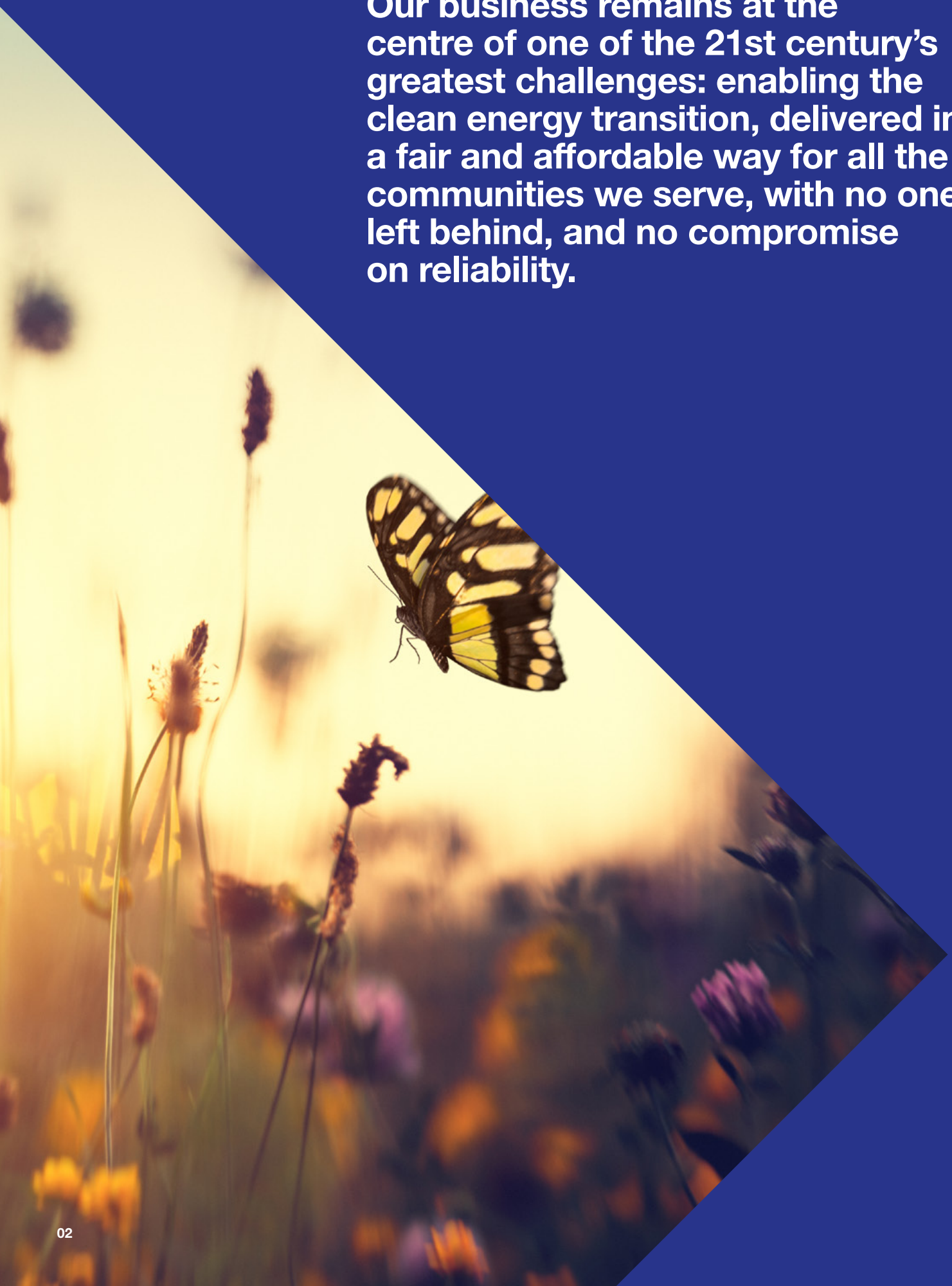
Green Financing Report

nationalgrid

December 2020

Our business remains at the centre of one of the 21st century's greatest challenges: enabling the clean energy transition, delivered in a fair and affordable way for all the communities we serve, with no one left behind, and no compromise on reliability.



About National Grid – who we are

National Grid plc is one of the largest investor-owned utilities focused on transmission and distribution of electricity and gas in the UK and US. With over 23,000 employees worldwide, we play a vital role in connecting millions of people to the energy they use, safely, reliably and efficiently. We're committed to being a responsible business in everything we do. It's enshrined in our purpose – to Bring Energy to Life.

Introduction

Our business remains at the centre of one of the 21st century's greatest challenges: enabling the clean energy transition, delivered in a fair and affordable way for all the communities we serve, with no one left behind, and no compromise on reliability. To do so, we are investing in the decarbonisation of our networks and are issuing Green Financing Instruments to support our efforts and reinforce our vision to be at the heart of a clean, fair and affordable energy future.

In November 2019, National Grid published its Green Financing Framework (the "Framework"), under which National Grid plc and its subsidiaries can issue Green Financing Instruments (the "Green Financing Instruments") to fund our efforts towards a cleaner energy system.

The Framework is aligned with the ICMA Green Bond Principles published in June 2018, and with the LMA Green Loan Principles published in December 2018. The Framework was verified by DNV-GL, and the Framework and corresponding Second Party Opinion (SPO) are available on our website: click here to view.

National Grid Electricity Transmission plc ("NGET"), the subsidiary of National Grid plc that owns the regulated electricity transmission network in England and Wales, issued its inaugural green bond of €500 million in January 2020. Following this successful first issuance, NGET issued three bonds with sizes of HK$ 422 million, $85 million and €100 million respectively. In addition, Niagara Mohawk Power Corporation ("NIMO"), a regulated public utility that owns and operates electricity distribution and transmission facilities in upstate New York[1], issued the first green bond from one of National Grid's US entities for $600 million in June 2020.

Finally, National Grid North America Inc. executed the first ever multi export credit agency ("ECA") covered green loan worth $743 million to fund the Viking Link interconnector in April 2020.[2]

In line with the commitments detailed in our Framework, this first Green Financing Report covers the allocation of our green bonds' proceeds and their environmental impact.

The Reporting Criteria for the allocation of proceeds and impact are contained within the body of the Allocation and Impact Report with specific details listed within the following sections 'Notes to the NGET Allocation Report', 'Notes to the NIMO Allocation Report', 'Notes to the NGET Impact Report' and 'Notes to the NIMO Impact Report'.

PriceWaterhouseCoopers LLP ("PwC") have reviewed this Green Financing Report and provided limited assurance over selected information, identified with the symbol. PwC's limited assurance report is available on our website: click here to view.

[1] NIMO's services also includes the transportation and delivery of natural gas, but these activities aren't eligible for green financing, as defined in our Framework

[2] In line with our loan documentation, we will only report on the impact metrics for the Viking Link interconnector once the project is operational, which is expected to be in 2024. Hence the Viking Link interconnector allocation and impact reports are not covered in this Green Financing Report

We play a vital role in connecting millions of people to the energy they use, safely, reliably and efficiently.

