



Contents

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Welcome to SGN's Annual Environmental Report 2021/22. This has been prepared in accordance with the RIIO-GD2 Environmental Reporting Guidance provided by Ofgem and includes data for the reporting period 1 April 2021 to 31 March 2022.

The production of the report is a Licence Obligation with Ofgem and covers Southern Gas Networks and Scotland Gas Networks, collectively called SGN.

To stay up to date on our latest news please go to:

 sgn.co.uk/news

 linkedin.com/company/sgn

 facebook.com/sgngas

3	Overview	→
4	Our business at a glance	→
5	The Sustainable Development Goals (SDGs)	→
6	Progress so far and what's next	→
7	Environment Advisory Panel commentary	→
8	Environmental responsibilities	→
10	Dashboard indicators	→
11	Key environmental performance indicators	→
12	Environment commitments and impacts	→
13	Environment commitments	→
17	Environmental impacts	→
29	Statement on scope and quality of data	→
30	Scope	→
31	Quality of data	→
32	Appendices	→

How to use this report

This is a smart pdf with navigation functionality built into the document. To use, click on the section navigation on the top right of each page to navigate to the section you require or click on the page forward/back arrows to move page by page.

All internal and external links are live and shown in orange. These will connect you with the information when clicked.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Overview

We have a vision of giving our customers the best clean energy experience and it's important to acknowledge the steps we've already taken to get us to where we are today.



Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Our business at a glance

The SGN Group* owns one of the UK’s largest and most innovative gas distribution networks, operating across Scotland, southern England and Northern Ireland. The Group also continues to grow in the non-regulated space by accelerating commercial opportunities.

Our purpose

Serving our communities by keeping everyone safe and warm.

Our vision

To give our customers the best clean energy experience.

Our values

Safety

We keep people safe.



We look after each other and our customers.

Innovation

We innovate.



We think differently and welcome change.

Reliability

We are reliable.



We aim never to let people down.

Openness

We are open.



We share our knowledge and expertise to help others.

Respect

We treat people with respect.



We make sure everyone feels like they belong.

The SGN brand portfolio

As our business expands so does our portfolio of brand identifiers under both our regulated and non-regulated activities.

Regulated business

Our regulated businesses form the core of our activities in providing a safe and secure supply of gas to our customers throughout our three gas networks.



Non-regulated businesses

Our non-regulated activities are closely aligned with our core business activities, ensuring management understanding and decision making comes from a position of knowledge and experience.



Operations throughout the UK

Scotland

Our Scotland network distributes gas across all of Scotland to 75% of households, including remote areas through the Scottish Independent Undertakings (SIUs) at Stornoway, Wick, Thurso, Oban and Campbeltown.

Southern England

Our Southern network stretches from Milton Keynes in the north, to Dover in the east and Lyme Regis in the west, including London boroughs to the south of the River Thames, distributing gas to around 90% of households.

Northern Ireland

In Northern Ireland we have been granted the licence to bring natural gas to eight towns in the west, constructing high, intermediate and low pressure pipelines and mains. We are also contracted to maintain the gas transmission system and maintain the assets for the gas pipeline connection between Northern Ireland and Scotland.

Key

- SGN head office
- SIUs



* This report only relates to our regulated business in Scotland and southern England.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

The Sustainable Development Goals (SDGs)

Sustainability has been a growing part of our DNA for more than a decade. Throughout that time, our ambitions have grown and our strategy has evolved.

Global Goals

Designed to be a blueprint for a more sustainable future, the 17 SDGs were set and agreed by world leaders in 2015. They address global challenges around inequality, poverty and climate change, and comprise 169 targets for governments, businesses and organisations to strive towards.

[Click here](#) to read our report on how we work with the SDGs in more detail.

These eight SDGs are the ones identified to be material to SGN and its stakeholders.



“We recognised that our approach needed to be more holistic and more inclusive. That’s why the UN Sustainable Development Goals (SDGs) are so important to us. These goals provide an excellent way of describing what we do and what drives us as a business.”

John Morea
CEO, SGN (2008 to August 2022)



Good Health and Well-Being

Ensure healthy lives and promote well-being for all at all ages

A healthy environment supports good health and wellbeing. For more information on how we work with SDG 3 go [here](#).



Gender Equality

Achieve gender equality and empower all women and girls

A just transition to clean energy requires diversity and inclusion. To learn more about diversity and inclusion at SGN have a look [here](#).



Affordable and Clean Energy

Ensure access to affordable, reliable, sustainable and modern energy for all

See pages 18-19



Decent Work and Economic Growth

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

See page 27



Industry, Innovation and Infrastructure

Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

See page 20



Sustainable Cities and Communities

Make cities and human settlements inclusive, safe, resilient and sustainable

See page 28



Responsible Consumption and Production

Ensure sustainable consumption and production patterns

See page 26



Climate Action

Take urgent action to combat climate change and its impact

See pages 21-25

Progress so far and what's next

We caught up with John Morea and Laura Sandys to discuss our progress over the last year and to hear how they see SGN's role in a net zero economy.



↑
John Morea
Chief Executive Officer
(2008 to August 2022)



↑
Laura Sandys
Independent Director and Chair of
our Stakeholder and ESG Committee

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Q.

What are you most proud of when it comes to SGN's environmental progress for this year?

A.

John: Despite all the challenges we've faced with supply chain issues, acquiring our first electric vans and getting these out into the business has been a very important step for us. I know there are several operational colleagues who are keen to use these EVs and they are pioneers in the business, showing others how we can continue to operate an efficient fleet able to respond to the needs of our customers.

Laura: I am most proud of the holistic view SGN has decided to take with the support of shareholders to consider not only the UN's Sustainable Development Goals, but also the World Economic Forum ESG Framework (Stakeholder Capitalism Metrics). ESG reporting (environment, social and governance) is a best practice strategic approach which will set us up to be best in class. We are going to make progressively stronger commitments year on year to reach our key goal of being net zero by 2045. We also have a strong ambition to leave the environment that we either own or work on better than we found it, shaping strong biodiversity policies.

Q.

What do you think we could do better?

A.

John: We have to become better at sustainably using the finite resources we have, and in particular reducing the use of virgin aggregate. This has been a challenge for many years and while we are not always directly responsible for the materials that are chosen, we can do better in collaboration with the utilities industry and others that are facing similar issues. We're currently not hitting our targets and we need to do this by the end of this price control.

Laura: Look at what we can do to reduce methane emissions now, through innovation, and collaborate with the other GDNs to come up with ways of tackling this big issue. Hydrogen is a gamechanger and very important for the future of our industry but we also need to ensure we minimise our emissions as much as we can now.

We can also work closer with our contractors and suppliers to create a sustainable supply chain and drive towards sustainable procurement. We need to improve our understanding of what our Scope 3 emissions are, how we can capture these and collaborate with suppliers to reduce them.

Q.

How should we position ourselves to tackle the challenges we face as a gas distribution company heading into a net zero world?

A.

John: We need to continue to show our customers and investors that we are a responsible company preparing for a just transition for the future of heat. We do this both through new business opportunities and through driving the change for hydrogen in our networks. We want to give the best clean energy experience to our customers.

Laura: We will implement credible plans for decarbonisation of the business and its operations. In addition to having a long term net zero target, we also need to set strong interim targets and establish supportive, realistic plans for how to achieve them. We want to be a leader in clean heat for the future and this requires a business that walks the talk.

We are going to make stronger commitments year on year to reach our key goal of being net zero by 2045.

Q.

How important is collaboration to meeting our environmental challenges?

A.

John: There's a lot of work ahead of us as we look to meet our net zero targets and we simply can't do this in isolation. Working with our partners and suppliers is going to be critical in making a success of our upcoming projects, as shown by some of our innovation projects elsewhere in the business. But it goes beyond just those who we work directly with – our collaborative project with Edinburgh Napier University is a fantastic example of listening to the younger generation about how they see their environmental futures, working together to innovate, and forming bonds and networks for the future.

Laura: I think John is right and I'm especially proud of initiatives such as our Future Thinkers panel made up of people as young as 14. We manage a long term asset and so we need to be informed by those customers and employees of tomorrow and it is crucial to give regard to them to have a direct impact and influence on the direction we take as a company. It's a further extension of our brilliant partnership with Solutions for the Planet and one that we need to continue nurturing.

Q.

Does our gas network still have a role to play in the UK's future energy supply?

A.

John: Absolutely – we know that almost 85% of UK households use gas for heating, so adapting our existing networks to use green hydrogen will allow us to decarbonise faster and further than the alternative. We want to deliver a net zero gas grid in the most cost-effective, least disruptive way possible which is why we're part of the Gas Goes Green initiative alongside our gas network colleagues around the country. Together, we're looking at overcoming engineering challenges, developing new policies, and listening to businesses and consumers, all so that we can provide our customers with clean energy, reduce carbon emissions, and deliver sustainable jobs and economic growth.

Laura: Hydrogen gives us a real opportunity to provide customers with a service they're already comfortable and familiar with. We're involved in multiple hydrogen projects across the country but I think we shouldn't underestimate the important part that our biomethane projects can play too. Our Energy Futures team are doing great work with stakeholders to connect more biomethane plants to our networks and making sure our gas networks remain at the heart of the UK's energy supplies.

Environment Advisory Panel commentary

Industry sustainability experts

Our Environment Advisory Panel provides challenge, insight into best practice and acts as a critical friend to support the delivery of our environment strategy.



Kathryn Dapré
Head of Sustainability at Cala Group Ltd and SGN Environment Advisory Panel Chair



Stephen Farrant
Independent Director, Advisor and Sustainable Business Consultant



Maxine Frerk
Chair of SGN's Customer and Stakeholder Engagement Group



Olivia Bertram
Director, ORB Sustainability Consulting Ltd



Alan Hendry
Sustainability Director, Mott Macdonald

September 2022

A letter from the SGN Environment Advisory Panel

The SGN Environment Advisory Panel was established in February 2021 and comprises five external environment and sustainability experts, supported by key SGN staff. In addition, other external subject-matter experts have been invited to particular meetings. The purpose of the Panel is to provide appropriate challenge and be a critical friend when reviewing SGN's environmental plans and projects which are intended to progress SGN towards its targets, ensuring their relevance to stakeholders, communities and SGN's overall strategy.

Since appointment of the Panel, we have had five meetings. These have considered a range of topics, including biodiversity, circular economy, procurement and supply chain, and employee engagement. We have scrutinised SGN's KPIs and how these track progress against overall environmental targets and commitments. SGN has been open and receptive to learn from the Panel.

Our discussions around all aspects of the environmental impact of the SGN business have been detailed and diverse. We have recommended more focus on refining KPIs and improving data and measurement, and this first Annual Environmental Report is a good step towards greater transparency and sharing of SGN's environmental performance.

The data presented showed good progress being made across a range of topics. We are particularly encouraged by initiatives undertaken around SGN's supply chain, including the rolling out of SGN's Sustainable Procurement Code. We were also pleased to see the first measurements of embodied carbon within SGN's gas pipe network. The impacts of Covid-19 and the ongoing energy crisis have led to delays in some initiatives, eg purchase of electric vehicles and sourcing of renewable energy contracts, but we hope that these will be back on track in the near future.

Over the coming months we are looking forward to focusing on roadmaps to achieving each of SGN's environmental targets and to supporting the SGN team in overcoming barriers to delivering these.

Yours sincerely,

Kathryn Dapré
SGN Environment Advisory Panel Chair

Environmental responsibilities

As a gas network we are aware that we have significant environmental impacts. We want to improve those impacts while making our company a sustainable business to support the energy transition required to meet the UK's net zero target.

The latest analysis from [Climate Action Tracker](#) shows that even with new announcements from COP26, the world still falls well short of what is needed to get to the no more than 1.5°C global increase in temperatures as agreed as part of the Paris Agreement. We want to make a positive contribution towards global and national targets and have signed up with the Carbon Trust as one of the early pathfinders¹ working towards the Route to Net Zero standard.

Our Environment Policy

Our Environment policy is closely linked to our safety, health and well being policies and can be found [here](#). We operate an Environment Management System (EMS) which in turn is part of a company-wide Safety Management Framework (SMF). In Spring 2021, we embarked on a detailed review and update of our SMF, supported by an external specialist on safety management systems, to bring in best practice from other high hazard industries. The review comprised extensive stakeholder engagement at each stage of the project to develop an SMF that is simple, clear and user-friendly.

The new SMF incorporates SGN regulated and non-regulated businesses and enables us to manage the greater diversity of our future footprint.

Our EMS has been externally accredited to the international ISO14001 standard since the formation of SGN. In the re-certification audit in 2021 we passed with no non-conformances or weaknesses identified.

Our environment strategy

Our [Environment strategy](#) is underpinned by our ambition for net-zero emissions by 2045, in line with the Scottish Government's target, and it is also aligned with the [United Nations Sustainable Development Goals \(SDGs\)](#). Our Environmental aspects range from natural gas emissions to waste production, and we have a number of processes in place to manage these in our daily operations.

