Annex 3: ED3 Consumer Research Log

How to read this log. This log records the consumer research used to inform development of SSEN's ED3 Business Plan, including SSEN-commissioned research and collaborative studies undertaken with other network companies. Each row represents a research project and sets out its purpose and rationale, limitations, quality assurance, Independent Stakeholder Group (ISG) involvement and impact on the final business plan. The log distinguishes between what research identified, how findings were assured and triangulated with wider evidence, and how insight influenced specific decisions, commitments and trade-offs. Where customer preferences were not adopted in full, or research could not determine a particular investment or operational decision, this is explained. Consumer research informed ED3 development but did not determine decisions in isolation; findings were considered alongside stakeholder evidence, engineering and operational requirements, affordability, cost-benefit analysis, regulatory requirements and deliverability. Links to published research outputs are provided where available.

Collaborative or DNO	Research project	Research aims and objectives	Rationale for the research	Limitations	Quality assurance	ISG involvement	Impact on the business plan	Link to research output
Collaborative research project, or was it commissioned solely by your business?	*Please provide the title of the research project.*	*Please provide the research aims, objectives and questions.*	*Please outline which business area(s) the research informs and provide rationale as to why you considered research a necessity for this area.* *250 words max*	*What were the limitations of the research?* *250 words*	*How were the findings quality assured?* *100 words*	*Details of recommendations from the Independent Stakeholder Group (ISG) and how these have been implemented into the development of the business plan. If the recommendations have not been actioned, please provide an explanation.* *250 words max*	*How did the research and ISG recommendations influence the final business plan? If the research did not influence business planning, please provide an explanation here.* *500 words max*	*Please provide a link to the research output.*
SSEN Commissioned	**SSEN ED3 Consumer Priorities**	To establish the foundational customer evidence base for development of the ED3 business plan and identify the issues that matter most to customers across both licence areas. The programme explored priorities relating to reliability, resilience, affordability, vulnerability support, future network investment, environmental sustainability and wider social outcomes. The research combined qualitative focus groups with 56 customers across key audience groups and a quantitative survey of 2,250 domestic and SME customers across both licence areas. It also included customer segmentation analysis, a re-contactable sample and activation workshops with ED3 workstreams, creating a baseline against which subsequent deliberative, business customer and acceptability research could be compared.	Consumer Priorities Research informed the development of the ED3 business plan as a whole and provided the foundational customer evidence base, combined with other engagement routes, for subsequent plan development. The programme established what matters most to customers across all major areas of ED3, including reliability and resilience, affordability and value for money, vulnerability support, future network investment, environmental sustainability, customer service and support for the energy transition. The research was commissioned at the start of the ED3 programme to provide a robust and representative understanding of customer priorities before detailed strategy development commenced. While stakeholder engagement and operational insight identify important issues and concerns, they do not indicate the relative importance customers place on different outcomes, nor how priorities vary across customer groups. A mixed-method approach was therefore adopted. The qualitative phase tested whether the ED2 priority framework remained relevant, ensured customer language and concerns were reflected in later research and identified any emerging issues. The quantitative phase then measured the relative importance of priorities and sub-priorities, established an affordability baseline and explored variation across customer groups and regions. By creating a common customer evidence base at the outset of ED3 development, the programme provided the foundation for strategy development, activation workshops, deliberative research, business customer engagement and acceptability testing, ensuring later findings could be understood in the context of customers' underlying priorities and concerns.	The Consumer Priorities programme was designed to establish the relative importance of priorities across a large domestic and SME customer base and provide a robust baseline for ED3 plan development. Qualitative focus groups and large-scale quantitative research provided breadth and context, enabling priorities, concerns and areas of consensus to be identified across domestic and business audiences. The research did not test detailed ED3 proposals, priced investment options or how views change when customers receive more information and must make difficult trade-offs. It was also conducted online only and therefore excluded customers who are not digitally confident. Although it identified support for reliability and resilience, long-term bill reduction, future network investment and targeted vulnerability support, it could not determine how customers would balance affordability against resilience, support investment ahead of need, respond to uncertainty, or assess cost allocation and fairness. The programme also identified differences among financially constrained customers, those with outage experience, rural customers and customers using low-carbon technologies. These findings showed variation but did not fully explain the reasoning behind choices or the conditions under which support for interventions might change. It was also subsequently noted that the research was conducted at a point when energy bills were lower than they are today. These limitations shaped subsequent ED3 research. The Fair Future Panel explored customer reasoning, trade-offs and divergence in greater depth, while Business Research and Acceptability Testing assessed whether priorities remained consistent across customer groups and when applied to the near-final business plan.	Delivered by an independent specialist agency under the MRS Code of Conduct, with refinements through qualitative phase before quantitative fieldwork. Respondent checks covered eligibility, duplicates, speeding, straight-lining, attention and open-ended responses; dataset checks covered missing data, routing, outliers, quotas, weighting and subgroup robustness. The sample was benchmarked against licence-area, demographic and customer-profile data, with quotas for vulnerable, PSR and financially struggling customers. SSEN colleagues and ISG members observed focus groups. Findings were cross-checked through SSEN's independent triangulation against wider customer, operational and stakeholder evidence.	The Consumer Priorities programme commenced at broadly the same time as the Independent Stakeholder Group (ISG) was established, with the first focus groups taking place before the ISG's inaugural meeting. As a result, the research design was not directly shaped by the ISG. The programme built on SSEN's established ED2 Consumer Priorities methodology, providing continuity and comparability across price control periods. For ED3, the approach was expanded to include a broader range of priorities and sub-priorities, alongside deeper exploration of affordability, vulnerability and future energy system challenges. As the programme progressed, findings were regularly shared with the ISG as part of the wider customer evidence base informing development of the ED3 plan. ISG members were also invited to observe focus groups, providing additional transparency and helping build a shared understanding of customer views as the programme evolved. The research subsequently provided an important foundation for later discussions with the ISG, including identification of areas where further exploration through deliberative research and acceptability testing would add value.	The Consumer Priorities programme established the foundational customer expectations that have guided development of the ED3 plan. Across household and business audiences, reliability and resilience emerged as the strongest and most consistent priorities reflecting electricity's growing importance to everyday life, health, work, communication and participation in society. Customers increasingly view electricity as essential infrastructure. This created a clear expectation that SSEN should continue to prioritise core network performance while directing investment towards the areas and assets where future reliability and resilience risks are greatest. The research also showed that value for money remains central to customer decision-making. Customers consistently highlighted the importance of reducing costs in the long term and avoiding future problems through early action. While there was broad support for resilience investment and futureproofing the network, customers experiencing financial pressure placed greater emphasis on affordability and were more cautious about paying more today for benefits delivered in the future. Similarly, customers who had experienced repeated interruptions placed greater value on resilience investment than those who viewed current performance as already strong. This reinforced the need for the plan to balance affordability and resilience rather than treat them as competing priorities. The research highlighted strong support for protecting customers in vulnerable circumstances, particularly through proactive support, improved communication, greater awareness of the Priority Services Register and enhanced storm response arrangements. Customers expected support to be targeted based on need rather than applied uniformly. The research further demonstrated support for investing ahead of need where future benefits could be clearly explained, particularly where early intervention could reduce long-term costs, support