Final terms of National Grid's green bonds

Issuer	National Grid Electricity Transmission plc (NGET)				Niagara Mohawk Power Corporation (NIMO)
Rating at issuance (Moody's / S&P / Fitch)	A3 / A- / A	A3 / A- / A	A3 / A- / A	A3 / A- / A	A3* / A- / -
Documentation	Senior unsecured, Reg S	Senior unsecured, Reg S	Senior unsecured, Reg S	Senior unsecured, Reg S	Senior unsecured 144A/Reg S
Currency	EUR	HKD	USD	EUR	USD
Size (m)	500	422	85	100	600
GBP equivalent (m)[3]	428.3	41.6	65.2	83.2	-
Trade date	13 January 2020	16 January 2020	22 January 2020	13 February 2020	23 June 2020
Settlement date	20 January 2020	24 January 2020	29 January 2020	20 February 2020	25 June 2020
Maturity	20 January 2025	24 January 2028	29 January 2031	20 February 2040	27 June 2030
Coupon	0.190%	2.245%	2.500%	1.151%	1.960%
Denomination	EUR 100,000 + EUR 1,000	HKD 1,000,000	USD 200,000	EUR 100,000 + EUR 1,000	USD 2,000 + USD 1,000
Primary listing	London	London	London	London	-
ISIN	XS2104915033	XS2107332566	XS2110793044	XS2123085958	US65364UAN63 (144A) USU65354AK53 (RegS)

*Negative outlook

[3] Swapped GBP amounts at issuance

Allocation Report

Allocation principles

The proceeds from each of NGET and NIMO's green bonds were used to finance or refinance, in whole or in part, new or existing (under construction, development or completed[4]) Eligible Green Projects (the "Eligible Green Projects"), as defined in our Framework. The key selection criteria for the Eligible Green Projects are their contribution to sustainable development, their environmental benefits on climate change mitigation and/or adaption, and their contribution to the energy transition. They fall into one of six eligible categories identified in our Framework and outlined below. All Eligible Green Projects have been evaluated and approved by National Grid's Green Financing Committee.

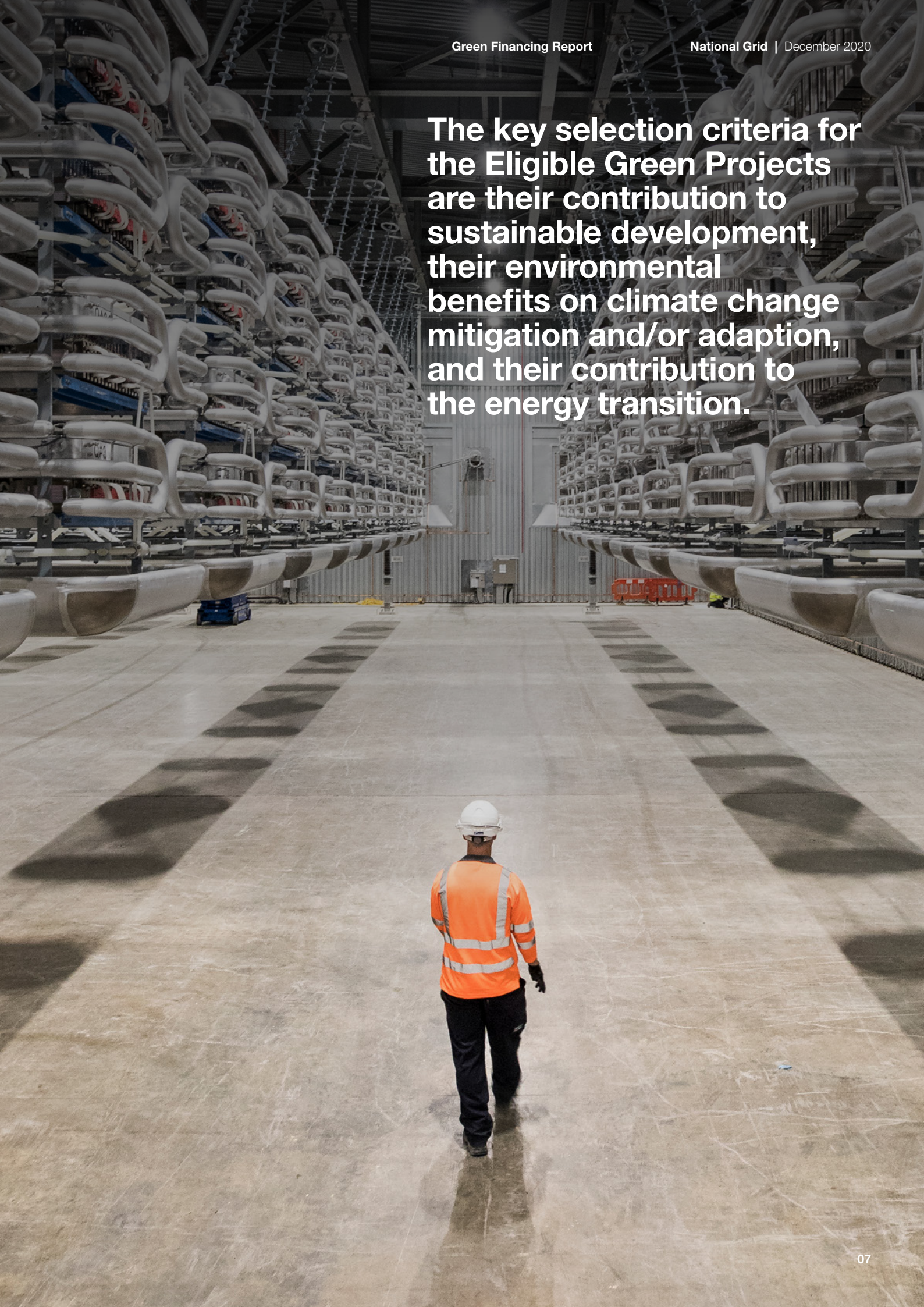
Each operating company of the Group that issues Green Financing Instruments under our Framework has a dedicated portfolio of Eligible Green Projects, and an amount equivalent to the proceeds of each instrument is earmarked for allocation to the Portfolio of the issuing entity, in accordance with the Framework.

Eligible categories

Additional detail on eligible categories is included in the Framework.

Eligible categories	Eligibility criteria	Contribution to specific UN SDGs
Renewable Energy	Investments and/or expenditures in projects that would increase the share of low carbon electricity below the threshold of 100g CO_2e / kWh in power networks.	
Energy Efficiency	Investments and/or expenditures in projects that would reduce energy consumption, improve network/energy efficiency and/or reduce electricity grid losses.	
Clean Transportation	Investments and/or expenditures in projects that would reduce greenhouse gas emissions from transport.	
Pollution Prevention and Control	Investments and/or expenditures in projects that would reduce waste and greenhouse gas emissions.	
Environmentally Sustainable Management of Living Natural Resources and Land Use ("Environmental Sustainability")	Investments and/or expenditures in projects that would reduce the impact on land and terrestrial biodiversity.	
Green Buildings	Investments and/or expenditures in projects that would improve the energy efficiency performance of buildings.	

