explain
market research

SP Energy Networks

Qualitative review of Transmission Willingness to Pay

August 2019

Executive summary

Background

Prior to submission of your first draft RIIO-T2 Transmission business plan, all three GB Transmission Operators (TOs) (SP Transmission, Scottish Hydro Electric Transmission Limited (SHETL) and National Grid) jointly carried out a GB-wide 'Willingness to Pay' (WtP) study. Explain, alongside economic consultancy NERA, supported with the delivery of this research.

In May 2019, Explain was commissioned to conduct a qualitative review of the areas (attributes) covered in SPEN's draft Transmission business plan, to help support understanding and provide an evidence base around the outputs of the TO Willingness to Pay (WtP) research.

Looking at the objectives of the project at a more granular level, we wanted to:

- Share information around the nine attributes used in the joint WtP engagement
- Understand views around each of the nine attributes
- Determine unconstrained and constrained WtP, and explore reasonings behind responses

Approach

To support the quantitative outputs of the joint TO WtP study with exploratory research, a primarily qualitative approach was taken here. There were two strands of research to ensure that we spoke with both domestic consumers and consumer representative stakeholders of SP Energy Networks.

Three consumer focus groups were conducted in Edinburgh, Dunfermline and Dumfries; the profiles engaged varied per session to cover a range of lifestyles and stages, and in total 28 consumers took part in this strand of research. Six consumer representative stakeholders in-depth interviews were also conducted with stakeholders identified by SPEN; this strand took the form of telephone interviews with supporting pre-interview online task.

Summary of findings

As we typically find in research for SPEN, awareness of SPEN, your Transmission business, and your role in the electricity system was low amongst consumers, with supplier confusion evident initially. However, the information shared with domestic respondents during the research was received well, in that it supported understanding of your operating environment including wider considerations such as regulation and political pressures. The presence of a SPEN representative at each session worked well for clarification of the majority of queries on the spot to help prevent confusion in responses.

When considering areas of priority for SPEN's Transmission business unprompted, a wide range of suggestions were made, from fundamental aspects of service provision such as safety and reliability of the network, to wider operating considerations such as Brexit and futureproofing the network with investment in new technology. Several respondent suggestions were reflected in the nine attributes chosen to explore in more depth.

When asked how they would value each of the nine attributes, consumer representative stakeholders views were strongly influenced by their personal role in the energy industry and their areas of interest, which is reflected in greater allocation of resources to future-proofing measures, such as investment in infrastructure for connection of renewable generation and EV charging.

So too, consumers looked to the future, with investment in innovation high on their agenda - though a reliable transmission network with lower risk of power cuts was of greatest importance for them now. Reliability of the network was considered by both consumers and consumer representative stakeholders to be core to your role and this attribute therefore sat highly on both priority lists.

Overall, consumers ranked the nine attributes from highest (1) to lowest (9) priority as follows;

1. A reliable transmission network – reducing the risk of power cuts
2. Investing in innovation projects to create future benefits
3. Investing in infrastructure to connect renewable generation
4. Recovering more quickly from blackouts
5. Investing in electric vehicle charging infrastructure
6. Improving the environment at transmission sites
7. Supporting local communities
8. Improving the visual impact of existing overhead lines
9. Putting existing overhead lines underground

The results from the indicative WtP exercises broadly aligned to the results from the ranking exercise.

All respondents engaged approached the nine attributes with prioritisation of functional investment, with consideration of those which were 'essential' (which included reliability of the network and quicker recovery from blackouts) versus 'nice to have' (which included improving the visual impact of existing overhead lines). There was concern for consumer bills and an awareness that any increases should be considered in the context of rising fuel poverty.

When provided with the balanced context and in the face of financial and environmental concerns, undergrounding was not considered a priority for investment amongst either consumers or consumer representative stakeholders. However, it was acknowledged that there are benefits to be gained from it, particularly in areas where the landscape is recognised as outstanding.

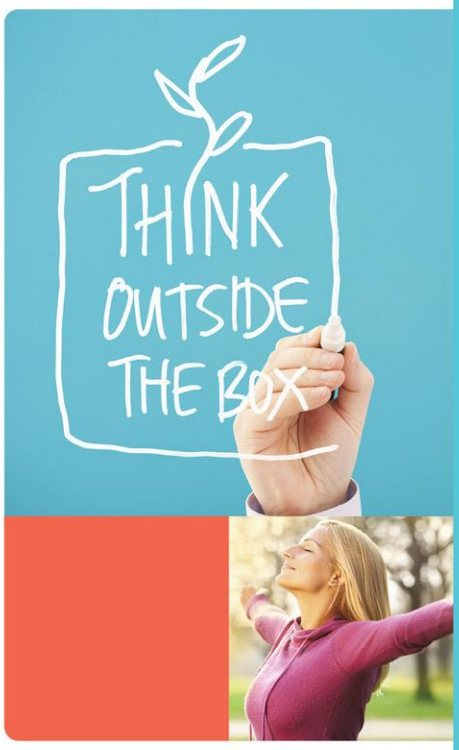
It was widely agreed that supporting local communities was important as part of operating in a responsible manner, and should certainly be part of your operating plans, however this investment spend should not come from the pockets of consumers in the form of bill increases.

The results obtained here cannot be directly compared to the results of the full stated preference WtP study conducted jointly for the three TOs, due to differences in the research approach, however average unconstrained WtP values gathered from consumers in this research were lower across all attributes, and the relative prioritisation of the nine areas also demonstrated notable differences. To highlight a handful; there was greater willingness to pay for supporting local communities and undergrounding of existing overhead lines amongst domestic respondents to the joint TO research compared to this exercise, while investment in innovation projects was a higher priority for consumers during this research. Investing in infrastructure to connect renewable generation was a high priority for consumers in both the joint TO and SPEN exercises.

Content page

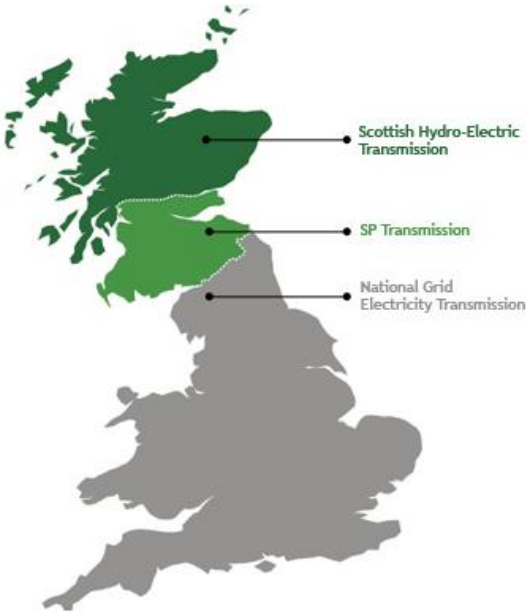
1.0 Introduction

This section of the report outlines the background and objectives of the research alongside the chosen methodology.



Background

SP Transmission plc is a wholly owned subsidiary of SP Energy Networks, responsible for the transmission of electricity in Central and Southern Scotland. Your Transmission business takes electricity generated from power stations, windfarms and various other utilities and transports it through your transmission network.



As part of the way SP Energy Networks is regulated, you will be submitting your business investment plans (which outlines how much money you need to spend to own, operate and futureproof your networks) for the period 2021 to 2026 to the network regulator, Ofgem and its independent Consumer Challenge panel.

Alongside the other two Transmission companies (National Grid and SHETL), SP Energy Networks submitted your draft plan to Ofgem and the Consumer Challenge panel on 1st July, and you are now in the process of socialising the draft plan, ready to submit the final version on 1st December this year. Prior to this piece of work, all three GB Transmission Operators (TOs) (SP Transmission, Scottish Hydro Electric Transmission Limited (SHETL) and National Grid) jointly carried out a GB-wide 'Willingness to Pay' (WtP) study. Explain, alongside economic consultancy NERA, supported with the delivery of this research.

In May 2019, Explain was commissioned to conduct a qualitative review of the areas covered in SPEN's draft Transmission business plan, to help support understanding of consumer views and provide an evidence base around the outputs of the TO Willingness to Pay (WtP) research.

Objectives

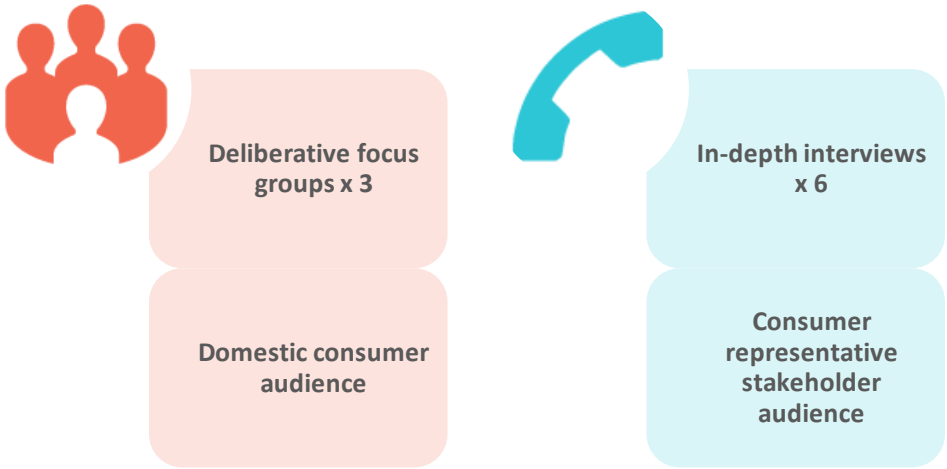
The central objective of this piece of work was to build your evidence base and support your understanding of the outputs of the joint TO WtP study, to feed into your RIIO-T2 business plan.

Looking at the objectives at a more granular level, we wanted to:

- Share information around the nine attributes used in the joint WtP engagement
- Understand views around each of the nine attributes
- Determine unconstrained and constrained WtP, and explore reasonings behind responses

Methodology

To support the quantitative outputs of the joint TO WtP study with exploratory research, a primarily qualitative approach was taken here. There were two strands of research to ensure that we engaged with both domestic consumers and consumer representative stakeholders of SP Energy Networks:



Explain also attended a meeting of SPEN's **TO User Group** on 10th June 2019 at SP HQ, to share an overview of the research plan. Feedback from the group was gathered and considered as the approach and research tools were finalised.

Consumer focus groups

Three deliberative focus groups were conducted with domestic electricity consumers within the SP Transmission patch (Central and Southern Scotland); the sessions were held in Edinburgh, Dumfries and Dunfermline.

Attendees were recruited on-street by our team of Market Research Society (MRS) researchers. The groups were attended by consumers from a range of age and socio-economic groups (SEG), with profile quotas determined and agreed with you in advance of recruitment. Details of attendee profiles can be found in the next section of this report.

It was planned that each group would consist of eight respondents and be two and a half hours in length. Each respondent was given £60 in cash at the end of each groups, as a thank you for taking part and to cover any travel expenses.

Each group was led by an experienced qualitative moderator from Explain, who followed a pre-agreed discussion guide. Throughout the session, short presentations of key information were given by an SP Energy Networks representative, with supporting videos. The presentations were developed by SPEN; the videos were developed by Explain and were used during research fieldwork for the joint TO WtP study. Representatives of SP Energy Networks were in attendance during all three groups, to present and answer any questions posed by respondents which Explain were not able to clarify. There were various worksheet tasks incorporated throughout the sessions, which respondents completed independently.

Each focus group was audio recorded with the permission of all attendees and transcribed, to be used as the basis of thematic analysis. In addition, worksheets from all groups were collated to allow for analysis and reporting.

Consumer representative stakeholder in-depth interviews

To gather a wider perspective, in-depth interviews were conducted with consumer representative stakeholders of SP Energy Networks' Transmission business, who you identified as possessing expertise in the sector and who were also well placed to provide commentary from an end-user perspective. A database of contacts who fit these criteria was developed by SP Energy Networks and Explain contacted stakeholders via email and LinkedIn to invite them to participate and arrange an opportunity for interview. As stakeholders are typically time-poor, interviews took place over the phone at a time of convenience for the interviewee.

The consumer representative stakeholder in-depth interview content reflected the shape of the consumer sessions. Information and a short online task - which replicated the worksheet tasks from the consumer groups - was shared with interviewees for completion in advance, with the responses given discussed during the telephone interviews.

In-depth interviews were conducted by an experienced Explain moderator and lasted approximately 30 minutes. All interviews were recorded with the permission of respondents and transcribed, to be used as the basis of thematic analysis. The responses gathered in the pre-interview task were also analysed alongside those completed in the consumer groups.

Notes on analysis

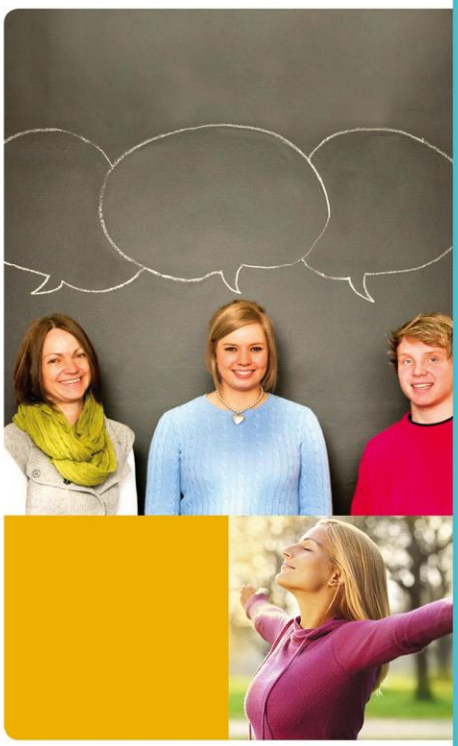
Findings from the consumer and consumer representative stakeholder elements of the research have been analysed separately, with similarities and distinctions identified in this report where relevant.

Transcripts from the focus groups and interviews have been thematically analysed.

Percentages may not add to 100% due to rounding.

2.0 Respondent profile

The profile of respondents who took part in the research can be found in this section.



Respondent profile

Consumer focus groups

Three focus groups were conducted within the SP Transmission operating area (Central and Southern Scotland). The locations selected were Edinburgh, Dunfermline and Dumfries; we engaged with consumers in both rural and urban areas. The demographic profiles (age and socioeconomic (SEG) groups) of those recruited to each session differed to ensure we engaged with consumers of a variety of life stages and backgrounds.

In total, 28 consumers attended the groups. Profiles and attendee numbers per group were as follows;

Consumer representative stakeholder in-depth interviews

Six consumer representative stakeholders were engaged in the research via telephone interview and supporting online task. They were recruited by Explain from a database provided by SP Energy Networks – a list of informed individuals, who held expertise in the sector and were also well positioned to provide commentary from a domestic energy user perspective.

Fiona Riddoch
- Energy and energy policy consultant, The University of Edinburgh
Noted areas of interest: total energy system, heat and power, and energy efficiency.

Matthew Wicks
- Domestic Energy Advisor, Groundwork London

Matthew Black
- Business Development, Kensa Group / Fintry Development Trust
Noted areas of interest: local renewable energy, including low carbon heating.

Elizabeth Leighton
- Independent consultant. Previous Policy Advisor at Scottish Fuel Poverty Strategic Working Group
Noted areas of interest: sustainability, climate change, energy efficiency, and community engagement.

Jim Percival
- Development and Delivery Manager, The Wise Group
Noted areas of interest: customer service, fuel poverty.

Karen Turner
- Director of Centre for Energy Policy, University of Strathclyde and *TO User Group member*

All consumer representative stakeholders held professional roles within the energy industry, but the majority did not have direct relationships with SP Energy Networks. The six respondents engaged had a variety of areas of interest, including sustainability, energy efficiency and customer service.

3.0 Results

The findings of both strands of research can be found in this section.

Awareness

To open discussions, the Explain moderator sought to understand current levels of respondent awareness of SP Energy Networks, SP Transmission and the roles of each organisation.

Over half of respondents in the consumer groups in Dunfermline and Dumfries were aware of SP Energy Networks and half of respondents in Edinburgh reported they had heard of the organisation. In Dunfermline and Edinburgh, nobody had heard of SP Transmission, while two respondents in Dumfries had heard of the Transmission business.

For those consumers who were aware of SP Energy Networks, some had seen the logo on vans, and others had seen SP Energy Networks representatives out and about. One consumer reported an awareness due to your sponsorship of the Wales Under 20s rugby team.

- *"I see the vans all over the place"* (Dunfermline, C2DE, 51+)

When asked what they thought SP Energy Networks do, responses were limited and levels of accuracy of responses varied, with links to infrastructure and power supply suggested.

- *"The infrastructure, the power cables and stuff"* (Edinburgh, ABC1, 18-35)
- *"Provide electricity to all of Scotland"* (Dunfermline, C2DE, 51+)

Respondents were asked what they thought SP Transmission might do. Suggestions included: *providing electricity*, *being responsible for cables* and *looking after infrastructure*. One respondent suggested that they may be responsible for the generation of electricity, with one suggesting a link to the transmission of electricity to people's homes.

- *"Would that encompass the material that actually transmits the energy into people's homes? So, all the power cables?"* (Edinburgh, ABC1, 18-35)
- *"They look after all the cables"* (Dunfermline, C2DE, 51+)
- *"They look after the heavy stuff such as pylons and power stations"* (Dunfermline, C2DE, 51+)

Confusion of SP Energy Networks and SP Transmission with generation and supply businesses was identified, with incorrect suggestions as to your responsibilities including telecommunications and energy generation. Specifically, some respondents were quick to highlight awareness of Scottish Power and a perception that SP Energy Networks was the same company.

- *"Do they look after the phones and the internet?"* (Dumfries, C1C2, 36-50)
- *"Looking after all of the energy suppliers"* (Dunfermline, C2DE, 51+)
- *"Make energy?"* (Edinburgh, ABC1, 18-35)

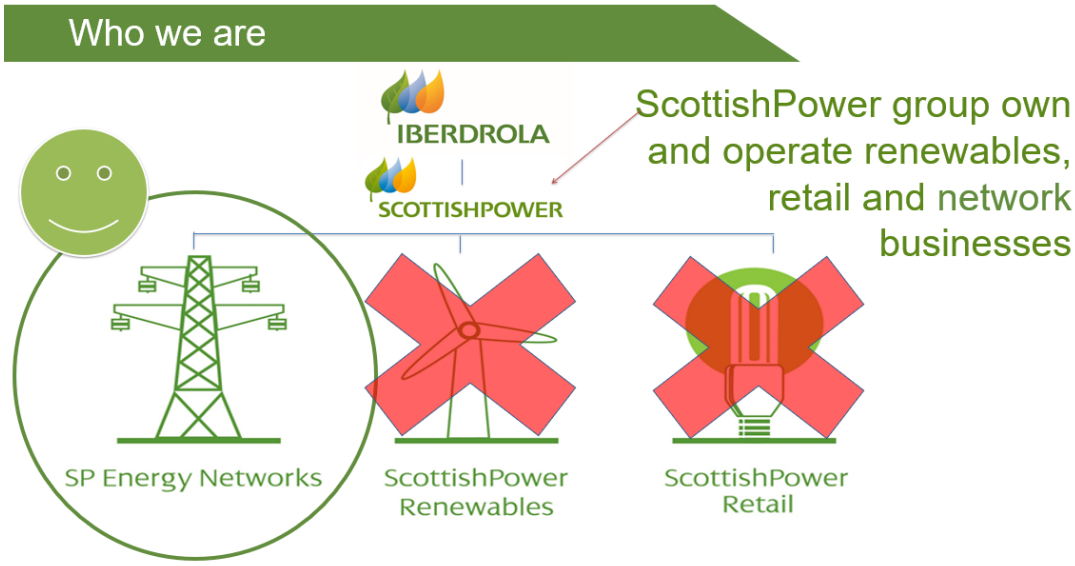
- *"If I am just guessing, I would have guessed it's something to do with Scottish Power? Like energy providers"* (Edinburgh, ABC1, 18-35)

Overall, it was clear that confidence in awareness of your role was low – many respondents posed their responses in a questioning manner and where correct responses were provided some respondents noted that they were guessing.

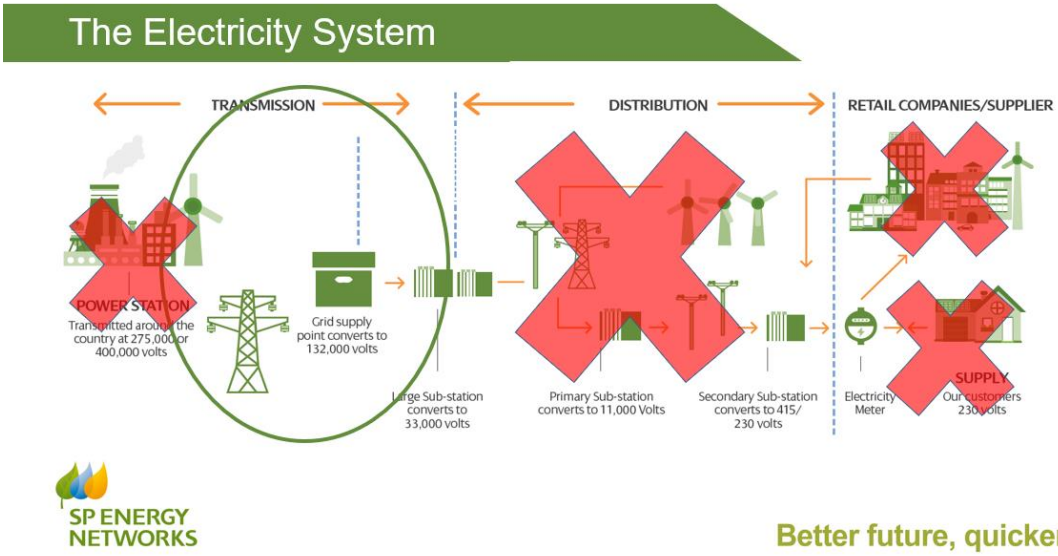
Consumer representative stakeholders were all aware of SP Energy Networks and your Transmission business through their professional roles in the energy industry and were comfortable that they understood roles within the sector. Please note that this audience was also provided with background information at the initial contact and recruitment stages.

Who are SP Energy Networks and what do they do?

A representative of SP Energy Networks presented information around the relationship between the different companies which comprise Scottish Power Group, specifically how SP Energy Networks and your Transmission business fit into this.



An overview of the electricity system and the different responsibilities of each element of SP Energy Networks' business was given. It was stressed that the focus of our discussions was your Transmission business, and it was important that respondents felt they clearly understood the information provided about this.



In general, most respondents were clear on all the information that was provided. There was general surprise amongst the groups that there were multiple businesses within the group, and in regard to the Spanish ownership of the group – respondents in Dumfries were inquisitive about this.

> *"I didn't realise there were so many divisions because I made the assumption that it was all part of the same group and they were all doing the same thing but no it is three separate companies"* (Dunfermline, C2DE, 51+)

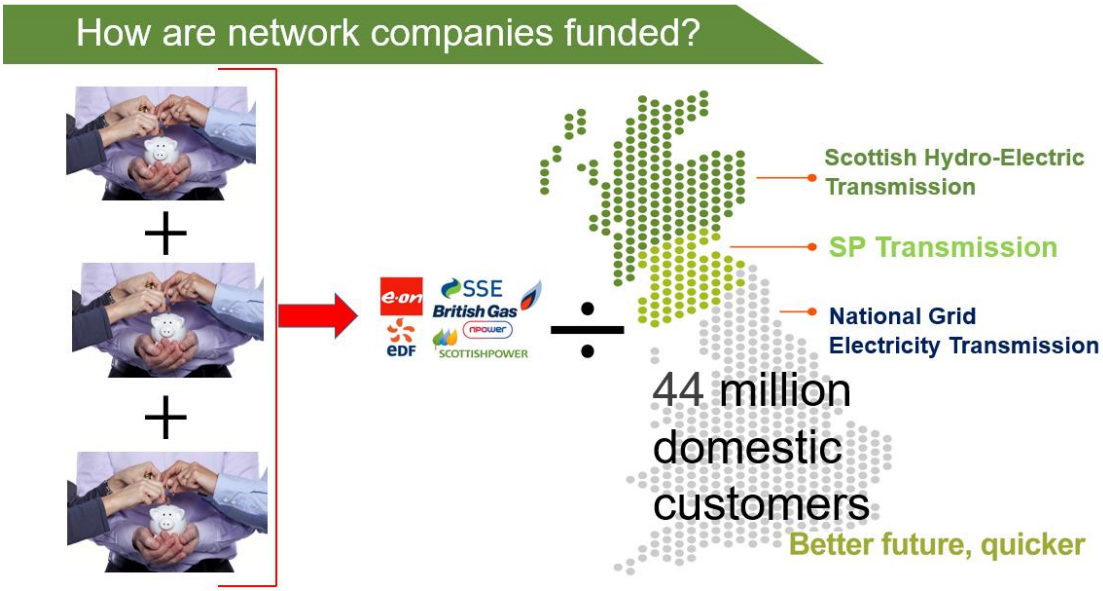
All consumer representative stakeholders had an awareness of what SP Transmission do, though please note this audience was provided with background information at the initial contact and recruitment stages. During interviewing, the interviewer provided additional clarification on any elements the respondent noted they were not confident in their understanding – for one stakeholder this was in relation to how the transmission business makes their money, while another clarified that SP Energy Networks also has a distribution business.

How are SP Energy Networks/Transmission funded?

As investment was the central topic of this research, it was crucial that respondents understood how SPEN and your transmission business is funded, to understand the primary sources of financial investment and thus provide informed responses around areas for spend.

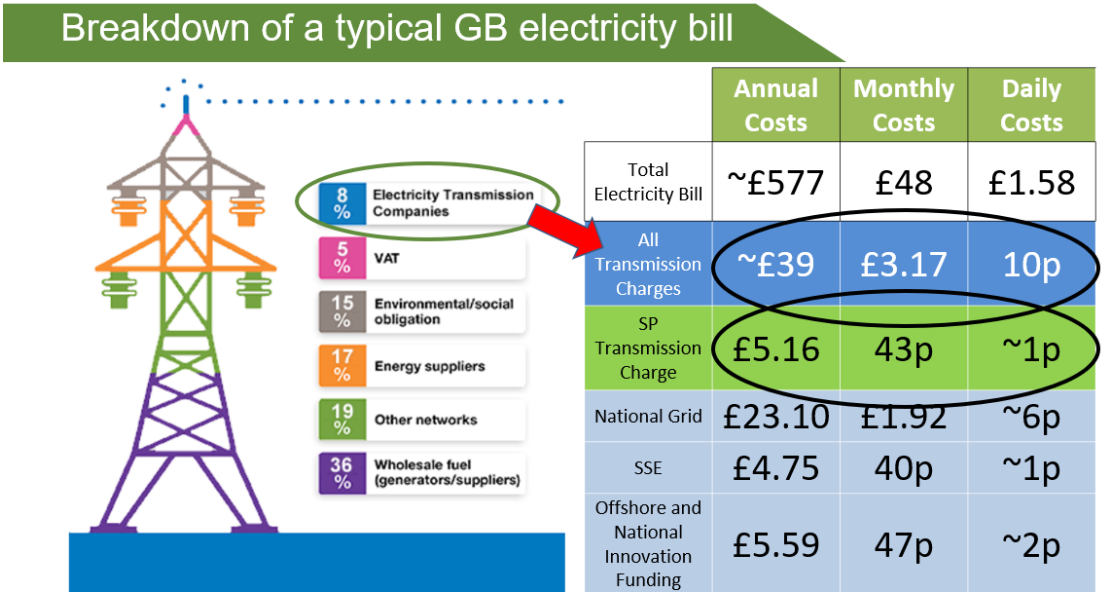
Information was presented to each group by a SPEN representative around how transmission network companies are funded through Use of System charges and borrowing money through loans and shareholder investment. Learnings were taking from our previous 'Understanding SPT' research around the level of information to be shared, and how this information was best presented.

