National Grid Electricity System Operator Limited

Annual Report and Accounts

2022/23

National Grid Electricity System Operator Limited
Number 11014226

ESO

Annual Report and Accounts

2022/23

Contents

Foreword from our Chair

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Welcome to the Annual Report and Accounts 2022/23 for the National Grid Electricity System Operator (ESO).

It's been a challenging and difficult year for so many. Russia's illegal invasion of Ukraine has caused appalling human devastation and suffering. Energy prices have escalated significantly and when you couple this with the cost-of-living crisis facing many Britons, it's clear that consumers are under real pressure.

We know that we must continue to deliver value for consumers.

As Britain's Electricity System Operator, we responded to these circumstances decisively, taking swift action to ensure an adequate supply of generation this winter while continuing to plan a future electricity system that's reliable, affordable and sustainable.

I'm proud of how we and our industry partners developed agile and innovative tools to manage the system securely in light of these increased risks. We delivered our Winter Outlook early, negotiated contingency coal contracts and developed the world leading Demand Flexibility Service, bringing forward future system flexibility by several years.

We continuously scrutinise our own costs and have reviewed our operations to ensure consumers always receive value for money - for example, we launched new products and services, such as our Pathfinder Contracts and Frequency Response Services, to drive competition and innovation. Some of the technologies we are deploying, such as grid forming inverters and inertia measurement tools, are the first to be used at scale anywhere in the world. This has also given us the opportunity to update the security standards, making them smarter and saving carbon and money there, too.

All this innovation sets us up to deliver a future, where we are less dependent on imported oil and gas, have cleaner and cheaper power and lower energy bills. We're on track to being able to operate the electricity system at zero carbon for periods in 2025 and we're continuing to evolve to be ready for 2035, when we will have a fully decarbonised electricity system.

Network development has been a real area of focus this year. We delivered the first Holistic Network Design (HND) – designing an offshore grid to unlock the Government's ambition for 50GW of offshore wind by 2030. It sets the foundations for more strategic network planning as we go forward, and with more renewables than ever wanting to connect to the system, we are moving quickly to improve and reform the connections processes.

We also need the right markets in place for a successful future system and I'm pleased to see our Net Zero Market Reform programme enter its fourth phase. We are also working closely with Department for Energy Security and Net Zero (DESNZ) in the Review of Electricity Market Arrangements (REMA).

It's an ambitious and busy year ahead for us. We're transforming the system to enable us to deliver net zero in the future, evolving our organisation to become the Future System Operator and maintaining reliable and secure system operation. Our vision of an energy system that is secure, reliable and fair for everyone has never been more relevant or important. We're privileged and motivated to be part of delivering that vision, and excited for what the future means for us.

Fintan Slye
Chair, Electricity System Operator
National Grid Electricity System Operator Limited
1-3 Strand, London WC2N 5EH
Registered in England and Wales Number 11014226

Our business in numbers – key financial highlights at a glance

	2022/23 £m	2021/22 £m	Percentage change
Revenue	4,579	3,486	31%
System balancing costs	4,109	3,153	30%
Total operating profit	106	21	405%
Profit before tax	110	20	450%
Cash generated from operations	399	225	77%
Cash invested in intangible assets and PPE	107	108	(1)%
Regulatory assets value	360	296	22%

	2022/23 £m	2021/22 £m	Percentage change
Adjusted operating profit*	20	42	(52)%

*Adjusted operating profit excludes exceptional items, remeasurements and regulatory timing differences, see page 56 for further details.

We provide additional information about both our financial performance and our assets and liabilities to help our investors understand of our business.

About the Electricity System Operator

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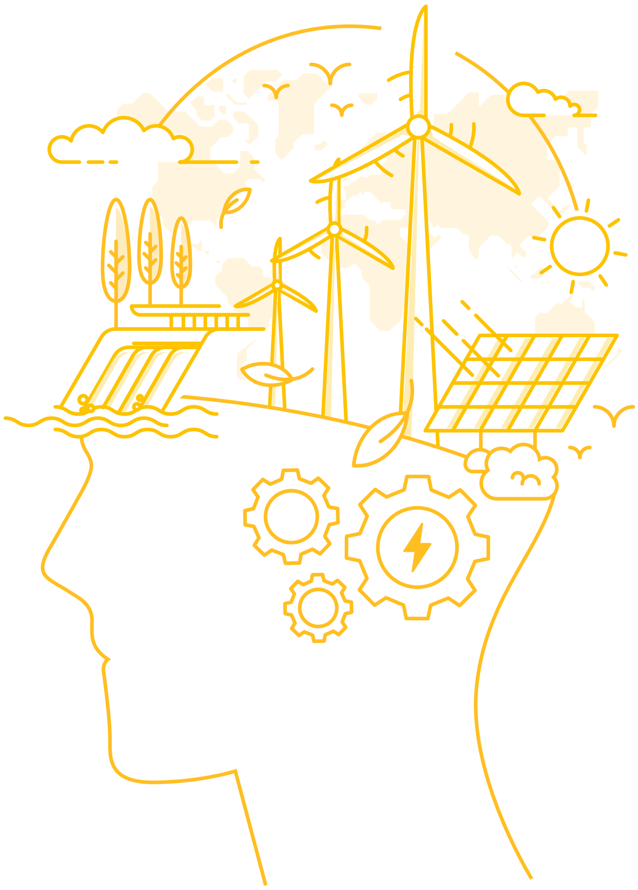
What we do

i) Our Role

Electricity is the life blood of society and the economy. When someone flicks a light switch in their home or office, they know the light will come on. That, in a nutshell, sums up our primary responsibility.
We move high voltage electricity from where it's generated, such as a wind farm, through the energy system. We make sure that Britain has the energy it needs by making sure supply meets demand every second of every day.



To achieve this we perform three core roles:

1 Control Centre Operations: reliable, secure system operation, to deliver electricity when consumers need it.

2 Market development and transactions: transforming participation in smart and sustainable markets.

3 System insight, planning and network development: unlocking consumer value through competition and driving towards a sustainable, whole energy future.

You can learn more about these roles, and how we will deliver them in our Business Plan here.

ii) How we are regulated

We are regulated by Ofgem, who make sure we're delivering value for existing and future consumers, while supporting the transition to a more decentralised and decarbonised electricity system. One of the ways Ofgem does this is by setting regulatory price controls – these detail the services we'll provide, activities we will deliver and the amount we can recover from consumers for delivering them. The services we provide and investment we need is informed by our own work and what our stakeholders think we should deliver. Our business plans are then reviewed by Ofgem to determine our allowed revenue and how our performance will be evaluated.

Ofgem's regulatory framework is known as RIIO (Revenue = Incentives + Innovation + Outputs). This model offers energy companies incentives for securing investment and driving innovation, so they can develop sustainable energy networks and system operation services at the right cost for current and future consumers. We are currently in the RIIO-2 framework period, due to our unique role within industry, we have a bespoke regulatory framework, with the 5-year RIIO-2 period being split into a number of smaller Business Plan periods. In 2022 we submitted our second Business Plan, co-created with stakeholders, setting out our mission, ambitions and planned activities. The Business Plan 2 period runs from April 2023 to March 2025.

Our funding uses a pass-through mechanism (where all efficiently incurred costs can be recovered through regulated revenues), and we have the flexibility to deviate from our published plans, delivering additional activities where there is an opportunity to benefit consumers. The RIIO-2 regulatory framework includes a return on our Regulated Asset Value (RAV) but also provides additional non-RAV funding for roles and risks that are not linked to an asset base. Unlike other network companies in RIIO-2 we are not incentivised to underspend our allowed revenue, which means that we have greater flexibility to adjust spending in order to deliver our ambitious Business Plan and maximise consumer benefit.

Our performance continues to be assessed via an evaluative incentive approach and the value has been set for the BP1 period as a total maximum reward of £30 million and maximum penalty of £12 million for the two-year period (this is the same for the BP2 period). As part of this incentive scheme, a Performance Panel of industry stakeholders scores the ESO on its performance, informing the reward or penalty awarded by Ofgem at the end of the two-year BP1 period.

iii) Future System Operator - how we are evolving

The ESO is changing following the decision by government that we should adopt new roles and responsibilities to drive progress towards net zero, deliver value for consumers, improve whole energy system decision-making, and support energy security. We set this out in greater detail in our Key Events of 2022/23 section.

This evolution of the ESO will see us move outside of National Grid Group to ensure that we can perform extended functions as the future system operator.

To support the delivery of this new organisation we have provided an indicative plan to establish the Future System Operator (FSO) in our RIIO-2 Business Plan 2, which can be read in full here. Over the coming months we will be working closely with government, Ofgem and National Grid plc to ensure that this transformation is delivered at pace, whilst ensuring that our world-leading colleagues are supported through this process, allowing them to drive forward our existing decarbonisation ambitions.

iv) Our Mission and Ambitions

Our mission is strongly aligned to the UK Government mandate to achieve a fully decarbonised power system by 2035.

Our ambition statements are action-oriented and highlight the importance of both people and technology in achieving our mission. They provide the context for our Business Plan, with all activities aligned with at least one of our ambitions.

Our mission /

To drive the transformation to a fully decarbonised electricity system by 2035 which is reliable, affordable and fair for all.

This includes preparing Britain's electricity system to be able to run on zero-carbon electricity by 2025. Over the last ten years, we're proud to say the amount of carbon-based electricity in our system has reduced by an impressive 66%. But there's still plenty more to do before we reach our zero-carbon target.

Our ambitions /

Ensuring the electricity system can operate carbon free by 2025

Driving competition for the benefit of consumers

Being innovative, digital and data driven

Engaging as a trusting partner

Being the net zero employer of choice

iv) Our Values

We know that how we deliver is as important as what we deliver. If our mission sets out 'what' we want to achieve, our values are the 'how'. They help shape what guides us. We adapt and develop our values to align with the expectations of our customers and communities, without losing sight of the things that make us strong today.

Every day we do the right thing by:

- keeping each other and the public safe, complying with all relevant rules, regulations and policies;
- respecting our colleagues, customers and communities;
- saying what we think and challenging constructively.

Every day we find a better way by:

- delivering excellent performance for our customers;
- sharing knowledge and implementing best practices for continuous improvement;
- embracing opportunities to grow ourselves and the business.

We make it happen by:

- delivering positive outcomes and achieving results;
- making decisions in a timely way;
- getting things done efficiently.

Who we are - Board

Fintan Slye
Chair of the Board

Fintan Slye is Director of the ESO and Chair of the Board. He joined the ESO in 2018. Prior to that he was CEO of the EirGrid Group, the electricity system and market operator in Ireland and Northern Ireland. He has previously worked for McKinsey & Company and ESB Group. Fintan is both a Fellow of the Institute of Engineers Ireland and the Energy Institute. He holds a Masters in Engineering Science and an MBA from University College Dublin.

Baroness Gillian Merron
Independent Non-Executive Director

Baroness Merron of Lincoln is a Life Peer and Shadow Minister for Health and Social Care, and the Department of Digital, Culture, Media and Sport (DCMS), as well as a Whip. She is also a Visiting Professor at the University of Lincoln, a Vice President of Liberal Judaism and Ambassador for Smart Works. Formerly Chief Executive of the Board of Deputies of British Jews, Baroness Merron was the MP for Lincoln between 1997 and 2010. During this time, she served in government as a Senior Whip, and as a Minister in the Health, International Development, and Transport Departments as well as in the Cabinet Office and Foreign and Commonwealth Office.

Hannah Nixon
Independent Non-Executive Director

Hannah has extensive experience in economic regulation across a range of industries. She was the inaugural CEO of the Payment Systems Regulator and a senior partner at Ofgem, where she had responsibility for the networks division. She is currently Chair of the Single Source Regulations Office, a Non-Executive Director (NED) of Thames Water and a NED of the Financial Reporting Council. She was formerly a NED of the Jersey and Guernsey Competition and Regulatory Authorities.

John Linwood
Independent Non-Executive Director

John has held senior technology roles in Microsoft and Yahoo and was formerly Chief Technology Officer at several companies including BBC and Wood Mackenzie. He has been a NED of both FTSE and AIM listed companies since 2012 and is currently on the Board of Brooks Macdonald, an AIM listed Wealth Management company where he is also chair of the Remuneration Committee. He is also Strategic Technology Advisor to the UK Ministry of Defence.

Paul Plummer
Independent Non-Executive Director

Paul is an experienced business leader and strategic thinker now working as Professor of Rail Strategy at the University of Birmingham and a Non-Executive Director in the housing and energy sectors. Until recently he was CEO of the Rail Delivery Group (RDG) and Association of Train Operating Companies. Prior to that he was on the Board of Network Rail where responsibilities included the system operator activities. His earlier career spanned the regulated utilities as an economist and adviser working for governments, companies and regulators.

Kayte O'Neill
Executive Director

Kayte joined the ESO in 2018 and National Grid in 2002. As Director of Transformation Kayte is leading the organisation's work on establishing the 'Future System Operator' (FSO). Prior to her current role, she has served as Head of Markets and Head of Strategy and Regulation for the ESO. She also spent time in National Grid's US electricity distribution businesses. Kayte holds a first-class degree in Business Economics and is a graduate of the Harvard Business School Program for Leadership Development. She holds Non-Executive Director roles on the Boards of both Jersey Electricity and Regen.

Zoe Morrisey
Executive Director

Zoe is an experienced energy and regulatory lawyer having spent 10 years advising a number of the UK National Grid business units. Prior to that she worked at Ofwat as a legal advisor and in 2008 qualified as a solicitor in private practice specialising in competition and procurement law.

Claire Favier-Tilston
Non-Board: ESO Company Secretary

Who we are - Executive Team

Fintan Slye
Executive Director

Kayte O’Neill
Director of Transformation

Zoe Morrisey
ESO Legal Counsel

Craig Dyke
Head of National Control

Craig joined National Grid in March 2000. He graduated in Electrical and Electronic Engineering and is a chartered engineer in both electricity and gas. He worked in the ESO as Head of Networks in 2019 and Head of Strategy & Regulation in 2020. Previous roles for National Grid include being the first Head of International Decarbonisation, taking a leading role at COP26. He became Chair of the IET Power Academy Executive in May 2022 and is Board Member of CORESO.

Matthew Wright
Head of Strategy and Regulation

Matthew joined the ESO in April 2021. He has over 30 years of experience in the utilities sector, most recently as Managing Director of Ørsted in the UK. Matthew has also served as CEO of Southern Water and EVP of Power Delivery at US electric utility PacifiCorp. He is a Board member of POWERful Women, a professional initiative to advance gender diversity within the energy sector.

Julian Leslie
Head of Networks and Chief Engineer

Julian joined National Grid in 1992 as a graduate. He has a degree in Electrical and Electronic Engineering, and is a Chartered Engineer and a Fellow of the Institute of Engineering and Technology. He has worked for National Grid in the UK and the USA, and previous roles include building a new network planning function across the USA and being the ESO Head of National Control.

Claire Dykta
Head of Markets

Claire joined the ESO as Head of Markets in October 2022. She has over 20 years of experience within National Grid, spanning European and UK regulatory frameworks, electricity operations and corporate strategy, including M&A. She is a graduate of the Oxford Saïd Business School and sits on the Advisory Boards of the UKRI funded Centre for Research into Energy Demand Solutions.

Huma Ali
Senior HR Business Partner

Huma joined National Grid in 1990. Previous roles include Senior HR Business Partner to other Group business units. She is a Chartered member of the Institute of Personnel and Development. Huma is a lead mentor in 'Business in the Community' for diverse senior leaders.

Shubhi Rajnish
Chief Information Officer

Shubhi joined the ESO in July 2022. She joined from British American Tobacco where she was Head of Digital and IT. Prior to this she spent 15 years at BP in senior roles leading digital transformation.

Jake Rigg
Director of Corporate Affairs

Jake joined the ESO in September 2021 from Affinity Water. Starting out as a journalist he has also worked on sustainability issues as a consultant to clients including DuPont and 3M, and was an advisor to a former Secretary of State for Energy and Climate Change. He has a Modern History degree from Oxford and is currently completing research on quantifying political and regulatory risk at Yale.

Liz Lyon
Interim Finance Director

Liz joined the ESO in March 2023 from Breedon Group plc, where she was Finance Director for 7 years. Prior to this she held senior finance positions in businesses within the aerospace industry, having qualified as a Chartered Accountant through PwC. During her career she has been heavily involved in M&A activity, business integrations, transformations and strategic alignment activities.

3 The Year in Review
Key operational statistics

New records set on the network for carbon intensity and wind generation.

- On 4 January 2023, the GB Electricity network had the highest proportion of transmission zero carbon generation at 90.1%. This has been, to date, the highest level of zero carbon generation on the network.
- On 10 January 2023, the GB Electricity network had the highest day of wind generation at 21.6GW. This is the approximate equivalent to 4,324,000 kettles on the boil.
- On the 24 March 2023, the amount of Transmission connected fossil fuel generation reached a new minimum of 1,567 MW.

Looking at the last decade, the carbon intensity on the network was below 300g/kWh for only 3 hours in 2012 in comparison to 2022 where 95% of the hours were below 300g/kWh.

Generation mix

Zero carbon (wind, nuclear, solar and hydro) sources continue to make up a growing share of electricity generation.

In total, on average they contributed 46% across the year (an increase from 44.6% average contribution in FY2021/22).

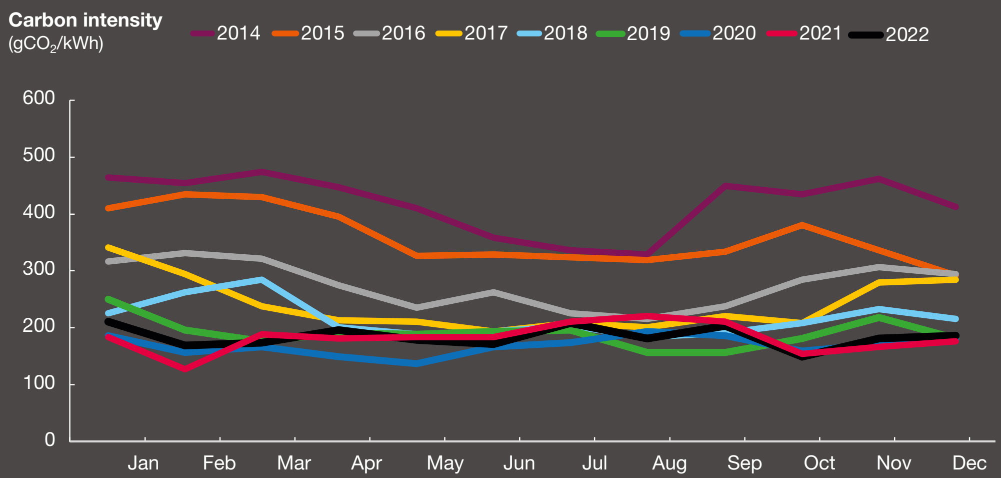
By 2025 it's our ambition, when the market presents enough zero carbon generation, to make it possible to be able to operate the system at 100% zero carbon.

	% Share 2022/23	% Share 2021/22
Gas	33.7%	36.5%
Wind	29.0%	23.1%
Nuclear	12.3%	15.5%
Imports	14.1%	10.1%
Biomass	4.7%	6.4%
Solar	3.1%	4.1%
Hydro	1.7%	1.9%
Coal	0.5%	1.7%
Storage	0.9%	0.7%

Carbon intensity

10 April 2023 saw the lowest level of carbon dioxide on the network, with a record low of **33gCO_2/kWh**.

The greenest month in history is still February 2022 with a carbon intensity of **126.5gCO_2/kWh**.



↓ **66.5% decrease** from 2013 to 2022

2013 **529** gCO_2/kWh
2014 **477** gCO_2/kWh
2015 **443** gCO_2/kWh
2016 **330** gCO_2/kWh
2017 **266** gCO_2/kWh
2018 **248** gCO_2/kWh
2019 **215** gCO_2/kWh
2020 **181** gCO_2/kWh
2021 **188** gCO_2/kWh
2022 **177** gCO_2/kWh

As of January 2023, we operated the electricity system with a maximum of 90% zero carbon sources, aided by record levels of wind generation, at 21.6GW.

Delivery of the innovative and world first Demand Flexibility Service (DFS) with the number of customer sign-ups exceeding more than 1.7 million.

Successful execution of 5 Pathfinder procurement exercises which will save consumers more than £15 billion.

Delivery of the world's first Holistic Network Design which will connect 23GW of offshore wind, and over a 40-year asset life period (starting in 2030), will save consumers approximately £5.5 billion.

Role 1:
Control Centre Operations

What we do

In Role 1 we play a vital role, every second of every day, ensuring we operate a safe and reliable supply of electricity to Great Britain. The unprecedented global conditions mean this role has been more challenging than it has ever been. We have successfully operated a secure reliable electricity system while continuously breaking records in levels of zero carbon generation. This gives us confidence that we are on track to achieve our ambition of operating a zero-carbon electricity system in 2025.

Delivering value for consumers in Control Centre Operations

Managing inertia – As the UK moves to net zero, we need to plan and operate the system with lower levels of inertia. We are looking at different solutions to provide inertia, including through our Capitalise Stability Pathfinder projects. In the first year of BP1 we implemented the first ever Frequency Risk and Control Report (FRCR), which changed how we manage frequency and saved consumers circa £435 million in balancing costs. This year we are recommending we reduce our minimum inertia requirements from 140 GVAs to 120 GVAs. To operate a zero-carbon system by 2025, minimum system inertia could be as low as 96 GVAs so we are successfully on this journey. In managing inertia, we will be reducing costs by approximately £65 million annually.

Balancing costs - We continually take action to reduce balancing costs and have reduced the volume of actions taken to balance the system by a third through long-term initiatives to improve our system operation. Our actions have enabled us to avoid balancing costs of £5.6 billion over the last 2 years.

Demand Forecasting - Delivery of energy forecasting improvements with an estimated overall year-on-year benefit in balancing and reserve costs saving circa £192 million.

Control Centre Operations Plan Delivery in 2022/23

- Successful implementation of changes to the Balancing Mechanism, the primary tool to balance supply and demand. This is important for maintaining safe, secure and economic system operation while we develop and transition to new tools.
- Delivery of the first successful Distributed ReStart project in Galloway, South-West Scotland. This world first trial brought renewables one step closer to restarting GB's electricity grid. During the trial a hydro generator, connected to the distribution network, was able to self-start, energising the local transmission and distribution network, and powering up wind turbines on two wind farms within an isolated test network.
- Led the solution to a global engineering challenge by developing world first 'green inertia' tools which mimic the effect of a power station but without using fossil fuels. These tools deliver consumer value and support our net zero ambition.

Going above and beyond we have also delivered (in addition to our business plan commitments):

- Winter 2022/23 - we developed a suite of preparedness activities and actions to maintain security of supply including delivery of winter contingency contracts.
- Our world-leading innovative Demand Flexibility Service was launched through the Role 2 winter programme and came about through our pioneering domestic demand flexibility trials which ended only 5 months prior, and also included testing the viability of Vehicle-to-Grid (V2G).
- Monitoring market data - ensuring fair and effective functioning of Balancing Markets continues to be vital as household budgets are under strain and the cost of energy continues to increase. Since July 2021, the Market Monitoring function has developed automated processes to monitor and analyse a vast spectrum of market data. The team's surveillance work covers all services procured by the ESO, and we continue to report potential suspicious market abuse activity to Ofgem for further investigation.
- Improving transparency of decision making - the Operational Transparency Forum (OTF) is held weekly and hundreds of stakeholders attend. The OTF provides an opportunity for the wider market to understand the actions we take and for us to seek feedback from our stakeholders and customers.

Control Centre Operations Performance:

To view our success against performance metrics and key indicators please see Role 1 content in the ESO End of Year Performance Report here.