A just energy transition

Our [purpose, vision and values \(see about SGN section\)](#) underpin our desire to be a more sustainable business supporting a just energy transition. With natural gas shrinkage² representing up to 98% of our carbon footprint, we know we need to decarbonise heat to achieve a net zero future, which is why we believe hydrogen will play an important role in replacing the natural gas in our pipes. Being an integral part of so many people's everyday lives up and down the country, we have a responsibility to operate in a way that's responsible and sustainable. We are driven to deliver this change for our colleagues throughout the business, as well as our external stakeholders. Being a sustainable business will also help to make us a great place to work by retaining existing expertise and attracting new talent.

In 2021/22, we committed to follow the [World Economic Forum \(WEF\) Stakeholder Capitalism Metrics framework](#). This is a globally recognised framework of 21 core metrics based on four core pillars – Principles of Governance, People, Planet and Prosperity.



Our values demonstrate what we stand for and will help guide us to achieve our vision.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Our Board agreed that this is a great aggregator of other frameworks and standards such as GRI (Global Reporting Initiative), SASB (Sustainability Accounting Standards Board) and Climate Disclosures Standards Board as well as linking clearly to the Sustainable Development Goals, Science-based Targets Initiative (SBTi), TCFD (Taskforce on Climate-related Financial Disclosures) and CDP. All these external frameworks and standards are clear drivers for us to improve and be transparent on metrics and targets. Reporting in accordance with WEF's framework, we consider Environmental, Social and Governance (ESG) factors in how we operate now and how we plan to operate in the future. We will report annually on our ESG performance. Our first reporting aligned with the WEF framework is described in the SGN Annual Report which is available [here](#).

This critical work comes at a time when a new International Sustainability Standards Board (ISSB) has been announced at COP26 to deliver a comprehensive global baseline of sustainability-related disclosure standards that provide investors and other capital market participants with information about companies' sustainability-related risks and opportunities to help them make informed decisions. It tells us we are on the right track in the shaping of our future strategy and the approach to being a sustainable business.

¹ <https://www.carbontrust.com/news-and-events/news/the-carbon-trust-launches-new-route-to-net-zero-standard-certifying-the>

² Leakage from the network + own use of gas + theft of gas.

Environmental responsibilities (continued)

Our shareholders are increasingly engaging with us and sharing their approach to sustainability and net zero. For example, Ontario Teachers' Pension Plan Board, which owns 37.5% of SGN, believe in strong environment, social and governance practices to enable them to make good investments today and have a positive impact on future generations. They have set a net zero target by 2050 and are targeting to have 67% of their investment portfolio aligned to net zero by 2025, and 90% by 2030. We are in the process of developing credible net zero plans that also align with OTPP and other shareholders portfolio targets.

Benchmarking our business performance

On an annual basis we report to the CDP³. CDP is a not-for-profit charity that run a global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. We have been asked to report to CDP as one of National Grid's key suppliers. In 2021, we scored a B which shows we are taking coordinated action on climate issues and score better than the sector average. We also responded to the CDP supplier engagement questionnaire and received a rating of A-. This places us amongst the leaders in the field who are implementing current best practice.

The above clearly describes how shareholders and investors present drivers for our approach to environmental improvements, sustainability and ESG.



Edinburgh Napier University won The Herald Higher Education Partnership Award 2022 for their collaborative work with us on sites we have earmarked for biodiversity improvements.



The Project Gaia team at Edinburgh Napier University proposed a rainbow forest as part of their plans to reimagine one of our sites.

Listening to the next generation

Over the past year we have also been listening to young people. Made up of 14 to 16-year-olds from across our network regions in Scotland and southern England, the **Future Thinkers Panel** is an industry first, giving us the perspective of tomorrow's customers and employees. It ensures young people are at the heart of our business and have an influential voice in our decision-making on important issues like diversity and inclusion, our Environment Strategy, the future of energy, and safety and wellbeing.

Working with Solutions for the Planet, we recruited panel members representative of the communities we serve, with key interests in topics like climate change, future energy solutions and STEM careers. The Panel has provided us with vital insights and ideas for how we could engage more with our colleagues across the business on topics of sustainability. This resulted in us running a Sustainability Olympics with actions and activities designed to reduce the carbon footprint of an individual, with four weeks of constant messaging and updates, resulting in a total of 18 teams (62 people) taking part and the virtual Sustainability Olympics' torch passed on to Northern Gas Networks. It was a fun and engaging way to communicate with our people on sustainability and it saved over six tonnes of carbon emissions as well as hopefully establishing some good habits for the future.

Collaboration

We have engaged in a collaborative project with **Edinburgh Napier University**. Eight teams comprised of a cross section of students from different disciplines presented their proposals to reimagine some of our Scottish-based sites for a more sustainable future. The teams had developed opportunities for how we can respond to challenges of climate change adaptation, improve biodiversity, wellbeing, community engagement and inclusion. The proposals were presented in a virtual session to a panel of academics, external experts and our very own industry professionals in June 2021. The ideas are such that we will be able to implement a range of them across both our networks and not just limited to Scotland. To read more about the biodiversity improvements we are working on, please see the Local environment section on [page 28](#).



“We set out to have students from different disciplines working together to create a transformational learning experience and we’ve certainly achieved that. What I didn’t anticipate was finding a new way for academics from across the university to collaborate with professional services colleagues and an external partner so effectively! This project has created strong networks that didn’t previously exist, and we now know that we can build more amazing projects as a result.”

Ruth Cochrane

Enterprise Lead at the School of Arts and Creative Industries at Edinburgh Napier University

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

³ <https://www.cdp.net>

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→



Dashboard indicators

A quick look at our environmental performance progress through some important facts and figures.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Key environmental performance indicators

Environmental impact and KPI	2021/22 performance
Contribution to energy system decarbonisation	
Biomethane Annual addition of low carbon and renewable energy capacity connected to the network For more on this see page 18	1,500 scm/h
Innovation investment Annual investment in ongoing innovation activities that are primarily supporting decarbonisation and/or protecting the environment For more on this see page 20	£2.6m
Climate change mitigation	
Carbon reduction target Long term greenhouse gas reduction target (aligned with a science-based methodology and where possible verified) For more on this see page 21	25% reduction against baseline ⁴ by 2025/26 Net zero by 2045
Carbon footprint excl. shrinkage Annual change in business carbon footprint ⁵ excluding shrinkage in comparison to end of RII0-GD2 target For more on this see page 21	4% reduction against baseline
Shrinkage emissions reduction Annual reduction in total shrinkage For more on this see page 23	3% reduction compared with last year

Environmental impact and KPI	2021/22 performance
Efficient resource use and circular economy⁶	
Total waste produced Annual total waste (office, network, depots, construction) For more on this see page 26	181,988 tonnes
Waste Office and depot waste - recycled Office and depot waste - landfill	96% of total waste 4% of total waste
Spoil waste - recycled Spoil waste - landfill For more on this see page 26	96% of total waste 4% of total waste
Sustainable procurement	
Suppliers meeting sustainable procurement code Proportion of suppliers meeting the environmental supplier code or equivalent For more on this see page 27	0%
Local environment	
Investment in local environment Annual investment in schemes to enhance/restore local environmental quality For more on this see page 28	£7.5k
Area with biodiversity improvement Land area being treated in schemes to enhance/restore local environmental quality For more on this see page 28	Nil
Biodiversity improvement Net change in biodiversity units from network development projects granted planning consent in the year that impacted the local environment For more on this see page 28	Nil
Environmental incidents Number of reportable environmental incidents For more on this see page 28	None

⁴ Baseline year is 2019/20.

⁵ Business carbon footprint is our Scope 1 and 2 greenhouse gas emissions excluding shrinkage.

⁶ We are aware of gaps in our data collection, in particular in relation to data from contractors. Hence this data should not be taken as final and complete, but rather an indication of scale.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→



Environment commitments and impacts

We're committed to reducing our carbon footprint and making our business more sustainable with a variety of initiatives and commitments already underway to make this a reality.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Environment commitments

Initiative	Description	Target year	Implementation milestones	Progress	Status update
Reducing business carbon footprint (Scope 1 and 2)					
Renewable energy on occupied sites	1. Installation of direct feed solar PV	2023/24	1. Produce tender specification 2. Tender and award install contract 3. Installation and delivery programme		Programme initially delayed with no installs in 2021/22. Revised milestones and on track for delivery by target year.
	2. Installation of wind turbine	2022/23	1. Electrical/mechanical design appraisal and approval process 2. Build, install and connect the turbine		
Energy efficiency	1. Installation of building management systems	2023/24	1. Produce tender specification 2. Tender and award install contract 3. Installation and delivery programme		Programme initially delayed with no installs in 2021/22. Revised milestones and on track for delivery by target year.
	2. Installation of LED lighting	2023/24	1. Produce tender specification 2. Tender and award install contract 3. Installation and delivery programme		
Other	3. Net zero mapping	2022/23	Phase 1. Baseline Phase 2. Determine actions for next stage improvements 2026-2031, to achieve net zero by 2045		Phase 1 is complete. This work is additional to the original commitments as per our business plan 2021-2026.
Procuring 'green' electricity	Purchase 100% certified renewable electricity	2021/22	80% of our electricity in certified renewable electricity		We aim to switch over all electricity contracts to certified renewable electricity.
Transitioning to a zero emissions fleet	Transitioning our commercial fleet to up to 50% zero emission vehicles, where possible, and installing required charging infrastructure	2025/26	Total EV vans in year – 2021/22: 25 – 2022/23: 25 – 2023/24: 25 – 2024/25: 604 – 2025/26: 753 Delivery of 25 small EV vans Q1 2022/23 Charging points per annum – 2021/22: 59 – 2022/23: 72 – 2023/24: 94 – 2024/25: 50 – 2025/26: 80		The programme has been impacted by Covid-19 and delays in deliveries due to supply chain challenges in the market including extended lead times.
Reduce emissions from business travel	Encouraging the uptake of hybrid and zero emissions company cars, and reducing the allowance of gCO ₂ e/km for eligible company cars	2025/26	Maximum allowance of 95gCO ₂ /km by 2026 (average across company car fleet)		Current average of 73gCO ₂ /km.

Progress indicator key:

- progress against milestones is at significant risk and highly likely to be missed
- progress is delayed but likely to be achievable before the end of the price control period
- progress against the implementation milestones is on track

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Environment commitments (continued)

Initiative	Description	Target year	Implementation milestones	Progress	Status update
Reducing carbon of products and services					
Establish baseline and set targets for new projects >£20m	Measure and eventually manage the embodied carbon as a result of our business	2025/26	n/a		No projects above threshold carried out in the year.
Measure embodied carbon of key products/materials by spend		2022/23	2022/23 Q2: Methodology for capturing embodied carbon of steel pipe fittings 2022/23 Q3: Better understanding of embodied carbon of 'gas network equipment material' 2022/23 Q4: Methodology for capturing embodied carbon of gas network equipment material 2022/23 Q4: Analyse potential improvements		
Identify tool and methodology for measuring embodied carbon		2023/24	Work collaboratively through Energy Networks Association Seek best practice from other relevant industries		

Progress indicator key:

- progress against milestones is at significant risk and highly likely to be missed
- progress is delayed but likely to be achievable before the end of the price control period
- progress against the implementation milestones is on track

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Environment commitments (continued)

Initiative	Description	Target year	Implementation milestones	Progress	Status update
Improve sustainable procurement, resource use and waste					
Solar PV on governor sites	Replacing lithium battery packs with solar power systems to reduce hazardous waste	2025/26	First 20 pilot projects in the Scotland network to be deployed in 2022/23		
Target 80% of suppliers (by spend) to meet Sustainable Procurement Code	Engaging with supply chain to improve and apply best practice	2025/26	Sustainable procurement code issued March 2022 Phase 1 - baselining supplier performance March until October 2022		
Set KPIs and improvement targets to improve supply chain performance	Establish relevant KPIs in collaboration with our supply chain	2022/23	Phase 2 - inclusion of some targets and KPIs, with reporting and monitoring in line with SGN's own roadmap October 2022 until March 2026 Phase 3 - continuous improvement April 2026 and beyond		
Embed principles of circular economy and measure the outcomes	Better understanding of what a circular economy means to SGN in practice	2025/26	Circular economy review carried out in March 2022 Establishing relevant working groups Autumn 2022 Develop roadmap and action plans to improve 2022/23		
Zero office and depot waste to landfill	Practice of waste hierarchy - to avoid waste, improve reuse and recycle	2025/26	Identify key waste streams and regions for improvement 2022/23 Collaboration between key stakeholders to identify improvement opportunities		We did not meet this year's interim target of less than 2% office and depot waste to landfill. The circular economy review and associated actions puts us in a good position to make improvements over coming years.
Zero avoidable waste to landfill across the business	Practice of waste hierarchy - to avoid waste, improve reuse and recycle	2025/26	Establish baseline 2022/23 Identify improvement opportunities and setting targets 2022/23		
Reduce use of virgin aggregate	To reduce use of finite resources	2025/26	Establishing working group for improvement in reinstatement		The challenging targets require a holistic approach working with key stakeholders from local authorities, supply chain and other industries to ensure success.