It was highlighted that the cost of running the transmission network in Great Britain (GB) is spread out over consumers and generators across the country.



It was explained that for every £1 that SPEN receive from Use of System charges, you need an additional 58p to help fund planned network operations, maintenance and investment for 2021 to 2026.

A breakdown was provided of an average GB electricity bill and the cost elements which make this up, to demonstrate how transmission network funding impacted on end-consumer bills. In particular it was highlighted that around 8% of the average electricity bill goes to the electricity transmission companies, with roughly 43p of the average monthly bill going to SP Transmission.



	Annual Costs	Monthly Costs	Daily Costs
Total Electricity Bill	~£577	£48	£1.58
All Transmission Charges	~£39	£3.17	10p
SP Transmission Charge	£5.16	43p	~1p
National Grid	£23.10	£1.92	~6p
SSE	£4.75	40p	~1p
Offshore and National Innovation Funding	£5.59	47p	~2p

Across the groups, most consumers found the information about how SP Transmission are funded to be understandable. There were some queries around the level of debt held by the Transmission business. For example, one respondent in Dumfries queried if the current level of debt would lead to higher consumer bills in the long term, while another in Edinburgh wondered how the company makes money if running in debt.

- *"From the previous discussions I've had, the network is crumbling. It's 30, 40 years old and for investment to grow I would be saying that loading the business with too much debt is actually going to cost us in the long run because of the fact that the competition will diminish because not everyone can support that debt"* (Dumfries, C1C2, 36-50)
- *"How do they make money off it if they are in debt? If they are needing more money than they have?"* (Edinburgh, ABC1, 18-35)

Respondents were asked what they thought of the proportion of their bill that goes towards transmission costs. Across the groups, respondents felt the proportion was fair. Some were surprised at the amount of money that went towards transmission and there was a general expectation that this would have been higher than it is. Some felt that a higher percentage should go towards transmission, based on the knowledge they had of your role and responsibilities.

- *"I am quite surprised to be honest. I thought it would have been more, it seems a bit unfair for the other companies. I feel we are paying more to our energy supplier so surely they should be paying more to the level above as without them they wouldn't have a company"* (Edinburgh, ABC1, 18-35)
- *"I thought it would be a lot more expensive than that. I appreciate it is a small amount of your bill"* (Dumfries, C1C2, 36-50)
- *"I expected it to be higher"* (Dumfries, C1C2, 36-50)

One respondent in Edinburgh raised concerns around the private ownership of the company;

- *"I am just surprised there is no public component in terms of the ownership of the network, it seems like the thing that shouldn't be in private hands but should be owned by the people themselves, is it such an essential service and I am imagining that through the process of de-regulation like it was something it was brought up and you have this monopoly to provide a service, it seems like quite an inefficient way to derive income from it. So, it's quite surprising that this is the setup we have in Scotland. Do you think that this is a better model than to have it in public hands? Somewhere in Spain owning part of Scotland's network seems inefficient and overcapitalized"* (Edinburgh, ABC1, 18-35)

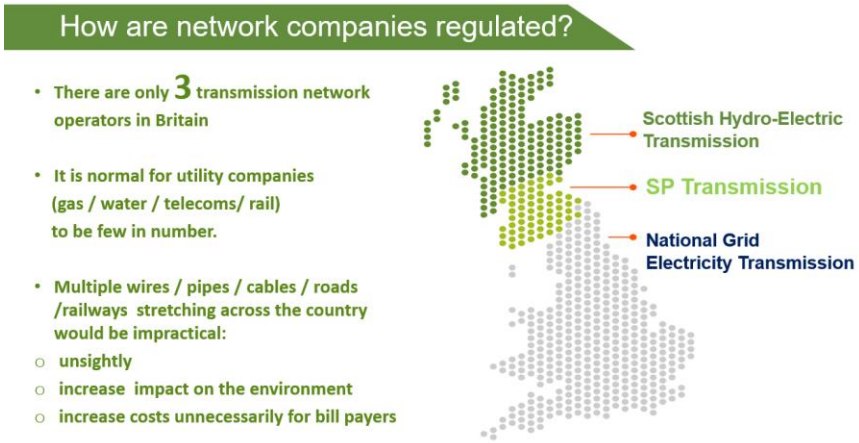
Other comments and queries raised by consumers were;

- VAT – it was suggested that consumers shouldn't have to play VAT on something that is essential to everyday living
- Why do SP Transmission not charge the additional 58p required to consumers on their bill?
  - *This query was addressed during the group*
- Why do Scottish Power Group not act as one company, to facilitate all aspects from generation to supply?
  - *This query was addressed during the group*
- What level of profit is made by SPT?

How are SP Energy Networks/Transmission regulated?

The SP Energy Networks representative presented information about how network companies are regulated and the role of Ofgem in setting the amount of money that network companies can collect through system charges and can pay back to shareholders.

It was also highlighted to consumers that Ofgem's regulations are in place to ensure value for money for consumers and create market competition where it can't exist naturally.



Most respondents understood the information shared and did not seek clarification. In Dunfermline, one sought comment on the movement from nationalisation to privatisation, and another asked for more information on the level of profit made by SPEN; this respondent did not believe SPEN should be a profit-making organisation.

- *"What was the idea behind moving from the national grid system that was owned by everyone to moving into a private enterprise where SPEN will probably make a handsome profit, why was that decision made?"* (Dunfermline, C2DE, 51+)
- *"What are the percentages where SPEN can make a profit? And the loans that you can get from shareholders?"* (Dunfermline, C2DE, 51+)

Unprompted views on priorities

To explore consumers unprompted views on priority areas that your Transmission business should include within their investment plan, respondents were asked what things they should be thinking about as a business and suggestions were captured by the Explain moderator at each group, as follows;

Dunfermline

- *Keeping costs down*
- *Safety*
- *Environmental impact around equipment*
- *Undergrounding cables (unsightly)*
- *Education of their role*
- *Power cuts*
- *Meeting demand for power*

Edinburgh

- *Maintenance of system*
- *Safety for everyone*
- *Healthy business finances*
- *Impact of Brexit*
- *Growth and development of energy needs – looking to the future*
- *CSR – environment and ethical action*
- *Decentralisation of power sources*

Dumfries

- *Safety*
- *Renewable energy*
- *Keeping the network running*
- *Cost effectiveness*
- *The environment*
- *Batteries*
- *Preparing for EVs*
- *Future proofing*
- *Reliability*
- *R&D*
- *Network efficiency*
- *Education on network system*

A wide range of suggestions were made, from fundamental aspects of service provision such as safety and reliability of the network, to wider operating considerations such as Brexit and futureproofing the network with investment in new technology.

In Dumfries, respondents had key focus on current reliability of the network, as well as investment now to futureproof the network. They noted the expectation for SPEN to be working with other TOs to share learning and solve common challenges.

- *"The future proofing, I think they should start that now"* (Dumfries, C1C2, 36-50)
- *"Sharing ideas, new renewables and talking about what's foreseen"* (Dumfries, C1C2, 36-50)

Investment within communities was also put forward, including education around the responsibilities within the network, which was noted as something you're already doing.

- *"They should be investing back into the communities with the windfarms and the community money and things liked that so maybe that should be a thing as well – you know invest back into the community for development"* (Dumfries, C1C2, 36-50)

In Dunfermline, respondents noted unprompted that electricity pylons are unsightly, and they would like to see plans put in place to mitigate this.

- *"They should put it all underground and having nothing on show"* (Dunfermline, C2DE, 51+)

Important considerations for SPEN's Transmission business plan

Before respondents were introduced to the nine service 'attributes' they were given an overview of other factors which SPEN needed to consider when developing their business plan. These included;

- Safety
- Climate change
- Government targets – Net Zero Scotland by 2045 and Net Zero UK by 2050
- Brexit
- Ofgem regulation, including the price control period reduction from 8 to 5 years due to the pace of change in the sector
- Fuel poverty
- Ageing assets
- Opportunities for a prosperous and environmentally sustainable economy
- Prevention of employee skills shortages

Exploration of attributes

Both consumers and consumer representative stakeholders were asked to watch several short videos of nine different areas that SPEN's Transmission business must consider in their draft business plan. The attributes chosen reflected those tested in the joint TO WtP exercise.

After each video, consumers and consumer representative stakeholders were asked to provide feedback on whether the information was clear and for their initial views on the topic. Respondents were asked whether they thought each area was an important aspect for SP Transmission to focus on and whether they thought consumers should pay more on their bill to action each area, ultimately looking to understand how much each attribute was valued by end-users.

A reliable transmission network – reducing the risk of power cuts

All focus group respondents understood this information and across all consumer groups, there was a consensus that this was an important area for investment. Respondents felt that it was important to allay consumer fears of power cuts, due to the negative impact having no electricity would have.

- *"I think as a customer, that's an important thing because nobody wants to be without power. I think doing what they can to prevent that, as a customer, is a priority"* (Edinburgh, ABC1, 18-35)

Both consumers and consumer representative stakeholders felt that it was core to SPEN and SP Transmission's role to ensure reliability.

- *"In regard to the reliable supply, it is SP Transmission's responsibility and in their best interests to have a reputable and reliable supply that's available to the customers"* (Consumer representative stakeholder)
- *"I think it's core to the business. It is effectively the most important part of the business, so they have to manage it to the best of their ability and that's what the job's based on. I'll agree that my reliability has improved significantly"* (Dumfries, C1C2, 36-50)
- *"The primary function of SP Transmission is to get electricity to the consumer safely and to maintain the service level that the consumers are used to"* (Consumer representative stakeholder)

Additionally, some respondents commented that the video and information provided had caused them to think more about a service they'd tend to just 'expect' to run smoothly and typically take for granted.

- *"It's just one of those things you assume will just be okay and is taken care of and it is really important to have a reliable company and that has made me wake up and think"* (Dunfermline, C2DE, 51+)
- *"I just wasn't aware; I pay my electricity bill and can just switch on the light and don't overthink about where it is coming from"* (Dunfermline, C2DE, 51+)
- *"I think it's something we take for granted isn't it? We think it's something that won't happen"* (Consumer representative stakeholder)

A respondent in Dumfries highlighted the difference in impact power cuts have on urban versus rural areas, with the perception that rural areas are more self-sufficient therefore would not experience as great an inconvenience if power was temporarily lost;

- *"I think it depends where you live in the country – if you live in a city or a town where everything's functional with electricity and if it goes out then it's quite the significant event but if you live in the middle of nowhere then you're quite self-sufficient anyway. If the electricity goes off, it's not that you're affected by the streetlights, it's not necessarily going to be that it'll be your heating and so I think where you live has different levels of significance in the country"* (Dumfries, C1C2, 36-50)

Consumers were asked if they would be willing to pay more on their bill to reduce the risk of power cuts by ensuring a reliable network. Although most respondents felt that reliability was an important area for investment, a majority did not express a willingness to pay extra on their bill for an improvement.

- *"Nobody wants to pay more than they have to"* (Dumfries, C1C2, 36-50)
- *"Money-wise I'm willing to keep it as it is"* (Dumfries, C1C2, 36-50)

It was queried what the current level of risk of a power cut was, and how levels of required investment were assessed; both were addressed during the sessions. It was also suggested that even with additional investment it was unlikely the risk of power interruption could be prevented in entirety.

- *"There is no way to guarantee that you're not going to have a power cut though"* (Edinburgh, ABC1, 18-35)

Some suggested that it should not fall to the consumer to pay for this type of investment and should instead be funded by suppliers.

- *"Look at the big six energy providers, they make huge profits annually, why is it the consumer who has to pay through their bill to SPEN to put essential investment in? I would say, if anyone is going to take the hit, it should be those companies that use the service with multi billion pounds in profit every year, they should be investing in their network. It always falls down to the consumer, it's always us"* (Edinburgh, ABC1, 18-35)

Consumer representative stakeholders were also asked if they thought households and electricity bill-payers should increase the amount of money they pay from their bill to further reduce the risk of power cuts. Stakeholders had a mixed view on this; one felt that it was hard to answer that question without knowing what the current need is for this, stating that they would agree with consumers paying more for this if there was a deficit in investment identified.

Two consumer representative stakeholders also commented that they were satisfied with the reliability of the network as it stands and therefore would not want to see an increase in the amount of money billpayers are charged for further investment in this area;

- *"No, I don't think they should pay more because we pay the amount of money we pay now and there's been no power cuts or blackouts"* (Consumer representative stakeholder)
- *"I think that the current level of operation is acceptable"* (Consumer representative stakeholder)

Improving the environment around transmission sites

All respondents in the consumer groups felt that looking after the environment was important and a majority agreed that investing in this area was a good idea.

- *"I think it is important because it discusses the environment and if we don't look after the environment then there won't be one to look after"* (Dumfries, C1C2, 36-50)
- *"Anything improving the environment is good"* (Dunfermline, C2DE, 51+)
- *"I think that if you have space around it then it should be used for nature. Let's embrace it, if this is an ugly thing lets surround it"* (Dunfermline, C2DE, 51+)

There was mixed response as to whether consumers would pay more for this. Although some people said that they would, others wanted to know exactly how this would affect their bill.

- *"I would have to look at how that all affects the overall percentage and looking at the overall costs to where the split is going and if it's fair"* (Dumfries, C1C2, 36-50)

Additionally, some consumers felt strongly that if they were to pay extra on their bill then they would need reassurance that this was not tokenistic and that metrics were in place to measure the impact this work was having, to demonstrably justify additional spend. One respondent suggested that a rise in the population of endangered species would be a reassuring sign that projects focussing on improving the environment around transmission sites were proving successful.

- *"If I was going to be satisfied to pay more so that SPEN could look after the environment around their sites, I want to make sure that it wasn't tokenistic and that they're is actually something measurable that was happening. If you have got two or three beehives, that's great but is it just something for a PR stunt… I would say that if in the wild meadows if there were endangered wild species, especially in the Highlands, if the population is rising in these areas that would make me feel better knowing that these animals aren't dying"* (Edinburgh, ABC1, 18-35)

Overall, consensus was not reached as to whether consumers were willing to pay more on their bill for investment in improving the environment around transmission sites. Some felt that they already paid enough and that this should already be a consideration for SP Transmission within current spend.

- *"I still think we pay enough as it is"* (Edinburgh, ABC1, 18-35)
- *"The impact on the environment should be under consideration anyway"* (Edinburgh, ABC1, 18-35)
- *"SP Transmission and the business is a major factor in climate change so to come back to the consumer and to say we want you to pay a little bit more so that we can put meadows in and*

so on, that should be in your business plan from day one, that should be a cost that you acknowledge that you're going to have to spend and it's not something that you're going to have to come back to the customer five years later and say we want more money" (Edinburgh, ABC1, 18-35)

Most consumer representative stakeholders agreed that improving the environment around transmission sites was important from a sustainability and CSR perspective, and would support positive perception of sites in local communities.

- *"It's almost a bit of corporate social responsibility that they should be using their resources in a way that is sustainable and actually promoting improving those assets whether it be in terms of amenity or it could be productive use. It's certainly better for the community if it's something that's seen as an asset rather than just a block on the landscape"* (Consumer representative stakeholder)

Some consumer representative stakeholders, however, felt that it was a low-priority area compared to others being tested;

- *"I feel it's much less important than other things on the questionnaire and it doesn't really bother me that much"* (Consumer representative stakeholder)
- *"I don't really think that is a key activity for an organisation like SP Energy Networks. Even though I think it's a great thing to do and as a person I'd like to see it done, I just don't think that's something that should be a priority"* (Consumer representative stakeholder)

Overall, consumer representative stakeholders were unsure as to whether bill payers should pay more for this. It was noted by one interviewee that the impact of transmission sites was localised to those living in proximity to them, while another suggested that additional spend on bills for investment in this area be optional for consumers.

- *"I think it is one of these areas that is going to matter mostly to people who live around them as they don't want to live looking onto windfarms, but this won't matter to everyone"* (Consumer representative stakeholder)
- *"If we're talking about increasing the electricity bill in order to do this then I think that's nice to have, but I think it's something that you might have an option on your electricity bill to contribute a certain amount to"* (Consumer representative stakeholder)

Improving the visual impact of existing overhead lines

Consumers had mixed views on whether this was an important area for investment. Some respondents felt that this was a good idea in terms of both the visual impacts and also the potential to improve the environment - this proposal was linked to the previous attribute on improving the environment around transmission sites, due to the nature of the suggested schemes. This appealed to those who were interested in environmental impact, and tree planting was highlighted in particular as a scheme which consumers received positively.

- *"I would welcome that because Scotland is a beautiful country"* (Edinburgh, ABC1, 18-35)
- *"It's a great idea"* (Dunfermline, C2DE, 51+)

However, a proportion of respondents felt that this should not be a priority for your Transmission business as overhead lines are accepted as part of modern landscapes, and that the main focus should be on aspects such as reliability in the first instance.

- *"It's not really necessary"* (Edinburgh, ABC1, 18-35)
- *"They are no good anyway so we just have to put up with them"* (Dunfermline, C2DE, 51+)
- *"We are paying enough for this service that we're getting, and it feels like our money will then be going to plant trees when we haven't got 100% service"* (Edinburgh, ABC1, 18-35)

Conversations naturally moved on to undergrounding of cables; some respondents raised queries about undergrounding at this point or mentioned that they would like to see cabling undergrounded.

- *"I would like to see as much underground stuff as possible so that we keep our natural environment look as it does"* (Edinburgh, ABC1, 18-35)
- *"What is SP Transmission doing about new lines? Are they putting in new transmission lines? Are they going over land or are they going underground?"* (Dunfermline, C2DE, 51+)

A proportion of respondents were willing to pay more on their bill for this, but most were not, as it was not perceived to have the potential for significant impact.

- *"If it's just a visual thing then no"* (Dumfries, C1C2, 36-50)
- *"Planting a few trees around isn't going to do much is it?"* (Dumfries, C1C2, 36-50)

Consumer representative stakeholders similarly had mixed views on this area, with some considering this to be important for investment in instances where this could have a wider economic impact.

- *"I think that's important to do in areas where it is assessed that there is a real opportunity to improve the landscape, I thought the video showed some good examples of how it can make a real difference"* (Consumer representative stakeholder)

Others suggested that this was not essential, and money could be better spent elsewhere.

- *"I think it has gone beyond the point where it would make sense for SP Transmission to invest heavily in changing that look, unless there was a reason for it"* (Consumer representative stakeholder)
- *"For me, it is not as important as things such as securing the reliability because there are things which are essential to people's lives and they need the power on and for industries it is very important. When I did the pre-task and ranked them, I thought about which ones are really essential, of course we don't want things to look bad but there are worse things"* (Consumer representative stakeholder)

It was acknowledged by this audience too that existing overhead lines have become accepted in the landscape, and suggested by one that current plans for investment continue in areas of significance but not be extended beyond these.

- *"I feel that the areas that SP Energy Networks have traditionally done this in, so places where the landscape has been particularly protected or highlighted, I think those are the areas where this should continue to be done. I feel that new lines should go underground wherever possible, but I think that existing lines, rather like wind turbines, have been accepted in the landscape"* (Consumer representative stakeholder)

Consumer poverty was a concern when considering if consumer bills should increase to see greater investment in this area;

- *"I have a problem with that as there are people who are on low incomes and if their bills go up by £10 you are putting more people into poverty. When we are talking about a reliable and safe network then there is more of a justification but when you get to things that aren't a necessity it is different"* (Consumer representative stakeholder)

Putting existing overhead lines underground

There was a mixed response as to whether consumers thought undergrounding was a good idea, as it was acknowledged to improve the landscape, however concerns were raised about the cost of the work early in conversations on this topic.

- *"I think it's important as it looks so much better. There is no comparison"* (Dunfermline, C2DE, 51+)

It was noted in Dumfries that pylons and overhead lines have become part of the scenery and thus the visual impact of the lines was not a concern.

- *"I think we're used to seeing them now, it's like the turbines everyone caused a fuss at the start but they're used to it now. It's the same with the pylons and people moaned then about the visuals. Do you even notice the pylons when you drive past them? I don't. I don't know why we're even investing money in things we've already got"* (Dumfries, C1C2, 36-50)

Others did not see this as a priority for investment if the current infrastructure is functioning adequately. It was suggested that future installations go underground, but that existing overhead lines should be left in place.

- *"I was just thinking that if you are taking something down that already works well, I wouldn't bother until it breaks. It will be materials and everything. Everything that you are having to make, build and construct"* (Dunfermline, C2DE, 51+)
- *"I think in future you put it underground but I don't see the point in changing things that are already working so the infrastructure that's there above ground that's already working, I think you should leave that alone. I think in future if you're building it, then yes, put that underground. There's no point in undoing work to do it again"* (Edinburgh, ABC1, 18-35)
- *"For the existing stuff and it's already in place then let's not dig it up again"* (Dumfries, C1C2, 36-50)

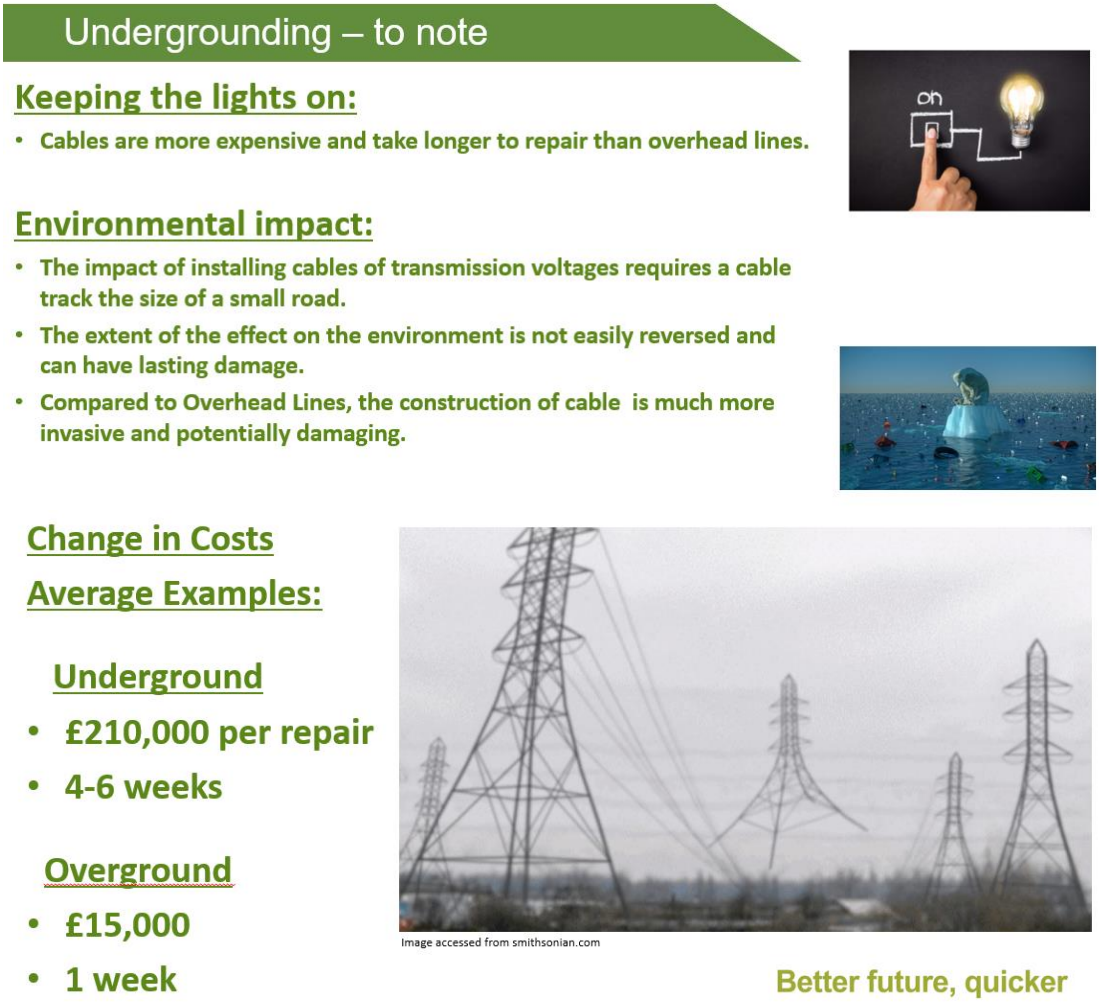
Concerns were raised about the financial and environmental impacts of both installation of the underground cables and any maintenance required later.

- *"If something happens with the wires and it's above ground you can solve it easily but if it's underground then you need to dig it up and surely that's more impact to the environment every time you need to dig it up?"* (Edinburgh, ABC1, 18-35)

It was highlighted that undergrounding could reduce the frequency of power cuts by reducing the impact of the weather, which was considered a notable benefit.

> *"The idea is very good and potentially, they will reduce the power cuts even further?"* (Dumfries, C1C2, 36-50)

Consumers were then played a short video which demonstrated undergrounding in practice and were given additional information around the financial and environmental impacts of undergrounding.



This did change the opinion of some consumers and raised concerns for those who had previously been in favour of undergrounding.

> *"I was more for underground but now I am not"* (Edinburgh, ABC1, 18-35)
>
> *"I thought that undergrounding was quite a good idea but now that everything has been taken into account obviously there's a massive difference in price"* (Dunfermline, C2DE, 51+)

The costs involved were a key concern across all consumer groups, and for consumer representative stakeholders too, both for installation and maintenance, and ultimately the impact that this would have on consumer bills.

