

Decision

Decision on the 2020 Low Carbon Networks Fund and Network Innovation Competition Successful Delivery Reward applications

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In May 2020 we received applications from network licensees for a Successful Delivery Reward for three Low Carbon Networks Fund projects, one gas Network Innovation Competition project, and one electricity Network Innovation Competition project.

Having considered the applications, we have decided to award a total of £3.1m across the five projects. One project will receive 100% of their potential reward, two projects will receive 88% of their potential reward, and two projects will receive 75% of its potential reward. Unspent funds will be returned to consumers.

This document sets out our assessment of each project's Successful Delivery Reward application and the resulting level of reward.

Associated documents:

LEAN Project Direction (SEPD)

<https://www.ofgem.gov.uk/ofgem-publications/92390/projectdirection-lean.pdf>

Network Equilibrium Project Direction (WPD)

<https://www.ofgem.gov.uk/ofgem-publications/92386/projectdirection-networkequilibrium.pdf>

SAVE Project Direction (SSEN)

https://www.ofgem.gov.uk/sites/default/files/docs/2014/01/save_project_direction_0.pdf

Celsius Project Direction (ENWL)

https://www.ofgem.gov.uk/sites/default/files/docs/celsius_project_direction.pdf

Low Carbon Gas Pre-heating (NGN)

https://www.ofgem.gov.uk/sites/default/files/docs/2014/01/project_direction_for_low_carbon_gas_preheating_0.pdf

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Executive summary

Innovation is important to ensure that network companies support the transition to a smarter, more flexible, sustainable low-carbon energy system and reduce costs to consumers by finding new ways of operating and developing their networks. Accordingly, our framework for regulating network companies contains mechanisms to stimulate innovation.

The Low Carbon Networks Fund (LCNF) financed electricity distribution innovation projects between 2010-2015, during the fifth electricity distribution price control (DPCR5). Licensees were awarded funds, either via individual innovation allowances or via a competitive process, for projects that helped networks meet the challenges posed by the low carbon transition or delivered other environmental benefits.

In the subsequent Revenue=Incentives+Innovation+Outputs (RIIO-1) price control framework, the LCN Fund was replaced by the Network Innovation Competition (NIC) and Network Innovation Allowance (NIA). The NIC and NIA are also available to gas transmission, gas distribution and electricity transmission licensees.

The Successful Delivery Reward (SDR) is a financial reward that companies can apply for on completion of certain LCN Fund or NIC projects that are delivered efficiently. Network companies make a compulsory contribution of 10% of the total project funding approved at the start of the project. This is the maximum value of the SDR that can be awarded for each project. Companies can apply to receive this once their project is complete if they can demonstrate how they have met certain project-specific SDR Criteria, as set out in each individual Project Direction.

There is an annual window for completed LCN Fund and NIC projects to apply for their SDR.¹ This year, three completed LCN Fund projects, one completed gas NIC projects and one completed electricity NIC project applied for the SDR. We used their applications, along with other evidence received in the course of the projects to assess whether each project had been well managed and met its Successful Delivery Reward Criteria (SDRC).

Our decisions on the reward for each project are presented in Table 1 below.

¹ All Second Tier LCN Fund projects and NIC projects awarded funding in or before 2016 are eligible to apply to Ofgem for the SDR once the project has been completed. Projects funded after this date are not eligible for the SDR.

Table 1: Decisions on the Successful Delivery Reward for each project

Project	Funding mechanism	Licensee	Licensee compulsory contribution (£)	Total SDR award (£)
LEAN	LCNF	SSEN	306,800	230,100
Network Equilibrium	LCNF	WPD	1,309,097	981,823
SAVE	LCNF	SSEN	1,015,537	888,595
Celsius	Electricity NIC	ENWL	533,779	467,057
Low Carbon Gas Pre-heating	Gas NIC	NGN	546,289	546,289