Role 2:
Market Development and Transactions

What we do

We develop and procure Balancing Services in a way that promotes competition and drives efficiency in our operational activities. Our ambition is to transform our markets to be more efficient and accessible, minimising the spend on procuring the services that we require now and into the future. We are also digitalising industry codes and reforming charging frameworks, reducing barriers and driving efficiencies. We will achieve this through the design of new services and procurement methodologies that harness innovation and continue to remove barriers to entry. This will promote efficient market participation from a wide range of contributors, such as demand-side flexibility, distributed assets and renewable generation.

Delivering value for consumers in Market Development and Transactions

- A key focus has been on winter readiness activities. We signed contracts to extend the life of coal generators, launched our innovative Demand Flexibility Service (DFS) which allows businesses and consumers to be incentivised for voluntarily flexing the time when they use their electricity, and provided market insight to the industry via our Summer and Winter Outlook publications;
- We delivered Capacity Market auctions, Contracts for Differences (CfD) allocation processes and provided ongoing advice to the DESNZ and Ofgem on their policy and regulatory change programmes, securing 5.78GW and 43GW of capacity for 2023/24 and 2026/27 respectively to ensure medium term security of supply;

- Delivered a Local Constraints Management (LCM) service and introduced an Intertrip scheme (which has saved £80 million to date), specifically targeted at reducing constraint costs on the B6 transmission boundary between Scotland and England.

Market Development and Transaction Plan Delivery in 2022/23

We have:

- Completed phase 3 of the Net Zero Market Reform programme and supported wider government reform through their REMA consultation;
- Progressed several transformational releases to build on our IT capabilities across the charging, billing and settlement and Single Markets Platform system;
- Progressed and delivered numerous code changes on Balancing Service Use of System (BSUoS) including delivering short term caps on BSUoS rates, and setting up an enduring Fixed BSUoS regime;
- Established and coordinated the Transmission Network Use of System (TNUoS) Task Force;
- Delivery of a suite of new services –including Dynamic Regulation (DR) and Dynamic Moderation (DM) services;
- Engaged with key stakeholders on the Emergency System and Restoration Standard (GC0156);
- Published our 2035 Resource Adequacy Report, providing an insight into projected system resilience in the 2030s.

Market Development and Transactions Performance:

To view our success against performance metrics and key indicators please see Role 2 content in the ESO End of Year Performance Report here.

Role 3:

System Insight, Planning and Network Development

What we do

The flow of electricity in Great Britain is getting more complex. At the ESO we annually develop plans for our future networks to ensure we can meet Great Britain's electricity system requirements. We're also preparing to operate at zero-carbon by 2025 as part of the UK's net zero target for 2050. System Insight, Planning and Network Development involves looking for solutions to challenges faced by both the ESO and other industry stakeholders in the electricity system. Ultimately, we want to find innovative ways to operate the electricity system of today and tomorrow, keep costs down for consumers and connect customers in a timely and efficient way. Some projects that look for these solutions include Voltage, Stability and Constraint Pathfinders as well as Regional Development Programmes.

Delivering value for consumers in System Insight, Planning and Network Development

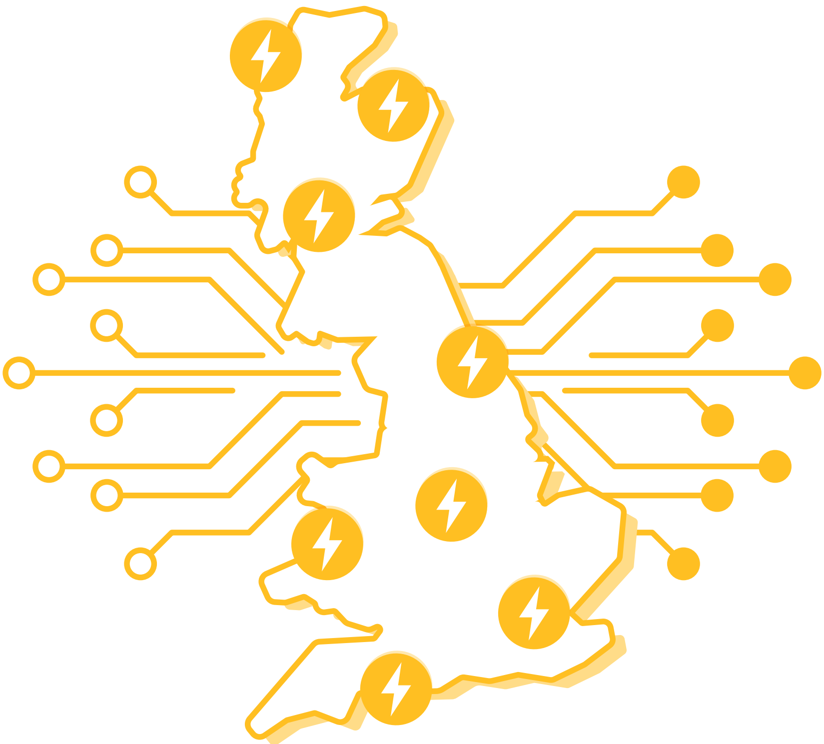
- The first Holistic Network Design is anticipated to save consumers £5.5 billion from 2030 and reduce CO_2 emissions by 2 million tonnes between just 2030 and 2032, equivalent to grounding all UK domestic flights for a year;
- Taking a whole energy system approach to promote zero carbon operability is on track to deliver £548 million of consumer benefit over RIIO-2;
- Improved network access planning with use of the extended Network Access Policy, coupled with the delivery of multiple System Operator/ Transmission Owner (SO-TO) 'enhanced services', has realised significant consumer savings. This has ensured that the forecast to deliver £224 million of consumer benefit over RIIO-2 will be exceeded;
- We have successfully run the Stability 3 Pathfinder. This awarded contracts worth £1.3 billion for providing 12.7GVA of short circuit level and 17.1GW of inertia at an estimated £14.9 billion benefit to the consumer during the 10 years duration of these contracts, as well as significant carbon reduction;
- The Accelerated Loss of Mains Change Programme is one element of a wider programme to change how we manage risks to the system frequency as the generation mix changes. It has now completed a 3-year programme, working with Distribution Network Operators and electricity generators to upgrade loss of mains protection settings at generation sites throughout Great Britain. These changes bring benefits to consumers by reducing the number of balancing services actions (and the cost of these actions) the ESO needs to take to maintain the reliability of the electricity system. This programme validated that at least 94% (24GW) of electricity generation capacity covered by the requirements had compliant protection settings. Our analysis estimates £1.8 billion savings from the adoption of the suite of changes to manage risks to frequency, which includes the Frequency Risk and Control Report, the Accelerated Loss of Mains Change Programme, Dynamic Containment and Stability Phase 1 Pathfinder combined.

System Insight, Planning and Network Development Plan Delivery in 2022/23

- Delivered the HND and Network Options Assessment (NOA) 2021/22 Refresh, which together form the first transitional Centralised Strategic Network Plan (CSNP). This set out the onshore and offshore transmission network required to facilitate the connection of 50GW offshore wind by 2030 and transport the electricity it produces to where it will be used;
- We launched FES 2022 last July and have published additional articles and hosted webinars on a wide variety of energy topics which build upon the analysis and insight presented in FES 2022;
- We have broadened our stakeholder engagement activities to gain insight from more people than ever, to inform our analysis for FES 2023;
- We launched our 2023 Bridging the Gap to net zero report in March 2023 which focused on flexibility and looked in greater detail at how stakeholders can support increasing consumer awareness of, and engagement in, energy and how we deploy hydrogen as a source of flexibility;
- The Electricity Customer Connections team grew to address significant additional application volumes and is working with the Transmission Owners (TOs) to find improved ways of working. We are progressing several tactical initiatives via a connections five-point plan to improve the connections process including a Transmission Entry Capacity (TEC) amnesty, the introduction of queue management arrangements, and revisions to our network modelling assumptions. We also brought forward our connections reform project to consider wider-ranging longer term redesign of the connections process;
- We made significant progress in delivering our first Regional Development Programme constraint management systems with functional go-lives;
- We are playing a leading role in developing the future for whole systems planning. We have published the world's first integrated onshore and offshore network design, and in collaboration with DESNZ and Ofgem and now designing the forward-looking frameworks for transmission network planning both onshore and offshore. We have also progressed our work to implement Early Competition further.

System Insight, Planning and Networks Development Performance:

To view our success against performance metrics and key indicators please see Role 3 content in the ESO End of Year Performance Report here.



Key Events

i) Future System Operator

To achieve the UK Government's net zero ambition, DESNZ and Ofgem would like to create an expert, impartial body with an important duty to facilitate net zero while also maintaining a resilient, and affordable system. This will be achieved by creating full independence of the ESO from National Grid plc.

In May 2022, the Government introduced its Energy Bill in Parliament, the bill sets out the legislation to enable the creation of a Future System Operator (FSO), by or in 2024. The FSO will be an expert, impartial and operationally independent Public Corporation with responsibilities across both the electricity and gas systems and the ability to expand its remit to additional energy vectors when needed. The FSO will be able to drive progress towards net zero, deliver value for consumers, improve whole energy system decision-making, and support energy security. It is a time of unprecedented change in the energy industry. The FSO will be well placed to help navigate this change, by providing clear strategic direction and driving whole energy solutions.

Our ESO colleagues are fundamental to the success of the FSO, therefore it is essential that we can retain and attract the talented individuals needed not just to deliver the transformation to the FSO, but also to bring their passion and capability to help us deliver the energy transition. As the Bill continues its progress through parliament, we will continue to work closely with Government, the regulator and industry stakeholders to shape our thinking and align on expectations for the FSO.

ii) Support during the energy cost crisis

Following the illegal invasion of Ukraine by Russia, the certainty of gas supply to European countries has been at heightened risk. This elevated risk introduces increased uncertainty for GB's security of supply and increased operational risk.

In early Summer 2022, the ESO were requested by the Secretary of State to work with the operators of the coal-fired power stations, due to close in September 2022, to explore what framework might be possible to support an extension to their operations over winter 2022/23. This was for the purpose of further bolstering the energy security in GB over the winter. Alongside pursuing this option, the ESO also began exploring options for market-based demand side response which ultimately became the Demand Flexibility Service.

As part of our winter preparations, the ESO published an early view of winter in July 2022 and then the Winter Outlook report in September 2022 and utilised the weekly Operational Transparency Forum and the Markets Forum to collaborate with market participants and provide early insight into how operational decisions would be made with regards to the new services put in place and in preparation for the use of any emergency procedures; allowing the industry to come together and prepare for the winter period.

Our Demand Flexibility Service (DFS), a world first, was rapidly developed in the run up to winter, as a key tool, in helping preserve security of supply. In total 21 suppliers signed up to be part of this critical operational service. During winter 2022/23, two live uses of the product were made on the 23 and 24 January 2023, where just under of 300MW of demand flexibility was provided. Between the live events and test events the ESO has spent approximately £11 million through to the end of March 2023.

Also, contracts with the 3 coal-fired power stations due to close in September 2022 were negotiated and put in place for the winter 2022/23 period. There were a number of occasions when we warmed some of these units, but we only actively ran 2 units for 1 day on the 7 March 2023 for approximately 6 hours.

iii) Delivering RIIO-2

In August 2022 we submitted our final plans for the ESO's second RIIO-2 business plan, to cover the next stage of the RIIO-2 period. For the ESO, the 5-year period is designed with 2-year planning cycles, recognising that the energy sector is experiencing an unprecedented level of change and that our plans need to remain flexible and agile in the face of substantial uncertainty. This final second business plan is a full refresh of our 2019 RIIO-2 plan (BP1) and sets out detailed proposals for years 3 and 4 of the original 5-year framework, i.e. 2023-2025. The external environment has changed significantly since we published BP1 such as an acceleration of the UK Government's net zero target to 2035, the impacts of Covid-19 on operating the system and the energy cost crisis. These factors have meant we've refreshed our mission and ambitions and taken on new work e.g. market monitoring, Offshore Coordination, Net Zero Market Reform or rethought our plans to include what we've learnt since BP1.

Our BP2 submission provides significant net benefits to consumers of approximately £2.8 billion across the five years of RIIO-2. This is a positive increase in net benefits of £0.8 billion (+43%) since the original RIIO-2 plan. All our transformational RIIO-2 activities have a positive 5-year net present value. But our plan is not just about delivering value in the short term. Delivery of our plan will provide the pathway to deliver a reliable, affordable and fair transition to net zero. To deliver this additional value, our proposed totex request is up by £224 million over the 5-year RIIO-2 period.

Alongside the publication of the final business plan we have also set out an indicative plan for the work we will now undertake to deliver the independent future system operator. You can view the ESO's RIIO-2 Business Plan 2, including Future System Operator (FSO) proposals and associated documents here.

iv) Transformational projects

The ESO continues to play a leading role in major transformational projects. These will deliver significant positive impacts for consumers by promoting competition, holistic thinking, and putting consumer interest at the heart of what we do. Seven examples are set out below;

Zero carbon operability

Across all our workstreams we will be ready to meet our 2025 zero carbon ambition. These innovative approaches and the plans we have put in place across each operability workstream mean that by 2025 there could feasibly be periods where we will be able to operate a zero-carbon system if the transmission generation scheduled by the market is zero carbon. Initially this maybe for a few settlement periods throughout the year, but these periods will grow as our capability to operate a zero-carbon system expands and the market provides more zero carbon dispatch solutions. This could potentially happen in a manner similar to the phasing out of coal, where we initially observed rare zero coal settlement periods. Within a few years after coal began to come off the system, these periods started to become the new normal.

Network planning for net zero

As part of DESNZ's Offshore Transmission Network Review (OTNR), we are supporting four strategic workstreams to facilitate the delivery of offshore wind generation to meet the Government’s ambition for 50GW offshore wind by 2030 and target for net zero by 2050. We delivered the first HND in July 2022, which recommended connections for 23GW offshore wind and network to transport the electricity they produce to where it will be used. This facilitates the delivery of 50GW offshore wind when combined with projects further advanced in their development and those already operational. We are currently carrying out a second HND to provide connections for, a further 21GW of offshore wind in Scotland, 4GW in the Celtic Sea and we are considering how to incorporate generation successful in securing a seabed lease in the current Innovation and Targeted Oil and Gas leasing round. This second HND will form part of the second transitional Centralised Strategic Network Plan (tCSNP2), which is due to be published at the end of 2023.

As part of Ofgem’s Electricity Transmission Network Planning Regime we are developing proposals for the enduring Centralised Strategic Network Plan (CSNP). We are working with industry to define a new approach to network planning to deliver the network needed to meet our zero carbon targets. The CSNP approach will transform much of our existing network development processes into a forward looking, anticipatory and strategic plan for how the electricity transmission network needs to develop in the longer term. This is with the aim of meeting the challenges of moving energy around the system, delivering an operable system, and doing so at a fair cost to consumer. The expectation is that from 2024, the FSO will take on more of a central planning role as part of the CSNP; and in 2023 we will be working with Ofgem and the industry to define the methodology for the new processes.

Net Zero Market Reform

In March 2022, we presented the findings from Phase 3 of our Net Zero Market Reform programme at an industry event alongside the Energy Minister and other energy sector leaders. The conclusions were that the status quo market design is not fit for purpose for net zero, and that dynamic locational signals are needed to solve some key market challenges such as rising constraint costs and inefficient dispatch in the wholesale market. We looked at options from versions of the current national price through to zonal and nodal pricing. The analysis suggests that neither national nor zonal pricing would properly solve the aforementioned challenges, but that nodal pricing (or locational marginal pricing) would provide strong incentives for supply and demand side assets to locate and dispatch efficiently, minimising whole system costs and enabling low-cost, low-carbon electricity to be harnessed when and where it is most abundant.

This could also drive industrial growth in areas of the country where older fossil fuel and energy intensive industry is set to fall away. We will now work with Ofgem, industry and policy stakeholders to further assess the implications this change in market design could have for consumers, generators and suppliers, as well as assessing what other market reforms would be necessary to deliver the investment necessary to achieve net zero.

Frequency Risk & Control Report

As part of our changing approach to managing frequency on the national electricity network we have worked to create a new Frequency Risk & Control Report to analyse and assess the operational requirements for managing different frequency issues and the cost of securing the system. This is a world first approach and has allowed us to reduce the overall spend on frequency management, ensuring that system security continues to be delivered, whilst delivering additional benefits for consumers.

Dynamic Containment, Regulation and Moderation

Alongside the Frequency Risk & Control Report we have also implemented three new frequency management tools, with the introduction of Dynamic Containment, Regulation and Moderation to provide a quicker response to different frequency fluctuations, from significant trips to second-to-second balancing of network frequency needs. By drawing on a diverse mix of technologies, including variable generation, storage, and demand-side participants these services also offer greater competition which, alongside a move from month-ahead to day-ahead auctions, contribute to both improved security and cost efficiency for consumers.

Connections Reform

We face challenges in both the quantity and the changing nature of projects waiting to be connected to the network. More than 320GW of capacity is already contracted to connect directly to the transmission system, with a further circa 100GW contracted to connect to distribution networks. A lot of this capacity is allocated to projects that may not progress, holding back those that can.

Under our Connections Reform project we are undertaking a strategic review of the connections process. Alongside other workstreams, this should enable quicker connections and a more diverse range of connectees, thereby helping deliver net zero and security of supply at the best value for consumers. We published our case for change in December 2022 and subsequently designed solutions and published our Connections Reform consultation to the industry on 13 June. This was followed by 3 industry engagement events held between 15 June and 22 June. We believe that the initial recommendations in this consultation can help deliver the improved outcomes that are needed, and welcome the support from Government and Ofgem, including Ofgem's recent open letter and the planned joint action plan in the summer. The focus of the consultation is to consider the four shortlisted options which we believe to be the most coherent and credible overall models to put forward for consultation. These options attempt to balance the need for more efficient capacity allocation, coordinated network design and transmission investment with providing clarity on connection date and location to project developers as early as possible in order to support their investment case. Although our initial recommendations would require significant changes to regulations and industry codes, there is an opportunity now to work together with industry stakeholders to expedite these reforms to fundamentally reform and future proof grid access.

Stability Pathfinder

As part of our ambition to deliver a zero-carbon capable network by 2025, which will help pave the way for a net zero electricity network by 2035, we have continued to progress our stability Pathfinders. These Pathfinders will bring new innovative solutions capable of delivering inertia, voltage and short circuit infeed management tools, without needing to produce electricity in the process, increasing the proportion of low-carbon electricity in the generation mix as a result. In March 2022 we supported the launch of a world leading inertia project in Scotland to help manage inertia on this part of the network in future years. As we continue with this and similar projects we will continue to understand and refine these critical tools for future network operation.

Progress against objectives

ESO has a range of metrics against which overall performance is measured. The metrics in this section are aligned to our strategy and are reported to the Board.

1) Safety

The health, safety & wellbeing of our employees is paramount. Each year we undertake a safety survey with our employees to gauge attitudes to safety, how effective our safety culture is and where employees believe we can improve. We also measure safety using the Lost Time Injury Frequency Rate metric. This industry standard approach measures the number of lost time injuries occurring for every 100,000 hours worked.

Progress in 2022/23

This year's result was strong again, with no injuries causing lost time during 2022/23. The ESO in conjunction with Group Safety colleagues and our local Health, Safety and Wellbeing champions continue to improve our targeted plans to address any emerging risks areas and build on the work done to date.

2021/22

Lost Time Injury Frequency rate 0.0

Target:

Lost Time Injury Frequency rate <0.1

2022/23

Lost Time Injury Frequency rate 0.0

2) Balancing costs

Electricity can't be efficiently stored in large quantities in a cost-effective way, part of the ESO's role is to find ways to match supply with demand. We call it balancing, and we do it minute by minute. To help us with balancing, we buy in services from suppliers. These are Balancing Services and we use them to keep the transmission system running reliably and economically.

The target is based on a rolling average over five years (with adjustments for significant cost drivers).

Progress in 2022/23

Balancing costs in 2022/23 were higher than expected owing to a number of factors. In 2022 we saw an unprecedented increase in wholesale prices (from £162.5/MWh on average in 2021/22 to £195.7MWh on average in 2022/23) which led to a significant increase in prices in the Balancing Mechanism (BM). Scarcity pricing was another factor contributing to higher balancing costs. We saw extreme peaks in prices (e.g. £8,300/MWh on 20 July 2022 at 17:00 vs a peak of £4,950 per MWh in 2021/22) submitted in the BM during periods of tight system margins or during high wind generation. ESO was asked to undertake procurement of winter Contingency contracts by DESNZ, to ensure security of supply of electricity over the winter months. These costs amounted to £304 million of the total balancing costs for 2022/23.

More broadly, the growth of renewable generation and consequent changes to the generation mix are creating a less predictable system than conventional generation. This makes operating a secure and reliable network more challenging. We are making huge strides in addressing this as we improve our ability to operate a zero-carbon system and have already delivered a range of initiatives, across all roles, to reduce balancing actions and deliver savings to the consumer. We estimate that these initiatives have resulted in total savings of circa £5.6 billion during BP1. These initiatives include savings from Outage Optimisation (£3.9 billion), Trading (£549 million) and the Balancing Programme (£352 million). These initiatives range from short term improvements, such as instigating a run-back scheme on the Western Link HVDC to increase available capacity over winter 2022/23, to long term improvements that have come to fruition in BP1, such as our Pathfinders projects.

Our Balancing Costs Strategy sits across all roles and is focused on mitigating the impact of the forecast increases to balancing costs as we progress to achieving key power system outcomes in the next 15 years as part of the GB transition to a net zero economy.

2021/22

Balancing Costs
(inc winter contingency contracts) £3,153m

Benchmark:

Balancing Costs
(inc winter contingency contracts) £3,236m

2022/23

Balancing Costs
(inc winter contingency contracts) £4,109m

3) Financial Performance

The financial results are set out on pages 54-60.

Progress in 2022/23

The ESO's underlying financial performance was below the expectations we set for the year predominantly due to: impairments on IT assets under construction that are no longer required; accelerating amortisation on systems that will be replaced early; and lower totex related revenues with lower than anticipated capital investment.

Revenues increased in the year by £1,093 million compared to FY22/23 largely due to the increased pass-through balancing costs. Excluding the incremental costs relating to the FSO programme, controllable costs were maintained in line with efficiency targets previously set out. Adjusted operating profit of £20 million was down £22 million against FY22/23 of £42 million principally due to accelerating amortisation on systems that will be replaced earlier than originally anticipated. Capital investment of £107 million in the year was in line with the prior period as we continue to invest in critical IT projects needed to deliver the RIIO-2 Business Plan. Further information is set out within the financial review later in this report.

2021/22

Adjusted Operating Profit* £42m

Target:

Adjusted Operating Profit* £61m

2022/23

Adjusted Operating Profit* £20m

* Adjusted operating profit excludes exceptional items, remeasurements and regulatory timing differences, see page 56 for further details.

4) Employee Engagement and Enablement

Our employees are our biggest asset and the best advocates for our business and what we aim to achieve. They are at the heart of everything we do, so it is vital for us to be aware of their thinking on a wide range of issues about our business: what it is like to work for us; things we do well; things we could do better and much more.

Progress in 2022/23

Our employee engagement and enablement scores demonstrate stability in employee enablement but a 3% decline on engagement compared to 2021/22. Local actions plans are in place across the organisation, and owned by each team to develop actions on the back of specific feedback. This year we have also introduced an ESO action plan addressing feedback that cuts across teams to ensure there is consistency across the organisation. We have a network of Champions who lead these activities and meet monthly to discuss progress. Teams are empowered to develop and drive improvements to address the feedback. There is a pulse survey planned for the middle of September 2023 and is a useful check point ahead of the annual survey in January 2024.

2021/22	Enablement	72%
	Engagement	80%
Target:	Enablement	71%
	Engagement	79%
2022/23	Enablement	72%
	Engagement	77%

The enablement score measures to what extent do our employees believe that they have the right tools and equipment to do their job effectively and efficiently.

The engagement score provides insights into what is important to our colleagues and how they are feeling about our strategy and leadership within the ESO.