- *"In the end it's just going to cost us more money"* (Dunfermline, C2DE, 51+)
- *"That would be very costly"* (Dumfries, C1C2, 36-50)
- *"You are just wasting more money and you are just going to charge us more money. Just leave it as it is"* (Dunfermline, C2DE, 51+)
- *"I don't think that is a valuable use of money really because it's going to cost loads and loads of money to do that and it's going to cost loads and loads of money to maintain them. I don't think it's worthwhile, unless there were some kind of extreme circumstances which meant to needed to be underground"* (Consumer representative stakeholder)

Some consumers were concerned about the environmental impact that this would have, with questions arising about how much damage could be caused if there was a repair needed on an underground cable rather than an overhead line.

- *"Surely that is more impact to the environment every time you need to dig it up?"* (Edinburgh, ABC1, 18-35)
- *"You would need to dig one bit and then go, oh it's not here and then dig another bit and then do the maintenance as well"* (Edinburgh, ABC1, 18-35)

One consumer did feel that this was an important area for investment, due to the visual impact it would have; they thought the disruption was localised enough to a 'corridor' not to be a concern.

- *"You're only going to be taking a strip essentially, it's not like you're destroying the whole ecosystem"* (Dunfermline, C2DE, 51+)

It was queried about the frequency of repairs required to overhead versus underground lines, to support decision making. This was not a query SPEN representatives were able to address on the day;

- *"How often would you expect to find an underground fault as opposed to an overhead fault?"* (Dunfermline, C2DE, 51+)

Linking back to reliability again, one consumer representative stakeholder felt that undergrounding was very important due to the potential increase in network resilience, particularly in areas typically affected during harsh weather conditions, while another queried if undergrounding would reduce energy losses through transmission, which was seen as a benefit.

Reducing the time taken to recover from blackouts

Though some clarification was required for consumers around the difference between distribution level power cuts and blackouts, overall it was agreed that this was an important area for SPEN.

- *"I think energy security whether it be from cyber-attacks or just the weather damage, or whatever else, I think it's really important that we have the energy that we need. It has got to be number one"* (Edinburgh, ABC1, 18-35)
- *"Obviously, they quicker they put it all back on the better. Could you imagine seven days to get the country back, having nothing?"* (Dunfermline, C2DE, 51+)

Many expressed surprise at the current seven-day recovery period and felt that they would not be able to manage without electricity for this amount of time.

- *"I am quite surprised it would take seven days, I thought it would be less time. Although I hadn't heard of the company or knew what they did, I just thought we would have had a better system in place because we have never had this situation, that it would take less than seven days in the worst-case scenario"* (Edinburgh, ABC1, 18-35)
- *"Definitely not. It's quite scary, that's a long time"* (Dunfermline, C2DE, 51+)
- *"Thinking about freezers, you'd lose all your food. It's all going to be destroyed"* (Dunfermline, C2DE, 51+)

Generally, this was considered an important area due to the potential impact blackouts could have on communities, and it was suggested the impact of blackouts could increase further as reliance on electricity continues to grow, for example as EV uptake increases.

- *"It's an investment, it's essential"* (Dumfries, C1C2, 36-50)

Consumers raised concern for public services such as hospitals in the event of a blackout and felt the current seven-day timescale for blackout recovery was too long for these services.

- *"Hospitals, they can't just rely on backup generators forever"* (Dumfries, C1C2, 36-50)
- *"Considering the number of things that rely on electricity, so hospitals and schools, hospitals more importantly, I think seven days are way too long in my opinion"* (Edinburgh, ABC1, 18-35)

Generally, consumers were willing to pay more on their bill for an increase in investment here, though one respondent in Dunfermline suggested a role for government in funding to reduce the recovery time, in light of the impact a blackout would have on public services such as prisons and councils.

A minority of consumers questioned the need for additional investment;

- *"It's hard putting more money to secure it, if it's not already happened surely you're doing an okay job as it is? Why pay more when it's working perfectly fine?"* (Edinburgh, ABC1, 18-35)
- *"You've got to think about. All those years ago we never had anything like that. If folk can live like that then, they can live like that now"* (Dunfermline, C2DE, 51+)

While consumer representative stakeholders agreed that this should be a priority area for SPEN, it was important that those on low incomes be considered when determining the impact on consumer bills.

- *"I think that is a really important area, but I do worry about low income people again, but it does matter to everyone and having a military and the NHS, these things will matter to everyone. I think consumers should pay but I am not sure if it should be passed on in an even way"* (Consumer representative stakeholder)

Supporting local communities

Consumers agreed that it was important for SPEN to play a role in supporting local communities, including educational activities for younger generations.

- *"Yes, especially where we live – the area, it's isolated and a small community. Help with educational activities, parks, stuff for the younger generation, community shops"* (Dumfries, C1C2, 36-50)

Although respondents felt that it was important for SPEN to support local communities, few respondents felt that they would pay more on their bill for this and most felt that SP Transmission should cover the cost of this themselves, for example out of profits. It was suggested by participants in Dunfermline that if SPEN were investing from bill-payers' contribution, any investment should be marked as such - supporting local communities was considered to have reputational benefits for SPEN and the possibility that this would come from bill-payer investment didn't sit well with consumers.

- *"Only if you are funding it, not the consumers. I'm not in agreement with us paying for it. If your shareholders want to take some of the profits and put it towards that then that's fine, but not us"* (Dunfermline, C2DE, 51+)
- *"So, as a consumer, we're paying to promote your services then? I mean we're having to pay to make you look good, using investment from our bills to pay for that?"* (Dunfermline, C2DE, 51+)
- *"I think if you could advertise that it's us as the consumer that's paying and we're all putting that little bit in. I believe in peace and earth and looking after each other, if we could put that little bit extra in then that would be great but let's not advertise that it's you guys doing it, when it's us doing it. The people are supporting you. You know, I think it's important to create awareness for these things because there's things that need to be done that aren't being done"* (Dunfermline, C2DE, 51+)

Support for communities was not considered a core element of SPEN's role;

- *"That should be down to the government to best decide where to spend money in the local community, not a transmission company. It's not fit for purpose really. But, if you want to do it with your profits, then I think it's a great idea"* (Dunfermline, C2DE, 51+)

It was noted by a consumer in Edinburgh that the amount of money available for community projects was low and they'd like to see this increase;

- *"I think the amount of grants that you give are quite low, if you're saying that up to £20,000 maybe that is something that could be upped"* (Edinburgh, ABC1, 18-35)

From a consumer representative stakeholder perspective, support for local communities was seen as something which is part of operating as a responsible business, therefore questioned the validity of asking for additional spend from consumers to fund it.

- *"Supporting local communities should be "business as usual", this supports the communities and helps SP Energy Networks staff. Odd to see it here"* (Consumer representative stakeholder, commenting in online task)
- *"I was surprised to see that on the list because I would have thought that as a large company SP Energy Networks would do it anyway, but it's not their main purpose, their main purpose is networks so I wouldn't expect that to go on the customer bills so that it can go back to a few customers in a particular area"* (Consumer representative stakeholder)
- *"I don't necessarily think the consumer should be funding this initiative, I think SP Energy Networks alone should fund that"* (Consumer representative stakeholder)
- *"I would argue that since some of this is corporate social responsibility it should be from some of the company's own funds because it's just good business and being a good business in the community and not necessarily coming off the bill"* (Consumer representative stakeholder)

A minority of consumer representative stakeholders were willing to see a small increase in consumer bills for an increase in investment of this nature, but again with consideration of those living in vulnerable financial circumstances.

- *"I rated that one highly because I think not everyone will think a utilities company should help but when you look around the world it makes a big different when companies help charities and it is a really positive thing but I don't think everyone should pay for it"* (consumer representative stakeholder)

One suggested that projects in communities should have a focus on electricity, to align to the expertise of the business;

- *"I think it should be more electricity energy focused. I think it's important, particularly in the new energy world, that communities use local energy more so I think funding towards projects around communities making more use of local renewables, that would be a good thing"* (Consumer representative stakeholder)

Investing in innovation projects to create future benefits (including cost reductions) for consumers

A majority of both consumer and consumer representative stakeholders engaged felt that investment in innovation projects was important for SPEN, as it was prudent for technology to progress and align with the changing needs of both the electricity system and wider operating environment.

- *"Innovation's there, you can't just sit still and hope for the best; it's got to go on and on"* (Dunfermline, C2DE, 51+)
- *"If you're not going to go forward and you're going to have the same type of technology then you're going to be stuck because everything else is going to move on and technology is going to get more advanced and the power and the strain on the system is going to get more advanced" (Edinburgh, ABC1, 18-35)*
- *"I think right now, given the rate of change in the energy systems on the whole, that's an important thing to invest in, because the networks must be under huge pressure to get things right and there's a big risk of stranded assets if they don't"* (consumer representative stakeholder)
- *"UK infrastructure is never going to improve unless we do innovate, and without innovation we're going to be stuck in a world where we're causing climate change and we're not moving forward. So, I think innovation is very important to move forwards as a society"* (Consumer representative stakeholder)

Support was also expressed based on the potential for innovation projects to derive benefits for consumers in the long run, for example reducing bills, improving reliability of the network for future generations and supporting the economies in local areas.

- *"It can save us money in the long run as well. The more we put in the more we might be paying less for our electricity in 10-20 years' time"* (Dumfries, C1C2, 36-50)
- *"I would contribute. Because you're making things better, I'd contribute money so you can do it quicker"* (Dunfermline, C2DE, 51+)
- *"I think, going back to money, as the customer this seems better because you're looking at ways of reducing your bill as well which is one of the things that I'm all for"* (Edinburgh, ABC1, 18-35)

Generally, consumers were willing to pay more on their bill for investment in innovation projects.

- *"I'm willing to pay for this"* (Dumfries, C1C2, 36-50)

It was noted that it was important for projects to have appropriate focus; it was suggested that government could play a role in this and in funding for innovation projects, particularly in light of their carbon reduction targets and the pressure this adds for network operators.

- *"I think there needs to be some government involvement as well, they are the ones setting these challenging targets to be carbon neutral by whenever and I think the government needs to effectively be involved in the discussions to make sure that the innovation is going to be for everyone's benefit"* (Dumfries, C1C2, 36-50)
- *"Innovations are great, more businesses need to use them, but they have to be directed to the right place and be pitched for the long term"* (Dunfermline, C2DE, 51+)

On balance, a majority of consumer representative stakeholders were willing to see an increase in bills to support investment in innovation, as it was important to seek advancements and had potential to bring future benefits for consumers such as cost decreases in the longer term.

- *"I would expect that to come from the consumer, absolutely"* (Consumer representative stakeholder)
- *"If it makes the overall customer experience better then yes, and arguably successful decarbonisation is one of those things"* (Consumer representative stakeholder)

Again, there was a need highlighted to establish 'fairness' of distribution of any bill increases, in the context of social challenges;

- *"Yes, because this might bring down the cost for all consumers including the ones on low income, with them being the most important group. I think consumers should [pay more on their bills] but not all consumers"* (Consumer representative stakeholder)
- *"I would tie that to the decarbonisation agenda and it's not just about reducing costs, it's about reducing costs in that context of a decarbonised network; how are we going to do that most effectively and how are we going to make it a good transition? So, it's who are we reducing the costs for, it's making it fair across the board and that's why the way we pay for things now with a surcharge on bills is regressive, it's not fair for those who are more vulnerable"* (Consumer representative stakeholder)

Investing in electric vehicle (EV) charging infrastructure

Overall, respondents felt that this was important, as they acknowledged it to be the direction of travel. For consumers, this was considered a futureproofing measure, while consumer representative stakeholders were more likely to see an urgent need for investment now.

- *"I think it's an important part of future proofing the network, this is what all governments are effectively pushing us towards, and the reality is we are going to be forced to go there or we will get penalised if we don't"* (Dumfries, C1C2, 36-50)
- *"There's more and more folk going for electric vehicles"* (Dunfermline, C2DE, 51+)
- *"That should be a big priority and those points about the options of wait and see versus get ready, I say absolutely get ready - we know that there's going to be an increase in demand, that's government policy*" (Consumer representative stakeholder)
- *"I think that's hugely important… I think it's ridiculous that in the twenty first century, we're all driving around in diesel vehicles. I think that's mental. I think we'll get to a point in the future where we'll look back and go, 'I can't believe we used to drive around in diesel vehicles'"* (Consumer representative stakeholder)

There were mixed responses amongst the consumers engaged as to whether SP Transmission should invest ahead of demand or wait. In Dunfermline and Dumfries, the majority felt that investment should take place ahead of demand.

- *"It's best to invest sooner rather than later, because there will come a point when there's too many people wanting to use one or two charging points and that'll put car sales through the window because people if they know that in their area there's only two charging points then they'll be put off buying an electric car"* (Dunfermline, C2DE, 51+)

Concerns were expressed amongst both audiences that the lack of EV charging was already impacting consumer decision making;

- *"It's stopping people from buying electric cars because the charging points are so far apart"* (Edinburgh, ABC1, 18-35)
- *"Waiting [to invest] has been a big problem so far with EVs, that's making people delay on getting their EVs as they don't trust that there are enough charging points"* (Consumer representative stakeholder)

However more than half of respondents in Edinburgh felt that it would be more appropriate to hold off until the demand was certain. Concern was noted that technology may move on in the time before EVs become commonplace, which could result in even further investment being needed at a later stage.

> *"I think it's good to invest in it but I think it's about supply and demand because you could invest all this money installing charging points and then by the time the projected time comes for electric cars to be more dominant than petrol and diesel then the technology could have changed and they might have to look at re-installing new systems, which then takes more time and money as well"* (Edinburgh, ABC1, 18-35)

For some consumers, this was similar to investment in innovation. The investment was perceived to have potential to improve the network more widely than just EV charging provision.

> *"It would have a much wider benefit, even if electric vehicles don't take off it will enhance the network and benefit the end consumer as a whole"* (Dumfries, C1C2, 36-50)

Though there was consensus amongst consumer representative stakeholders that investment in EV charging infrastructure was important, views were mixed as to whether consumers should pay more on their bill to fund this – this was typically due to the social context of EV uptake, as the benefits of investment in EV charging infrastructure will not extend to those who cannot afford to buy an EV.

Investing in infrastructure to connect renewable generation

Most respondents felt that this was an important area for investment, for the environment and provision for future generations.

The majority (including all attendees in Edinburgh) felt that it was important to invest ahead of demand, in order to prevent roadblocks to projects which align with national priorities; it was noted that the targets set by government removes uncertainty that renewable generation will gain pace.

- *"You're getting pushed that way anyway, so this isn't something that might not happen, it's going to happen"* (Edinburgh, ABC1, 18-35)
- *"That's where it's ending up, the way things are going, with renewable. I know they're going with it even in the Scottish Parliament. They're talking about banning fossil fuel all together"* (Dunfermline, C2DE, 51+)

The majority were willing to see an increase in their bill for investment in infrastructure of this nature; this was reflected in the indicative willingness to pay exercises (results can be found later in this report).

Queries were raised in Dunfermline about the impact of renewable generation on the network, as they were of the perception that renewable energy sources take pressure off the network, and around why additional investment is needed if generators are also required to pay a connection fee.; both queries were clarified by the SPEN representative present.

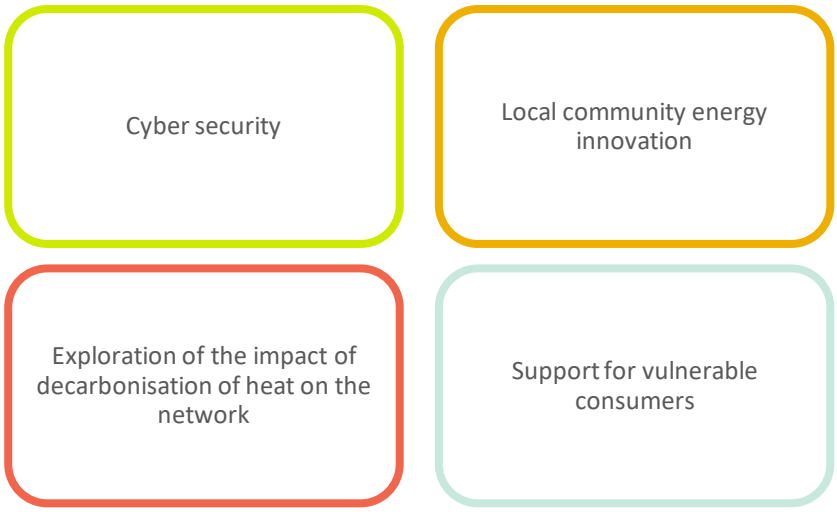
Overall, consumer representative stakeholders saw investment in infrastructure for connection of renewable generation to be important. It was considered by one to be a current blockage in rural areas, and this respondent wanted to see more use of local energy.

One felt strongly that though renewable generation was important given climate challenges and government agenda, the spend should not come at additional cost to consumers, in light of current social challenges. This was supported by another respondent who noted a preference for a central government increase in funding to the networks.

- *"I'm not being blinkered and I'm not being ignorant. I realise these things are here and they should be utilised and there's a focus for it all, climate change, carbon emissions, carbon reduction, I get all of that. I just think that in the current scheme of things with the ongoing austerity, universal credit, fuel poverty, self-disconnection, I think that's one of the lesser things SP Energy Networks should be concerning themselves with… I don't think this is something that the consumer should have to pay for"* (Consumer representative stakeholder)

Any other suggestions / anything missing?

Other suggestions made by consumer representative stakeholders of areas to be explored investment included;



Cyber security was an area raised by two stakeholders as an area they'd like to see specific investment plans for.

> *"I think that for me it's very much in the area of cyber security and network operation. We're making the best use we can of the assets we've got by managing them better, whether that's physically or electronically, but also being aware that some of the biggest risks given the level of digital control we have over these things now, or software control we have over these things now is cyber security's mission"* (Consumer representative stakeholder)

Support for vulnerable consumers was also identified as missing by one stakeholder.

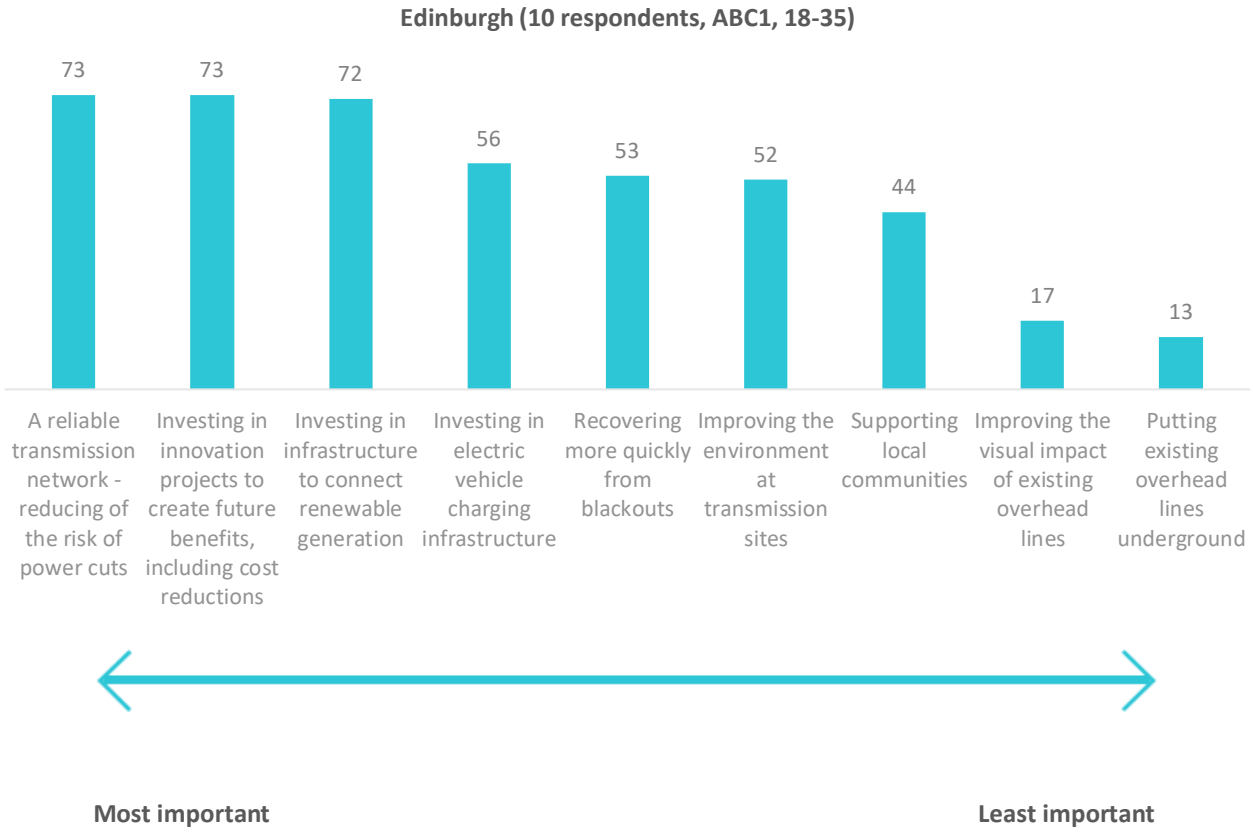
> *"I do not note any reference to "priority" assistance to households who have supply critical equipment within their home (home dialysis etc). What support is being provided on a face to face, one to one basis?"* (Consumer representative stakeholder, commenting in online task)

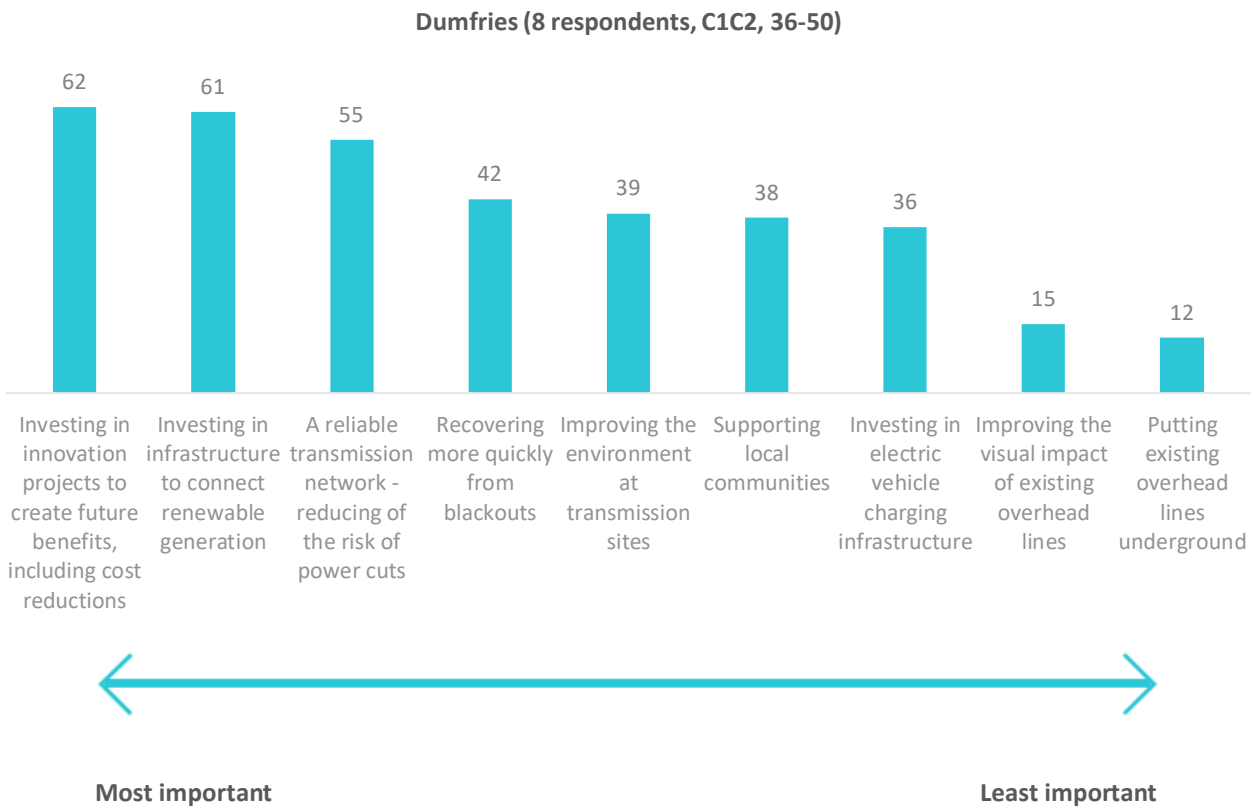
Views on priorities – ranking

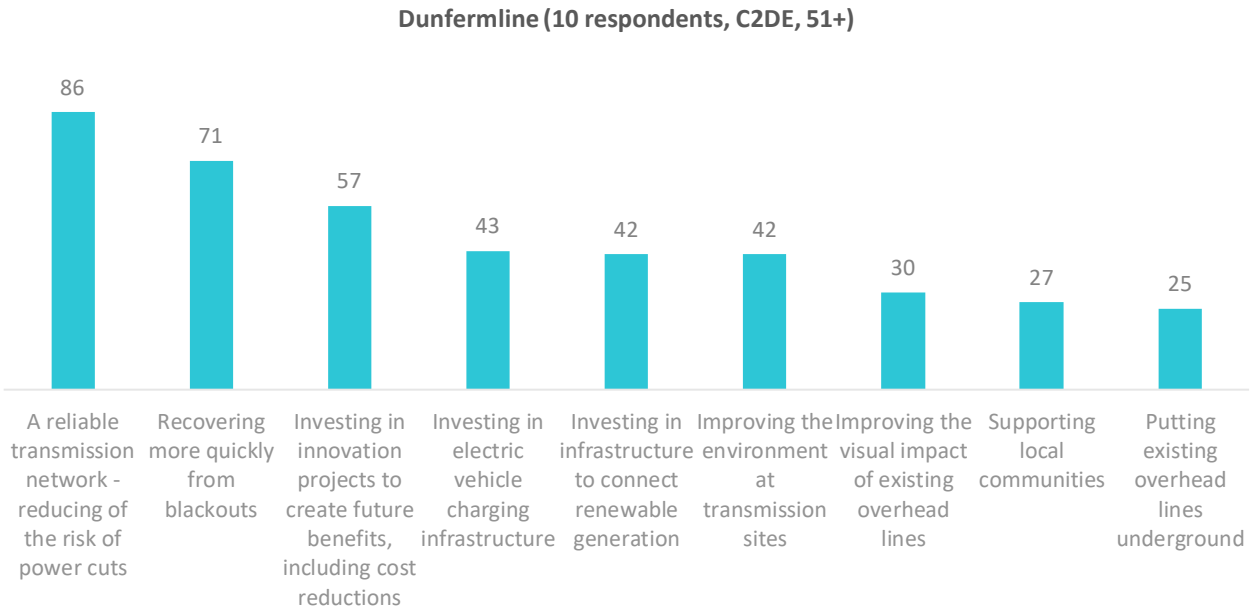
Both consumers and consumer representative stakeholders were asked to complete a ranking exercise, to understand how they valued the attributes explored.

