SP Electricity North West

DSO Benefits Methodology

2026

Contents and context

Purpose of this document

This document explains how we quantify benefits that our Distribution System Operation (DSO) activities deliver. In 2026 we have updated the benefits methodology first published in 2025 incorporating:

- the use of a new social cost-benefit analysis (CBA) tool, to support our Social DSO Strategy, published in April 2025, enabling our vision to be the leading social DSO, and
- the collaborative work delivered this year with wider DSOs, under the Energy Networks Association (ENA), to create a standardised calculation methodology for reporting benefits relating to outage management and optimisation, DER connections, and deferred reinforcement.

We aim to describe clearly our calculation methodologies to enhance transparency for our customers and stakeholders and show the links between the quantified benefits and actions outlined in our DSO panel submission document.

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SP Electricity North West | DSO

List of abbreviations

We have abbreviated terms throughout our report, where doing so improves clarity and readability. We provide the full form of an abbreviation at first use and then the abbreviation thereafter. A full list of the abbreviations used is provided below.

Term	Meaning
ANM	Active Network Management
BSP	Bulk Supply Point
CBA	Cost-Benefit Analysis
CND	Coordinated Network Development
C&I	Commercial and Industrial
DER	Distributed Energy Resource
DFES	Distribution Future Energy Scenarios
DG	Distributed Generation
DNO	Distribution Network Operator
DSO	Distribution System Operator
DUoS	Distribution Use of System
ECR	Embedded Capacity Register
ED	Electricity Distribution
EHV	Extra High Voltage
ENA	Energy Networks Association
EV	Electric Vehicle
FSP	Flexibility Service Provider
FY	Financial Year
GB	Great Britain
GMT	Ground-Mounted Transformer
GVA	Gross Value Added
HM	His Majesty's

Term	Meaning
HP	Heat Pump
HV	High Voltage
KPI	Key Performance Indicator
LAEP	Local Area Energy Plan
LCT	Low Carbon Technology
LRE	Load-related Expenditure
LV	Low Voltage
MW	Megawatt
MWh	Megawatt hour
NESO	National Energy System Operator
NPSV	Net Present Social Value
NPV	Net Present Value
Ofgem	The Office of Gas and Electricity Markets
ONS	Office of National Statistics
RIIO-ED2/ED3	Current and future regulatory Price Control
SCBA	Social CBA
SCOP	Seasonal Coefficient of Performance
SP ENW	SP Electricity North West
SROI	Social Return on Investment
tCO_2eq	Tonnes of Carbon Dioxide Equivalent
tRESP	Transitional Regional Energy Strategic Plan
YtD	Year-to-date

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High-level overview of our benefits approach

1.1 Introduction

Background

- This updated document details our revised benefits approach, incorporating the changes driven by our Social DSO Strategy, whilst maintaining transparency and clarity for our customers. It summarises how we quantify all benefits, including social impacts, arising from our DSO activities.
- There is a clear regional consensus on the need to transition to a net-zero energy system at the lowest cost to customers. In line with our strategy, we are advancing net-zero and green growth by delivering the affordable, enabling infrastructure essential to a fair and inclusive transition.
- Our Social DSO Strategy, co-created with our stakeholders, embodies the purpose of 'DSO for Good' by supporting a just transition to net-zero through a social DSO business model. To deliver on our 'DSO for Good' promise, we have developed a social cost-benefit analysis tool to aid our decision-making, optimising the social impact of our investments.
- This year we refined our measurement approach by adopting the methodological standardisation agreed at the DSO Collaboration Forum, a process led by SP ENW and facilitated by the ENA. This strengthens the "Theory of Change" methodology introduced last year and ensures consistent benefits calculations across all DSOs.
- We have also enhanced the robustness of our benefits calculations by increasing the use of actual data and reducing reliance on forecasts or assumptions.
- Our DSO activities are evaluated in a common, consistent and reliable way, so that all benefits, e.g. network cost savings, wider energy system impacts, benefits to connecting customers, and wider society, are comparable across all initiatives.

In updating our methodology, we have ensured that our approach:

- Includes outputs from collaboration across DSOs to align initiatives and methodological standardisation that aid reliable reporting and comparison.
- Follows HM Treasury Green Book guidance to evaluate benefits, ensuring robust and transparent tracking of benefits. Our new Social CBA tool, developed by integrating existing SROI frameworks into the Ofgem CBA, aligns with our RIIO-ED2 business plan and planning for RIIO-ED3.
- Considers how DSO activities deliver a social impact and affect different types of consumers, stakeholders and wider society.
- Balances the use of data in our approach, leveraging network monitoring along with forecast and historical data, to ensure our methodology supports progress towards future system needs, not just near-term.
- Reports our years 1, 2 and 3 realised benefits, our ED2 and 2040 ambition, along with reporting unlocked benefits which we are certain will be realised at a future date, based on investment already made within the ED2 period.
- For greater transparency, our ED2 and cumulative benefits to 2040 values recognise that reinforcement costs deferred in earlier years are accounted for in later years when that reinforcement takes place.

1.2 A new Social CBA supporting delivery of our Social DSO Strategy

Our Social DSO Strategy

In early 2025, we published our Social DSO Strategy developed in collaboration with our customers and stakeholders. It builds on our DSO Strategy and Transition Plan, and outlines how we will remain responsive and adapt our transition to a DSO through a social business model — a model that creates economic value and delivers societal benefits whilst addressing both current and future challenges. At its heart is the distinctive, purpose-driven way of 'DSO for Good', a commitment to making the energy transition inclusive, fair and just for everyone.

Our overarching vision, mission and goals

VISION: 'To be the leading 'Social DSO in GB'				
MISSION: 'Enabling the North West to achieve a just energy transition'				
SOCIAL DSO GOAL 1	**SOCIAL DSO GOAL 2**	**SOCIAL DSO GOAL 3**	**SOCIAL DSO GOAL 4**	**SOCIAL DSO GOAL 5**
Timely investment to enhance the network's ability to support regional and national net-zero targets	Make investment decisions that maximise social benefits in the North West, supporting the environment, economy and community resilience.	Promote broader sharing of net-zero benefits by supporting clean energy investments, sustainability and climate projects in marginalised communities.	Increase participation in the energy transition, extending beyond the usual groups to include those at risk of being left behind.	Work collaboratively to increase system efficiency, using smart technology and partnerships to maximise clean renewable energy when it is available.

Social CBA in Practice

As part of our Social DSO strategy, we have broadened the benefits we measure to reflect the wider impact our activities have on communities across our region—not just on our direct customers. This includes capturing the social value linked to improved public health and wellbeing

One example being, this year, our methodology includes the indirect health benefits from reducing harmful air pollutants such as NO_X, SO_2 and PM2.5. These pollutants have a pronounced impact on respiratory health, resulting in greater demand for treatment and increased pressure on local health services.

By reducing carbon emissions through our DSO activities, we also help cut the release of these pollutants. This leads to cleaner air, fewer respiratory-related health issues, and reduced hospital admissions. Ultimately, this supports better health outcomes for our communities while helping ease demand on the NHS.

A CBA tool vs a social CBA (SCBA) tool

A CBA can be undertaken from the perspective of a single entity (for example, SP ENW), considering only the costs and benefits it experiences. Ofgem incorporates the CBA principles from HM Treasury's Green Book into its own CBA tool, which it expects DNOs to use to support a wide range of investment decisions at programme, project, or asset level.

By contrast, a social CBA attempts to capture wider impacts on welfare, including those such as pollution which do not have a direct financial impact. HMT's Green Book sets out the methodology which public sector bodies should use to carry out a social CBA, including standard ways to monetise various non-monetary impacts.

Our new Social CBA tool

This year, we created an integrated cost-benefit analysis tool that incorporates the existing SROI framework into the Ofgem CBA (RIIO-ED2 CBA published version), thereby developing a social CBA tool that enables SP ENW to evaluate investment decisions within a social DSO context. This is a key deliverable for making investment decisions that support the aims of our Social DSO mission and goals.

This enhanced social CBA tool extends the capability of the Ofgem CBA whilst remaining highly flexible, as it can be applied across the full range of cost–benefit analyses undertaken by SP ENW. It can be used for both forecasting and evaluation, and at asset, project or programme level. In addition, it introduces the capability to assess the wider social impacts of DSO actions.