These, key performance indicators (KPI's) are based on the percentage of favourable responses to certain indicator questions repeated in each employee survey.

5) Customer Satisfaction

It is important to us to actively look at ways of improving the customer experience across the ESO and achieve our ambition of being a Trusted Partner to all our customers. Ensuring we are collaborating with, listening to, and acting on customer feedback on what we do is critical to support us deliver on our net zero ambitions and to realise benefits for end consumers. We pro-actively gather feedback throughout the year to help us do this and use the end of year stakeholder satisfaction (SATs) survey to help us understand where we have progressed and what we need to focus on for the year ahead.

Progress in 2022/23

The customer and stakeholder satisfaction (SAT) scores for FY22/23 targeted over 1000 key contacts across the industry with more than 300 responses. The results show that we are below our 8.15 target this year and that we need to focus on speed of response to queries, transparency of decision making, improving the connections process and project delivery for the year ahead. In the fiscal year 2022/23 we already started to make a step change in how we analyse and act on insights in the ESO. In September 2022 we started an initiative that focussed on three areas, to drive towards a centralised data model, a focussed in depth approach and agreement in partnership with the business functions to deliver customer improvements through customer delivery plans. The SAT Survey Insight Dashboard has now been developed enabling much faster data analysis to derive customer insights through theme, trend and sentiment analysis. Having this information quicker to hand, validated statistically and comparable with previous surveys enables us to start root cause analysis much earlier and more focussed. Through prioritisation we have changed to a depth approach in mapping customer journeys to find and avoid pain point replication for new product launches, improved engagement activity, identified teams where additional support and training is required.

We have launched new customer delivery plans for each of the four business areas (Markets, Strategy & Regulation, National Control and Networks) which track the progress of the activity that has been agreed, with the Executive team, to fix the pain points which our customers are telling us need to be fixed first. The insights received from this year's end of year SATs will feed directly into these new plans and new pain points and actions will be updated in Q1 and continue to be tracked on them. Alongside this, specific projects reviewing the enduring ESO customer service model and how we use CRM, our customer relationship management tool, to greater affect are already well underway to address the feedback themes. All of this will enable us to share what areas we have targeted, what we have done and show how we are listening and acting on their feedback to develop improvements in time for SAT results in September 2023.

2021/22

Customer	7.30
Stakeholder	7.21

Target

Customer	8.15
Stakeholder	8.15

2022/23

Customer	7.28
Stakeholder	7.46

Strategic Report

The Directors present their Strategic Report on the Company for the year ended 31 March 2023. This includes an overview of the ESO's structure, 2022/23 performance and strategic outlook, including risks and uncertainties.

4

Our people

Our people are fundamental to our success and achieving our 2025 ambitions and beyond. To operate the system of the future and deliver a whole energy system strategy that supports net zero by 2050 successfully we have focused on delivering a blended talent sourcing strategy to ensure we have the right people with the right capabilities at the right time. The ESO's success will be built on our sustained ability to attract, retain, train, motivate and engage our people. We need to continue this momentum to deliver our commitments, whilst we enhance a resilient, agile, capable and diverse workforce with the capabilities required to enable net zero.

i) Diversity, Equity and Inclusion (DEI)

ESO	Gender Split (M/F)	Ethnic diversity
Workforce	64/36%	32%
Executive team	45/55%	18%
Board	57/43%	0%

Our focus on DEI has continued and strengthened and as a result our DEI metrics have improved again this year, our workforce diversity has increased to 36% female representation and 32% ethnic minority representation.

Our DEI Strategy is centred around Our People, our Customers and Stakeholders and the Consumers we serve. We want to do the right thing by showing our team members that we care for them both as colleagues and as people and our customers and stakeholders expect us to be clear on our stance against inequity and ensure that the work that we do doesn't leave anyone behind. Furthermore, the consumers we serve demand it, they are increasingly focused on social responsibility, equity and climate change. DEI advances the "social" umbrella. Delivering on DEI means we will have a competitive workforce, uphold our reputation and trust with industry and the communities we serve, and ensure stability and financial growth. It's vital for our business and is at the core of our people ambitions.

In order to achieve this, we will focus on five DEI commitments:

1

Let our impact be known far and wide

Establishing National Grid ESO as a leader in the clean energy future through our Ecosystems and Communities.

2

Deliver bold actions through communication

Our DEI voice and communications will create organisational radical transparency, engagement and trust by offsetting the status quo.

3

Ensure equity is experienced every step of the way

We are deliberate in attracting, hiring, developing, progressing & retaining diverse and underrepresented talent.

4

Create equity and belonging through inclusive behaviour

Creating and maintaining an inclusive mindset where everyone is accountable and empowered to lead, coach, and behave inclusively regardless of role, level or status.

5

Integrate and elevate our employee resource groups

Supporting the business to build a diverse workforce for the future, advancing our culture of inclusion and innovation and enhancing the business performance and reputation.

Our Belonging Forum has continued to improve the DEI upskilling for all employees. One of the areas of focus has been working on the challenges of microaggressions. We have developed an e-learning package to ensure all new starters experience this as part of their induction, and we now focus on microaffirmations, acts that encourage inclusive behaviours e.g., we created inclusive meeting guidance which now sits in meeting rooms around the offices and has been shared on our intranet site and are about to publish a guide to inclusive writing.

More broadly we have commissioned Inclusive Employers to review our recruitment process and following the POWERful Women report we have run a series of listening sessions to understand “barriers to women’s development and progression” which resulted in a set of recommendations to take forward.

We have also implemented DEI panels to our leadership interview process. This is an opportunity for colleagues from the business to interview candidates on their approach to DEI and their commitment to our ambitions.

We are making our words and meetings more inclusive by creating a set of inclusive meeting guidance and we have also produced a style guide on writing for inclusivity. Nudges, in the from of visual cues and posters, have been placed in offices and meeting spaces. There is a regular drumbeat of Belonging communications on employee calls and newsletters, we have built an introduction to Belonging topics into the induction for new starters and have also created a bank of resources including Belonging moments and ‘cultural snippets’. Storytelling and spotlights has also been a focus more recently with presentations at the senior leader conference on demonstrating allyship and recognising our privilege. We have also been building awareness of intersectionality – recognising that there are different types of diversity and people don’t just fall neatly into binary categories, and neurodiversity awareness.

ii) Employee engagement

We ensure that employee engagement is a priority for us. We utilise various channels to communicate and engage with our colleagues ensuring that there is plenty of opportunity for dialogue and feedback. We promote visible leadership and a focus on employees as a whole to better understand what motivates them and how we can ensure the ESO is a great place to work.

We also conduct an annual employee engagement survey, providing an opportunity for all our employees to share their views on the employee experience at the ESO and providing the Board with a barometer of the workforce’s confidence in the strategic direction, optimism for the future, overall engagement and pride in the organisation. Our employee engagement score saw a 3% decline compared to 2021/22 at 77% and we are implementing initiatives like our Local Actions Plans across the organisation to develop improvements in relation to specific feedback.

We will also continue to seek input to shape various elements of the Future System Operator (FSO) through the use of workshops, focus groups and polls as well as getting feedback through the change agent network we have set up.

iii) Capability

As the ESO is going through a period of significant growth linked to the expansion of our role as the Energy Future System Operator and the journey to net zero, we have been focusing on the capabilities our colleagues to deliver on our new roles, whilst we continue to develop our existing capabilities.

We have engaged with colleagues from across the business to ensure we capture diverse views on what business and people capability areas need to be prioritised and where we need to close the gap. Where gaps have been identified we have developed a tool that directs and sign-posts line managers to the most appropriate sourcing strategy to fill that gap (e.g. buy, boost, build, borrow, bridge, bot).

We are also considering the behaviours our leaders and all colleagues will need in the future to facilitate movement towards the desired company culture.

Our enabling people capabilities have been identified, these will ensure that all our colleagues have the right foundational level understanding to deliver our transformation and we are building technical specialist/leadership career pathways to make the progression routes more visible to colleagues inside the company and potential candidates outside the company.

We have established an internal network of school ambassadors that we can leverage to build engagement with schools to boost their understanding of the changing energy landscape and road to net zero, and recently worked with the Institute of Engineering and Technology (IET) to develop teaching resources for teachers in primary and secondary schools on subjects such as climate change, net zero and reducing energy usage in the home.

Our University Strategy has been developed with different horizons to ensure we continue to grow in the arena, we are focusing on:

- Short term: Developing relationships with external stakeholders and academic frameworks.
- Medium term: Increasing visibility of our new brand and attract talent.
- Long term: Influencing the academic landscape and advising more broadly.

As part of our attraction strategy we are reviewing the new talent entry routes we offer, and understanding our options for increasing these touch points with people early in their careers. We are also working with third party companies to establish experience placements/secondments or rotational programmes so that we can offer opportunities to develop outside the organisation and bring that learning back to the ESO.

iv) Rewards and benefits

To attract and retain employees, we make sure our remuneration package is both fair and competitive. We do this in line with an annual benchmarking exercise against appropriate peer groups to make sure we remain competitive.

In addition to market data, we also consider factors such as business performance and individual contribution, the individual's skills and experience, scope of the role and include any changes in responsibility.

v) Health, safety and wellbeing

We operate in a rapidly changing and challenging industry and keeping ourselves safe and well is of paramount importance. We take steps to ensure we protect the safety, mental and physical health and wellbeing of our employees whether they work from home, in the office or in our control room environment.

We know that flexibility is key for our employees, so we continue to be agile recognising the importance home working brings in terms of work life balance but also the benefits, such as collaboration and creativity, gained from being together in the office. We gather employee insights via surveys so that we can target what will work well for our different employees across multiple locations.

Health, safety and wellbeing remains our priority, we respond quickly to changes in external guidance, legislation and from feedback from our employees. Our health, safety and wellbeing campaigns focus on our key risk areas and we use many different communication channels to optimise engagement and communicate effectively to all groups within our hybrid working environment. During the winter months we ran a specific 8-week winter Wellness – You Matter campaign recognising the additional impact and demands that winter brings to our organisations and providing specific communications and tailored guidance and support options to those who needed it.

Having doubled the number of health, safety and wellbeing champions across the ESO, we have a greater emphasis to help raise awareness of topics, facilitate campaigns and cascade key messages across the business. A suite of mental health training courses is available to all employees with some targeted specifically for managers to provide important knowledge and skills on how to recognise signs and symptoms of poor mental health, how to have supportive conversations and signpost to available support. In addition, we have rolled out two new self-support apps that provide immediate help and guidance which include self-referral to our employee assistance programme pathway through our Health Services providers.

vi) Employee regulation

Our values, outlined on Page 11 help to guide our strategy, decisions, processes and culture. The values are defined in the National Grid Group 'Code of ethical business conduct' and outline the behaviour we expect of all our employees, from the Board down.

The Board has adopted the National Grid standards and policies for governance, finance, digital risk and security, safety, health and environment, procurement, anti-slavery and human trafficking, and anti-fraud and bribery.
All employees undertake training to embed the principles into our culture and values.

Senior management submit an annual declaration confirming the steps they have taken during the year to promote a positive ethical culture in line with the requirements of the Ethics Business Management System and that all employees are aware of the 'Code of Ethical Business Conduct' and complete its e-learning module.

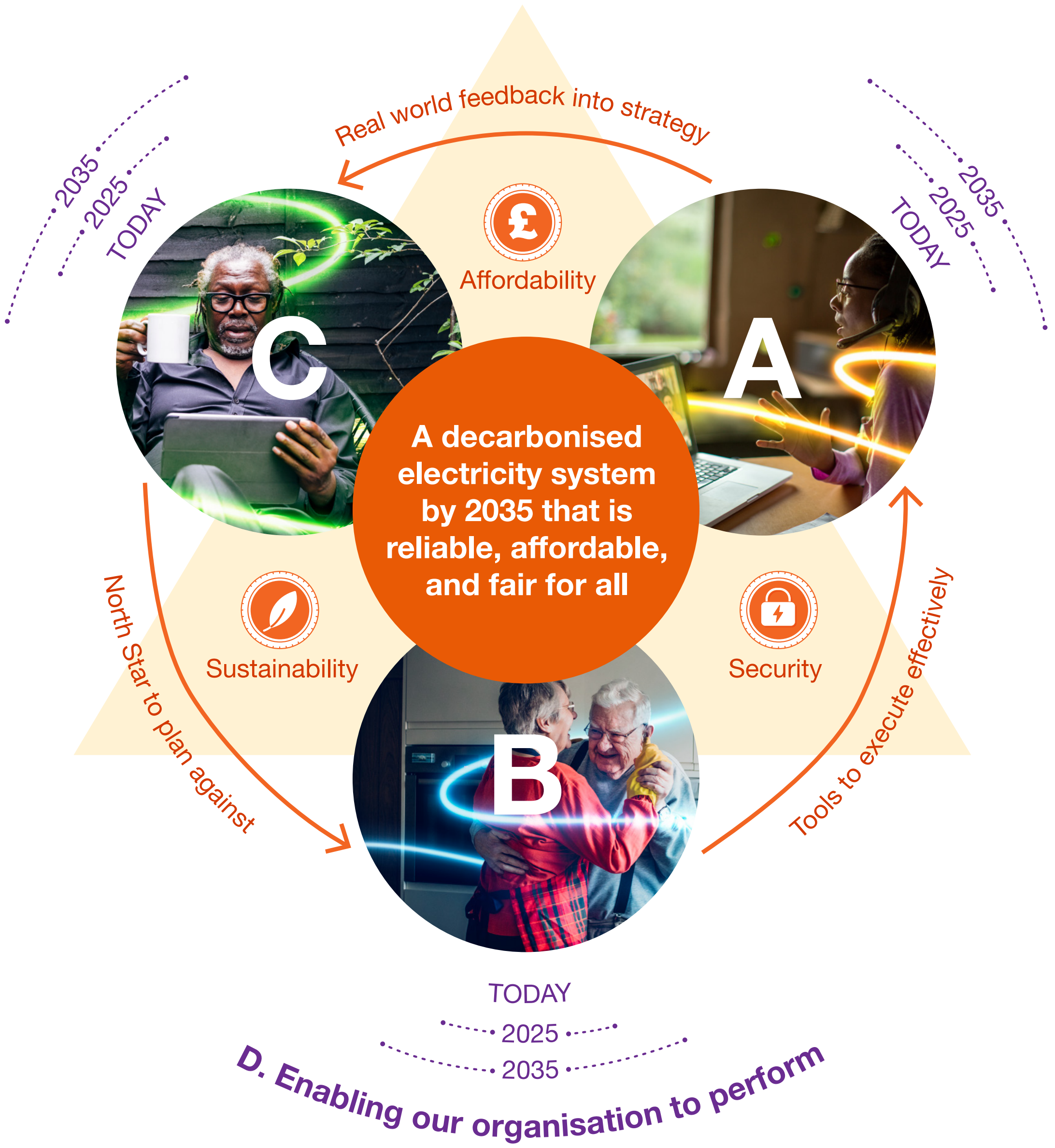
If any employee wishes to highlight any potential breaches to the Code of Conduct, they can contact the independent whistleblowing services provider and a formal investigation follows, with anonymous reporting to the National Grid Audit & Risk Committee.

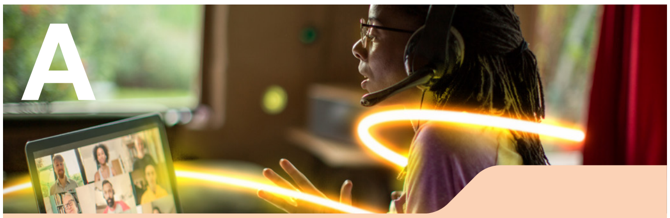
Our business environment

ESO operates in a changing environment, one that is driven by concerns over climate change and the acceleration of the UK Government's net zero target to 2035. That is why our business plans are designed in two cycles, which enables the transition to a flexible, low carbon energy system. We are regulated by Ofgem who delivered their final determination on our first Business Plan (BP1) in December 2020. This marked the start of our next price control period (known as RIIO-2) from April 2021.

Our Priorities in BP2

Our stakeholders have consistently told us that they see us at the heart of driving towards a reliable, affordable and fair net zero energy system and, in today's context, it is more important than ever for us to carefully consider how we can best deploy our resources to ensure successful outcomes. Accordingly, we have identified 11 priorities for the ESO in the BP2 period.





Ensuring excellence in system operation

As we transition to a fully decarbonised energy system and the way in which consumers use energy continues to evolve, the volume and characteristics of the assets on the electricity system will change significantly.

We will prioritise:

1 - Keeping the lights on

2 - Managing balancing costs

3 - Maintaining resilient and secure operations

Building efficient and effective markets

A key part of our role is in creating the environment required to stimulate the necessary investment in technology and infrastructure to operate a secure and affordable zero-carbon system.

We will prioritise:

4 - Reforming our balancing and ancillary service markets

5 - Supporting wider market reform

Driving to net zero

Ensuring we have the right generation resources, networks and markets at the right time is critical to achieving net zero.

We will prioritise:

6 - Holistic planning and development for net zero

7 - Driving towards a Whole System Energy System approach

Enabling our organisation to perform

To deliver on the outcomes and priorities we have set out, we will also need to evolve as an organisation; delivering a scaled technology programme at pace, seeking to attract and retain the industry's best talent, and responding to changing stakeholder needs with agility and flexibility.

We will prioritise:

8 - Innovation and change through digital, data and technology

9 - Developing our people, capability and culture

10 - Focusing on our stakeholders

11 - Transitioning to the Future System Operator

In August 2022 we submitted our final plans for our second RIIO-2 business plan (BP2) to cover the next stage of the RIIO-2 period. This was a full refresh of BP1. The diagram provides a high-level summary of our priorities for the BP2 period, you can read full details here.

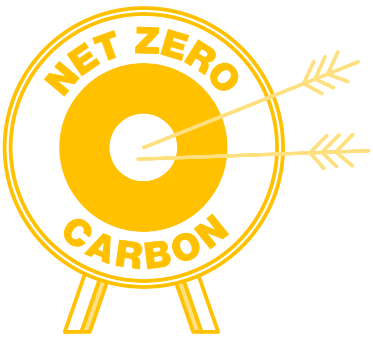
The external environment has changed significantly since we published BP1 such as an acceleration of the UK Government's net zero target to 2035, the impacts of Covid-19 on operating the system and the energy cost crisis. These factors have meant we've refreshed our mission and ambitions and taken on new work e.g. market monitoring, Offshore Coordination, Net Zero Market Reform or rethought our plans to include what we've learnt since BP1.

Alongside the publication of the final business plan we have also set out an indicative plan for the work we will now undertake to deliver the independent future system operator. Ofgem delivered their Final Determinations on 28 March 2023 confirming our funding and financing arrangement for the BP2 period allowing us to deliver on our vision for the period. Further details on this can be found here.

Our commitment to being a Responsible Business

In today's world, business needs to be a positive force for good. This belief is central to the way we work and why we do what we do. We believe businesses should leave a positive legacy for future generations and at the ESO we are passionate about operating in an environmentally responsible way. It is the right thing to do – for the communities that we serve, for society and for ourselves. Sustainability shapes our thinking and decision making. We balance the efficient running of our business with providing value for consumers and protecting the environment. For us, being a responsible business means being a good citizen and driving social change. We sponsor Bright Green Future, a free UK-wide environmental leadership and empowerment programme for 16-19 year-olds. The 6 month programme helps participants unlock their potential as an environmental leader.

In October 2020, we adopted the National Grid Group Responsible Business Charter and we are reporting against our metrics to enhance the visibility of our progress across five areas of focus:



1. Helping to create a sustainable environment

Our ambition is to operate a carbon free electricity system by 2025 and we are enabling a fair and affordable transition to this clean energy economy through groundbreaking innovative projects with the environment and consumers at their very heart. In March 2023, we delivered the first phase of our Stability Pathfinders projects, which develop and deliver new technologies to generate important characteristics needed to run the system without reliance on fossil fuels. All 12 units in this first phase are now operational and expected to reduce CO_2 emissions by around six million tonnes over their lifetime and deliver up to £128 million in consumer savings.

Our modelling shows that Great Britain needs between 123-147GW of low carbon transmission generation by 2030 to be on track to meet net zero and we already have 83GW connected. However, as of April 2023, there were over 250GW of projects contracted to connect to the transmission system. Earlier this year, we unveiled our five-point action plan to resolve these issues in the short term and continue to develop our longer-term reform measures which will deliver the decarbonised system the country needs as quickly and effectively as possible.

Our Holistic Network Design (HND) is also a major step forward in delivering cheap, clean energy from offshore wind. It sets out a single, integrated design that supports the large-scale delivery of electricity generated from offshore wind, taking power to where it's needed across Great Britain. Compared to connecting wind farms individually, the recommended network design should reduce the impact on the seabed with up to a 30% smaller footprint from cables to shore, decrease CO_2 emissions by 2 million tonnes between 2030 and 2032, and save consumers £5.5 billion in costs from 2030. We're also investigating how to utilise electric vehicles as part of the balancing mechanism through vehicle-to-grid technology. This offers an exciting opportunity to harness their storage power and, with 37.4 million vehicles predicted to be on the road by 2050, this will be an important area for us to develop.

Key environmental metrics are presented below:

Metric	FY23	FY22
ESO energy consumption (Gas & Elec)	10.08 GWh	11.2 GWh
Energy consumption (Gas & Elec) per person	0.01 GWh pp	0.01 GWh pp
Scope 1 – Building heat & business vehicles ■	228 tonnes CO_2e	208 tonnes CO_2e
Scope 2 – Electricity ■ (Location based)	1,268 tonnes CO_2e	1,121 tonnes CO_2e
Scope 3 – Purchased services, flights & other travel ■	259,306 tonnes CO_2e	207,934 tonnes CO_2e
Total ESO employee miles travelled by air ■	393,343 miles	68,237 miles
ESO employee miles travelled by air per person	403 miles pp	77 miles pp
% of electric mgmt. vehicles (Mgmt. company car fleet)	76%	65%
Total office waste	98.09 tonnes	90.7 tonnes
Office waste per person	0.09 tonnes pp	0.10 tonnes pp
Waste diverted from landfill	96.08 tonnes	90.7 tonnes

■ denotes FY23 metric included within PwC's limited assurance scope, see note on page 49.

2. Our communities

We will deliver sustainable energy safely, reliably and affordably. The ESO is part of the fabric of the communities we serve – we keep the lights on, we keep homes powered, we help economies to thrive. We are an operator, an employer, and we use local suppliers. We support our communities with the time and expertise of our people, and through corporate giving programmes.

This was the third year we have opened our National Grid ESO community fund to applications from colleagues and we supported economic and social initiatives during the cost-of-living crisis which affected so many people across the UK. Our 2022 community fund supported 14 charities across the UK across three categories, from a total fund of £100,000.

Case Study

In 2022 we again supported our local communities listed below through the ESO Community Fund, with a particular focus this year on supporting efforts to combat food poverty, social causes, families and young people.

Food providers:

Carriers of Hope Coventry, Cupboard on the Corner (King's Church Trust Loughborough), Faith Christian Group CIO, Green Lane Masjid and Community Centre, Woodley Lunch Bunch

Social Causes:

Chance to Thrive (Wokingham Borough Council), Entrust Care Partnership CIC, Midlands Langar Seva Society

Families and Young People:

Birmingham Children's Hospital, First Days Children's Charity, Oaks Childcare Clubs CIC, Spencer's Retreat, The Gate, SHARE Wokingham

Data explaining our Responsible Business approach to our communities:

Metric	FY23	FY22
No. of young people given access to skills training	50	100
ESO contribution to UK consumer electricity bills ■	£2.46	£1.80 (0.15% on average)
Service Quality – Number of Voltage & Frequency Excursions	0	0
Lost time injury frequency rate	0.0%	0.0%

■ denotes FY23 metric included within PwC's limited assurance scope, see note on page 49.