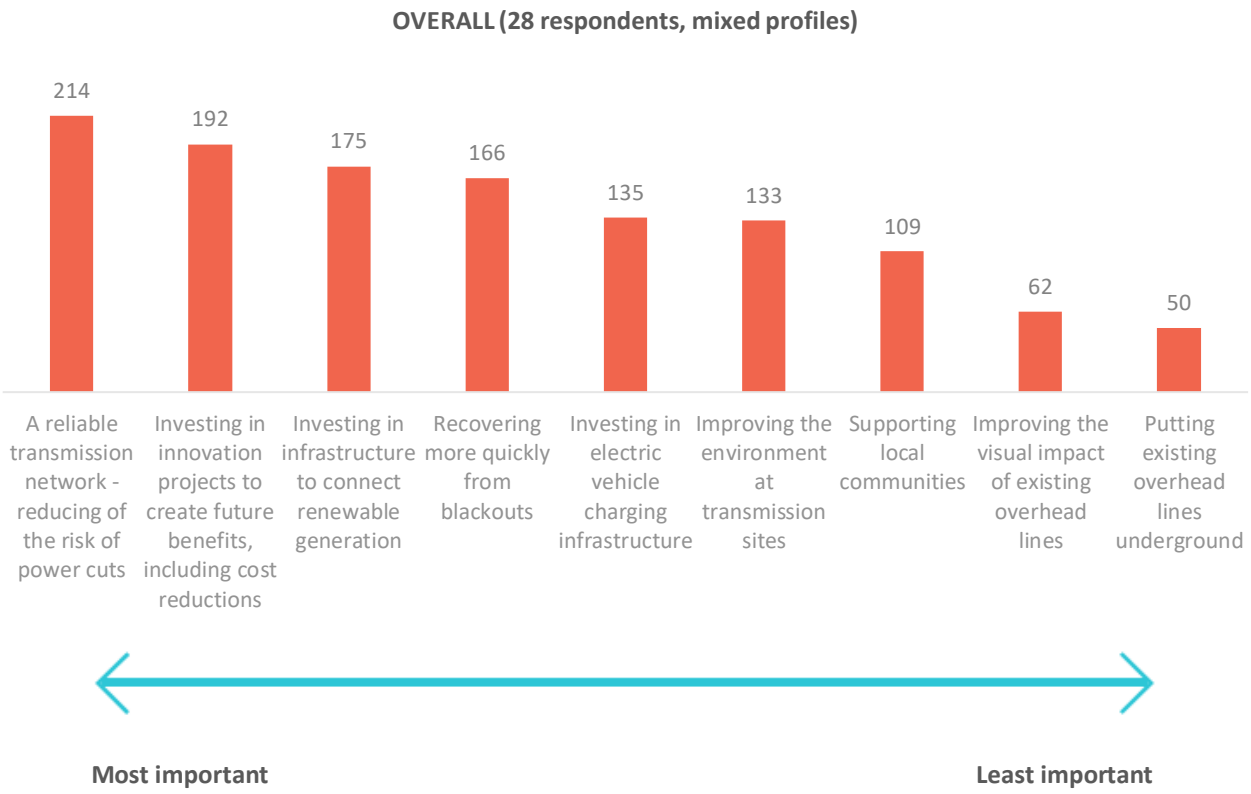
In the consumer groups, all respondents were given a ranking scale and a set of stickers featuring each of the nine attributes. They were asked to use the stickers provided to rank these areas in order, from those they thought should be lowest priority for SP Transmission at the bottom (least important), to those they thought should be highest priority at the top (most important).

Rankings per consumer group came out as follows. Please note, the values denote relative importance; the higher the value shown, the more important the attribute as ranked by respondents.




Dumfries (8 respondents, C1C2, 36-50)
62
61
55
42
39
38
36
15
12
Investing in innovation projects to create future benefits, including cost reductions
Investing in infrastructure to connect renewable generation
A reliable transmission network - reducing of the risk of power cuts
Recovering more quickly from blackouts
Improving the environment at transmission sites
Supporting local communities
Investing in electric vehicle charging infrastructure
Improving the visual impact of existing overhead lines
Putting existing overhead lines underground
Most important
Least important


Dunfermline (10 respondents, C2DE, 51+)
86
71
57
43
42
42
30
27
25
A reliable transmission network - reducing of the risk of power cuts
Recovering more quickly from blackouts
Investing in innovation projects to create future benefits, including cost reductions
Investing in electric vehicle charging infrastructure
Investing in infrastructure to connect renewable generation
Improving the environment at transmission sites
Improving the visual impact of existing overhead lines
Supporting local communities
Putting existing overhead lines underground



Consumers' approaches to the exercise varied – some focused on the elements which would have the greatest impact for consumers, while others considered what they believed to be the key elements of SPEN's role. Considering the results from all three consumer groups combined, a reliable transmission network was ranked highest by consumers, while improving the visual impact of existing overhead lines, undergrounding and supporting local communities were ranked towards the 'least important' end of the scale.

A reliable transmission network was seen as an important foundation to SPEN's service;

- *"I put that as the top one, it's all about investing in the network, it has to be reliable"* (Dumfries, C1C2, 36-50)
- *"Reducing the risk of power cuts is super important I think because if affects everything overall, so I think that's super important"* (Dunfermline, C2DE, 51+)

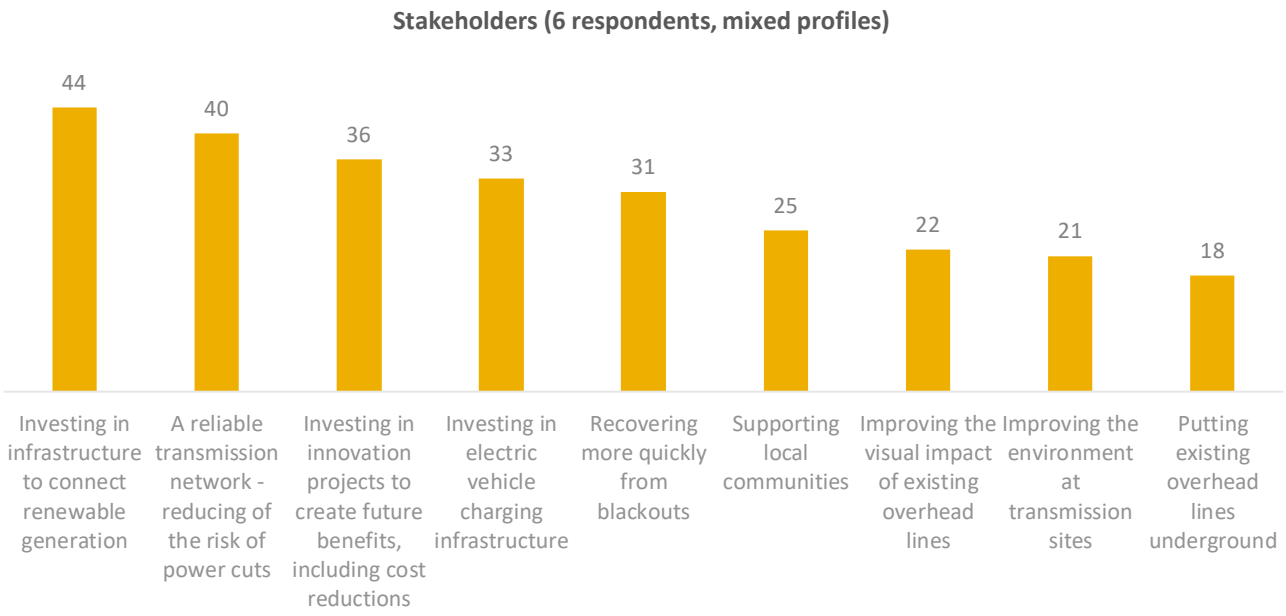
Investing in innovation was ranked highly across all three groups;

- *"Innovation covers so many other aspects, so the environment, you're reducing costs and reducing blackouts"* (Dumfries, C1C2, 36-50)

- *"For me I put investing in innovation projects [as most important] because of the potential for something to pop out of the woodwork that wasn't discovered before suddenly changing everything. To me I think it's only going to be a certain amount of time before it happens again. The earlier we get it, the more benefits we reap from that"* (Edinburgh, ABC1, 18-35)

Putting existing lines underground was considered the least important of the nine attributes by respondents across all three consumer groups;

- *"It just seems like a lot of effort in terms of money and time to go over all the existing infrastructure, changing it and it might even have a worse impact. Do you want to look better or do you want to be functional? I just think it's low on my priorities"* (Edinburgh, ABC1, 18-35)
- *"My least is putting existing overhead lines underground, because obviously it's important but everything else comes first. I think it's all important, so I haven't missed any out, but for me personally, all the others are necessary. We need it to keep our world, well the UK surviving. We've got good overhead lines as well"* (Dunfermline, C2DE, 51+)



For consumer representative consumer representative stakeholders, investing in infrastructure to connect renewable generation was highest priority (ranked top by four of the six engaged), followed by the reliability of the transmission network. As seen across all three consumer groups, undergrounding of existing overhead lines was considered lowest priority.

Comparison of priorities

The following table brings the overall ranking of the attributes from each audience engaged in this research together for comparison;

Qualitative review of WtP (Explain)		
Ranking	**Consumers (28)**	**Consumer representative stakeholders (6)**
1	A reliable transmission network - reducing of the risk of power cuts	Investing in infrastructure to connect renewable generation
2	Investing in innovation projects to create future benefits, including cost reductions	A reliable transmission network - reducing of the risk of power cuts
3	Investing in infrastructure to connect renewable generation	Investing in innovation projects to create future benefits, including cost reductions
4	Recovering more quickly from blackouts	Investing in electric vehicle charging infrastructure
5	Investing in electric vehicle charging infrastructure	Recovering more quickly from blackouts
6	Improving the environment at transmission sites	Supporting local communities
7	Supporting local communities	Improving the visual impact of existing overhead lines
8	Improving the visual impact of existing overhead lines	Improving the environment at transmission sites
9	Putting existing overhead lines underground	Putting existing overhead lines underground

Based on the results from the joint TO WtP research (GB-wide), NERA calculated the average ranking of priority areas amongst domestic electricity consumers as follows;

Joint TO WtP (NERA)	
Ranking	**Domestic electricity consumers**
1	Supporting local communities
2	Minimising electricity bills
3	Protecting the local environment
4	Supporting innovation
5	Minimising disruption to electricity supply
6	Fighting climate change

Please note, the topic areas were grouped differently in NERA's analysis, therefore direct comparisons of attribute rankings from 1 to 9 can't be drawn here.

Indicative Willingness to Pay (WtP)

In order to understand how much the audiences engaged valued each of the nine attributes, we asked both to complete two indicative 'willingness to pay' exercises – one unconstrained, i.e. they could allocate as much as they wanted, the second constrained, i.e. they had a maximum budget to spend.

UNCONSTRAINED

In the consumer groups, respondents were given a pile of coins of all denominations and an individual sheet detailing the nine attributes. For consumer representative stakeholders, the exercise was completed online.

The following instructions and considerations were shared prior to task completion;

In the centre of the table there's a selection of coins of different values. Please allocate as many coins as you'd like out amongst the priority areas on your sheet, based on how much you would be willing to pay for each to increase investment or reduce risk.

Remember – every penny you add will be added to your annual bill.

Every penny can roughly be thought of as £440,000 worth of investment – i.e. when multiplied by the average bill of 44 million domestic electricity customers in Britain.

However – every penny you add does not mean that you are adding a penny to everyone's bill. As transmission costs are a percentage of the total bill. Therefore – while you may want to be mindful of the wider societal issues – for example, fuel poverty or poverty in general, we are really after an understanding of your personal willingness to pay in this exercise and how much you as an individual value these areas of investment.

Consumers

The average additional spend per attribute, overall and by research location, can be found in the table below, in order from highest to lowest.

Attribute	Edinburgh (10)	Dumfries (8)	Dunfermline (10)	Overall (28)
A reliable transmission network - reducing of the risk of power cuts	£1.44	£1.65	£2.14	**£1.75**
Investing in infrastructure to connect renewable generation	£1.59	£2.58	£0.89	**£1.62**
Investing in innovation projects to create future benefits, including cost reductions	£0.99	£2.83	£0.73	**£1.42**
Recovering more quickly from blackouts	£0.43	£0.96	£1.97	**£1.13**
Investing in electric vehicle charging infrastructure	£1.03	£0.57	£1.08	**£0.91**
Improving the environment at transmission sites	£0.41	£1.47	£0.89	**£0.88**
Supporting local communities	£0.77	£0.87	£0.28	**£0.62**
Putting existing overhead lines underground	£0.01	£0.01	£0.72	**£0.26**
Improving the visual impact of existing overhead lines	£0.06	£0.13	£0.38	**£0.19**

Overall combined average spend: £8.80

The results from this exercise demonstrated parallels with the earlier discussions and broadly aligned to the results from the ranking exercise. It's interesting to note that although a majority of respondents did not express willingness to see an increase in their bill for a reliable transmission network when initially discussing it, spend (though very small in some cases) was allocated by all respondents, with the exception of two in Edinburgh. It was the attribute allocated the highest value of spend, overall and amongst respondents in Dunfermline, and was the second highest spend amongst Edinburgh attendees.

When considering respondents' thought process for completion of the exercise, some noted they determined a proportion they were willing to increase their bill and allocated this value out aligned to their priorities but also considering the relative cost of each attribute;

- *"I just wanted to up by 5%, the average bill a year"* (Dumfries, C1C2, 36-50)
- *"I based it on £50 a year, so let's add £50 to the bill which is approximately 10%, of my bill anyway. So, 10% isn't a huge amount that you would miss over a year. But if we all did that there would be so much money in the pot for making changes"* (Dunfermline, C2DE, 51+)

On average, those in the younger age group allocated greater spend to futureproofing investment including infrastructure to connect renewable generation and electric vehicle charging. However, the importance of these attributes was not overlooked by those in the older groups engaged.

- *"I put £2.50 on investing in infrastructure to connect renewable generation because I feel like that's already a thing. We already need that now so why wait?"* (Edinburgh, ABC1, 18-35)
- *"I put investment in the electric vehicles because I think if we want to get further forward with the renewable energy and helping the environment, it's important to invest in things like that"* (Dunfermline, C2DE, 51+)

Investment in innovation projects was also in the top three for spend allocation, and was the highest average value amongst respondents in Dumfries (£2.83).

- *"I've allocated the most to innovation because going forward, in my eyes, this will reduce prices. So it's the best value add and it responds mostly neatly to the environmental challenges. I think generally it's the heart of it"* (Edinburgh, ABC1, 18-35)

One consumer in Edinburgh allocated £0.00 to each attribute and felt strongly that consumers should not see an increase in bills to support investment by SPEN. They shared the following comment in explanation;

- *"I would not be willing to pay anything more in order to facilitate SPEN investing in what should be already factored into their business plan. I do not believe it is fair to lump the consumer with even higher bills in order to secure the type of investment that should be made by SPEN as a matter of course. The UK has some of the highest energy prices anywhere in Europe, which is ludicrous considering that Scotland has so much renewable potential. The network should be re-nationalised. There is no wider public benefit to this essential national infrastructure being in the hands of multinational conglomerates in the private sector. I suggest that the investment needed comes from the big six energy providers who have an effective monopoly on every provision and make multi billion pounds of annual profits while people are being forced into*

> *fuel poverty. Investment should come from shareholders, reduction in dividends and from company profits"* (Edinburgh, ABC1, 18-35)

One further respondent in Edinburgh suggested that central government should support additional spend with funding.

Consumer representative stakeholders

The average additional spend per attribute, as allocated by the six consumer representative stakeholders interviewed, can be found in the table below, in order from highest to lowest.

Attribute	Overall (6)
Investing in infrastructure to connect renewable generation	£5.00
Investing in EV charging infrastructure	£3.67
A reliable transmission network - reducing the risk of power cuts	£3.00
Improving the environment around transmission sites	£1.75
Investing in innovation projects to create future benefits (including cost reductions) for consumers	£1.42
Reducing the time taken to recover from blackouts	£1.33
Improving the visual impact of existing overhead lines	£0.83
Putting existing overhead lines underground	£0.67
Supporting local communities	£0.67

'Investing in infrastructure to connect renewable generation' demonstrated the highest willingness to pay amongst this small group of consumer representative stakeholders, while undergrounding and 'supporting local communities' saw the lowest.

Please note, one stakeholder did not allocate spend to any of the nine attributes in this exercise, on the basis that they disagreed with the principle of asking willingness to pay without providing a value – they would have rather preferred to see a value provided and acceptability of the figure explored instead.

CONSTRAINED

All respondents were then asked to complete the same process, but this time constrained to £5.00 maximum total spend, and with the assumption that spend will not be added to annual bills.

Respondents had the same materials to work with, and were given the following instructions;

Again, please allocate these out amongst the areas, based on how much you would be willing to pay for each service improvement.

As before, every penny can roughly be thought of as £440,000 worth of investment – i.e. when multiplied by the average bill of 44 million domestic electricity customers in Britain.

And again, every penny you add does not mean that you are adding a penny to everyone's bill, as transmission costs are a percentage of the total bill.

This time however, you have £5.00 to allocate across the nine attributes. This £5.00 will not be an addition to your annual bill, but will help SP Energy Networks get an idea of how you would like them to divide the 8% of the average electricity bill that all domestic customers across Britain contribute towards transmission costs.

Consumers

Overall, consumer priorities remained fairly consistent when faced with the constrained budget – a reliable transmission network was allocated the highest spend by two out of the three groups, with the exception of the younger age group in Edinburgh who, on average, allocated the highest spend to investment in infrastructure to connect renewable generation.

> *"I had the reliable transmission network, that was the most… I think we've got to deal with what we've got first. We've got to make it reliable before we invest for the future, it's got to be dependable now. It's all very well looking to the future, but if this is falling to bits, what's happening now"* (Dunfermline, C2DE, 51+)

Attribute	Edinburgh (10)	Dumfries (8)	Dunfermline (10)	Overall (28)
A reliable transmission network - reducing of the risk of power cuts	£0.79	£1.19	£1.30	**£1.08**
Investing in innovation projects to create future benefits, including cost reductions	£1.07	£1.13	£0.44	**£0.86**
Investing in infrastructure to connect renewable generation	£1.33	£0.59	£0.51	**£0.82**
Recovering more quickly from blackouts	£0.43	£0.59	£1.10	**£0.71**
Investing in electric vehicle charging infrastructure	£0.73	£0.39	£0.46	**£0.53**
Improving the environment at transmission sites	£0.28	£0.49	£0.59	**£0.45**
Supporting local communities	£0.26	£0.53	£0.07	**£0.27**
Improving the visual impact of existing overhead lines	£0.08	£0.01	£0.27	**£0.13**
Putting existing overhead lines underground	£0.03	£0.01	£0.29	**£0.12**

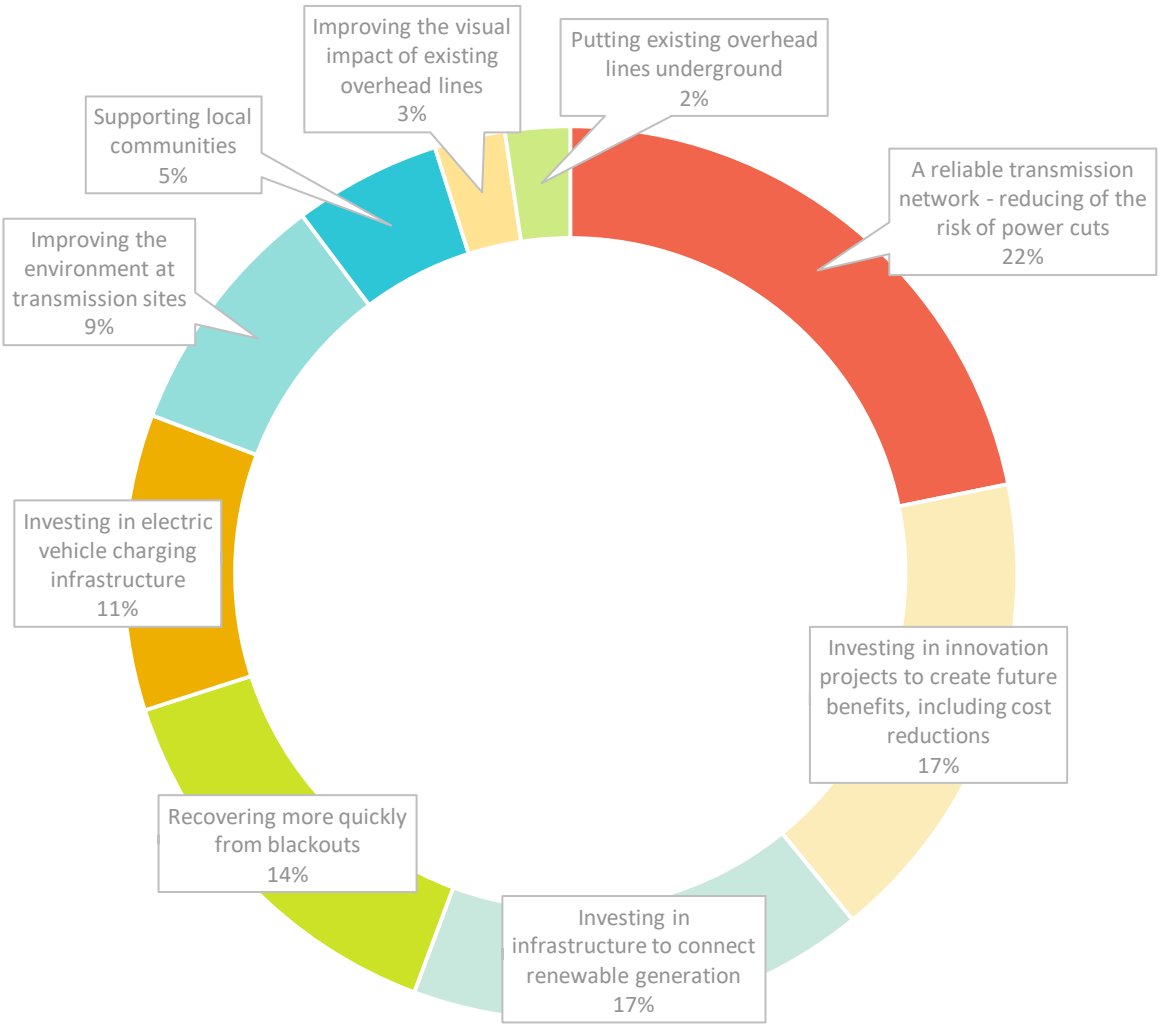
One respondent in Edinburgh suggested additional investment in employment of apprentices.

Supporting local communities was amongst the lowest levels of value attributed;

> *"The lowest would be supporting the local communities. I think that should come from other sources or from profits. I don't think we should have to pay that. We pay for a service and its up to us what we give to local communities and charities and what not. I don't think it's for a power company to tell us where our money should go"* (Dunfermline, C2DE, 51+)

Overall, all nine attributes were allocated financial values; from these results and discussion outcomes it can be understood that consumers felt all nine attributes worthy of at least a small amount of investment.

The key aim of this exercise was to understand how consumers felt the 8% of the average electricity bill that all domestic consumers across Britain contribute towards transmission costs should be divided, and based on overall averages, consumers allocated spend in the following proportions:



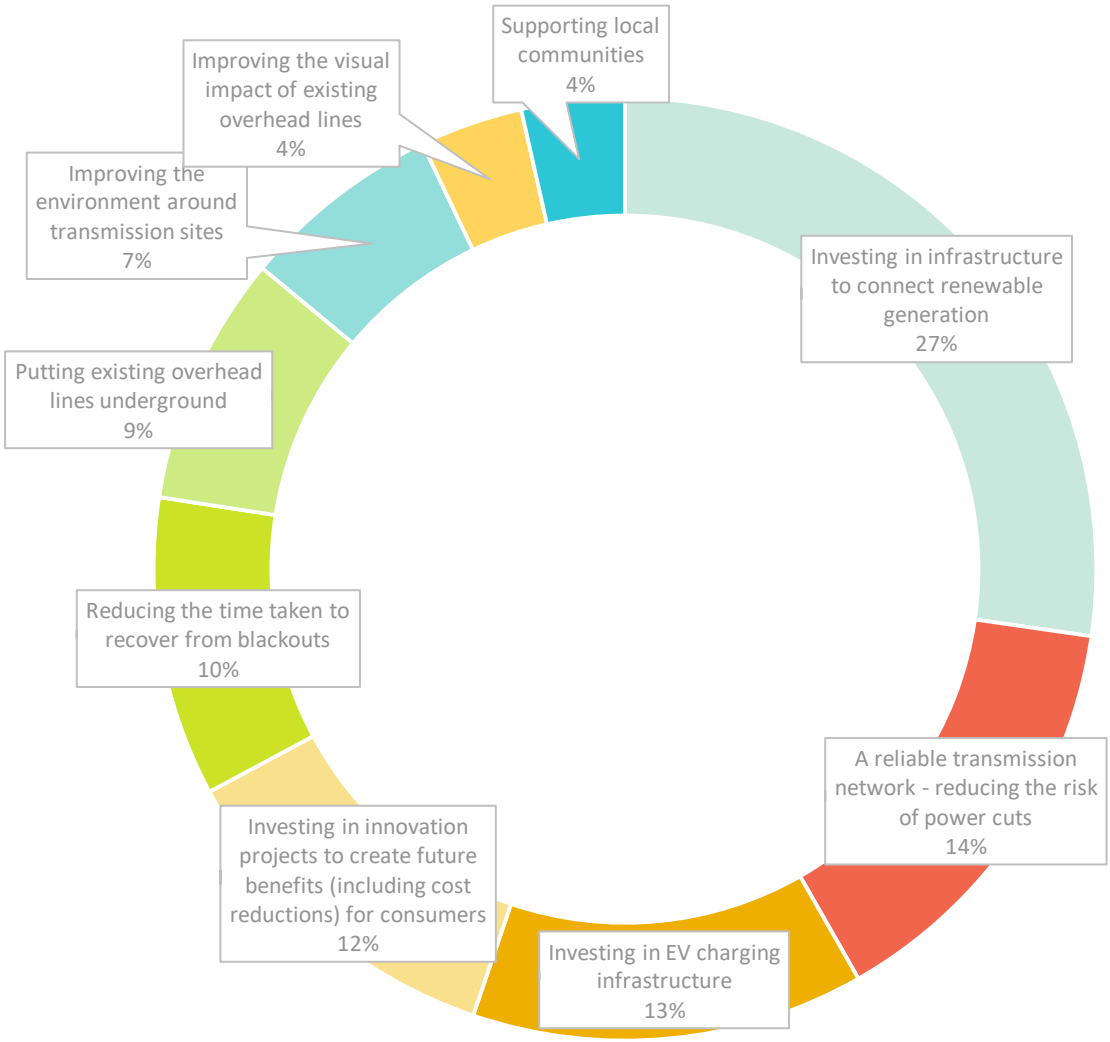
Consumer representative stakeholders

The average spend per attribute, as allocated by the six consumer representative stakeholders interviewed from their £5.00 maximum spend, can be found in the table below. Overall spend was lower when constrained.