Progress indicator key:

- progress against milestones is at significant risk and highly likely to be missed
- progress is delayed but likely to be achievable before the end of the price control period
- progress against the implementation milestones is on track

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Environment commitments (continued)

Initiative	Description	Target year	Implementation milestones	Progress	Status update
Improve sustainable procurement, resource use and waste (continued)					
Maintain ISO14001 accreditation	Maintaining our Environmental Management System to an accredited standard	Ongoing	Annual surveillance audits and three-yearly re-certification Surveillance audit in July 2022, two minor weaknesses identified Next re-certification Summer 2024		
No net biodiversity loss	Performing biodiversity surveys and implementing improvement activities to target biodiversity net gain	2025/26	Pilot projects Spring - Autumn 2022 Biodiversity surveys Phase 1 Spring - Autumn 2022 Phase 2 Spring - Autumn 2023 Improvement works 2022/23 - 2025/26		While we only completed a small number of biodiversity surveys in the first year of GD2, we are confident we will make good progress over the next two years. Improvement works dependent on completion and outcomes of survey works.
Climate change adaptation	Identify and procure climate change mapping datasets to assess sites and identify action	2025/26	1. Procure and implement 2. Assess sites		Project start delayed due to the SSE sale of SGN. Works recommenced in January 2022.

Progress indicator key:

- progress against milestones is at significant risk and highly likely to be missed
- progress is delayed but likely to be achievable before the end of the price control period
- progress against the implementation milestones is on track

Environmental impacts

As a responsible company we have an obligation to improve our environmental impacts. We are certified to the ISO 14001:2015 environmental management standard, and review our aspects on an annual basis, ensuring we monitor and manage our impacts.

The improvement programme for our environmental impacts is embedded in our company strategy, which is monitored for progress regularly and reported to the Executive Committee and our Board. We also have an environment and climate change risk register which is reviewed regularly and overseen by the SGN Risk & Resilience Committee.

Natural gas emissions are our most significant environmental aspect. This is followed by land pollution, unsustainable use of natural resources and carbon dioxide and other greenhouse gas emissions. These aspects cause impacts of climate change, changes in biodiversity, land, air and water contamination, and depletion of natural resources. Our environmental programme is set out to reduce these impacts.

Our environmental impacts are captured in six of the eight SDGs material to our business. We know these goals are material to us as we have engaged with colleagues across the company and also key stakeholders external to our organisation, asking them what they thought was most important to us and to them. Natural gas emissions are captured through our commitment in working with goal 7. Land pollution is reflected in the work we do under goal 11 and our focus on the local environment. Unsustainable use of resources is why we are wanting to embed a circular economy approach in the organisation as part of goal 12, while finally our environmental aspect of greenhouse gas emissions is why we are committed to climate action aligned with goal 13.



SGN focus:
Energy system decarbonisation

Why this is material to SGN

Central heating is responsible for up to a third of the UK's greenhouse gas emissions. This is a challenge that must be solved if we are to meet the legally binding net zero targets set by the UK Government and Scottish Government. Switching natural gas for biomethane and hydrogen, which produces much less or even no carbon when it burns, is one of the ways that we can keep homes and businesses warm and safe while making ground in the fight against the climate emergency.



SGN focus:
Local environment

Why this is material to SGN

We understand that the environment we operate and live in has a profound impact on the quality of life and wellbeing of local communities and our staff. To this end we are committed to improving the environmental value of the communities where our assets are located. Over the next five years we are committed to:

- Improve or restore environmental quality and/or biodiversity on land that we own and manage in the long term.
- Enhance the environment in the local community on sites that are not owned by SGN.
- Work towards making our network and operations more resilient to climate change.
- Keep our track record of no reportable environment incidents.



SGN focus:
Sustainable procurement

Why this is material to SGN

As part of our environment commitments, we are looking at strategies to reduce our overall carbon footprint and implement sustainable practices across SGN. Approximately 45% of our carbon footprint (excluding shrinkage) is attributed to our suppliers. As part of our overall net zero journey, it is vital to engage with our supply chain on the transition. We have a commitment to ensure that 80% of our supply chain (by spend) meets our new Sustainable Procurement Code.



SGN focus:
Efficient resource use and circular economy

Why this is material to SGN

The objective of the circular economy is to 'do more with less', ie to grow the business but reduce the use of finite resources, prevent waste and keep resources circulating within the economy for as long as possible. This is achieved through a number of strategies including preventing waste or unnecessary resource use in the first place, using sustainable resources, such as, secondary raw materials and prolonging the life of products through reuse, repair, refurbishment and remanufacturing. When all these options are exhausted, and products or materials reach their end of life then the materials should be recycled.



SGN focus:
Innovating for decarbonisation and to protect the environment

Why this is material to SGN

The global energy mix is shifting from fossil fuels to renewables. We are working hard to make sure we contribute to decarbonising the economy and meeting the Government's net zero targets. The decarbonisation challenge involves development of new energy carriers, improving energy efficiency, achieving net-zero emissions and creating new markets for carbon and other by-products as part of an increasingly circular economy. To meet this challenge, we require innovation.



SGN focus:
Climate change mitigation

Why this is material to SGN

We have set an ambitious target of reaching net zero emissions by 2045, in line with the Scottish Government's target. In this we include both our direct emissions (Scope 1), energy that we purchase from others (Scope 2) and indirect emissions from our value chain (Scope 3).

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Contribution to energy system decarbonisation

We recognise the impacts we have and have set a challenging target for our business to be net zero by 2045. Decarbonisation and achieving net zero are about reducing the environmental emissions we have today (reducing emissions from shrinkage, our commercial fleet and properties and from our supply chain). It is also about energy system decarbonisation, which is reducing the reliance on natural gas, which is a fossil fuel, and supporting the transition to hydrogen and other green gases.

Our Energy Future's team is heavily involved in various hydrogen projects across the UK. We are also engaged in biomethane projects, and work with stakeholders to ensure we can connect more biomethane plants to our networks.

Biomethane

Summary of annual enquiries, studies and actual connection of biomethane to our Southern and Scotland networks.

Biomethane connections	Unit	2021/22
Enquiries	Count	Scotland 24 Southern 39
Connection studies	Count	Scotland 11 Southern 4
Capacity of connection studies	Scm/h ⁷	Scotland 19,400 Southern 11,600
Connections	Count	Scotland 2 Southern 0
Capacity connected	Scm/h	Scotland 1,500 Southern 0
Volume (energy value) of biomethane injected⁸	kWh	Scotland 535,364 Southern 0
Average monthly flow rate (all connections)	Scm/h	Scotland 573 Southern 410

Total biomethane connections in the year was 2. This has been independently assured by ERM CVS (please see [Appendix 2](#)).

We have played an integral part in the development of biomethane as a viable energy resource over the last twelve years and currently we have 35 plants connected and injecting gas into our networks.

Strategy for 2022-2026

The biomethane capacity currently connected to our network can provide sufficient green energy to supply 259,000 domestic properties, and over the next few years we have an ambition targeting 450,000 domestic properties supplied with green energy by April 2026. In collaboration with other gas distribution networks and directly with biomethane developers, we seek to increase the total volume of biomethane gas injected into the SGN network. We will do this by:

- smart network pressure control,
- within grid compression, and
- propane reduction and management.

We are aware of the importance of not only connecting new biomethane sites to the network but also ensuring the ongoing viability of existing sites. Through direct stakeholder engagement with specific site operators and also via the newly formed Energy Networks Association Gas Entry Customer Forum, we are playing a key part in developing answers to issues which are influencing the biomethane market. Through the Gas Entry Forum, we are tackling issues centring on a standard industry approach to biomethane connections in the following areas:

- Gas blending to eliminate/reduce the requirement for propane⁹ to be added to biomethane
- Within grid compression, potential to maximise biomethane injection rates
- Site acceptance testing
- Gas quality risk assessments
- Fiscal meter assurance
- Connection capacity studies
- GDN approach to PSSR¹⁰ requirements
- Test and calibration gas procedures
- Gas quality monitoring assurance

Although we do not construct biomethane gas production facilities, we are integral to the viability and success of plants wishing to flow gas into the network. Fundamental to the success of any biomethane project is its ability to maximise gas injection rates into the SGN network which is key to the site realising revenues from both governmental subsidy schemes and the value of gas at a market level. Our connection process focuses on this aspect to ensure the right location is chosen to maximise injection levels and ensure they are sustained over the duration of the project's lifespan.

Case study: Biomethane plant connection for BrewDog

In February 2022, brewery firm BrewDog successfully commissioned their biomethane Anaerobic Digester (AD) site onto the SGN network in Ellon, Aberdeenshire.

The site uses the brewery waste produced on site as feedstock for the AD plant. This site has the potential to supply 3,995 domestic customers, contributing towards SGN's GD2 ambition of supplying 450,000 homes by the end of RIIO-GD2 (the end March 2026).

As of March 2022, we have the potential to supply green gas to 258,954 domestic customers.



“The BrewDog project focuses on the circular economy approach to utilising waste materials to deliver net zero solutions to industry and the wider communities’ energy requirements. Both BrewDog and SGN worked together to ensure the project was successful and met customer expectations.”

Joel Martin
Manager for Distributed Gas Entry Connections, SGN



Green gas connection process

We engage with biomethane developers and collaborate with industry peers for an efficient connection process. Here's how:

- We provide a green gas connection service which supports and encourages green gas connections to the network in a drive towards meeting the government targets for net zero carbon emissions. We have an ambition to supply 450,000 domestic customers with green gas by the end of March 2026.
- We provide a connection service to all biomethane developers which provide key pieces of information on the location of suitable SGN asset infrastructure which is capable of accepting the required rate of gas entry.
- This information provides an insight into the entry project's financial viability and is provided free of charge. A second stage provides a more detailed insight into the prevailing demand on the network which can be used to ascertain financial viability of the green gas project. This report is a chargeable service provided by SGN, however the detail provided within the report is seen as invaluable by project developers and is used within a wider cost benefit analysis exercise to ascertain whether forecast gas injection volumes will provide the required returns on capital investment over the long term. We have implemented a Key Performance Indicator (KPI) approach to delivering these reports to gas entry customers in a timely manner.
- We are also engaging with the other gas distribution networks to standardise content and level of detail provided in these pre-connection reports to ensure there is a consistent approach across all distribution networks and that the most useful elements of an individual organisation's report are taken forward by all.
- In addition, we are developing our approach to making data available to provide biomethane investors with a greater insight into available capacity on our network. The availability of this data will provide an additional dimension to the connection service we currently provide allowing developers to proactively interrogate data to ascertain viable sites.

⁷ Standard cubic meters per hour.

⁸ Relates to the two new connections to the Scottish network, one made in February 2022 and one in March 2022. No new biomethane connections made in Southern, hence this is zero.

⁹ Propane is currently added to biomethane to increase the calorific value of the gas to meet thermal energy regulations. It also increases the carbon footprint of the gas.

¹⁰ Pressure System Safety Regulations.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Contribution to energy system decarbonisation (continued)

We have been actively engaging with stakeholders from UK and Scottish Governments, local authorities, potential producers and users of hydrogen.

Hydrogen

Our team of researchers, engineers, economists and energy experts are striving to deliver a suite of innovation projects that will help make hydrogen the backbone of the UK's future gas network. From world-first zero-carbon heat systems powered by clean renewable energy, to switching whole cities to hydrogen, our programmes will ensure that hydrogen and biomethane delivers on their early promise: ensuring secure, low-cost, zero-carbon heat and transport fuel and a greener future for all.

Strategy and key projects

On the east coast of Scotland, we are developing a world-first hydrogen network in Buckhaven and Methil that will bring renewable hydrogen into homes, providing zero-carbon fuel for heating and cooking. In the project's first phase, the network will heat around 300 local homes using clean gas produced by a dedicated electrolysis plant, powered by a nearby offshore wind turbine. The project is called H100 Fife and you can read more about it [here](#).

The strategy for hydrogen in Scotland revolves around the [study](#) we undertook with Wood in November 2021 on the North East Network and Industrial Clusters. This promotes an accelerated pathway for hydrogen deployment to meet the Scottish Governments interim targets for carbon reduction in 2030. We have commenced with the first stage in the front end engineering design (pre-FEED¹¹) work on the first phase of this strategy, with the new hydrogen transmission pipeline from St Fergus to Aberdeen, and the conversion of the City of Aberdeen to hydrogen. We will also progress with the other phases of this strategy through additional work in the central belt of Scotland and Fife sections.

For our southern network, we are progressing with the work we carried out around the [Southampton Water Cluster](#) and the next phase of this work is to develop the pre-FEED study to deliver our Southern Pathway for hydrogen. This also aligns with the work we are carrying out around London and the south east to progress studies in that region.

Other key projects that are critical to fill the evidence gaps for hydrogen are our [Local Transmission System \(LTS\) Futures project](#), where we have received funding from Ofgem. The LTS Futures Project forms part of the UK's national hydrogen research programme to deliver a net zero decarbonisation solution for customers. The project seeks to research, develop, test and evidence the compatibility of the Local Transmission System (LTS) assets, pipelines, ancillary fittings, pressure reduction and above ground installations, culminating in a 'first of a kind' repurposing trial and demonstration.