low-carbon technology uptake and avoid more disruptive or expensive interventions later. At the same time, customers wanted clearer explanations of why investment is required now, what benefits will be delivered and how decisions represent value for money. These priorities have influenced the development and refinement of our ED3 commitments. Reflecting strong customer support for reliability and resilience, SSEN will halve the number of customers experiencing the most interruptions, improving reliability for 13,329 Worst Served Customers, introduce an early-warning threshold to identify customers at risk of reaching it, and maintain overall network reliability at 99.98% despite increasingly challenging climate conditions. Support for proactive vulnerability assistance is reflected in a commitment to increase PSR reach to at least 90% of eligible customers by 2030 and introduce tailored service standards for each PSR category. Long-term value and early intervention are reflected in a proactive LV investment programme expected to reduce costs by around 10% compared with reactive reinforcement, while anticipatory investment and flexibility solutions support future demand and low-carbon technology uptake. Beyond informing individual strategies, the programme established the common customer baseline used throughout ED3 development. Its findings underpinned subsequent deliberative research, identifying where customer priorities were clear, where trade-offs existed and where further testing was required. They highlighted affordability, fairness, transparency and vulnerability support as cross-cutting considerations that have continued to shape the ED3 plan.	View report
SSEN	**SSEN ED3 Business Priorities Research**	To understand whether the priorities identified through the Consumer Priorities programme remained valid for major energy users and where this audience held distinct views. The research explored attitudes towards reliability, resilience, connections, capacity, customer service, cyber security, skills and economic growth amongst decision-makers in energy-intensive organisations with sites in SSEN's licence areas. Using the same prioritisation framework as Consumer Priorities enabled direct comparison with domestic and SME customers and allowed areas of convergence and divergence to be identified. The programme combined an online survey of 58 major energy users with 10 depth interviews across both licence areas.	The research informed development of the ED3 business plan where the needs of major energy users are most material, particularly across Connections, Reliability, Long-Term Investment Planning, DSO, Data & Digitalisation, IT & Telecommunications, Delivery and economic growth. Consumer Priorities Research demonstrated strong alignment between domestic and SME customers. However, large energy users represent a small but strategically important audience whose operational risks, energy consumption profiles, connection requirements and investment horizons differ significantly from those of households and smaller businesses. These organisations often make long-term investment decisions that depend on network capacity, resilience, certainty and future readiness. The research was therefore commissioned to test whether the priorities identified through Consumer Priorities remained valid for this audience or whether a more system-level perspective would reveal different expectations and areas of divergence. Using the same prioritisation framework enabled direct comparison with the wider customer population while maintaining consistency across the ED3 evidence programme. Depth interviews provided additional insight into how reliability, resilience, capacity, connection speed, certainty, visibility of available network capacity and cost transparency influence business continuity, investment decisions and economic growth. The programme also addressed an evidence gap identified through ISG challenge by introducing energy-intensive organisations into the wider customer evidence base. Together, the research ensured the ED3 plan was informed not only by the priorities of households and SMEs, but also by organisations whose growth, investment and decarbonisation decisions are closely linked to network performance and future capacity.	The research was designed to provide targeted insight into the priorities, expectations and decision-making criteria of a specialist customer audience rather than generate statistically representative findings for all large energy users. The survey sample of 58 major energy users, supported by 10 depth interviews, enables directional comparison with the wider Consumer Priorities programme and helps identify areas of convergence and divergence, but does not support detailed analysis by sector, organisation size, geography or stage of investment. The depth interviews provide greater understanding of the operational, commercial and strategic considerations that sit behind survey responses, helping explain why priorities differ and how those differences influence investment decisions, rather than measuring the prevalence of specific views. Large energy users are not a homogeneous group and their priorities will vary according to individual circumstances, growth ambitions, sector and dependency on electricity. The findings therefore identify common themes and expectations rather than a single business customer position. The research was intended to test whether the priorities identified through the wider customer evidence base remained valid for major energy users and to identify where a different perspective emerged. It was not designed to determine specific investment levels, expenditure decisions or regulatory outcomes. These decisions require consideration alongside wider consumer research, stakeholder engagement, technical forecasts, economic growth scenarios, affordability considerations and regulatory requirements.	An independent specialist agency used a consistent prioritisation framework, representative findings for all large energy users, supported by 10 depth interviews, enables directional comparison with the wider Consumer Priorities programme and helps identify areas of convergence and divergence, but does not support detailed analysis by sector, organisation size, geography or stage of investment. Quantitative and qualitative findings were analysed together and research materials were reviewed iteratively, interview recordings were retained and raw quantitative data remains available for verification and reanalysis. Findings were independently triangulated alongside wider customer and stakeholder evidence, with views weighted by customer volume and consumption (domestic 40%, business 20%, stakeholders 20%).	The Independent Stakeholder Group (ISG) identified a gap in the programme's coverage of large, energy-intensive organisations. This challenge emerged following review of the Consumer Priorities and Fair Future Panel programmes, where the evidence base was primarily focused on domestic and SME customers. While Consumer Priorities Research demonstrated strong alignment between domestic and SME audiences, both the ISG and SSEN recognised that larger organisations may take a different, more strategic view of network performance, future investment and economic growth. In response, SSEN commissioned a dedicated large energy users research programme rather than assuming that the wider customer findings could be applied to all business audiences. During development of the research specification, the ISG also challenged the inclusion of a minimum employee threshold within the recruitment criteria, questioning whether organisational size was the most appropriate indicator of strategic energy use. Following discussion, this requirement was removed to ensure participation remained focused on energy intensity and network significance rather than organisational scale alone. The research retained the Consumer Priorities framework to allow direct comparison across audiences while adding exploration of connections, economic growth and wider business impacts. Decision-makers from energy-intensive organisations across both licence areas were recruited. This broadened the evidence base, addressed an under-represented audience and enabled areas of convergence and divergence to be explored in a consistent and comparable way.	The research was commissioned to test whether the priorities identified through Consumer Priorities Research remained valid for large energy users and to understand how this audience may view the network differently. While Consumer Priorities demonstrated strong alignment between domestic and SME customers, this research explored whether larger energy users, with greater operational and investment dependencies on the network, would take a different perspective. The findings confirmed reliability and resilience as foundational priorities across customer groups. Reliability ranked highest because interruptions disrupt operations, affect business continuity and customers, and create significant financial consequences. However, large energy users' priorities were more evenly distributed across issues than those of domestic and SME audiences. Participants valued reliability, resilience and vulnerability support, often through a broader lens of community benefit, trust and economic stability rather than direct organisational need. Value for money revealed a clear divergence. While long-term bill reduction was a dominant domestic and SME priority, large energy users emphasised a reliable, future-ready network over lower bills. Economic growth, cyber security, future skills, customer service and network capability carried greater importance in supporting investment, competitiveness and business confidence. Participants expected many of these issues to become increasingly important over the coming decade as electrification accelerates and reliance on secure networks grows. Connections emerged as particularly significant. Around half of participants had obtained a new connection in the previous two years; a further quarter expected to require one in future. Participants viewed connections as strategic enablers of growth and decarbonisation, prioritising speed, certainty, capacity visibility and transparent costs. Less experienced users identified complexity, uncertain timescales and limited visibility of constraints as investment barriers. The research