Attribute	Overall (6)
Investing in infrastructure to connect renewable generation	£1.35
A reliable transmission network - reducing the risk of power cuts	£0.72
Investing in EV charging infrastructure	£0.67
Investing in innovation projects to create future benefits (including cost reductions) for consumers	£0.59
Reducing the time taken to recover from blackouts	£0.51
Putting existing overhead lines underground	£0.43
Improving the environment around transmission sites	£0.34
Improving the visual impact of existing overhead lines	£0.18
Supporting local communities	£0.18

When constrained, 'investing in infrastructure to connect renewable generation' again demonstrated the highest average willingness to pay (£1.35), versus 'improving the visual impact of existing overhead lines' and 'supporting local communities' which were both allocated the lowest proportion of additional spend.

Looking at how consumer representative stakeholders felt the 8% of the average electricity bill contributed towards transmission costs should be divided, based on overall averages the stakeholders engaged allocated spend in the following proportions;



Comparison of consumer and consumer representative stakeholder results

Though base sizes were small for both audiences engaged and differed between the two, therefore we are cautious in comparison of quantitative results, it can be helpful to roughly compare the findings from each audience. The results captured suggest that when uninformed consumers and informed consumer representative stakeholders are provided the same information around the nine attributes, the ranking and indicative WtP results are fairly consistent. A reliable transmission network was a slightly higher priority amongst consumers, while investment in infrastructure to connect renewable generation was higher on the agenda for spend amongst stakeholders. Improving the visual impact of existing overhead lines was a low priority amongst both audiences.

Comparison to joint TO WtP results

The results obtained here cannot be directly compared to the results of the full stated preference WtP study conducted jointly for the three TOs, due to differences in the research approach including methodology and sample sizes, however it can be helpful to understand if the findings from the two pieces of research broadly align. The average unconstrained WtP values gathered from consumers in this research were lower across all attributes, and the relative prioritisation also demonstrated differences. To highlight a few of these;

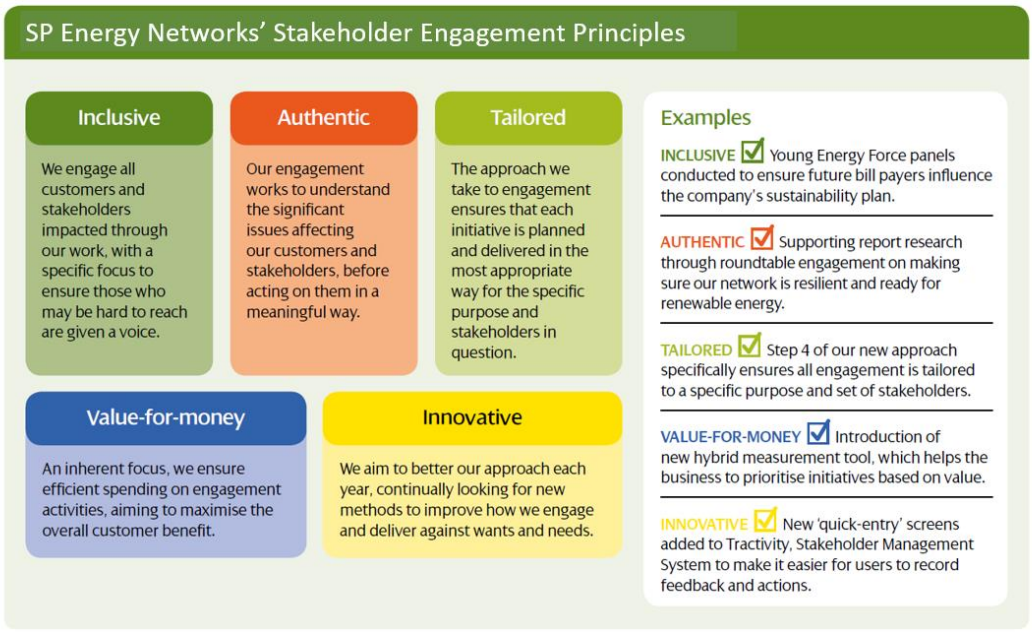
- Supporting local communities was a higher priority for spend amongst joint TO WtP respondents.
- Undergrounding of existing overhead lines was a notably higher priority for spend amongst respondents to the joint TO piece. Views may have been impacted by the balance of information shared around this attribute in terms of costs and wider environmental impacts.
- Investing in innovation projects was a higher priority for SPEN respondents during the consumer groups.
- Respondents to the full stated preference WtP appeared to place greater emphasis on investment for future network development rather than current reliability - reliability of the network and recovery time from blackouts were both amongst the lowest values in the joint WtP exercise, versus appearing amongst the highest in the findings of this research.
- Investing in infrastructure to connect renewable generation was a high priority for consumers in both the joint and SPEN exercises.

Differences in audience and methodology have likely played a role in these differences – for example, TO respondents were engaged across GB and on an individual basis, whereas SPEN respondents were engaged in the Central belt of Scotland only and also had opportunity to reflect on their responses with support from others and SPEN representatives in the room.

Consumer value proposition

**Please note this section was only covered by respondents in Edinburgh.*

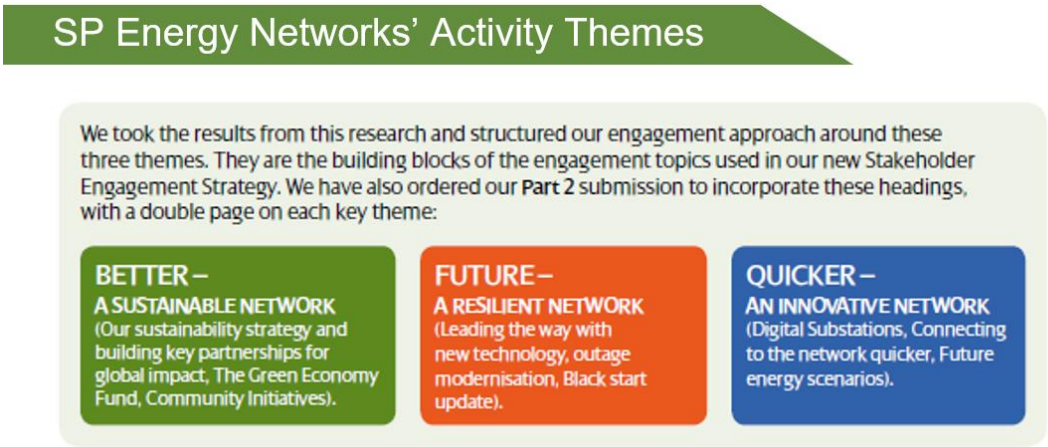
To close the Edinburgh session, SPEN shared your Stakeholder Engagement Principles, to understand consumer opinion on company focus and strategies, to see if these aligned with their expectations or personal views on what the organisation should be doing.



Most of those present did not have any suggestions of changes to these principles. One respondent reported that they would have preferred the term "honest" to "authentic", to counteract public perception of dishonesty within the energy industry;

> *"I think there's a feeling amongst consumers that a lot of the actions of energy providers and various different subsidiaries that are involved in that is quite a dishonest industry, they make massive profits at people's expense, more and more people are forced into fuel poverty. For anyone who have had to challenge a bill or anything like that, it's quite a traumatic experience. I have just had that myself for the café I run, I have had to let staff go because of the pricing of energy. We assume that someone is going to be authentic, what else are you going to be? Honest would be a more human way to engage with people"* (Edinburgh, ABC1, 18-35)

Your activity themes were also shared, and respondents were asked if they felt they captured their expectations around the areas SPEN should be thinking about.



The group liked the activity themes and felt that they were straight to the point and aligned with the information they had heard during the session.

- *"I think it's pretty spot on, from what was basically said"* (Edinburgh, ABC1, 18-35)

Other suggestions were explored briefly, and these included: safety of the network, and leveraging the position of the company to put pressure on other organisations in relation to those issues considered important for the future.

From the discussions, it was noted that for future engagement around these themes, it will be important to clearly communicate the aspects of these activities as they relate to any materials being used.

Football analogy

**Please note this section was only covered by respondents in Edinburgh.*

The feedback from consumers who attended the 'Understanding SPT' workshop in January 2019 suggested that analogies would be a helpful way to support understanding of your role amongst those with low levels of knowledge of the industry. Therefore, an analogy relating to the football industry was developed, and before using this more widely there was a desire to test it with end-users.

The board	**The manager**	**The players**	**The spectators**
For a football team, the board might mean investing in new players, building a bigger stadium to generate more revenue and coming top of the league table to keep their supporters happy. --- Ofgem does not own our company but as the regulator for gas and electricity in Great Britain they set our responsibilities and the money we can earn for delivering these. For Transmission Owners, Ofgem expects us to keep the lights on, keep people safe around our equipment, and connect more environmentally friendly sources of electricity generation, such as wind farms, on to our network.	The Manager is in day-to-day charge of the team. They are accountable to the Board and maintain a close working relationship with them through regular meetings and reports. --- SPT is the Manager of the high voltage transmission network in central, southern Scotland, covering areas such as Edinburgh, Glasgow and the Scottish borders. Every five years the Manager goes to the Board (Ofgem) and gives them a plan for the future. This plan includes what they hope to achieve and the money they need to invest to realise their vision. The Board (Ofgem) then decides to accept that plan or change the proposals.	In order for a team to succeed, it needs to have a team of players (i.e. network assets) that work together. In some instances, this may involve keeping existing players that are performing well, replacing injured players or signing new players to increase the size of their squad. --- For SPT, that means spending money to maintain the assets we already have (substations, overhead lines , underground cables and electricity towers), replacing old assets with newer equipment, or buying new equipment to grow the size of the network to allow for more electricity to be produced. 	Spectators (customers) pay for a ticket to go and watch their team. --- In the energy industry, domestic customers make a monthly or annual payment to their electricity supplier who then buys the electricity they need from a generator / power station. After the electricity is produced, it is transported along a network of high and low voltage cables and wires to their home. The company that generates the electricity and the high and low voltage network companies pass on their charges to the supplier, who in turns bills the customer. Only around 8% of an annual bill goes towards electricity transmission costs.

One respondent liked the analogy, as they found the language more relatable. Though this respondent was a self-reported football fan, the group noted that this did not dictate their response to the example analogy.

- *"If I am being honest, it's an unpopular opinion but I really like this, I don't know if it's because I am a football fan but I think it's quite relatable. It's like a person has written it, rather than someone who is high up the chain"* (Edinburgh, ABC1, 18-35)

The consensus amongst the group was that they did not feel this particular analogy supported their understanding of your industry, and they preferred the facts and figures around the company as provided in the opening presentations.

- *"I think if you just explained it like the way you just did there, that was really clear"* (Edinburgh, ABC1, 18-35)
- *"I like football but I prefer to see how the diagram and sections are set out"* (Edinburgh, ABC1, 18-35)

4.0 Summary of findings

Based on the findings, conclusions are outlined in this section.

Summary of findings

As we typically find in research for SPEN, awareness of SPEN, your Transmission business, and your role in the electricity system was low amongst consumers, with supplier confusion evident initially. However, the information shared with domestic respondents during the research was received well, in that it supported understanding of your operating environment including wider considerations such as regulation and political pressures. The presence of a SPEN representative at each session worked well for clarification of the majority of queries on the spot to help prevent confusion in responses.

When considering areas of priority for SPEN's Transmission business unprompted, a wide range of suggestions were made, from fundamental aspects of service provision such as safety and reliability of the network, to wider operating considerations such as Brexit and futureproofing the network with investment in new technology. Several respondent suggestions were reflected in the nine attributes chosen to explore in more depth.

When asked how they would value each of the nine attributes, consumer representative stakeholder views were strongly influenced by their personal role in the energy industry and their areas of interest, which is reflected in greater allocation of resources to future-proofing measures, such as investment in infrastructure for connection of renewable generation and EV charging.

So too, consumers looked to the future, with investment in innovation high on their agenda - though a reliable transmission network with lower risk of power cuts was of greatest importance for them now. Reliability of the network was considered by both consumers and consumer representative stakeholders to be core to your role and this attribute therefore sat highly on both priority lists.

All respondents engaged approached the nine attributes with prioritisation of functional investment, with consideration of those which were 'essential' (which included reliability of the network and quicker recovery from blackouts) versus 'nice to have' (which included improving the visual impact of existing overhead lines). There was concern for consumer bills and an awareness that any increases should be considered in the context of rising fuel poverty.

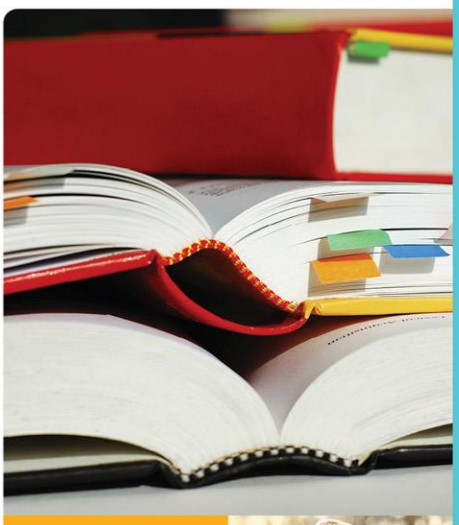
When provided with the balanced context and in the face of financial and environmental concerns, undergrounding was not considered a priority for investment amongst either consumers or consumer representative stakeholders. However, it was acknowledged that there are benefits to be gained from it, particularly in areas where the landscape is recognised as outstanding.

It was widely agreed that supporting local communities was important as part of operating in a responsible manner, and should certainly be part of your operating plans, however this investment spend should not come from the pockets of consumers in the form of bill increases.

The results obtained here cannot be directly compared to the results of the full stated preference WtP study conducted jointly for the three TOs, due to differences in the research approach, however average unconstrained WtP values gathered from consumers in this research were lower across all attributes, and the relative prioritisation of the nine areas also demonstrated notable differences. To highlight a handful; there was greater willingness to pay for supporting local communities and undergrounding of existing overhead lines amongst domestic respondents to the joint TO research compared to this exercise, while investment in innovation projects was a higher priority for consumers during this research. Investing in infrastructure to connect renewable generation was a high priority for consumers in both the joint TO and SPEN exercises.

5.0 Appendices

Supporting documents including all research tools can be found here.



Appendix one – consumer group discussion guide

SP Transmission
Activity 2 – Qualitative review of Willingness to Pay
Focus group discussion guide

Opening (5 minutes)

Explain moderator:

- Hello, and welcome to today's research group. My name is X from Explain. Thank you very much for coming.
- I'm here today to carry out research on behalf of SP Energy Networks.
- We have invited you along because we want to understand the views of members of the public about SP Energy Networks and some key business decisions they are currently making for the future, that will be important for all of our lives across Britain.
- Because of this, SP Energy Networks have asked us to conduct this research on their behalf so that it is carried out independently of their business, so anything you say to us can be fed back to the company as honestly as possible.
- My company, Explain, works to the Market Research Society Code of Conduct. This means that everything you say today will be completely anonymous - we're only interested in what is said, and not who said it.
- You also don't have to answer any questions you don't want to and are free to leave at any point if you wish.
- We are joined by a few members of staff from SP Energy Networks [*Introduce SP Energy Networks representative(s)*].
- X, X and X are here to give some more general information on certain areas as well as listen to your views, so that they can understand them firsthand and make sure they are taken back into the business and influence their decision making and strategies.
- Please be assured that there are no right or wrong answers. We want to hear what you really think, so please feel free to give your honest views. Everyone's views are important so please all get involved.
- Before we move on to the session itself, I need to go through some housekeeping information with you:
    - Fire exits and alarms
    - Toilets

    - Refreshments
    - Mobile phones (silent and please do not use to look anything up – it is your views we want)
- We will also be audio recording the discussions today. This allows us to listen back and transcribe them for analysis. Can I check that everyone is happy for me to record the discussion today?

The plan for the session is that we would like to show you a number of short videos – each relating to different parts of SP Energy Networks' business. At the end of each of these videos we will pause for a short discussion, to answer any questions you may have, and to capture your feedback before moving on to the next video. We'll end with a few short exercises, individually and as a group.

Awareness (5 minutes)

Before we start.... We would like to know how much you currently know – if anything - about 'SP Energy Networks'.

So a nice and easy question to begin with:

- Had you heard of SP Energy Networks before you were invited to attend today's group?
    - And had you heard of SP Transmission?
- If yes, how had you heard of them? (Probe for channels, e.g. news, word of mouth)
- What do you think SP Energy Networks might do?
    - What do you think SP Transmission might do? (Probe for role and responsibilities)
    - Do you have any idea of the types of activities or services they might provide as a business?

And now, to clarify on some of the input and thoughts we have discussed about who SP Energy Networks are and to give you a little more background information on what we are going to talk about today....

Who are SP Energy Networks / Transmission and what do they do? (5 minutes)

Moderator and SPEN to provide an overview of SP Energy Networks / Transmission role and briefly touch on regulatory environment, to include;

- We would like to give you a bit of information to clarify who SP Energy Networks are by asking X from SP Energy Networks to take you through a few slides.

SLIDES on SP Group and how SPT fits in to this (presented by SPEN)

- So, in summary, SP Transmission plc is SP Energy Networks' transmission business.
  - SP Transmission is responsible for the transmission of electricity in central and southern Scotland.
- Was that all clear?
- Does anyone have any questions on anything we've heard so far?
  (*Moderator to clarify any questions with support from SPEN representative, to ensure understanding of SP Energy Networks*)

How are SP Energy Networks / Transmission funded? (5 minutes)

- In this next section we are going to explain how SP Energy Networks and their Transmission Company are funded.

We will start again by asking X from SP Energy Networks to talk you through a few more slides to explain this.

SLIDES on how SPEN is funded (presented by SPEN)

- So, in summary, SP Energy Networks make their money in two main ways:
  - Through charging generators and suppliers to use their networks to transfer electricity, a cost that all Transmission operators need to charge network users across the whole of the UK.
  - Through debt (loans) and equity (shareholder) funding.

- Is that all clear?
- What are your thoughts on the proportion of your bill which goes to transmission costs (the part of the bill we are focusing on today)?
- Does anyone have any questions on anything we've heard so far?
  (*Moderator to clarify any questions with support from SPEN representative, to ensure understanding of role*)

How are SP Energy Networks / Transmission regulated? (5 minutes)

- In this next section we are going to explain how SP Energy Networks and their Transmission Company are regulated.

We are going to ask X from SP Energy Networks to talk you through a few more slides to explain this.

SLIDES on how SPEN/ network operators are regulated (presented by SPEN)

- So, in summary, SP Energy Networks operate in a regulated environment because there are only three transmission operators in Britain.
- Having numerous operators would create more market competition but it would be impractical for a number of reasons. For example - multiple wires and pylons running the length of Britain would be more costly to the end-consumer as well as looking rather unsightly and having a bigger environmental impact.
- Rather than relying on market competition to keep prices low, SP Energy Networks and the other Transmission operators have their costs monitored and approved by the industry regulator, Ofgem (Office of Gas & Electricity Markets) just as other similar se gas, water, telecoms and rail industries do.
- Householders don't pay their bills directly to the transmission operators, but roughly £39 per year or 10p per day of the average household electricity bill goes towards covering the costs required to own, operate and invest in Britain's Transmission networks.
- We are here today to help SP Energy Networks understand your priorities so they can be sure to align their part of that £39 – around £5 per year– with the things that matter most to you.

- Is that all clear?
- Does anyone have any questions on anything we've heard so far?
  (*Moderator to clarify any questions with support from SPEN representative, to ensure understanding of regulation*)

Unprompted views on priorities (5 minutes)

- Following on from what you have just heard about SP Energy Networks and their role as a transmission network operator, what types of activities or services do you think would be most important for them and their business?
  (Unprompted, but keep on track for transmission)
  - In the same way, what do you think they would need to plan for or include in their business plans?

Moderator to write ideas on post-it notes

  - Why do you think these should be the most important priorities for SP Energy Networks?
  - Do you think they will be spending money on X-type of thing already? Why?
    - Do you think they will be spending money on X-type of activity on an ongoing basis or at particular points in time? *(Probe for thoughts on frequency / milestones)*

If not mentioned by respondents, probe with:

- What about in relation to their relationship with the communities in Central and Southern Scotland?
- How about how the company might work with the other two transmission companies to 'keep the lights on' for homes and business across Britain?
- Or what about things SP Energy Networks might need to do ready their network to help tackle climate change or help the UK and Scottish Government meet their carbon reduction targets?

Exploration of attributes (60 minutes)

As we just heard in the previous slides, as part of the way SP Energy Networks are regulated, they need to submit their business investment plans (which outlines how much money they need to spend to own/operate and future-proof their networks) for the period 2021 to 2026 to the network regulator, Ofgem. They are currently drafting this transmission plan right now, ready to submit it on 1st December

this year. This is why we are here today - to seek your views around the decisions SP Energy Networks needs to make about maintaining their networks for the next 5 years.

We want to understand how you would prioritise the investments SP Energy Networks need to make to plan for the future. Although, as we've heard, you don't pay a bill to the Transmission Companies and aren't their direct customer, you are a consumer of the electricity they transmit so it is important that your views are taken into account.

But before we start, X from SP Energy Networks is going to very briefly take you through a few more slides to give you a bit more context on the national, UK-level and international points the company has to keep in mind when allocating their spending in the most cost-effective way possible for the 2021 to 2026 business plan.

SLIDES on 'Important Considerations for our Transmission Business Plan' (presented by SPEN)

We are now going to take you through a number of short videos to give you an overview of the range of options SP Transmission have to consider in their draft business plan.

1. A RELIABLE TRANSMISSION NETWORK – REDUCING THE RISK OF POWER CUTS

***Moderator to play video to explain what this is about**

- Is that all clear?
- Does anyone have any questions?

Moderator to clarify any questions with support from SPEN representative, to ensure understanding

- What are your initial thoughts on this topic?
- Do you think this is an important area for SP Transmission? Why / why not?
- Would you be willing to pay more on your bill to reduce the risk of power cuts by ensuring a more reliable network?
    - Why / why not?
    - IF YES, would you be willing to pay more for a greater reduction in likelihood of cuts?

2. IMPROVING THE ENVIRONMENT AROUND TRANSMISSION SITES

***Moderator to play video to explain what this is about**

- Is that all clear?
- Does anyone have any questions on this topic?

Moderator to clarify any questions with support from SPEN representative, to ensure understanding

- What are your initial thoughts on this?
- Do you think this is an important area for SP Transmission? Why / why not?
    - Are there any suggested initiatives you particularly like?
        - Which ones? Why do these stand out?
- Would you be willing to pay more on your bill to invest in improving the environment around transmission sites?
    - Why / why not?

3. IMPROVING THE VISUAL IMPACT OF EXISTING OVERHEAD LINES

***Moderator to play video to explain what this is about**

- Is that all clear?
- Does anyone have any questions?

Moderator to clarify any questions with support from SPEN representative, to ensure understanding

- What are your initial thoughts on this?
- Do you think this is an important area for SP Transmission? Why / why not?

- Are there any suggested changes you particularly like?
  - Which ones? Why do these stand out?

– Would you be willing to pay more on your bill to invest in improving the visual impact of existing overhead lines?
  - Why / why not?

4. PUTTING EXISTING OVERHEAD LINES UNDERGROUND

***Moderator to play video to explain what this is about**

– Is that all clear?
– Does anyone have any questions?

Moderator to clarify any questions with support from SPEN representative, to ensure understanding

– What are your initial thoughts on this?
– Do you think this is an important area for SP Transmission? Why / why not?
– Would you be willing to pay more on your bill to increase the amount of overhead lines that are undergrounded?
  - Why / why not?

– We are aware that the before and after images of overhead cables are rather simplistic, we would now like to show you a quick video of the undergrounding process and provide you with a bit of information regarding the initial and ongoing costs of undergrounding vs overhead wires.

Drone footage (1.5mins) and SLIDES from SPT showing extent of trenching corridor required for undergrounding and additional costs/repair times for consumer

– Does this information change your opinion on undergrounding or if certain areas should be prioritised?
– Would you still willing to pay more on your bill for an improvement in this area?
  - Why / why not?

Just as a reminder, you will be paying for undergrounding in areas covered by the other TO operators too and, if you wanted undergrounding in your areas, these costs would be socialised across all British bill payers.

5. REDUCING THE TIME TAKEN TO RECOVER FROM BLACKOUTS

***Moderator to play video to explain what this is about**

- Is that all clear?
- Does everyone understand the difference between a Transmission black out and a local power cut?
- Does anyone have any questions?

Moderator to clarify any questions with support from SPEN representative, to ensure understanding

- What are your initial thoughts on this subject?
- Do you think this is an important area for SP Transmission?
    - Why / why not?
- Would you be willing to pay more on your bill for an improvement to service in this area?
    - Why / why not?
    - IF YES, would you be willing to pay more to reduce the risk of black outs and for quicker restoration of power after this type of event?

6. SUPPORTING LOCAL COMMUNITIES

***Moderator to play video to explain what this is about**

- Is that all clear?
- Does anyone have any questions?

Moderator to clarify any questions with support from SPEN representative, to ensure understanding

- What are your initial thoughts on this?
- Do you think this is an important area for SP Transmission? Why / why not?

- Are there any suggested activities you particularly like?
  - Which ones? Why do these stand out?
- Would you be willing to pay more on your bill to spend on this type of activity?
  - Why / why not?

7. INVESTING IN INNOVATION PROJECTS TO CREATE FUTURE BENEFITS (INCLUDING COST REDUCTIONS) FOR CONSUMERS

***Moderator to play video to explain what this is about**

- Is that all clear?
- Does anyone have any questions?

Moderator to clarify any questions with support from SPEN representative, to ensure understanding

- What are your initial thoughts on this?
- Do you think innovation is important for SP Transmission? Why / why not?
- Would you be willing to pay more on your bill for investment in innovation?
  - Why / why not?

8. INVESTING IN EV CHARGING INFRASTRUCTURE

***Moderator to play video to explain what this is about**

- Is that all clear?
- Does anyone have any questions?

Moderator to clarify any questions with support from SPEN representative, to ensure understanding

- What are your initial thoughts on this?
- Do you think this is an important area for SP Transmission? Why / why not?
- Would you be willing to pay more on your bill for investment of this nature?
    - Why / why not?
    - IF YES, would you be willing to pay more for greater investment?

9. INVESTING IN INFRASTRUCTURE TO CONNECT RENEWABLE GENERATION

***Moderator to play video to explain what this is about**

- Is that all clear?
- Does anyone have any questions?