[4] With disbursements made in the last 36 months prior to the issuance date



The key selection criteria for the Eligible Green Projects are their contribution to sustainable development, their environmental benefits on climate change mitigation and/or adaption, and their contribution to the energy transition.

Allocation of NGET's green bonds

Eligible Green Projects for NGET include the following key projects.
A full listing of projects is included at the end of this report.

Renewable Energy

(i) Infrastructure to connect interconnectors, of which the largest investment relates to the Nemo Link interconnector between Richborough, England and Zeebrugge, Belgium.

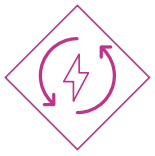
(ii) The onshore connection infrastructure for new offshore wind farms.

(iii) Reinforcement of our transmission network to specifically support new interconnectors and renewable connections, and increase the grid's flexibility in response to fluctuating renewables feed-in, including reactive compensation equipment, power control devices and uprating of lines.

(iv) The portion of maintenance work that supports the integration of renewables in the grid while enhancing stability and resiliency to allow for the safe and reliable transmission of renewable electricity, as described in note c(ii) to the allocation report.

Environmental Sustainability

The Visual Impact Provision (VIP) projects, including Dorset VIP: the replacement of 8.8km of overhead lines in the Dorset Area of Outstanding Natural Beauty (AONB) with an underground cable and the removal of 22 pylons, as part of an effort to reduce the impact of existing electricity transmission lines in English and Welsh AONBs and National Parks.



Energy Efficiency

The uprating of the New Cross – Wimbledon circuit to 400kV, as part of the London Power Tunnels II project, which will reduce line losses.

Clean Transportation

The electrification of railway lines owned by Network Rail.

NGET Allocation Report

Use of Proceeds Allocation Table
(as of 31 October 2020)

Eligible Green Projects			Green Funding – Allocation	
ICMA / LMA Category of Eligible Green Projects	Amount invested [a, d, e, f] (£ in millions)	Share of total amount invested (%)	Green Financing Instruments	Amount issued (£ in millions)
Renewable Energy[c]	**522.4**	**80.8%**	XS2104915033 – €500m due January 2025	428.3
Energy Efficiency	**28.4**	**4.4%**	XS2107332566 – HK$422m due January 2028	41.6
Clean Transportation	**15.5**	**2.4%**	XS2110793044[b] – $85m due January 2031	65.2
Environmental Sustainability	**79.9**	**12.4%**	XS2123085958 – €100m due February 2040	83.2
Total Eligible Green Projects	**646.2**		**Total allocated**	**618.3**
			Unallocated	**-**
Total Eligible Green Projects	**646.2**		**Total Green Funding**	**618.3**
Share of financing vs. refinancing amount invested since 1 April 2020				20.8%
Percentage of Eligible Green Projects allocated to Green Bonds				100%
Percentage of unallocated proceeds				0%
Percentage of Eligible Green Projects available for allocation[a]				4.3%

Notes to the NGET Allocation Report

a. The report only includes capital expenditures that occurred between 1 April 2017 and 31 October 2020. Forecast spend is not included.

b. The $85m 2.5% bond due 29 January 2031 (XS2110793044) is fully allocated to the Environmental Sustainability category.

c. The Renewable Energy category includes:

(i) specific projects that are entirely eligible as per the criteria defined in our Framework, which make up just under two thirds of the £522.4m invested, and

(ii) a percentage of our maintenance capital expenditure ("capex"), an essential part of our work that allows for the safe and reliable transmission of renewable electricity to our customers.

- Although all of our maintenance capex is critical to the safe functioning of our network, only the share that enables renewable energy to flow is included in the Eligible Green Projects and proceeds allocated as such. For NGET, this amount ("Eligible Maintenance Capex") is calculated by applying the share of renewable installed capacity on the transmission network in England and Wales ("NGET's Ratio") to our total maintenance capex.

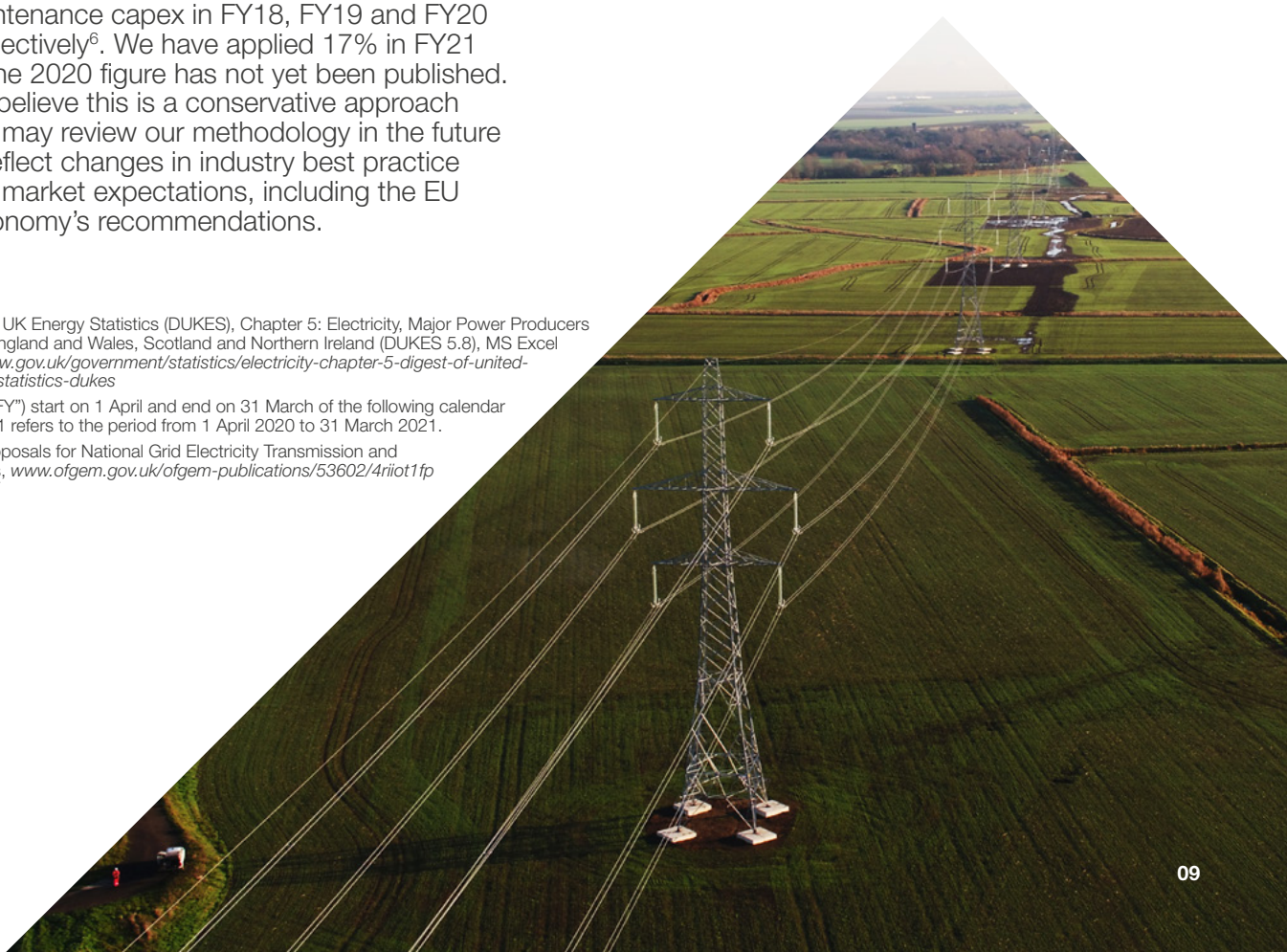
  This information is published annually by the UK Government's Department for Business, Energy and Industrial Strategy[5]. NGET's Ratio is 11.8% in 2017, 14.3% in 2018 and 17.0% in 2019 and we have applied these to our maintenance capex in FY18, FY19 and FY20 respectively[6]. We have applied 17% in FY21 as the 2020 figure has not yet been published. We believe this is a conservative approach and may review our methodology in the future to reflect changes in industry best practice and market expectations, including the EU Taxonomy's recommendations.