3. Our people

We will develop the right skills to enable and accelerate the energy transition and strive to build a diverse work force and inclusive culture. To make sure we have the right skills to meet the challenges of the future and deliver on our ambitious RIIO-2 business plan, we will be recruiting circa 150 roles across Warwick and Wokingham in the next year.
You can read more about our commitment to our people on pages 35-38.

We strive to represent the communities that we serve and ensure that we take a responsible approach in engaging with our communities. We operate various community initiatives and one of them is our highly successful Bright Green Future (BGF) programme which is an environmental leadership and empowerment programme for young people, aged 16 to 19, across the UK.

It is provided at no cost to ensure it is accessible and inclusive, enabling us to bring together a diverse cross section of society. In 2022/23 the ESO's partnership with BGF has enabled a further 50 students (100 students enrolled in 2021/22) to develop their skills and ambition to pursue environmental careers. Six ESO employees participated in delivery of the programme.

BGF is centred around a carefully curated programme of in-person and online activities giving students the skills, confidence, and connections for their journey towards a meaningful energy or environmental career and enabling them to bring a sustainability perspective to every job.
By partnering with the Centre for Sustainable Energy in the delivery of BGF we will contribute to the ESO's Responsible Business targets and support our ambitions including:

- Increase employee volunteering hours. Through volunteering, our people will help equip the next and future generations to participate in the clean energy transition.
- Develop skills for the future, with a focus on lower income communities, providing access to skills development for young people.
- Achieve greater diversity in all ESO new talent programmes.

Case Study

Mahnoor graduated in 2020. As a result of her involvement in Bright Green Future, Mahnoor was invited to speak at the Association for Decentralised Energy's Heat and Decentralised Energy Conference in 2021 and became a founding member of Good Energy's Youth Board. She said:

"I started the BGF programme with no clear indication of a specific career path, and 'left' it as a Youth Board Member at Good Energy. Also, I spoke at UN Conference of Youth 16 in Glasgow about the Climate Crisis from a Global South perspective due to the knowledge I gained from my projects at BGF, as well as the online courses we were given access to.

I am now certain that I want to pursue a career in policy-making thanks to the skills I gained at BGF. As an A-Level Economics and Geography student, what I have witnessed as part of the Good Future Board helped me make the connections between the two disciplines. It's shown me how economics (micro and macro) will have, and is having a key role in driving the UK's approach to reducing climate change.

It also demonstrated the global prominence and importance of the energy sector in achieving net zero emissions targets."

Case Study

Lisa H graduated from the programme in February 2023. She said:

"*It is with many bittersweet emotions that I celebrate graduating Bright Green Future. I have had the experience of a lifetime through the amazing opportunities of this environmental leadership programme.*

Creating a workshop on climate refugees has been a unique experience that really challenged me to explore creative ways of facilitating discussions and promote learning around a complex issue. Alongside this, completing the online course on 'Sustainable Development Goals: People, Place and Environment' was an amazing opportunity for further learning - understanding sustainable development from a Māori perspective.

Thank you to the incredible, inspiring individuals that journeyed with me and to mentors Hannah Barratt, Nuha and the amazing staff Roy Kareem, Kate Elliott-Rudder, Leah Bromley. I can't recommend the BGF programme enough."

Aditi graduated from the programme in February 2023. Aditi said:

"*Thank you so much for giving us this opportunity to connect and gain confidence with a group of people who have the same passion to protect our planet. I will treasure the memories made of the summer residential for a long time.*"

The impact of Bright Green Futures for a National Grid ESO volunteer:

Charon Balrey, Distribution System Operation (DSO) Policy Manager, was a group project mentor to BGF students. Here's what Charon thought about the BGF volunteering opportunity:

"*I joined the BGF mentoring programme because I wanted to give something back, sharing my experience and knowledge from my career with others, especially enthusiastic young people. I want to encourage young people to have an interest in STEM and what this can achieve in reaching net zero. I also wanted to develop my coaching skills.*

One of the challenges we face at ESO is educating people about how to use clean energy, which includes encouraging behaviour changes. The students came with a lot of their own ideas, so having more time to explain who ESO are and our role might have been useful to possibly broaden their interests and understanding about the clean energy transition.

I now have more understanding of the different perspectives of young people. I feel a new motivation for the work I do in my role at National Grid ESO in working towards achieving net zero for the young people of our future."

Data explaining our Responsible Business approach to our people:

Metric	FY23	FY22
Ethnic diversity of senior leadership	-%	18%
Gender diversity of senior leadership (% female)	50%	36%
Ethnic diversity of workforce	33%	30%
Gender diversity of workforce (% female)	36%	36%
Managers completing mental health support training*	46%	100%
Living Wage Paid	100%	100%
Employee engagement score (Grid:Voice)	77%	80%
Employee enablement score (Grid:Voice)	72%	72%
Mean 'base' gender pay gap	12.3%	12.0%
Mean 'incentive' gender pay gap	10.4%	20.3%
ESO CEO to Median remuneration ratio	10:1	9:1

*We are pleased to report that all Leaders and Senior Leaders completed the mental health support training. It should be noted that we were on track to achieve the overall target however, the onboarding of several new managers in February and March reduced the overall completion percentage.

4. The economy

Our economic contribution to society comes primarily through delivering secure and reliable electricity. We power businesses and homes, and partner with regulators, our business partners, suppliers and other key stakeholders.

We make sure energy reaches homes and businesses safely, reliably and efficiently. But our contribution as a responsible, purpose-led business also comes as an employer, a tax contributor, a business partner, a community partner and a member of the B Team movement. Commitments include:

- Maintain reinvestment in our infrastructure and show the consumer benefits of our delivery plans;
- Continue to invest in developing technologies and innovations that benefit the industry and society; meet or exceed the B Team Responsible Tax Principles;
- Work across our supply chains to ensure that, together, we reflect the diversity of the communities we serve;
- Continue to influence our supply chain to operate as Responsible Businesses.

Data explaining our Responsible Business approach to the economy:

Metric	FY23	FY22
Supplier payments made to contractual terms	83%	84%
Suppliers with a carbon reduction target	95%	74%
Corporation tax (received)/paid	£28m	£17m
Other taxes paid	£9m	£7m
VAT collected	£1,037m	£763m
Innovation spend	£7m	£8m
Employment (jobs) at 31 March	1,074	884

5. Our governance

We will make sure our governance mechanisms reflect our values and commitments, and that the principle of responsibility guides us in everything we do. This approach covers nine areas of focus and is common across National Grid Group.

Human rights

Respect for human rights is incorporated into our employment practices and our values, which are integral to our Code of Ethical Business Conduct.

Our Global Supplier Code of Conduct (GSCoC) makes sure our suppliers comply with all legislation relating to their business, as well as the principles of the United Nations Global Compact, the International Labour Organisation Minimum Standards, the Ethical Trading Initiative Base Code, and the UK Modern Slavery Act 2015. For UK suppliers we also include the requirements of the Living Wage Foundation.

Preventing modern slavery

We expect our suppliers to be compliant with the Modern Slavery Act and to publish a Modern Slavery Statement if required. Each year National Grid updates the Group's Modern Slavery statement and publishes this online here. The Statement is independently reviewed by the Business and Human Rights Resource Centre.

National Grid is a member of the United Nations Global Compact Working Group, focusing on Modern Slavery, and is working with Achilles to develop a community approach to the issue and review our procurement process, so that modern slavery criteria and identifying risks forms part of our sourcing process.

Anti-bribery and corruption

In National Grid there is a company-wide framework of controls to prevent and detect bribery. We thoroughly investigate all allegations of ethical misconduct and, where appropriate, take corrective action and share learnings.

We record trends and metrics – only a small percentage of these relate to bribery or corrupt practices, so we do not consider them to be material for reporting purposes.

Data explaining our Responsible Business approach to anti-bribery and corruption:

Metric	FY23	FY22
Employees completed anti-fraud and bribery training	100%	100%

Governance and oversight

We regularly review our framework to be sure procedures remain proportionate to the principal risks. The National Grid Group Ethics and Compliance Committee (ECC) oversees the Code of Ethical Business Conduct and awareness programmes. Cases alleging bribery are referred to the ECC so its members can make sure cases are investigated promptly and acted on. Lessons learnt are communicated across the business.

Data explaining our Responsible Business approach to Governance:

Metric	FY23	FY22
Gender diversity of the Board	57%	50%
Ethnic diversity of the Board	0%	0%

Anti-bribery policy

The National Grid Group Policy Statement 'Anti-Fraud and Bribery' sets out our zero-tolerance approach. It applies to all permanent employees, temporary agency staff and contractors. To make sure of compliance with the UK Bribery Act 2010, we conduct annual fraud and bribery risk assessments. We have an e-learning course for all employees setting out our zero-tolerance approach.

Whistleblowing

Confidential external whistleblowing helplines are available 24/7 to all employees so that concerns can be reported anonymously. This helpline is publicised internally and on the external website. Our policies make it clear that we will support and protect whistle-blowers and any retaliation will not be tolerated. This process is a shared service within National Grid Group and there is also an independent mechanism for reporting System Operator Financial Information concerns, for issues arising due to legal separation.

Ethical business conduct

Our Code of Ethical Business Conduct sets out the standards and behaviours we expect from all employees. It is issued to all employees and is supported by a communication and training programme to promote a strong ethical culture.

Data explaining our Responsible Business approach to ethical business conduct:

Metric	FY23	FY22
Employees completed ethics training and compliance statement	99%	99%

Suppliers

Our Supplier Code of Conduct sets out our requirements that have procedures in place to prevent and detect bribery and corruption, in accordance with all applicable local, state, federal or national laws or regulations, including the UK Bribery Act 2010. We provide guidance and briefings for high-risk areas, so contractors, agents and others acting on behalf of ESO do not engage in any illegal or improper conduct. The National Grid Group Procurement team carries out regular supplier screening to identify any requirements for prosecutions or sanctions within our supplier base.

Compliance framework

All business areas in the ESO and across National Grid Group Support Functions are required to consider their specific risks and maintain a compliance framework, setting out its controls to detect and prevent bribery. As part of our compliance procedure, the ESO assesses its controls and provides evidence that supports its compliance.

Assurance

We engaged PricewaterhouseCoopers LLP (PwC) to undertake a limited assurance engagement using the International Standard on Assurance Engagements (ISAE) 3000 (Revised): 'Assurance Engagements Other Than Audits or Reviews of Historical Financial Information' and ISAE 3410: 'Assurance Engagements on Greenhouse Gas Statements'. The Board of Directors of National Grid Electricity System Operator Limited has reviewed and approved the Annual Report and Accounts for the 12-month reporting period ended as at 31 March 2023. We confirm that the information and data provided is accurate and in line with mandatory requirements. PwC have provided an unqualified opinion in relation to the KPIs that are identified with the symbol ■ and featured on pages 43-44.

Each year we reassess our assurance scope to ensure that we obtain external assurance for the most material metrics, and this year, we have once again increased our external assurance scope. We intend to evolve our assurance approach in line with market developments, and we will actively explore opportunities to incorporate more rigour into our approach in future years. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in terms of the risk assessment procedures which include an understanding of internal control, as well as the procedures performed in response to the assessed risks. Non-financial performance and, in particular, green house gasses (GHG) quantification is subject to more inherent limitations than financial information. It is important to read the responsible business information in this report in the context of PwC's full limited assurance opinion and Our Reporting Methodology.

For reference, the National Grid Responsible Business Report can be found here.

Internal control and risk management

The Board is committed to protecting and enhancing the ESO's reputation and assets, while safeguarding the interests of our stakeholders. The ESO is exposed to threats, opportunities and uncertainties that could impact its financial situation, its operational results, and its reputation. The ESO's risk management and control framework is in place to identify, assess, manage, monitor and escalate risks and ensure internal controls are implemented to provide mitigation. The Board sets and monitors the amount of risk the ESO is prepared to seek or accept in pursuing its strategic objectives through the implementation of its risk appetite.

The Audit and Risk Committee is responsible for overseeing the effectiveness of ESO's risk management framework and the Board with support from the Executive are responsible for the appropriate identification of our principal risks and the effective implementation of mitigating activities.

i) Risk management process

The ESO accepts that it is not possible to identify, anticipate or eliminate every risk and that taking appropriate risks is an inherent part of doing business. However, the risk management process provides assurance that we understand, monitor and manage the key risks and uncertainties we face in delivering our objectives.

The ESO has an approved Risk Management Framework in place which is supported by risk champions who aid the business in its application. The ESO identifies appropriate risk owners to be accountable for controlling and mitigating their respective risks. Our risk profile contains the risks that cover the enterprise activities of our business, of which the ESO had identified 14 Principal risks in April 2022 increasing to 15 by the end of March 2023. These Principal risks are designed to be either enduring risks to doing business or cover key strategic ambitions and are agreed, reported on and challenged with the Executive Team and the Board on a regular basis. We report on our enterprise risk landscape quarterly to the Audit and Risk Committee and conduct at least monthly dashboard reporting.

ii) Risk appetite

The ESO operates a 5-point appetite framework (moving from a 3 point scale as articulated in last year's report) implemented in April 22. The Board's appetite continues to be used by the business to help inform and assess risks and the associated responses.

iii) Top down, bottom-up assessment

The ESO has a 'top-down, bottom-up' approach where all risks and controls are mapped to the Board's principal risks and appetite. Each risk is assessed by considering the financial, operational and reputational impacts, and how likely the risk will materialise. The risk owner identifies and implements key controls, to manage and monitor the risks. Our principal risks are reported to the Executive, Audit and Risk Committee and the Board.

iv) Changes during the year

The Board focused on our emerging risk register as part of its annual workshop in September 2022, the outputs of which were used to inform the threats and opportunities landscape and further develop our emerging risk register. As detailed in the last report the ESO implemented a change to the risk framework in 22-23 (focusing on the risk taxonomy, principal risks, Board appetite and supporting risk tolerance ranges). Significant focus has been on embedding these changes into our ways of working and has resulted in a more comprehensive risk and controls landscape, clearer risk tolerances and focus on risk management. Through the year we have refined the focus of this framework and currently have 15 Principal risks across the two identified types. We expect to see further refinement of our Principal risks over the coming year and as we transition to a FSO.

For the purposes of this report, we provide details of the PRs most relevant to our business strategy and key operational challenges as at year end 2022-2023.

Operational		
Principle Risk	**Description**	**Mitigation**
Real Time Operations	Ensuring our ability to balance supply and demand in real time in the most secure and economic way	• Long and short-term energy forecasting and market information provision; • Network design and analysis; • Codes and obligation management; • Emergency exercises and industry testing; • Enhanced and increased market monitoring activity.
Security of Energy Supply (UK)	Ensuring the electricity supply for GB (specific risk for 22-24)	Recognising the increased security of supply concerns (normally covered in real time Operations) we have reviewed and implemented enhanced measures as follows: • Close engagement with energy suppliers, Ofgem, DESNZ (BEIS), Interconnected TSO's and the wider European energy industry to maximise supply, manage demand, and contingency arrangements; • Developed a world first Demand Flexibility Service; • Media strategy ahead of winter to control the messaging; • Implemented government engagement strategy to provide assurance; • Enhanced service through contracting with coal fire power stations; • Extensive assessment of European energy risks.
Physical, Cyber & Data Security	Protecting our systems and sites from the various threats including but not limited to cyber, physical, environmental or terrorist activity	• Established cyber security monitoring and testing; • Active system health monitoring; • Tactical upgrade programmes; • Strategic system change programmes are in flight.
Cashflow, Financial sustainability and efficient billing	Our role in undertaking industry revenue management could negatively affect ESO cashflow in the short to medium term	• Governance and testing; • Strong credit management process; • Significant credit facilities; • Bad debt management and recovery; • SOx (Sarbanes-Oxley) controls.

Strategic		
Principle Risk	**Description**	**Mitigation**
Strategy, development and delivery	Ensuring the ESO aligns around a clear ambition and strategy, and, in doing so, addresses the challenges of energy transformation and delivers for our customers, regulators and other key stakeholders	• Public affairs & policy strategy; • Strategic engagement strategy; • Customer experience strategy; • Trusted partner road map; • Annual Business Plan; • ESO Programme Review Board; • Portfolio Assurance Programme; • ESO Design Authority.
FSO Delivery	Enabling the ESO to become the FSO at appropriate pace while ensuring we continue to deliver existing commitments	• Programme board and associated governance frameworks; • Regular cross-party engagement (DESNZ/Ofgem/ESO/NG Group); • Programme Management; • Engaged with EY to supplement internal expertise.
Commercial Market design, development, and management	Ensuring we design, develop and manage effective commercial frameworks to support and enable our business deliverables	• Single Markets Platform; • Ancillary Services Reform; • Local Constraints Markets; • Digital Engagement Platform.
Network & Operability Planning	Ensuring we understand and plan for the safe control and operation of the energy network of the future, including the associated markets, mechanisms and technologies that enable this	• Strategic programmes have been set up to focus on the following; • Regional Development Programme; • Early Competition; • Network Planning Review; • Pathfinders; • Zero Carbon Operation.

v) Assurance

National Grid Group Corporate Audit provide independent assurance to the Audit and Risk Committee as to the effectiveness of controls put in place to mitigate risks. Internal Assurance is in place to support the first line improve the maturity of their risk and control landscape.

Financial review

Revenue for the year 2022/23 was £4,579 million (2022: £3,486 million) with an adjusted operating profit of £20 million and operating profit of £106 million (2022: adjusted operating profit £42 million and operating profit £21 million). The reduction in adjusted operating profit of £22 million reflects higher depreciation resulting from the continued asset investment programmes including a £15 million charge for assets that will be replaced earlier than originally expected (see the following page for definition and reconciliation of the two measures). Further details relating to the collection of revenues can be found in note 2 of the financial statements.

As a result of continued high gas prices, nuclear fleet outages in Europe and thermal constraints in Scotland, we saw increased balancing costs in the summer period. Winter also saw higher costs as part of our winter contingency planning including retaining access to coal plants and introduction of the Demand Flexibility Service. This is reflected in increased Balancing Service Use of System (BSUoS) costs in 2021/22, which are pass-through in nature, with revenue up by £1,093 million in 2022/23.

We worked with industry and Ofgem on a financial support package to provide more certainty on the level of BSUoS charges by capping them to £40 per MWh from October to the end of the financial year. The cap has led to £1 million of costs that will be recovered in the coming financial year 2023/24.

The number of customers going into administration during the year fell significantly from the unprecedented levels seen in the prior year. Accordingly bad debt costs fell to 5 million compared to the £31 million charge in 2021/22. These amounts are fully recovered through RIIO-2 revenues.

Our funding position continues to be strong with our balance sheet at 31 March 2023 showing cash, cash equivalents and financial investments of £523 million up from £269 million at 31 March 2022 and we had undrawn external facilities amounting to £550 million. We continue to carefully monitor our liquidity and working capital position increasing focus following the introduction of fixed BSUoS tariffs from 1 April 2023 which increase the risk of more volatile cash flows.

RIIO Price Control

As we operate as a monopoly, our business is regulated by Ofgem. The regulator puts in place an incentive regime that ensures our interests are aligned with those of customers and society.

Ofgem's regulatory regime for the energy industry is titled RIIO, which stands for Revenue = Incentives + Innovation + Outputs. It is designed to encourage companies to invest in efficiency and innovation.

RIIO-2

The RIIO-2 price control period started on 1 April 2021 and introduced a new bespoke funding framework for the ESO. The framework builds on the existing regulatory funding arrangements already in place for network companies, whereby licensees earn an allowed return on their Regulated Asset Value (RAV), but also provides additional funding for risks and activities that do not have an associated RAV. Additionally, the ESO funding framework has been designed to encourage the ESO to be agile and adapt quickly to market evolution. This is through the introduction of a pass through funding approach for efficiently incurred expenditure and Business Plans being submitted every 2-years to Ofgem covering funding requests. Finally, the framework incentivises the ESO to deliver on its ambitions and to provide value for money for consumers through the inclusion of incentive scheme.

Every year allowed revenue to fund an efficient level of expected costs (totex) is split between RIIO fast and slow money categories using specified ratios that are fixed for the duration of the 2-year business plan periods. Fast money represents the amount of totex we can recover in the year of expenditure. Slow money is added to our Regulatory Asset Value (RAV). In each year we can recover a portion of the RAV (regulatory depreciation) and a return on the outstanding RAV balance.

In the year, RAV grew by 21% driven by slow money expenditure (capital expenditure) and inflation adjustments in-line with CPIH offset partly by regulatory depreciation. 2023 Opening RAV was adjusted to reflect final regulatory reporting submissions to Ofgem in July 2022.

	2023 £m	2022 £m
Opening Regulated Asset Value (RAV)	297	240
Asset additions (slow money) (actual)	106	97
Performance RAV or assets created	-	-
Inflation adjustment (CPIH)	26	15
Depreciation	(69)	(56)
Closing RAV	360	296

Use of adjusted profit measures

In considering the financial performance of our business, we analyse each of our primary financial measures of operating profit, profit before tax and profit for the year attributable to equity shareholders, into two components.

The first of these components is referred to as an adjusted profit measure, also known as underlying or a business-performance measure. This is used by management and forms part of the incentive target set annually for remunerating employees and Executive Directors. The adjusted profit measure excludes exceptional items, re-measurements, and timing differences. These are reported collectively as the second component of the financial measures in actual profit.

We believe that by presenting our financial performance in two components it is easier to read and interpret financial performance between periods, as adjusted profit measures are more comparable having removed the distorting effect of the excluded items. Those items are better understood when separately identified and analysed.

The presentation of these two components of financial performance is in addition to, and not a substitute for, the comparable total profit measures presented.

Management uses adjusted profit measures to monitor financial performance. These measures are also used by National Grid Group in communicating financial performance to its investors in external presentations and announcements of financial results.

Reconciliation of adjusted profit measures

Reconciliation of adjusted operating profit to total operating profit:

	Years ended 31 March	
	2023 £m	**2022 £m**
Operating profit	106	21
Timing in respect of BSUoS revenues	(86)	21
Adjusted operating profit	20	42

There were no exceptional items or remeasurements included within operating profit and adjusted operating profit for the year ended 31 March 2023 (2022: nil).

Under the regulatory arrangements the level of actual revenues collected from customers can differ to the allowed regulatory revenues. This can give rise to timing differences.

As detailed in note 2 of the financial statements, for 'TNUoS' revenues we act as agent for the GB Transmission Owners and for certain revenues relating to UK interconnectors. As agent we recognise an asset or liability for such timing differences.

BSUoS revenues are based on daily calculated tariffs allowing revenues to collect balancing costs and most other regulatory allowed revenues in-line with the regulatory allowed revenues. During the year we collected £46 million more than our allowed regulatory revenues as actual totex spend was lower than anticipated levels. These will be largely repaid in 2023/24 and form part of the timing adjustments.

In Autumn 2021, there was a significant increase in gas prices as the world began to live with Covid-19. Ofgem issued CMP381, an industry support scheme, to defer the impact of part of the increase in balancing system costs into 2022/23. This resulted in £44 million under-recovery of BSUoS collections in 2021/22 of which £41 million was collected in 2022/23. CMP395, the support scheme implemented from October 2022 to 31 March 2023 capped BSUoS charges to £40 per MWh. This deferred £1 million of BSUoS collections into 2023/24. So on a net basis we collected £40 million more than the Balancing costs incurred in the year and coupled with the over collections on allowed revenues, the total timing adjustment was £86 million.

Income statement commentary:

	Years ended 31 March	
	2023 £m	**2022 £m**
Revenue	4,579	3,486
Operating costs	(4,473)	(3,465)
Total operating profit	106	21
Finance income	8	1
Finance costs	(4)	(2)
Profit before tax	110	20
Taxation	(19)	(7)
Profit after tax	91	13

Revenue

Revenue for the year ended 31 March 2023 was £4,579 million (2022: £3,486 million). The ESO is the system operator for Great Britain, which involves the procurement of services to balance the electricity transmission network. For this activity the company applies a BSUoS charge, which is payable by generators and suppliers of electricity. The ESO also holds the role as revenue collection agent for charges to customers on behalf of the owners of the transmission network. These TNUoS revenues are collected in accordance with IFRS 15 and revenues are shown on a net basis. Further details relating to the collection of revenues can be found in note 2 of the financial statements.