The key differences of the new tool are the addition of the Social Return of Investment (SROI) methodology to help define the counterfactual state (i.e. what would happen without intervention by SP ENW) and the inclusion of a full set of 'proxy values' that translate outcomes and/or impacts into monetary or carbon values, allowing a full social CBA to be undertaken.

A further enhancement to the CBA is the inclusion of a logic model, which provides a structured way of visually representing the Theory of Change. This helps map the causal link from activities through to outcomes and benefits, which is particularly important when considering societal benefits where distributional impacts may arise — for example, where social and economic benefits are not experienced equally across all groups. We have used this logic model with stakeholders to help articulate and test the benefits delivered through DSO activities.

We have also applied the enhanced CBA to robustly assess and evidence the investment proposals included in this year's ED2 reopener submissions, ensuring that each case is supported by a clear, transparent and socially informed value assessment.

1.3 High-level benefits approach

The diagram below highlights our high-level benefits approach, revised in 2025/26 (Year 3) incorporating the use of our new Social CBA and the standardisation work. In line with Ofgem's Performance Panel criteria, we followed the HM Treasury Green Book guidance in establishing this approach.

Identifying beneficial DSO activities

- Identify all DSO **activities** we are undertaking in RIIO-ED2
- Hold workshops with DSO and DNO teams to define and organise these activities
- Identify which activities can deliver benefits for our customers and wider stakeholders

Agree benefit and stakeholder categories for beneficial DSO activities

- Define and categorise the benefits from DSO activities, e.g. cost savings, carbon savings etc.
- Define the **stakeholder groups that benefit**, e.g. existing customers, connecting customers, wider system actors and wider society
- Ensure these categories align with Ofgem and ENA guidance

Develop "Theory of Change"

- Develop a Theory of Change for each activity
- For each **DSO activity** we map out the causal chain:
  - The **action(s)** we are taking under that activity
  - The **outcome(s)** and **social impact(s)** that these actions achieve
  - The **benefits(s)** of those outcomes
  - The **stakeholders** who benefit

Define counterfactuals

- For each **DSO activity,** we specify what the outcome and social impact would be **were we not to pursue that activity**
- This forms the basis against which the benefit of each activity is assessed

Agree data sources and assumptions

- Choose inputs to populate the CBA
- Use actual data where possible, making use of the Open Data Portal if appropriate
- Any estimates or assumptions are agreed with the relevant DNO and DSO experts
- All assumptions are clearly documented in the model and supporting materials for **transparency** and future revision

Populate social-cost benefit analysis (SCBA) templates

- Identify the beneficiaries using our stakeholder personas
- Use social CBA tool as the basis of the analysis
- Create a separate CBA for each DSO activity and combine into an overall CBA to calculate benefits
- Separate into **realised** years 1-3 benefits and cumulative benefits **forecast** out to ED2 and 2040 including **unlocked** and **ambition** benefits

Tracking and updating

- The model itself will be updated annually, using the latest data and revisiting assumptions
- We use **Key Performance Indicators** (KPIs) relating to our DSO activities to ensure we are on track to deliver anticipated benefits or course correct where necessary

1.4 Theory of Change

- To support the delivery of our Social DSO Strategy, we have developed a social CBA tool that integrates the existing SROI framework into the Ofgem CBA, ensuring the broader social, environmental, and economic impacts are comprehensively and consistently evaluated and incorporated into benefits assessment of our DSO activities.
- Our benefits mapping process ensures that each initiative has clear outcome and benefits, which are directly linked to the stakeholders they impact. This method provides quantifiable benefits, typically expressed in monetary terms (e.g. avoided or deferred costs), whilst accounting for non-monetary benefits such as carbon emissions reduction.
- The benefits derived from core activities undertaken this year are outlined in the following pages. For each initiative, we have provided a Theory of Change that underpins our methodology.
- Additionally, we have included a concise explanation of how each benefit or social impact is assessed and the resulting benefits achieved through implementing our plan this year. This is accompanied by a forecast of our benefits for the whole of RIIO-ED2 and out to 2040, and a qualitative assessment of benefits already unlocked in ED2. .

Activity	Action(s)	Outcome(s) and social impact(s)	Benefit(s)	Stakeholder(s)
The DSO initiative or programme that is being undertaken, and is included in our CBA	The action being taken by the DSO	The beneficial outcome and/ or social impact of that action	The benefit expressed in monetary, social or environmental terms	The stakeholders who benefit, whether customers, wider system users or wider society

Mapping activities to actions

- We assign specific actions to each of our DSO activities
- Some activities have a single action, whereas others involve a combination of actions
- Examples would be procuring and dispatching flexibility, deploying and using monitoring data, and offering third-party connections through Active Network Management (ANM)

Mapping actions to outcomes and/or social impacts

- For each action, we specify how that action results in a beneficial outcome and/or social impact for our network, customers, or wider stakeholders
- Examples include deferring or reducing reinforcement costs, facilitating earlier connections, reducing end-user energy consumption, or reducing carbon emissions and environmental pollutants

Mapping outcomes to benefits

- For each outcome and social impact, we convert this into a quantifiable benefit
- Typically, this is expressed in monetary terms, such as avoided or deferred cost, or additional revenue
- It also includes non-monetary benefits, such as tCO_2 reduction in ED2
- Where financial assumptions are required, these are logged in the model and documentation

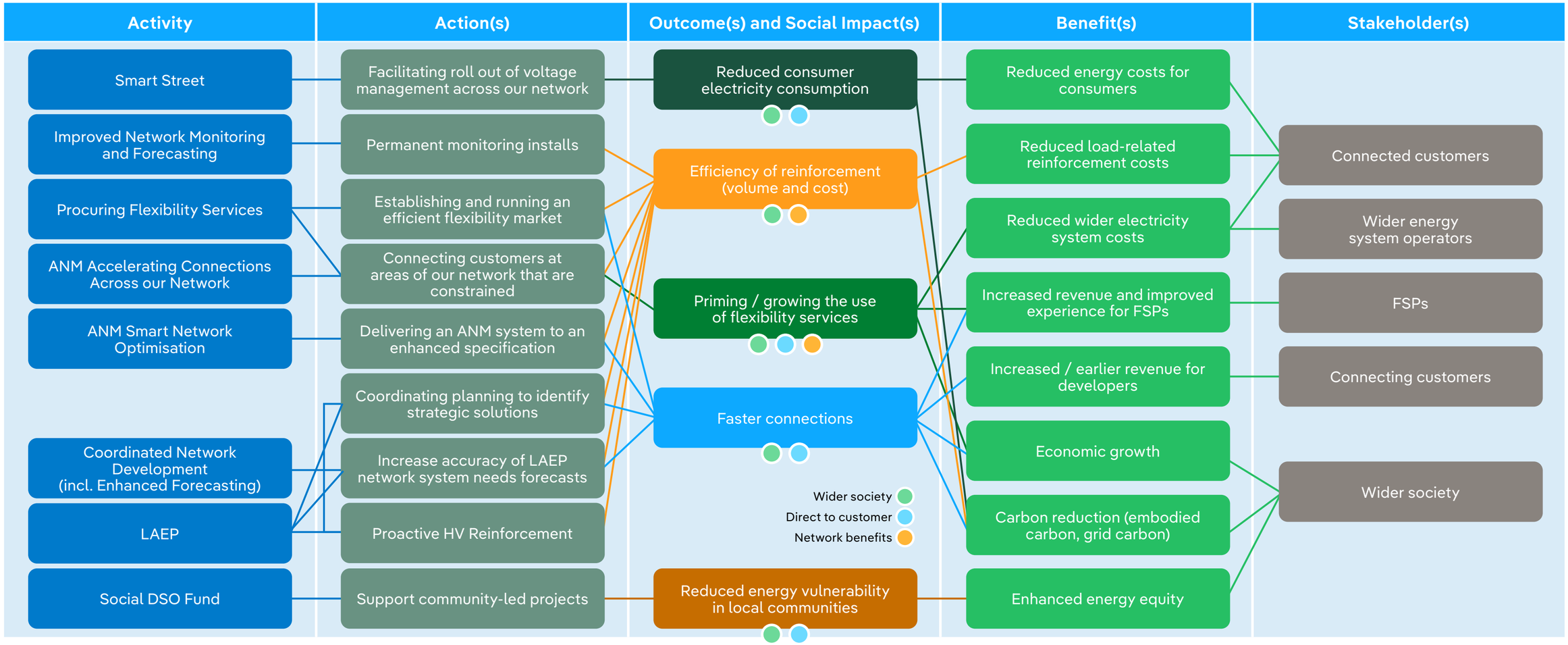
Mapping benefits to stakeholders

- All benefits ultimately pass to one or more stakeholders
- Often, DSO benefits take the form of network savings which pass to our existing customers
- Other stakeholders include connecting customers, wider system users and wider society
- We use our stakeholder personas to identify and map benefits to beneficiaries