Moderator to clarify any questions with support from SPEN representative, to ensure understanding

- What are your initial thoughts on this?
- Do you think this is an important area for SP Transmission? Why / why not?
- Would you be willing to pay more on your bill to investment in infrastructure that will allow more renewable generation to be connected?
    - Why / why not?
    - IF YES, would you be willing to pay more for greater investment?

We're now going to take a short comfort break. Please help yourself to further refreshments then make your way back to your seats ready for the next section of the discussion.

BREAK – 10 minutes

Views on priorities – ranking exercise (10 minutes)

We'd like to understand a little more from you how you value each of the areas we have taken you through.

***Moderators to distribute priority ranking materials (labels and A3 ranking sheet).**

Please use the stickers provided to rank these areas in order, from those you think should be lowest priority for SP Transmission at the bottom (least important), to those you think should be highest priority at the top (most important). Please complete the task individually. If there are any areas you don't think should be included as you don't think they are important, please stick these on the back of your sheet. If there are any areas you don't understand or you're not sure what they refer to, please mark these with a question mark. If there are any you can't choose between, please let us know.

Respondents to complete ranking exercise individually.

- Which do you consider most important?
  - Why?
- Which do you consider least important?
  - Why?

- Are there any you think don't need to be included?
  - Which? Why?
- Any which you don't understand?

- Overall, do you feel that this list captures your expectations of the areas SP Transmission should be thinking about? Thinking back to our earlier discussion…. *(refer to post-its)*

- Is there anything missing from the list which you think SP Transmission should have a focus on?
  - What is missing? *Please write this on a blank sticker and add to your scale*
  - Where have you ranked this?
  - Why is this important?

Indicative willingness to pay - UNCONSTRAINED (15 mins)

As we've mentioned, a portion of the bill you pay to your supplier goes to SP Energy Networks' transmission function. Now that we know more about the areas SP Transmission could include in their plan, we'd like to understand how you value each of these areas as electricity consumers.

***Moderators to distribute sheets to all respondents and share total pile of coins. [TOTAL VALUE TBC]**

In the center of the table there's a selection of coins of different values. Please allocate as many coins as you'd like out amongst the priority areas on your sheet, based on how much you would be willing to pay for each to increase investment or reduce risk.

Remember – every penny you add will be added to your Annual bill.

Every penny can roughly be thought of as £440,000 worth of investment – i.e. when multiplied by the average bill of 44 million domestic electricity customers in Britain.

However – every penny you add does not mean that you are adding a penny to everyone's bill. As transmission costs are a percentage of the total bill. Therefore – while you may want to be mindful of the wider societal issues – for example, fuel poverty or poverty in general, we are really after an understanding of your personal willingness to pay in this exercise and how much you as an individual value these areas of investment.

- *For each area*: How much have you allocated? Please note in each box on your sheet the value of your coins per area.
    - Why?
- Which have you allocated most? Why?
- Which have you allocated least? Why?
- Any areas you've not allocated any coins? Which ones? Why?
- What was your thought process in the allocation of your coins?
    - What were your priorities?
- What was your thought process in the total amount of your coins?

Indicative willingness to pay - CONSTRAINED (10mins)

Now I'd like to repeat the exercise but this time each of you will have £5.00 to spend across the same areas.

***Moderators to allocate piles of coins to the value of £5.00.**

Again, please allocate these out amongst the areas, based on how much you would be willing to pay for each service improvement.

As before: Every penny can roughly be thought of as £440,000 worth of investment – i.e. when multiplied by the average bill of 44 million domestic electricity customers in Britain.

And again, every penny you add does not mean that you are adding a penny to everyone's bill. As transmission costs are a percentage of the total bill.

This time however, you have £5 to allocate across the 9 attributes. This £5 will not be an addition to your annual bill, but will help SP Energy Networks get an idea of how you would like them to divide the 8% of the average electricity bill that all domestic customers across Britain contribute towards transmission costs.

For each area: How many coins have you allocated? Please note in each box on your sheet the value of your coins per area.

  - Why?
- Which have you allocated most? Why?
- Which have you allocated least? Why?
- Any areas you've not allocated any? Why?

- Have your allocations changed this time?
  - If so, how and why?
- Overall have you spent more or less than in the previous exercise? Why?
- Overall have you spent more or less than the amount of coins you've got? Why?

Consumer value proposition (10mins)

Finally, SP Energy Networks would like to ask your opinion on their overall company focus and strategies to see if these align with your expectations or personal views on what the Company should be doing.

We would like to ask X from SP Energy Networks to run you through some final slides.

SLIDES on Iberdrola and SP Energy Networks value proposition (presented by SPEN)

- Overall, do you feel that this aims/guiding principles/mission statements capture your expectations of the areas SP Transmission should be thinking about? Thinking back to our earlier discussion…. *(refer to post-its)*

- **If time**: Do you feel the football analogy aids your understanding of the industry SPEN operates in?

Moderator note: Please ask all respondents to write their name and table number on their materials, for analysis purposes, before collecting in.

Further comments (if time)

- Does anyone have any further thoughts or comments to make about anything we have talked about this evening?

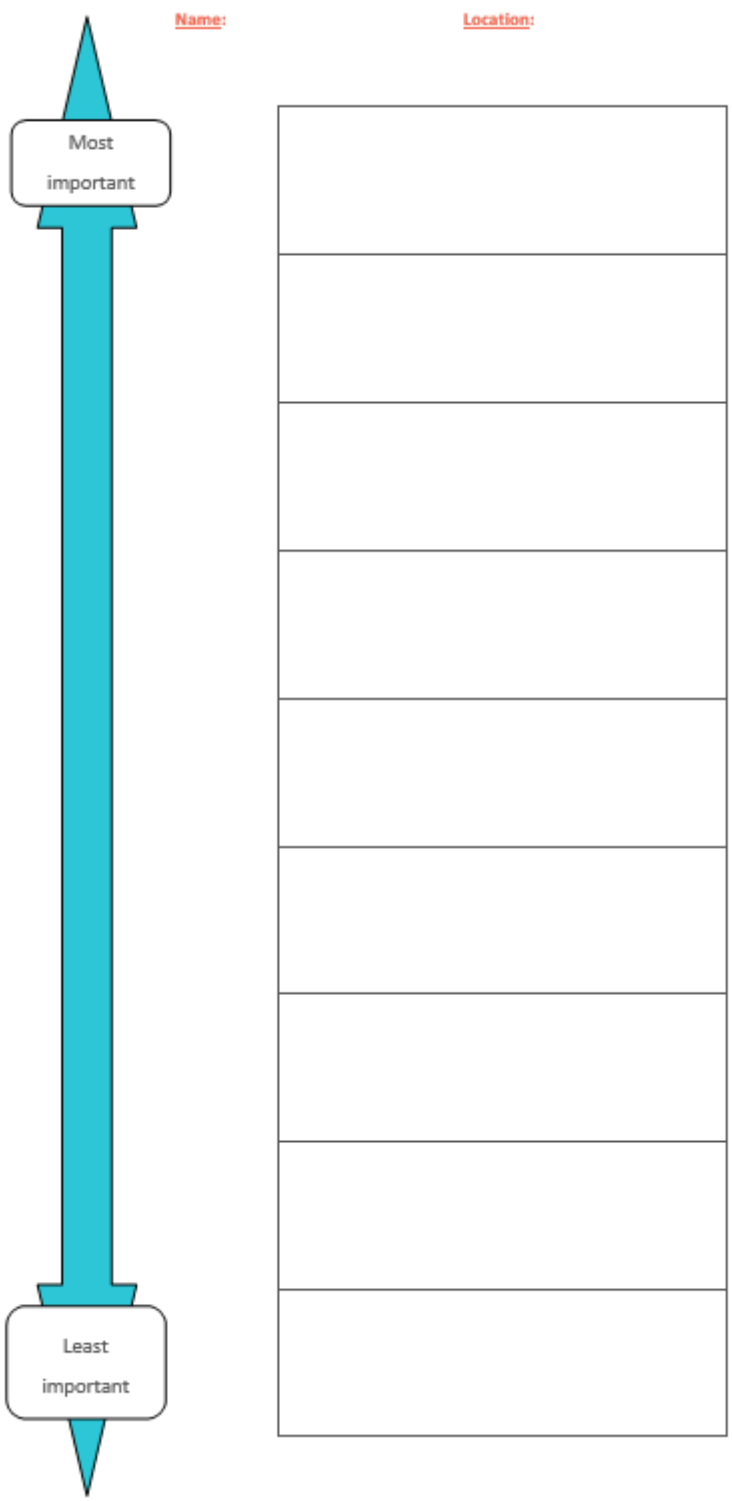
Session close

That's all the questions we have for you today, thank you for taking the time to join us to help us in our research.

We hope you've enjoyed sharing your views and ideas this evening. If you would like to take part in ongoing research through the SP Energy Networks online community, which is a private online space where we run discussions, we will circulate a form. Please provide your email address so that we can send you an invitation to join. Your details will not be shared with anyone else.

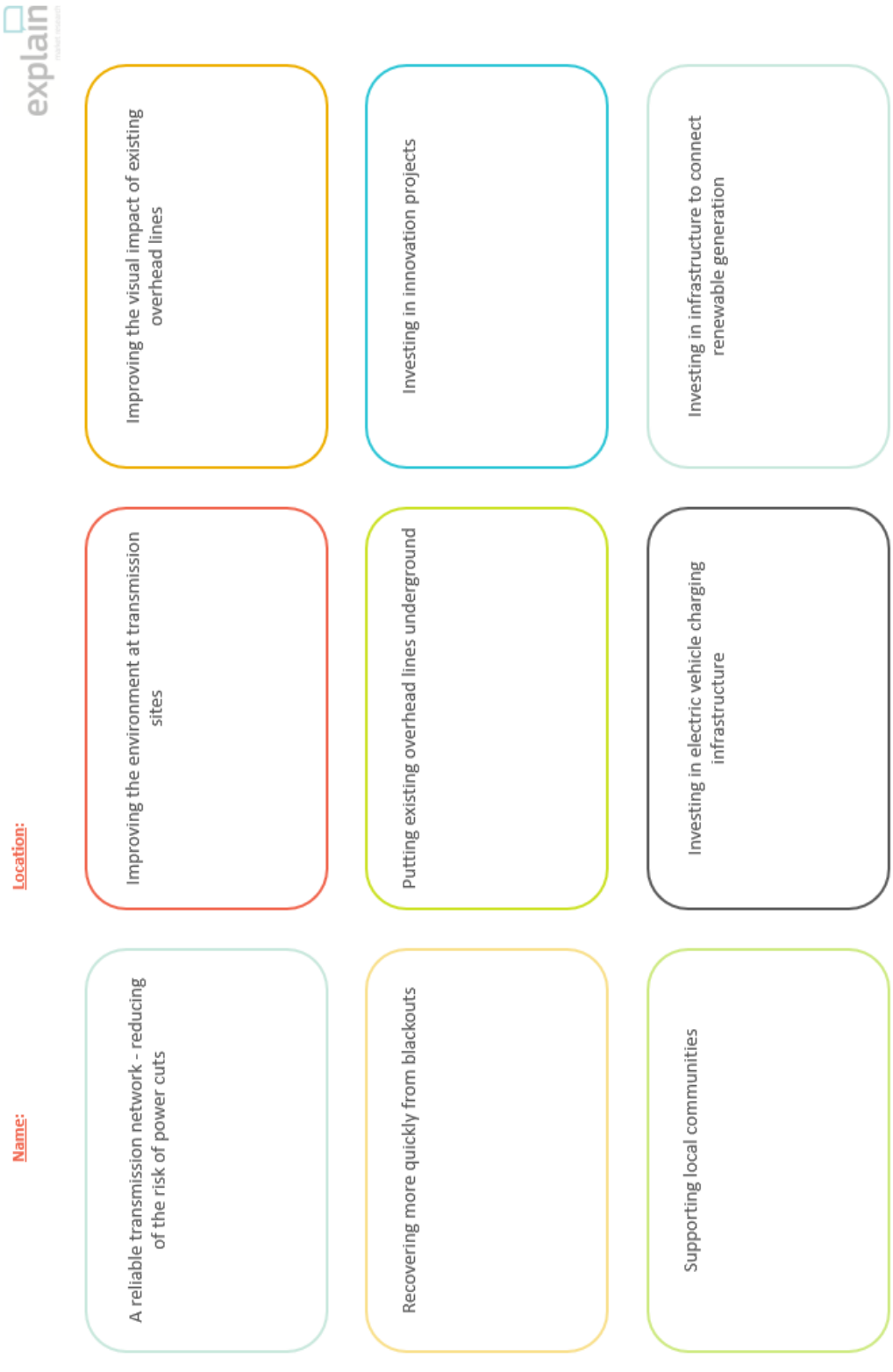
The only thing left to do before you go is to give you your incentives as a thank you for giving us your time today. We'll just need you to sign to say that you have received them. Once you've done that, you're free to leave and thank you again for your time today!

Appendix two – consumer group ranking exercise materials



A reliable transmission network - reducing the risk of power cuts	Improving the environment around transmission sites
Improving the visual impact of existing overhead lines	Reducing the time taken to recover from blackouts
Putting existing overhead lines underground	Investing in innovation projects to create future benefits, including cost reductions
Supporting local communities	Investing in electric vehicle charging infrastructure
Investing in infrastructure to connect renewable generation	

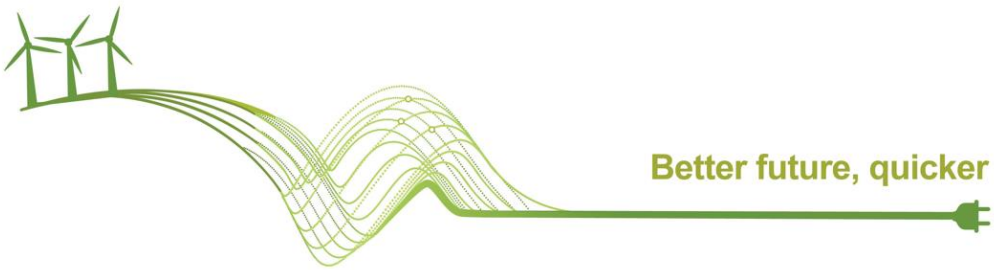
Appendix three – consumer group WtP materials



Appendix four – consumer group slide deck

SP ENERGY NETWORKS

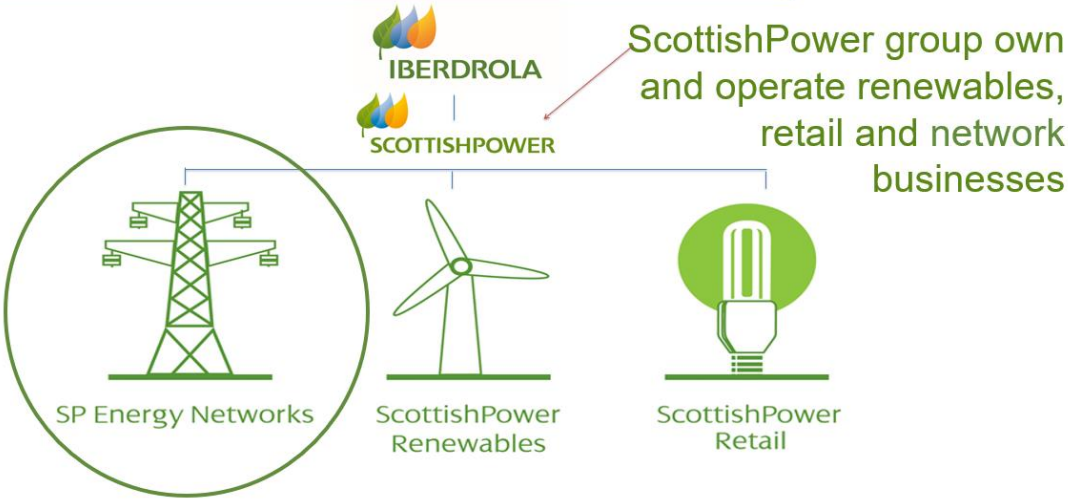
Focus Group
June 2019



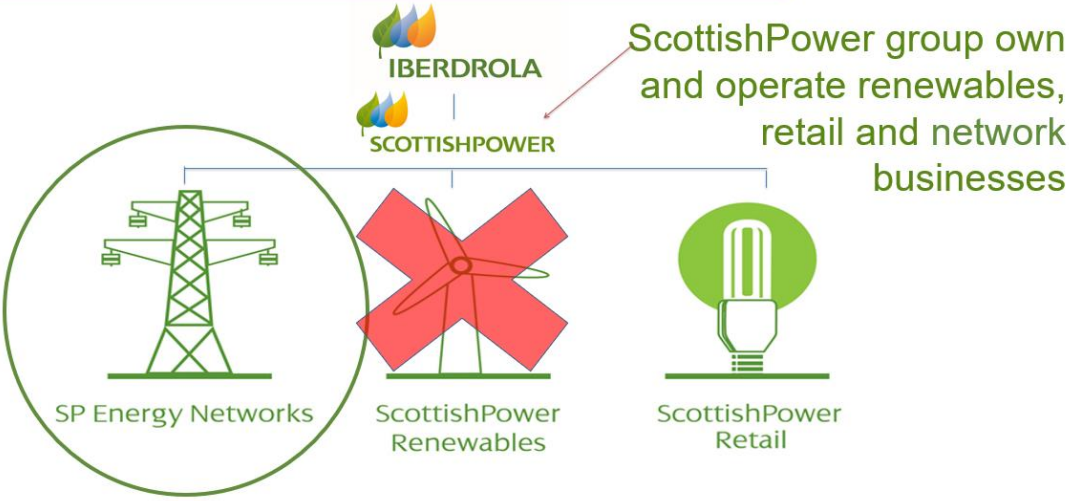
SP ENERGY NETWORKS

Who are SP Energy Networks and what do they do?

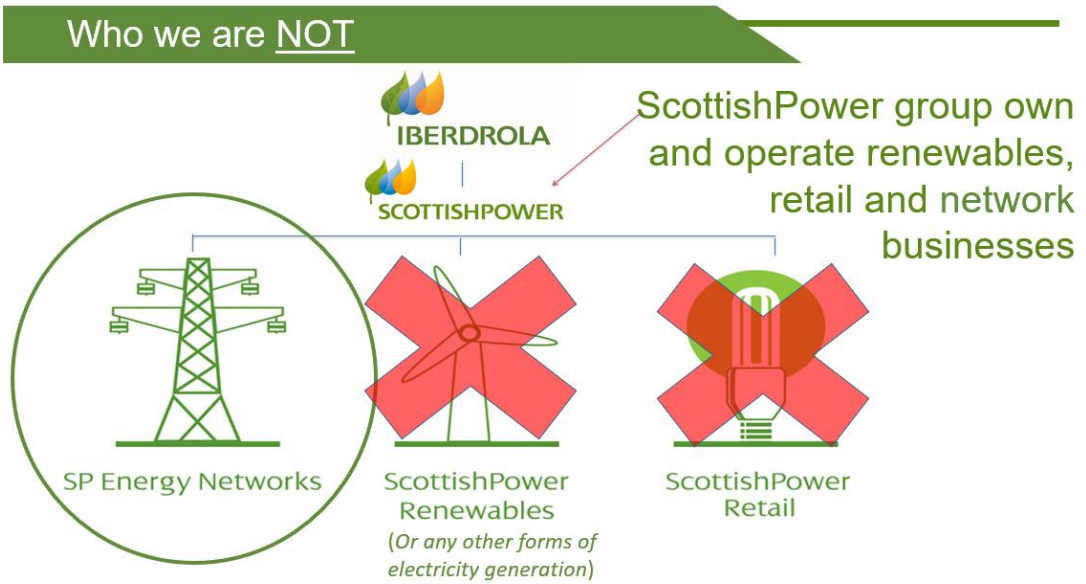
Who are SP Energy Networks



Who we are NOT




powerstations.uk



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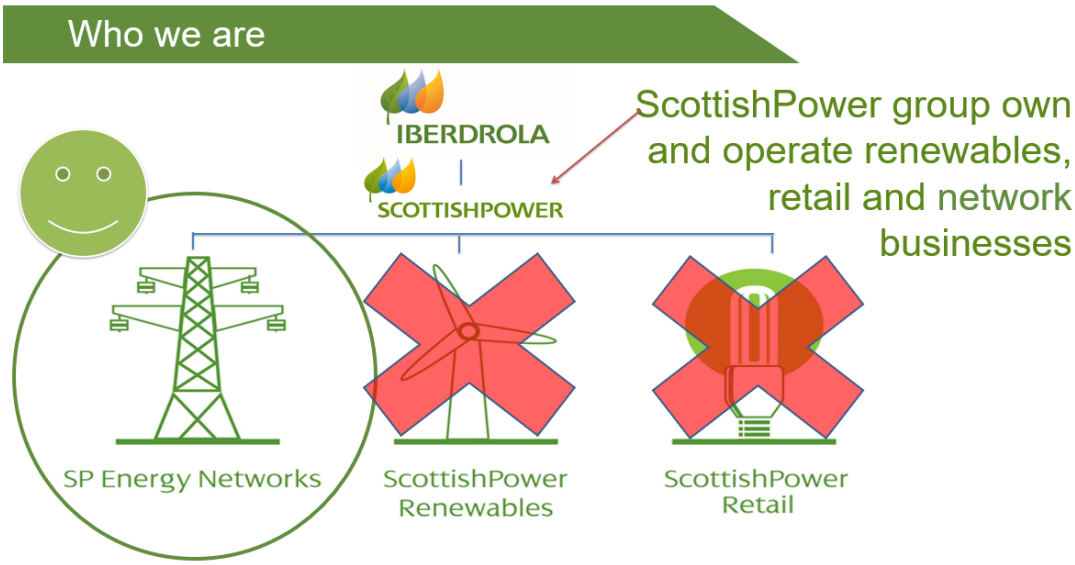
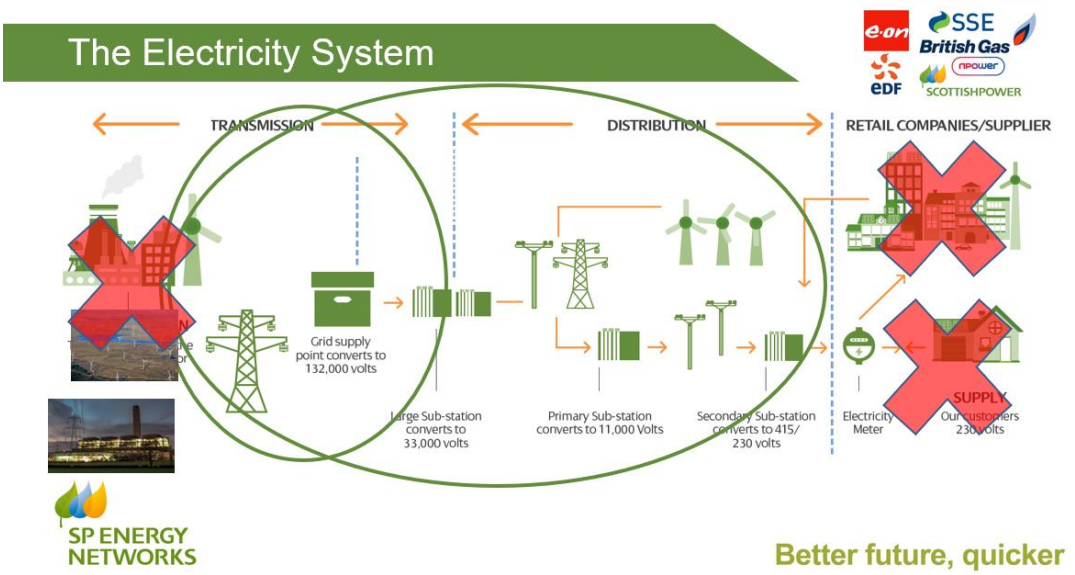
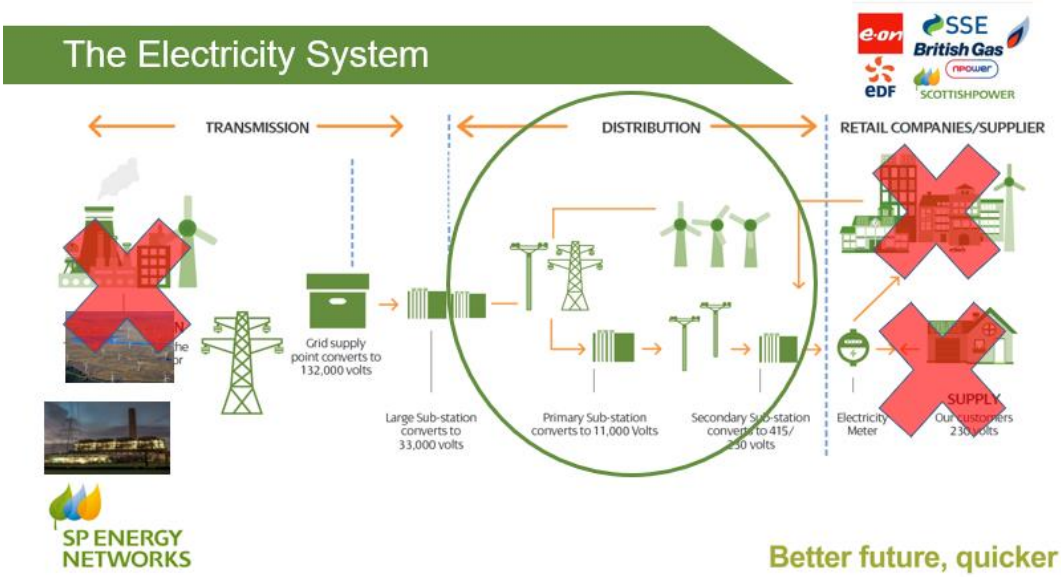

Who we are
IBERDROLA
SCOTTISHPOWER
ScottishPower group own and operate renewables, retail and network businesses
SP Energy Networks
ScottishPower Renewables
ScottishPower Retail

