



National Galleries of Scotland

Environmental Sustainability Report 2019/20



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Approval route: Audit & Risk Committee and Leadership Team

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Introduction

Background

The National Galleries of Scotland (NGS) continues to make progress to become a more sustainable and efficient organisation. Our work is strategically steered by Our Shared Strategy, with sustainability as the heart of the organisation as one of our key drivers. Internally this translates into actions through our Carbon Management Plan and Environmental Management Plan 2018-2022.

This annual report brings together all the sustainability work that is happening in and across all the National Gallery sites. This includes energy, water and waste reduction, low carbon travel, sustainable procurement, biodiversity, adaptation and engagement with staff and visitors.

Our Sustainability Journey

Since beginning our sustainability journey in 2008/09, NGS has been making improvements year on year. After reaching our carbon reduction target of 42% two years early in 2017/18, our new Carbon Management Plan and Environmental Management Plan was launched in 2018/19 committing to reduce our carbon footprint by 60% by the end of the financial year of 2021/22 from our original baseline year of 2008/09.

Following the success of our first year with our new Carbon Management Plan, we have continued to make improvements throughout the gallery buildings and engaging with staff and members of the public and partnering with other organisations on a variety of projects addressing sustainability and the impacts of climate change.



Next Steps

In April 2019 Scottish Government declared a Climate Emergency. NGS have been working internally on how we tackle this from the way we operate our buildings, our plans and policies, and how we communicate with our local and international audiences to use art to help create change. We have also been considering how net-zero will be achievable for NGS with the historic listed buildings we work within. We have begun looking at the national target of net-zero by 2045 as well as the regional Edinburgh target on net-zero by 2030.

Our current Carbon Management Plan and Environmental Plan has created a clear pathway for carbon reduction and sustainability for the next few years, however we now look to push the ambition for the next decade and reaching targets for long-term systematic change.

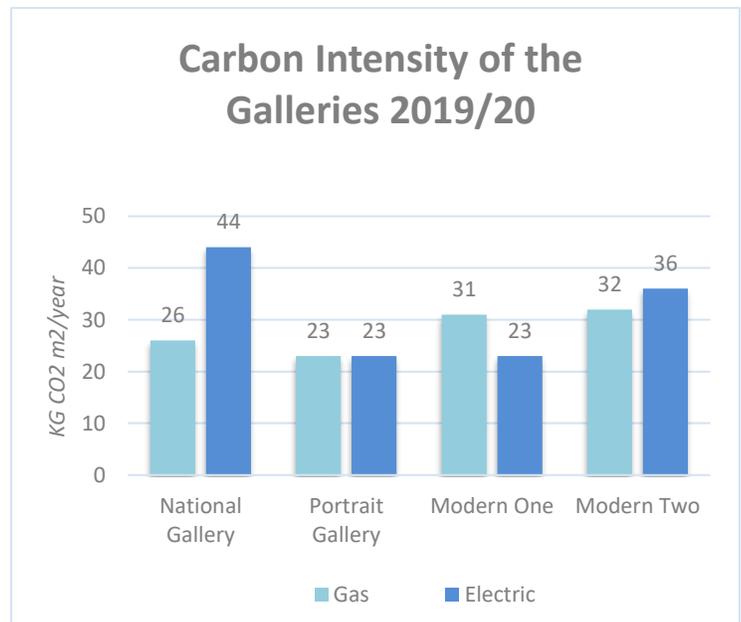
At the tail end of the 2019/20 financial year Covid-19 became a global pandemic, with lockdown happening mid-way through March 2020. The impact of this culturally and financially is still to be seen, however NGS continues to address all areas of sustainability in order to recover and help our communities to do so too.

2019/20 Overall Performance

Throughout 2019/20 carbon emissions have decreased, albeit at a slower rate than in previous years. There was a 1.11% decrease this year in overall carbon emissions which means a 57% decrease in emissions from the 2008/09 baseline.