d. We took the additional step of removing estimated expenditure related to SF_6 gas from Eligible Green Projects where relevant. SF_6 is a highly effective insulator used in our circuit breakers and is necessary for the efficient functioning of our networks. Small volumes of SF_6 can leak from our network, and SF_6 is a greenhouse gas that is over 20,000 times more potent than CO_2. While SF_6-free alternative technologies and solutions are not yet available for most of our assets, we decided to exclude any expenditure related to assets involving SF_6 from our Eligible Green Projects.

For specific projects (as described in c(i)), we removed the estimated purchase and installation costs of assets containing SF_6. For Eligible Maintenance Capex (as described in c(ii)), we removed 2.44% of total expenditure before applying the NGET's Ratio. This is an estimate based on the share of SF_6-related forecast expenditure from 2021 to 2026 as submitted in our RIIO-T2 business plan in December 2019.

e. Fast money, the part of our expenditure that is funded in-year as defined in the RIIO-T1 price control[7], is removed from all Eligible Green Projects. This represents 15% of the total expenditure of each project.

f. We have also excluded customer contributions and projects that are specifically financed with other borrowing sources from our Eligible Green Projects.



[5] Source: Digest of UK Energy Statistics (DUKES), Chapter 5: Electricity, Major Power Producers Plant Capacity: England and Wales, Scotland and Northern Ireland (DUKES 5.8), MS Excel Spreadsheet. *www.gov.uk/government/statistics/electricity-chapter-5-digest-of-united-kingdom-energy-statistics-dukes*

[6] Financial Years ("FY") start on 1 April and end on 31 March of the following calendar year. Hence, FY21 refers to the period from 1 April 2020 to 31 March 2021.

[7] RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas, *www.ofgem.gov.uk/ofgem-publications/53602/4riiot1fpfinancedec12.pdf*

Allocation of NIMO's green bond

Eligible Green Projects for NIMO include the following key projects.
A full listing of projects is included at the end of this report.

Renewable Energy

(i) The Fruit Belt Neighbourhood Solar REV Demonstration Project, which consists of installing in the Fruit Belt neighbourhood 74 rooftop solar PV systems connected directly into the distribution grid.

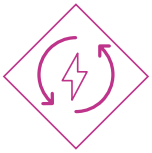
(ii) The portion of work that contributes to reinforcing the grid and increasing its flexibility to maintain, integrate and enhance the capacity of renewable energy flowing in our transmission and distribution networks as described in the note b(ii) to the allocation report.

Clean Transportation

Part of our Electric Transport Initiative, which consists of the installation of charging ports at multi-user sites such as workplaces, retail locations, and public parking areas, in NIMO's service territory.

Environmental Sustainability

The Osprey Mitigation/Avian Protection Program, which consists of adding osprey nesting platforms either to existing structures or adjacent wood poles.



Energy Efficiency

(i) LED lighting and smart-city projects.

(ii) Battery energy storage systems.

(iii) Distribution level projects where voltage control devices, such as capacitors and voltage regulators, are intelligently controlled in a coordinated manner to optimize the performance of the distribution system.

Pollution Prevention and Control

Rochester Cable Airport Refurbishment, which consists of reconductoring three high pressure fluid-filled underground cables with solid dielectric cables, replacing existing terminations and retiring the oil equipment. Solid dielectric cables require less ongoing maintenance, and by removing pressurised oil from the system, the risk of any environmental pollution is reduced.

NIMO Allocation Report

Use of Proceeds Allocation Table
(as of 30 September 2020)

Eligible Green Projects			Green Funding – Allocation	
ICMA / LMA Category of Eligible Green Projects	Amount invested[a, c, d] ($ in millions)	Share of total amount invested (%)	Green Financing Instrument	Amount issued ($ in millions)
Renewable Energy[b]	**588.8**	**93.7%**	US65364UAN63 / USU65354AK53	600.0
Energy Efficiency	**34.1**	**5.5%**		
Clean Transportation	**3.2**	**0.5%**		
Pollution Prevention and Control	**0.5**	**0.1%**		
Environmental Sustainability	**1.3**	**0.2%**		
Total Eligible Green Projects	**627.9**		**Total allocated**	**600.0**
			Unallocated	**-**
Total Eligible Green Projects	**627.9**		**Total Green Funding**	**600.0**
Share of financing vs. refinancing amount invested since 1 July 2020				8.4%
Percentage of Eligible Green Projects allocated to Green Bonds				100%
Percentage of unallocated proceeds				0%
Percentage of Eligible Green Projects available for allocation[a]				4.4%

Notes to the NIMO Allocation Report

a. The report only includes capital expenditures and cost of removal[8] that occurred between 1 July 2017 and 30 September 2020. Forecast spend is not included.

b. The Renewable Energy category includes:

(i) specific projects that are entirely eligible as per the criteria defined in our Framework, and

(ii) a percentage of our capital expenditures and cost of removal, an essential part of our work that contributes to maintaining, integrating and enhancing the capacity of renewable energy in our transmission and distribution networks.