also highlighted a preference for combining digital services with knowledgeable human support. Participants welcomed digital tools for routine activities but placed significant value on access to experienced specialists when managing major projects and strategic investment decisions. As with the consumer priorities research, these findings have influenced the plan throughout, including the development and refinement of our ED3 commitments. For example, SSEN will use flexibility to unlock capacity faster, more than doubling early-connection capacity from 2.3 GW in ED2 to around 5 GW by the end of ED3. It will release 6,400 MVA of network capacity by 2033, supporting investment and growth certainty. Information needs are reflected in a commitment to achieve 95% local network visibility, while enhanced network management will increase low-carbon technology demand and generation capacity by 1 GW by 2033. Cyber resilience commitments include detecting and containing at least 90% of high-severity incidents within defined response times and restoring critical services within four hours for the vast majority of significant incidents. The research strengthened the case for a differentiated approach to business customers. It confirmed shared reliability and resilience priorities while highlighting greater emphasis on strategic connections outcomes, capacity, cyber security, future skills and economic growth. This helped ensure ED3 reflects common expectations alongside the needs of organisations whose investment decisions depend on network capability, certainty and future growth.	View report
SSEN	**SSEN Fair Future Panel**	To build informed customer judgement around the central ED3 challenge: how can SSEN build a future-ready, decarbonised network while keeping bills fair for everyone? The deliberative programme explored reliability, resilience, vulnerability, affordability, low-carbon technology enablement, local disruption and investment trade-offs through a longitudinal panel of 27 domestic customers from across both licence areas. Participants were organised into three behaviour-led groups: Engaged Customers (10), Future Shapers (8) and Core Customers (9) with the following criteria: Engaged Customers: Those who have had recent, direct experience of SSEN: either worst-served, Priority Services Register, Low Carbon Technology (LCT) adopter or people affected by outages or upgrades. Future Shapers: Those whose relationship with SSEN will change in ED3. Either aged 18–29 and not yet bill payers, likely LCT buyers in the next three years, or interested in flexibility (e.g. time-of-use tariffs). Core Customers: Typical of SSEN's general customer base. Bill payers with no recent contact with SSEN, who are not early adopters of low carbon technology and do not currently plan to become early adopters. Twenty participants were re-recruited from the Consumer Priorities programme and seven newly recruited. Four progressive workshops were followed by a fifth acceptability session comparing informed and representative customer views.	The Fair Future Panel informed development of the ED3 plan across multiple strategy areas, including reliability and resilience, climate resilience, vulnerability, long-term investment planning, flexibility, low-carbon technology enablement, connections, affordability and wider investment choices. Consumer Priorities Research established what matters most to customers, but it could not explain how views change when customers are given greater context, introduced to competing priorities and asked to make real trade-offs. The Fair Future Panel was therefore commissioned to understand not only whether customers supported particular options, but why, under what conditions and where views remained divided. The programme was specifically designed to explore the choices and tensions that sit at the heart of ED3. This included affordability versus resilience, investing now versus investing later, flexibility versus reinforcement, support for low-carbon technologies versus fairness for non-adopters, local disruption versus long-term benefit and different approaches to cost allocation. The behavioural segmentation model allowed different customer perspectives to engage with the same questions throughout the programme, while the longitudinal design enabled participants to revisit issues as their understanding developed. The fifth workshop was subsequently commissioned to provide an informed customer perspective on plan acceptability and bill impacts, creating a direct comparison with a larger representative sample who had not undertaken the same deliberative journey.	The Fair Future Panel was designed to develop informed customer judgement rather than generate statistically representative findings. Participants were deliberately recruited to reflect a range of experiences, behaviours and likely future interactions with the energy system, rather than to mirror the wider customer population. The longitudinal design allowed participants to revisit topics over time as they received additional information, considered alternative perspectives and explored increasingly complex trade-offs. While this is a key strength of the methodology, it also means participants became more informed than the wider public. Findings should therefore be interpreted as evidence of how views develop through deliberation rather than as representative measures of general public opinion. Workshop 5 and the wider acceptability testing programme were commissioned in part to compare informed and uninformed customer views. The programme was designed to explore areas of discretion, trade-offs and customer reasoning. The relatively small panel size provides depth of insight and allows attitudes to be tracked over time, but it is not intended to quantify the prevalence of specific views across the wider population. As with all deliberative research, findings are influenced by the information provided, the sequence in which topics are introduced and participants' willingness to engage with complex issues. The programme therefore complements, rather than replaces, wider quantitative research, stakeholder engagement and acceptability testing. Its primary value lies in understanding how customers respond to information, trade-offs and genuine areas of choice within the ED3 plan.	The Fair Future Panel was delivered by an independent research agency using a methodology informed by deliberative best practice, competitor benchmarking and Ofgem's Sector Specific Methodology Consultation guidance. The design drew on SSEN's ED2 Citizens' Jury and deliberative programmes from other network companies to support informed trade-offs, distributional fairness, inclusive participation and vulnerability. Research materials were refined iteratively, allowing emerging findings and unresolved issues to shape later sessions. SSEN colleagues and invited ISG members observed sessions, while recordings provided an audit trail. The same agency team facilitated every workshop, ensuring consistent delivery across behavioural groups, licence areas and deliberative stages.	The Fair Future Panel was developed collaboratively with the Independent Stakeholder Group (ISG) through several design iterations, establishing robust deliberative principles and sufficient depth to explore how customer views develop with new information, trade-offs and genuine choices. A key ISG recommendation was to replace topic-based groups with behavioural segments. This enabled customers with different perspectives and motivations to consider the same issues throughout, revealing where views converged, diverged or changed. Segmentation became a defining methodological feature, helping explain differences in attitudes towards affordability, fairness, resilience, investment pacing and the energy transition. The ISG initially favoured a larger, traditional deliberative workshop. SSEN considered this but concluded that a single-location model would restrict representation across both licence areas and opportunities to track changing views. Working with the agency and ISG, SSEN developed a hybrid longitudinal approach combining behavioural segmentation, repeated engagement, participation across both licence areas and regional face-to-face deliberation. Ongoing discussion with the ISG throughout the programme also reinforced the value of extending customer participation beyond the original scope, contributing to the decision to undertake a fifth workshop focused on acceptability and bill impacts, enabling an informed comparison with the wider customer sample. The final methodology reflected ISG principles while supporting regional representation and deeper insight. It provided a more nuanced understanding of priorities, trade-offs and divergence than either approach alone, while the extension of the programme provided an additional opportunity to test how informed customer views compared with those of the wider population.	