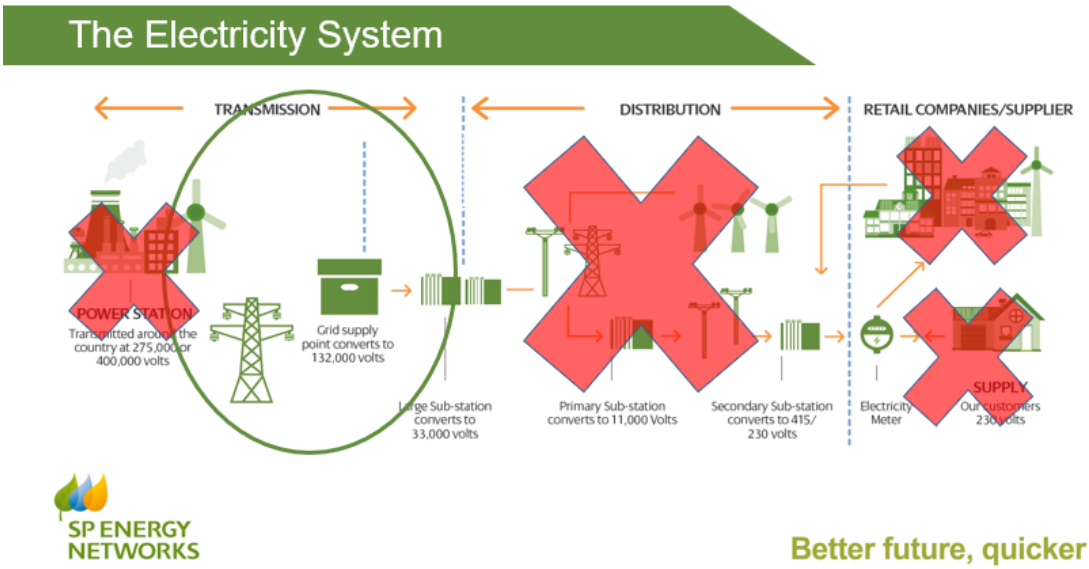

The Electricity System
TRANSMISSION
DISTRIBUTION
RETAIL COMPANIES/SUPPLIER
Grid supply point converts to 132,000 volts
Large Sub-station converts to 33,000 volts
Primary Sub-station converts to 11,000 Volts
Secondary Sub-station converts to 415/ 230 volts
Electricity Meter
SUPPLY
SP ENERGY NETWORKS
Better future, quicker

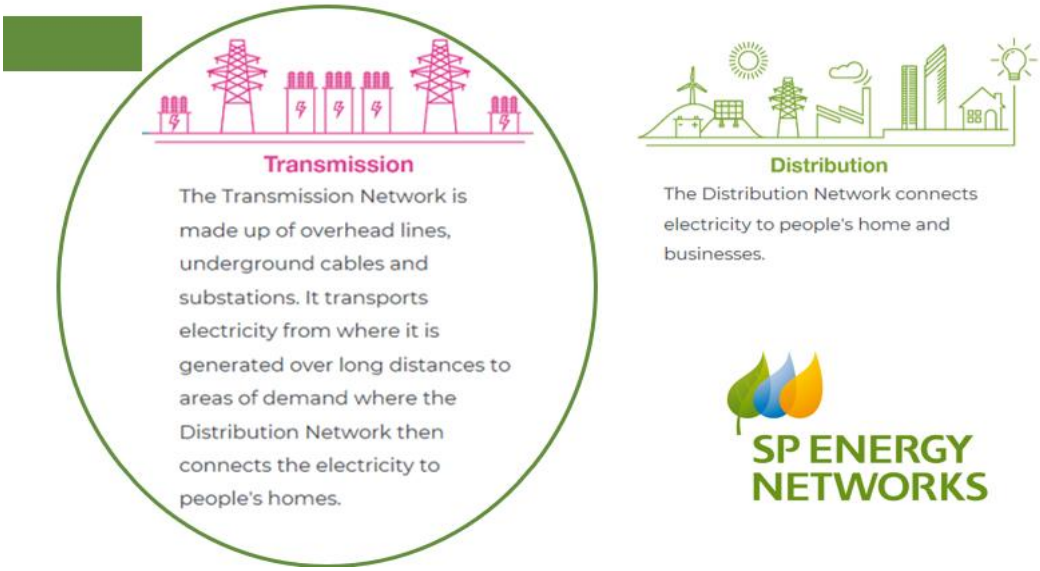

HIO
HIO

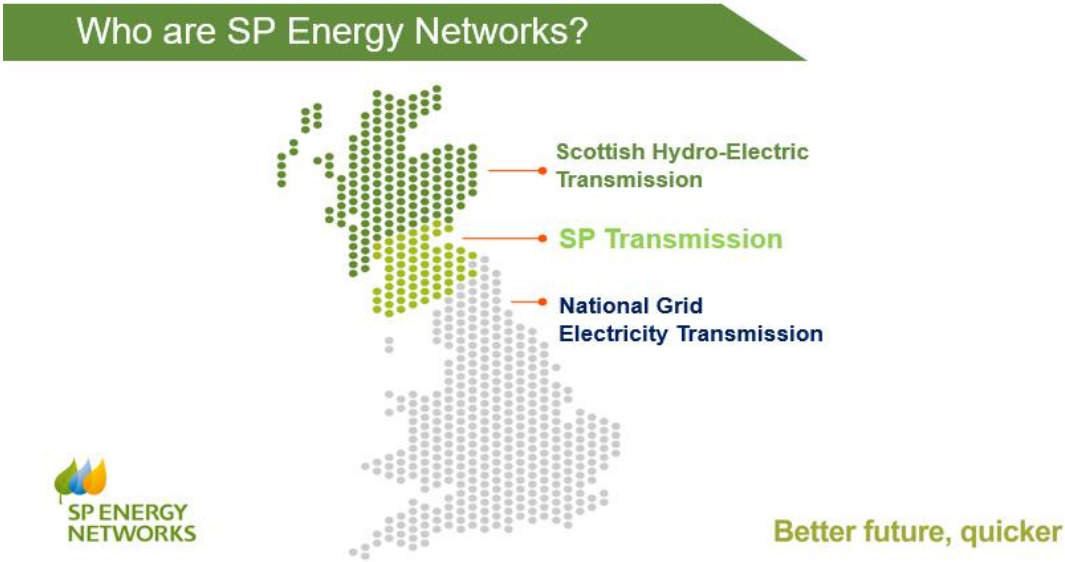

SMIT
SMIT


The Electricity System
TRANSMISSION
DISTRIBUTION
RETAIL COMPANIES/SUPPLIER
e·on
SSE
British Gas
npower
EDF
SCOTTISHPOWER
Grid supply point converts to 132,000 volts
Large Sub-station converts to 33,000 volts
Primary Sub-station converts to 11,000 Volts
Secondary Sub-station converts to 415/ 230 volts
Electricity Meter
SUPPLY
Our customers 230 volts
SP ENERGY NETWORKS
Better future, quicker


HOUGH GR

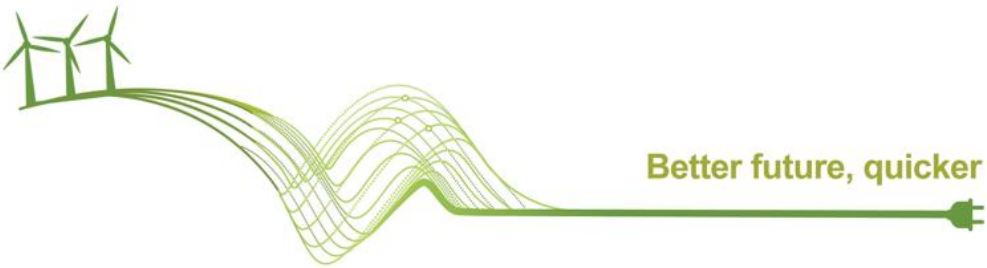

The Electricity System
TRANSMISSION
DISTRIBUTION
RETAIL COMPANIES/SUPPLIER
POWER STATION
Transmitted around the country at 275,000 or 400,000 volts
Grid supply point converts to 132,000 volts
Large Sub-station converts to 33,000 volts
Primary Sub-station converts to 11,000 Volts
Secondary Sub-station converts to 415/ 230 volts
Electricity Meter
SUPPLY
Our customers 230 volts
SP ENERGY NETWORKS
Better future, quicker


Transmission
The Transmission Network is made up of overhead lines, underground cables and substations. It transports electricity from where it is generated over long distances to areas of demand where the Distribution Network then connects the electricity to people's homes.
Distribution
The Distribution Network connects electricity to people's home and businesses.
SP ENERGY NETWORKS


Who are SP Energy Networks?
Scottish Hydro-Electric Transmission
SP Transmission
National Grid Electricity Transmission
SP ENERGY NETWORKS
Better future, quicker

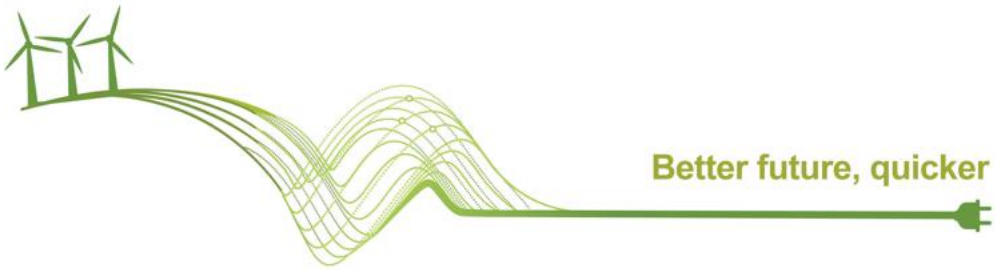
SP ENERGY NETWORKS

Over to you…



SP ENERGY NETWORKS

How is SP Energy Networks funded?



explain market research

How are network companies funded?

Network companies, like SP Energy Networks, are funded in 2 main ways:

1. **"Use of System Charges"**

2. **Borrowing money through loans/shareholder investment**

SP ENERGY NETWORKS

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SP ENERGY NETWORKS

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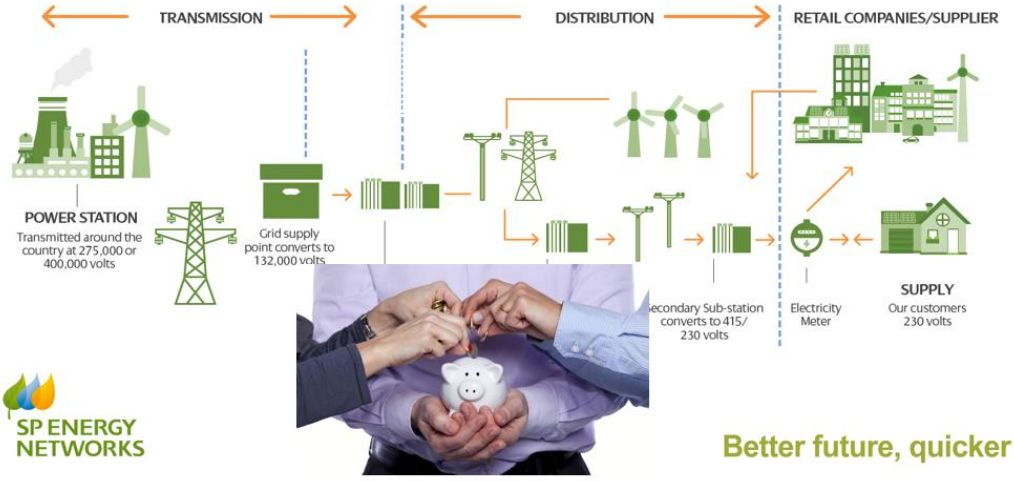
The Electricity System



SP ENERGY NETWORKS

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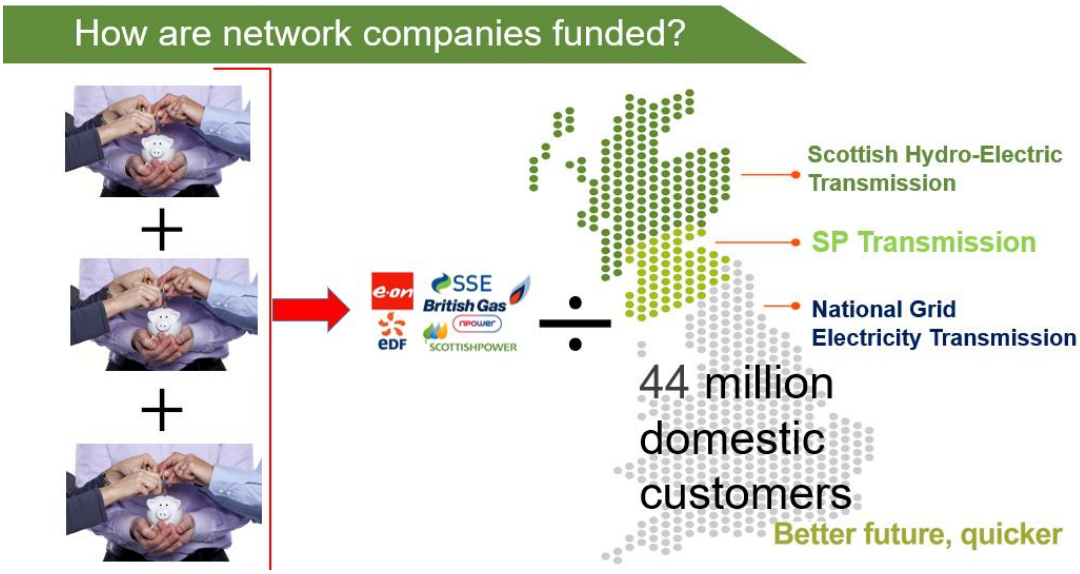

How are network companies funded?

Network companies, like SP Energy Networks, are funded in 2 main ways:

2. Borrowing money through loans and shareholder investment.

For every **£1** SP Energy Networks receive from Use of System Charges, we need an additional **58p** to help fund our planned network operations, maintenance and investment for 2021 to 2026.

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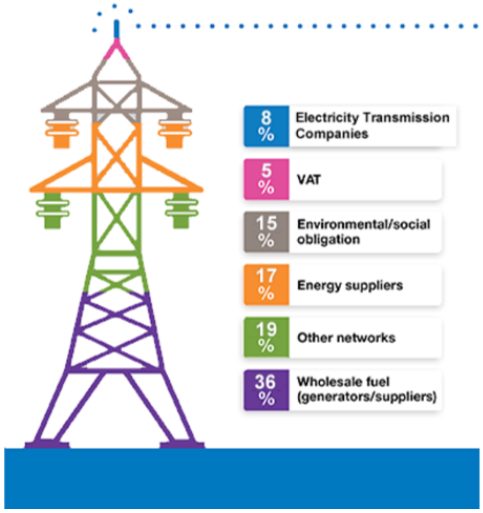
What does this all mean for you?



Although you don't pay a bill to the Electricity Transmission Companies and aren't their direct customer, you consume the electricity they transmit. 8% of your electricity bill goes to the Electricity Transmission Companies.

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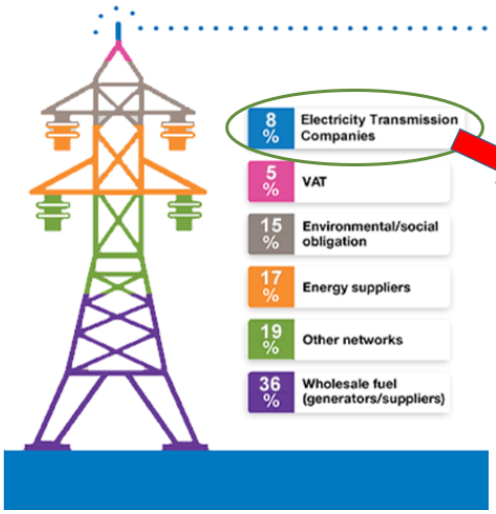
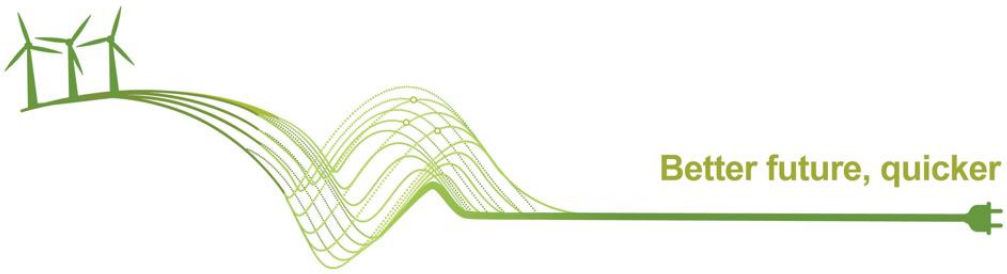
Breakdown of a typical GB electricity bill



	Annual Costs	Monthly Costs	Daily Costs
Total Electricity Bill	~£577	£48	£1.58
All Transmission Charges	~£39	£3.17	10p
SP Transmission Charge	£5.16	43p	~1p
National Grid	£23.10	£1.92	~6p
SSE	£4.75	40p	~1p
Offshore and National Innovation Funding	£5.59	47p	~2p

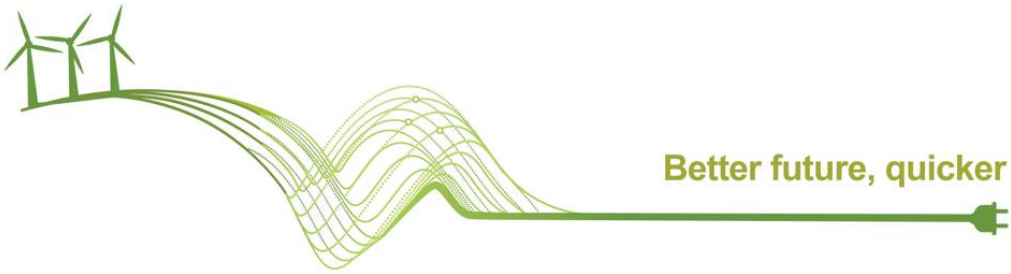
SP ENERGY NETWORKS

Over to you…



SP ENERGY NETWORKS

How is SP Energy Networks regulated?

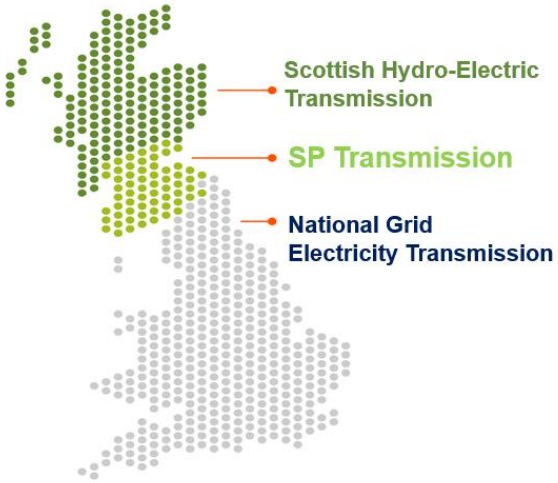


explain market research


Image accessed from geocaching.com

How are network companies regulated?

- There are only **3** transmission network operators in Britain
- It is normal for utility companies (gas / water / telecoms/ rail) to be few in number.
- Multiple wires / pipes / cables / roads /railways stretching across the country would be impractical:
  - unsightly
  - increase impact on the environment
  - increase costs unnecessarily for bill payers



Why are network companies regulated?

Ofwat

Image accessed from www.bbc.co.uk

Ofcom
making communications work for everyone

Image accessed from www.whatismyipaddress.com

ORR
OFFICE OF RAIL AND ROAD

Image accessed from www.orr.gov.uk

ofgem
Making a positive difference for energy consumers

Image accessed from www.express.co.uk

Why are network companies regulated?

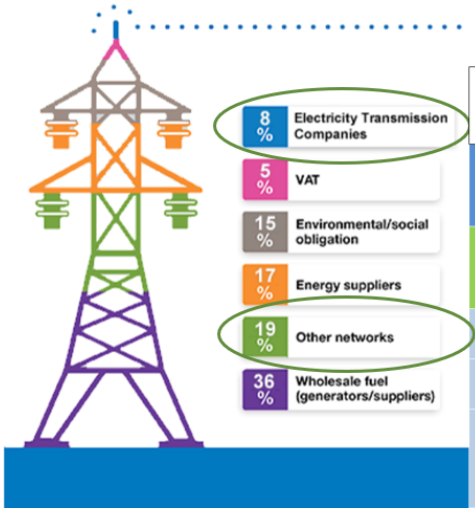
- **Ofgem's rules and regulations ensure value-for-money for consumers.**
- **They create market competition where it can't exist naturally.**

- **Ofgem sets the amount of money network companies are allowed to:**
  1. **Collect through Use of System Charges**
  2. **Pay back to loan providers and shareholders who have invested their funds in the networks (market driven too)**

ofgem
Making a positive difference
for energy consumers

Better future, quicker

Breakdown of a typical GB electricity bill



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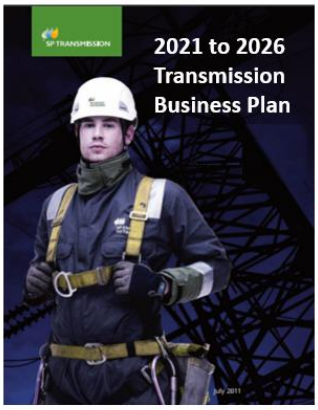

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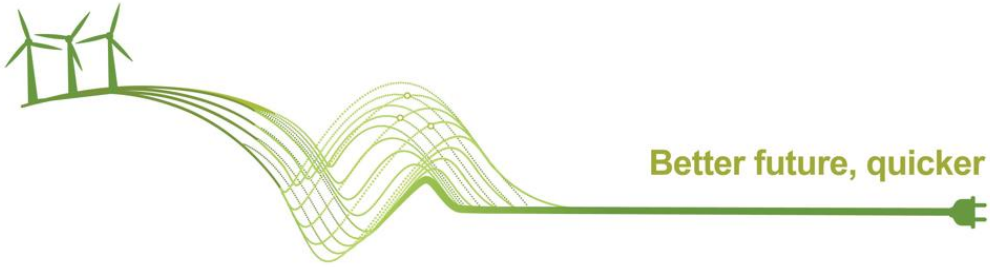
SP ENERGY NETWORKS

Over to you…



SP ENERGY NETWORKS

Important Considerations for our Transmission Business Plan

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WE NEED A
GREEN
Climate NOW,
Homework later!
HULK


Why engagement is important *now*
Net Zero Scotland by 2045
Net Zero UK by 2050

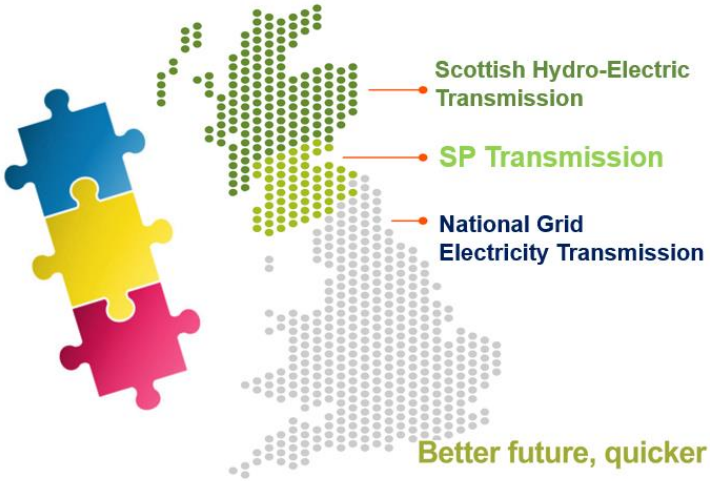

Considerations for our Business Plan
ofgem
Image accessed from Forbes.com


Considerations for our Business Plan
Image accessed from endfuelpoverty.org.uk


Don't let this ↑
Lead to this ↓


Considerations for our Business Plan

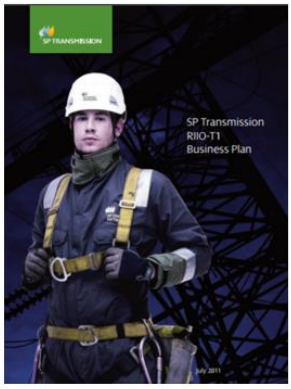
Considerations for our Business Plan



Considerations for our Business Plan

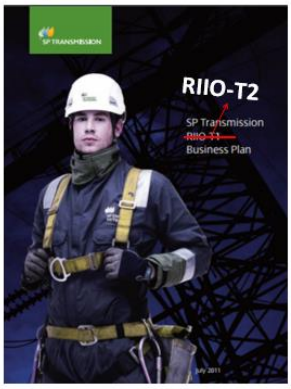
2013 to 2021

8 year price control



2021 to 2026

5 year price control



ofgem
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for energy consumers

- **Plans are rated against the other Transmission operators and on an individual basis**

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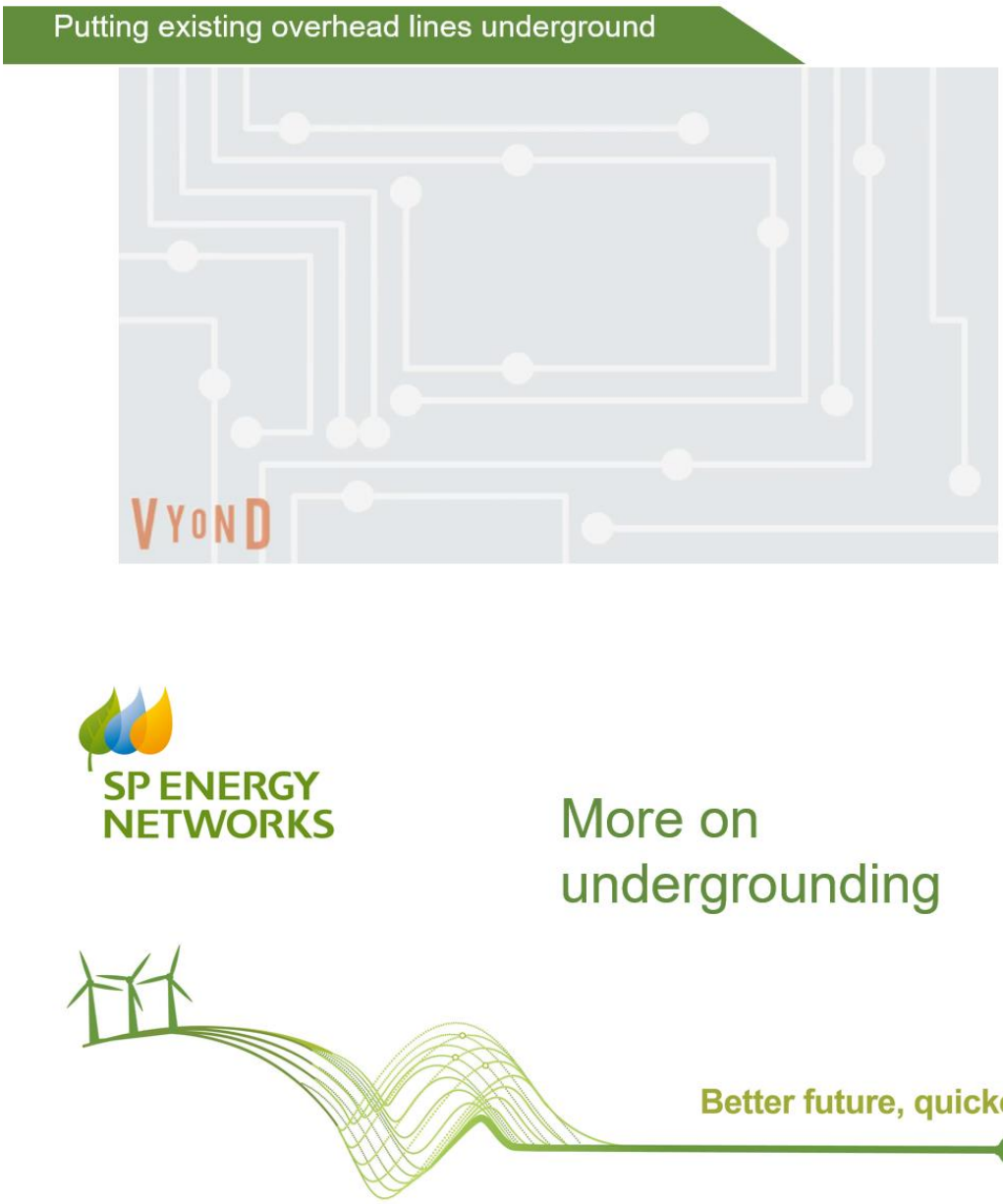
A reliable transmission network – reducing the risk of power cuts

Improving the environment around transmission sites

Improving the visual impact of existing overhead lines


Putting existing overhead lines underground
VYoND
SP ENERGY NETWORKS
More on undergrounding
Better future, quicker

SP ENERGY NETWORKS

SP ENERGY NETWORKS

Undergrounding – to note

Keeping the lights on:

- Cables are more expensive and take longer to repair than overhead lines.