1. Introduction

Context

- 1.1. Network companies need to innovate to address the challenges they face and facilitate the transition to a low carbon economy. We recognised this when developing the LCNF and NIC schemes to fund the network companies to run network-related trials of technologies that will facilitate the transition to a low carbon economy, where these offer cost savings and/or wider environmental benefits for consumers. The funding provided to companies under the schemes is paid for by consumers through their bills.
- 1.2. Before licensees were awarded funding for Second Tier LCN Fund and NIC projects, licensees submitted project proposals. These were reviewed by Ofgem and an independent Expert Panel. The Expert Panel recommended which projects should be awarded funding and Ofgem decided to award the requested funding with each network company being required to make a compulsory contribution of 10% of the funding requested.
- 1.3. All Second Tier LCN Fund projects and NIC projects awarded funding in or before Relevant Year 2016/2017 are eligible to apply to Ofgem for the SDR once the project has been completed. The maximum reward is equal to the licensee's 10% compulsory contribution to the project budget, as set out in its Project Direction².
- 1.4. There is an annual window for completed LCNF and NIC projects to apply for their SDR. In 2020, three LCNF projects, one gas NIC project, and one electricity NIC project applied for the SDR. The total amount of funding applied for was £3.7m.

Our decision making process

- 1.5. The process for assessing the SDR applications is set out in the LCNF and NIC Governance Documents³. Licensees are required by their respective LCNF and NIC licence conditions to comply with these documents as though they formed part of the

² All capitalised terms not otherwise defined in this document have the meaning given to them in the LCN Fund or NIC Gas or Electricity Governance Document.

³ [Low Carbon Networks Fund Governance Document v.7](#)
[Network Innovation Competition Governance Documents v.3](#)

licence. Throughout this document we refer to the “Governance Document” as both the NIC and LCN Fund Governance Documents are consistent in their requirements for the SDR.

1.6. The Governance Document sets out the three elements we consider as part of assessment of SDR applications, these are summarised here:

- whether the project specific SDRC, contained in its project direction, had been met to a quality that we expected and delivered on time – weighted at 50% of the potential reward
- the final project cost to understand if the SDRC were met cost-effectively – weighted at 25% of the potential reward
- the management of the project, in particular how risk and uncertainty were controlled and how significant changes to the project were managed – weighted at 25% of the potential reward.

1.7. We place greater weighting on the first element because it is directly related to evaluating how the SDRC were met. The remaining weighting is split evenly between cost effectiveness and project management.

1.8. We assess projects on a case by case basis, using:

- evidence submitted in the applications
- responses from the companies to our supplementary questions (if any)
- evidence gathered by us during the life of the project.

1.9. We adopt a standard assessment process to ensure the projects are treated consistently and fairly.

1.10. Some projects undergo changes in their scope, methodology and expected outputs, which can be expected due to the nature of innovation projects. In order to incorporate these changes into the Project Directions, the licensees have to submit change requests to us for approval.

- 1.11. When we assess whether to approve these change requests, we consider whether there has been a material change in circumstances and whether the changes are in consumers' interest. We are not at that time evaluating the licensee's management of change, and approving the request does not influence our decision on the level of the award under the SDR.
- 1.12. We reduce the amount of the reward where we believe the licensee had not made full use of the available risk management tools. We also reduce the amount of the reward where we considered documents submitted to us as part of a change request were not to the required standard.
- 1.13. As per the relevant Governance documents for these projects⁴, part of our assessment of the SDR we consider whether the project was delivered cost effectively. We note in relation to the submissions assessed in this document, that where companies have demonstrated that they have applied new and innovative approaches to underspend against the budget they have received the reward for this category. We have not rewarded these companies for underspending budgets where this is not demonstrated, as the underspend may simply be a reflection of an inaccurate, and possibly overstated, initial budget.
- 1.14. The remainder of this document outlines our assessment of each project's SDR application, which have been published on our website alongside this decision. Each chapter looks at a single project and provides our decision on each of the three elements, including where we have reduced the reward for a licensee.

⁴ Network Innovation Competition Governance Document - <https://www.ofgem.gov.uk/publications-and-updates/version-30-network-innovation-competition-governance-documents>
Low Carbon Networks Fund Governance Document - <https://www.ofgem.gov.uk/publications-and-updates/low-carbon-networks-fund-governance-document-v-7>

2. LEAN (SEPD)

Project summary

The LEAN project was submitted in 2014 through the LCN Fund and aimed to explore automation solutions at 33kV and 11kV substations on the Southern Electric Power Distribution (SEPD) network. The two methods considered were Transformer Auto Stop Start (TASS), switching out transformers in primary substations at times of low demand to reduce energy losses; and the Alternative Network Topology (ANT), which would allow a TASS site to operate in parallel with an adjacent primary substation.

