation from an independent organisation(s) who would work with the Department for Energy Security and Net Zero to finalise the evaluation plans and deliver evaluation activities. This would be commissioned via a competitive procurement process. This would ensure robust and independent insights are generated. At a high-level we would expect that the evaluation could include the following, noting that full plans will be developed in due course:

- Process evaluation to review how the guidance has been received by stakeholders, and how effectively the guidance has been implemented. This phase of the evaluation could be used to help Government understand how effectively the guidance has been implemented. This phase of the evaluation could also be able to identify any additional changes to the guidance that may be required.
- Impact evaluation to review the overall impact of the guidance, and to what extent it has helped to achieve government objectives including increasing community support to new infrastructure projects, and communities feeling they are directly benefiting from new network infrastructure being built in their area. This evaluation could also assess broader impacts of community benefits such as socioeconomic benefits where schemes have been implemented. Baseline data would be required to enable impact analysis.

We would intend to collect monitoring data from a range of sources once the guidance has been implemented which could be used on an ongoing basis to assess how the guidance is being delivered and to inform the evaluation. This could include regular tracking of community benefits schemes that have been implemented using the guidance, regular stakeholder feedback (e.g. from developers and communities), and tracking of indicators which could be submitted by developers and other stakeholders. We expect that monitoring and evaluation data could use a range of sources and represent the breadth of stakeholders' views, including but not limited to communities and developers. Examples of the type of monitoring data that could be collected are outlined below (this is not exhaustive and are subject to change as monitoring and evaluation plans are further developed):

- Data on implementation of benefits via guidance (e.g. number of projects utilising benefits schemes, number of recipients of direct benefits, where these projects are located, the types of benefits delivered, value of benefits delivered, other benefits characteristics e.g. governance, fund themes).
- Data on engagement with benefits (e.g. number of engagement events with communities on benefits schemes, number of attendees to these events, demographics of these events, other engagement activities with benefits like letters/comms)
- Community and other stakeholder feedback collected through methods such as interviews and surveys.

We would endeavour to publish evaluation outputs in line with best practice requirements. This ensures transparency and accountability, and that learning is disseminated.

7 Note on community benefits social research

This section provides further information about the research into community benefits referenced in the Government Response. Survey results referenced in the Government Response are reported here. We anticipate that a full report on this project will be published separately in due course.

Background

The Department for Energy Security and Net Zero commissioned BMG Research, an independent contractor, to undertake this research. The project aimed to understand communities' views and preferences towards transmission infrastructure and measures that can be taken to improve acceptability including community benefits.

Methodology

This research was conducted with members of the public in three case study areas where there are proposals for transmission infrastructure projects that have been classified as "essential" by the National Grid Electricity System Operator to enable the Government's 2030 offshore wind ambitions.[61]

The case study areas were:

- Lincolnshire County
- Inverness/Keith (Wards: Keith and Cullen, Speyside Glenlivet, Forres, Nairn and Cawdor, Aird and Loch Ness, and all Inverness)
- East Suffolk, Dover, and Thanet local authorities

This research used a mixed methods approach, collecting quantitative data via a representative survey and qualitative data through workshops. Data was collected between July and September of 2023.

BMG carried out a survey achieving a total of 2,359 valid responses. The survey primarily used a random probability sampling approach.[62] Participants were either randomly selected to take part in an online survey via a letter posted to their address (known as a "push-to-web"

[61] These areas have proposed transmission infrastructure projects classified as an "HND essential option" in the "Network Options Assessment (NOA) 2021/22 Refresh". The proposals are for new infrastructure, not just upgrades to existing infrastructure. https://www.nationalgrideso.com/document/262981/download

[62] This is the gold standard sampling approach used to provide statistically robust survey data. This means theoretically every address in the case study area has a chance of being invited to complete the survey.

approach) or invited at their doorstep to complete the survey face-to-face if meeting the digitally excluded criteria.[63]

An online panel and river sampling element was introduced at the end of the fieldwork period to target younger respondents due to their lower response rates.[64] A breakdown of the final sample by approach and survey mode is provided on Table 15 overleaf.