The Fair Future Panel demonstrated that investment support is informed and conditional rather than automatic. As understanding developed, participants weighed bills today against benefits tomorrow, resilience against affordability, investing now against later, and who benefits against who pays. These tensions persisted as decisions became more complex. Participants generally supported anticipatory investment where future need, benefits and consequences of inaction were clearly evidenced. They challenged vague references to growth or risk, seeking explanations of why investment is needed now, customer benefits and uncertainty management. More engaged customers and Future Shapers were generally more comfortable with anticipatory investment and uncertainty, while Core Customers emphasised affordability and required stronger evidence. Affordability concerns eased with understanding but did not disappear. Fairness was central. Participants supported targeted protection for medically dependent and vulnerable customers but differed on sharing transition costs. They supported low-carbon technology uptake while questioning whether customers unable to access electric vehicles or heat pumps should bear the same costs. Disruption was accepted where works were explained, coordinated and linked to long-term benefits. Regional differences reflected varying investment needs and bill impacts. These insights inform specific ED3 choices. Preference for a mid-level reliability option targeting worst-served areas supports the (ED3-S04) Reliability Strategy's harm-led approach, including removing 13,329 customers from the Worst Served list, rather than uniform network-wide expenditure. Forecast uncertainty is reflected in £660 million of load investment held in uncertainty mechanisms rather than the baseline, protecting affordability while enabling responses to emerging need. Fairness informs proactive unlooping targeted through a prioritisation framework incorporating socio-demographic factors. Coordinated proactive LV investment remains where it offers long-term value and avoids repeated reactive upgrades. Not all preferences were fully adopted. A minority favoured greater proactive investment, but the plan retains the targeted approach preferred by most participants. A flexibility-first preference informed option assessment, but justified proactive LV upgrades remain. SEPD panellists' preference to reduce low-carbon technology readiness expenditure was balanced against future requirements by targeting unlooping rather than removing it. Cost-sharing fairness also influenced the plan. In the fourth, in-person session, participants from both North and South broadly supported reducing the distribution charge differential between SHEPD and SEPD customers after reviewing estimated bill impacts. Across sessions, cost-of-living and bill pressures reinforced the need to mitigate cumulative impacts. This informed the bills pledge to keep distribution charges flat until 2030 and seek further socialisation of costs for SHEPD consumers through the existing Hydro Benefit Replacement Scheme (HBRS). Overall, the Panel supported neither maximum investment nor minimum cost, favouring proportionate resilience, affordability, flexibility, transparency and targeted support. The plan reflects customer insight alongside wider evidence, balancing preferences against engineering requirements, deliverability, future need and long-term customer value.	View report
SSEN	**ED3 Acceptability Testing**	Business Plan Acceptance Testing was commissioned to provide a final representative check of whether the near-final ED3 Business Plan, including its investment package and bill impact, is acceptable, affordable and represents value for money to customers. Method included an online survey of 900 domestic and 100 non-domestic customers across both licence areas; 100 face-to-face interviews with digitally disengaged customers; and a fifth Fair Future Panel deliberative session using the same core stimulus and questions. The research measures uninformed and informed acceptability, affordability, value for money and understanding, and will explore whether views differ by licence area, financial circumstances, age, digital access and customer type.	Earlier ED3 research established customers' underlying priorities and explored how informed customers respond to trade-offs between affordability, resilience, fairness and future investment. Consumer Priorities Research established what matters most to customers, the Fair Future Panel explored informed trade-offs in areas of discretion, and Major Customers Research tested whether priorities remained consistent for large energy users. Business Plan Acceptance Testing was commissioned to provide a final representative check of how the near-final, priced plan is received when customers see the overall package and associated bill impact. The research design broadens participation beyond online respondents through additional face-to-face research with digitally disengaged customers, targeted using ONS data to include audiences who may be under-represented through online research. Consistent, plain-English stimulus covers SSEN's role, investment themes, customer benefits, consequences of not investing and overall bill impact. The programme draws on best-practice learning from GD3 acceptance testing and measures uninformed and informed acceptability, affordability and value for money. A dedicated affordability module, developed with guidance from Citizens Advice, enables results to be considered across different financial circumstances rather than relying solely on a headline acceptance score. The Fair Future Panel will be reconvened for a fifth session using the same core stimulus and survey, providing a complementary informed perspective. Together, these strands provide final customer evidence on the overall plan and identify areas requiring further explanation, mitigation, refinement or justification before submission.	The research tested the near-final plan at a defined point in its development, so findings reflected the investment package, bill impact, stimulus and information presented during fieldwork. Respondents saw simplified, plain-English stimulus rather than full business cases, and acceptability may have been influenced by framing, information order and the wider economic context. Overall acceptability should therefore not be interpreted as endorsement of every individual investment. The research assessed acceptance, affordability and value for money of the near-final plan rather than customers' willingness to pay for individual investments or alternative service levels. It therefore provided assurance on the overall package but did not generate monetary values for assessing individual investment options. Any difference between uninformed and informed acceptability reflected the information provided as a whole and could not be attributed to a single element. Headline results may have masked differences between customer groups. Dedicated affordability measures and subgroup analysis therefore considered financial circumstances, geography, age, digital access and customer type. Face-to-face research strengthened inclusion of digitally disengaged customers but was recruited through community locations in areas of higher digital exclusion rather than random sampling, and responses may have differed by research mode. The Fair Future Panel provided a deliberately more informed perspective and was not statistically representative of the wider customer base. Comparison with the representative survey explored how greater knowledge and deliberation may have affected responses, rather than providing a second population estimate. Achieved samples, weighting, subgroup analysis and final findings were subject to quality assurance.	Research was delivered independently by Create Clarity under the MRS Code of Conduct. KPI wording and scales drew on learning from GD3 and PR24 acceptance testing. The Fair Future Panel tested stimulus ahead of the main study, with feedback used to refine its communication. A soft launch was paused after 76 interviews to review data before fieldwork continued. Respondent and dataset checks covered eligibility, duplicates, speeding, straight-lining, quotas and weighting, with significance testing at 95%. Digitally disengaged customers were included through face-to-face fieldwork. Final assurance included achieved-sample, subgroup and understanding checks, with findings triangulated against the wider ED3 evidence base.	The Independent Stakeholder Group (ISG) scrutinised the research from commissioning through to reporting, including consideration of the available methodological options and the balance between representation, inclusivity and robustness. This influenced the decision to supplement the representative online survey with face-to-face research to hear directly from seldom-heard and digitally excluded customers, rather than relying solely on online participation. ONS data was used to target areas with higher levels of digital exclusion, with consistent core stimulus and measures across research modes. The ISG also supported an informed test of the near-final plan. Customers considered the plan and associated bill impact before informed acceptability was measured, while the Fair Future Panel was reconvened for a fifth session using the same stimulus and survey. This provided a complementary perspective from customers who had followed the wider ED3 deliberative journey.	Business Plan Acceptability Testing provided a final customer assessment of the near-final ED3 package, testing whether its combination of investment, service improvements and bill impacts was acceptable and affordable. Unlike earlier research exploring priorities, preferences and trade-offs, it assessed the assembled plan as a whole. The findings demonstrate broad support. Overall, 73% of customers rated the plan as acceptable and 76% found it affordable after considering the commitment areas, indicating general support for the proposed balance of investment, service improvements and bill impacts across customer groups. 59% of customers felt the plan provided "value for money". The findings reinforce a consistent theme throughout the wider evidence programme: support strengthens when customers understand why investment is needed, its benefits and how these relate to issues they value. Clear communication of outcomes, customer benefits and future network needs therefore remains critical to acceptance. Customers who are digitally disengaged found the commitments hardest to understand. We will therefore tailor our communications to meet this group's needs, using their understanding of the plan as a benchmark for how clearly and accessibly it is explained. The final Fair Future Panel workshop provided complementary evidence. Among this informed panel, 90% considered the plan acceptable and 100% considered it affordable. These findings are not statistically representative and should not be directly compared with the wider sample. Nevertheless, they illustrate how attitudes can evolve as customers explore network challenges, investment trade-offs and the rationale for proposed commitments. The Panel also emphasised transparency, evidence of need, visible benefits and fairness for customers less able to participate in or benefit directly from the energy transition. The seven commitment areas were generally well received, with most customers considering the proposed ambition appropriate. Acceptability reached 72% among domestic customers and 80% among businesses. Overall acceptability increased significantly from 63% before customers considered the commitment areas to 73% afterwards, reinforcing the value of explaining investment needs and outcomes. Given the broadly positive assessment, SSEN has taken forward the tested commitments and investment package, with which the final ED3 Business Plan remains aligned. Affordability concerns were more pronounced among customers already experiencing financial pressure, reinforcing the importance of fairness and support targeted towards those least able to absorb additional costs. This is reflected in the commitment to support at least 240,000 households experiencing fuel poverty and/or barriers to adopting low-carbon technologies by 2033, tripling fuel poverty support compared with ED2. Areas requiring further explanation also reinforced the need for accessible communication, practical examples and clear articulation of customer value. Overall, the research provides confidence that the proposed balance of investment, customer outcomes and bill impacts is broadly acceptable and affordable, while highlighting continuing affordability pressures. As the final stage of the customer evidence programme, it supports the package developed through Consumer Priorities Research, the Fair Future Panel, Large Energy Users Research, collaborative research and stakeholder engagement, providing further assurance that the final ED3 plan reflects customer expectations and priorities.	View report