Did the Project meet its SDRC?

- 2.1. We consider that the evidence submitted by SEPD in its SDR application demonstrates that the LEAN project delivered all of its SDRCs. Although ANT was found not to be a financially viable solution, TASS has been successfully deployed at the trial locations and SEPD are exploring its deployment more widely on its networks. Monitoring and analysis were completed according to the SDRCs.

Were the SDRC cost-effectively delivered?

- 2.2. Overall SEPD delivered the project for £1.41m (50%) below the budget set out in the Project Direction, which will be returned to network consumers.
- 2.3. We do not consider SEPD's rationale for this underspend to be convincing, particularly for equipment costs, as the majority was due to issues arising from initial proposals that turned out to be neither practical nor financially or operationally feasible. Another significant budget line underspend was 94% of the £283k set aside for travel and expenses, where the use of teleconferencing, for example, should have been accounted for in the initial estimate. We urge applicants to make realistic forecasts of their expenditure when submitting bid proposals, before submitting applications requesting unnecessary sums from network consumers. As we consider that it was foreseeable to SEPD that the SDRC would be delivered at significantly lower cost than that requested, we do not consider that it would be cost-effective for network consumers if they were required to pay the full 10% of the original funding reward.

How well was LEAN managed?

- 2.4. The LEAN project encountered no material changes. Difficulties at trial stage were identified early, tracked, and reported to Ofgem in good time. We consider SEPD's approach to risk management is evidenced by the timely identification and mitigation of potential risks, namely the decision to delay of SDRC 9.4 'Initial Learning from Trial Installation and Integration', by nine months, in order to capture more data from the trials.

Our decision

- 2.5. SEPD delivered the LEAN project by meeting all of its SDRCs, and managed project risks appropriately, but we consider the initial cost estimates to have been poorly managed resulting in substantial underspend not due to efficiencies. We therefore intend to award SEPD 230,100 (75%) of the potential full reward of £306,800. How this has been calculated is set out below:

Table 2: LEAN award

SDR criterion	Available (£)	Awarded (£)
SDRC delivery	153,400	153,400
Cost effectiveness	76,700	0
Project Management	76,700	76,700
Total	306,800	230,100

3. Network Equilibrium (WPD)

Project summary

Western Power Distribution Plc (WPD) was awarded funding to implement the Network Equilibrium project through the LCN Fund in 2014. The project aimed to develop and trial new technologies that would release network capacity and allow Distributed Generation (DG) to connect in a more cost effective and timely way, compared to traditional solutions.

Did the project meet its SDRC?

- 3.1. We consider the evidence submitted by WPD in its SDR application for the Network Equilibrium project demonstrates that the SDRC were delivered to an acceptable quality and on time. Throughout the project, WPD published evidence demonstrating delivery of its SDRC at each stage. We therefore consider the project met its SDRC.

Were the SCRC cost-effectively delivered?

- 3.2. The project was delivered for £2.55m (19%) under the overall budget.
- 3.3. The 19% underspend is attributed to efficiencies made across the budget categories. However, an examination of the budget lines has led us to conclude that the underspend was due to unrealistic budget estimates at the outset. For example, contracting costs were overestimated by 20%, and the project budgeted for a new IT system, but subsequently used the existing one. Similarly, the project budgeted to buy new equipment and subsequently using existing equipment instead. In addition, we consider that substantial savings in the 'Travel' section accredited to using teleconferencing could have been foreseen at the time of the bid. As such, we do not consider it to be cost effective for network consumers to pay the full 10% of the potential funding reward.

How well was the project managed?

- 3.4. We consider that WPD has managed the project well, with evidence that the risk register was maintained and updated as the project progressed. The six monthly reports summarised the risks and highlighted those that were of the highest importance to the delivery of the project and how they were being managed.

- 3.5. There were no material changes that impacted the SDRCs and the 6 monthly reports adequately demonstrate how these criteria were met. WPD submitted all reports in a timely manner.