Underpinning these steps is the collaborative standardisation work undertaken by the DSOs in year three. DSOs collectively agreed to standardise core elements of the evaluation methodology ensuring a more consistent and reliable set of benefit valuations across all DSOs. This work led by Sirio, managed through the ENA, will continue throughout ED2; further information is available through this year's common appendix and glossary to accompany all DSO performance panel submissions.

1.5 Benefits summary

We have split our core DSO activities into specific actions or initiatives; each action or initiative has resulting outcomes which provide different benefit types. Each of these activities, and the specific actions, outcomes, benefits and stakeholders impacted are discussed, alongside the method for quantifying this, on the following pages.



Benefits summary (cont.)

We have quantified our DSO benefits for 2025/26 (Y3), along with our forecasted DSO benefits for ED2 and out to 2040.

Additionally, we have provided our benefits from 2023/24 (Y1) and 2024/25 (Y2) to show our progress. We have broken out and summarised the benefits identified and derived from the incorporation of the SROI framework within our new social CBA, showing how we are embedding our Social DSO Strategy into business as usual.

All financial figures are expressed in Net Present Value (NPV), and have been grouped according to our DSO activities.

The results are evidenced below, highlighting ED2 benefits of £380m against our DSO transition plan of £249m, with the opportunity to enable £3.1bn of financial benefits by 2040.

Table 1: Summary of all quantified benefits per DSO activity (£m)

	Realised				Unlocked	Ambition	Total		Total
	Year 1	Year 2	Year 3	ED2-to-date	ED2 Forecast	ED2 Forecast	ED2 Total	ED2 Plan	2040
Standardised Activities across DSOs									
Deferring reinforcement	-	0.8	2.1	2.9	-	10.0	12.9	30.5	241.9
Accelerating connections	6.9	25.0	42.5	74.4	34.4	167.5	276.4	182.1	2,044.9
Outage management and optimisation	-	-	-	-	0.7	-	0.7	-	21.6
Sub-total (standardised)	6.9	25.8	44.6	77.3	35.2	177.5	290.0	212.6	2,308.4
Non-Standardised DSO Activities									
Improved monitoring	(0.3)	0.0	1.8	1.6	-	9.2	10.7	11.9	58.7
LAEP support	0.3	1.0	1.7	3.0	6.8	-	9.8	-	44.2
Coordinated network development	8.6	9.0	9.4	26.9	20.0	-	47.0	24.2	499.7
Smart Street rollout	(0.2)	0.5	5.0	5.2	17.7	-	22.9	-	159.2
Social DSO fund	-	-	(0.0)	(0.0)	0.1	-	0.1	-	0.3
Sub-total (non-standardised)	8.5	10.5	17.8	36.8	44.5	9.2	90.4	36.1	761.8
Total benefit	**15.3**	**36.4**	**62.4**	**114.1**	**79.7**	**186.7**	**380.4**	**248.7**	**3,070.3**

Table 2: Summary of all carbon benefits per DSO activity (tCO_2eq)

	Realised				Unlocked	Ambition	Total	Total
	Year 1	Year 2	Year 3	ED2-to-date	ED2 Forecast	ED2 Forecast	ED2 Total	2040
Standardised Activities across DSOs								
Deferring reinforcement	-	129	156	285			1,016	14,115
Accelerating connections	9,399	50,296	87,203	146,898	199,422	80,889	427,209	5,354,913
Outage management and optimisation	-	-	-	-	-	-	-	-
Sub-total (standardised)	9,399	50,425	87,359	147,183	199,422	81,620	428,225	5,369,028
Non-Standardised DSO Activities						-		
Improved monitoring	411	542	698	1,650	-	3,227	4,877	11,551
LAEP support	-	-	-	-	264	-	264	842
Coordinated network development	143	143	143	428	285	-	713	22,602
Smart Street rollout	8	127	365	500	1,349	-	1,849	11,178
Social DSO fund	-	-	4	4	7	-	11	47
Sub-total (non-standardised)	561	811	1,206	2,577	1,898	3,227	7,702	46,174
Total benefit	**9,960**	**51,236**	**88,565**	**149,761**	**201,320**	**84,846**	**435,927**	**5,415,202**

REALISED, UNLOCKED & AMBITION

Term	Definition
Realised	In relation to the measurement of benefits "realised" means benefits where the activities taken have resulted in value accrued to the network or relevant stakeholder group.
Unlocked	Refers the status of a benefit, indicating enough certainty to assume that the benefit will be Realised at a future date.
Ambition	In relation to the measurement of benefits, "Ambition" means benefits where the activities undertaken are expected to result in value being accrued in future years but lacking the certainty of 'unlocked' benefits. For example, this category would include improvements to network access that are expected to accelerate future customer connections but that cannot be allocated to specific existing connection applications.

1.6 How our activities benefit our stakeholders

Through our activities, we have delivered a range of benefits to various stakeholder groups. The table below outlines how these benefits are distributed across these groups and our personas to illustrate how DSO is delivering value across them. It also provides insights into the expected scale of impact in RIIO-ED2 and beyond, extending to the end of RIIO-ED2.

Our nine Stakeholder Personas

Beneficiary	Benefit	Year 1	Year 2	Year 3	ED2 YtD	ED2 Forecast
Direct customers	Avoided or deferred reinforcement costs from using flexibility, reducing consumer contributions to distribution costs, and reduction in energy consumption	13.5	21.4	34.8	69.7	158.3
Local authorities	Reduced resource costs from decarbonisation planning tools and support	0.3	0.9	1.6	2.8	9.1
DERs	Avoided or deferred reinforcement costs from using flexible connections, reducing costs to connecting customers	0.3	0.8	2.5	3.6	69.4
Whole system	Reduced wholesale electricity costs from improved network access for renewable DERs, allowing low carbon generation to connect sooner	0.7	11.1	19.2	31.0	115.8
Environment	Value of reduced carbon emissions from improved network access for renewable DERs	0.4	1.6	3.6	5.6	23.0
Social DSO	Direct financial savings to at-risk customers through Social Impact Fund, including LCT uptake, energy use optimisation and reduction in air pollutants	0.1	0.4	0.8	1.3	4.8

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Activities and assumptions

Summary of methodological updates

As with each year's methodology iteration, we have updated our modelling framework to ensure that our assessment of DSO activities reflects the most accurate and consistent evidence base available. We have refreshed project delivery forecasts, replaced forecasts with actual data where available to more accurately reflect realised activity and benefits, and incorporated direct project costs into net benefit calculations where cost data is available. In addition, all parameters have been updated to reflect the latest Ofgem guidance, HM Treasury Green Book, and the most recent evidence from relevant industry literature.

ENA DSO Benefits Methodology

Underpinning these developments is the collaborative standardisation work completed by Sirio during year three. Through the ENA led working group – chaired and driven by SP ENW – the DSOs collectively aligned on core elements of the evaluation methodology, ensuring a more consistent and robust set of benefit valuations across all regions. This coordinated effort has provided a strong foundation for ongoing improvements throughout ED2, with further detail provided in this year's common appendix and glossary accompanying all DSO performance panel submissions. Full detail can be found in the ENA DSO Benefits Methodology final output.