Buckhaven and Methil, home to our H100 Fife project.



Scottish Affairs Committee visit H100 Fife project.



Left to right: Matt Porter, Green Investment Group; Yvonne Dacey, ExxonMobil; Angus McIntosh, SGN at the Southampton Water Cluster.

We are also progressing on our Multiple Occupancy Buildings (MOBs) project. Most of the research focus on hydrogen to date has targeted smaller, simpler end user systems (eg simple one and two storey dwellings) but there is a need to understand hydrogen as applied to Multi Occupancy Buildings. MOBs connected to natural gas represent a significant portion of our domestic dwellings, of which many occupants are classed as vulnerable customers, and non-domestic buildings. It has been identified that flatted properties make up 21% of the UK's domestic heat load and all gas distribution networks need to fully consider these properties and make an assessment for likely conversion opportunities. The aim of this project is to initially assess this and identify potential methodologies of supplying hydrogen to flats.

Collaboration to standardise future hydrogen connections

We are working collaboratively with all of the gas networks through the Gas Goes Green initiative run by the ENA. This focuses on a number of areas and deliverables to move the role of the gas networks and hydrogen forward, including policy, regulatory and safety areas. Under the work with BEIS on their Hydrogen R&D Programme, we are again working collaboratively with the other networks in four sub-groups looking at hydrogen trials, network safety and impacts, system transformation and end users. These groups are aiming to provide an element of the evidence for the heat policy decision that will take place in 2026.

Stakeholder engagement

We have been actively engaging with stakeholders from UK and Scottish Governments, local authorities, potential producers and users of hydrogen. We have participated in industry conferences such as All-Energy in Scotland, Utility Week Live in Birmingham and a number of smaller workshops and events. The stakeholder engagement we are undertaking through our regional studies such as Edinburgh, Tayside and London have been crucial to understand what stakeholders want and when, providing a whole system approach to decarbonisation is essential, giving consumers choice in their energy provision.

We will continue our engagement with stakeholders through the regional studies and ongoing dialogue with local authorities as these develop into more tangible projects through the pre-FEED work we will undertake. H100 Fife will obviously play an important part in this with the consumer engagement and acceptance of hydrogen in the home, working along with the other networks who were successful in their bids for the Village Trial for hydrogen.

¹¹ This involves narrowing down the design and costs to make a final investment decision.

Innovating for decarbonisation and to protect the environment

Innovation is key not only for decarbonisation of the network and our business but can also provide solutions to challenges such as waste and use of resources. Below we share two ongoing innovation projects that are aiming to reduce the amount of methane released to the atmosphere during a high-volume gas escape and three projects from pilot stage through to implementation of how innovation can help us achieve a higher priority in the waste hierarchy through reuse rather than recycling, which in turn supports the move towards a circular economy.

Innovating to support the low carbon transition and to protect the environment

Innovation	Issue	Annual achievements	Expected benefits	Timescales
Stent bag	Methane leakage to the atmosphere in high volume gas escape scenarios	Testing has been completed	Reduced leakage	Field trials due to commence in 2022/23
High volume gas escape toolbox	Methane leakage to the atmosphere in high volume gas escape scenarios	Initial batch of six kits being manufactured for different regions in SGN	Reduced leakage	Training to be completed before field trials commence later in 2022
Reusable purge end fittings	Used PE ¹² fittings are sent as scrap waste for recycling	Product has been approved for use. Pilot is ongoing to determine benefits	Fittings can be reused up to 40 times. This will reduce PE scrap sent for recycling	Early feedback has been positive with full rollout planned later in 2022
Reusable coupler and elbow fittings	Used PE fittings are sent as scrap waste for recycling	Implemented in 2021/22	Fittings can be reused up to 40 times. This will reduce PE scrap sent for recycling	Business uptake has increased since implementation with a reduction of fittings being sent to scrap
Infinity bypass	Used plastic pipe and fittings required to ensure safe operations are sent to scrap/recycling	n/a	Reusable bypass that reduces amount of PE required for routine operations in mains replacement	14 units have been bought – rollout planned for June 2022

¹² Polyethylene (PE) is a very robust and ductile pipe material.

Case study: A3 Wandsworth (TfL Red Route)

On the busy A3 northbound road into Wandsworth, we carried out a repair to a leaking joint found in the carriageway. The road came to a pinch point, merging from three lanes into one. A two-way traffic lights system was put in place with a side road and bus stop having to be closed.

This operation would ordinarily take up to five days to be completed with numerous vehicles transporting old and new material to and from site, with various teams having to travel to site for various work activities. The size of excavation would have been significant to allow the operative to work safely in the trench.

With the new Core and Vac Mark 2 system, work was completed within six hours, starting at 11am after morning peak hours and all repair and reinstatement completed before evening peak hours at 5pm, minimising disruption for road users. Long-handed tooling allowed the operator to access the asset quickly and seal the repair from above ground through a small keyhole of 600mm. In a matter of hours, the leaking joint was sealed, preventing any further methane being released into the atmosphere.

Case study: Remote pressure management

Innovation projects are key to reducing our leakage, which is the biggest contributor to our carbon footprint. Following successful innovation trials in the previous price control period, we will take forward a project to install remote pressure management systems, which will help to reduce leakage emissions through smarter, more efficient network control and management.

We will be rolling this out across 265 sites within our Southern network, where there are a number of low-pressure systems operating on less efficient, seasonally adjusted regimes. The largest low-pressure systems in the Scottish network already operate on efficient profile control, but we will certainly consider future rollouts on suitable networks.

In essence, maintaining low pressures in our networks without jeopardising safety and security of supply to our customers, helps to reduce leakage.



Case study: Core and Vac

The Core and Vac Mark 2 project is setting a new standard in how we carry out roadwork operations by maximising safety while minimising our carbon footprint and public disruption. These keyhole technologies are providing social and environmental benefit today but will also support the decarbonisation of our energy system for future environmental benefit.

In collaboration with Transport for London, the project has successfully designed, developed, and trialled an innovative solution that allows operations to be completed in six hours as opposed to up to five days. The system recycles material from the excavation and enables the operation to be carried out above ground.

By accessing the asset rapidly through the Core and Vac system, leaking assets can be sealed quickly, reducing the volume of methane emitted into the environment. The carbon footprint of each site is also significantly reduced as the system recycles excavated material, meaning no new tarmac or virgin soil need delivering to site.

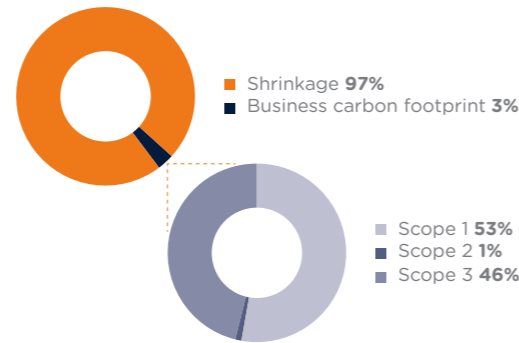


- Overview →
- Dashboard indicators →
- Environment commitments and impacts →
- Statement on scope and quality of data →
- Appendices →

Climate change mitigation

The biggest contributor to the climate change impact we have is through shrinkage, which is made up from leakage, theft and our own gas use.

On page 24 Shrinkage, we report on our annual levels of environmental emissions from these sources.



Leakage, which makes up 94% of total shrinkage, is managed and can be reduced through several opportunities, for example our mains replacement programme where old iron mains are replaced by new PE pipe, innovative projects (like our stent bag, see Innovation section) and pressure management. The mains replacement programme is predominantly associated with safety benefits, and it is also one of the key contributors to reduce methane emissions to the atmosphere. It also has the benefit of making the gas distribution networks ready for the transition to hydrogen.

Being a gas distribution company, our carbon footprint is largely driven by the gas which is transported through our network to the customer.

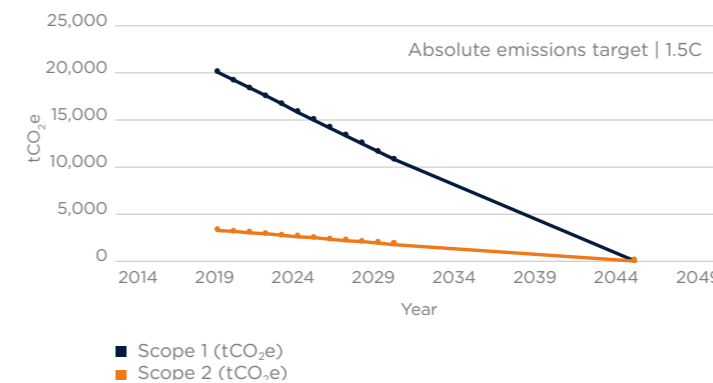
We are in the process of developing net zero plans and a better understanding of what our emissions pathway would look like aligned to the latest science while also meeting the Paris Agreement aim of no more than a 1.5°C temperature increase. As part of this work, we will also set interim targets for our journey towards net zero by 2045. The remainder of our carbon footprint, also known as our Business Carbon Footprint (ie excluding shrinkage) is being tackled through a range of activities including energy efficiency measures, producing our own renewable electricity and reducing the emissions from our commercial fleet and company cars.

Business carbon footprint – Scope 1 and 2 excluding shrinkage

We have calculated the emissions flight path which we would have to achieve to ensure we are on track with the Paris Agreement ambition of no more than 1.5°C temperature increase. We have also made sure that the flight path is aligned with our company net zero by 2045 target, which comprises all our assets and operations. As we improve our Scope 3 measurements it is the intention to include this in our net zero plans as well.

At the end of GD2 we have set a target to reduce our Business Carbon Footprint Scope 1 and 2 (excluding shrinkage) by 25% compared to baseline 2019/20 to ensure we stay aligned with a science target approach and our 2045 ambitions.

Net zero trajectory for Scope 1 and 2 excluding shrinkage



In the following section we present our Scope 1 and 2 emissions. These are split in the categories of building energy use (electricity and gas), operational transport (commercial fleet and company cars) and gas shrinkage. This is followed by a narrative explaining progress over the past year and an outlook to what is coming.

Scope 1 and 2 emissions

Emissions in tCO ₂ e	Specific area	Actual 2021/22 (tCO ₂ e)	Target year 2025/26 (tCO ₂ e)
Scope 1	Commercial fleet (operational transport)	11,738	14,966
	Company cars (operational transport)	1,070	
	Gas (building energy use)	5,907 ¹³	
Scope 2	Purchased electricity (building energy use)	192 (market based)	-
		2,652 (location based) ¹⁴	2,428 (location based)
Gas shrinkage		721,448	618,583
Total Scope 1		740,163	-
Total Scope 2 (location-based)		2,652	-
Total Scope 1 & 2 (excl shrinkage)		21,367	17,395
Total Scope 1 & 2 (incl shrinkage)		742,815	635,978

Total Scope 1 direct GHG emissions, shrinkage GHG emissions and total Scope 2 indirect GHG emissions (location-based method) have all been independently assured by ERM CVS, see [Appendix 2](#).

We are currently on track to achieve our reduction target for 2025/26. This is despite challenges in transitioning to a zero emissions fleet which you can read more about on [page 22 – operational transport](#).

Our market based Scope 2 (procured electricity for building use) is based on certified renewable electricity from our supplier. The majority, 80%, of the electricity we use is certified renewable.

As we want to contribute to the direct amount of renewable electricity being available in the energy system and to be best in class, we have identified a series of initiatives to improve our energy efficiency and install renewable electricity for direct consumption by our offices and sites.

¹³ Our scope 1 emissions from gas include a CHP engine associated with our turbo expander at Saint Mary Cray depot in the Southern network. Technically this does not produce heat for our buildings but supports the production of renewable electricity at one of our pressure reduction facilities.

¹⁴ A location-based method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data). A market-based method reflects emissions from electricity that companies have purposefully chosen. In this case certified renewable electricity.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Climate change mitigation (continued)

Building energy use

The programmes to make improvements to our building energy use have been impacted by Covid-19 and the SSE sale of its entire 33.3% stake in SGN. We have historically shared several services between the two organisations as well as offices and depots. The preparation and completion of the sale required extensive resources from across our Property Team, who are also the department responsible for the implementation of the renewable energy, energy management and utility reduction programmes. The sale was completed in March 2022.

Emissions from our building energy use has reduced over the last year compared to previous year. Our gas consumption has reduced by 65% and electricity emissions has reduced by 46%. This is due to a combination of factors including a reduction in office space, impacts because of Covid-19 and switch to a REGO certified tariff. We procure 100% certified renewable electricity for 80% of our consumption.

Renewable energy

Three pilot projects were identified in 2021/22 to specify all elements of the full programme that needed to be included in the tender for the delivery framework. Pilot projects have been scoped, designed and initiated at Epsom and Aldershot in our Southern network. Structural roof assessments and planning permissions are currently being obtained with a generation capacity designed for 25% of the baseline site usage. Installations are expected to commence in September 2022. Design work is also being finalised for the proposed install at Axis House, Edinburgh, Scotland.