Our decision

- 3.6. WPD delivered the Network Equilibrium project to a good standard and on time, meeting all of its SDRCs, and managed project risks appropriately, but we consider the initial cost estimates to have been poorly managed resulting in substantial underspend not due to efficiencies. We therefore intend to award WPD £981,823 (75%) of the potential full reward of £1,309,097. How this has been calculated is set out below:

Table 3: Network Equilibrium award

SDR criterion	Available (£)	Awarded (£)
SDRC delivery	654,548	654,548
Cost effectiveness	327,274	0
Project management	327,274	327,274
Total	1,309,097	981,823

4. SAVE (SSEN)

Project summary

SSEN was awarded funding to implement the SAVE (Solent Achieving Value from Efficiency) project through the LCN Fund in 2013. The project focused on the Low Voltage (LV) network with the aim of demonstrating how DNOs can better serve their consumers through a range of technology based, social, and economic mechanisms.

The project engaged over 8,000 domestic consumers with four initiatives over three winter trial periods by testing 12 sequences of demand side response to evaluate potential load reductions.

Did the project meet its SDRC?

- 4.1. We consider the evidence submitted by SSEN in its SDR application for the SAVE project demonstrates that the SDRC were delivered on time and were of good quality. Throughout the project, SSEN published timely evidence demonstrating delivery of its SDRC at each stage, meeting all requirements, including excellent dissemination of learning and political engagement.

Were the SDRC cost-effectively delivered?

- 4.2. The project was delivered for £1,094,00 (14%) under the overall budget.
- 4.3. Some of the underspend is attributed to genuine efficiencies made across a majority of budget categories. We note that though the 'Travel' budget was exceeded, this was as a direct and proportionate result of savings made under 'Labour' and so we consider this section of budget rebalancing to be cost-effective. An examination of other budget lines has led us to conclude that although some underspends were due to circumstances out of SSEN's control (eg continued consumer engagement), some (such as dissemination costs) should have been predicted more accurately. Overall, as we consider some elements of this underspend were foreseeable to SSEN, we do not consider it cost-effective for network consumers to pay the full reward in respect of these foreseeable underspends.

How well was the project managed?

- 4.4. We consider that SSEN has managed the project well, with the six-monthly reports delivered on time, and risk register was maintained and updated effectively as the project progressed.
- 4.5. There were two material changes that affected delivery of the SDRCs, and SSEN followed the process for Change Requests in a timely manner. One of these concerned changes to trial periods without affecting overall budgets or project time period, and the other concerned issues with third party equipment and supplier. Both Change Requests were agreed by Ofgem and delivered accordingly.

Our decision

- 4.6. We have decided to award the project 88% of the potential SDR available: £888,595. How this has been calculated is set out below.
- 4.7. This reflects the fact that SSEN has delivered SAVE to a good standard, on time, but we consider some elements of the budget underspend should have been predicted and budgeted for more accurately at the outset.

Table 4: SAVE award

SDR criterion	Available (£)	Awarded (£)
SDRC delivery	507,768	507,768
Cost effectiveness	253,884	126,942
Project management	253,884	253,884
Total	1,015,537	888,595

5. Celsius (ENWL)

Project summary

Electricity North West Limited (ENWL) was awarded funding to implement its Celsius project through the Electricity NIC in 2015. The project aimed to manage potentially excessive temperatures at distribution substations, through retrofit thermal monitoring, a thermal ratings tool and retrofit cooling.

Did the project meet its SDRC?

- 5.1. We consider that the evidence submitted by ENWL in its SDR application for Celsius demonstrates that all the SDRC were delivered to an acceptable quality and on time. We therefore consider that the project has met its SDRC.

Were the SDRC cost-effectively delivered?

- 5.2. The project was delivered for £436k (8%) under the overall budget.
- 5.3. The majority of the underspend was due to approximately £450,000 of the 'Contingency' fund not being used for its intended purpose. We consider the rationale for use of the contingency fund (redeploying existing equipment) does not appear to justify the scale of the original estimate. IT costs were the only other budget line noticeably underspent (by around £18k, 8.5%), but we consider the increased efficiency due to new equipment to be a genuine efficiency saving not foreseen at the time of the project design. Overall, as we consider some elements of this underspend were foreseeable to ENWL, we do not consider that it would be cost-effective for network consumers if they were required to pay the full 10% of the original funding reward.

How well was the project managed?

- 5.4. ENWL was required to provide reports at key milestones throughout the project. All of these reports were of an acceptable standard and were provided within pre-agreed deadlines. ENWL provided risk analysis and mitigation measures which were regularly updated in its Project Progress Reports as required, and no Change Requests were made.