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Collaborative research project, or was it commissioned solely by your business?	*Please provide the title of the research project.*	*Please provide the research aims, objectives and questions.*	*Please outline which business area(s) the research informs and provide rationale as to why you considered research a necessity for this area.* *250 words max*	*What were the limitations of the research?* *250 words*	*How were the findings quality assured?* *100 words*	*Details of recommendations from the Independent Stakeholder Group (ISG) and how these have been implemented into the development of the business plan. If the recommendations have not been actioned, please provide an explanation.* *250 words max*	*How did the research and ISG recommendations influence the final business plan? If the research did not influence business planning, please provide an explanation here.* *500 words max*	*Please provide a link to the research output.*
Collaborative (All DNOs)	**Power Cut Experiences and Expectations: Research Amongst Vulnerable Customers**	To explore the experiences of customers who had experienced storm-related power cuts lasting 24–48 hours or more, and identify how Distribution Network Operators (DNOs) can improve communications, support and customer outcomes before, during and after prolonged outages. The research examined preparedness, awareness of DNO responsibilities, expectations of the Priority Services Register (PSR), communications during loss of electricity and telecommunications, and the health, mobility, financial and emotional impacts of extended interruptions. A qualitative programme involving 25 customers with lived experience of prolonged outages was delivered through four online sessions. Two sessions explored customer experiences and challenges during power cuts, while two further sessions focused on co-developing and testing potential improvements to support, communications and resilience arrangements.	The research informed the (ED3-S06) Vulnerability Strategy and (ED3-S07) Targeted Customer Storm Support Strategy by providing detailed evidence from customers who had experienced prolonged power cuts, rather than relying on general expectations or hypothetical scenarios. Existing consumer research established the importance of reliability, communications and support, but did not fully explain how prolonged outages affect customers with medical, mobility, financial or communication needs, or how support arrangements can fail when electricity and telecommunications are unavailable simultaneously. The work was commissioned by National Grid Electricity Distribution (NGED) and SSEN for sharing across GB DNOs because prolonged storm outages create common challenges and vulnerable customers may experience severe or life-threatening consequences. A lived-experience approach was selected to identify practical gaps across the full customer journey: preparedness before severe weather; communications, welfare and backup support during an outage; and check-ins, compensation and recovery afterwards. The second-stage solution sessions enabled participants to move beyond describing harm and consider improvements including offline preparedness information, scheduled multi-channel updates, clearer PSR expectations, targeted backup power, community support and simpler compensation. This provided an evidence base for targeted, needs-led interventions and helped distinguish between network restoration, communications and welfare responsibilities.	The research was deliberately qualitative and experience-led. The 25 participants provide detailed insight into prolonged outages and vulnerability, but findings are not statistically representative of all PSR customers, all forms of vulnerability or SSEN's licence areas. Experiences reflected particular storms, DNO regions, household circumstances and local support arrangements. Participants were selected because they had experienced outages lasting 24–48 hours or more. Their experiences are therefore especially relevant to severe events, but should not be generalised to shorter or routine interruptions. Online sessions may also under-represent people unable to participate digitally, despite digital and communications exclusion being a central finding. Addressing this gap will be a specific focus of ongoing engagement ahead of and during ED3, including with digitally excluded customers. The proposed solutions were co-developed with participants and indicate needs and preferred approaches rather than tested service standards or quantified willingness to pay. Suggestions such as automatic compensation, portable generators, household batteries, medication refrigeration, welfare centres or greater PSR differentiation require assessment of safety, legal responsibilities, data-sharing, eligibility, cost, operational feasibility and the roles of DNOs, healthcare providers, local authorities and resilience partners. The research cannot determine restoration priority, which remains governed by safety, network configuration and operational feasibility. It should therefore inform targeted support and service design alongside quantitative evidence, operational learning, partner capability, affordability and regulatory requirements.	An independent research agency delivered a structured lived-experience programme commissioned by SSEN and NGED for wider DNO use. Twenty-five participants each attended an experience session and a solution-development session, allowing emerging issues to be tested and refined. Discussions used semi-structured small-group formats, supported by joint reflection with participants and DNO observers. Fourteen representatives from six DNOs, including SSEN, observed sessions and reviewed emerging insights. The final report documents the methodology, lived experiences, suggested improvements and areas requiring further consideration.	The research was not commissioned or governed through SSEN's Independent Stakeholder Group (ISG), and the ISG did not directly influence the scope, methodology or delivery of the programme. However, discussions with the ISG highlighted a need for stronger evidence on storm-related vulnerability, customer support expectations and the differing impacts of severe weather across customer groups and locations. During a Vulnerability Deep Dive session with SSEN colleagues, ISG members challenged the evidence base underpinning aspects of the (ED3-S06) Vulnerability and (ED3-S07) Targeted Storm Support strategies, particularly the balance between reach, impact, deliverability and affordability. Members questioned whether sufficient customer evidence existed to understand expectations of support during prolonged outages and suggested there would be value in exploring customers' experiences of severe weather, extended power cuts and recovery. The ISG also highlighted that vulnerability and resilience needs may differ significantly between customer groups and geographies, including island, rural and remote communities and across SSEN's two licence areas. This reinforced the importance of gathering lived-experience evidence to understand how prolonged outages affect customers in practice and whether support needs vary according to personal circumstances and location. While this research was commissioned independently of the ISG process, its findings directly address several of the evidence gaps identified through those discussions and provide additional insight into customer expectations of communications, welfare support, preparedness and resilience during severe weather events.	The research explored how customers in vulnerable circumstances experience prolonged power cuts, highlighting gaps between expected support and lived experience during severe weather. Participants consistently described impacts extending far beyond loss of electricity. Loss of heating, lighting, communications, refrigeration, powered mobility equipment, medical devices and access to information frequently combined to create wider health, welfare, financial and emotional consequences. Communication was a consistent priority. Customers expected regular, honest and realistic updates, particularly when restoration times were uncertain. Loss of broadband, landline services, mobile coverage or device battery life could significantly limit access to information, reinforcing the need for accessible, multi-channel communications and proactive welfare contact during prolonged outages. The findings also highlighted the importance of preparedness and resilience before an outage occurs. Participants often drew on previous experience, with many reporting that they had independently purchased equipment or made arrangements following earlier events. Customers wanted clearer information about the support available, greater understanding of what the Priority Services Register (PSR) can provide and practical guidance that could help them prepare before severe weather occurs. These findings are reflected in specific ED3 commitments across the (ED3-S06) Vulnerability Strategy and (ED3-S07) Targeted Customer Storm Support Strategy. Loss of communications during outages is addressed through smart UPS devices for at