Table 15: Survey sample count by sampling approach and survey mode

Sampling approach	Survey mode	Sample count
Random probability	Online (push-to-web)	1945
Random probability *within those digitally excluded*	Face-to-face	90
Non-probability: Online panel/river	Online	324

After fieldwork, weights were applied to the data so that it was representative of the three individual areas by age, gender, housing tenure, and rurality.[65] A breakdown of the final weighted sample by these characteristics is provided below.

Table 16: Breakdown of survey respondents by gender and age

Gender/ Age	Weighted total (n=2359)
Male 16-35	12%
Male 35-55	15%
Male 55+	22%
Female 16-35	12%
Female 35-55	15%
Female 55+	24%

[63] Assessed by face-to-face interviewers by asking a series of questions (e.g. whether they have internet access and levels of confidence completing online activities).
[64] Online panel sampling refers to recruiting survey participants who have signed up to complete surveys in return for a small financial incentive. River sampling refers to recruiting survey participants via email through a research sample provider.
[65] Weighting refers to adjustments made to survey data to bring subgroups (e.g. based on demographics) who are over or underrepresented in the dataset in line with the verified population statistics for that area (e.g. matching with Census data).

Table 17: Breakdown of survey respondents by housing tenure

Tenure	Weighted total (n=2359)
Owned Outright	38%
Owns with a mortgage or loan or shared ownership	29%
Social rented	14%
Private rented or lives rent free	19%

Table 18: Breakdown of survey respondents by urban/rural designation

Rural/Urban	Weighted total (n=2359)
Rural	37%
Urban	63%

Finally, a weight was applied to each area so that it accounted for a third of the total project sample. This adjusted for variations in the number of survey responses in each case study area (see table below).

Table 19: Total survey sample count per case study (unweighted and weighted)

Case study	Unweighted sample count	Weighted sample count
Lincolnshire County	793	786
Inverness/Keith wards	725	786
East Suffolk/Dover/ Thanet local authorities	841	786

The survey was followed by workshops (one per case study area), with 12 community members in each of Inverness/Keith and Lincolnshire County, and 11 in East Suffolk/Dover/Thanet. Workshop participants were recruited to ensure a spread of backgrounds (e.g. age, gender, education) and views towards transmission infrastructure.

Interpretation and Caveats

This project used a case study approach to provide illustrative examples of communities that may host transmission network infrastructure projects in the future. It was not designed to provide nationally representative data. It is possible that different areas would have responded differently to the survey. However, high-level conclusions were consistent across the three case studies. Therefore, data should be interpreted as representative of the three case study areas only and providing indicative insights more broadly.

It was not possible to achieve sufficient responses from younger groups without the introduction of the online panel and river sampled participants. Whilst this introduced a non-probability sampling[66] element to the sample, the majority of respondents (86%) were recruited via the random probability sample. Without this there would not have been enough responses from younger age groups to conduct meaningful analysis; this was felt more important than the purity of the sample.

Survey data reported here are rounded up or down to the nearest whole percentage. It is for this reason that, on occasion, tables or charts may add up to 99% or 101%. Results that do differ in this way should not have a sum-total deviance that is larger than around 1% to 2%.

Results

Survey results are reported in Tables 20-25 on the pages that follow.

Table 20: To what extent would each of the following types of community benefits help make the transmission infrastructure project more or less acceptable to you? Base: all respondents (n=2359)

Community benefit	Net: More acceptable	Neither more nor less acceptable	Net: Less acceptable	Don't know
A fund for local organisations to apply for funding for projects to deliver positive outcomes for the community	60%	25%	8%	8%
Providing direct payments to residents who live in close proximity to the new transmission infrastructure	63%	22%	8%	7%

[66] Non-random sampling approach where not all addresses in a population have a chance of being selected to participate in the survey.