Our decision

- 5.5. We have decided to award the project 88% of the potential SDR: £467,057. How this has been calculated is set out below.
- 5.6. This reflects the fact that ENWL has delivered the Celsius project to a satisfactory standard, and on time, but we consider some elements of the budget underspend should have been predicted and budgeted for more accurately at the outset.

Table 5: Celsius

SDR criterion	Available (£)	Awarded (£)
SDRC delivery	266,890	266,890
Cost effectiveness	133,445	66,722
Project Management	133,445	133,445
Total	533,780	467,057

6. Low Carbon Gas Pre-heating (NGN)

Project summary

Northern Gas Networks (NGN) was awarded funding to implement its Low Carbon Gas Pre-heating project through the Gas NIC in 2013. This project aimed to address a gap in investment options for pre-heating technologies with a smaller carbon footprint by:

- installing two 'alternative' preheating technologies - Thermo Catalytic Systems and Low Pressure Steam Systems - across six sites of differing scale; and
- monitoring the performance of both systems as well as control sites (utilising existing technology) through smart metering technology.

Did the project meet its SDRC?

- 6.1. We consider that the evidence submitted by NGN in its SDR application demonstrates that the SDRC were delivered to an acceptable quality and on time. Although one Change Request was submitted, this was agreed by Ofgem and NGN met its revised timetable.

Were the SDRC cost-effectively delivered?

- 6.2. The project was delivered £136k (1.5%) under the overall budget. These unspent funds will be returned to consumers.
- 6.3. Within individual budget lines we note that the costs associated with tenders for installation sites were under-estimated at the time of the project bid; this was due to estimates being made prior to site selection where remedial work could not be forecast. However, costs overall were balanced by efficiency savings found in the IT and equipment budgets, and we consider this balancing of budget lines to have been efficient. The project was based on efficient initial budget estimates as reflected in the proportion, and causes, of underspend.

How well was the project managed?

- 6.4. NGN was required to provide reports at key milestones throughout the project. All of these reports were timely and of an acceptable standard. NGN provided risk analysis and mitigation measures which were regularly updated in its Project Progress Reports

as required. One Change Request was made, to extend the project deadline by one year, Ofgem assessed and approved this request.

Our decision

- 6.5. We have decided to award the project the full SDR available: £546,289. How this has been calculated is set out below. This reflects the fact that NGN has delivered the Celsius project to a satisfactory standard, on time and within an efficient budget.

Table 6: Low Carbon Gas Pre-heating

SDR criterion	Available (£)	Awarded (£)
SDRC delivery	273,145	273,145
Cost effectiveness	136,572	136,572
Project Management	136,572	136,572
Total	546,289	546,289

7. Next steps

- 7.1. We will implement our decisions on this reward by directing SEPD and WPD to recover the SDR through the 2020 LCNF Funding Direction⁵ in accordance with the LCN Fund Governance Document, and SSEN, ENWL and NGN to recover the SDR in accordance with the NIC Funding Direction.⁶
- 7.2. The Funding Directions will also take into account any funding to be returned to consumers, including project underspends and revenue from royalties generated by LCNF and NIC projects.
- 7.3. We will issue the Funding Directions in time for the DNOs, GDs, and SSEN to prepare their indicative use of system tariffs at the end of December 2020. This will allow them to recover any awarded SDR in the 2021/22 regulatory year.
- 7.4. This document constitutes notice of our reasons for our decision in accordance with section 49A of the Electricity Act 1989 and section 38A of the Gas Act 1986.
- 7.5. If you have any queries, please contact networks.innovation@ofgem.gov.uk.

⁵ The LCN Fund Funding Direction set out how much each Distribution Services Provider (DSP) can recover from consumers through Use of System Charges and the net amounts to be transferred between DSPs to cover the costs of eligible funding under the LCN Discretionary Fund. The Funding Directions will take account of any funding to be returned to consumers, including revenue from royalties generated by LCN Fund projects.

⁶ The NIC Funding Direction sets out how much the system operators can recover from consumers through Use of System Charges and the net amounts to be transferred to licensees to cover the costs of NIC projects and any Successful Delivery Reward. The Funding Directions will take account of any funding to be returned to consumers, including revenue from royalties generated by NIC projects.