- Although all of our capital expenditures and cost of removal are necessary for the safe and efficient functioning of our network, only the share that enables renewable energy to flow is included in the Eligible Green Projects. For NIMO, this amount ("Eligible Capex and Removal") is calculated by applying the share of renewable installed capacity on NIMO's transmission network (the "Renewable Energy Capacity Ratio") to our total electric capital expenditures and cost of removal. The Renewable Energy Capacity Ratio is calculated as:
  - the sum of (A) the distribution active demand response[9] and
  - (B) the installed renewable resources capacity of electricity generators connected to our transmission and distribution systems (excluding large-scale hydro-electricity plants (>25MW)), each located within our service territory as reported in the latest NY ISO Gold Book[10]
  - divided by (C) the total projected peak load[11] forecasts in 2021.

  These datasets are publicly available.
- The Renewable Energy Capacity Ratio, (A + B) / C, for financial year 2021 to date is 31% and has been applied to the period between 1 July 2017 and 30 September 2020. The Renewable Energy Capacity Ratio corresponds to the maximum share of renewable energy which has flowed through our electric network over the last 36 months and through financial year 2021.

  We believe this is a conservative approach but we may review our methodology in the future to reflect changes in industry best practice and market expectations, including the EU Taxonomy's recommendations.
- Since the connection of generation assets to NIMO's transmission network is funded directly by customers, Eligible Capex and Removal makes up the majority of the $588.8m investment in the Renewable Energy category.

c. We took the additional step of removing estimated expenditure related to SF_6 gas from Eligible Green Projects where relevant. SF_6 is a highly effective insulator used in our circuit breakers and is necessary for the efficient functioning of our networks. Small volumes of SF_6 can leak from our network and SF_6 is a greenhouse gas that is over 20,000 times more potent than CO_2.

While SF_6-free alternative technologies and solutions are not yet available for most of our assets, we decided to exclude any expenditure related to assets involving SF_6 from our Eligible Green Projects. To do so, we removed the estimated purchase and installation costs of circuit breakers from the eligible expenditures of our Eligible Green Projects.

There is no expenditure related to SF_6 gas in our specific projects. In the case of Eligible Capex and Removal, we removed the estimated expenditure related to SF_6 gas before applying the Renewable Energy Capacity Ratio.

d. We have also excluded customer contributions, projects that are specifically financed with other borrowing sources, and spend recoverable in the short-term through our regulatory mechanisms from our Eligible Green Projects.

[8] Cost of removal means the cost of demolishing, dismantling, tearing down or otherwise removing electric plant, including the cost of transportation and handling incidental thereto. It does not include the cost of removal activities associated with asset retirement obligations that are capitalized as part of the tangible long-lived assets that give rise to the obligation. Source: Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to the Provisions of the Federal Power Act, FERC, *www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=054f2bfd518f9926aac4b73489f11c67&rgn=div5&view=text&node=18:1.0.1.3.34&idno=18*

[9] (A) Distribution Active Demand Response: our ability to shift customer demand of electricity based on available supply, MW
Source: Niagara Mohawk Power Corporation d/b/a National Grid Program Performance and Cost Effectiveness Of Dynamic Load Management Programs, Case 15-E-0189, November 15, 2019. *www.documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={46EF2F20-0308-48A3-9A00-E510FF93F4BF}*

[10] (B) Installed renewable resources capacity of electricity generators connected to our transmission and distribution systems: the intended full-load sustained output of a generation facility connected to our transmission or distribution networks, MW. Generation resources in our distribution systems consist of small and geographically dispersed generation sources such as solar, energy storage, and demand response resources located on the distribution system.
Source: Transmission: NY ISO 2020 Load and Capacity Data (Gold Book)
https://www.nyiso.com/documents/20142/2226333/2020-Gold-Book-Final-Public.pdf/
Distribution: NY PSC, SIR Interconnection Queue Data (March 2020) – National Grid.
http://www3.dps.ny.gov/W/PSCWeb.nsf/All/286D2C179E9A5A8385257FBF003F1F7E?OpenDocument

[11] (C)Total projected peak load: weather and econometric-adjusted customer demand, net of distributed energy resources, MW
Source: NIAGARA MOHAWK POWER COMPANY 2020 Electric Peak (MW) Forecast
http://ngrid-ftp.s3.amazonaws.com/DSIP/Docs/National_Grid_UNY_-_Peak_Load_Forecast.pdf

Impact Report

The following metrics are calculated to measure the environmental benefits related to Eligible Green Projects funded by our green bonds.

Environmental impact of NGET's green bonds

NGET Impact Report

Impact reporting table aligned with the portfolio approach to impact reporting described in the ICMA "Handbook – Harmonized Framework for Impact Reporting" (April 2020).

Reporting period: 1 April 2017 – 31 October 2020.

Impact based on portfolio allocation, or attributable to green financing. Includes both actual and expected impact at completion – see details in footnotes.

ICMA / LMA Green Eligible category	Invested (signed) Amount	Allocated amount	Share of Total Allocated Portfolio Financing	Eligibility for Green Financing Instruments	Additional capacity of renewable energy connected to the systems[1]	Expected energy savings[2]	Estimated tCO_2e emissions avoided[3]	Length of rail electrified[4]	Total estimated surface area impacted[5]	Contribution to specific UN SDG
	(£ in millions)	(£ in millions)	(%)	(%)	(MW)	(MWh)	(tCO_2e)	(km)	(sq. km)	
Renewable Energy	522.4	500.4	80.9%	100%	3,553	-	8,224,454	-	-	UN SDG 7, 13
Energy Efficiency	28.4	27.0	4.4%	100%	-	4	1	-	-	UN SDG 7, 13
Clean Transportation	15.5	15.2	2.5%	100%	-	-	3,283	83	-	UN SDG 11
Environmental Sustainability	79.9	75.7	12.2%	100%	-	-	-	-	24	UN SDG 15
Total	646.2	618.3	100%		3,553	4	8,227,738	83	24	

[1] Capacity enabled by our networks. Includes 117 MW ✐ additional installed capacity already connected to our networks

[2] Expected savings per annum at completion, pro-rata to share allocated to green funding

[3] Includes approximately 3,731,846 tCO_2e ✐ estimated emissions avoided from projects already in operation between 1 April 2017 to 31 October 2020. The remaining 4,495,891 tCO_2e is estimated emissions avoided per annum at completion, pro-rata to share allocated to green funding

[4] Includes approximately 78 km ✐ from projects already in operation

[5] Expected at completion, pro-rata to share allocated to green funding

Notes to the NGET Impact Report

General

Impact reporting is aligned with the portfolio approach to impact reporting described in the "Handbook – Harmonized Framework for Impact Reporting" published by the International Capital Markets Association (ICMA) in April 2020[12].

The reporting period is aligned with the allocation period, i.e. 1 April 2017 to 31 October 2020.

Impact calculations are based on the allocated amount. To do so, we multiplied the total impact calculated using the methodologies detailed below by the share of the total capital expenditures allocated to the green bonds, in order to measure the impact attributable to the green bonds on a pro-rata basis. For projects that aren't complete yet, total capital expenditures include forecast spend to completion as per our RIIO-T2 business plan from December 2019.