The programme involves installation of direct feed solar PV on all occupied sites, a total of 45 sites. However, the number of delivery sites will be impacted by our post-Covid-19 workplace strategy, which may result in some site rationalisations and/or closures.

In addition to the original plans, we are considering battery storage options to support EV charging installations.

For the financial year of 2022/23, we have set a target to equip an additional (to the delayed pilot projects) 20 occupied sites with solar PV. The overall programme for solar PV installations is expected to be completed by quarter two of 2023/24. The delivery of interim target and completion of programme are subject to good availability of products and material which is impacted by general supply chain shortages and challenges seen in the market.



Artist's impression of the new Head Office building under construction in Horley and due to open in Spring 2024.



We're aiming to have direct feed solar panels on all of our occupied sites.



Delivery of 25 small electric vans will take place in the early part of 2022/23.

Energy management and utility reduction – BMS

This programme has also experienced delays due to Covid-19 and the SSE sale of SGN. Work to finalise the tender design and install programme has re-commenced in Q1 of 2022/23. The roll out programme is now being forecast across 2022/23 and into the first quarters of 2023/24, with an expected completion of the programme by Q2 2023/24. Large and medium occupied sites are planned to be equipped with BMS, currently 14 sites in total, and this will be impacted by our post-Covid-19 workplace strategy, which may result in some site rationalisations and/or closures. In 2022/23 we have set an interim target to complete installation of building management systems across nine sites.

Energy management and utility reduction – LED installation

In 2021/22 we installed LED lighting on three projects at our Southern network offices in Horsham, Shoreham and St Mary Cray. This included BMS interfaces. Baseline usage will be compared to previous sites through benchmarking to evaluate the energy savings made.

Full delivery programme will commence in Q2 2022/23 and the programme is expected to be completed in Q3 2023/24. We have set an interim target for LED installations on eight sites in total in 2022/23.

Wind turbine for Thurso

We are progressing the design and installation of a small 6kW wind turbine at Thurso SIU. With limited opportunities to improve the building energy use carbon footprint at an SIU, this is an exciting project to learn and understand more about how these sites may reduce their environmental impact. The project has been designed for an average 20% utility reduction, with the start date dependent on final design delivery.

New SGN headquarters at Horley

Construction started in June 2022 for our new headquarters at Horley, Surrey. For this new build on an old gas holder site, we are aiming to achieve a BREEAM excellent rating. Our estimated move in date is Q4 of 2023/24. For this project we will also collect and monitor data on embodied carbon. Further updates of this exciting project will be presented in future Annual Environmental Reports.

Net zero mapping

We have engaged with external consultant WSP to perform net zero mapping of our building energy usage. In phase one of this work, they have undertaken an initial baselining of all our occupied premises and produced a 'pathway to net zero' reduction curve to identify the rate of utility reductions through technological interventions. Phase two will plot current building energy use initiatives against the reduction curve.

The net zero mapping work will help us to identify initiatives for the future to achieve the overall required rate of reduction. An annual review will be undertaken of delivered projects to benchmark and validate that the required reductions are being achieved.

Operational transport – commercial fleet

Over the next five years we are aiming to transform up to 50% of our commercial fleet with a net zero emissions fleet, where possible.

As a company operating and maintaining a gas network to safely deliver gas to our customers, we have specific operational and safety requirements for the vans and other commercial vehicles we operate. This includes the equipment and tooling we carry, with power offtake to operate the tooling, as well as the vehicle being required to spend undetermined periods carrying out emergency works. In the majority of cases, to operate effectively and efficiently, vehicles we acquire need to be kitted out specifically for this purpose. This, in combination with general availability on types (sizes and specifications) of zero emission vehicles in the market, restricts what type of vehicles we can acquire and when. In addition, there have been challenges in global supply chains for vehicles, resulting in longer lead times. Currently, the lead times for EVs are at least nine months, with lead times expected to remain a challenge for the foreseeable future.

Despite these challenges, in 2021/22 we have finalised the procurement of 25 small vans, with the delivery of these having only been able to take place in the early part of 2022/23. Due to the delays, we will not see any impact of reduced emissions due to zero emission vehicles in our fleet in the first year of GD2. The plan as presented in the Environmental Action Plan and subsequent submissions to Ofgem have the following ambition set out:

Vehicle category	Number of units by 2025/26
4x4	18
Small van	50
Medium van	208
Large van	298
Support van	123

We are regularly scanning the market and having conversations with manufacturers to understand what categories of vehicles will become available and when and trying to get demonstration vehicles as soon as possible to test and trial. There are challenges specifically with regards to 4x4 vehicles and large vans which are currently not available in the market to the specification required. This puts the ambition for delivery of such vehicles at a clear risk for completion in GD2.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Climate change mitigation (continued)

Just over 50% of our commercial fleet belongs to our repair team and are maintenance repair vehicles with power take-off on the rear. Currently there is no zero-emission option in sight in the market that can replace them.

We are working collaboratively with manufacturers and other end users to try and accelerate the introduction of hydrogen vehicles to the market. Part of this work is to make manufacturers aware of the market potential across the UK. We are engaging with local authorities and government to explore the support and availability of allowances to tackle the barrier of the cost of a hydrogen vehicle, which is currently approximately 40% more expensive than the equivalent EV.

Charging points

In total over this price control period, we will be installing 355 charging points which will support the increasing number of electric vehicles in our commercial fleet and future proofing offices and depots across our networks. In 2021/22, we have had to prepare for and complete capacity surveys to get an understanding of the incoming power availability to our sites and how many charging points this can support. Capacity surveys have been carried out on 12 of our larger sites. On seven of these there is enough capacity available and charging points will be installed in the early part of 2022/23; we will work to upgrade incoming power capacity on other sites. While we are behind on the installation programme, there is very low risk of not achieving the targets we have set ourselves by 2025/26.

In addition to charging infrastructure at offices and depots, we have organised for drivers of electric vehicles to have an EV charging card which will provide access to more than 6,000 charging points across the UK. This will help in ensuring we are running an efficient fleet for the safety of our people and the communities in which we work. We are also exploring home charging options.

Company cars

Over the year of 2021/22, the number of fully electric and hybrid cars has increased to 257. This has enabled the average emissions level across the company car fleet to reduce from 94g/km to 73g/km. Our plans as set out in the Environmental Action Plan submitted to Ofgem in November 2019 was to reduce the CO₂ limit by 5g/CO₂ every year leading to a maximum allowance of 95gCO₂/km by 2026. Current data shows we have already met and exceeded these plans.



We're increasing the number of electric vehicles in our commercial fleet, supporting this by installing 355 charging points during RIIO-GD2 and providing drivers of electric vehicles with an EV charging card, with access to over 6,000 charging points across the UK.

Shrinkage

We have not set any formal targets for reducing the environmental emissions from shrinkage as this has not been a requirement by our regulator Ofgem. However, we compare our emissions to what we forecasted at the beginning of this price control period.

For our Southern network we have under-performed by approximately 4.5 GWh in relation to the leakage forecast, while there has been a 2 GWh outperformance in Scotland.

From a demand perspective, 2020/21 was an outlying year for the gas networks. With many industrial and commercial businesses not operating (or operating at significantly reduced capacity) and with many employees working from home, the gas demand profile was impacted, allowing us to operate at reduced pressures. In 2021/22, the economy largely opened up again, returning the demand profile to pre-pandemic levels and subsequently adding extra strain to the gas network, resulting in higher operating pressures.

The increase from forecast in Southern was primarily driven by the South-East Local Distribution Zone (LDZ) or region. The pressures in South-East increased by 0.36mbar on 2020/21 levels. This increase across South East was in turn driven, in the main, by the highly influential South London networks. South London is very densely populated and therefore the swing in demand profile from a 'closed' to 'open' economy was more pronounced. As a responsible gas transporter, our first priority will always be to ensure security of supply to our customers. We were therefore required to operate at higher pressure settings, particularly during the winter period, to ensure we met our security of supply commitments.

SGN leakage volumes

SGN (GWh)	Actual 2021/22 (GWh)	Forecast 2021/22 (GWh)
Low pressure mains	356.448	354.136
Medium pressure mains	55.652	55.861
Services	71.807	70.965
AGIs	96.013	96.643
Interference	1.832	1.845
Total	581.752	579.450

	Actual 2020/21 (tCO ₂ e)	Actual 2021/22 (tCO ₂ e)
Shrinkage (leakage, own use gas and theft of gas)	740,826	721,448

We reduced our shrinkage environmental emissions by 3% compared to last year. Total shrinkage for 2021/22 has been independently assured by ERM CVS, see [Appendix 2](#).

Scotland and SIU leakage volumes

Scotland and SIU (GWh)	Actual 2021/22 (GWh)	Forecast 2021/22 (GWh)
Low pressure mains	84.583	-
Medium pressure mains	15.217	-
Services	18.445	-
AGIs	34.758	-
Interference	0.571	-
Total	153.573	155.597

Southern (SO and SE) leakage volumes

Southern (GWh)	Actual 2021/22 (GWh)	Forecast 2021/22 (GWh)
Low pressure mains	271.865	-
Medium pressure mains	40.436	-
Services	53.362	-
AGIs	61.255	-
Interference	1.261	-
Total	428.179	423.853

Leakage emissions, using conversion factor: 1,226.42 tCO₂e/GWh¹⁵

tCO ₂ e	Actual 2021/22 (tCO ₂ e)
Leakage emissions	713,473

Other shrinkage volumes

GWh	2021/22
Own use	15.72
Theft	27.82
Total	43.54

Other shrinkage emissions, using conversion factor: 183.85 tCO₂e/GWh¹⁶

tCO ₂ e	2021/22
Own use	2,879
Theft	5,096
Total	7,976

For the calculation of environmental emissions from volumes of gas, a global warming potential (GWP) of 25 has been used. This is currently the GWP as prescribed by Ofgem and is used across all gas distribution networks in the UK.

¹⁵ Note this is based on global warming potential, GWP, for unburned gas, as available from BEIS. If this changes during the price control period Ofgem will consult on how this will affect reported emissions.

¹⁶ Conversion factor for burned gas.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Climate change mitigation (continued)

Scope 3 emissions

Screening study

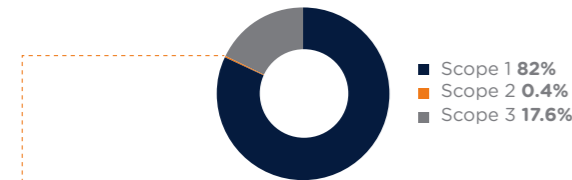
The GHG Protocol Corporate Standard classifies Scope 3 emissions as all indirect emissions not included in Scope 2 that occur in the value chain of the reporting company, including both upstream and downstream emissions. In other words, Scope 3 emissions are a consequence of the activities of SGN but occur from sources not owned or controlled by SGN.

In July 2020, we engaged the Carbon Trust to undertake a study to assess and identify the Scope 3 categories that are expected to be most significant to us.

This study by the Carbon Trust used a tool that involved qualitative and quantitative screening assessment of our Scope 3 activities.

Scope 3 screening: Hotspots and contribution to footprint

Scopes 1, 2 and 3



Split of Scope 3 categories

1a	Purchased goods and services (product)	10.1%
1b	Purchased goods and services (non-product)	40.5%
2	Capital goods	33.8%
3	Fuel- and energy-related services	9.1%
4	Upstream transportation and distribution	4.5%
5	Waste generated in operations	0.1%
6	Business travel	0.5%
7	Employee commuting	1.0%
8	Upstream leased assets	0.1%
9	Downstream transportation and distribution	n/a
10	Processing of sold products	n/a
11a	Use of sold products (direct)	n/a
11b	Use of sold products (indirect)	n/a
12	End-of-life treatment of sold products	0.0%
13	Downstream leased assets	0.3%
14	Franchises	n/a
15	Investments	n/a

The screening study indicated that our three largest sources of Scope 3 emissions are generated from purchased goods and services, capital goods and fuel and energy related activities.

The screening study considered emissions from these three sources to be the most applicable and material Scope 3 categories to our activities, and made the following recommendations:

- Purchased goods and services where operational costs were used in the assessment:
 - seek out supplier provided embodied carbon for materials where possible
 - gain more specific supplier information such as Scopes 1 and 2
- Capital goods where total expenditure data was used:
 - seek out supplier provided embodied carbon for materials beyond PE pipe where possible
 - use more granular data for capital goods for each development project per Bill of Materials or Schedule of Quantities for the project on a quantity or spend basis
- Fuel and energy related activities using metered gas and electricity data and vehicle mileage and fuels usage:
 - improved data quality where invoice estimates are used
 - gather more granular information for unmetered sites, especially where shared occupancy (shared with SSE at the time) is applicable
- Overall recommendations included:
 - improve data quality for completeness and accuracy to establish a baseline Scope 3 footprint and enact carbon reduction initiatives
 - assess data availability - perform a sense check on which primary data can be achieved
 - establish more robust methods for Scope 3 calculation

The assumptions, methodology and data sources used in the screening exercise are in presented in [Appendix 1](#).