Community benefit	Net: More acceptable	Neither more nor less acceptable	Net: Less acceptable	Don't know
Discounts on households' electricity bills	78%	12%	6%	5%
Supporting local supply chains and local businesses (e.g. companies developing the infrastructure projects provide opportunities for local businesses)	61%	24%	7%	7%
Companies developing the infrastructure projects provide jobs, training, and apprenticeships for local residents to work in the energy industry	65%	23%	7%	6%
One-off direct investment provided directly to a local project by the company developing the infrastructure project	47%	32%	12%	9%
Community joint/ shared ownership of the transmission infrastructure, which could provide a regular source of revenue, to the community (e.g. a transmission infrastructure project is jointly owned by the transmission operator and the local community)	58%	24%	8%	9%

Table 21: A form of community benefit could provide direct payments to those who live near new [set a – substation/ set b – lattice pylons]. To what extent do you agree or disagree with the following statements regarding direct payments? Base: all respondents (n=2359)

Statement	Net: Agree	Neither agree nor disagree	Net: Disagree	Don't know
The value of direct payments should be based on a household's distance from the new transmission infrastructure (i.e. the closer a household, the higher their payment)	63%	18%	10%	8%
Direct payments should be distributed as widely as possible, even if this means less payment per household	42%	27%	22%	8%
Direct payments should be targeted at those most in need of financial support	41%	22%	29%	8%

Table 22: Scenario: You live right by the [set a – substation/ set b – lattice pylons] and can see it clearly from your home. Would payments of the following value help to make the infrastructure more acceptable to you? Base: all who reported a payment is needed in this scenario (n=1889)

Respondents were shown the lowest value first (£1,000) and asked whether this was enough to make the infrastructure in the scenario more acceptable to them. The value increased incrementally until the value was accepted, or £25,000 was rejected, at which point participants could provide "other" or "none" responses.

Direct payment value	Cumulative total reporting level of payment would make project more acceptable
£1,000	42%
£5,000	49%
£10,000	55%
£15,000	55%
£20,000	57%
£25,000	58%
Other	62%
None	73%
Don't know	100%

Table 23: Scenario: You live near but not right by the [set a – substation/ set b – lattice pylons] and can see it in the distance. Would payments of the following value help to make the infrastructure more acceptable to you? Base: all who reported a payment is needed in this scenario (n=1166)

Respondents were shown the lowest value first (£1,000) and asked whether this was enough to make the infrastructure in the scenario more acceptable to them. The value increased incrementally until the value was accepted, or £25,000 was rejected, at which point participants could provide "other" or "none" responses.

Direct payment value	Cumulative total reporting level of payment would make project more acceptable
£1,000	46%
£5,000	55%
£10,000	61%
£15,000	62%
£20,000	63%
£25,000	65%
Other	68%
None	78%
Don't know	100%

Table 24: Imagine a community benefit scheme is set up to provide funds for communities near the new [set a – substation/ set b – lattice pylons]. This community benefit scheme would provide a sum of money over 10 years to local projects and organisations which can deliver positive outcomes for the community. To what extent would a [VALUE] scheme help make the project more or less acceptable to you? Base: all respondents (n=2359)

Respondents were shown the lowest value first (£500,000) and asked whether this would be enough to help make the infrastructure more acceptable. The value increased incrementally until the value was accepted, or £20 million was rejected, at which point participants could provide "other" or "none" responses.

Community fund value*	Cumulative total reporting level of funding would make project more acceptable
£500,000 (~£50,000/km)	60%
£1 million (~£150,000/km)	66%
£5 million (~£650,000/km)	71%
£10 million (~£1,300,000/km)	72%
£20 million (~£2,700,000/km)	74%
Other	75%
None	82%
Don't know	100%

*"£/km" was not included in the survey and has been added here for clarity.

Table 25: In the case of a community fund, within how many miles of the [set a – substation/ set b – lattice pylons] should the funds be spent? Base: All respondents (n=2359).

Distance	Total reporting funds should be spent within this distance
1 mile	8%
2 miles	10%
3 miles	12%
4 miles	4%
5 miles	23%
6 miles	4%
7 miles	1%
8 miles	2%
9 miles	1%
10 miles	12%
Other distance or area	4%
Don't know	19%

Next steps

We will continue to develop voluntary guidance for community wide benefits which will be published in 2024. We will provide further information on the overall community benefits policy including options for developing a mandatory approach, community benefits register and a bill discount scheme in 2024.

This publication is available from: www.gov.uk/government/consultations/community-benefits-for-electricity-transmission-network-infrastructure

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