



Making a positive difference
for energy consumers

National Grid Electricity System
Operator Limited and
National Grid Gas Plc

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Date: 10 March 2022

Dear Company Secretaries,

March 2022 SIF Funding Direction

The Strategic Innovation Fund (SIF) is a funding mechanism for the Electricity System Operator, Electricity Transmission, Gas Transmission and Gas Distribution sectors, within the RII0-2 network price control.¹

As confirmed in our² decision on the operational arrangements for the SIF on 25 August 2021³, we have appointed UK Research and Innovation (UKRI) as our delivery partner on the SIF and are remunerating their costs administering the SIF via network charges.⁴

The purpose of this SIF Funding Direction⁵ is to implement our recent decisions to distribute SIF Funding to (i) the round 1 Discovery Phase Projects that we have decided to award funding to in February 2022,⁶ and (ii) cover UKRI's costs operating the SIF in 2021/22 and 2022/23.

Accordingly, this direction sets out the amount that National Grid Electricity System Operator Limited (ESO) and National Grid Gas Plc (NGGT) will ultimately recover from its customers in

¹ Fuller details regarding the SIF can be found here: <https://www.ofgem.gov.uk/energy-policy-and-regulation/policy-and-regulatory-programmes/network-price-controls-2021-2028-riio-2/network-price-controls-2021-2028-riio-2-riio-2-network-innovation-funding/strategic-innovation-fund-sif>

² The terms 'we', 'us', 'our' refer to the Gas and Electricity Markets Authority. Ofgem is the office of the Authority.

³ Our decision to appoint UKRI can be found as part of this publication: <https://www.ofgem.gov.uk/publications/sif-governance-document>

⁴ SIF Governance Document is available here: <https://www.ofgem.gov.uk/publications/sif-governance-document>
While further detail on UKRI's role can be found here: <https://www.ofgem.gov.uk/publications/appointment-innovate-uk-uk-research-innovation-sif-delivery-partner>

⁵ Capitalised terms not otherwise defined in this document have the meaning given to them in Appendix 1 of the SIF Governance Document.

⁶ SIF Funding Decision, 1 March 2022; <https://www.ofgem.gov.uk/publications/strategic-innovation-fund-discovery-projects-approved-funding>

relation to the SIF. This direction also specifies the net amounts to be transferred between ESO, UKRI and other electricity network licensees; and NGGT, UKRI and other gas network licensees.

ESO must transfer funds as set out in Schedule 1 below, and NGGT must transfer funds as set out in Schedule 2 below. ESO and NGGT must transfer funds to the nominated bank account as notified by network licensees as per the requirements in the SIF Project Directions. The recipients must adhere to requirements regarding project banking arrangements as specified in Chapter 8 of the SIF Governance Document. If recipient network licensees anticipate any problems fulfilling these requirements, they should notify Ofgem as soon as possible.

Background

As per chapter 7 of SIF Governance Document and pursuant to the following licence conditions detailed in Table 1 below, Ofgem calculates and, by direction, specifies the net amount of SIF Funding (less any SIF Funding Return) that is to be paid to licensees and UKRI by ESO and NGGT. Ofgem also specifies the manner in which and the times at which ESO and NGGT is required to transfer that SIF Funding.

Table 1 – Network licence conditions

Network Licensee	Licence Condition
National Grid Electricity Transmission Plc	Special Condition 9.19
SP Transmission Limited	Special Condition 9.19
Scottish Hydro Electric Transmission Plc	Special Condition 9.19
National Grid Electricity System Operator Limited	Special Condition 3.4
National Grid Gas Plc	Special Condition 5.7
Cadent Gas Limited	Special Condition 9.13
Northern Gas Networks Limited	Special Condition 9.13
Scotland Gas Networks plc	Special Condition 9.13
Southern Gas Networks plc	Special Condition 9.13
Wales & West Utilities Limited	Special Condition 9.13

We below specify values under two headings, which in turn feed into the calculation of the SIF Funding term within ESO’s and NGGT’s licence:

1. The amount of SIF Funding to be distributed to Funding Parties (ie network licensees) who are leading Projects which we have decided to fund, and to UKRI for their services administering the SIF.
2. The amount of the funding to be returned (the SIF Funding Return) to customers through the SIF Funding Return Mechanism.

The values in this document align with the SIF Funding Decision on 1 March 2022, and our approval of UKRI costs on 11 February 2022. These values are based upon the forecasts submitted by individual Projects and UKRI. However, we recognise the actual expenditure on

Projects and by UKRI may differ from these figures. Accordingly, there will be a 'true-up' of the figures quoted in this SIF Funding Direction against actual expenditure via subsequent SIF Funding Directions.