Through partnerships with companies such as ULC Robotics, we make sure we're working with the latest innovative technology.

Scope 3 improvement programme

Like many other organisations we are on a journey to improve our Scope 3 data. We know we have gaps in our data collection and we want to be transparent on what those gaps are.

Carbon emissions from capital goods and purchased goods (products) make up approximately 40% of our Scope 3 emissions. Of this we already capture the embodied carbon emissions associated with PE pipe and we have a focus to try and get data to cover the remaining key materials by spend ([see next page](#)). It is however acknowledged that this is a very challenging task due to the number of suppliers and importantly the availability of data. Carbon impact of capital goods and products may not be available unless life-cycle analysis have been carried out.

The other key element in our Scope 3 performance are emissions associated with purchased goods and services (non-product), which represents another approximately 40%. Through our engagement with our supply chain, we will aim to capture this type of data, i.e. Scope 1 and 2 data from suppliers, over the next few years. We are further engaging with Achilles, our supply chain management partners, to improve our data capture and pre-approval linked to environmental, social and governance topics. For more information about our engagement with our supply chain, please see [Sustainable procurement](#).

The carbon impact of waste generated in our business operations represents less than 1% of our total Scope 3 emissions. While we are collecting data from our waste management providers and contractors, due to data gaps we have chosen not to disclose the carbon emissions associated with waste here.

We are capturing our business travel and have disclosed this data on [page 25](#). Employee commuting is estimated to make up a bigger contribution to Scope 3, and we will seek best practice approaches to estimate this going forward.

Over the past year we have improved our data collection of environmental data to inform our carbon footprint by partnering with Rio ESG. Their software and online portal will help us to achieve a more robust gathering and analysis of all our greenhouse gas emissions. Data quality improvement is a focus over the next few years.

- Overview →
- Dashboard indicators →
- Environment commitments and impacts →**
- Statement on scope and quality of data →
- Appendices →

Climate change mitigation (continued)

Business travel

This year has seen some bounce-back in relation to business travel compared to previous years impacted by Covid-19. Across the business we can however also see the behaviour change the pandemic has instigated; with more use of technology for meetings and workshops, resulting in less travel and carbon emissions.

In 2021/22 our business travel emissions were 420 tCO₂e (a 40% reduction compared to pre-pandemic business travel in 2019/20). We will continue to monitor and report on our business travel emissions as these are an important and visible part of our environment engagement. It is important to note that the business travel carbon emissions have not been independently assured.

Embodied carbon

Embodied carbon is defined as the total greenhouse emissions generated to produce an asset or a product. This includes emissions caused by extraction, manufacture, processing, transportation and assembly of every product and element used in building the asset. In this section we aim to present the embodied carbon of new construction projects completed in the year with a threshold of costing at least £20m.

As we progress through GD2 and undertake projects that meet the threshold value, we will:

- report on embodied carbon against individual projects undertaken each year (in 2021/22 we have not undertaken any projects that meet the threshold value, and therefore do not have embodied carbon data to report on for new construction projects)
- where applicable and data is readily available, provide the estimated embodied carbon for the project based on the final design and for “as built”
- report on where there is a significant difference between the design and as built embodied carbon.

One of the projects which we are monitoring over the coming years is our planned new headquarters in Horley (see above in section on [Building energy use](#)).

In this first year of GD2 we have assessed available spend data to better understand what the key materials we procure are, to then be able to try and understand the embodied carbon of these materials.

We are working with our supply chain to better understand the embodied carbon of products we procure from them.

Carbon emissions from capital goods and purchased goods (products) make up approximately 40% of our Scope 3 emissions (see table on previous page). The top ten spend categories are tabulated below – purchased goods ranked by percentage spend. These ten items equate to about 60% of SGN’s spend. Of these, the top three purchased goods categories, make up more than 40% of our spend and all are associated with pipe laying. They are:

- PE pipe and fittings
- Gas network equipment
- Steel pipe fittings

Purchased goods ranked by percentage spend

No.	Purchased goods category	Spend	% of total spend
1	Plastic pipe and fittings	£9,445,659.00	22%
2	Gas network equipment material	£4,410,328.12	10%
3	Steel pipe fittings – gas	£4,295,344.13	10%
4	Industrial gases	£1,809,321.67	4%
5	Resins sealants etc	£1,448,370.23	3%
6	PPE and footwear	£1,240,236.45	3%
7	Tools hand	£1,202,950.96	3%
8	SGN – gas regulator equipment	£1,158,459.32	3%
9	Meter fittings – brass	£1,098,828.80	3%
10	Central heating materials	£1,038,233.06	2%

We are already gathering data from our key PE pipe suppliers. We will hold conversations with additional relevant providers in our supply chain to explore what information we can get for gas net work equipment and steel pipe fittings, with the aim to collect embodied carbon of these products as well if possible. This would provide additional useful input in completing and baselining our Scope 3 data. We will work collaboratively through the Energy Network Association and seek best practice from other relevant industries to establish methodologies and tools to improve.

Another area where we are striving to make improvements to our Scope 3 and embodied carbon tracking is reinstatement materials. While this does not come up as a key area of spend, it is an area of highest importance for our waste management and circular economy approach (see [Efficient resource use and circular economy](#)), and we gather raw data to understand how to better manage and improve our resource use in relation to material and spoil disposal.



The High Volume Gas Escape Toolbox is just one innovative solution we’re using to respond to leaks in our network.



We’re committed to providing all our people with the relevant PPE to keep them safe every day.



We’re replacing old metal mains with PE pipe – the key material we procure in terms of spend.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Efficient resource use and circular economy

Targets and activities

We are committed to improving the circularity of our operations by using resources efficiently and avoiding and reducing waste.

We want to achieve:

- Zero waste to landfill across office, depots, reinstatement, construction/major projects and our gas holder dismantlement for non-hazardous waste by 2026
- Recycle 93% of total materials and reuse 6.5% of total materials by 2026
- Reduce the use of virgin aggregate to less than 20% in Scotland and 1% in Southern

In 2021/22 we undertook a circular economy review of our existing processes and procedures. This highlighted a number of opportunities for improvement and best practice approaches:

- Establishment of clear governance and measurement of resource use and circularity via KPIs and targets.
- Detailed analysis of key procurement areas to identify waste hot spots and opportunities for resource and cost savings.
- Collaborate with the other gas distribution networks to deliver best practice solutions to reduce PE pipe wastage and support aggregate recycling solutions.
- Establishment of an internal forum to share good practices and support contractor engagement across both networks.
- Consideration of additional metrics such as clarity around the full cost of waste could support change towards a circular economy vision.

Other actions completed in 2021/22 towards improving resource usage and reducing waste included:

- Recycling unused/waste PE pipe into lower grade pipe suitable for sewage and drainage.
- Working with suppliers to help 'close the loop', including 'take back' schemes to reduce waste, for example:
 - governor kiosks returned to the supplier
 - sealants and chemicals where suppliers collect some products for recycling
- Recycling old cones and safety barriers
- Implementing innovative technology such as:
 - Core and Vac to reduce waste in our operations. See case study on [page 20](#).
 - live insertion which reduces the size of the excavation. The 'new' PE pipe is inserted within the 'old' metal pipes reducing the need to excavate and remove the metal pipe. Thereby reducing waste spoil and waste metal pipes.

More information on how we have used innovation and technology to support our environmental objectives is discussed on [page 20, Innovation](#).

Progress

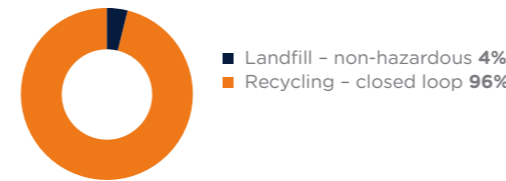
We generate waste in all areas of our business and split this up in:

- office and depot waste
- spoil waste
- non-depot waste which is waste generated in our construction, land remediation and holder demolition activities.

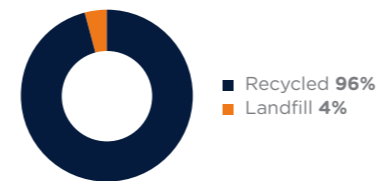
We have data gaps in the reporting of waste. We work with several contractors throughout our Scotland and Southern networks who report waste data to us and are working to improve these processes. Data shared in the report is not complete however it gives an indication of scale and progress. The circular economy review combined with data analysis provides a good foundation for improvements.

Current data (with reservations on completeness as noted) show that approximately 4% of our waste goes to landfill, and 96% is recycled. This split is the same for both depot and office waste as well as spoil waste from reinstatement works. In addition we are working on gathering data from our construction, land remediation and gas holder demolition sites to provide a complete picture of waste management across the company.

Group waste by waste stream Depot and office waste



Spoil waste



Use of virgin aggregate in our Southern network is estimated to 2% for the year 2021/22. However this contains data gaps so should be taken as an indication. For our Scotland network virgin aggregate use is estimated to approximately 30%, but with even larger data gaps we expect this to be an underestimate of the true numbers.



We've implemented a range of facilities across our sites to reuse and recycle waste products.



Core and Vac allows us to carry work through small keyhole excavations, vastly reducing the scale of our work and traffic management required.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Sustainable procurement

46% of our carbon footprint (excluding shrinkage) is attributed to our suppliers. As part of our overall net zero journey, it is vital to engage with our supply chain on the transition. We also have a commitment to ensure that 80% of our supply chain (by spend) meets our new Sustainable Procurement Code.

Supply chain

We have issued our first Sustainable Procurement Code to all our current suppliers. The code describes our expectations around sustainability and ESG (Environment, Social and Governance), as set out below:



Principles of Governance pillar

- Setting purpose
- Governance body composition
- Material issues impacting stakeholders
- Anti-corruption
- Protected ethics advice and reporting mechanisms
- Integrating risk and opportunity into business process



People pillar

- Diversity and inclusion
- Pay equality
- Wage level
- Risk for incidents of child, forced or compulsory labour
- Health and safety
- Training provided



Planet pillar

- Greenhouse gas emissions
- TCFD implementation
- Land use and ecological sensitivity
- Water consumption and withdrawal in water-stressed areas



Prosperity pillar

- Absolute number and rate of employment
- Economic contribution
- Financial investment contribution
- Total R&D expenses
- Total tax paid

This is aligned with the World Economic Forum framework that we have adopted (link to Our Environmental Responsibilities). The Sustainable Procurement Code is available [here](#).

In the short term we will baseline our suppliers' ESG performance. In the long term we plan to put targets and metrics in place. We will not implement all measures at once, rather, we will engage with our suppliers and implement a phased approach towards reporting building a realistic roadmap.

- **Phase 1** - March to October 2022 - baselining supplier performance, questionnaires, surveys, engagement and building a risk profile based on specific responses.
- **Phase 2** - October 2022 to March 2026 (end of RIIO-GD2) - inclusion of some targets and KPIs, with reporting and monitoring in line with SGN's own roadmap.
- **Phase 3** - Beyond RIIO-GD2 - April 2026 and beyond - continuous improvement, including regular reporting and monitoring.

Engagement process

- **Understanding our supply chain** - currently being undertaken, with a detailed list of categories, spend and contract duration, along with other relevant details.
- **Engaging with our suppliers** - ongoing process with regular meetings, telephone discussions and emails. This has been an ongoing process since the Sustainable Procurement Code was issued in March 2022.
- **Joining industry collaboration** - we are a Partner of the Supply Chain Sustainability School¹⁷ and take part in cross GDN and industry collaboration.
- **Baselining our supplier performance** - an initial baselining exercise was conducted in November 2021 around ESG themes.
- **Developing training and capacity building programs** - once we have formed our initial baseline, we will look at specific issues key to our suppliers' improvement and work with individual suppliers as required.
- **Driving improvement by KPI monitoring** - we will set ESG targets over the next year, which we will monitor. We will also, integrate ESG performance as a key part of our tendering evaluations moving forward.



From left: Gus McIntosh (SGN Director of Energy Futures), Sacha Dench (biologist, conservationist and adventurer), Lorna Archer (H100 Project Manager) and Pauline Silverman (Senior Manager Partnerships and Places, SEPA).



Engaging with key stakeholders at the COP26 Conference. Top: SGN's H100 Project Director Craig McCafferty (left) with Mark Nellor from ARUP; bottom: US Senator Tom Carper (left) with SGN's Gus McIntosh.

Initial ESG survey

In November 2021, we conducted an ESG survey which was sent to 72 suppliers spread across different categories constituting over 90% of our suppliers by spend.

The survey had 20 questions covering four areas: Governance, People, Planet and Prosperity, and was aligned with the World Economic Forum Framework.

We are happy to report that 62 of the 72 suppliers have responded to the ESG survey. This is equivalent to about 86% of our suppliers. In addition, of those 62 suppliers, 84% have confirmed they have a documented environmental management system policy and 77% have a documented responsible sourcing process or policy for procuring goods.