ENA DSO Benefits Methodology

Updated Gas Generation - short-run marginal cost (SRMC) Method

We now update the short-run marginal cost (SRMC) of gas generation each year to reflect changes in fuel and carbon prices. This ensures our analysis stays aligned with evolving market conditions.

The SRMC brings together the main costs of producing electricity from gas – fuel, carbon, and a small operating cost – into a single annual value. Using an annually updated series, rather than a single static figure, reflects feedback from Sirio through the DSO Collaboration project and ensures our benefits calculations incorporate realistic, time-varying cost trends. By using this improved approach, we more accurately quantify the value of accelerating renewable generation, as the SRMC forms the basis for estimating the financial benefits of avoiding higher cost gas generation.

Social CBA Tool

We have incorporated the SROI proxy bank developed through the Frontier Economics Social CBA project directly into our enhanced social CBA tool. This ensures that, where appropriate, wider social, economic and environmental outcomes are consistently captured and monetised within our benefits calculations. By embedding these proxy values into the methodology, our updated approach provides a more complete and socially informed assessment of DSO activities.

We have published a full summary report of the project.

Social CBA Tool

Tracking Our Performance Through KPI Reporting

We track delivery of our DSO and social DSO objectives through a quarterly suite of KPIs that provide a transparent and repeatable way to monitor progress. These KPIs cover both operational and social impact measures – including flexibility dispatch, accelerated connections, deferred reinforcement, local authority engagement, energy savings, and social value outcomes – and are a key governance tool used to assess whether our DSO activities are translating into measurable benefits for customers, communities and the wider system. The quarterly cycle also allows us to identify risks early and course correct in year, strengthening assurance and informing DSO Panel reporting and internal management decisions.

Benefits to 2040

Our 2040 benefits reflect increasing levels of ambition as we embed and expand DSO activities over time. These activities deliver benefits to customers through bill reductions alongside wider system, economic and environmental benefits. We capture the value of network reinforcements deferred in ED2 in subsequent years when that reinforcement would otherwise be required, with benefits beyond ED2 discounted in line with standard cost-benefit appraisal guidance and aligned with the ENA benefits standardisation project.

2.1 Improved Network Monitoring and Enhanced Forecasting

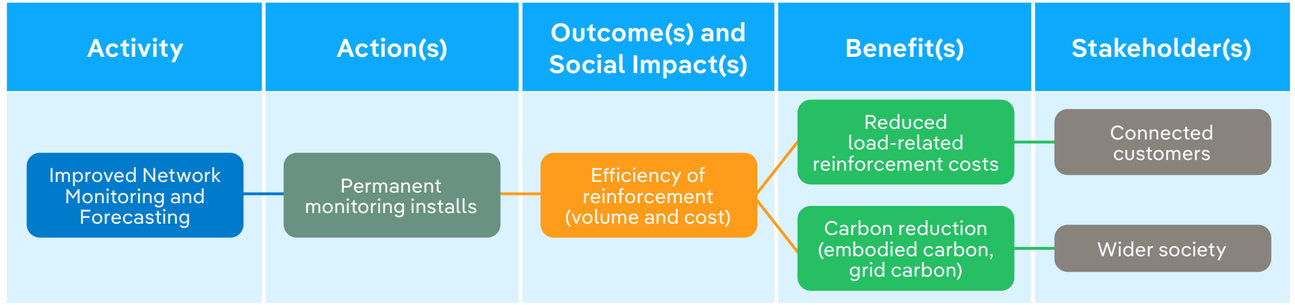
Enhanced visibility of load flows and asset utilisation is foundational to SP ENW's DSO responsibilities. Greater visibility of network conditions at low and high voltage enables more accurate identification of emerging constraints, ensuring targeted and timely interventions, whether through flexibility services or network reinforcement. Improved visibility not only reduces the risk of premature investment but also mitigates the operational and financial consequences of acting too late.

Permanent monitoring devices provide high granularity monitored voltage, current and power-flow data at secondary substations which we supplement with smart meter data insights. As of March 2026, over 60% of customers were already covered by permanent monitoring, and the introduction of the systematic collection of smart meter data will support our goal to achieve 95% of customers covered by monitoring by the end of the price control period. This growing coverage enhances the accuracy of our network forecasting. Our data-driven approach is supported by a wide suite of datasets and forecasting tools available through our Open Data Portal, enabling transparent access to monitored asset data and DFES insights.

Modelling Assumptions

- We have used our projection of low voltage (LV) substation utilisation. As a baseline, we assume that those in the 80-100% peak utilisation band would have been reinforced in the absence of permanent LV monitoring.
- Our monitoring deployment increases from 20% to 30% over ED2.
- Reinforcement at eligible LV sites is assumed to be deferred by 5 years due to improved visibility and intervention timing.
- This deferral corresponds to avoided capital expenditure and deferred embodied carbon emissions.
- The cost of a single LV reinforcement is assumed to be £63,300, consistent with our ED2 licence allowances for transformer upgrades.
- Each reinforcement carries 8.21 tCO_2e of embodied carbon, which is avoided or deferred when monitoring reduces immediate reinforcement need.

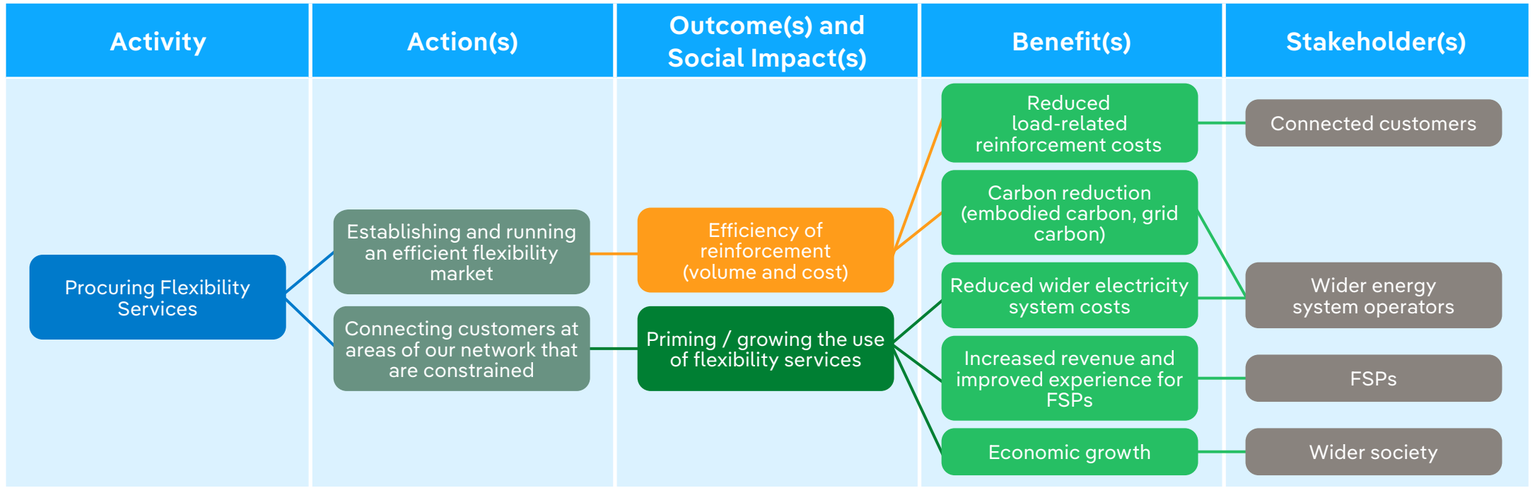
Based on monitoring already installed, £1.6m of ED2 benefits have been realised to date in avoided or deferred reinforcement, with a further £10m unlocked.