Less reduction has been made in energy than prior years due to the addition of a new air-conditioned artwork storage space. With an improved conditioning system this means that energy will be used within this storage space which was not previously. Areas of the National Galleries which have been previously closed as part of the SNG project have continued to reopen which increases our energy consumption from previous years.

Carbon reductions can be seen with waste, as well as water though transport has marginally increased.



Summary table of the progress we have made since the financial year 2008/09 (1 April to 31 March)

Area	2008/09	2018/19 Performance	2019/20 Performance	Change from Baseline Year	Change from last year
Carbon from Energy ¹	3690	1578	1561	-57.69%	-1.06%
Total Energy Expenditure	£645,939	£416,808	£429,618	-33.49%	3.07%
Carbon from Transport ¹	8.45	12.96	14.15	67.48%	9.23%
Total Transport Expenditure	£10,205	£30,727	£33,474	228.01%	8.94%
Carbon from Waste ¹	28.38	4.37	2.71	-90.46%	-38.04%
Total Waste Expenditure	£18,553	£30,727	£24,348	31.23%	-20.76%
Carbon from Water ¹	18.09	16.84	16.13	-10.85%	-4.22%
Total Water Expenditure	£86,157	£73,481	£70,861	-17.75%	-3.57%
Total Carbon Emissions ¹	3745	1612	1594	-57.43%	-1.11%

¹: Carbon is measured in tonnes of carbon dioxide (CO₂) equivalent.

Energy Use

Progress and Initiatives

In 2019/20 we saw a combined decrease in energy carbon emissions of 1%. Although less than previous years, changes to the estate have impacted these carbon reductions. The new art storage building, which was added to the estate's portfolio is conditioned for the conservation of the collection, therefore using more gas than previous storage. Areas of the National Gallery were closed last year for the SNG Project and contributed to the reduction in carbon emissions. The increase in building space from both these projects has meant carbon savings have been impacted.

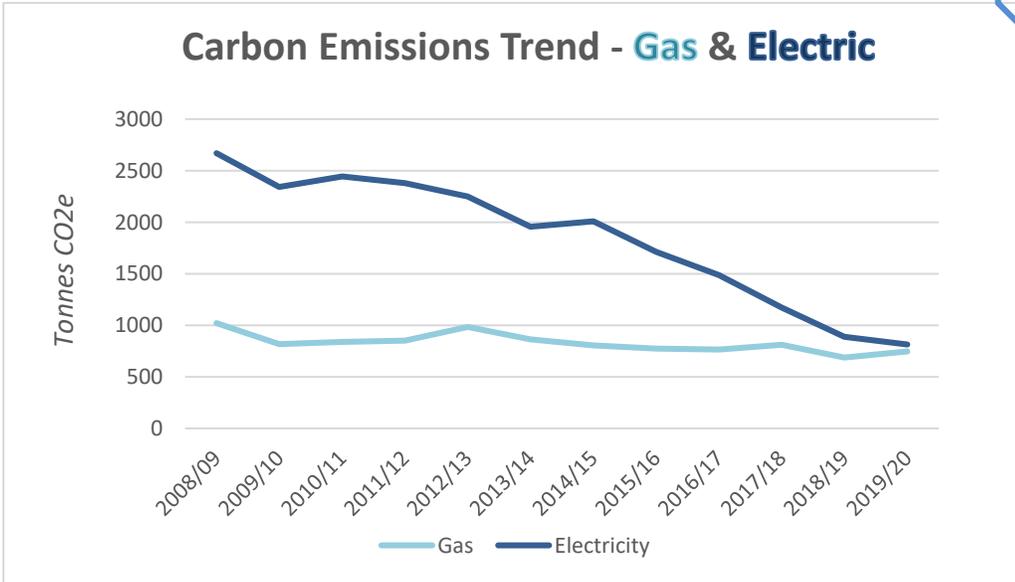
Throughout the year we have been making improvements across the existing galleries, including the successful roll out of virtual desktops across the organisation. These terminals are more energy efficient than the previous hard drives used.

Other projects included the trial of smart thermostats at the Modern Art Gallery, installation of secondary glazing in our conservation area and office spaces as well as swapping car park lighting to LEDs.