To minimise cashflow risk, ESO and NGGT have both forecast the value of the SIF Funding term in advance of this direction. Over coming years, ESO and NGGT will reconcile their forecast values of the SIF Funding term against the actual values specified in this direction to ensure the amount of funding ultimately recovered from consumers is accurate.

SIF Funding awarded

As per our SIF Funding Decision published on 1 March 2022, we selected 40 Projects for the round 1 Discovery Phase of the SIF.⁷ The Projects we decided to fund are listed in Table 2 below.

Table 2 – SIF Funding due to network licensees for Projects⁸

SIF round	Project Phase	Sector	Project name	Network licensee	Total SIF Funding to be distributed (£)
Round 1	Discovery	Electricity	10024879 INCENTIVE - Innovative Control and Energy Storage for Ancillary Services in Offshore Wind (4.3.5)	SHE	121,002
Round 1	Discovery	Electricity	10020383 Network-DC (4.3.1)	SHE	142,288
Round 1	Discovery	Electricity	10025660 Fast Flex (4.3.8)	SPT	112,221
Round 1	Discovery	Electricity	10025653 Asset Reuse and Recovery Collaboration (ARRC) (4.3.7)	SPT	75,963
Round 1	Discovery	Electricity	10027601 SCADENT - SuperConductor Applications for Dense Energy Transmission (4.3.15)	NGET	148,437 ⁹
Round 1	Discovery	Electricity	10027503 SEGIL - Sustainable Electrical Gas Insulated Lines (4.3.12)	NGET	133,814
Round 1	Discovery	Electricity	10027180 Crowdflex: Discovery (4.3.9)	NGESO	70,057
Round 1	Discovery	Electricity	10020514 NIMBUS - Network Innovation and Meteorology to BUild for Sustainability (5.3.1)	SHE	148,476

⁷ SIF Funding Decision, 1 March 2022; <https://www.ofgem.gov.uk/publications/strategic-innovation-fund-discovery-projects-approved-funding>

⁸ Note that all values quoted in this SIF Funding Direction are quoted to the nearest £. This is consistent with the SIF Project Directions which quote values to nearest £.

⁹ The SIF Project Direction issued for this Project incorrectly states two amounts for SIF Funding. The correct amount of SIF Funding requested is £148,437.

Round 1	Discovery	Electricity	10025651 EN-twin-e (5.3.8)	SPT	143,480
Round 1	Discovery	Electricity	10025656 Predict4Resilience (5.3.9)	SPT	109,401
Round 1	Discovery	Electricity	10025639 Digi-GIFT (5.3.7)	SPT	136,236
Round 1	Discovery	Electricity	10027585 Eye in the Sky - Utilising satellite data to improve grid resilience in emergency (5.3.22)	NGET	119,105
Round 1	Discovery	Electricity	10026595 Virtual Energy System (5.3.11)	NGESO	149,921
Round 1	Discovery	Electricity	10025661 Flexible Heat (6.3.3)	SPT	137,858
Round 1	Discovery	Electricity	10025662 HEAT BALANCE (6.3.4)	SPT	125,695
Round 1	Discovery	Electricity	10025738 A Holistic Hydrogen Approach to Heavy Duty Transport (H2H) (7.3.3)	SPT	108,238
Round 1	Discovery	Electricity	10025479 Resilient and Flexible Railway Multi-Energy Hub Networks for Integrated Green Mobility (7.3.2)	SPT	118,780
Round 1	Discovery	Gas	10023632 HyNTS Compression (4.3.3)	NGGT	146,659
Round 1	Discovery	Gas	10023216 Green Hydrogen Injection into the NTS (4.3.2)	NGGT	114,652
Round 1	Discovery	Gas	10024392 Nuclear Net-Zero Opportunities (N-NZO) (4.3.4)	NGGT	107,494
Round 1	Discovery	Gas	10027292 Excess gas turbine energy generation (4.3.11)	NGN	134,161
Round 1	Discovery	Gas	10021808 Gas Analyser Systems for Hydrogen Blends (5.3.4)	NGGT	113,414
Round 1	Discovery	Gas	10022352 Hydrogen Metering (5.3.5)	NGGT	86,378
Round 1	Discovery	Gas	10020622 HyNTS Pipeline DataSet (5.3.3)	NGGT	95,571
Round 1	Discovery	Gas	10020620 Gas Networks Interoperable Digital Twin (5.3.2)	NGGT	78,779
Round 1	Discovery	Gas	10027191 Predictive Safety Interventions (5.3.17)	SGN	58,729
Round 1	Discovery	Gas	10027059 Digital Twin - Exploring the societal, operational, and cross industry whole system benefits on the Gas Distribution Network (5.3.12)	SGN	119,127