2.2 Flexibility Services for Reinforcement Deferral

There are a range of benefits that can be delivered through the use of flexibility services. The benefits considered relate to deferring reinforcement of our bulk supply point (BSP), primary and secondary substations. Establishing and running an efficient flexibility market means identifying and encouraging flexibility providers to participate so that they can help alleviate network constraints, whilst procuring services from a diverse and competitive range of providers to ensure that the cost of flexibility comes down over time. Our systems are fully ready to scale-up to procure as much flexibility as is economically viable and technically required to manage network constraints. As such, the ED2 benefit can be considered 'unlocked'. The logic we have used to estimate the benefits of this deferral is similar across these asset types, as summarised below:

	BSP	Primary	Secondary
Baseline	We have used our projection of BSP firm capacity exceedances (in MVA) to estimate the baseline reinforcement profile	We have used our projection of primary substation firm capacity exceedances to estimate the baseline reinforcement profile	We assumed that secondary sites with estimated peak load in the 80-100% utilisation band and where capacity requirement is ≥5kW require reinforcement, then excluded sites that have monitoring (avoiding double-counting monitoring benefits) and fall outside of the 95th percentile
% deferred with flexibility	Our model assumes a certain proportion of baseline network reinforcements can be addressed through flexibility – for years 1-3 we use actual data, rising to up 10% by 2040		
Deferral years	We assume that each BSP reinforcement can be deferred by 5 years	We assume that each Primary reinforcement can be deferred by 4 years	We assume that each Secondary reinforcement can be deferred by 5 years
Reinforcement cost	We assume that each BSP reinforcement costs £8.8m	We assume that each Primary reinforcement costs £5.5m	We assume that each Secondary reinforcement costs £63k
Flexibility cost	We estimate the cost of flexibility based on the ceiling price (~3.3% of the reinforcement cost, using CEM tool analysis), assuming that the cost is 80% of this ceiling price during ED2, then falling by 2% per year to reach 56% by 2040 as the market matures		
Embodied carbon	We assume embodied carbon of 129 tCO_2e per BSP reinforcement	We assume embodied carbon of 129 tCO_2e per Primary reinforcement	We assume embodied carbon of 8.21 tCO_2e per Secondary reinforcement

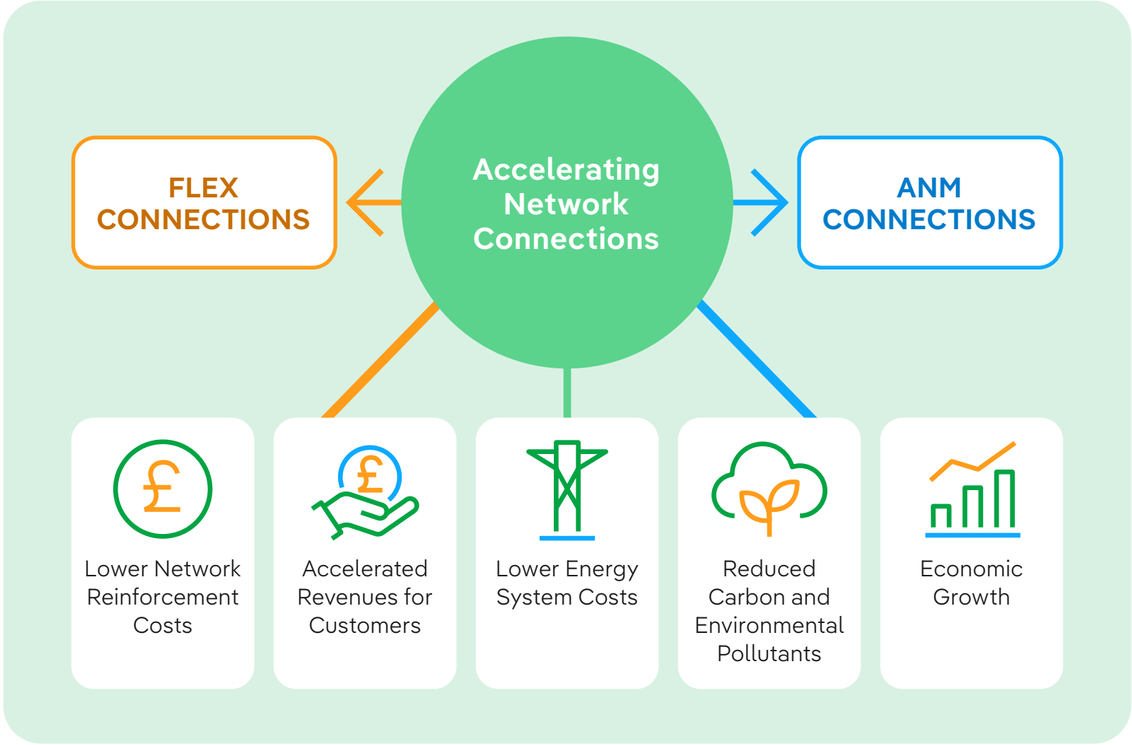


2.3 Accelerating Connections Across our Network

Connections across Great Britain are undergoing major change. Access SCR reforms are replacing the old "first come, first served" model with a "first ready and needed" approach, ensuring that deliverable and strategically important projects can move forward more quickly. Alongside this, updates to technical limits — including more dynamic ratings, modernised voltage and fault level assumptions, and wider real-time monitoring — are unlocking near-term capacity on existing assets. Together, these reforms mean more projects can connect without waiting for major reinforcement, accelerating progress across the energy system.

Building on this national shift, SP ENW is going further to accelerate connections and unlock earlier value for customers. Either through enhanced **Active Network Management** or by offering **flexible connection** arrangements, we allow projects to connect sooner and at a lower cost, accelerating revenue streams and enabling faster deployment of low-carbon generation, storage and demand. By managing constraints in real time rather than relying on reinforcement, we support quicker roll out of EV charging, heat pumps and other LCTs, helping customers decarbonise at pace while reducing wider system costs.

This approach is central to SP ENW's Social DSO mission — delivering substantial benefits for connecting customers, the wider system and the communities we serve.



Accelerating Connections Across our Network (cont.)

Methodology for Quantifying Benefits from Accelerated Connections

In this section we outline the approach used to quantify the economic and environmental benefits of accelerating customer connections through both Active Network Management (ANM) and flexible connection contracts.

These connection arrangements allow generation, storage, demand, EVs and HPs to connect to the network ahead of traditional reinforcement delivery. Under a reinforcement-led approach, customers would typically wait until network upgrades are completed before connecting. By using ANM and flexible connections, projects can connect up to four years earlier than under the reinforcement counterfactual. The methodology therefore estimates the value of bringing forward generation, storage and demand connections, capturing both system and wider economic benefits.

Where possible, our analysis uses actual connection and operational data, supplemented by forecasts and normalisation factors where required.

Connection Volumes and Forecasting Approach

Connection volumes used in the analysis are derived from a combination of actual customer acceptances, historical performance and future projections.

- For years 1-3, benefits are calculated using actual accepted connection offers and known energisation dates.
- Beyond this period, future connections are estimated using,
  - Known projects that have progressed through Gate 1 and Gate 2 under connections reform, are technically viable but constrained by network capacity.
  - Historical acceptance rates applied to the connection pipeline.
  - The Distribution Future Electricity Scenarios (DFES) projections.

This approach ensures near-term estimates reflect real customer commitments, whilst longer-term projections remain aligned with scenario-based growth expectations.

Benefit Categories

Accelerated Generation Connections

- Accelerating renewable generation connections enables low-carbon generation to displace fossil fuel generation earlier than under the reinforcement counterfactual.
- The value of this earlier generation is estimated using the marginal cost of displaced gas generation, representing the avoided system cost of fossil fuel generation.
- Where sites are operational, actual metered generation data (MWh) is used.
- Where data is not available, generation output is estimated using DFES normalisation factors applied to installed capacity and energisation dates.

Accelerating Connections Across our Network (cont.)

Accelerated Storage Connections

- Earlier connection of battery storage increases system flexibility and supports the integration of renewable generation.
- The economic value of accelerating storage connections is estimated using a proxy value of £48,000 per MW per year*, representing the system value of additional storage capacity.
- Where sites are operational, actual metered generation data (MWh) is used.
- Where data is not available, generation output is estimated using DFES normalisation factors applied to installed capacity and energisation dates.

Accelerated Demand Connections

- Accelerating demand connections enables earlier economic activity from new developments and businesses.
- The value of these earlier connections is estimated using a Gross Value Added (GVA) proxy, derived from Office for National Statistics (ONS) data, to represent the economic value associated with bringing forward demand-related activity.

Accelerating EV and HP Uptake

20% of EV charger and heat-pump roll-out is assumed to be enabled by SP ENW's DSO activities, notably flexible connections and network optimisation. These enable earlier adoption of low-carbon technologies across the region.