Based on the submitted responses, we have been able to create an ESG heatmap of our existing suppliers which shows us how well our suppliers are progressing with regards to principles of governance, people, planet and prosperity. Based on this and analysing:

- value of contract
- options available for supplier substitution or replaceability
- estimated cost of improvements; and
- benefits realised for SGN and the supplier,

we build an even deeper insight of where suppliers are on their individual journeys towards improvement. Highlighting key strengths and weaknesses enables us to have strategic discussions with our supply chain.

On the back of this survey, we will continue to engage with our suppliers and ensure optimal use of the Supply Chain Sustainability School.

¹⁷ <https://www.supplychainschool.co.uk/partners/sgn/>

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Local environment

We understand the environment we operate in has a profound impact on the quality of life and wellbeing of local communities and our staff. To this end we are committed to improving the environmental value of the communities where our assets are located. Over the course of GD2, we aim to:

- Improve or restore environmental quality and/or biodiversity on network sites that we own and manage in the long term
- Enhance the environment in the local community on sites that are not owned by SGN
- Work towards making our network and operations more resilient to climate change

Climate change resilience

In 2021/22, we completed our response to the third round of climate change adaptation reporting to [DEFRA](#), as well as contributed to the joint Energy Networks Association (ENA) report on the same topic (September 2021). The project was used to understand the changes in potential impact to energy infrastructure assets from climate change, and to assess the current risks to the network, and therefore guide future mitigation and management actions.

Since our joint submission for the Climate Change Adaptation Reporting in 2015¹⁸, we continue to adopt measures to ensure we keep providing a safe and resilient network to our customers.

- We undertook a gap analysis, comparing our approach to industry peers, and identified actions to improve internal risk management and risk assessments.
- We are procuring Landmark mapping which will provide us with environmental data, including but not limited to flood risk and ecology. This will be implemented initially to map and assess the climate risk for occupational sites and for buildings. However, we will also use this mapping to ensure we maintain a safe and resilient network.
- Our Business continuity management (BCM) plans have been revised across the business in 2020/21. This includes consideration of what to do in the event of loss of workplace, which could for example be made unavailable due to flooding.

- We are an active participant in the ENA group on climate change resilience. This is an example of industry collaboration between electricity and gas transmission and distribution companies which builds on the successful collaboration in producing the ENA ARP3 report. This group will look at adaptation to climate change impacts including sharing of knowledge and good practice.
- The UK Government has announced that disclosures in line with Taskforce for Climate-related Financial Disclosures (TCFD) will become mandatory across the economy by 2025. In light of this and as part of adapting a wider Environment, Social and Governance (ESG) framework, we will continue to review and assess our climate related risks to ensure we uphold a safe and resilient network.

Enhancing the local environment

We have engaged with a primary school in the Greater London area, located close to a former gas works site, with a view to help them improve their outdoor classroom spaces used for their Forest School. The works will be taking place in 2022/23 and we will provide an update in the next AER.

Biodiversity

Our aim for GD2 is to achieve biodiversity net gain as far as possible or at least no net loss on our sites. In this first year of GD2, we have awarded a tender to a specialist ecological consultancy to undertake ecological baseline studies on 143 of our sites across both Southern and Scotland networks. This work has only recently commenced, and we will report on progress in subsequent AERs.

In 2021/22, we completed baseline ecological surveys on six sites – three in Southern and three in Scotland. Based on the initial surveys of these sites, we have engaged consultants to prepare biodiversity improvement and/or undertake further targeted species surveys. This work is in progress and will be reported on in the next AER.

Environmental incidents

There have been no reportable environmental incidents in 2021/22. SGN has not received warning letters, formal undertakings, enforcement notices, monetary penalties or prosecution from the EA and SEPA for this financial year.

Environmental near misses and hazards are identified through our internal incident reporting and tracking system, Velocity, and we use these as opportunities to review these as lessons learnt in order to prevent recurring incidents and mitigate environmental impacts.

We have awarded a tender to a specialist ecological consultancy to undertake ecological baseline studies on 143 of our sites across both Southern and Scotland networks.

Case study: St Mary Cray, Orpington, Kent

Following the removal of a redundant gas holder and associated decommissioning works at St Mary Cray, we have worked with an ecologist to identify suitable biodiversity improvements at this site.

The existing biodiversity value was limited and a plan was developed targeting priority species and habitats known to be present within the surrounding landscape and prioritising those specifically detailed in the Kent Nature Partnership Biodiversity Strategy 2020-2044 as being 'a county target for gain'. Over a period of time we will look to implement:

- species rich grassland including a species-rich wildflower meadow
- exposed sand/gravel banks will be allowed to naturally colonise over time as an 'open-mosaic' habitat
- installation of bird boxes targeting house sparrow and starling
- installation of insect nest boxes to create artificial invertebrate nests/habitats including specific features for bees and wasps
- installation of vertical log piles with the purpose of creating a suitable habitat for the stag beetle.

The aim is to achieve biodiversity net gain on the site.



¹⁸ ENA Gas Environment Group, Combined Climate Change Adaptation Reporting, Joint Second Round Response (2015).

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Statement on scope and quality of data

Scope

Introduction

This Annual Environmental Report (AER) provides our progress against targets and objectives as approved by the regulator Ofgem in line with the Final Determination for RIIO-GD2 price control (available on Ofgem's website [here](#)). Information has been provided in line with the RIIO-GD2 Environmental Reporting Guidance Version 1.0 (on Ofgem's website [here](#)), from now on referred to as 'the Guidance'. Guidance is also following RIIO-GD2 Gas Distribution Price Control Regulatory Instructions and Guidance: Version 1.1 14 April 2022 (Chapter 13, section 11.06 and 11.07) available [here](#).

The AER covers the first year of the price control period RIIO-GD2 which is financial year 2021/22, ie from 1 April 2021 up until and including 31 March 2022.

The data provided in the AER is the same as presented to Ofgem in the Regulatory Reporting Pack (RRP) for financial year 2021/22. According to the Regulatory Instructions and Guidance for RRP reporting, reporting Scope 3 data is considered voluntary. We acknowledge that we are on a journey to capture data which make up our Scope 3 emissions. Data quality improvement of material Scope 3 data is a focus for us over the next few years. We are aware that we have data gaps (see section Completeness of information on this page, for further information) which we are tackling and aiming to eliminate. Therefore we have decided not to disclose full Scope 3 carbon emissions. We are however reporting some Scope 3 information, in particular in relation to our business travel carbon footprint and our waste management and resource use, to provide an indication and scale of the challenges we are facing.

Our Scope 1 and 2 greenhouse gas emissions including shrinkage have been independently assured by ERM CVS, see [page 35](#).

Reporting boundary

The AER includes data from our company footprint in Scotland and Southern (for a map of our networks, please refer to [page 4](#)) and does include data from our non-regulated business (our commercial entities). With the sharing of office buildings and company services, as far as environmental data is concerned it would require a disproportionate amount of resource to try to separate out waste disposal and business travel pertaining to the non-regulated business. The AER does not, however, include our network in Northern Ireland.

Unless stated specifically in the report, the data shown is for SGN total, ie covering both our Scotland and Southern networks. As targets and objectives in most cases are set on a total SGN basis, it makes sense to show progress against targets on the same basis, despite the Guidance sometimes asking this to be on a licensee level. We consider this approach to be most helpful for our customers and stakeholders interested in understanding how we are performing from an environmental perspective.

Data collection

Our data collection process changed during the financial year with procurement of a new software as a service, called Rio ESG. While this will provide more rigorous data sets going forward, with benefits such as more accurately tracking our progress towards targets including net zero and less risk of human errors in data management and analysis, in the short-term implementation of new processes and training of data providers (both internal as well as external data providers) proved challenging.

Data we collect per relevant carbon emissions scope (as defined by the Greenhouse Gas Protocol) is:

Scope 1: shrinkage
 Scope 1: transport from owned vehicles or vehicles under our control, gas consumption from owned boilers
 Scope 2: purchased electricity
 Scope 3: indirect emissions from our value chain

Currently we collect data in the following Scope 3 categories and from the following emission sources:

- Purchased goods and services: reinstatement material
- Purchased goods and services: water
- Capital goods: PE pipe
- Fuel and energy related activities: transmission and distribution of electricity
- Fuel and energy related activities: gas well-to-tank
- Upstream transportation and distribution: contractors' vehicles/transport movements
- Waste generated in operations: excavation spoil disposal, office and depot waste disposal and non-depot waste disposal
- Business travel: business mileage in vehicles not owned or controlled by the company
- Business travel: rail, air, ferry and car hire

We collect all data relevant to Scope 1 and 2 emissions including shrinkage, and such data is presented in this report.

While we collect several elements of our Scope 3 data we are aware this is not exhaustive and there are many data gaps. Therefore we have chosen not to disclose the majority of our Scope 3 carbon emissions data at this point, as this could be misleading to the reader.

We do however, share our business travel carbon footprint which is an element of our Scope 3 we have been capturing for many years. We also provide information in relation to our waste (approximate total waste and estimates of how much that goes to landfill and recycling) and resource use (use of virgin aggregate). This is provided to give an idea of scale and proportion of waste sent to landfill. It is acknowledged that the data contains gaps.

This report also includes information on:

- Biomethane connection data
- Innovation investment
- Sustainable procurement
- Investment in local environment
- Biodiversity improvement
- Environmental incidents

Completeness of information

We engaged ERM CVS to provide limited assurance of the total Scope 1 and Scope 2 (location-based) greenhouse gas emissions, including shrinkage. Nothing has come to their attention to indicate that the 2021 data is not fairly presented in this report.

Our Scope 3 screening estimates that Scope 3 emissions make up approximately 17.6% of our total carbon footprint. For additional information on the screening exercise, please refer to [Appendix 1 – Scope 3 screening assessment](#).

At the time of data gathering for the AER, we had data gaps pertaining to Scope 3:

- Reinstatement materials: due to not being able to collect data from all contractors, we had a data gap representing 36% of the data. It was not deemed suitable to estimate data gaps, as this is very dependent on volume, type and location of work and therefore varies considerably from one month to another.
- Water: we were missing water utilities data for January to March 2022.
- Contractors' vehicles/transport movements: this data gap represents about 25% of our contractors. It has not been deemed suitable to estimate data gaps, as this is very dependent on volume, type and location of work and therefore varies considerably from one month to another.
- Helicopters are used by SGN to undertake aerial surveys of the gas pipeline. We use external contractors to provide this service. At the submission of the RRP, the data had not yet been provided and was therefore not included. The data was not deemed material and was not estimated.
- Excavation spoil disposal: a data gap equivalent to about 35% of the data. It has not been considered appropriate to estimate the missing data based on previous months. Excavation spoil disposal is dependent on many variable factors including volume of work, type of work and the location of the work.
- Non-depot waste disposal: this data gap represents about 17% of the data. This data gap was for the last two months of the financial year, February and March 2022, and the data gap was addressed by estimating waste using data for January 2022 to get a complete data set.

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

Due to the data gaps described above we have opted not to share a rough estimate of our Scope 3 greenhouse gas emissions, as this would underestimate the emissions we are responsible for generating. It would also be of limited value to the reader.

We have however decided to share some KPIs. These refer to our resource use and waste management processes, where we are disclosing estimated total waste generated in the business, to provide an indication of scale to the reader. We are also sharing the estimated split between how much of this waste goes to landfill and how much is being recycled. This information is aimed at providing the scale of the opportunity to drive for zero waste towards landfill. It is important to highlight that the raw data used for calculation of total waste, waste to landfill and recycling have not been independently assured by ERM CVS due to the data gaps.

In addition we are sharing our carbon footprint for business travel, a KPI with good opportunities for behavioural change impact. It is important to highlight that this data has not been independently assured by ERM CVS.

Capturing, measuring and reporting on Scope 3 greenhouse gas emissions data is a challenging task. We acknowledge we are on a journey to improve this and will report on further progress in the Annual Environmental Report for next year.

Quality of data

Data reported on in this Annual Environmental Report (AER) is the same data as provided in the Ofgem Regulatory Reporting Pack (RRP). It has been calculated following the Regulatory Instructions and Guidance (RIGS) from the regulator. In all cases we use DEFRA conversion factors for calculation of raw data to carbon dioxide equivalent emissions. Process for this is aligned with international standard per the Greenhouse Gas Protocol. Data provided in the RRP goes through an internal Data Assurance Guidance process. This involves several layers of internal checking of data provided with final sign-off by a responsible Director.

We engaged ERM CVS in an independent process to provide Limited Assurance. Their assurance statement is available [here](#).

The engagement included limited assurance on whether the financial year 2021/22 data is fairly presented in the SGN Annual Environmental Report in accordance with the reporting criteria¹⁹:

- Total Scope 1 direct GHG emissions [tonnes CO₂e]
- Shrinkage GHG emissions [tonnes CO₂e]
- Total Scope 2 indirect GHG emissions (location-based method) [tonnes CO₂e]
- Biomethane connections [number]

The level of assurance provided was Limited Assurance.

The reporting period was set as 1 April 2021 to 31 March 2022.

The assurance was undertaken using the ERM CVS assurance methodology which is in accordance the International Standard for Assurance Engagements ISAE 3000 (Revised).