Impact may include both actual impact over the reporting period and expected impact at completion. For more details, please refer to the footnotes below the table. PwC's limited assurance is provided on selected information that is noted either in the table or within the footnotes to the table, and that forms part of the figures quoted.

Renewable Energy

Additional capacity of renewable energy generation connected to the system (MW)

The additional capacity of renewable energy generation connected to the grid (MW) represents the additional installed capacity connected to our transmission system, and therefore enabled by our Eligible Green Projects. This is calculated as the sum of the actual capacity connected to our systems and the expected capacity to be connected at completion of the project(s).

Estimated tCO_2e emissions avoided (tCO_2e)

For specific projects (as described in the note c(i) to the NGET Allocation Report), estimated tCO_2e avoided represents the tCO_2e savings from the added installed capacity of renewable energy connected to our system compared to the amount of CO_2 that would have been emitted by a generation plant of average carbon intensity. This is calculated as:

(i) the sum of the energy generation produced from completion to 31 October 2020 for the actual capacity connected to our system, and the expected annual generation to be connected to our system at completion of the project(s) still under construction (MWh)

(ii) multiplied by the relevant annual carbon intensity factor for the United Kingdom (see "Sources").

For Eligible Maintenance Capex (as described in the note c(ii) to the NGET Allocation Report), estimated tCO_2e avoided is calculated as:

(i) the year-on-year reduction in CO_2 emissions/GWh from electricity generation, i.e. the total electricity demand in 2017, 2018 and 2019 multiplied by the year-on-year reduction of the carbon intensity factor of England and Wales for the respective year

(ii) multiplied by the share of renewables installed capacity on the transmission network in England and Wales – 11.8% for FY2018, 14.3% for FY2019 and 17.0% for FY2020 and FY2021

(iii) less the estimated tCO_2e avoided from specific projects in operation, in order to avoid double counting.

These numbers can be found in the Digest of UK Energy Statistics (July 2020) (see "Sources"). As the numbers for 2020 are not yet published, we assumed a linear reduction in CO_2 emission/GWh between 2020 and 2019.

For both specific projects and Eligible Maintenance Capex, we recognise that the estimated tCO_2e emissions avoided reflects the result of actions undertaken not just by National Grid, but by other stakeholders in the energy industry, including energy producers and consumers in England and Wales.

However, as the additional renewable installed capacity and resulting energy generated is enabled by our Eligible Green Projects, we report 100% of the impact attributable to our green bonds.

[12] www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Handbook-Harmonized-Framework-for-Impact-Reporting-220520.pdf

Energy Efficiency

Estimated energy savings (MWh)

Estimated energy (losses) savings (MWh) represent the estimated reduction in annual energy losses resulting from the cable uprating of the New Cross – Wimbledon circuits. This is calculated from estimated energy losses at peak demand, multiplied by an average historical annual load factor.

The New Cross – Wimbledon uprating is expected to be completed in 2025. As a result, impacts displayed above are expected at completion, and pro-rated based on the amount funded by the green bonds.

Estimated tCO_2e emissions avoided (tCO_2e)

We calculate estimated tCO_2e emissions avoided by multiplying the reduction in energy losses multiplied by the carbon intensity factor of the United Kingdom.

Clean Transportation

Length of rail electrified (km)

This represents the length of rail upgraded as a result of the work we carried out and that will be electrified at completion of the project.

Estimated tCO_2e emissions avoided (tCO_2e)

For new electrification works, estimated tCO_2e emissions avoided represents the annual CO_2 emissions saved from travelling by electric train instead of by diesel train. This is calculated as:

(i) the difference in tCO_2 emissions per kilometre travelled on an electric train compared to a diesel train

(ii) multiplied by the number of kilometres per passenger enabled, which is the total kilometres per passenger on the National Rail network in 2019 times the proportion of railway electrified by NGET. As the conversion from diesel trains to electric trains is enabled by our Eligible Green Projects, we report 100% of the impact attributable to our green bonds.

For electrification upgrades, which are necessary to accommodate an increase in passengers, estimated tCO_2e emissions avoided represents the annual CO_2 emission saved from the additional passengers travelling by electric train instead of by car. This is calculated as:

(i) the difference in tCO_2 emissions per kilometre travelled on an electric train compared to a car

(ii) multiplied by the number of kilometres per passenger enabled, which is the total kilometres per passenger on the National Rail network in 2019 times the proportion of railway electrified by NGET

(iii) multiplied by the annual estimated percentage increase in passengers on the relevant railway line. As the increase in passengers is enabled by our Eligible Green Projects, we report 100% of the impact attributable to our green bonds.

These numbers can be found in Network Rail and train operator publications (see "Sources").

Environmental Sustainability

Our Environmental Sustainability projects aim to reduce the impact of infrastructure in National Parks and Areas of Outstanding Natural Beauty (AONBs), including the Dorset Area, in order to enhance and conserve the value of the surrounding natural beauty, wildlife and environmental heritage, leading to significant environmental and social benefits in the area.

The impact of the Environmental Sustainability category is calculated as the total estimated surface area impacted (sq. km) as a result of the Dorset Visual Impact Provision project. This is calculated by applying a study area radius of 5km to the 8.8km length of overhead lines that were replaced with underground cables, multiplied by the share of the capital expenditures of this Eligible Green Project that is refinanced by the green bonds.

Sources

Renewable Energy / Energy Efficiency

- Additional MW connected: TEC register and Interconnector register, *www.nationalgrideso.com/connections/registers-reports-and-guidance*
- Load Factors: BEIS 2019, Digest of UK Energy Statistics (July 2020) p112 Table 6A ("Share of generation and capacity by leading technologies in 2019"): *www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes*
- Estimated annual generation – Interconnectors: BEIS 2019, Digest of UK Energy Statistics (July 2020) p80 Table 5A ("Net Imports via interconnectors 2017 to 2019"): *www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes*
- Carbon Intensity of electricity generated (average carbon intensity): BEIS 2019, Digest of UK Energy Statistics (July 2020) p95 Table 5E ("Estimated carbon dioxide emissions per GWh of electricity supplied 2017 to 2019"): *www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes*
- Total electricity generated in 2019: BEIS 2019, Digest of UK Energy Statistics (July 2020) p86 Section 5.35: *www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes*
- Forecast electricity demand: Future Energy Scenarios data, tables EX.2 (Annual Electricity Demand (GWH)) and EX.3 (Peak Electricity Demand (GW)): *www.nationalgrideso.com/document/173806/download*