The DFES Holistic Transition scenario (the transitional Regional Energy Strategic Plan, or tRESP) provides uptake projections, with a counterfactual assuming 20% lower adoption without flexible connections. EV running costs of p per mile** compares favourably with petrol and diesel, both at 15p per mile, generating direct customer financial savings based on DFES charging volumes. Heat pump operational costs are assumed to be broadly cost-neutral compared with gas boilers; therefore, no additional operating cost benefit is included.

Carbon benefits are calculated using 196g CO_2e per mile for EVs vs. 400g CO_2e per mile for petrol or diesel, representing wheel-to-well emissions, meaning the full lifecycle emissions associated with using a vehicle, not just the emissions from the vehicle itself while driving.*** Heat pump carbon savings calculated using SCOP = 2.97 vs. 0.9 boiler efficiency.****

Carbon Benefits

Accelerating renewable generation reduces the carbon intensity of electricity supply by displacing fossil fuel generation earlier.

Carbon benefits are captured through:

- Operational emissions reductions from earlier renewable generation.
- Avoided embodied carbon associated with deferring or avoiding reinforcement assets such as transformers.

*Solar-Energy-UK-Economic-Impact-of-Solar-and-Battery-Storage.pdf

**How Much Does It Cost to Run an Electric Car UK 2026 | Brumble

***https://www.sciencedirect.com/science/article/abs/pii/S0301479722001657#:~:text=On%20average%2C%20EVs%20have%20been,combustion%20engine%20vehicles%20or%20ICEVs

****Heat pumps: smarter, electric and built for better running costs | Octopus Energy

Case study 1 – Accelerating Connections Across our Network

ANM Connection

The challenge

A new large battery connected to the network in late November 2025. Without smart controls, its demand risked overloading a critical part of the network that supplies 8,532 homes and businesses. If that network equipment were damaged, restoring power, especially during winter, could have been slow and difficult. The traditional solution would be expensive network reinforcement, paid for by bill payers, and built to cover rare “worst-case” events that may happen every 10 years.

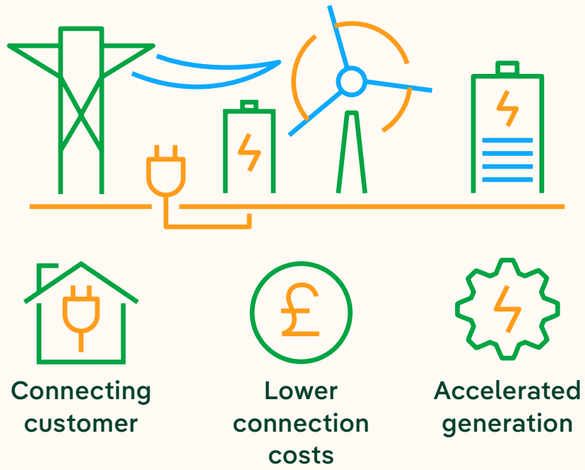
The solution

Instead, the site was connected using ANM, our network management system that automatically reduces demand only when and where needed to keep our network safe. ANM went fully live on 26 November 2025 and has run on “autopilot” ever since, with no control room intervention required.

ANM in Action

- ANM has activated 203 times
- Total curtailment so far: 266.03 MWh*
- That’s just 0.6% of the energy the customer could have used out of a potential 44,087 MWh
- The numbers are still rising, with no control room intervention required

Active network management accelerating connections



Delivering ANM Benefits

With ANM:

- Customer connection accelerated by 3 years, reducing reliance on gas generation, whole system costs and carbon emissions
- £3.2m of DUoS reinforcement costs were avoided, with a further £1.5m of reduced customer connections costs, benefiting both the DUoS and connecting customer
- Curtailment happened only at the right moments
- The customer operated almost normally
- Network safety was protected without heavy-handed restrictions

Without ANM:

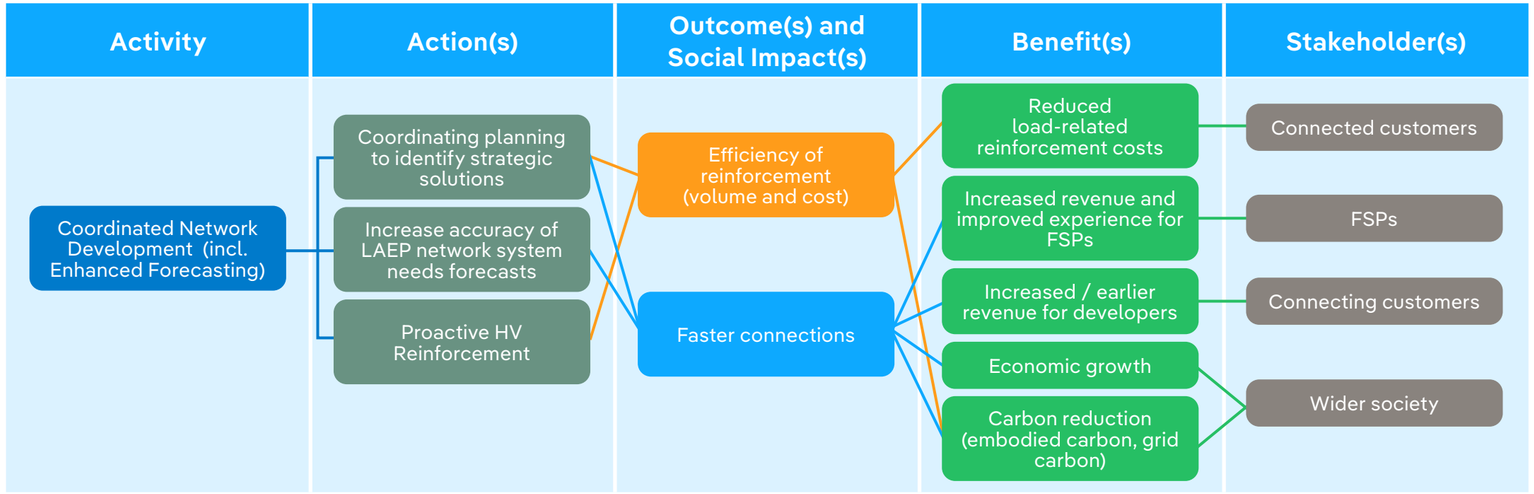
- The customer could have been restricted to around 50% of their import capacity for most of the day
- This would have meant over 78,183 MWh curtailed per annum — nearly 30% of their usage
- The network would have faced a higher risk of asset damage

2.4 Coordinated Network Development

Coordinated Network Development (CND) is SP ENW's proactive approach to planning and deploying network reinforcement across ED2 and beyond. By assessing capacity needs across wider geographies and embedding Local Area Energy Plans (LAEPs) early in the planning process, CND avoids fragmented, reactive reinforcement and delivers lower-cost, strategically timed network investment. This reduces long-term system costs, enables the efficient release of capacity for connecting customers, supports economic growth and local decarbonisation pathways.

CND on the EHV network reduces reinforcement costs at primary substations and BSPs by 25% based on analysis of schemes implemented to date. We project this benefit forward in line with the DFES growth in primary and BSP peak loading. Key assumptions include:

- Our Load Related Re-opener secured funding for a further £158 million of EHV reinforcement and, through CND, evidence of 20% cost savings from completed case studies, translates mathematically into a 25% implied benefit (100% ÷ (100% – 20%)), where the benefit is recognised smoothly across ED2.
- For subsequent years this value is scaled in line with the exceedance expected in that year. This is calculated from the projected growth in primary and BSP peak load from our DFES data.
- CND results in lower embodied carbon as reinforcement is avoided, valued at 129 tCO_2e per transformer.



Proactive reinforcement at HV allows us to reinforce the HV network in a less 'piecemeal' and more proactive way – delivering cost-efficient investment through earlier, coordinated upgrades on HV feeders in areas experiencing growth driven by low-carbon technologies such as EV chargers and heat pumps.

- Case studies in areas where LCT demand will be supplied by HV feeder networks indicate that proactive reinforcement in ED2 is 33% cheaper than reactive reinforcement in ED3. This translates into a benefit of 50% (100%/ (100%-33%)) on the ED2 HV feeder expenditure.
- The benefit is assumed to track in line with the reinforcement cost, which is in turn estimated to be driven by the deployment of EVs and heat pumps.