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→

¹⁹ RIIO-GD2 Gas Distribution Price Control – Regulatory Instructions and Guidance: Version 1.0 – 14 December 2021 (Chapter 13, section 11.06 and 11.07).

- [Overview](#) →
- [Dashboard indicators](#) →
- [Environment commitments and impacts](#) →
- [Statement on scope and quality of data](#) →
- [Appendices](#)** →



Appendices

Appendix 1 – Scope 3 screening assessment

Screening assessment

The results of the screening assessment are shown in the extract below.

Scope 3 screening: Hotspots and contribution to footprint

Scope	Category	Category description	Emissions (tCO ₂ e)	% of total Scope 3 emissions	% of total emissions
1	-	Scope 1 emissions (2019-20)	796,512	-	82.0%
2	-	Scope 2 emissions (2019-20)	3,463	-	0.4%
3	1a	Purchased goods and services (product)	17,359	10.1%	1.8%
3	1b	Purchased goods and services (non-product)	69,351	40.5%	7.1%
3	2	Capital goods	58,004	33.8%	6.0%
3	3	Fuel- and energy-related services	15,609	9.1%	1.6%
3	4	Upstream transportation and distribution	7,750	4.5%	0.8%
3	5	Waste generated in operations	240	0.1%	0.0%
3	6	Business travel	787	0.5%	0.1%
3	7	Employee commuting	1,635	1.0%	0.2%
3	8	Upstream leased assets	117	0.1%	0.0%
3	9	Downstream transportation and distribution	N/A	-	0.0%
3	10	Processing of sold products	N/A	-	0.0%
3	11a	Use of sold products (direct)	N/A	-	0.0%
3	11b	Use of sold products (indirect)	N/A	-	0.0%
3	12	End-of-life treatment of sold products	52	0.0%	0.0%
3	13	Downstream leased assets	467	0.3%	0.0%
3	14	Franchises	N/A	-	0.0%
3	15	Investments	N/A	-	0.0%
Total				100%	100%

Impact: ■ High ■ Medium ■ Low

- [Overview](#) →
- [Dashboard indicators](#) →
- [Environment commitments and impacts](#) →
- [Statement on scope and quality of data](#) →
- [Appendices](#) →

Methodology

A Scope 3 category applicability matrix was used to determine, on both a quantitative and qualitative basis, our Scope 3 emission hotspots. The screening process followed the suggested screening approach from the GHG Protocol Corporate Value Chain Accounting and Reporting Standard. Criteria used in the applicability matrix is aligned with the GHG Protocol Scope 3 Calculation Guidance. The criteria used to identify which Scope 3 categories are applicable to us included size, influence, risk, stakeholders, level of outsourcing and sector guidance.

Each category was assigned a weight to reflect its relative importance in determining Scope 3 category hotspots. The largest contributor was the estimated

portion of emissions from the relevant category. Influence and risk were considered the next most important factors in determining Scope 3 applicability. The level of influence SGN may have over implementing emission reduction activities in a particular Scope 3 category may warrant focus in that area and contribute to material emission reductions, even if the size of that category’s emissions relative to all Scope 3 emissions would not indicate it as a hotspot. Evaluating risk was considered important as risk will ultimately drive business decisions across the organisation and climate related risk is increasingly growing. Finally, sector guidance, stakeholders and level of outsourcing were assigned lower weights as these were not considered to be the determining factors.

Scoring was assigned according to rationale and applicability listed in the table below:

Applicability category	Score					
	0	1	3	5	8	10
Size	Marginal (<1%)	1-2.5% of Scope 3 emissions	2.6%-15% of Scope 3 emissions	16-30% of Scope 3 emissions	31-50% of Scope 3 emissions	>50% of total Scope 3 emissions
Influence	None	Minimal	Low	Medium	High	Extreme
Risk	None	Minimal	Low	Medium	High	Severe
Stakeholder	None	Minimal	Low	Medium	High	Extreme
Level of outsourcing	Complete	High	Medium	Low	Minimal	None
Sector guidance	N/A	Low	Low-Medium	Medium	High-Medium	High

Weighting and scoring guidelines are shown below:

Scope 3 category	Weighting (score 1-5)						
	Category	Size	Influence	Risk	Stakeholders	Level of outsourcing	Sector guidance
Purchased goods and services	1	5	3	3	2	1	2
Capital goods	2	5	3	3	2	1	2
Fuel- and energy-related activities	3	5	3	3	2	1	2
Upstream transportation and distribution	4	3	3	3	2	1	2
Waste generated in operations	5	5	3	3	2	1	2
Business travel	6	5	3	3	2	1	2
Employee commuting	7	5	3	3	2	1	2
Upstream leased assets	8	5	3	3	2	1	2
Downstream transportation and distribution	9	5	3	3	2	1	2
Processing of sold products	10	5	3	3	2	1	2
Use of sold products	11	5	3	3	2	1	2
End-of-life treatment of sold products	12	5	3	3	2	1	2
Downstream leased assets	13	5	3	3	2	1	2
Franchises	14	5	3	3	2	1	2
Investments	15	5	3	3	2	1	2

Appendix 1 – Scope 3 screening assessment (continued)

Exclusions

In accordance with Ofgem guidance, the following sources of emissions were excluded from this screening assessment:

- end user emissions
- emissions offsetting (currently we do not undertake any carbon offsetting).

The following categories were considered not applicable to SGN’s operations and therefore excluded from the assessment:

- Category 9 Downstream transportation & distribution – there is no downstream distribution beyond SGN
- Category 10 Processing of sold products – SGN does not have a physical intermediate product which is processed
- Category 11 Use of sold products – at this stage end user emissions have been excluded as data is not available
- Category 14 Franchise – SGN does not own or operate any franchises
- Category 15 Investments – SGN does not hold any investments

Also excluded from the calculations is gas consumption for SGN’s Northern Ireland network and is not included in the total for ‘Energy Consumption (Gas)’.

Assumptions

- Categories 1 and 2 Purchased Goods and Services and capital Goods: these categories were estimated together using spend data for operational costs (regulated, unregulated, staff recharges), some products and most services and total CAPEX and REPEX spend with a breakdown of external spend. Once the allocation of spend for financial year 2019/20 was determined, the total spend was entered into a value chain footprinting model developed by the Carbon Trust and an emissions estimate was determined on a spend basis. The top 80% of spend was categorised on a supplier-specific level in terms of goods/services provided and sector of supplier for selection of EEIO factors while the remaining 20% was also included but on a more generic basis.
- Category 3 Fuel and Energy-related Activities: emissions from transmission and distribution (T&D) losses and well-to-tank (WTT) emissions for shrinkage, natural gas consumption onsite, electricity use and fuel used in vehicles were calculated for SGN’s fuel- and energy-related activities.
- Category 4 Upstream Transportation and Distribution: emissions from contractors’ vehicles and the helicopter. The calculation was based on amount of fuel used and distance to site along with assumptions for transport mode may be used.
- Category 5 Waste Generated in Operations: emissions for waste estimated by taking the individual sums of recycled waste, incinerated waste and landfilled waste and multiplying them by the corresponding BEIS (2019) emission factor. Hazardous waste tonnage was included in the recycled tonnage to determine a recycled footprint due to a lack of an appropriate emission factor. It is assumed that virgin aggregate is recycled, whereas spoils go to landfill.
- Category 6 Business Travel: emissions were calculated by taking the total of the travel data and SGN’s reported emissions for air, car hire, ferry, rail (air travel was split into domestic, short-haul and long-haul).
- Category 7 Employee Commuting: emissions were estimated on 3,954 full time equivalent employees as of 31 March 2020. This total figure was then implemented into the value chain model developed by the Carbon Trust to determine an approximate footprint based on number of employees.
- Category 8 Upstream Leased Assets: calculated by adding electricity and gas consumption for Walton Park and then apportioning 60% for SGN’s usage and 40% for that of SSE. The total apportioned usage was divided by spend to get a weighted average emission factor to use across all other sites.
- Category 12 End-of-Life Treatment of Sold Products: calculated by determining the mass of PE within 1km of pipe. SC80 solid wall PE80 pipe was taken from documentation by one of SGN’s providers, at a nominal diameter of 63mm which gives a weight of 1.1kg/m. This was then converted to kg/km and multiplied by the total laid YTD length of pipe.

Data quality

The data was evaluated in line with GHG Protocol data assessment criteria (Table 7.4, Table 7.6 and Box 7.2 from GHG Protocol Corporate Value Chain Accounting and Reporting Standard).

The table below provides an overall RAG status of the data quality based on completeness and accuracy of the data.

	Category	Scope 3 category	Overall data quality (1-100)
Upstream	1	Purchased goods and services	61
	2	Capital goods	64
	3	Fuel- and energy-related activities	67
	4	Upstream transportation and distribution	64
	5	Waste generated in operations	64
	6	Business travel	100
	7	Employee commuting	13
	8	Upstream leased assets	52
Downstream	9	Downstream transportation and distribution	0
	10	Processing of sold products	0
	11	Use of sold products	0
	12	End-of-life treatment of sold products	61
	13	Downstream leased assets	62
	14	Franchises	0
	15	Investments	0

Colour scale: ■ Poor ■ Fair ■ Very good

Overview	→
Dashboard indicators	→
Environment commitments and impacts	→
Statement on scope and quality of data	→
Appendices	→



Independent Assurance Statement to SGN

ERM Certification and Verification Services Limited ('ERM CVS') was engaged by Scotia Gas Networks Limited ('SGN') to provide limited assurance in relation to the selected indicators set out below and presented in the SGN Annual Environmental Report 2021/22 (the 'Report') for the year ended 31 March 2022.

Engagement summary	
Scope of our assurance engagement	<p>Whether the 2021/22 data for the following selected indicators in the performance tables on pages 18, 21 and 23 are fairly presented in the Report, in all material respects, in accordance with the reporting criteria:</p> <ul style="list-style-type: none"> Total Scope 1 direct GHG emissions [tonnes CO₂e] Shrinkage GHG emissions [tonnes CO₂e] Total Scope 2 indirect GHG emissions (location-based method) [tonnes CO₂e] Biomethane connections [number]
Reporting period	1 April 2021 – 31 March 2022
Reporting criteria	<ul style="list-style-type: none"> RIO-GD2 Gas Distribution Price Control Regulatory Instructions and Guidance: Version 1.1 14 April 2022 (Chapter 13, section 11.06 and 11.07) RIO 2 Environmental Reporting Guidance Version 1.0, 2 March 2021 SGN's Statement on scope and quality of data (pages 30 and 31 in the Report)
Assurance standard	ERM CVS' assurance methodology, in accordance with the International Standard on Assurance Engagements ISAE 3000 (Revised) 'Assurance Engagements other than Audits and Reviews of Historical Financial Information'.
Assurance level	Limited Assurance.
Respective responsibilities	<p>SGN is responsible for preparing the Report and for the collection and presentation of the information within it.</p> <p>ERM CVS' responsibility is to provide a conclusion on the agreed scope based on the assurance activities performed and exercising our professional judgement.</p>

Our conclusion

Based on our activities, as described overleaf, nothing has come to our attention to indicate that the 2021/22 data for the selected indicators listed above on pages 18, 21 and 23 are not fairly presented in the Report, in all material respects, with the reporting criteria.

Emphasis of Matter

Without affecting our conclusion, we draw attention to the explanatory notes provided by SGN relating to the Scope 3 data on page 30 of the Report, in particular the limitations relating to completeness and availability of data.

Our assurance activities

A multi-disciplinary team of sustainability and assurance specialists performed a range of assurance procedures which varied across the disclosures covered by our assurance engagement, as follows:

- Telephone interviews with relevant staff at SGN's offices to understand and evaluate the data management systems and processes (including systems and internal review processes) used for collecting and reporting the selected data;
- An analytical review of the data from all regions and an assessment of the completeness and accuracy of the corporate data consolidation;
- Substantive testing (on a sample basis) of supporting documentation related to the internal controls and consolidation of the performance data;
- An evaluation of the conversion factors and assumptions used; and
- Review of the presentation of information relevant to the scope of our work in the Report to assess consistency with our findings.

The limitations of our engagement

The reliability of the assured information is subject to inherent uncertainties, given the available methods for determining, calculating or estimating the underlying information. It is important to understand our assurance conclusion in this context.

Our independence

ERM CVS is a member of the ERM Group. The work that ERM CVS conducts for clients is solely related to independent assurance activities and auditor training. Our processes are designed and implemented to ensure that the work we undertake with clients is free from bias and conflict of interest. ERM CVS and the staff that have undertaken work on this assurance exercise provide no consultancy related services to SGN in any respect.

Gareth Manning

Partner, Corporate Assurance, London
30 September 2022

ERM Certification and Verification Services Limited
www.ermcvs.com | Email: post@ermcvs.com



SGN

St Lawrence House
Station Approach
Horley, Surrey
RH6 9HJ



0800 912 1700



customer@sgn.co.uk



sgn.co.uk

If you smell gas or are worried about gas safety you can call the National Gas Emergency Number on **0800 111 999**

Carbon monoxide (CO) can kill. For more information: **co-bealarmed.co.uk**