Most revenues, £4,533 million (2022: £3,418 million), are earned though the operation and balancing of the electricity system. This includes recovery of costs directly incurred to balance the electricity system on a pass-through basis, recovery of incentive revenue and amounts allowed under our regulatory framework to cover the internal costs of our operations.

The ESO incentive scheme rewards performance on progress against an ambitious plan to meet the ESO commitments and targets in relation to the future energy transformation. Under RIIO-2 performance is assessed at the end of the second year for both years ending 31 March 2022 and 2023. The scheme is evaluative with the outcome determined by Ofgem following the recommendations of a performance panel including industry stakeholders. The final award for the 2-year period will not be known until August 2023. We collected £10 million from customers during the year (2022: £nil) within our allowed revenues.

TNUoS revenues of £46 million (2022: £68 million) reflect the recovery of costs we directly incur through the regulatory arrangement, including Ofgem licence fees. Further detail on this can be found in note 2 of these financial statements.

Operating costs

Operating costs for the year ended 31 March 2023 were £4,473 million (2022: £3,465 million). Of this, £4,109 million (2022: £3,153 million) relates directly to balancing system costs which have increased due to lower electricity demand, continued high gas prices and record levels of renewable energy generation being brought onto the transmission network, which requires additional balancing work. The continued war in Ukraine led to increased concerns over security of supplies over the winter period. To help mitigate this risk we contracted with three coal plants to remain open and available to support our balancing activities. We also trialled the Demand Flexibility Service allowing end consumers to be paid to reduce demand at peak network usage times. Both of these services increased the cost of balancing the system over the winter. Other costs of our operations of £263 million (2022: £229 million) included payroll, pensions deficit, licence payments and other running costs. Depreciation, amortisation and impairment totalled £101 million for 2023 (2022: £83 million), driven substantially by depreciation of intangible IT assets which are seeing a significant increase in the level of investment over the transformation RIIO-2 period as well as asset impairments for IT work that may no longer be required and charges for accelerating depreciation on IT systems now expected to be replaced earlier than originally anticipated.

Under the separation agreement with National Grid Electricity Transmission plc, and in accordance with the regulatory requirements set by Ofgem, the company paid £13 million (2022: £12 million) of pension deficit contributions into the National Grid Electricity Group of the Electricity Supply Pension Scheme (NGEG of ESPS).

Net finance costs

For the year ended 31 March 2023, net finance costs before exceptional items and remeasurement were a credit of £(4) million (2022: £1 million). This includes interest paid on the fixed term loan to National Grid plc offset by interest received on centrally managed treasury banking arrangements. The Company also pays fees to external providers of working capital facilities. Interest is also charged on balances owed from or to external customers during the normal course of business.

Taxation

The tax charge on profits before exceptional items and remeasurements was £19 million (2022: £7 million) at a rate lower than the standard UK tax rate of 19% due to rate differentials on deferred tax movements.

Statement of financial position commentary:

Commentary	Years ended 31 March	
	2023 £m	**2022 £m**
Non-current assets	411	405
Current assets	1,008	1,012
Total assets	1,419	1,417
Current liabilities	(979)	(1,089)
Non-current liabilities	(71)	(50)
Total liabilities	(1,050)	(1,139)
Net assets	369	278

Non-current assets

Property, plant and equipment

The total net book value (NBV) of property, plant and equipment was £106 million as at 31 March 2023 (2022: £116 million), including capital additions of £8 million.

Intangible assets

The total net book value (NBV) of intangible assets was £304 million as at 31 March 2023 (2022: £288 million).

This included additions of £99 million in year relating to software projects, offset by £79 million of amortisation and impairments.

The remaining amount within non-current assets relates to our investment in joint ventures (£0.6 million relating to Coreso SA).

Current assets

Trade and other receivables

Trade and other receivables totalled £485 million at 31 March 2023 (2022: £743 million), with the main component being accrued income of £297 million (2022: £468 million). The accrued income element comprises of TNUoS billing accruals of £120 million (which will be invoiced in June following the annual demand reconciliation) with the remaining balance including BSUoS income accruals of £177 million. The reduction in the level of accrued income is principally on the TNUoS balances with customer volumes being more closely matched to those of the ESO this year.

Trade receivables of £52 million (2022: £113 million) were held as at 31 March 2023, net of £5 million of bad debt provision (2022: £36 million). The reduction in the bad debt provision reflects balances for customers in administration being written off, having been provided against last year.

Other receivables of £136 million (2022: £162 million) includes £59 million for amounts expected to be recovered from coal plants contracted to provide security of supplies over the winter period. As any unused stocks of their coal are sold, these monies are to be returned to NGESO who in turn pass these monies back to BSUoS customers based on their winter usage. The remaining balance relates to capital contribution amounts not yet invoiced to customers. The prior year balance included £79 million for TNUoS revenue timing differences that were all collected in the current year.

Other current assets of £523 million (2022: £269 million) relate to balances classified within net debt, for which the in year movement is explained in the cash flow statement commentary.

Current liabilities

Trade and other payables

Trade and other payables as at 31 March 2023 were £849 million (2022: £946 million). This includes £296 million (2022: £323 million) of trade payables, of which £225 million related to BSUoS cost accruals at the year end.

Deferred income as at 31 March 2023 of £117 million (2022: £235 million) was generated through the deferral of TNUoS revenues. This is caused by differences in our forecast TNUoS usage for billing and actual customer usage and will be credited to customers following the annual demand reconciliation in June.

Social security and other taxes as at 31 March 2023 of £222 million (2022: £244 million) related predominantly to £220 million of quarterly VAT payable. The large VAT balance is driven by two key factors:

a. The Company is part of the National Grid Group VAT group and settles VAT quarterly. This leads to the large VAT liability reflecting TNUoS and other charges from National Grid Electricity Transmission not being subject to VAT.

b. Cost incurred on balancing the system are largely subject to the Domestic Reverse Charge with nil net effect on the VAT liability, but the BSUoS invoicing is subject to VAT leading to an asymmetry and net liability.

Other payables as at 31 March 2023 of £182 million (2022: £114 million) include capital contributions of £135 million (2022: £104 million). These relate to revenues collected on behalf of the Transmission Owners for construction projects for which the ESO have not yet been invoiced for. There is also £41 million of TNUoS revenue timing differences that were over-collected in the year and will be returned to customers in 2023/24.

Other current liabilities of £32 million (2022: £30 million) comprise of amounts due to fellow subsidiaries of National Grid plc for amounts yet to be settled for services they provide to the ESO for centralised Support Services.

Provisions

Total provisions have increased to £3 million following a review of the IT Licences with the provision increasing to £2 million (2022: £1 million) with restructuring provisions remaining at £1 million.

Borrowings

Borrowings amounted to £127 million (2022: £141 million) principally relating to a loan due to the ultimate parent undertaking and a bank overdraft.

Non-current liabilities

Deferred tax liabilities

The net deferred tax liability as at 31 March 2023 is £0 million (2022: £11 million). This is a decrease in liability of £11 million, driven by a movement in advanced capital allowances.

Other non-current liabilities

Other non-current liabilities totalled £71 million (2022: £39 million) as at 31 March 2023. This consisted of £71 million (2022: £39 million) for application fees (relating to advance payments by customers for feasibility studies and connections).

Net debt

The net debt position as at 31 March 2023 was cash positive at £396 million (2022: £128 million) and is detailed further on the following page.

Cash flow statement commentary

Cash inflows and outflows are presented to allow users to understand how they relate to the day-to-day operations of the business (operating activities); the money that has been spent or earned on assets in the year, including acquisitions of physical or intangible assets; and the cash raised from debt or share issues and other loan borrowings or repayments (financing activities).

Our electricity system operations are subject to a multi-year regulatory agreement.

For the year ended 31 March 2023 cash flow from operations was an inflow of £399 million. This was driven by operating profit adjusted for depreciation, amortisation, and provisions of £207 million and a working capital inflow of £191 million, largely driven by the over collection of TNUoS timing differences of £120 million and an increased volume of customer connection applications awaiting Transmission Owners completion. Impacts of TNUoS timing differences is expected to reduce in future years following the transfer of cash risk to the onshore Transmission Owners. However, the introduction of fixed BSUoS tariffs from 1 April 2023 will increase the cash flow volatility of the Company.

Net capital cash expenditure

Net capital investment was £107 million (2022: £108 million) in the year to date 31 March 2023. This is mostly software and computer hardware within IT system development projects.

Net interest paid

The net interest received was £3 million (2022: £1 million paid).

Dividends paid

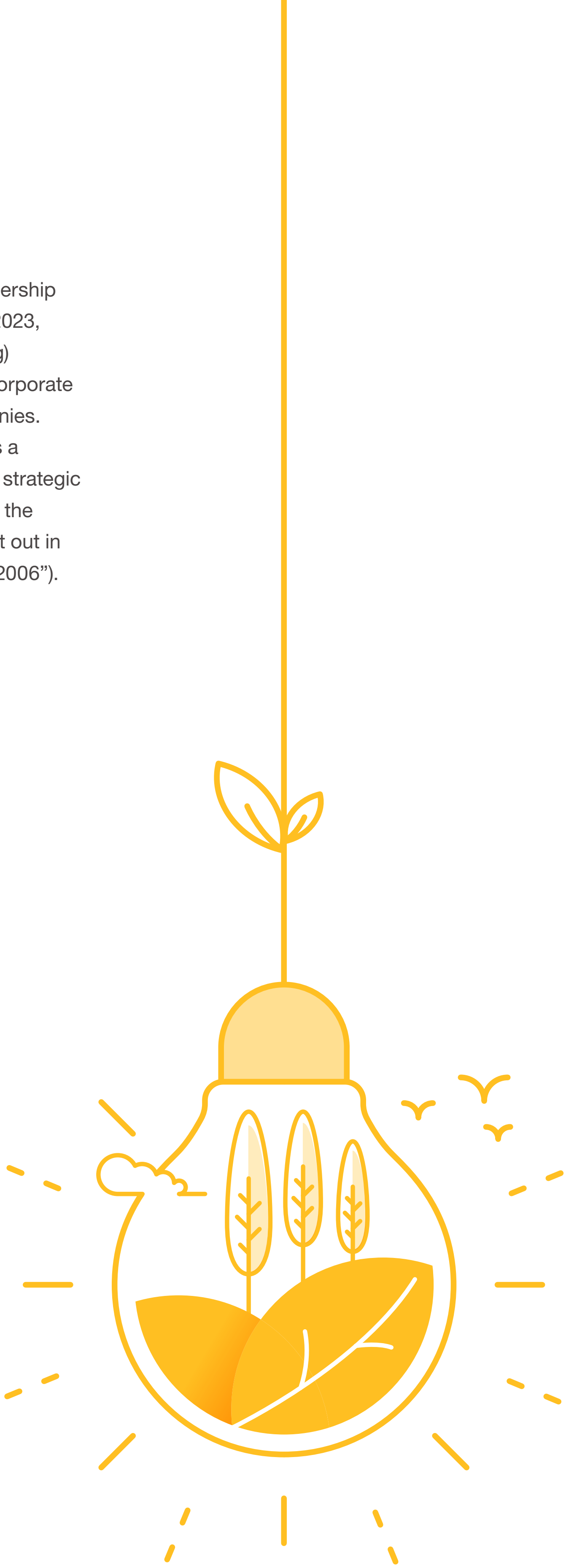
No dividends were paid in the current year (2022: £67 million, being a final dividend recommended on 20 July 2021).

Reconciliation of cash flow to net debt:

	2023 £m	2022 £m
Cash generated from operations	399	225
Net capital expenditure	(107)	(108)
Business net cash flow	292	117
Net interest received / (paid)	3	(1)
Tax (paid)/received	(28)	(17)
Net disposals of short term financial investments	2	14
Net proceeds from loans	(231)	(72)
Dividends paid to shareholders	-	(67)
(Decrease)/Increase in cash and cash equivalents	38	(26)
Increase/(decrease) in financial investments	232	59
Increase in borrowings and related derivatives	(2)	(21)
Net interest received on the components of net debt	–	–
Net debt increase/(decrease)	268	12
Opening net debt	128	96
Closing net debt	396	128

Section 172 Statement

The ESO aims to achieve high standards of leadership and governance. For the year ended 31 March 2023, under The Companies (Miscellaneous Reporting) Regulations 2018, we have applied the Wates Corporate Governance Principles for Large Private Companies. These corporate governance principles serve as a framework for the Board in managing long-term strategic business decisions that promote the success of the Company, while having regard to the matters set out in section 172(1) of the Companies Act 2006 ("CA 2006").



Corporate governance

Corporate governance statement

1 Principle
Purpose and leadership

An effective board develops and promotes the purpose of the Company, and ensures that its values, strategy and culture align with that purpose.

Purpose

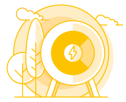
As the Electricity System Operator for Great Britain, we hold a unique position at the heart of the energy industry. We run the UK's network of high voltage electricity wires, making sure that Great Britain has the essential energy it needs by ensuring supply meets demand every second of every day. This purpose is at the heart of everything we do.

Strategy

In the summer of 2022, the Board reconfirmed the ESO's mission of driving the transformation to a fully decarbonised electricity system by 2035 which is reliable, affordable, and fair for all.

To support delivery of this mission, the ESO's five core ambitions were refreshed to reflect the rapidly changing context for the business and the evolving needs of our stakeholders. We have an unparalleled opportunity to partner with government and industry to realise the benefits of the energy transition, solve the challenges that lie in our path and accelerate progress towards a net zero future. Whilst at the same time recognising the needs of energy consumers in the shorter term, against a backdrop of a major cost of living crisis and with energy costs at an unprecedented level. Knowing that how we deliver is as important as what we deliver. The ambitions are at the core of what we do and are shaped by our values, see page 11. These ambitions are used by leadership in making critical decisions supporting our reputation as a truly progressive and trusted organisation.

The ESO's ambitions are:


Ensuring the electricity system can operate carbon free by 2025;


Engaging as a trusted partner;


Driving competition for the benefit of consumers;

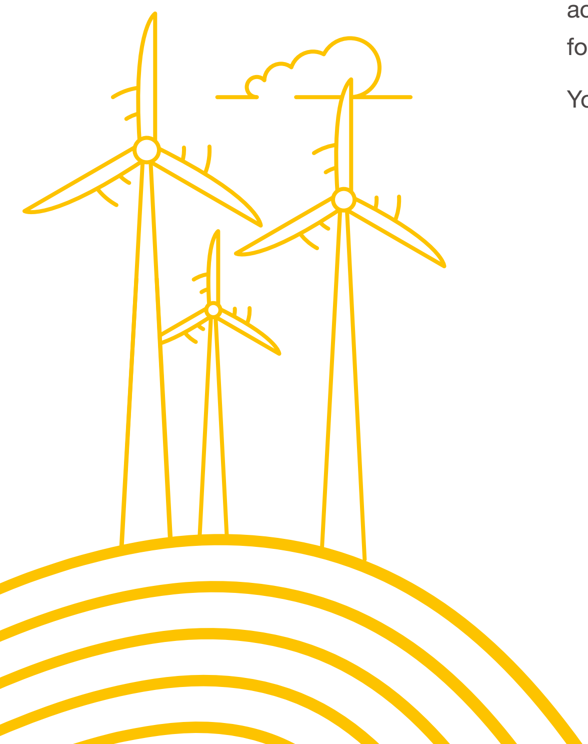

Being the net zero employer of choice;


Being innovative, digital and data driven.

As part of the ESO's continued drive to become more sustainable and transparent, the Board has continued to focus on matters of environmental, social and governance ("ESG") strategic importance in the year – these are discussed in the Sustainability Report on page 42.

Ofgem's RIIO performance model sets out the price controls to ensure that we are delivering for consumers. RIIO-2 covers the five-year period 2021-2026, with two-year planning cycles, recognising that the ESO's plans need to remain flexible and agile in the face of unprecedented change in the energy industry. In the summer of 2022, we published out second Business Plan (BP2) setting out the goals for 2023-2025 of the RIIO-2 period. The plan includes activities to accelerate the transition to net zero, supporting out mission and delivering value for customers and consumers.

You can read more about our RIIO-2 business plan here.



Principle 2
Board composition

Effective board composition requires an effective chair and a balance of skills, backgrounds, experience and knowledge, with individual directors having sufficient capacity to make a valuable contribution. The size of a board should be guided by the scale and complexity of the Company.

Balance, Diversity, Size and Structure

As of 17 July 2023, the Board comprises a majority of five Non-Executive Directors (NEDs) and three Executive Directors. The Board considers that there is an appropriate balance between Executive and Non-Executive directors and there is sufficient independence in the overall composition. The Chair of the Board is also the Executive Director of the ESO; this is considered appropriate for ESO as a subsidiary company of a large group.

The NEDs bring a range of experience, perspective, and challenge from outside the energy industry and play an important role in challenging a broad range of areas across the business.

The size and composition of the Board is appropriate to the ESO's size, nature, and complexity of the business. It also complies with the requirements of our licence.

The Board recognises that diversity is a challenge for the energy sector and strives to appoint directors that add an appropriate level of expertise, objectivity and diversity to the Board. The Board is committed to encouraging increased diversity throughout the workplace and having a workforce that reflects our society. Initiatives are in train to create opportunities for employees to progress to the most senior levels of our organisation. A biography for each Board director can be found on page 12.

There is open debate and constructive challenge at meetings, with Board members demonstrating good engagement with the business and a sound understanding of the ESO's strategy, risks, and challenges. As the business must balance costs against the prudent management of risks inherent in the operation of the electricity system, there are often trade-offs between different stakeholders over the longer-term and the directors carefully consider this as they evaluate decisions. The NEDs bring independent and objective judgement to Board deliberations, challenging and monitoring performance of executive management and obtaining assurance that the Company's legal and regulatory requirements have been met. The Directors have equal voting rights when making decisions, except the Chair, who has a casting vote in the event of a tie. All Directors have access to the advice and services of the Company Secretary and may also take professional advice at the Company's expense.

All Board appointments are made in consultation with our Shareholder and in line with National Grid's Procedure for the Appointment of Directors to Subsidiary Companies.

Effectiveness

The Board has been working to implement the recommendations of the formal effectiveness review, carried out in 2021. In 2022, an informal effectiveness evaluation was conducted by the Chair. The Board uses continuous review at the end of each meeting, seeking to stay focused on betterment, building on the existing strong foundations become even more effective through a series of small changes.

Directors update their knowledge and familiarity with the ESO by meeting with senior management and key external stakeholders, by attending company events and visiting operations. Induction materials and briefings are provided to new Directors.

The Board receive updates and presentations on key operational matters and specific initiatives within the business and the wider operating environment to strengthen their knowledge and understanding of the business and operational matters. These visits and briefing sessions create further links between the business and the Board room.

3 Principle
Director responsibilities

Accountability

The Board and individual Directors should have a clear understanding of their accountability and responsibilities. The Board's policies and procedures should support effective decision-making and independent challenge.

The Board recognises the importance of a strong corporate governance framework and is collectively responsible for governance and oversight of the business, and compliance with all relevant laws and regulations, including compliance with its obligations under its ESO Licence. To facilitate this, we have established a comprehensive governance framework, which is aligned to the wider National Grid plc governance framework, as applicable.

The Board had seven principal meetings in the year. These are scheduled in advance providing all Directors with sufficient notice to attend. Board attendance is set out below and expressed as the number of meetings attended out of the number possible or applicable for the individual director during the year to 31 March 2023.

Attendance

		Attendance
John Linwood	Non-Executive Director	7 of 7 (100%)
Baroness Gillian Merron	Non-Executive Director	7 of 7 (100%)
Regina Moran	Non-Executive Director (resigned 31 December 2022)	4 of 5 (80%)
Zoe Morrissey	Executive Director (appointed 15 November 2022)	3 of 3 (100%)
Hannah Nixon	Non-Executive Director	7 of 7 (100%)
Kayte O'Neill	Director of Transformation, ESO	7 of 7 (100%)
Paul Plummer	Non-Executive Director	6 of 7 (86%)
Fintan Slye (Chair)	Executive Director, ESO	7 of 7 (100%)
Gregg Smith	Executive Director (resigned 14 November 2022)	4 of 4 (100%)
Janice Crawford	Non-Executive Director (appointed 17 July 2023)	0 of 0 (n/a)

Additional supplementary Board meetings were scheduled to allow discussion of urgent issues or to allow greater focus on specific matters, there were 14 in 2022/23 covering topics such as FSO, RIIO-2 Business Plan 2 and additional fortnightly meetings throughout the challenging winter period, to facilitate regular engagement around the key strategic issues and close oversight over security of supply. All Directors were either present or had the opportunity to provide feedback to the Chair prior to the meeting.

The Board, upon recommendation from management, determines the strategic direction of the ESO, establishes policies for corporate management, makes decisions on major initiatives and ensures the leadership is in place to implement these policies and decisions.

The Board operates a forward agenda of standing items appropriate to the operating and reporting cycles and receives regular and timely information on all key aspects of the business, including risks and opportunities, operations, financial and regulatory reporting, market conditions, relationships with regulatory bodies and human resources, legal, compliance, and regulatory matters, supported by a KPI Scorecard allowing supervision of performance against our strategic initiatives. The Board is prepared for meetings through the review of detailed pre-read materials and pertinent updates between meetings, where relevant.

The Directors have a clear understanding of their roles and responsibilities. The five NEDs are wholly independent in that they have no business or relationship with the ESO or the wider National Grid Group that would compromise their influence or objectivity.

The ESO is proud of its reputation for operating one of the most reliable electricity systems in the world. Our licence to operate is dictated by the way we are perceived by stakeholders, so the Board gives the highest priority to maintaining its reputation for high standards of business conduct. It identifies and monitors external developments likely to impact on our reputation and ability to run our business as a good corporate citizen. For more information see our section on acting as a Responsible Business on pages 42-49.

Areas of focus in 2022/23 were

Governance	• Reviewing the composition of the Board and memberships of Board committees, including succession planning, together with their Terms of Reference • Continued focus on established an Integrated Risk Management System • Actively supporting Stakeholder engagement opportunities • Oversight of employee wellbeing initiatives
Strategy	• Transition to an independent Future System Operator • RIIO-2 Business Plan 2 • Winter – Security of Supply • ESO Innovation Strategy 2022/23 • Network Planning and Connection Reform • Grow our organisational capability – people and technology • Assessing economic and geopolitical factors, including the impact of the Ukraine conflict on wholesale energy prices combined with the cost of living crisis • Cyber security
Finance	• Approval of the annual financial plan & budget • Assessment of the ESO's financial performance, reviewing quarterly and annual results • Approval of the Annual Report • Capital Expenditure Considerations • Financial sustainability
Risk and opportunity	• Further develop the ESO's approach to risk • Review the ESO's principal risks and set the Board's risk appetite • Continuing assessment of significant and emerging risks, including geopolitical uncertainty and changes to the global and UK energy landscape • Considered movements in key risks from changes to likelihood or business impact
Corporate Social Responsibility	• Commitment to being a responsible business • ESO Community Fund • Volunteering commitment • Bright Green Future Charity Partnership • Delivering on our 2025 zero carbon operation ambition

Integrity of information

Financial information is collated by our finance function from its accounting systems to enable the Board to assess financial performance. Internal control systems help to ensure the financial information generated is reliable, consistent, timely and complete. Financial information is externally audited by Deloitte LLP annually and financial controls are routinely reviewed by National Grid's central internal Assurance and Corporate Audit functions. Other key information is prepared by the relevant business and internal functions, which are also subject to periodic reviews by the ESO's Assurance function.