Social Return on Investment Benefits CND also yields wider societal benefits by accelerating connections and enabling earlier access to low-carbon technologies and flexible services. The LRE re-opener SROI analysis determined that each £1 of ED2 reinforcement spend generates an additional £0.18 of wider social value, beyond avoided ED3 spend. SROI is applied to EHV and HV reinforcement expenditure and scaled using DFES projections of primary and BSP demand growth.

2.5 Active Network Management Smart Network Optimisation

ANM enables SP ENW to optimise real-time power flows and unlock additional network capacity by controlling flexible assets across HV and LV networks. Smart Network Optimisation uses centralised, live measurements to dynamically reconfigure the network, perform load transfers, dispatch and curtail flexible resources, and manage constraints without the need for conventional reinforcement. This provides a system-wide improvement to capacity utilisation, network stability, and operational resilience.

Summary of Mechanism

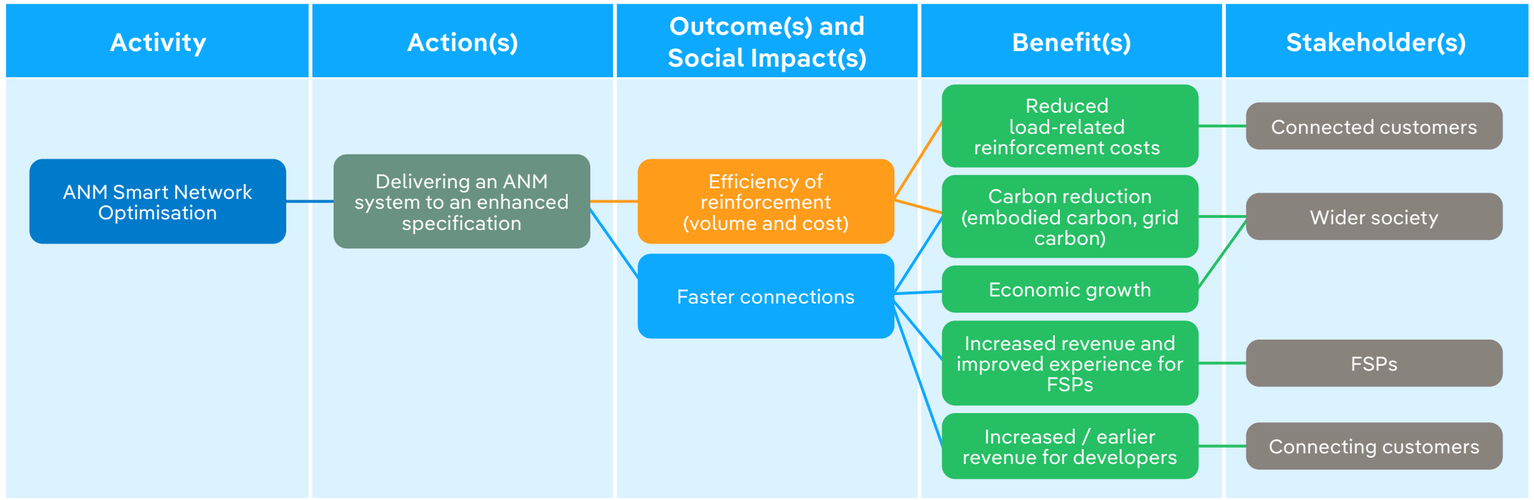
The ANM solution integrates state estimation across the LV network with real-time measurement and control on the HV network. This allows the DSO to actively manage network topology and reduce constraints through the coordinated operation of switches, flexible assets, and automated control schemes. Unlike rule-based or locally configured ANM approaches used elsewhere, SP ENW operates a real-time, centralised power-flow optimisation, enabling faster scaling of flexibility services and reducing the need to rewrite constraint rules or deploy additional hardwired systems.

Deployment Scale and Assumptions

- ANM is already energised across key areas and is planned to scale to over 50% utilisation by the end of RIIO-ED2, meaning the underlying ED2 benefit is considered unlocked.
- Where ANM is active, it is assumed to unlock 5% additional headroom, valued at £63.3k per MVA, this is our ED2 licence unit rate per ground-mounted transformer (GMT) based on the LRE Secondary Reinforcement Volume Driver.

Resulting Benefits

- Financial benefits through reduced reinforcement requirements and increased network capacity utilisation.
- Operational benefits by improved network stability, balancing, and system security.
- Environmental benefits by avoided embodied and operational carbon from reinforcement activity.
- Wider social benefits aligned with proactive, affordability-focused DSO operation.



2.6 Smart Street

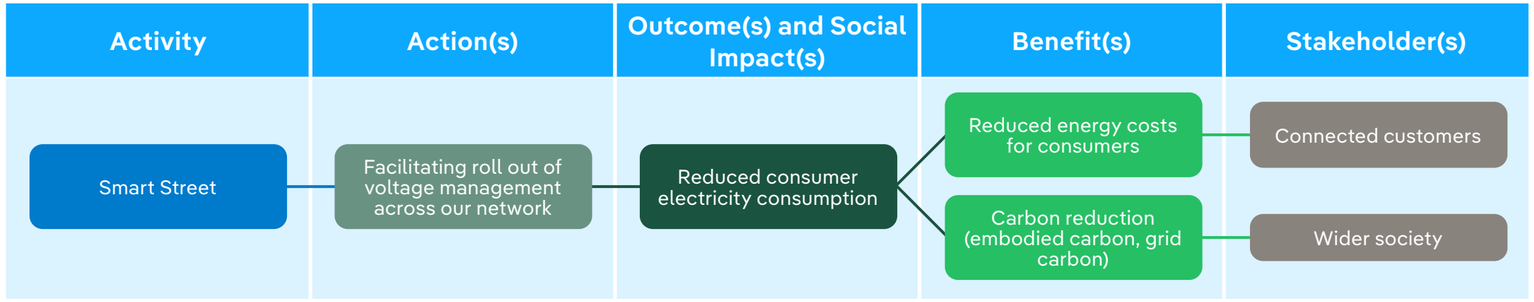
Smart Street helps customers save money on their electricity bills, cuts carbon emissions, and reduces wider system costs by lowering the amount of energy homes use. It does this by automatically managing voltage on the low voltage network in real time, keeping it safely at the lower end of the statutory range. This reduces household energy consumption without asking customers to change how they use electricity and can also deliver network savings by reducing loading at peak times. The approach is especially valuable for customers who face higher energy cost pressures, offering tangible bill reductions that support broader goals around affordability, resilience and fair access to low carbon energy.

Customer Reach

- ~134,000 customers have benefited from Smart Street interventions since that start of ED2.
- RIIO-ED2 projection: expected to scale to >280,000 customers, over 30,000 more than in our ED2 transition plan.
- Realised benefits: ~£5m through installations to date. With a further £17.7m unlocked.

As part of our modelling, we have made the following assumptions:

- **Demand Reduction and Bill Savings** – trials indicate an average of £39 per year bill-saving per participating household.
- **Vulnerable Customer Benefit Uplift** – a key finding from the applied distributional analysis is the identification of vulnerable customer groups within the Smart Street participant base. The data indicates that:
  - Approximately 16% of participating customers are categorised as vulnerable.
  - These households receive an additional £59 per year benefit under our SROI framework.
- **Carbon Benefit Calculation** – annual electricity reduction per household estimated as 157 kWh, derived using an assumed consumer electricity cost of 25p per kWh.
- **Wider System Impacts** – Smart Street reduces costs across the wider energy system, lowering overall network energy consumption and delivering indirect system level efficiency benefits, yearly long-run variable costs were derived from Green Book supplementary guidance.



2.7 Local Area Energy Plans

LAEP provides a structured, place-based approach to identifying the most efficient and cost-effective pathways to local decarbonisation. It helps local authorities plan the electrification of heat, transport, buildings and industry, balancing technical, social and economic factors. LAEPs are widely recognised as essential for coordinating net-zero delivery, enabling stakeholders to identify viable interventions and direct investment where it has the greatest impact.