Clean Transportation

- Total national track length: Network Rail Limited's Annual Report and Accounts 2020: *www.networkrail.co.uk/wp-content/uploads/2020/07/Annual-report-and-accounts-2020.pdf*
- Passenger usage data: *https://dataportal.orr.gov.uk/statistics/usage/passenger-rail-usage/table-1230-passenger-kilometres/*
- Travel emissions: *www.bbc.com/news/science-environment-49349566* (referencing BEIS / Defra and RSSB as data sources)
- Passenger increase on the South East Route: South East Route: Kent Area Route Study, Advice for funders May 2018, p.4: *www.networkrail.co.uk/wp-content/uploads/2018/06/South-East-Kent-route-study-print-version.pdf*
- Crossrail impact study: Crossrail Sustainability Summary 2018 (p.13): *https://learninglegacy.crossrail.co.uk/wp-content/uploads/2018/07/Sustainability-Summary-2018.pdf*
- Passenger increase on the Great Eastern Main Line: Great Eastern Main Line Study, Railway investment choices July 2019 (p.10): *www.networkrail.co.uk/wp-content/uploads/2019/08/Network-Rail-Great-Eastern-Main-Line-Study-2019.pdf*


NorthSeaLink
Statnett
nationalgrid

Environmental impact of NIMO's green bond

NIMO Impact report

Impact reporting table aligned with the portfolio approach to impact reporting described in the ICMA "Handbook – Harmonized Framework for Impact Reporting" (April 2020).

Reporting period: 1 July 2017 – 30 September 2020.

Impact based on portfolio allocation, or attributable to green financing. Includes both actual and expected impact at completion – see details in footnotes.

ICMA / LMA Green Eligible category	Amount invested (signed)	Amount allocated	Share of Total Allocated Portfolio Financing	Eligibility for Green Financing Instruments	Additional capacity of renewable energy connected to the systems[1]	Expected energy savings[2]	Estimated tCO_2e emissions avoided[3]	Number of EV charging plugs installed	Waste reduction[4]	Number of osprey nest platforms installed	Contribution to specific UN SDG
	($ in millions)	($ in millions)	(%)	(%)	(MW)	(MWh)	(tCO_2e)	(#)	(gallons)	(#)	
Renewable Energy	588.8	563.0	93.8%	100%	-	-	1,129,516	-	-	-	UN SDG 7, 13
Energy Efficiency	34.0	32.3	5.4%	100%	-	36,193	4,155	-	-	-	UN SDG 7, 13
Clean Transportation	3.2	2.9	0.5%	100%	-	-	-	594	-	-	UN SDG 11
Pollution Prevention and Control	0.5	0.5	0.1%	100%	-	-	-	-	22,146	-	UN SDG 11, 12
Environmental Sustainability	1.4	1.3	0.2%	100%	-	-	-	-	-	15	UN SDG 15
Total	627.9	600.0	100%		-	36,193	1,133,671	594	22,146	15	

[1] Capacity enabled in our networks. Impact attributable to the green bond is < 0.5 MW, and related to projects in our electricity distribution business.

[2] Includes approximately 13,743 MWh estimated energy savings from projects already in operation between 1 July 2017 to 30 September 2020 The remaining 22,450 MWh is estimated energy savings per annum at completion, pro-rata to share allocated to green funding

[3] Includes approximately 1,131,093 tCO2e estimated emissions avoided from projects already in operation between 1 July 2017 to 30 September 2020. The remaining 2,577 tCO2e is estimated emissions avoided per annum at completion, pro-rata to share allocated to green funding

[4] Expected at completion, pro-rata to share allocated to green funding

Notes to the NIMO Impact Report

General

Impact reporting is aligned with the portfolio approach to impact reporting described in the "Handbook – Harmonized Framework for Impact Reporting" published by the International Capital Markets Association (ICMA) in April 2020[13].

The reporting period is aligned with the allocation period, i.e. 1 July 2017 to 30 September 2020.

Impact calculations are based on the allocated amount. To do so, we multiplied total impact calculated following the methodologies detailed below by the share of the total capital expenditures allocated to the green bond, in order to measure the impact attributable to the bond on a pro-rata basis.

Impact may include both actual impact over the reporting period and expected impact at completion. For more details, please refer to the footnotes below the table. PwC's limited assurance is provided on selected information that is noted either in the table or within the footnotes to the table, and that forms part of the figures quoted.

Renewable Energy

Additional capacity of renewable energy generation connected to the systems (MW)

The additional capacity of renewable energy generation connected to the grid (MW) represents the additional installed capacity connected to our transmission and distribution systems, and therefore enabled by our Eligible Green Projects. This is calculated as the sum of the actual capacity connected to our systems.

Estimated tCO_2e emissions avoided (tCO_2e)

Estimated tCO_2e avoided represents the tCO_2e savings from the renewable energy connected to our systems compared to the amount of CO_2 that would have been emitted by a generation plant of average carbon intensity.

For specific projects (as described in note b(i) to the NIMO Allocation Report), this is calculated as:

- **(i)** the sum of the energy produced from completion to 30 September 2020 for the actual capacity connected to our systems (MWh)
- **(ii)** multiplied by the carbon intensity factor for upstate New York (see "Sources").

For Eligible Capex and Removal (as described in note b(ii) to the NIMO Allocation Report), this is calculated as:

- **(i)** the sum of the energy produced by renewable generation plants connected to our transmission systems (excluding large-scale hydro-electricity plants (>25MW)) located within our service territory. This number is based on the annual feed-in per renewable generation plant in calendar year 2019 as reported in the latest NY ISO Gold Book. We assume a consistent annual feed-in from 1 July 2017 to 30 September 2020, based on calendar year 2019 data
- **(ii)** multiplied by the carbon intensity factor for upstate New York (see "Sources").

We recognise that the estimated tCO_2e emissions avoided reflects the result of actions undertaken not just by National Grid, but by other stakeholders in the energy industry, including energy producers and consumers in upstate New York. However, as the renewable installed capacity is enabled by our Eligible Green Projects, we claim 100% of the impact attributable to our green bond.

Energy Efficiency

Estimated energy savings (MWh)

Estimated energy savings (MWh) are calculated as the sum of:

- **(i)** for projects in operation, the realised annual reduction in energy consumption as a result of the increase in efficiency of the network from completion to 30 September 2020, and
- **(ii)** for projects under construction, the expected annual reduction in energy consumption as a result of the increase in efficiency of the network at completion.

Estimated tCO_2e emissions avoided (tCO_2e)

We calculate estimated tCO_2e emissions avoided by the reduction in the amount of electricity used – which is generated by the resource mix (average carbon intensity) of upstate New York – as a result of the increase in efficiency of the network. We then apply the carbon intensity factor for upstate New York.

We assume that 1MWh of energy efficiency savings reduces 1MWh of electricity required from electric power generation of an average carbon intensity.

Clean Transportation

Impact of Clean Transportation is calculated as the number of charging plugs installed between 1 July 2017 and 30 September 2020, as part of our Electric Transport Initiative.

Pollution Prevention and Control

Impact of our Pollution Prevention and Control category is calculated as the total gallons of oil expected to be removed from the Rochester airport cable refurbishment at completion of the project.