Looking ahead

The year 2020/21 created a whole new scenario for the way we work with Covid-19 meaning many of NGS staff to work from home from March 2020. This meant a reliance on digital based working with the recently rolled out virtual desktops and using video conference to meet. This also meant that NGS energy usage transferred to people's homes instead of our office spaces. We saw a slight dip in energy use within our gallery spaces but had to keep the buildings conditioned for the artwork. Going forward our focus will be on how we support staff and visitors to make sustainable energy choices at home and make changes to become more energy efficient.

Energy reduced
1%



Transport & Travel

Progress and Initiatives

An increase of 9% has been recorded in our carbon emissions from our NGS fleet. Although the pool vehicles have not yet been rationalised as anticipated, a lot of work has been done with staff and visitor engagement around active travel.

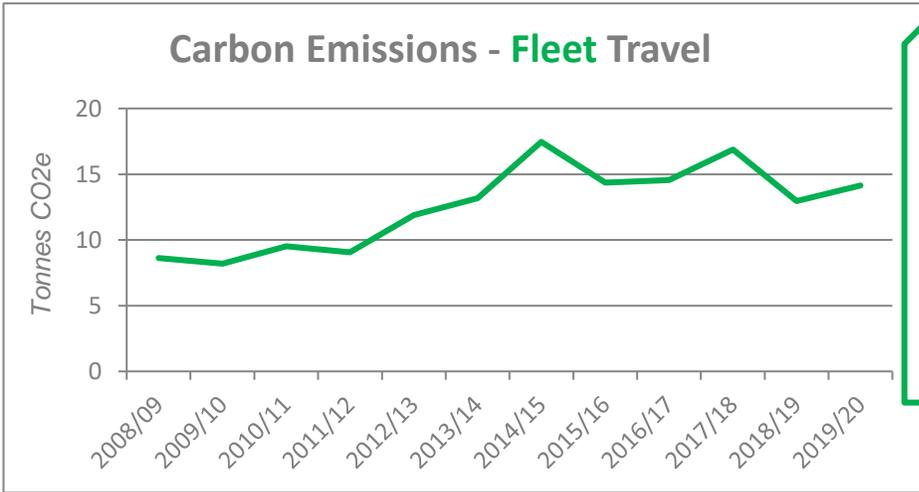
From May – July 2019 NGS trialled two electric bikes which were loaned from the Energy Saving Trust to allowed staff to travel between our sites. Over 60 colleagues took part in induction sessions to test out the e-bikes, with a handful trialling them for their commute too; resulting in lots of positive feedback and uptake in cycling across the organisation.

The NGS Learning & Engagement Team also trialled an e-cargo bike through the Sustrans Bike Library for their ‘Art in The Open’ project. Artist Damian Callan and Education Officer Mara Barth (*right*) travelled all over the city, holding free drop-in sessions for anyone who came across it to have a go at drawing and sketching sessions. NGS have purchased an e-cargo bike and will be working with Edinburgh College to create the outside designs.

Just Eat Cycle hire bike racks were installed outside the Modern Art Gallery site and in close proximity to the National Gallery and the Portrait Gallery. This is now actively promoted on our website to visitors looking to travel to any of the three NGS sites.

Looking ahead

- Rationalising vehicle fleet
- Preparing for Edinburgh Low Emission Zones
- Staff engagement for using electric vehicles.
- Business case for staff e-bike to add to fleet



Travel emissions increase 9%

Waste Management

Progress and Initiatives

Carbon emissions from waste continued to decrease in 2019/20, with a 38% decrease compared to the previous year. Within this we saw a reduction of general waste while recycling and food waste recycle rates increased.

The increase in food waste was due to the roll out of food waste bins in colleague social spaces, which meant food waste was being collected separately and going to anaerobic digestion instead of being disposed of in general waste. Further to this staff engagement was supported by the Love Food Hate Waste online resources, especially around the festive period with Zero Waste Scotland’s ‘Sustainable Christmas Guide’.