Round 1	Discovery	Gas	10027183 Intelligent Gas Grid (5.3.15)	SGN	116,401
Round 1	Discovery	Gas	10025731 Digital Twins: Exploring the commercial, societal and operational benefits on green hydrogen Projects (5.3.10)	SGN	124,265
Round 1	Discovery	Gas	10027276 Thermal imagery analysis - Condition assessment fluid and pressure (5.3.18)	NGN	78,182
Round 1	Discovery	Gas	10027572 Digital Platform for Leakage Analytics (5.3.21)	Cadent	114,576
Round 1	Discovery	Gas	10027307 CEV: Critical factors for the adoption of smart homes for energy efficiency and implications for consumers and providers (5.3.19)	NGN	55,395
Round 1	Discovery	Gas	10020609 Ch4rge - Emissions Capture (6.3.1)	NGGT	144,782
Round 1	Discovery	Gas	10022648 Hydrogen Barrier Coatings for Gas Network Assets (6.3.2)	NGGT	74,706
Round 1	Discovery	Gas	10027185 Velocity Design with Hydrogen (6.3.5)	SGN	55,542
Round 1	Discovery	Gas	10020605 HyNTS Deblending (7.3.1)	NGGT	148,141
Round 1	Discovery	Gas	10027575 NAVIGATION (7.3.11)	SGN	149,724
Round 1	Discovery	Gas	10027315 Rail Decarbonisation Planning (7.3.9)	NGN	113,594
Round 1	Discovery	Gas	10027293 Multimodal Hydrogen Transport Refuelling Study (7.3.6)	NGN	89,445
Round 1	Discovery	Gas	10026963 HyPark (7.3.4)	WWU	150,000
Total of SIF Funding for Projects due to network licensees					4,570,689

Additionally, as part of our contractual relationship with UKRI, we recently approved UKRI's actual and forecast costs for delivering the SIF. This constituted the latest year 1 forecast of £700,301, as well as £1,963,907 of forecast costs for 2022/23.¹⁰ As detailed in chapter 7 of the SIF Governance Document, UKRI's costs will be apportioned between electricity and gas network charges, according to the relative split of electricity and gas Projects. For example, if £60m of SIF Funding is awarded to gas Projects and £40m to electricity Projects, then gas network charges will pay for 60% of UKRI's costs and electricity network charges will pay

¹⁰ We will use the SIF Funding Direction in March 2023 to reconcile UKRI's 2021/22 and 2022/23 forecast costs against actual costs. Since UKRI is not a licensee, any return of funds from UKRI is not classified as a SIF Funding Return and is not returned via the SIF Funding Return Mechanism. We will deduct or add this reconciliation to the 2023/24 forecast costs that are due to be distributed to UKRI within that SIF Funding Direction.

40% of UKRI's costs. Accordingly, we set out the split of UKRI costs between electricity and gas charges in Table 3 below.

Table 3 – SIF Funding due to UKRI for delivering the SIF

	Instalment 1 (to be paid on or before 29 April 2022) (£)
Total to be distributed by National Grid ESO to UKRI	1,224,635
Total to be distributed by National Grid Gas to UKRI	1,439,573
Total of SIF Funding due to UKRI for delivering the SIF	2,664,208

The SIF Funding Return

The SIF Funding Return Mechanism is used to return any SIF Funding Return from network companies to NGGT and ESO, and ultimately back to consumers. As detailed in chapter 7 of the SIF Governance Document, this will include unspent SIF Funding, SIF Disallowed Expenditure, SIF Halted Project Revenues, SIF Returned Project Revenues and SIF Returned Royalty Income.

There is no SIF Funding Return included within this direction because at this stage in round 1 of the SIF there are no unspent funds to be returned. The nil value of the SIF Funding Return is reflected in Table 4 below.

Table 4 – SIF Funding Returns due from individual Projects

SIF round	Project Phase	Sector	Project name	Reason for return	Network licensee	Instalment 1 (to be paid on or before 29 April 2022) (£)
Round 1	Discovery	Electricity/Gas	NA	No Projects due to return funds.	NA	0
Total of SIF Funding Returns from individual Projects						0

Implementation

As the learning from the SIF Projects provides benefits to all network licensees and GB consumers as a whole, SIF Funding is ultimately raised across all GB consumers through NTS Transportation Owner Charges (in gas) and Transmission Network Use of System Charges (in electricity).

SIF Funding is distributed by NGGT and ESO to individual network licensees. This means that NGGT and ESO make a net payment to each licensee per instalment, which incorporates the sum of SIF Funding awarded to the licensee across multiple Projects, less any SIF Funding Return. The network licensees are responsible for administering the SIF Funding they receive for Projects as per requirements in chapter 8 of the SIF Governance Document.