Environmental Sustainability

Impact of our Environmental Sustainability category is the number of osprey nest platforms installed or upgraded between 1 July 2017 and 30 September 2020, as part of our avian protection and mitigation programme.

Sources

[13] *www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Handbook-Harmonized-Framework-for-Impact-Reporting-220520.pdf*

- Carbon Intensity of electricity generated (average carbon intensity): EPA EGRID factor for upstate New York, dated 28 January 2020: *https://www.epa.gov/energy/emissions-generation-resource-integrated-database-egrid*
- Energy produced by renewable generation plants connected to our transmission systems (excluding large-scale hydro-electricity plants (>25MW)) located within our service territory: NY ISO 2020 Load and Capacity Data (Gold Book), *https://www.nyiso.com/documents/20142/2226333/2020-Gold-Book-Final-Public.pdf/*

Environmental impact of the ECA-covered loan for the Viking Link interconnector

Viking Link is a 1.4 GW high-voltage electricity cable that connects the British and the Danish transmission systems, and allows the free trade of electricity between these countries. It is a joint development between National Grid and Energinet – the Danish electricity transmission operator, and when completed at the end of 2023 it will help supply renewable energy to 1.4m households in the UK.

The benefits that interconnectors bring to the economy and the environment are multiple. The connection of two transmission systems creates a bigger electricity market with higher competition, which results in lower prices for consumers, a bigger market for producers, and improved stability and reliability of electricity supply, which is particularly beneficial to support the development of renewable energy sources, as they now find a vehicle to trade on the imbalances produced by intermittent generation patterns.

Interconnectors also support governments in their race to meet carbon reduction targets as they facilitate the access to renewable energy generation. Viking, for example, will allow the UK to benefit from wind energy generated in Denmark.

The ECA loan – the first ever multi-ECA green loan and the largest green ECA loan to date meets the requirements of the Green Loan Principles set by the Loan Market Association which are aligned with National Grid's own Green Financing Framework including:

- The Viking Link project being an interconnector falls under the "Renewable Energy" Eligible Category of National Grid's Green Financing Framework.
- The drawdowns on the ECA loans are conditional upon the settlement of Viking Link's invoices from the EPC suppliers, which provides a clear traceability between the loan and the spend on the project (use and management of proceeds).
- Once operational in 2024, the Viking Link project will allow us track and report Net Emissions Savings (CO_2 emissions avoided), which will become the key metric to be shared with all relevant stakeholders of this Green Financing Instrument (Banks and ECAs).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List of projects

NGET

In addition to Eligible Maintenance Capex, described in the note c(ii) to the NGET Allocation Report on p9, NGET's portfolio includes the following Eligible Green Projects.

Project Name	Eligible Category
Connection of the NEMO interconnector (Richborough)	Renewable Energy
South Coast additional reactive compensation	Renewable Energy
Kemsley to Littlebrook circuits uprating	Renewable Energy
Fleet to Lovedean reconductoring	Renewable Energy
Power control device along Penwortham to Kirkby	Renewable Energy
Connection of the Triton Knoll wind farm (Bicker Fen substation)	Renewable Energy
Power control device along Fourstones to Harker to Stella West	Renewable Energy
Connection of the IFA2 interconnector	Renewable Energy
Connection of storage projects	Renewable Energy
Power control device along Lackenby – Norton circuit	Renewable Energy
Connection of the NSL interconnector	Renewable Energy
Connection of the Galloper wind farm	Renewable Energy
Connection of the Eleclink interconnector	Renewable Energy
Connection of embedded generation	Renewable Energy
New 400kV transmission route between South London and the South coast	Renewable Energy
Connection of the Tees renewable energy plant	Renewable Energy
Uprate Hackney, Tottenham and Waltham Cross	Renewable Energy
New 400kV double circuit between Bramford and Twinstead	Renewable Energy
Eastern Scotland to England link: Peterhead to Drax offshore HVDC	Renewable Energy
Connection of the East Anglia (1-3) wind farm	Renewable Energy
Connection of Thames Haven energy site	Renewable Energy
Connection of the Greenlink interconnector	Renewable Energy
Connection of the Rampion wind farm (Hastings)	Renewable Energy
Connection of the Viking interconnector	Renewable Energy
225MVAr MSCs at Burwell Main	Renewable Energy
Connection of embedded generation at Harker	Renewable Energy
Connection of the East Anglia 6 wind farm	Renewable Energy
Connection of Nautilus interconnector	Renewable Energy
Connection of NeuConnect interconnector	Renewable Energy
Connection of the Hornsea 3 wind farm	Renewable Energy
Connection of the Hornsea 4 wind farm	Renewable Energy
Harker Supergrid Transformer 6 replacement	Renewable Energy
Connection of the East Anglia (1N-2) wind farm	Renewable Energy
225MVAr MSCs within the north east region	Renewable Energy
Connection of the Thanet2 wind farm	Renewable Energy
Wymondley turn-in	Renewable Energy
Reconductor remainder of Bramford to Braintree to Rayleigh route	Renewable Energy
Turn-in of West Boldon to Hartlepool circuit at Hawthorn Pit	Renewable Energy
Reactive compensation protective switching scheme	Renewable Energy
Connection of the Pen Y Cymoedd wind farm	Renewable Energy
Visual Impact works (including Dorset VIP)	Environmental Sustainability
LPT2 Uprating New Cross – Wimbledon circuits to 400kV	Energy Efficiency
Bulls Lodge – National Rail electrification programme	Clean Transportation
Braybrooke – National Rail electrification programme	Clean Transportation
Pudding Mill Lane – National Rail electrification programme	Clean Transportation
New Cross – National Rail electrification programme	Clean Transportation

NIMO

In addition to Eligible Capex and Removal, described in the note b(ii) to the NIMO Allocation Report on p11, NIMO's portfolio includes the following Eligible Green Projects.

Project Name	Eligible Category
Fruit Belt Neighbourhood Solar REV Demonstration Project	Renewable Energy
UNY LED Conversion FY21	Energy Efficiency
East Pulaski 324 Battery Storage	Energy Efficiency
Volt-Var Optimization / Conservation Voltage Reduction ("VVO/CVR")	Energy Efficiency
Schenectady Smart City	Energy Efficiency
North Troy Energy Storage System	Energy Efficiency
Clifton Park Rev Demo	Energy Efficiency
Electric Transport Initiative	Clean Transportation
Osprey Mitigation/Avian Protection	Environmental Sustainability
Rochester Airport Cable Refurbishment	Pollution Prevention and Control

GE control cabinet meant to operate regulators for the Volt-Var Optimization scheme.


Pressurization plant including a 3,500-gallon storage tank that will be removed as part of the Rochester Airport Cable Refurbishment project.


Osprey nesting platform on the South Bay Tower at Lake Champlain, Upstate New York, USA.


IFA2 Interconnector Valve Hall.


Connection of the NEMO interconnector (Richborough).


Kemsley to Littlebrook circuits uprating.

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