least 1,300 customers without alternative power or communication. The plan extends personal battery provision to a further 10,000 medically or mobility dependent households, provides power cut packs to 10,000 PSR customers and issues enhanced Personal Resilience Plans to 500,000 customers by 2033. Storm-specific Priority Services Standards will be introduced by 2030, supported by at least 10 post-storm community events each year. These commitments respond directly to customer expectations for greater preparedness, improved communications, proactive welfare support and stronger community resilience. The research highlighted tensions requiring balance within the final ED3 response. Customers strongly supported more personalised and differentiated support for vulnerable households, particularly those dependent on electricity for health or independence. At the same time, delivering highly tailored interventions raises questions around eligibility, data availability, operational practicality and affordability. Similarly, participants expressed support for backup equipment, additional emergency support and simplified compensation arrangements, but expectations varied significantly depending on individual circumstances and the research was not designed to determine how such measures should be funded or delivered. Another important tension related to restoration priorities. Participants consistently wanted vulnerable and medically dependent customers to receive additional attention during outages. However, the research also highlighted the distinction between targeted support and physical restoration. While the ED3 response strengthens communications, welfare support, resilience planning and practical assistance for higher-risk customers, restoration activity must continue to be governed by safety, network configuration and operational feasibility. The research therefore influenced the design, targeting and prioritisation of support rather than defining a single service model. It provides lived-experience evidence underpinning stronger preparedness, more proactive customer support, enhanced resilience measures and improved storm communications, while ensuring that interventions remain proportionate, deliverable and focused on the customers most likely to experience harm during prolonged power cuts.	View report
Collaborative (All DNOs and ENA)	**ENA Value of Lost Load (VoLL)**	To update the evidence base used to value the economic and societal consequences of electricity supply interruptions in Great Britain and provide recommendations for regulatory application. The research sought to understand the value domestic and non-domestic customers place on reliable electricity supplies, how interruption impacts vary by customer type, duration, timing, season and level of notice, and how these differences should be reflected in regulatory and investment decision-making. The programme combined economic modelling, qualitative research (24 participants), quantitative research (3,964 domestic and business customers) and triangulation to develop updated Value of Lost Load (VoLL) estimates and application guidance.	VoLL is an established input into network reliability decision-making and is widely used in the assessment of investment options, reliability standards, interruption incentives and asset risk. The most commonly used GB estimate was based on research undertaken more than a decade ago. Since then, patterns of electricity use, digital dependency, customer behaviour and network reliability have evolved significantly. The research informs areas of the ED3 plan where reliability, resilience and customer interruption impacts are important considerations, including Reliability, Network Asset Management, Long-Term Investment Planning and Long-Term Resource Expenditure. It provides an updated and independently derived view of the value customers place on avoiding interruptions and supports more consistent comparison between the costs of investment and the expected customer benefits associated with improved reliability. The research also explores the wider economic and societal value associated with sufficient network capacity to support decarbonisation and electrification, recognising that network investment delivers benefits beyond interruption avoidance alone. A coordinated ENA approach was appropriate given the role VoLL plays across transmission, distribution and regulatory frameworks and the value of maintaining a common GB evidence base.	The VoLL programme was designed to develop a consistent evidence base for valuing interruptions to electricity supply and supporting regulatory and investment appraisal. It was not designed to determine individual network investments, resilience interventions or customer support measures, nor to replace wider engineering, operational, affordability or vulnerability evidence. The programme combined macroeconomic modelling, stated-preference research and triangulation of multiple evidence sources. Each method has inherent limitations. Macroeconomic estimates use proxies such as Gross Value Added (GVA) and earnings data, which cannot fully capture non-financial impacts such as stress, health consequences, loss of independence or wider social disruption. Stated-preference research relies on hypothetical scenarios and reflects the choices participants say they would make rather than observed behaviour during actual interruptions. The research also demonstrates that interruption impacts vary significantly by customer type, duration, timing, season and level of notice. While a headline VoLL estimate supports consistency in appraisal and decision-making, it cannot fully reflect the range of circumstances and experiences across different customer groups and interruption scenarios. The findings therefore require careful interpretation and application. The triangulated recommendations provide a framework for assessing the value of avoided interruptions but should be considered alongside wider evidence relating to vulnerability, customer welfare, resilience, climate risk, asset condition and deliverability. As with all appraisal assumptions, VoLL is intended to inform decision-making rather than determine outcomes in isolation.	The research was commissioned by the Energy Networks Association and delivered independently by a research agency through three linked work packages. Quality assurance included international literature review, regulatory benchmarking, transparent macroeconomic modelling, stated-preference testing, non-domestic and domestic customer research, and triangulation of multiple evidence sources before final recommendations were developed. The methodology, assumptions, analysis, sensitivities and recommended applications are documented within the published work packages. The research was overseen through collaborative DNO governance arrangements, providing cross-industry review and challenge throughout the programme.	The research was commissioned collectively through the Energy Networks Association before SSEN's Independent Stakeholder Group (ISG) was established and was not designed or governed through the ISG. Consequently, the ISG did not play a role in shaping the methodology, scope or delivery of the research. The findings were subsequently shared with the ISG through wider ED3 strategy and evidence updates, providing visibility of how the research was being considered alongside company-specific consumer, stakeholder and operational evidence. The published ENA work packages provide the relevant account of commissioning, governance and assurance arrangements. The findings form part of the wider evidence base available to SSEN and have been considered alongside company-specific consumer and stakeholder evidence in the development of ED3 strategies and investment plans.	The research updates the evidence on the value customers place on reliable electricity supplies and strengthens ED3 reliability and resilience investment appraisal. While the headline VoLL estimate remains broadly consistent with previous GB estimates, interruption impacts vary materially by customer type, timing, duration and circumstance. The findings reinforce the importance of maintaining a reliable and resilient network at a time when customers, businesses and wider society are becoming increasingly dependent on electricity. Customer attitudes also continue to evolve. Improved reliability, increased digital connectivity, battery-powered devices and changing economic conditions appear to influence how interruptions are experienced and valued, despite a relatively stable headline VoLL estimate. The evidence supports reliability, resilience and asset investment decisions through an updated customer-value input to assessments of interruption frequency, duration and restoration outcomes. Rather than determining specific investments, VoLL helps assess customer harm and compare reliability interventions. This supports targeted reliability investment, including schemes designed to reduce interruptions for Worst Served Customers, improve restoration performance and maintain high levels of network reliability despite increasingly challenging climate conditions. Across (ED3-S02) Long-term Integrated Network Development Plan, (ED3-S01) Load Related Expenditure Annex and (ED3-S12) Network Asset Management Strategy, it enables customer value, reliability benefits, engineering need and affordability to be assessed together. The research also informs the (ED3-S17) Islands Strategy, where geographical isolation, submarine cable reliance and potentially prolonged restoration create distinctive resilience risks. As island communities become increasingly dependent on electricity through electrification of heat, transport and wider economic activity, understanding the value placed on avoiding interruptions becomes increasingly important. The strategy uses island-specific cost-benefit analysis to assess resilience options and investment pathways, with VoLL considered alongside local reliability, demand and community evidence. This supports investment to improve security of supply across Scottish island communities against single-circuit failure by 2033, reducing reliance on embedded diesel generation except during unplanned events. The wider macroeconomic analysis provides additional evidence on the value of sufficient network capacity to support decarbonisation and electrification. Distinct from the core VoLL estimate, it reinforces network investment's potential to enable economic and societal benefits beyond avoiding interruptions. The research also provides an important point of comparison for the (ED3-S06) Vulnerability Strategy. Although interruption impacts differed between customers and contexts, the study did not recommend customer-specific regulatory VoLL values. Consequently, VoLL is not used to determine support levels or eligibility criteria. Instead, support has been designed around customer need, vulnerability and resilience requirements. This reflects the conclusion that interruption impacts for some customers, particularly those who are medically dependent on electricity, cannot be fully captured through monetary valuation alone. Measures including enhanced PSR support, Personal Resilience Plans, power-cut packs and personal battery provision therefore complement, rather than rely upon, VoLL-based appraisal. The research does not determine which ED3 investments should proceed. Its primary contribution is strengthening and updating the evidence base through which interruption impacts and reliability benefits can be assessed consistently, helping ensure that future investment decisions are informed by an up-to-date understanding of the value customers place on secure and reliable electricity supplies.	View report