Environmental impact:

- The impact of installing cables of transmission voltages requires a cable track the size of a small road.
- The extent of the effect on the environment is not easily reversed and can have lasting damage.
- Compared to Overhead Lines, the construction of cable is much more invasive and potentially damaging.

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Undergrounding – to note

Change in Costs

Average Examples:

Underground

- **£210,000 per repair**
- **4-6 weeks**

Overground

- **£15,000**
- **1 week**

Image accessed from smithsonian.com

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Reducing the time taken to recover from blackouts

Supporting local communities

Investing in innovation projects to create future benefits for consumers

Investing in EV charging infrastructure

Investing in infrastructure to connect renewable generation

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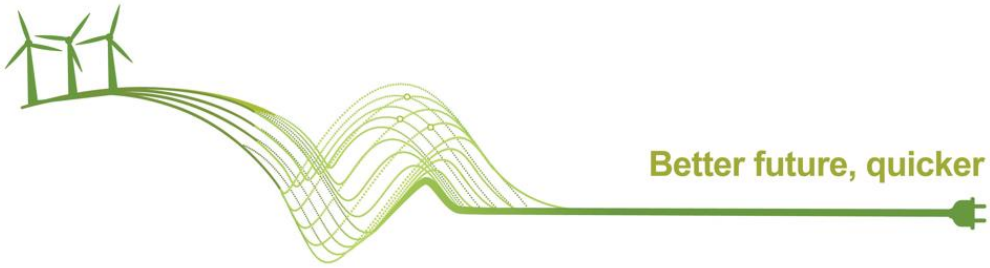
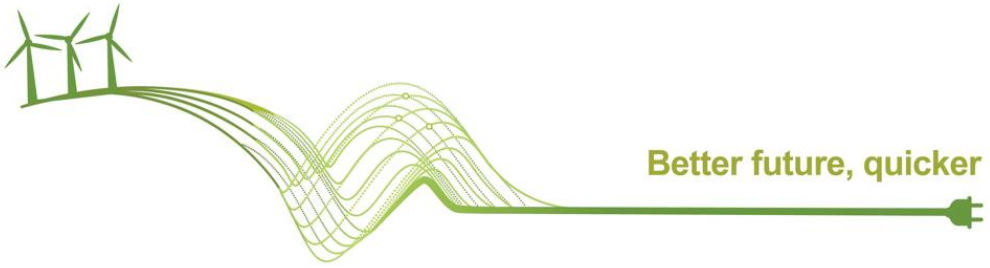
Break time

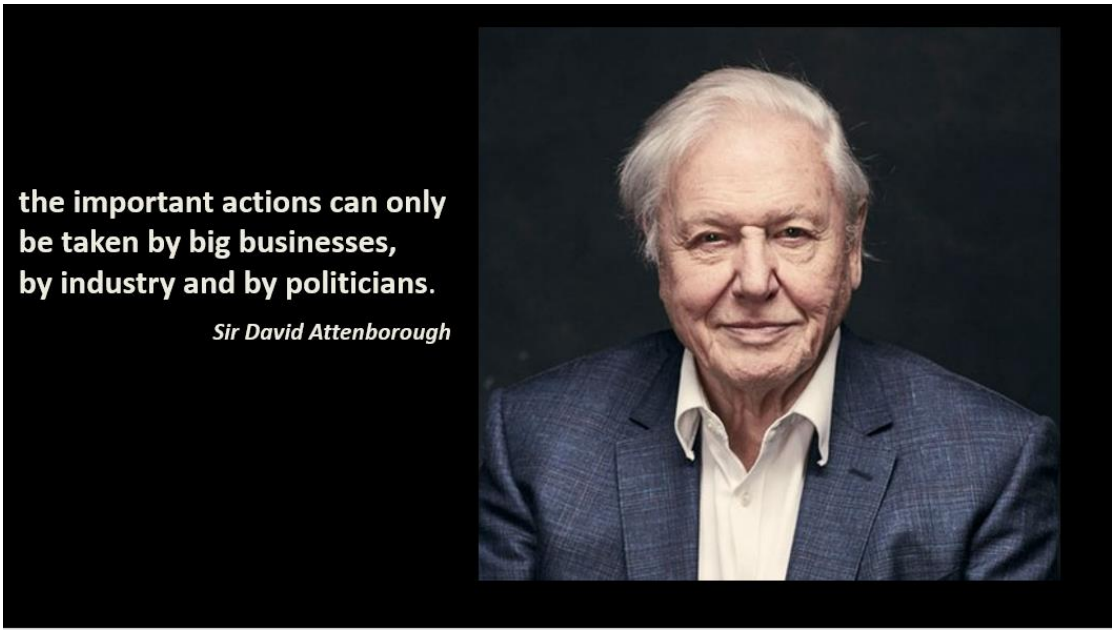


SP ENERGY NETWORKS

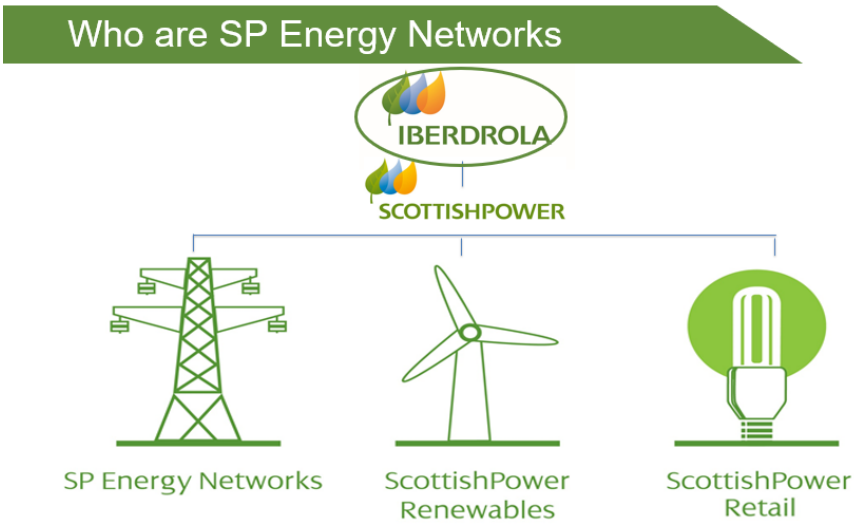
Our customer value proposition



explain market research

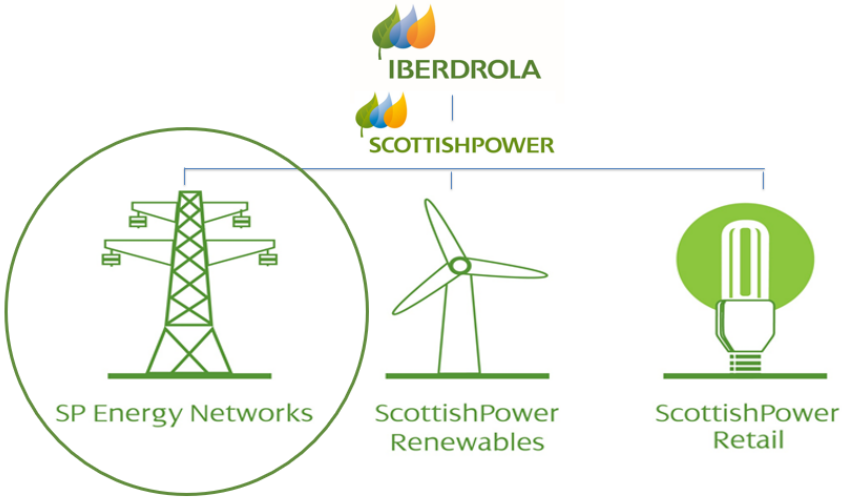

the important actions can only be taken by big businesses, by industry and by politicians.
Sir David Attenborough


SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
SUSTAINABLE DEVELOPMENT GOALS


Who are SP Energy Networks
IBERDROLA
SCOTTISHPOWER
SP Energy Networks
ScottishPower Renewables
ScottishPower Retail


THE SDGs PART OF THE IBERDROLA'S GROUP BUSINESS STRATEGY
SUSTAINABLE DEVELOPMENT GOALS
THE SDGs, PART OF THE IBERDROLA'S GROUP BUSINESS STRATEGY
MAIN FOCUS
DIRECT CONTRIBUTION
INDIRECT CONTRIBUTION TO ALL OTHER SDGs
Better future, quicker

Who are SP Energy Networks



SP Energy Networks' Activity Themes

We took the results from this research and structured our engagement approach around these three themes. They are the building blocks of the engagement topics used in our new Stakeholder Engagement Strategy. We have also ordered our **Part 2** submission to incorporate these headings, with a double page on each key theme:

BETTER –
A SUSTAINABLE NETWORK
(Our sustainability strategy and building key partnerships for global impact, The Green Economy Fund, Community Initiatives).

FUTURE –
A RESILIENT NETWORK
(Leading the way with new technology, outage modernisation, Black start update).

QUICKER –
AN INNOVATIVE NETWORK
(Digital Substations, Connecting to the network quicker, Future energy scenarios).

SP Energy Networks' Stakeholder Engagement Principles

Inclusive

We engage all customers and stakeholders impacted through our work, with a specific focus to ensure those who may be hard to reach are given a voice.

Authentic

Our engagement works to understand the significant issues affecting our customers and stakeholders, before acting on them in a meaningful way.

Tailored

The approach we take to engagement ensures that each initiative is planned and delivered in the most appropriate way for the specific purpose and stakeholders in question.

Value-for-money

An inherent focus, we ensure efficient spending on engagement activities, aiming to maximise the overall customer benefit.

Innovative

We aim to better our approach each year, continually looking for new methods to improve how we engage and deliver against wants and needs.

Examples

INCLUSIVE ☑ Young Energy Force panels conducted to ensure future bill payers influence the company's sustainability plan.

AUTHENTIC ☑ Supporting report research through roundtable engagement on making sure our network is resilient and ready for renewable energy.

TAILORED ☑ Step 4 of our new approach specifically ensures all engagement is tailored to a specific purpose and set of stakeholders.

VALUE-FOR-MONEY ☑ Introduction of new hybrid measurement tool, which helps the business to prioritise initiatives based on value.

INNOVATIVE ☑ New 'quick-entry' screens added to Tractivity, Stakeholder Management System to make it easier for users to record feedback and actions.

The board

For a football team, the board might mean investing in new players, building a bigger stadium to generate more revenue and coming top of the league table to keep their supporters happy.

Ofgem does not own our company but as the regulator for gas and electricity in Great Britain they set our responsibilities and the money we can earn for delivering these.

For Transmission Owners, Ofgem expects us to keep the lights on, keep people safe around our equipment, and connect more environmentally friendly sources of electricity generation, such as wind farms, on to our network.

The manager

The Manager is in day-to-day charge of the team. They are accountable to the Board and maintain a close working relationship with them through regular meetings and reports.

SPT is the Manager of the high voltage transmission network in central, southern Scotland, covering areas such as Edinburgh, Glasgow and the Scottish borders.

Every five years the Manager goes to the Board (Ofgem) and gives them a plan for the future. This plan includes what they hope to achieve and the money they need to invest to realise their vision. The Board (Ofgem) then decides to accept that plan or change the proposals.

The players

In order for a team to succeed, it needs to have a team of players (i.e. network assets) that work together. In some instances, this may involve keeping existing players that are performing well, replacing injured players or signing new players to increase the size of their squad.

For SPT, that means spending money to maintain the assets we already have (substations, overhead lines , underground cables and electricity towers), replacing old assets with newer equipment, or buying new equipment to grow the size of the network to allow for more electricity to be produced.

The spectators

Spectators (customers) pay for a ticket to go and watch their team.

In the energy industry, domestic customers make a monthly or annual payment to their electricity supplier who then buys the electricity they need from a generator / power station. After the electricity is produced, it is transported along a network of high and low voltage cables and wires to their home. The company that generates the electricity and the high and low voltage network companies pass on their charges to the supplier, who in turns bills the customer.

Only around 8% of an annual bill goes towards electricity transmission costs.

Thank you

Thank you for your time and feedback.

Stay part of the conversation

SP ENERGY NETWORKS
ScottishPower Group

Better future, quicker

Have your say

www.spenergynetworks.co.uk

#ChallengeOurPlan

Email: riio_t2@spenergynetworks.co.uk

Appendix five – consumer representative stakeholder interview discussion guide

SP Transmission
Activity 2 – Qualitative review of Willingness to Pay

Introduction

Hello, my name is X from Explain. Thank you very much for taking the time to help us in our research, which we are carrying out on behalf of SP Energy Networks and specifically their Transmission business.

As you may know, as part of the way SP Energy Networks are regulated, they will be submitting their business investment plans (which outlines how much money they need to spend to own, operate and future-proof their networks) for the period 2021 to 2026 to the network regulator, Ofgem and its independent Consumer Challenge panel.

Alongside the other two Transmission companies (National Grid and SSE), SP Energy Networks submitted their draft plan to Ofgem and the Consumer Challenge panel on 1st July. They are now in the process of socialising their draft plan, ready to submit the final version on 1st December this year. They have asked us to conduct research to understand consumer and stakeholder views on the areas you want them to be investing across this period.

We have recently carried out three focus groups to understand the views of members of the public about some key business decisions SPEN are currently making for the future and now are aiming to speak to some of SPEN's other key stakeholders.

SP Energy Networks have asked us to conduct this research on their behalf so that it is carried out independently, to ensure anything you say to us can be fed back to the company as honestly as possible in the form of a report. Nothing you say will be attributed to you personally unless you give us permission/request to do so.

The interview will take around 30 minutes and my aim is to capture your opinions of the areas SP Energy Networks need and can invest in in the next price control period. Before we begin, it is important to inform you that...

- Explain work to Market Research Society code of conduct, so you do not have to answer any questions that you do not wish to and you can terminate the interview at any point. I will also ask you at the end of the interview if you would prefer to remain anonymous.
- Can I also check you are happy that our discussion is audio recorded in the interests of accuracy?
- **Before we begin, can you confirm you've completed the online exercise in full?**

Context

So I can understand the context behind your responses as we go through the interview, can you please clarify for me...

a. Your role

b. And if you have one, your relationship with SP Energy Networks?

i. How long have you had this relationship?

c. If not, were you aware of SP Energy Networks before I got in touch?

As we go through the interview, please try to answer from the perspective of your professional role (including previous roles) and reflect on the impact any changes may have on domestic electricity consumers.

Background information

- Do you feel comfortable that you clearly understand the role of SP Energy Networks and their Transmission business, including how they make their money, and the regulatory environment they operate in?

For clarification (if required):

- *SP Transmission plc is SP Energy Networks' transmission business.*
  - *SP Transmission is responsible for the transmission of electricity in central and southern Scotland.*
- *SP Energy Networks make their money in two main ways:*
  - *Through charging generators and suppliers to use their networks to transfer electricity, a cost that all Transmission operators need to charge network users across the whole of the UK.*

- *Through debt (loans) and equity (shareholder) funding.*

- *SP Energy Networks operate in a regulated environment because there are only three transmission operators in Britain.*
- *Having numerous operators would create more market competition, but it would be impractical for a number of reasons. For example - multiple wires and pylons running the length of Britain would be more costly to the end-consumer as well as looking rather unsightly and having a bigger environmental impact.*
- *Rather than relying on market competition to keep prices low, SP Energy Networks and the other Transmission operators have their costs monitored and approved by the industry regulator, Ofgem (Office of Gas & Electricity Markets) just as other similar to gas, water, telecoms and rail industries do.*

Exploration of attributes (no more than 10 mins in total)

Householders don't pay their bills directly to the transmission operators, but roughly £39 per year or 10p per day of an average household electricity bill goes towards covering the costs required to own, operate and invest in Britain's Transmission networks.

We are conducting this research to help SP Energy Networks understand consumer priorities so they can be sure to align their part of that £39 – around £5 per year– with the things that matter most to them.

In the online pre-interview task, we gave you some information around nine areas - areas of possible and necessary RIIO-T2 investment; called 'attributes' which were tested with consumers in the GB-wide 'Willingness to Pay' piece of research that was recently carried out jointly by all three GB Transmission Operators (TOs) (SP Transmission, SHETL and National Grid).

Very briefly I'd like to understand your views on each…

1. A reliable transmission network – reducing the risk of power cuts

- Do you think this is an important area for SP Transmission? Why / why not?
- Do you think households and the electricity bill-payers should increase the amount of money they pay from their bill to further reduce the risk of power cuts by ensuring a more reliable network?

- Why / why not?
- IF YES, should they pay more for a greater reduction in likelihood of cuts?

2. Improving the environment around transmission sites

- Do you think this is an important area for SP Transmission? Why / why not?
  - Are there any suggested initiatives you particularly like?
    - Which ones? Why do these stand out?
- Do you think bill payers need to increase the amount of money they pay from their bill to further invest even more in improving the environment around transmission sites? Why / why not?

3. Improving the visual impact of existing overhead lines

- Do you think this is an important area for SP Transmission? Why / why not?
- Do you think bill payers/ end-consumers should see an increase in their bill to invest in improving the visual impact of existing overhead lines?
  - Why / why not?

4. Putting existing overhead lines underground

- Do you think this is an important area for SP Transmission? Why / why not?
- Do you think consumers should spend more on their bill to increase the amount of overhead lines that are undergrounded?
  - Why / why not?

- Did the additional information around the impact of undergrounding on the environment and costs, change your opinion on undergrounding or if certain areas should be prioritised? If so, how?

Just as a reminder, consumers will be paying for undergrounding in areas covered by the other TO operators too and costs would be socialised across all British bill payers.

5. Reducing the time taken to recover from blackouts

- Do you think this is an important area for SP Transmission? Why / why not?

- Do you think consumers should be paying more on their bill for an improvement to service in this area?
    - Why / why not?
    - IF YES, should they pay more to reduce the risk of black outs and for quicker restoration of power after this type of event?

6. Supporting local communities

- Do you think this is an important area for SP Transmission? Why / why not?
    - Are there any suggested activities you particularly like?
        - Which ones? Why do these stand out?
- Do you think consumers should pay more on their bill to spend on this type of activity?
    - Why / why not?

7. Investing in innovation projects to create future benefits (including cost reductions) for consumers

- Do you think innovation is important for SP Transmission? Why / why not?
- Do you think consumers should pay more on their bill for investment in innovation?
    - Why / why not?

8. Investing in EV charging infrastructure

- Do you think this is an important area for SP Transmission? Why / why not?
- Do you think consumers should pay more on their bill for investment of this nature?
    - Why / why not?
    - IF YES, should consumers pay more for greater investment?

9. Investing in infrastructure to connect renewable generation

- Do you think this is an important area for SP Transmission? Why / why not?
- Do you think consumers should pay more on their bill for investment in infrastructure that will allow more renewable generation to be connected?
    - Why / why not?

- IF YES, should they pay more for greater investment?

Views on priorities – ranking exercise (up to 5 mins)

We'd like to understand a little more about how you value each of the areas we have taken you through, so I'll now take a look at the ranking exercise you completed online…

- I can see you have identified X as most important – why?
- I can see you have identified X as least important – why?

- Are there any you don't think should be considered for investment?
  - Which? Why?
- Is there anything missing from the list which you think SP Transmission should have a focus on?
  - What is missing?
  - Where would you rank this?
  - Why is this important?

Indicative willingness to pay - UNCONSTRAINED (5-10 mins)

As we've mentioned, a portion of consumer bills goes to SP Energy Networks' transmission function. Now that we know more about the areas SP Transmission could include in their plan, we'd like to understand how you value each of these areas.

Remember – every penny you add will be added to consumers' annual bill.

However – every penny you add does not mean that you are adding a penny to everyone's bill. As transmission costs are a percentage of the total bill. Therefore – while you may want to be mindful of the wider societal issues – for example, fuel poverty or poverty in general, we are really after an understanding of your personal willingness to pay in this exercise and how much you as an individual value these areas of investment.

- *For each area*: I can see you have allocated £X - why?
  - *Probe to understand reasons behind those allocated most / least / not at all*

- What was your thought process in the allocation of spend?
  - What were your priorities?

- What was your thought process in the total amount of spend, if you had one?

Indicative willingness to pay - CONSTRAINED (5 mins)

We then asked you to complete the exercise again but with a maximum of £5 to spend across the same areas, based on how much you would be willing to pay for each service improvement.

This £5 will not be an addition to annual bills, but will help SP Energy Networks get an idea of how you would like them to divide the approximately 8% of the average electricity bill that all domestic customers across Britain contribute towards transmission costs.

- I can see you have allocated X most – why?
- I can see you have allocated X least – why?
- I can see you have not allocated any spend to X – why?

- Have your allocations changed this time? Why / why not?

Further comments (if time)

- Do you have any further thoughts or comments to make about anything we have talked about today?

Close

Thank you for all of your time today, we really appreciate your help with the research. As I said earlier Explain work to Market Research Society Code of Conduct, this means that it is your choice whether or not we can identify you as someone we have spoken to and make your comments attributable or not.

Are you happy for us to list than we have spoken to you? **Yes ☐ No ☐**

Are you happy for us to list than we have spoken to your organisation? **Yes ☐ No ☐**

Are you happy for us to attach your name to your comments? **Yes ☐ No ☐**

Thank you again for your time. Have a nice day!

Appendix six – consumer representative stakeholder pre-interview task

SP Energy Networks WtP qual review - stakeholder in-depths

(untitled)

1. Please enter your name so that we can identify your answers: *

A reliable transmission network – reducing the risk of power cuts

Please watch the following video. You can also read along with the text below.

2. Is all of this information clear and understandable? *

- This all makes sense and I'm happy I understand
- No, I'd like clarification on this

Improving the environment around transmission sites

Please watch the following video. You can also read along with the text below.

3. Is all of this information clear and understandable? *

- This all makes sense and I'm happy I understand
- No, I'd like clarification on this

Putting existing overhead lines underground

Please watch the following video. You can also read along with the text below.

4. Is all of this information clear and understandable? *

- ○ This all makes sense and I'm happy I understand
- ○ No, I'd like clarification on this

Improving the visual impact of existing overhead lines

Please watch the following video. You can also read along with the text below.

5. Is all of this information clear and understandable? *

- ○ This all makes sense and I'm happy I understand
- ○ No, I'd like clarification on this

Reducing the time taken to recover from blackouts

Please watch the following video. You can also read along with the text below.

6. Is all of this information clear and understandable? *

- ○ This all makes sense and I'm happy I understand
- ○ No, I'd like clarification on this

Supporting local communities

Please watch the following video. You can also read along with the text below.

7. Is all of this information clear and understandable? *

- This all makes sense and I'm happy I understand
- No, I'd like clarification on this

Investing in innovation projects to create future benefits (including cost reductions) for consumers

Please watch the following video. You can also read along with the text below.

8. Is all of this information clear and understandable? *

- This all makes sense and I'm happy I understand
- No, I'd like clarification on this

Investing in infrastructure to connect renewable generation

Please watch the following video. You can also read along with the text below.

9. Is all of this information clear and understandable? *

- This all makes sense and I'm happy I understand
- No, I'd like clarification on this

Investing in electric vehicle (EV) charging infrastructure

Please watch the following video. You can also read along with the text below.

10. Is all of this information clear and understandable? *

- This all makes sense and I'm happy I understand
- No, I'd like clarification on this

11. Now that we've shared the areas SP Energy Networks see as possible or necessary for investment, we'd like to gather your views on how these should be prioritised. Please rank each area from 1 = 'most important', to 9 = 'least important'.

We understand this is a simplistic exercise for complex ideas - we will discuss your responses in more depth at interview and feel free to leave comments in the box provided. *

	1	2	3	4	5	6	7	8	9
Supporting local communities	○	○	○	○	○	○	○	○	○
Investing in innovation projects to create future benefits (including cost reductions) for consumers	○	○	○	○	○	○	○	○	○
Reducing the time taken to recover from blackouts	○	○	○	○	○	○	○	○	○
Investing in electric vehicle charging infrastructure	○	○	○	○	○	○	○	○	○
Investing in infrastructure to connect renewable generation	○	○	○	○	○	○	○	○	○
Improving the environment around transmission sites	○	○	○	○	○	○	○	○	○
A reliable transmission network – reducing the risk of power cuts	○	○	○	○	○	○	○	○	○
Improving the visual impact of existing overhead lines	○	○	○	○	○	○	○	○	○
Putting existing overhead lines underground	○	○	○	○	○	○	○	○	○

Comments

12. A reliable transmission network – reducing the risk of power cuts: *

13. Improving the environment around transmission sites: *

14. Improving the visual impact of existing overhead lines: *

15. Putting existing overhead lines underground: *

16. Reducing the time taken to recover from blackouts: *

17. Supporting local communities: *

18. Investing in innovation projects to create future benefits (including cost reductions) for consumers: *

19. Investing in EV charging infrastructure: *

20. Investing in infrastructure to connect renewable generation: *

(untitled)

21. A reliable transmission network – reducing the risk of power cuts: *

22. Improving the environment around transmission sites: *

23. Improving the visual impact of existing overhead lines: *

24. Putting existing overhead lines underground: *

25. Reducing the time taken to recover from blackouts: *

26. Supporting local communities: *

27. Investing in innovation projects to create future benefits (including cost reductions) for consumers: *

28. Investing in EV charging infrastructure: *

29. Investing in infrastructure to connect renewable generation: *

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