In accordance with Special Conditions 3.1 and 3.4 of ESO's Electricity Transmission Licence, Special Conditions 5.1 and 5.7 of NGGT's Gas Transporter Licence, and the SIF Governance Document, the Authority hereby requires ESO and NGGT to comply with the conditions in Schedules 1 or 2 to this SIF Funding Direction, as appropriate. Schedules 1 and 2 set out the net amounts that must be transferred by ESO and NGGT to recipients of funding, together with the manner and timescale over which these amounts must be transferred – see Tables 5 and 7 in the Schedules appended to this letter.

This SIF Funding Direction constitutes notice pursuant to section 38A (Reasons for decisions) of the Gas Act 1986 and section 49A (Reasons for decisions) of the Electricity Act 1989.

If you have further questions or want to discuss, please contact Graeme Barton on Graeme.Barton@ofgem.gov.uk

Yours faithfully,

Steve McMahon

Deputy Director, Networks

Signed for and on behalf of the Authority

Schedule 1: Funds to be transferred by ESO

The net amounts of SIF Funding that must be transferred by ESO to recipients

Table 5 contains the net amounts that must be transferred by ESO to UKRI and network licensees, as appropriate, in the Regulatory Year 2022/2023 commencing 1 April 2022. For the avoidance of doubt, no adjustments for inflation should be made to these numbers. It also sets out the manner and timescale for making payments.

As required by individual SIF Project Directions, the recipient receiving funding from ESO was required to provide its bank account details to ESO by 1 March 2022.

Table 5 – Net amounts of SIF Funding to be transferred by ESO to recipients

Recipient	Instalment 1 (to be paid on or before 29 April 2022) (£)
UKRI	1,224,635
National Grid Electricity Transmission Plc	401,356
SP Electricity Transmission Limited	1,067,872
Scottish Hydro Electric Transmission Plc	411,766
Total net amount of SIF Funding to be transferred by ESO to recipients	3,105,629

The net amount that ESO must retain for its own SIF Projects

Table 6 contains the net amount that ESO must retain for its own SIF Projects in the Regulatory Year 2022/2023 commencing 1 April 2022. For the avoidance of doubt, no adjustments for inflation should be made to these numbers.

Table 6 – Net amount to be retained by ESO for its own SIF Projects

Recipient	Instalment 1 (to be paid on or before 29 April 2022) (£)
National Grid Electricity System Operator Limited	219,978

The value of ESO's SIF Funding term (the SIFF term)

Based upon the values in Table 5 and Table 6 above, we determine that that the value of the SIFF term that ESO must ultimately recover from its customers for Regulatory Year 2022/2023 is £3,325,607.

We, however, note that this value may be revised at a later date if further SIF Funding Directions are issued in Regulatory Year 2022/2023.

Schedule 2: Funds to be transferred by NGGT

The net amounts that must be distributed by NGGT to recipients

Table 7 contains the net amounts that must be transferred by NGGT to UKRI and network licensees, as appropriate, in the Regulatory Year 2022/2023 commencing 1 April 2022. For the avoidance of doubt, no adjustments for inflation should be made to these numbers. It also sets out the manner and timescale for making payments.

As required by individual SIF Project Directions, the recipient receiving funding from the NGGT was required to provide its bank account details to the NGGT by 1 March 2022.

Table 7 – Net amounts to be distributed by NGGT to recipients

Recipient	Instalment 1 (to be paid on or before 29 April 2022) (£)
UKRI	1,439,573
Cadent Gas Limited	114,576
Northern Gas Networks Limited	470,777
Southern Gas Networks plc ¹¹	623,788
Wales & West Utilities Limited	150,000
Total net amount of SIF Funding to be transferred by NGGT to recipients	2,798,714

The net amount that NGGT must retain for its own SIF Projects

Table 8 contains the net amount that NGGT must retain for its own SIF Projects in the Regulatory Year 2022/2023 commencing 1 April 2022. For the avoidance of doubt, no adjustments for inflation should be made to these numbers.

Table 8 – Net amount to be retained by the NGGT for its own SIF Projects

Recipient	Instalment 1 (to be paid on or before 29 April 2022) (£)
National Grid Gas Plc	1,110,576

The value of NGGT's SIF Funding term (the SIFF term)

Based upon the values in Table 7 and Table 8 above, we determine that the value of the SIFF term that NGGT must ultimately recover from its customers for Regulatory Year 2022/2023 is £3,909,290.

We, however, note that this value may be revised at a later date if further SIF Funding Directions are issued in Regulatory Year 2022/2023.

¹¹ Funds for SGN's SIF projects are being distributed to Southern Gas Networks because all SGN projects were submitted under the licensee Southern Gas Networks.