Collaborative (All DNOs and ENA)	**ENA Consumer Views on Climate Resilience**	To understand what level and type of climate resilience customers expect DNOs to plan for, and how decisions should balance prevention, restoration, support, fairness and cost, informing ED3 business planning. The research explored customer expectations of climate resilience, outage tolerance, support for different resilience interventions, vulnerability, communications and willingness to support investment that reduces climate-related disruption. A mixed-method programme combined seven focus groups and 18 depth interviews, a survey of 3,523 domestic customers, a face-to-face booster of 150 vulnerable and digitally excluded customers, 561 non-domestic customers, deliberative engagement with 65 participants, and research with customers who had experienced outages lasting more than 24 hours.	The research informed the (ED3-S03) Climate Resilience Strategy and wider ED3 approach to severe weather, climate adaptation, reliability, resilience, customer support and outage communications. Climate change is expected to increase the frequency and severity of storms, flooding and heat-related network impacts. While technical assessments can identify physical risks, they do not establish what customers expect from networks, how customers balance resilience and affordability, or when climate-related disruption becomes unacceptable. The programme was commissioned to establish a shared evidence base across GB DNOs and understand what customers consider fair, proportionate and acceptable in response to increasing climate risks. The research explored customer tolerance for different outage scenarios, attitudes towards resilience investment, expectations of restoration and support, and the importance of protecting vulnerable customers and higher-risk communities. The inclusion of vulnerable customers, digitally excluded customers, SMEs, community representatives and customers with experience of prolonged outages ensured the research reflected the practical consequences of climate-related disruption rather than relying solely on hypothetical scenarios.	The research provides a GB-wide understanding of customer expectations regarding climate resilience and climate-related disruption, but was not designed to determine specific resilience interventions, investment levels or funding requirements for individual network operators. The findings are intended to inform resilience planning and decision-making rather than prescribe particular solutions. The programme combined qualitative, quantitative, deliberative and conjoint methodologies, each designed to answer different questions. Qualitative and deliberative components provide depth of understanding and insight into customer reasoning, but are not statistically representative. Quantitative and conjoint analysis establish broader patterns and preferences, but findings remain dependent on the scenarios, risks, costs and resilience measures presented to participants. Customer responses therefore reflect informed views within the context of the research rather than assessments of specific ED3 proposals. The research also explored long-term climate risks that many customers have limited experience of directly. As a result, participants often formed views based on future scenarios and illustrative resilience measures rather than observed outcomes. Preferences identified through the research should therefore be interpreted as indicators of customer expectations, priorities and trade-offs rather than direct evidence of support for particular projects or investment programmes. The findings provide an important customer perspective on resilience, affordability, fairness, communications and vulnerability, but they do not replace climate modelling, engineering assessment, asset-risk analysis, operational learning or wider stakeholder evidence. They should be considered alongside these sources when determining the most appropriate resilience interventions and investment decisions for ED3.	Commissioned through the ENA and delivered independently across three linked work packages, with design, sampling, analysis and reporting reviewed through DNO governance and independent specialists. Survey data were checked for eligibility, response quality, missing data, weighting and subgroup consistency, with sample validity considered across geographic, demographic and vulnerability characteristics. Valuations were tested for coherence across outage scenarios and customer groups. SSEN's independent triangulation compared the findings with its own customer research and third-party evidence, confirming alignment with reliability priorities and flagging limits for ED3 use, including long or widespread outages and PSR-specific values.	The research was commissioned collectively through the Energy Networks Association and was not designed or governed through SSEN's Independent Stakeholder Group (ISG). Consequently, the ISG did not influence the scope, methodology or delivery of the programme. The findings have been considered as part of the wider evidence base supporting ED3 development and have been reviewed alongside SSEN's own customer research, stakeholder engagement and strategy development activities.	The research provided direct evidence that customers expect resilience to improve as climate risks increase and dependence on electricity grows. Customers consistently prioritised preventing very long outages, restoring supplies more quickly and improving communications during severe weather. Support for investment was strong where its purpose, benefits and customer outcomes were clearly explained, but remained conditional on affordability, transparency and evidence of value. Customers judged resilience primarily through outcomes rather than infrastructure. They valued reducing the likelihood and impact of prolonged outages, receiving accurate estimated restoration times and regular updates, and ensuring additional support for vulnerable customers. Lived-experience research showed that uncertainty and poor information can be as difficult as the interruption itself. While 81% of domestic customers considered investment to avoid climate-related power cuts important, only 55% believed their DNO was prepared for extreme weather, reinforcing the need to improve both resilience and confidence in preparedness. These insights influenced our ED3 commitments. SSEN will target its highest-risk assets, rebuilding or undergrounding approximately 350 km of high-risk overhead line and replacing approximately 250 km of cable exposed to increased rainfall, ground movement and climate-related degradation by 2033. Compared with a do-nothing scenario, this programme is expected to remove 20% of network risk in SEPD and 12% in SHEPD by the end of ED3. This translates customers' preference for proactive action into targeted investment focused on assets and locations facing the greatest climate-related risk, rather than uniform expenditure across the network. Customer expectations that SSEN should anticipate changing risks, demonstrate preparedness and explain why action is needed now are also reflected in the commitment to add environmental monitoring at all major substations by 2033. This will provide better evidence of local climate conditions and inform future resilience investment. The strategy's place-based Climate Ready Plans similarly support transparent prioritisation of higher-risk communities and locations, while improved outage communications and customer support processes respond to expectations for accurate information, regular updates and multiple communication routes. The research also influenced how resilience is balanced with affordability and sustainability. Customers accepted some bill impact where investment reduces the risk of very long outages, but expected SSEN to minimise costs and avoid unnecessary replacement. The commitment to increase the refurbishment rate for switchgear and transformers from 3% in ED2 to 8% in ED3 supports this by extending asset lives and improving cost and carbon efficiency while maintaining reliability. Not every customer expectation translates directly into operational decisions. Strong support for vulnerable customers has informed enhanced PSR support and place-based interventions, but restoration priorities remain determined by safety, network configuration and technical feasibility rather than customer preference alone. Similarly, support for stronger island resilience must be balanced with deliverability, environmental requirements and affordability as longer-term solutions are developed. Overall, the research strengthened the case for proactive, risk-led climate resilience investment while shaping how benefits are communicated and targeted. The plan responds through measurable risk reduction, climate-ready asset investment, improved monitoring and more sustainable asset stewardship, while retaining necessary operational and technical safeguards.	Not published – publication remains at the discretion of the commissioning body.