2019/20 was the beginning of looking more at our exhibition process and what materials are used the most. Partnering with the Edinburgh College of Art Free-Use Hub, several items from the NOW 5 exhibition were able to go to art students for reuse as well as identifying recycling streams for any residual materials that could not be used. The NGS Art Handling Team have also been working with local wood recycling charity Move On during clear outs of non-heritage items in the NGS storage sites.

Looking ahead

- Continuing to improve recycling rates and reduce general waste
- Reducing paper use with the move to digital working due to COVID-19
- Further training on reuse and recycling of non-heritage items e.g. furniture
- Further work on the exhibition process
- Waste auditing and targeting recurring recyclable items within general waste

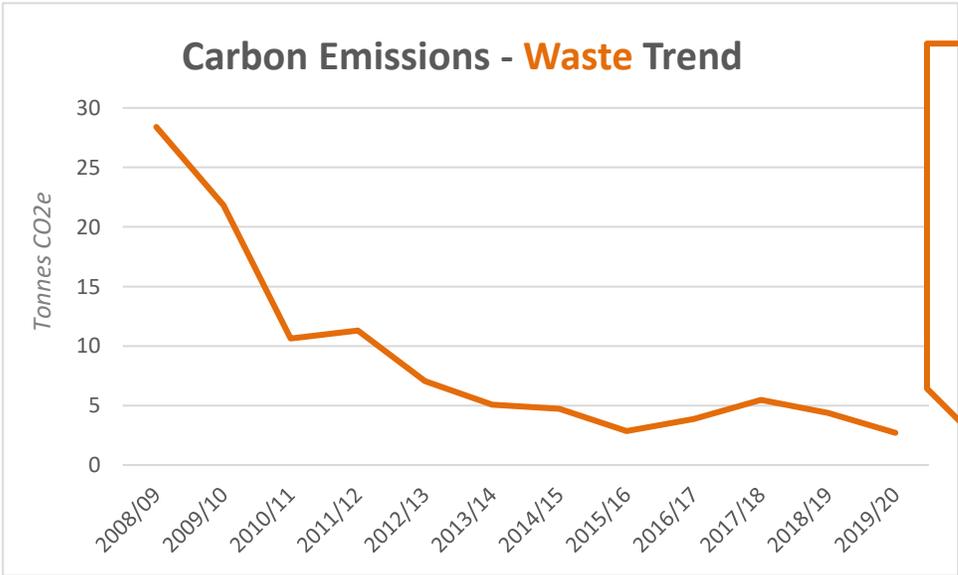
Food Waste Bins have arrived!

Why are we recycling food?
Did you know that we throw away **7 million tonnes** of food in the UK every year? As food waste breaks down it produces methane, this is one of the most damaging greenhouse gases and many times more harmful than carbon dioxide.

What happens to it?
We are now going to be separating out our food waste, which will be processed at an anaerobic digestion facility in Midlothian – this means that it will now be turned into **green energy** or recycled into premium grade **compost** rather than going to general waste. Great news!

Want to go the extra mile?
Reducing the amount of food waste is our next step! The Love Food Hate Waste website has some amazing tips & tricks along with great recipes for saving food waste and money

Check out the poster to see what goes in the food waste bin.