SP ENW plays a central role in supporting LAEPs across the North West, providing transparent network data, DFES forecasts, capacity mapping, technical workshops and advisory input so plans reflect real-world electricity system constraints and opportunities. This includes quarterly bilateral meetings, combined authority workshops and dedicated engineers as technical points of contact. In 2025, SP ENW's independent review of its LAEP support led to enhanced early-stage preparation, new guidance materials, improved data sharing, accessible introductions to LAEP concepts and peer-to-peer local authority forums, all shaped by stakeholder feedback.

SP ENW also collaborates with gas networks through the Local Authority Common Ask to support coordinated cross-vector planning. This support helps authorities cut planning and modelling costs, avoid unnecessary infrastructure spend, strengthen funding bids and reduce reliance on consultants. Communities benefit from lower energy costs and better access to low-carbon technologies, businesses gain clearer investment signals, and the region benefits from more efficient, better sequenced decarbonisation underpinned by high-quality open data.

Benefits specific to Local Authorities

Lower planning and modelling costs: SP ENW support reduces local authority resource needs for LAEP preparation.

Stronger funding bids: Evidence-rich LAEPs improve success rates for Government grants (EV, heat, retrofit).

Avoided infrastructure CAPEX: Early visibility of network constraints enables smarter sequencing and prevents over specification.

Lower consultancy spend: Technical guidance and workshops reduce reliance on external consultants.

Reduced monitoring/reporting effort: Open data cuts data collection burdens and supports statutory reporting.

Reduced internal policy workload: Clearer decarbonisation pathways limit the need for specialist in house analysis.

Full range of beneficiaries

Local authorities – through reduced planning costs, improved insight, better grant applications, and enhanced local decarbonisation capability.

Businesses and investors – gaining earlier clarity on siting opportunities and local net-zero pathways.

Communities and households – through reduced energy costs, improved comfort, cleaner air, and access to low-carbon technologies.

The regional energy system – benefiting from more efficient investment, reduced reinforcement needs, and better integration of LCTs.

2.8 Social DSO Fund

Our Social DSO Fund – formerly the Powering Our Communities Fund – is SP ENW's dedicated mechanism for delivering its Social DSO strategy at a community scale. The fund provides support to small community energy groups, schools, hospitals, charities and other locally-led organisations to install small-scale low-carbon infrastructure, such as solar PV, battery storage, EV charging, or to access training, feasibility support and community energy education.

Our aim is to ensure that communities often left behind in the energy transition are actively supported and empowered to participate. The fund has been significantly expanded since 2025, following the launch of our Social DSO strategy, which emphasises fairness, inclusion and equitable access to the benefits of decarbonisation. The new fund provides up to £25,000 per project, with a structured governance framework promoting fair access, outcome-based evaluation, and prioritisation of under-represented or at-risk communities.

Benefits to local communities

Although the Social DSO Fund generates benefits that are numerically smaller than those associated with large network-wide initiatives, their localised impact is disproportionately high.

These benefits represent wider social value outcomes, consistent with SP ENW's social DSO vision. To date, £110k of funding been awarded resulting in total gross benefits of £370k, yielding a SROI of 1:3.34.

Benefits include

Annual bill-savings – flexibility participation, community-owned solar and storage reduce grid demand, lowering electricity bills.

Reduced wider system costs – local renewable generation reduces reliance on gas generators, lowering system-wide operating costs.

Carbon emission reductions – by enabling community-scale solar PV battery storage and participation in flexibility markets.

Local energy resilience – community hubs equipped with storage and renewables benefit from improved reliability and resilience during peak events or outages.

Wellbeing improvements – through creation of warm, climate-resilient community spaces.

Greater community inclusivity – community-led ownership and involvement increases residents' sense of agency and belonging.

Access and inclusion – the Social DSO Fund is designed to prioritise communities at risk of being left behind, directly supporting a just and fair transition.

Increased capability of local groups – funding for feasibility, education and advisory support reduces dependency on external consultants.

Improved ability to secure further investment – projects can use funded studies and technical assessments to unlock additional grants or co-funding.

Case study 2 – Social DSO Fund

Burnside Community Energy Ltd.

Burneside Community Energy Ltd. (BCE) is a community benefit society in Kendal dedicated to developing locally-owned renewable energy projects. Building on their successful installation of solar PV on the village school, the group sought to enhance sustainability and resilience at The Bryce village hall by installing solar PV and battery storage, with a later phase involving infrared heating.

Through our Social DSO Fund, BCE received £23,000 of matched funding, enabling them to progress a local net-zero scheme designed to support long-term community benefit and reduce dependence on carbon-intensive grid electricity.

The project's first phase includes 31 solar panels and a 50-kWh battery system, with installation planned for April – May 2026. These assets will provide clean generation, improve affordability for the village hall, and deliver greater energy autonomy. In line with social CBA guidelines, the analysis captures only the solar PV and battery components, excluding the infrared heating phase.

Using SP ENW's enhanced social CBA tool, benefits were assessed over conservative expected asset lifespans, 20 years for the storage system and 30 years for solar PV:

- Lifetime bill savings from solar PV generation, reducing the hall's reliance on grid electricity.
- Battery-enabled bill savings and revenue from flexibility participation, where stored energy can offset peak-time consumption.
- Carbon reduction benefits, reflecting avoided emissions associated with displaced grid electricity.
- System-wide variable cost reductions, as community generation marginally reduces reliance on gas-fired generation at peak.
- Local energy resilience improvements, with the battery providing backup capability and reducing the hall's exposure to outages and peak-demand constraints.
- Social value impacts, including improved wellbeing through a warmer, more efficient community space and strengthened community cohesion arising from local ownership and engagement.

Our new Social DSO Fund

Our Social DSO Fund evolved from the Powering Our Communities Fund first established in 2018 to help smaller community energy groups to embrace low-carbon technologies to achieve a more sustainable energy future.

The fund had tremendous success, helping to spark early-stage ideas across the region and providing more than £500,000 to 45 community projects.

We created our Social DSO strategy in 2025 highlighting our ambition to be a DSO who not only enables the North West to decarbonise quicker, but also one that puts communities at the heart of every decision, it made sense to rename and release new funding too – and thus, the Social DSO Fund was born!

So, what's it all about?

Our aim is to help communities across the North West to step up and shape their own local energy future. That could be through creating climate-resilient spaces, generating clean power by investing in sustainable energy systems or delivering energy-efficiency support to residents.

Applicants can apply for up to £25,000 to support the delivery of practical, locally-driven projects and at the heart of it is to ensure a just, fair and inclusive transition for everyone.

3

Tracking our benefits

3.1 Why measuring our progress is essential

We track delivery of our Social DSO objectives through a quarterly suite of KPIs that provide a transparent, repeatable and robust way to monitor progress. These KPIs span both operational and social impact measures – including flexibility dispatch, accelerated connections, deferred reinforcement, local authority engagement, energy savings and wider social value outcomes – and form a core part of our governance framework. Together with our enhanced social CBA tool, they enable us to assess whether our DSO activities are delivering measurable benefits for customers, communities and the wider system.

Crucially, our social CBA is not a theoretical exercise; it is actively used alongside KPI insights to inform and shape real-world decision-making. The quarterly review cycle gives early visibility of risks, under delivery and emerging opportunities, enabling us to make timely, evidence-based course corrections within the year. This strengthens assurance, informs DSO Panel reporting and directly supports internal investment and operational decisions. Recent examples include:

Smart Street

Where combined KPI data and social CBA evidence demonstrated strong customer value from voltage optimisation, leading us to prioritise deployment to maximise energy saving and affordability outcomes.

Monitoring strategy optimisation

Our Social CBA demonstrated that further physical monitoring offered limited incremental benefit relative to cost. This insight drove a strategic shift: retaining physical monitoring coverage for around 65% of customers while expanding lower cost virtual monitoring to reach approximately 95% of customers in line with our DSO Transition Plan.

These examples demonstrate how our KPIs and social CBA tool together provide the evidence base needed to steer delivery, refine strategy and ensure that DSO activities continue to maximise value for customers and communities. The KPI scorecards detailing our full-year and quarterly performance for 2025/26 are published on our website.

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