Collaborative (All DNOs and ENA)	**ENA Customer Perceptions on Unlooping**	To understand customer awareness, acceptance and experience of unlooping domestic electricity supplies, and identify the conditions under which proactive and reactive unlooping can be delivered fairly whilst enabling low-carbon technologies. The research explored customer understanding of unlooping, tolerance of property access, excavation and temporary interruptions, support required for customers in vulnerable circumstances, and the communications, information and reassurance needed throughout the customer journey. A mixed-method programme combined qualitative research with 125 customers across key audience groups, including customers likely to require unlooping, customers already unlooped, future bill payers, unaffected customers and customers in vulnerable circumstances, followed by quantitative research with 2,010 domestic customers across Great Britain. The programme produced qualitative and quantitative reports together with a communications toolkit designed to support future customer engagement and delivery.	The research informs (ED3-S01) Load Related Expenditure Annex, (ED3-S08) DNO Role in low carbon technology and energy efficiency rollout, and our wider ED3 approach to enabling electric vehicles, heat pumps and other low-carbon technologies. Looped domestic supplies can constrain additional electrical load, but unlooping may require access to homes, gardens or driveways, coordination between neighbours and a temporary interruption. Engineering evidence can identify where work is needed; it cannot establish whether customers understand the need, what disruption they consider acceptable or what information and support will secure participation. A coordinated ENA programme was necessary because all DNOs face similar delivery and communication challenges as unlooping activity scales. Qualitative work first developed customer-led language and tested the rationale, benefits and journey; quantitative research then established how widely those views were shared. Including proactively and reactively unlooped customers connected expectations with lived experience, while future bill payers, unaffected customers and customers in vulnerable circumstances tested fairness beyond immediate beneficiaries. The research was needed to support credible anticipatory investment and a deliverable customer journey, not simply to test whether customers support net zero. It examined the conditions attached to acceptance: no upfront customer cost, clear explanation of long-term benefit, advance notice, identifiable teams, property reinstatement, accessible support and transparent acknowledgement of benefits to customers and DNOs.	The research provides a GB-wide evidence base on customer attitudes and communications rather than an SSEN-specific mandate for the scale, location or timing of unlooping. Prior awareness was very low: only 8% of survey respondents had heard of unlooping, and understanding was often incomplete. Views therefore depended on the explanations, scenarios and assumptions presented. The programme explored modelled proactive and reactive journeys. It cannot predict how every household will respond when actual excavation, access requirements, neighbour coordination, appointment availability or property conditions are known. Qualitative findings explain concerns and lived experience but are not population estimates; quantitative findings identify broad patterns but cannot represent every housing type, vulnerability or tenure arrangement. Some customers wanted incentives or compensation for proactive participation and disruption. This should not be interpreted as evidence for a universal payment scheme: the research did not establish an appropriate value, eligibility rules, funding mechanism or whether payment would materially improve delivery. Similarly, preferences for choice and convenient appointments cannot remove the need to coordinate connected properties, contractor availability, safety requirements and network sequencing. The findings therefore inform customer journey design, communications and mitigation, but do not determine engineering design, programme volumes or service standards. Those decisions require network data, low-carbon technology forecasts, cost-benefit appraisal, workforce and supply-chain capacity, legal access requirements, vulnerability evidence and affordability considerations.	Commissioned by the ENA and delivered independently by Create Clarity under the MRS Code of Conduct. Qualitative research with likely-to-be-unlooped, previously unlooped, future bill payer, unaffected and vulnerable customers refined materials before quantitative validation. Recruitment, eligibility, response-quality and dataset checks (missing data, routing, bases, quotas, weighting, subgroup consistency) were applied. The national sample was profiled by DNO, geography, demographics, tenure, vulnerability and LCT readiness. DNO unlooping records, shared securely under a DPIA, allowed survey responses to be compared with operational data. Findings were checked across phases, DESNZ evidence and independent triangulation, with outputs reviewed through collaborative DNO governance.	The research was commissioned collectively through the Energy Networks Association and was not designed, commissioned or governed through SSEN's Independent Stakeholder Group (ISG). Consequently, the ISG did not shape the scope, methodology or delivery of the programme. To provide independent scrutiny of the findings, the ENA organised a dedicated feedback session for ISG members from participating DNOs, delivered by Create Clarity. The session presented the methodology, key findings and communications toolkit, and provided opportunities for ISG members to question the research team on the approach, sample, limitations and implications for ED3. SSEN ISG members attended this session. The published qualitative and quantitative reports provide the primary account of commissioning, assurance and findings. SSEN has considered the outputs alongside its own customer evidence, technical analysis and ED3 strategy development.	The research strengthened the customer and delivery evidence supporting SSEN's approach to electrification and network readiness. It explored unlooping as an intervention potentially needed to support electric vehicles, heat pumps and other low-carbon technologies. Initial awareness was very low, but customers generally understood and supported the rationale once explained. Acceptance was strongest when explanations focused on future readiness, avoiding delays and reliable access to low-carbon technologies rather than technical terminology. Customers' concerns centred on delivery rather than the principle: property access, excavation, temporary interruptions, reinstatement of gardens and driveways, disrupted routines and uncertain timing. Trust depended on early notice, realistic timescales, identifiable staff and clear communication when plans changed. Research with customers in vulnerable circumstances reinforced accessible communications, early identification of support needs and tailored engagement throughout. Acceptance increased when customers understood individual and wider network benefits. Customers wanted reassurance of no upfront charge and explanations of how unlooping supports electrification and future readiness. These findings informed the Communications Toolkit, translating feedback into tested language and practical guidance throughout the customer journey. Its application through ED2 pilots has enabled SSEN to test communications, support arrangements and delivery assumptions, using learning to refine ED3. The programme also explored trade-offs. Reactive unlooping attracted stronger support because the need was immediate and visible, but support for proactive intervention increased significantly when future requirements and benefits were understood. The research supported SSEN's shift towards proactive unlooping. Around 40,000 homes will be proactively unlooped in ED3, a fourfold increase on ED2, targeted at areas of greatest need and expected to deliver around 10% savings compared with reactive upgrades. Plain-English communications, advance notice, tailored vulnerability support and no upfront customer charges are incorporated into the approach. Not all preferences translated directly into policy. Some participants supported compensation or incentives for disruption; others wanted unrestricted appointment and delivery flexibility. The research neither established an appropriate compensation model nor demonstrated that payments were necessary for acceptance. ED3 instead focuses on avoiding upfront charges, minimising disruption, effective reinstatement and explaining customer and network benefits. Delivery flexibility must also accommodate safety, neighbouring properties and efficient programme sequencing. The research does not determine programme volumes, locations or whether physical unlooping should always be preferred. Decisions remain subject to network need, cost-benefit appraisal, deliverability, pilot learning and the evolving funding framework, including potential virtual unlooping approaches. Pilots continue testing delivery assumptions, customer experience and communications. The research's primary contribution is defining the conditions under which customers are more likely to understand and accept intervention, while informing adaptations for vulnerability, tenure, neighbour coordination and property circumstances.	View report