Committees

The Board has delegated certain governance responsibilities to four standing Committees that have the knowledge and experience to make recommendations to the Board, each of which have documented terms of reference.

Each committee is chaired by a NED and the NED members provide independent challenge and support for effective decision making.

The Board and its committees regularly review terms of reference to ensure that they remain fit for purpose and are adapted to meet the requirements of the Company as they evolve. At each Board meeting, directors receive reports on the key discussion items, activities and recommendations from the Chairs of the Committees that have met in the period.

Committee	Activity
Audit & Risk Committee	The Audit & Risk Committee (ARC) monitors the effectiveness of internal controls; risk management; integrity of financial statements, and the performance of the internal Assurance and Corporate Audit department and independent auditor.
Nominations Committee	The Nominations Committee makes sure the Board remains balanced and effective and that its structure, composition and skills align to the ESO's strategic objectives, and has due regard for diversity. The Committee's primary objective is to identify and evaluate candidates for future NED appointments and in doing so, it takes advice from external recruitment consultants.
Business Separation Compliance Committee	The Business Separation Compliance Committee oversees the duties and tasks of the ESO Business Separation & EMR Compliance Officer and compliance with the business separation licence conditions.
Health, Safety & Wellbeing Committee	The Health, Safety & Wellbeing Committee has responsibility for nurturing and promoting a positive attitude to health, safety and wellbeing as in integral part of the ESO's activities and to maintain an overall assessment of the key ESO health, safety and wellbeing specific risks.

Below is a summary of the committee structure and members:

	Audit & Risk	Compliance	Nominations	Health, Safety & Wellbeing
John Linwood*	●		●	●**
Baroness Gillian Merron*		●	●**	
Hannah Nixon*	●**		●	
Paul Plummer*	●	●**		●
Fintan Slye			●	
Kayte O'Neill	●			
Zoe Morrissey		●		

***NED **Chair**

The Board also delegates certain powers and responsibilities to the following:

Electricity System Operator Executive Team

The ESO Executive Team meets at least weekly and comprises individuals responsible for strategic business units and key functions. Duties include formulating strategy proposals for Board approval and ensuring the strategy is implemented in a timely and effective manner. The Executive Team receives reports from its two sub-committees: the ESO Portfolio Review Board (including investment sanctioning) and Cyber. The ESO Executive Team makes sure that the values, strategy and culture align, are implemented, and are communicated consistently to our employees and external stakeholders. The gender balance in the ESO Executive Team is 45/55 (male/female).

4 Principle
Opportunity and risk

The Board should promote the long-term sustainable success of the Company by identifying opportunities to create and preserve value, and establish oversight for identification and mitigation of risks.

Opportunity

The ESO's strategy is based on a long-term vision for Britain's electricity system to be able to run on purely zero carbon electricity by 2025, supporting the UK's 2050 net zero commitment. The transition to an independent Future System Operator fully aligns to this purpose and presents a considerable opportunity for the organisation. At the same time the Board continues to explore opportunities that support the strategy - such as Early Competition, Offshore Coordination and Network Planning and Connection Reform.

Major opportunities, in excess of thresholds, are considered and approved by the Board in accordance with the Company's Articles of Association and Delegated Authorities. Interesting and significant initiatives are presented to the Board alongside these.

Risk

Effective risk management is fundamental to our long-term success. The Strategic Report on pages 34-73 includes an assessment of the ESO's principal risks and uncertainties and describes our internal controls and risk management.

At Board level, oversight for the identification and mitigation of risk is delegated to the Audit & Risk Committee. The ESO has been on a significant programme of change over the last few years for the management of risk. As the external and internal risk landscape continues to evolve quickly, it is essential that the ESO embeds and matures its integrated risk management framework.

The Executive considers risks as part of the routine management of the business. A primary area of focus, in the period, has been the risks and opportunities the Government and Ofgem's announcement of the intention to create a new and independent Future System Operator. There was also a particular focus on the potential risk to the ESO's current and future performance, in terms of security of supply and balancing costs, caused by the impact on global and UK energy markets as a result of the war in Ukraine.

The Audit & Risk Committee reviews the ESO's internal control and risk management systems and receives reports from management on the effectiveness of the established systems and conclusions of any testing carried out by internal and external auditors. At each meeting, the Committee undertakes a 'Deep Dive' into one of the Principal Risk areas.

The Committee approves the annual internal audit and ESO assurance plan, ensuring that these are aligned to the key risks of the business. The plans are sufficiently flexible, to help react to and address new and emerging risks. The Committee receives regular summaries of this work and monitors and reviews the effectiveness of these activities and any mitigating action plans in the overall context of the ESO's risk management system. The Audit & Risk Committee's Chair is responsible for keeping in touch on a continuing basis with key people involved in the ESO's governance including the ESO's Finance Director, Corporate Audit and the external audit lead partner.

The Board approves the Company's risk appetite and undertakes an assessment of the Company's risk management framework at least annually to ensure that it remains appropriate.

5 Principle Remuneration

A Board should promote executive remuneration structures aligned to the long-term sustainable success of a company, taking into account pay and conditions elsewhere in the Company.

Directors are not separately remunerated for their Board role, except for the NEDs, who are paid an annual fee to attract and retain a balanced skill set and provide strong stewardship and governance.

Directors' remuneration is determined in accordance with National Grid's remuneration policies for employees. See the Annual Report and Accounts of National Grid plc for further information. In accordance with the requirements of the ESO licence, incentivisation of the Executive Directors is linked to the performance of ESO only.

The ESO is committed to ensuring all employees are paid fairly for the role they undertake and our gender pay data is scrutinised and discussed by the Board at least annually. Initiatives to increase the diversity throughout our workforce, up to the most senior levels of the organisation should also lead to improvements in the gender pay gap. For further details, please refer to the Company's latest Gender Pay Gap Report which can be found here.

The Nominations Committee is responsible for reviewing, and where appropriate, making recommendations to the Shareholder in respect of the remuneration policies and benefits framework for all ESO employees to ensure that they support the strategic objectives, culture and values of the Company.

Principle 6
Stakeholder relationships and engagement

Directors should foster effective stakeholder relationships aligned to the Company´s purpose. The board is responsible for overseeing meaningful engagement with stakeholders, including the workforce, and having regard to their views when taking decisions.

The Board promotes accountability and transparency with all stakeholders, encouraging meaningful engagement with employees, customers and external stakeholders and considering their views when taking decisions. Maintaining strong stakeholder relationships id crucial to achieving our aims.

Many of our business initiatives require regular and detailed stakeholder and customer input to provide valuable scrutiny and challenge; such as our independently chaired ESO RIIO-2 Stakeholder Group (ERSG), the Operational Transparency Forum, the ESO Networks Stakeholder Advisory Group, the ESO Markets Advisory Council, Codes Administration, and the ESO Power Responsive programme. We engage with the wider stakeholder community via our core channels, which include website, social media, live events, workshops, webinars, podcasts, knowledge shares and newsletters.

We run a UK and European public affairs engagement programme to engage with and inform key industry stakeholders. We are members of industry collectives such as the Energy Networks Association, Coreso and ENTSO-E.

Shareholder

The ESO is a wholly owned subsidiary of National Grid plc (held through National Grid Holdings One plc) although the ESO operates on a stand-alone, arm's length basis as is appropriate in the context of our licence obligations around legal separation.

National Grid Group, as ultimate shareholder of the ESO, is responsible for ensuring the long-term viability and prudent financial management of the National Grid Group. Arrangements are in place to both enable appropriate Group oversight but also enable the ESO to operate sufficiently independently within the National Grid Group. The Board, therefore, duly considers the views and interests of its ultimate Shareholder as part of any major decisions and transactions.

The Articles of Association and Matters Reserved to the National Grid Group Board describe the remit of the public limited company (plc) and are available on the National Grid website. To bring this interaction to life, the areas of ESO activity that have visibility or require approval at Group Board level include things like:

- approval of the ESO's annual budget;
- review and approval of the ESO's three year rolling financial forecast;
- visibility of the ESO's financial performance against its annual business plan;
- visibility of the ESO's principal risks;
- approval of any material extension of the ESO's activities into new business areas or any decision to cease to operate any part of the ESO's business;
- authorisation of changes affecting the capital structure of the ESO;
- approval of the long-term strategic objectives of the ESO and any major changes to the size and composition of the ESO Board and its Committees; and
- unforeseen issues that have significant or material impact on the Group (e.g. financial, reputational or principal risks).

To support operational and managerial separation of the ESO, and independence of the ESO Board, there is a Group level committee, the ESO Committee. The ESO Committee ensures all ESO ringfenced information required to support good corporate governance by the ultimate shareholder is viewed separately from other subsidiaries in the National Grid portfolio. The ESO Committee is not involved in the day-to-day operation of the ESO.

Matters reserved for the National Grid Group Board are published on the National Grid website here.

The NEDs hold a bi-annual meeting with the Chief Executive of National Grid plc. There is also an annual meeting held between the respective Chairs of the National Grid plc and ESO Audit and Risk Committees.

The Strategic Report was approved by the Board of Directors on 17 July 2023 and signed on its behalf by

Fintan Slye, Chair

National Grid Electricity System Operator Limited
1-3 Strand, London WC2N 5EH
Registered in England and Wales Number: 11014226

Directors' Report

The Directors present their annual report along with the audited financial statements of the Company for the year ended 31 March 2023. The report must be read in conjunction with the Strategic Report on pages 34-73.

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Directors

The Directors of the Company who were in office during the year and up to the date of signing the financial statements were:

Director	Appointment/Resignation date
Fintan Slye	
Regina Moran (NED*)	Resigned 31/12/2022
John Linwood (NED*)	
Baroness Gillian Merron (NED*)	
Hannah Nixon (NED*)	
Kayte O'Neill	
Paul Plummer (NED*)	
Zoe Morrissey	Appointed 15/11/2022
Gregg Smith	Resigned 14/11/2022
Janice Crawford (NED*)	Appointed 17/07/2023

*Non-Executive Director

Directors Indemnities and Insurance

The Company has made qualifying third-party indemnity provisions for the benefit of its Directors during the year; These remain in force at the date of this report.

Principal activities and business review

A full description of our principal activities, business, key performance indicators and principal risks and uncertainties is contained on pages 6-53 of this report.

Material interests in shares

National Grid Electricity System Operator Limited is a wholly owned subsidiary undertaking of National Grid Holdings One plc. The ultimate parent company of National Grid Electricity System Operator Limited is National Grid plc.

Dividends

In line with the Board's residual Dividend policy, the Board is not recommending the payment of a final dividend for the year to 31 March 2023 (year ending 31 March 2022: nil).

Share capital

The share capital of the company remains unchanged. See note 16 to the financial statement for further details.

Articles of Association

The Company's Articles of Association may be amended by a special resolution of the Company's shareholders. The current Articles were adopted by shareholders on the date of incorporation, 16 October 2017.

Conflicts of Interest

The Company's Articles permit the Board to consider and, if deemed fit, authorise situations where a Director has an interest that conflicts, or may possibly conflict, with the interests of the Company. If a Director becomes aware that they have an interest that may arise in a conflict, they are required to notify the Board. Internal controls are in place to make sure that any related party transactions involving Directors are conducted on an arm's length basis. Directors have a duty to update changes to these conflicts. The Board considers the procedures in place for reporting and considering conflicts of interest are effective.

Political donations

During the year, the Company made no political donations (2022: nil).

Research and development

Expenditure on research and development was £10.2 million (2022: £7.6m) during the year.

Future developments

Details of future developments are contained in the Strategic Report in pages 34-73.

Business relationships

Details of how the Directors have had regard to the need to foster our business relationships with suppliers, customers and other stakeholders and their effect on the decisions taken by the Company during the financial year are contained in the Strategic Report on pages 34-73.

Employee engagement

The average number of people employed by the Company during the year was 977. The ESO recognises that our employees are fundamental to our long-term success. Details of how the ESO maintains a close relationship with employees and how Directors have had regard to employee interests in their decision making is contained in the Strategic Report on page 34-73.

Diversity, Equity & Inclusion

The ESO is an equal opportunities employer and our core values are grounded in creating an environment where our employees can perform at their best and feel fulfilled and confident in their work, regardless of age, nationality, disability, marital status, ethnic origin, religion, gender or sexual orientation. The ESO gives full and fair consideration to applications for employment made by disabled people. The ESO strives to empower all our employees to realise their full potential and ambitions through a culture of development and we endeavour to re-train and adjust the environment of employees who become disabled during employment with us.

See page 35 for further details. Women represent 43% of the ESO Board and 55% of our Executive Team. Overall, women make up 36% of our workforce and hold 50% of senior roles.

Fair and appropriate remuneration

We are voluntarily reporting our ESO Executive Director to Median remuneration ratio which is 10:1. The ratio is based on total pay and taxable benefits (2022/23) and comprises salary, pension, and other benefits including an estimated vesting value for the 2020 Long Term Performance Plan award which is expected to vest in early July 2023.

Disclosure of information to auditors

The auditors have made the requisite enquiries, and so far as the Directors in office at the date of the signing of this report are aware, there is no relevant audit information of which the auditors are unaware. Each Director has taken all reasonable steps to make themselves aware of any relevant audit information and to establish that the auditors are aware of that information.

Post balance sheet events

There were no post balance sheet events for the year ended 31 March 2023.

This confirmation is given and should be interpreted in accordance with the provisions of s418 of the Companies Act 2006.

Going concern

The ESO Board has a reasonable expectation that the Company has adequate resources to continue in operational existence for the foreseeable future. Despite the challenges arising from the unprecedented circumstances driven by the war in Ukraine, the ESO has demonstrated its operational and financial resilience and ability to manage business risks successfully. The introduction of fixed BSUoS tariffs from 1 April 2023 increase the level of cash flow uncertainties faced by the Company. Latest published BSUoS forecasts for the year ahead indicate that the tariffs currently fixed through to 31 March 2024 will lead to a significant over-collection of funds which the Company will only start to repay as part of the tariff set for the period 1 April 2024 to 30 September 2024. This level of over-collection provides sufficient available funding to withstand any short term balancing costs increases on a scale seen in recent years even if the existing undrawn facilities are unavailable. The Company has the option to re-set tariffs, which would generate incremental cash flows within a month of their introduction.

The exact timing of the sale of the Company to create the FSO remains uncertain but, pending Royal Assent, is expected to be during calendar year 2024. The funding of the Company post any separation from National Grid is still subject to agreement with Ofgem and DESNZ. The Directors expect appropriate funding and facilities to be in place ahead of any sale. The Directors have concluded that there are no material uncertainties relating to the Company's ability to operate for a period of at least 12 months from the date of approval of these financial statements. Further details can be found within the Basis of Preparation on pages 87-89. Accordingly, the financial statements set out on pages 78-111 have been prepared on the going concern basis.

Acknowledgement

The Directors wish to convey their appreciation to all ESO employees for their continued commitment and contribution to delivering our ambitions.

The Directors would also like to extend their thanks to all other key stakeholders for their continued support of the Company and their confidence in its management.

Fintan Slye
Chair

17 July 2023

National Grid Electricity System Operator Limited
1-3 Strand, London WC2N 5EH
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Financial Statements

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Throughout these financial statements, we have provided explanations of the disclosures and why they are important to the understanding of our financial performance and position.

Notes

Notes to the financial statements provide additional information required by statute, accounting standards or other regulations to assist in a more detailed understanding of the primary financial statements. In many notes, we have included an accounting policy that describes how the transactions or balance in that note have been measured, recognised and disclosed. The basis of preparation section provides details of accounting policies that apply to transactions and balances in general.

Statement of Directors' responsibilities

The Directors are responsible for preparing the Annual Report and the financial statements in accordance with applicable law and regulation.

Company law requires the Directors to prepare financial statements for each financial year. Under that law the Directors have elected to prepare the company financial statements in accordance with International Financial Reporting Standards (IFRSs) as adopted by the UK and, FRS 101. Under company law the Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the company and of the profit or loss of the company for that period.

In preparing the company financial statements, the Directors are required to:

- Select suitable accounting policies and then apply them consistently;
- Make judgements and accounting estimates that are reasonable and prudent;
- State whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the company will continue in business.

In preparing the financial statements, International Accounting Standard 1 requires that Directors:

- Properly select and apply accounting policies;
- Present information, including accounting policies, in a manner that provides relevant, reliable, comparable and understandable information;
- Provide additional disclosures when compliance with the specific requirements in IFRSs are insufficient to enable users to understand the impact of particular transactions, other events and conditions on the entity's financial position and financial performance; and
- Make an assessment of the company's ability to continue as a going concern.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the company's transactions and disclose with reasonable accuracy at any time the financial position of the company and enable them to make sure that the financial statements comply with Companies Act 2006. They are also responsible for safeguarding the assets of the company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Directors are responsible for the maintenance and integrity of the corporate and financial information included on the National Grid ESO website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

On behalf of the Board

Fintan Slye

Fintan Slye
Chair

17 July 2023

Independent Auditor's report to the Members of National Grid Electricity System Operator Limited

Report on the audit of the financial statements

Opinion

In our opinion the financial statements of National Grid Electricity System Operator Limited (the ‘company’):

- give a true and fair view of the state of the company’s affairs as at 31 March 2023 and of its profit for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice, including Financial Reporting Standard 101 “Reduced Disclosure Framework”; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements which comprise:

- the statement of profit or loss and other comprehensive income;
- the statement of changes in equity;
- the statement of financial position;
- the statement of cash flow;
- the related notes 1 to 22 of the financial statements.

The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 101 “Reduced Disclosure Framework” (United Kingdom Generally Accepted Accounting Practice).

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the financial statements section of our report.

We are independent of the company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the Financial Reporting Council’s (the ‘FRC’s’) Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Other information

The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. The directors are responsible for the other information contained within the annual report. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit, or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Responsibilities of directors

As explained more fully in the directors' responsibilities statement, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the FRC's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Extent to which the audit was considered capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below.

We considered the nature of the company's industry and its control environment, and reviewed the company's documentation of their policies and procedures relating to fraud and compliance with laws and regulations. We also enquired of management, internal audit and the directors about their own identification and assessment of the risks of irregularities, including those that are specific to the company's business sector.

We obtained an understanding of the legal and regulatory framework that the company operates in, and identified the key laws and regulations that:

- had a direct effect on the determination of material amounts and disclosures in the financial statements. These included UK Companies Act, FRS 101 and tax legislation; and
- do not have a direct effect on the financial statements but compliance with which may be fundamental to the company's ability to operate or to avoid a material penalty. These included the company's operating licence and environmental regulations.

We discussed among the audit engagement team including relevant internal specialists such as IT, regarding the opportunities and incentives that may exist within the organisation for fraud and how and where fraud might occur in the financial statements.

In common with all audits under ISAs (UK), we are also required to perform specific procedures to respond to the risk of management override. In addressing the risk of fraud through management override of controls, we tested the appropriateness of journal entries and other adjustments; assessed whether the judgements made in making accounting estimates are indicative of a potential bias; and evaluated the business rationale of any significant transactions that are unusual or outside the normal course of business.

In addition to the above, our procedures to respond to the risks identified included the following:

- reviewing financial statement disclosures by testing to supporting documentation to assess compliance with provisions of relevant laws and regulations described as having a direct effect on the financial statements;
- performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud;
- enquiring of management, internal audit and in-house legal counsel concerning actual and potential litigation and claims, and instances of non-compliance with laws and regulations; and
- reading minutes of meetings of those charged with governance and reviewing internal audit reports.

Report on other legal and regulatory requirements
Opinions on other matters prescribed by the Companies Act 2006

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the strategic report and the directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the strategic report and the directors' report have been prepared in accordance with applicable legal requirements.

In the light of the knowledge and understanding of the company and its environment obtained in the course of the audit, we have not identified any material misstatements in the strategic report or the directors' report.

Matters on which we are required to report by exception

Under the Companies Act 2006 we are required to report in respect of the following matters if, in our opinion:

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

We have nothing to report in respect of these matters.

Use of our report

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Kate Hadley ACA (Senior statutory auditor)
For and on behalf of Deloitte LLP
Statutory Auditor
Birmingham, United Kingdom

17 July 2023

Statement of profit or loss and other comprehensive income

for the years ended 31 March

	Notes	2023 £m	2022 £m
Revenue	2	4,579	3,486
Operating costs	3	(4,473)	(3,465)
Operating profit	—	106	21
Finance income	4	8	1
Finance costs	4	(4)	(2)
Total profit before tax	—	110	20
Tax	5	(19)	(7)
Profit after tax/Profit for the year attributable to owners of the parent	—	91	13
Total comprehensive income for the year attributable to owners of the parent	—	91	13

Statement of changes in equity

	Notes	Called up share capital £m	Share premium account £m	Retained earnings £m	Merger reserve[1] £m	Total equity £m
At 1 April 2021		3	327	143	(142)	331
Profit for the year		—	—	13	—	13
Total comprehensive income for the year		—	—	13	—	13
Equity dividends	6	—	—	(67)	—	(67)
Share-based payments		—	—	1	—	1
At 31 March 2022		3	327	90	(142)	278
Profit for the year		—	—	91	—	91
Total comprehensive income for the year		—	—	91	—	91
At 31 March 2023		3	327	181	(142)	369

[1]Analysis of merger reserve has been provided within note 17.

Statement of financial position

as at 31 March

	Notes	2023 £m	2022 £m
Non-current assets			
Intangible assets	7	**304**	**288**
Property, plant and equipment	8	**106**	**116**
Investment in joint venture	22	**1**	**1**
Total non-current assets		**411**	**405**
Current assets			
Trade and other receivables	10	**485**	**743**
Financial assets and other investments	9	**495**	**263**
Cash and cash equivalents	11	**28**	**6**
Total current assets		**1,008**	**1,012**
Total assets		**1,419**	**1,417**
Current liabilities			
Borrowings	12	**(127)**	**(141)**
Trade and other payables	13	**(849)**	**(946)**
Provisions	15	**(3)**	**(2)**
Total current liabilities		**(979)**	**(1,089)**
Non-current liabilities			
Other non-current liabilities	14	**(71)**	**(39)**
Deferred tax liabilities	5	**-**	**(11)**
Total non-current liabilities		**(71)**	**(50)**
Total liabilities		**(1,050)**	**(1,139)**
Net assets		**369**	**278**
Equity			
Share capital	16	**3**	**3**
Share premium account	16	**327**	**327**
Retained earnings	—	**181**	**90**
Merger reserve	17	**(142)**	**(142)**
Total equity		**369**	**278**

The financial statements set out on pages 78-111 were approved by the Board of Directors and authorised for issue on 17 July 2023. They were signed on its behalf by:

Fintan Slye, Chair

Fintan Slye

National Grid Electricity System Operator Limited
Registered Number: 11014226

Statement of cash flow

for the years ended 31 March

	Notes	2023 £m	2022 £m
Cash flows from operating activities			
Operating profit		106	20
Adjustments for:			
Depreciation, amortisation & impairment		101	83
Share-based payment charge		1	1
Changes in working capital		191	122
Changes in provisions		—	(1)
Cash generated from operations		399	225
Tax paid/received		(28)	(17)
Net cash inflow from operating activities		371	208
Cash flows from investing activities			
Purchases of intangible assets		(99)	(88)
Purchases of property, plant and equipment		(8)	(20)
Interest received		5	1
Net disposals of short-term financial investments		2	14
Net cash flow used in investing activities		(100)	(93)
Cash flows from financing activities			
Payments of loans to ultimate parent		(231)	(72)
Interest paid		(2)	(2)
Dividends paid to shareholders		—	(67)
Net cash flow from financing activities		(233)	(141)
Net (decrease)/increase in cash and cash equivalents		38	(26)
Cash and cash equivalents at the start of the year		(14)	12
Net cash and cash equivalents at the end of the year[1]	11	24	(14)

[1]Cash and cash equivalents at end of year are shown net of the company's bank overdraft as at 31 March 2023 of £4 million (2022: £20 million).

Notes to the financial statements - analysis of items in the primary statements

1. Basis of preparation and recent accounting developments

Accounting policies describe our approach to recognising and measuring transactions and balances in the year. The accounting policies applicable across the financial statements are shown below, whereas accounting policies that are specific to a component of the financial statements have been incorporated into the relevant note.

This section also shows areas of judgement and key sources of estimation uncertainty in these financial statements. In addition, we have summarised new International Accounting Standards Board (IASB) and UK endorsed accounting standards, amendments and interpretations and whether these are effective for this year end or in later years, explaining how significant changes are expected to affect our reported results.

National Grid Electricity System Operator's principal activities involve the operation of the electricity transmission system in Great Britain. The Company is a limited liability company incorporated and domiciled in England and Wales, with its registered office at 1-3 Strand, London WC2N 5EH.

These financial statements were approved for issue by the Board of Directors on 17 July 2023. The company meets the definition of a qualifying entity under FRS 100 Application of Financial Reporting Requirements. Accordingly, the company has elected to apply FRS 101 Reduced Disclosure Framework. The recognition and measurements requirements of UK-adopted IFRS have therefore been applied within these financial statements, with amendments where necessary in order to comply with the Companies Act 2006.

The financial statements have been prepared on a historical cost basis. These financial statements are presented in pounds sterling, which is also the functional currency of the Company. The notes to the financial statements have been prepared on a continuing basis unless otherwise stated.

a) FRS 101 exemptions

As permitted by FRS 101, the company has taken advantage of exemptions from the requirements of IFRS in relation to the following elements:

- disclosures in respect of share based payment;
- disclosures in respect of capital management;
- disclosures required by IFRS 13 'Fair Value Measurement';
- disclosures required by IFRS 7 'Financial Instruments: Disclosures';
- presentation of comparative information in respect of certain assets;
- the effect of standards not yet effective.

Where required, equivalent disclosures are given in the Group financial statements of National Grid plc, which are available to the public as set out in note 21.

b) Going concern

As part of the Board's consideration of the appropriateness of adopting the going concern basis of accounting in preparing these financial statements, the Board has considered the impact of principal risks on the ESO's operations. The ESO Board has assessed the principal risks including by modelling cash flow forecast scenarios. These cash flow scenarios, included a reasonable worst case scenario.

The main cash flow transactions assessed in the forecast scenarios are:

- TNUoS and BSUoS under- and over-recoveries collected from or returned to customers in accordance with established regulatory structures. The risk on TNUoS collections has reduced following the principle timing risks being passed to the onshore Transmission Owners. The risks associated with BSUoS increased following the implementation of 6-monthly fixed tariffs from 1 April 2023 whereby the ESO is now exposed to changes in the level of costs incurred to directly balance the electricity system to the extent not covered by the tariff. During the quarter to 30 June 2023 BSUoS Tariffs have seen a significant level of over-recovery and this is forecasted to continue over the remainder of the year.

1. Basis of preparation and recent accounting developments (continued)

This level of over-collection provides sufficient funds to withstand cost increases of the level seen in recent years even if the existing undrawn facilities are unavailable. The Company also has the option to re-set tariffs, which would generate incremental cash flows within a month of their introduction;

- Significant termination payments;
- Bad debts, including higher bad debt costs than forecast;
- Payment of proposed dividends to the shareholder; and
- Changes in the ownership of the Company into a public corporation as part of the Future System Operator (FSO) and expected future funding arrangements and facilities which remain subject to agreement with DESNZ and Ofgem. The Directors expect such arrangements to be in place ahead of any sale.

Having considered the forecast scenarios, the ESO continues to have headroom against its committed external facilities and those made available from National Grid plc as identified in note 12 to the financial statements. Based on the above, the Directors have concluded the Company is well placed to manage its financing and other business risks satisfactorily, and have reasonable expectation that the Company will have adequate resources to continue in operation for at least 12 months from the signing date of these financial statements. They therefore consider it appropriate to adopt the going concern basis of accounting in preparing the financial statements.

c) Foreign currencies

Transactions in currencies other than the functional currency of the Company are recorded at the rates of exchange prevailing on the dates of the transactions. At each reporting date, monetary assets and liabilities that are denominated in foreign currencies are retranslated at closing exchange rates. Non-monetary assets are not retranslated unless they are carried at fair value.

Gains and losses arising on the retranslation of monetary assets and liabilities are included in the income statement.

d) Areas of judgement and key sources of estimation uncertainty

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates. Information about such judgements and estimations is contained in the notes to the financial statements, and the key areas are summarised below.

Areas of judgement that have the most significant effect on the amounts recognised in the financial statements are as follows:

- review of residual lives, carrying values and impairment charges for other intangible assets and property, plant and equipment – notes 7 and 8
- Agency relationship in respect of certain Transmission Network Use of Service revenues, principally those collected on behalf of the Onshore and Offshore transmission operators under IFRS 15 - note 2

There are no key sources of estimation uncertainty that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

1. Basis of preparation and recent accounting developments (continued)

e) Accounting policy choices

The IFRS framework provides certain options available within accounting standards. Choices we have made, and continue to make, include the following:

- Presentational formats: we use the nature of expense method for our income statement and aggregate our statement of financial position to net assets and total equity. In the income statement, we present subtotals of total operating profit, profit before tax and profit from continuing operations, together with additional subtotals excluding exceptional items and remeasurements. Exceptional items and remeasurements are presented separately on the face of the income statement where applicable.

f) New IFRS accounting standards and interpretations effective for the year ended 31 March 2023

The Company has this year adopted the following amendments to standards which have had no material impact on the Company's results or financial statement disclosures:

- Amendments to IFRS 3 'Business Combinations';
- Amendments to IAS 16 'Property, Plant and Equipment';
- Amendments to IAS 37 'Provisions, Contingent Liabilities and Contingent Assets'; and
- Annual improvements to IFRS standards 2018-2020.

g) New IFRS accounting standards and interpretations not yet adopted

The following new accounting standards and amendments to existing standards have been issued but are not yet effective or have not yet been endorsed by the UK:

- IFRS 17 'Insurance Contracts';
- amendments to IAS 12 'Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction';
- amendments to IAS 1 'Presentation of Financial Statements' on classification of liabilities as current or non-current;
- amendments to IAS 8 'Accounting Policies, Changes in Accounting Estimates and Errors'; and
- amendments to IAS 1 and IFRS Practice Statement 2 – making materiality judgements.

The Company is currently assessing the impact of the above standards, but they are not expected to have a material impact.

The Company has not adopted any other standard, amendment or interpretation that has been issued but is not yet effective.

2. Revenue

Revenue arises in the course of the ordinary activities of the company and principally comprises balancing transmission services.

Balancing transmission services fall within the scope of IFRS 15, 'Revenue from Contracts with Customers'.

The company's role in transmission services is as the system operator for Great Britain, which involves the procurement of services to balance the electricity transmission network and ensuring security and quality of electricity supply across the transmission network. For this activity the company applies a Balancing Service Use of System ('BSUoS') charge, which is payable by generators and suppliers of electricity and this revenue is recognised as the service is provided. From 1 April 2023 BSUoS charges will only be payable by suppliers.

Balancing transmission services are regulated by Ofgem, which establishes price control mechanisms that set the amount of annual allowed revenues that can be charged to customers for these services. With respect to BSUoS charges, where revenue received differs to the amount of allowable revenue permitted by the regulatory agreement, adjustments will be made to future prices to factor in these amounts. Where such differences arise, no asset or liability, depending on whether the difference between revenue received is less than or greater than allowable revenue respectively, is recognised because the adjustment relates to future customers and services that have not yet been delivered. As part of our regulatory agreements we are entitled to recover certain costs directly from customers (pass-through costs). These amounts are included in the overall calculation of allowed revenue as stipulated by regulatory agreements.

Within the regulatory agreement for BSUoS charges, the ESO can also earn revenue through rewards for progress against an ambitious plan to meet its commitments and targets in relation to the future energy transformation. There can also be penalties for non-delivery of the plans. The scheme is evaluative with the outcome determined by Ofgem following the recommendations of a performance panel including industry stakeholders. Under RIIO-2 this is a 2 year scheme and so the final outcome is expected in August 2023. Within the BSUoS charges for 2022/23 we collected £10 million (2021/22: £nil) associated with the scheme. To the extent the final outcome differs to the amount collected there will be an adjustment to future allowable revenues and prices.

In its role as system operator, the company is also responsible for the administration of charges to customers on behalf of the owners of the transmission network: National Grid Electricity Transmission plc, Scottish Power Transmission plc, Scottish Hydro Electric Transmission plc and various Offshore Transmission Owners. Under IFRS 15, this arrangement is considered to result in the company acting as an agent on behalf of the transmission network owners. Accordingly, revenues are presented on a net basis (amounts collected from customers and consideration paid to transmission network owners). This comprises the entire billing cycle (invoicing and cash collection) and our performance obligation is deemed satisfied when funds have been remunerated to transmission network owners.

These charges are termed Transmission Network Use of System ('TNUoS') charges and relate to use of the transmission network. Use of the transmission network involves the supply of high-voltage electricity. Revenue is billed based on capacity and volumes and where the customer pays upfront, revenues are deferred and released when the relevant transmission network owner has provided their services to the customer.

TNUoS charges are regulated by Ofgem, which establishes price control mechanisms that set the amount of annual allowed returns for companies operating in the sector. With respect to TNUoS charges, where revenue received differs to the amount of allowable revenue permitted by regulatory agreement, adjustments will be made to future prices to factor in these amounts. Where such differences arise, we recognise either an asset or liability, depending on whether the difference between revenue received is less than or greater than allowable revenue respectively. As part of our regulatory agreements we are entitled to recover certain costs directly from TNUoS customers (pass-through costs). These amounts are included in the overall calculation of allowed revenue as stipulated by regulatory agreements.

The company also administers other charges on behalf of transmission network owners principally for construction work they have completed for customer connections.

As system operator, we also act as intermediary for various electricity interconnectors in satisfying their regulatory obligations. Interconnectors may have a cap on the amount of revenue they are allowed to earn during any financial year (1 April to 31 March). Where actual revenues exceed this cap, the excess must be passed onto consumers. We invoice and recover this amount from the interconnectors and in turn reduce the TNUoS charges due from customers. We recognise an asset for the amounts payable from them, and a corresponding liability for the requirement to reduce customer bills, which occurs two financial years after the measurement period.

The following table details the disaggregation of revenue between TNUoS and BSUoS.

	UK Electricity System Operation	
Revenue for the year ended 31 March	**2023 £m**	**2022 £m**
BSUoS	4,533	3,418
TNUoS[1]	46	68
Total revenue from continuing operations	**4,579**	**3,486**

1 TNUoS revenues of £46m are reported net of £3,506 million (2022: £3,516 million) consideration paid to transmission network owners. These revenues reflect the recovery of costs borne by the system operator in relation to TNUoS operations.

Total revenue from continuing operations are generated from operations based in the UK.

Analysis of BSUoS revenue by major customer, greater than 10% revenue contribution:

	2023 £m	**2022 £m**
Customer A	434	412
Customer B	489	384

No other single customer contributed 10% or more to the ESO's revenue in either 2023 or 2022.

3. Operating costs

Below we have presented separately certain items included in our operating costs.
These include a breakdown of payroll costs and fees paid to our auditors.

After exceptional items and remeasurements	**2023 £m**	**2022 £m**
Depreciation, amortisation and impairment	101	83
Payroll costs	73	61
Pensions deficit payments	13	12
Rates and property taxes	1	1
System balancing costs	4,109	3,153
Other	176	155
Continuing operations	**4,473**	**3,465**

3. Operating costs (continued)

(a) Payroll costs

	2023 £m	2022 £m
Wages and salaries	56	46
Recharge of payroll costs from other National Grid companies	19	12
Social security costs	9	7
Pension scheme costs	11	10
Share-based payments	1	1
Total payroll costs	96	76
Payroll costs capitalised	(23)	(15)
Net payroll costs	**73**	**61**

(b) Directors' Emoluments

Key management comprises the Board of Directors of the Company who have managerial responsibility for National Grid Electricity System Operator limited.

	2023 £k	2022 £k
Aggregate Emoluments	**1,028**	**928**

Aggregate emoluments excludes social security, pensions and share-based payments.

Post-employment benefits are accruing to one Director under a Group defined benefit scheme (2022: one). During the year, three Directors exercised share options as part of long term incentive plans of the ultimate parent company, National Grid plc (2022: one).

The aggregate emoluments for the highest paid Director were £359,000 for 2023 (2022: £347,000); and total accrued annual defined benefit pension at 31 March 2023 for the highest paid Director was £Nil (2022: Nil).

(c) Number of employees, including Directors

	31 March 2023 Number	31 March 2022 Number	Monthly average 2023 Number	Monthly average 2022 Number
Electricity System Operator	1,074	884	977	835

(d) Auditors' remuneration

	2023 £m	2022 £m
Audit services		
Audit of the Company's financial statements	0.2	0.2
Other services supplied		
Other non-audit fees[1]	0.8	0.6

[1] Other services supplied represent £0.7 million fees payables for audit services which are required to be carried out by auditors in relation to the Group's reporting requirements to NG plc, and £0.1 million for the Contracts for difference independent audit. In particular, this includes fees for reports under section 404 of the US Public Company Accounting Reform and Investor Protection Act of 2002 (Sarbanes-Oxley), and assurance fees in relation to regulatory returns.

4. Finance income and costs

This note details the interest income generated by our financial assets and interest expense incurred on our financial liabilities.

	2023 £m	2022 £m
Finance income		
Interest income and financial instruments:		
Bank deposits and other financial assets	8	1
Finance costs		
Other borrowings	(4)	(2)
Net finance costs from operations	4	(1)

5. Tax

This note gives further details of the total tax charge and tax liabilities, including current and deferred tax. The current tax charge is the tax payable on this year's taxable profits. Deferred tax is an accounting adjustment to provide for tax that is expected to arise in the future due to differences in accounting and tax bases of profit.

The tax charge for the period is recognised in the income statement, the statement of comprehensive income or directly in equity, according to the accounting treatment of the related transaction. The tax charge comprises both current and deferred tax.

Current tax assets and liabilities are measured at the amounts expected to be recovered from, or paid to, the taxation authorities. The tax rates and tax laws used to compute the amounts are those that are enacted or substantively enacted by the reporting date.

The calculation of the ESO's total tax charge involves a degree of estimation and judgement. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. Judgement is made for each position having regard to particular circumstances and advice obtained.

Deferred tax is provided for using the balance sheet liability method and is recognised on temporary differences between the carrying amount of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit.

Deferred tax liabilities are generally recognised on all taxable temporary differences and deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised. However, deferred tax assets and liabilities are not recognised if the temporary differences arise from the initial recognition of goodwill or from the initial recognition of other assets and liabilities in a transaction (other than a business combination) that affects neither the accounting nor taxable profit or loss.

Deferred tax is calculated at the tax rates that are expected to apply in the period when the liability is settled or the asset is realised, based on the tax rates and tax laws that have been enacted or substantively enacted by the reporting date.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the deferred tax asset to be recovered. Unrecognised deferred tax assets are reassessed at each reporting date and are recognised to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

5. Tax (continued)

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when they relate to income taxes levied by the same taxation authority and the ESO intends to settle its current tax assets and liabilities on a net basis.

Tax charged to the income statement:

	2023 £m	2022 £m
Total tax charge[1]	**19**	7

[1] 2023 includes £3 million credit (2022: £3 million charge) relating to tax rate changes, this is detailed in the table below.

The tax charge for the year can be analysed as follows:

	2023 £m	2022 £m
Current tax		
Current tax charge	**34**	**11**
Corporation tax adjustment in respect of prior years	**(4)**	**3**
Total current tax	**30**	**14**
Deferred tax		
Deferred tax charge	(16)	(4)
Deferred tax adjustment in respect of prior years	5	(3)
Total deferred tax	(11)	(7)
Total tax charge	**19**	**7**

The tax charge for the year is lower than (prior year higher than) the standard rate of corporation tax in the UK of 19%:

	2023 £m	2022 £m
Profit before tax from continuing operations	**110**	**20**
Profit before tax multiplied by UK corporation tax rate of 19%	**21**	**4**
Effect of:		
Adjustments in respect of prior years	**1**	**–**
Deferred tax impact of change in UK tax rate	**(3)**	**3**
Total tax charge	**19**	**7**
Effective tax rate	**17.6%**	**35.2%**

5. Tax (continued)

Factors that may affect future tax charges

In the Spring Budget 2021, the UK government announced an increase in the main corporation tax rate from 19% to 25% with effect from 1 April 2023. This was substantively enacted on 24 May 2021. Deferred tax balances as at 31 March 2022, that are expected to reverse after 1 April 2023, have been calculated at 25%.

The Directors will continue to monitor the developments driven by Brexit, the OECD's Base Erosion and Profit Shifting (BEPS) project and European Commission initiatives including fiscal aid investigations. At this time the Directors do not expect this to cause any material impact on future tax charges.

Governments across the world including the UK have introduced various stimulus / reliefs for businesses to cope with the impact of Covid-19 pandemic. The Directors will monitor as the details become available for any that may materially impact our future tax charges.

Tax included within the statement of financial position

The following are the major deferred tax assets and liabilities recognised, and the movements thereon, during the current and prior reporting periods:

Deferred tax (liabilities)/assets:

	Accelerated tax depreciation	Other net temporary differences	Total
	£m	£m	£m
At 1 April 2022	(12)	1	(11)
(Charged)/credited to income statement	12	(1)	11
At 31 March 2023	–	–	**–**

Deferred tax assets and liabilities are only offset where there is a legally enforceable right of offset and there is intention to settle the balances net. The deferred tax balances (after offset) for statement of financial position purposes consist solely of deferred tax liabilities of £nil.

6. Dividends

Dividends represent the return of profits to shareholders. Dividends are paid as an amount per ordinary share held. We retain part of the profits generated in the year to meet future growth plans and meet our gearing target and pay out the remainder per our dividend policy.

Interim dividends are recognised when they become payable to the Company's shareholders. Final dividends are recognised when they are approved by shareholders.

On 17 July 2023, the Board of directors proposed no final dividend for the year ended 31 March 2023 (2022: no final dividend).

7. Intangible assets

Intangible assets relate to software, which is written down (amortised) over the period we expect to receive a benefit from the asset.

Identifiable intangible assets are recorded at cost less accumulated amortisation and any provision for impairment. Intangible assets are tested for impairment only if there is some indication that the carrying value of the assets may have been impaired.

Impairments of assets are calculated as the difference between the carrying value of the asset and the recoverable amount, if lower. Where such an asset does not generate cash flows that are independent from other assets, the recoverable amount of the cash-generating unit to which that asset belongs is estimated. Impairments are recognised in the income statement and are disclosed separately. Any assets which suffered impairment in a previous period are reviewed for possible reversal of the impairment at each reporting date.

Internally generated intangible assets, such as software, are recognised only if: an asset is created that can be identified; it is probable that the asset created will generate future economic benefits; and that the development cost of the asset can be measured reliably. Where no internally generated intangible asset can be recognised, development expenditure is recorded as an expense in the period in which it is incurred.

Intangible assets under development are not amortised. Other non-current intangible assets are amortised on a straight-line basis over their estimated useful economic lives. The amortisation period for software is usually between three to seven years but can be up to ten years.

Cloud computing arrangements are reviewed to determine if the Company has control of the software intangible asset. Control is considered to exist where the Company has the right to take possession of the software and run it on its own or a third party's computer infrastructure or if the Company has exclusive rights to use the software such that the supplier is unable to make the software available to other customers.

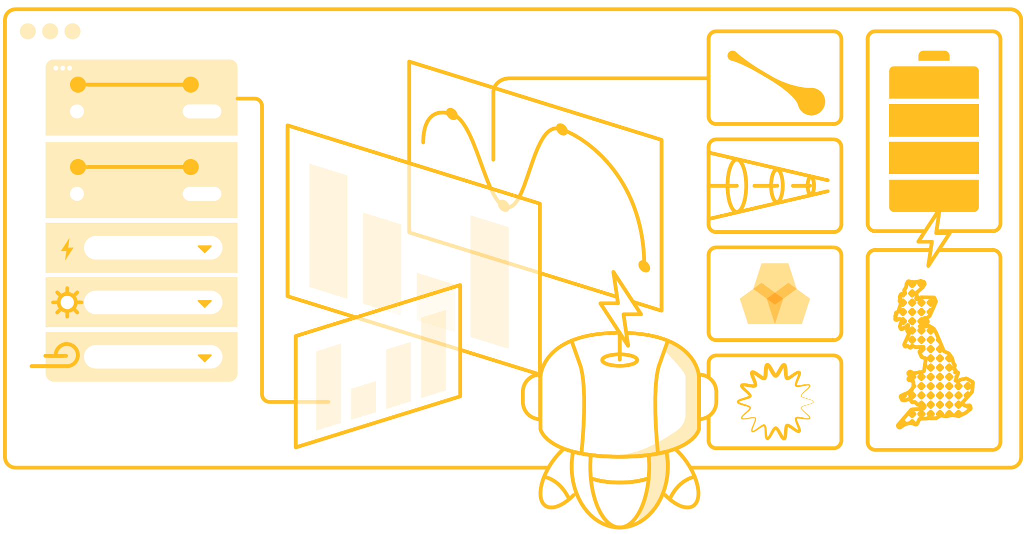
Costs relating to configuring or customising the software in a cloud computing arrangement are assessed to determine if there is a separate intangible asset over which the Company has control. If an asset is identified, it is capitalised and amortised over the useful economic life of the asset. To the extent that no separate intangible asset is identified, then the costs are either expensed when incurred or recognised as a prepayment and spread over the term of the arrangement if the costs are concluded to not be distinct.

The accounting for costs incurred in cloud computing arrangements applies accounting guidance issued for the year ended 31 March 2022. Certain costs which were previously capitalised in respect of the Company's cloud computing arrangements were expensed in the prior period (£7 million).

7. Intangible assets (continued)

	Software £m	Assets in the course of construction £m	Total £m
Cost at 31 March 2021	208	92	300
Additions	—	89	89
Reclassifications	86	(86)	—
Transfers[1]	18	—	18
Cost at 31 March 2022	312	95	407
Additions	—	99	99
Disposals	(6)	—	(6)
Reclassifications[2]	33	(27)	6
Cost at 31 March 2023	**339**	**167**	**506**
Accumulated amortisation at 1 April 2021	(50)	—	(50)
Amortisation charge for the year	(58)	—	(58)
Impairment	**(1)**	**(10)**	**(11)**
Accumulated amortisation at 31 March 2022	**(109)**	**(10)**	**(119)**
Amortisation charge for the year	**(69)**	**—**	**(69)**
Disposals	**6**	**—**	**6**
Reclassifications[2]	**(10)**	**—**	**(10)**
Impairment	**—**	**(10)**	**(10)**
Accumulated amortisation at 31 March 2023	**(182)**	**(20)**	**(202)**
Net book value at 31 March 2023	**157**	**147**	**304**
Net book value at 31 March 2022	**203**	**85**	**288**

[1] Transfers represent amounts transferred (to)/from property, plant and equipment (see note 8).
[2] The amounts include adjustments to reflect reclassifications between cost and accumulated depreciation identified during the implementation of the Group's new SAP S4 Hana General Ledger system in the UK.



8. Property, plant and equipment

The following note shows the physical assets controlled by us. The cost of these assets primarily represents the amount initially paid for them. This includes both their purchase price and the construction and other costs associated with getting them ready for operation. A depreciation expense is charged to the income statement to reflect annual wear and tear and the reduced value of the asset over time. Depreciation is calculated by estimating the number of years we expect the asset to be used (useful economic life) and charging the cost of the asset to the income statement equally over this period.

Property, plant and equipment is recorded at cost, less accumulated depreciation and any impairment losses.

Cost includes the purchase price of the asset, any payroll and finance costs incurred which are directly attributable to the construction of property, plant and equipment as well as the cost of any associated asset retirement obligations.

Property, plant and equipment includes assets in which the ESO's interest comprises legally protected statutory or contractual rights of use. Additions represent the purchase or construction of new assets, including capital expenditure for safety and environmental assets, and extensions to, enhancements to, or replacement of existing assets. All costs associated with projects or activities which have not been fully commissioned at the period end are classified within assets in the course of construction.

No depreciation is provided on freehold land or assets in the course of construction.

Other items of property, plant and equipment are depreciated, on a straight-line basis, at rates estimated to write off their book values over their estimated useful economic lives. In assessing estimated useful economic lives, consideration is given to any contractual arrangements and operational requirements relating to particular assets. The assessments of estimated useful economic lives and residual values of assets are performed annually.

Lease arrangements entered into are recognised as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the company. The right-of-use asset and associated lease liability arising from a lease are initially measured at the present value of the lease payments expected over the lease term. The discount rate applied is the rate implicit in the lease or if that is not available, then the incremental rate of borrowing for a similar term. The lease term takes account of exercising any extension options that are at our option if we are reasonably certain to exercise the option and any lease termination options unless we are reasonably certain not to exercise the option. The lease term does not include any lease extension options at the option of the lessor but does include lease termination options unless we are reasonably certain that the lessor will not exercise them. Each lease payment is allocated between the liability and finance cost. The finance cost is charged to the income statement over the lease period using the effective interest rate method. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis. For short-term leases (lease term of 12 months or less) and leases of low value assets (such as computers), the Group continues to recognise a lease expense on a straight-line basis.

Unless otherwise determined by operational requirements, the depreciation periods for the principal categories of property, plant and equipment are, in general, as shown in the table below:

	Years
Freehold and Leasehold buildings	**10 to 50**
Motor vehicles	**5 to 7**
Office equipment	**3 to 10**

8. Property, plant and equipment (continued)

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised within operating profit in the income statement.

Items within property, plant and equipment are tested for impairment only if there is some indication that the carrying value of the assets may have been impaired.

Impairments of assets are calculated as the difference between the carrying value of the asset and the recoverable amount, if lower. Where such an asset does not generate cash flows that are independent from other assets, the recoverable amount of the cash-generating unit to which that asset belongs is estimated.

Impairments are recognised in the income statement and if immaterial are included within depreciation charge for the year.

Any assets which suffered impairment in a previous period are reviewed for possible reversal of the impairment at each reporting date.

	Land and buildings £m	Plant and machinery £m	Assets in the course of construction £m	Motor vehicles and office equipment £m	Total £m
Cost at 31 March 2021	33	29	45	42	149
Additions	—	1	19	—	20
Reclassifications	—	2	(27)	25	—
Transfers	—	(6)	(12)	—	(18)
Cost at 31 March 2022	33	26	25	67	151
Additions	—	—	8	—	8
Reclassifications[1]	1	(13)	(1)	21	8
Cost at 31 March 2023	34	13	32	88	167
Accumulated depreciation at 1 April 2021	(9)	—	(3)	(9)	(21)
Depreciation charge for the year	(3)	—	—	(11)	(14)
Accumulated depreciation at 31 March 2022	(12)	—	(3)	(20)	(35)
Depreciation charge for the year	(3)	—	—	(18)	(21)
Reclassifications[1]	(1)	—	—	(3)	(4)
Impairment	—	—	(1)	—	(1)
Accumulated depreciation at 31 March 2023	(16)	—	(4)	(41)	(61)
Net book value at 31 March 2023	18	13	28	47	106
Net book value at 31 March 2022	21	26	22	47	116

[1] The amounts include adjustments to reflect reclassifications between cost and accumulated depreciation identified during the implementation of the Group's new SAP S4 Hana General Ledger system in the UK.

Right-of-use assets are included within the net book value of property, plant and equipment at 31 March 2023. The total net book value of these assets as at 31 March 2023 was £356,000 (2022: £305,000) in respect of the motor vehicles and office equipment category.

9. Financial assets and other investments

The financial assets and other Investments balance of £495 million comprises current loans to the ultimate parent company and restricted cash balances in relation to Network Innovation Competition (NIC) and Strategic Innovation Fund (SIF) projects.

Debt instruments that have contractual cash flows that are solely payments of principal and interest, and which are held within a business model whose objective is to collect contractual cash flows, are held at amortised cost. They are initially recognised on trade date at fair value less transaction costs and expected losses. In the current year, the transaction value equals fair value.

Interest income is recognised using the effective interest method. Interest income, together with gains and losses when the loans and receivables are derecognised or impaired, is recognised in the income statement.

	2023 £m	2022 £m
Financial assets and other investments comprise the following:		
NIC restricted cash deposits	**2**	**4**
Loans and receivables - amount due from the ultimate parent company	**493**	**259**
	495	**263**

The carrying value of current financial assets at amortised cost approximates their fair values, primarily due to short-dated maturities. The exposure to credit risk at the reporting date is the fair value of the financial investments.

10. Trade and other receivables

Trade and other receivables are amounts which are due from our customers for services we have provided, accrued income which has not yet been invoiced to customers and other receivables that are expected to be settled within 12 months.

Trade and other receivables are initially recognised at fair value and subsequently measured at amortised cost, less any appropriate allowances for estimated irrecoverable amounts.

Trade receivables are non-interest-bearing and generally have a 30 day term. Due to their short maturities, the fair value of trade and other receivables approximates to their book value. All other receivables are recorded at amortised cost. The provision for impairment of receivables as at 31 March 2023 was £5 million (2022: £36 million).

	2023 £m	2022 £m
Current		
Trade receivables	52	113
Accrued income	297	468
Other receivables[1, 2]	136	162
	485	**743**

[1]2022 includes £79 million relating to TNUoS charges caused by timing difference between amounts charged to customers and that passed through to the GB Transmission Owners, this includes regulatory term 'K'. These were all collected during 2022-23. 2023 timing difference are presented within Trade and other payables as they are repayable during 2024.

[2]2023 includes £59 million receivable from the coal plants as they sell unused coal stocks. Any proceeds will in turn be refunded to customers during 2024.

Provision for impairment of receivables

A provision matrix is not used to assess expected loss rates as an assessment is performed on individual debtors.

	2023 £m	2022 £m
At 1 April	36	17
Charge for the year	5	19
Write-off in the year	(36)	—
At 31 March	5	36

11. Cash and cash equivalents

Cash and cash equivalents include cash balances, together with short-term investments with an original maturity of less than three months that are readily convertible to cash.

Net cash and cash equivalents reflected in the cash flow statement are net of bank overdrafts, which are reported in borrowings. The carrying amounts of cash and cash equivalents and bank overdrafts approximate their fair values.

Cash at bank earns interest at floating rates based on daily bank deposit rates. Short-term deposits are made for periods varying between one day and three months, depending on the immediate cash requirements, and earn interest at the respective short-term deposit rates.

Net cash and cash equivalents held in currencies other than sterling have been converted into sterling at year-end exchange rates.

	2023 £m	2022 £m
Cash at bank and short-term deposits	28	6

12. Borrowings

We borrow money primarily in the form of borrowings from our ultimate parent company. These are for a fixed term and have floating interest rates.

Our price controls lead to an optimal ratio of debt to equity and, as a result, we issue debt to maintain this balance.

Borrowings are initially recorded at fair value. This normally reflects the proceeds received (net of direct issue costs for liabilities measured at amortised cost). Subsequently these are stated at amortised cost. Any difference between the proceeds after direct issue costs and the redemption value is recognised over the term of the borrowing in the income statement using the effective interest method.

Information on our net debt is presented in note 18.

	2023 £m	2022 £m
Current		
Bank loan and overdrafts	4	20
Borrowings from the ultimate parent company	123	121
Total borrowings	**127**	**141**

The bank loan and overdraft is repayable on demand and the loan from the ultimate parent company matures on 1 April 2027, though may be repayable with 30 days notice if the Company ceases to be at least 99.99% owned directly or indirectly by National Grid plc.

At 31 March 2023, we had committed external credit facilities of £550 million of which £550 million was undrawn (2022: £550 million of which £550 million undrawn). These facilities expire on 1 April 2024. We also have £550 million of intercompany credit facilities with our ultimate parent, National Grid plc of which £550 million was undrawn (2022: £550 million of which £550 million undrawn). These facilities will remain available until the Company ceases to be at least 99.99% owned directly or indirectly by National Grid plc. All of the unused facilities at 31 March 2023 are available for liquidity purposes.

None of the ESO's borrowings are secured by charges over assets of the Company.

12. Borrowings continued

Lease liabilities

Lease liabilities are initially measured at the present value of the lease payments expected over the lease term. The discount rate applied is the rate implicit in the lease or if that is not available, then the incremental rate of borrowing for a similar term. The lease term takes account of exercising any extension options that are at our option if we are reasonably certain to exercise the option and any lease termination options unless we are reasonably certain not to exercise the option. Each lease payment is allocated between the liability and finance cost. The finance cost is charged to the income statement over the lease period using the effective interest rate method.

Right-of-use assets were included within property, plant and equipment (see note 8) at 31 March 2023 with outstanding leases to the value of £550,000 (2022: £387,000) relating to motor vehicles.

13. Trade and other payables

Trade and other payables include amounts owed to suppliers, tax authorities and other parties which are due to be settled within 12 months. The total also includes deferred amounts, some of which represents monies received from customers but for which we have not yet delivered the associated service. These amounts are recognised as revenue when the service is provided.

Trade payables are initially recognised at fair value and subsequently measured at amortised cost.

	2023 £m	2022 £m
Trade payables	296	323
Social security and other taxes[1]	222	244
Deferred income	117	235
Amounts owed to fellow subsidiaries of National Grid plc	32	30
Other payables[2]	182	114
	849	946

[1] Includes Value Added Tax of £220 million (2022: £243 million).
[2] 2023 includes £41 million relating to TNUoS charges caused by timing difference between amounts charged to customers and thatpassed through to the GB Transmission Owners. 2022 timing differences were presented within Trade and other receivables as they were collectible during 2023.

Due to their short maturities, the fair value of trade payables approximates to their book value.

14. Other non-current liabilities

Non-current liabilities are initially recognised at fair value and subsequently measured at amortised cost. There is no material difference between the fair value and the carrying value of other payables.

	2023 £m	2022 £m
Other payables[1]	71	39

[1]Balances held in relation to application fees collected on behalf of GB Transmission Owners.

15. Provisions

We make provisions when an obligation exists, resulting from a past event and it is probable that cash will be paid to settle it, but the exact amount of cash required can only be estimated.

The main estimates relate to provisions for restructuring plans. The evaluation of the likelihood of the contingent events has required best judgement by management regarding the probability of exposure to potential loss. Should circumstances change following unforeseeable developments, the likelihood could alter.

Provisions are recognised where a legal or constructive obligation exists at the reporting date, as a result of a past event, where the amount of the obligation can be reliably estimated and where the outflow of economic benefit is probable.

Changes in the provision arising from revised estimates or discount rates or changes in the expected timing of expenditures are recognised in the income statement.

	Restructuring £m	Other £m	Total £m
At 1 April 2021	2	–	2
Additions	2	1	3
Unused amounts reversed	(1)	–	(1)
Utilised	(2)	–	–
At 31 March 2022	1	1	2
Additions	1	1	2
Utilised	(1)	–	(1)
At 31 March 2023	1	2	3

	2023 £m	2022 £m
Current	3	2
Non-current	–	–
	3	2

Restructuring provision

The provision reflects on-going cost efficiency and restructuring programmes being undertaken in the wider National Grid group for which the company receives an allocation as it takes services from centralised support functions.

16. Share capital and share premium

Ordinary share capital represents the total number of shares issued.

Share capital is accounted for as an equity instrument. An equity instrument is any contract that includes a residual interest in the consolidated assets of the Company after deducting all its liabilities and is recorded at the proceeds received, net of direct issue costs, with an amount equal to the nominal amount of the shares issued included in the share capital account and the balance recorded in the share premium account.

	Number of shares 2023 millions	Number of shares 2022 millions	2023 £m	2022 £m
At 31 March 2022 and 2023 - ordinary shares of 1p each				
Allotted, called-up and fully paid	330	330	330	330
	Number of shares millions	Par value £m	Share premium £m	Total £m
At 31 March 2023	**330**	3	327	**330**

17. Other equity - Merger reserve

Other equity reserves are different categories of equity as required by accounting standards and represent the impact of a number of our historical transactions.

At 31 March 2023, the ESO held one form of other equity, being a merger reserve. The merger reserve arose on the acquisition of the ESO business on 1 April 2019. This acquisition did not fall within the scope of IFRS 3 Business Combinations, thus, assets and liabilities were transferred at their net book value. The difference between the net book value and consideration paid for the assets and liabilities acquired resides within this reserve.

As the amounts included in other equity reserves are not attributable to any of the other classes of equity presented, they have been disclosed as a separate classification of equity.

	Merger reserve £m
At 31 March 2022 & 31 March 2023	(142)

The merger reserve is principally attributable to the ESO business's exclusive licence and profitability.

Merger reserve balance remains at £142 million at 31 March 2023, £56 million is considered realised for the purposes of assessing the company's distributable profits and £86 million is considered unrealised. Accordingly, at 31 March 2023 the profits available for distribution by the company were £122 million, comprising the whole of the company's retained earnings less the realised element of the merger reserve.

18. Net debt

Net debt represents the amount of borrowings and overdrafts less cash, current financial investments and related financing derivatives.

Funding and liquidity risk management is carried out by the National Grid plc treasury function under policies and guidelines approved by the Finance Committee of the National Grid plc Board, these policies have been deemed applicable at the ESO by their respective board of directors. The Finance Committee is responsible for the regular review and monitoring of treasury activity and for the approval of specific transactions, the authority for which fall outside the delegation of authority to management.

The ESO apply the National Grid plc group policy and we utilise the group treasury function. The primary objective of the treasury function is to manage our funding and liquidity requirements. A further important objective is to manage the associated financial risks, in the form of interest rate risk and foreign exchange risk, to within pre-authorised parameters. Further details can be found in the National Grid plc accounts available publicly, details on how to access can be found in note 32.

Investment of surplus funds, usually in short-term fixed deposits or placements with money market funds that invest in highly liquid instruments of high credit quality, is subject to our counterparty risk management policy.

(a) Reconciliation of net cash flow to movement in net debt

	2023 £m	2022 £m
(Decrease)/Increase in cash and cash equivalents	38	(6)
Increase in financial investments	232	59
Increase in borrowings and related derivatives	—	(21)
Net interest receivable/(payable) on the components of net debt	(2)	—
Change in net debt resulting from cash flows	268	32
Movement in net debt in the year	268	32
Net debt at the start of the year	128	96
Net debt at the end of the year	396	128

18. Net debt (continued)

Composition of net debt

Net debt is summarised as follows:

	2023 £m	2022 £m
Cash, cash equivalents and financial investments	523	269
Borrowings and bank overdrafts	(127)	(141)
	396	128

(b) Analysis of changes in net debt

	Cash and cash equivalents £m	Financial investments £m	Borrowings £m	Total debt £m
At 1 April 2022	(14)	263	(121)	128
Cash flow	38	232	—	270
Interest charges	—	—	(2)	(2)
At 31 March 2023	**24**	**495**	**(123)**	**396**
Balances at 31 March 2023 comprise:				
Current assets	28	495	—	523
Current liabilities	(4)	—	(123)	(127)
	24	**495**	**(123)**	**396**

19. Commitments and contingencies

Commitments are those amounts that we are contractually required to pay in the future as long as the other party meets its obligations. These commitments primarily relate to contract for the purchase of assets which, in many cases, extend over a long period of time. We also disclose any contingencies, which include guarantees that companies have given, where we pledge assets against current obligations that will remain for a specific period.

Future capital expenditure	2023 £m	2022 £m
Contracted for but not provided	40	26

Litigation and claims

Through the ordinary course of our operations, we are party to various litigation, claims and investigations. We do not expect the ultimate resolution of any of these proceedings to have a material adverse effect on our results of operations, cash flows or financial position.

Pension Scheme Contributions

The ESO is a participating employer in the National Grid ESPS defined benefit pension scheme. Following completion of the March 2019 valuation, we are responsible for making contributions into the scheme equivalent to 50% (average) of remaining active employees pensionable salaries including 6% for Flexible Pension Savings.

In 2022/23, we also contributed an additional amount into the scheme relating to the funding deficit to the value of £13 million (2022: £12 million). This additional payment is made in line with the regulatory treatment determined by Ofgem. The most recently agreed recovery plan for the scheme runs until FY24. As the ESO is not the sponsoring employer of the scheme, there is no contractual obligation or requirement to make a provision for scheme costs.

20. Related party transactions

A related party is a company or individual who also has an interest in us, for example a company that provides a service to us with a director who holds a controlling stake in that company and who is also a Director of National Grid Electricity System Operator Limited. The related parties identified include fellow subsidiaries, joint ventures, associated undertakings, investments and key management personnel.

The following significant transactions with related parties were in the normal course of business. Amounts receivable from and payable to related parties are due on normal commercial terms:

	2023 £m	2022 £m
Income:		
Goods and services supplied[1]	28	13
	28	**13**
Expenditure:		
Services received[2]	**(1,924)**	(1,958)
Corporate services received	(1)	(3)
Interest paid on borrowings from fellow subsidiary undertakings	—	—
Interest paid on borrowings from ultimate parent	(3)	(1)
Interest received on borrowings to ultimate parent	8	1
	(1,920)	**(1,961)**
Balance Sheet as at 31 March		
Lending to ultimate parent (amounts due within one year)	493	259
Borrowings from ultimate parent (amounts due within one year)	(123)	(121)
Amounts included in Trade and other payables	(32)	(32)
At 31 March	**338**	**106**

[1] Includes TNUoS related pre and post vesting charges to Western Power Distribution of £28 million (2022: £19m). 2022 included payments made to Britned Development Limited £4.1 million, IFA £1.7 million and Nemo Link Limited £0.3 million under the Interconnector cap and floor regime operated by Ofgem with no such payments in 2023.

[2] Expenditure includes TNUoS revenue collection for National Grid Electricity Transmission plc of £1,852 million (2022: £1,945 million) and £71 million (2022: £8 million) for balancing services from various interconnectors owned by National Grid.

In the UK, National Grid operates a centralised Support Function model. Costs for these functions including IT, procurement, and payroll services are initially borne by National Grid Gas plc and National Grid Electricity Transmission plc. NGESO receives an allocation of these costs based on its relative usage. The allocated costs are included within operating costs and totalled £85 million (2022: £63 million).

On 6 October 2021 Elexon requested and was granted a short term loan of £10 million to cover a cash shortfall it had on settlements. The loan, and associated interest, was repaid in full by 31 October 2021.

Amounts receivable from or payable to related parties in respect of income and expenditure are ordinarily settled one month in arrears. Advances to and borrowings from fellow subsidiary undertakings are repayable on demand and bear interest at commercial rates.

Expenditure balances relate to the collection of TNUoS revenues on behalf of National Grid Electricity Transmission plc. Under IFRS 15 we act as an agent and these balances are shown net within our revenue figure. Further details of this relationship have been provided in note 2.

Information relating to pension fund arrangements is disclosed in note 19.

21. Ultimate parent company

This note shows the immediate and ultimate parent companies for these consolidated financial statements.

National Grid Electricity System Operator Limited's immediate parent company is National Grid Holdings One plc. The ultimate parent company, and controlling party, is National Grid plc. Both companies are incorporated in Great Britain and are registered in England and Wales. National Grid plc consolidates the financial statements of National Grid Electricity System Operator Limited.

Copies of the consolidated financial statements of National Grid plc may be obtained from the Company Secretary, 1-3 Strand, London WC2N 5EH, or on our company website.

22. Subsidiaries and associates

The ESO holds investments in subsidiaries and associates, the company includes contributions from associates which are detailed in the below table.

Subsidiary undertakings

The list below contains all subsidiaries held by National Grid Electricity System Operator Limited.

	Principal activity	Holding
Elexon Limited[1] 4th Floor 350 Euston Road, London NW1 3AW	Electricity market Balancing and Settlement Code company for Great Britain	100%

[1] National Grid Electricity System Operator does not consolidate its wholly owned subsidiary Elexon Limited, as it does not control the entity.

The subsidiary is incorporated in England and Wales.

The Elexon Limited shares were inherited on the 1 April 2019 as part of the purchase of the ESO business from NGET plc. As part of the process to establish the Future System Operator we are required to transfer the ownership of Elexon Limited to other industry participants. The transfer will take place at a nominal value and is expected to complete during 2023/24.

Associates

The list below contains all associates included within the National Grid Electricity System Operator Limited.

	Principal activity	Holding
Coreso SA (incorporated in Belgium) 71 Avenue de Cortnbergh, 1000 Bruxelles, Belgium	Associate in relation to a European regional transmission operations coordination centre	16%

The Coreso SA shares were inherited on the 3rd May 2019 as part of the purchase of the ESO business from NGET plc.

Glossary and definitions

References to the ‘Company’, ‘we’, ‘our’ and ‘us’ refer to National Grid Electricity System Operator Limited itself.

Carbon intensity
The measure of CO_2 emissions produced per kilowatt hour of electricity consumed.

DESNZ
The Department for Energy Security and Net Zero

EMR Delivery Body
Provides independent evidence and analysis to the UK Government to inform its decisions on the key rules and parameters to achieve the Government’s policy objectives under EMR, administers key elements of the capacity mechanism and contracts for difference regime and reports to the Government annually on performance against the Government’s delivery plan.

Electricity Market Reform (EMR)
A government policy to incentivise delivery of low carbon energy supplies whilst maintaining security of supply and minimising the cost to the consumer.

EU
European Union.

FRS
Financial Reporting Standard.

GAAP
Generally Accepted Accounting Principles.

GHG
Greenhouse gas.

GW
Gigawatt 1,000,000 kilowatts.

GWh
Gigawatt hours.

HSE
Health and Safety Executive.

IAS
International Accounting Standard.

IASB
International Accounting Standards Board.

IFRIC
The International Financial Reporting Interpretations Committee, which provides guidance on how to apply accounting standards.

IFRS
International Financial Reporting Standard.

KPI
Key Performance Indicator.

Lost time injury
A work-related injury which causes a person to be away from work for at least one normal shift after the shift on which the injury occurs, because the person is unfit to perform his or her duties.

National Grid
National Grid plc, the ultimate parent company of National Grid Electricity System Operator Limited and its controlling party.

Ofgem
The Office of Gas and Electricity Markets.

Regulatory asset value (RAV)
The value ascribed by Ofgem to the capital employed in the licensed business. It is an estimate of the initial market value of the regulated asset base at privatisation, plus subsequent allowed additions at historic costs, less the deduction of annual regulatory depreciation. Deductions are also made to reflect the value realised from the disposal of certain assets that formed part of the regulatory asset base. It is also indexed to the RPI to allow for effects to inflation.

Regulated controllable operating costs
Total operating costs under IFRS less depreciation and certain regulatory costs where, under our regulatory agreements, mechanisms are in place to recover such costs in current or future periods.

RIIO Revenue = Incentives + Innovation + Outputs.
The revised regulatory framework issued by Ofgem which was implemented in the eight-year price controls which started on 1 April 2013.

RoE
A performance metric measuring returns from the investment of shareholders’ funds. UK regulated return on equity is a measure of how a business is performing operationally against the assumptions used by Ofgem. These returns are calculated using the assumption that the businesses are financed in line with the regulatory adjudicated capital structure, at the assumed cost of debt and that UK taxation paid is at the level assumed by Ofgem.

RPI
UK Retail Price Index.

Tonnes CO_2 equivalent
Measure of greenhouse gas emissions in relation to the impact of carbon dioxide.

TW
Terawatt, 1,000 Gigawatts.

TWh
Terawatt hours.

ESO

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www.nationalgrideso.com