Waste emissions reduced 38%

Water Consumption

Sustainable Procurement

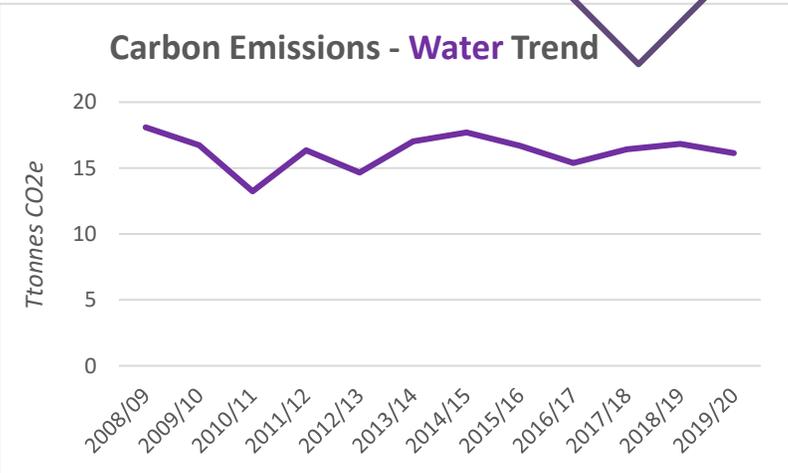
Progress and Initiatives

Carbon emissions from water decreased by 4% in 2019/20. A slight decrease in water expenditure was also recorded this year, partially due to a repayment of water charges from the previous year. It is expected that water charges will continue to rise however due to the phasing in of property rates following a revaluation.

The Portrait Gallery Café was experiencing a minor leak early in the year; therefore, the tap was repaired, and the opportunity was taken at the time to reduce the flow rate of the other taps within the café kitchen. Water saving devices were also installed within the toilets at the Gallery of Modern Art site which contributed to the decrease.

Looking ahead there will be a significant reduction in 2020/21 in our water usage due to the staff numbers being lower on site and no visitors in the galleries during Covid-19 lockdown. It is expected for this to increase again though not to previous levels; however water efficiency measures will be installed on site along with staff engagement communications for those returning to the gallery spaces.

Water emissions decreased 4%



Progress and Initiatives

The launch of our new Procurement Strategy for 2019-22 has put sustainable procurement at the heart of how NGS works. This creates a direct plan for how environmental, social and economic sustainability will be taken into consideration through the purchasing decisions made.

This strategy is the next step for embedding principles of Circular Economy and Whole-Life Costing into the procurement process. Equality & Diversity, Fair & Ethical Trading as well as Community Benefits are a few of the named priority areas that will be addressing social sustainability as well. These elements of sustainability will be embedded through

staff communication and training, ongoing monitoring of larger contracts and annual reporting. Staff training on Circular Economy has been trialled with the Estates department, with plans for more departments to be engaged as procurement training continues.

This year work has started to engage with Zero Waste Scotland and their three-year ProCirc project. Staff members across departments have been attending information events as an introduction to Circular Economy business solutions.

Our cafes continue to prioritise using local suppliers to source their food and Life Cycle Assessment (LCA) is carried out on any large purchasing decisions to help decrease in the carbon footprint of their supply chain.

Looking ahead, further training will be provided to staff on sustainable procurement and larger contracts will be used to embed sustainable procurement practises.

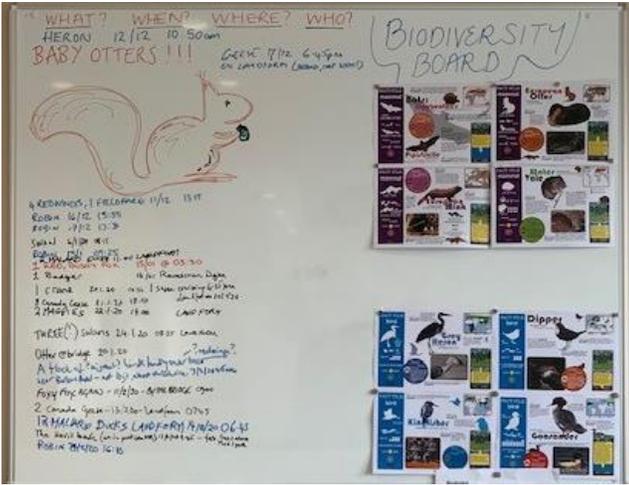
Biodiversity

Progress and Initiatives

Biodiversity on our sites continues to be a priority to help support the local wildlife and plant species.

The Gallery of Modern Art Café Garden has been productive with the orchard and raised beds providing produce which is used in the café’s cooking for visitors. This year there was additions of Angelica plants to help the beehives and Buddleia which the local butterfly population love.

Colleagues at the Gallery of Modern Art have been on wildlife watch with the new staff Biodiversity Board (below). This is a space for staff to log details of any local wildlife that they spot around the gallery site, as well as the local Water of Leith walkway which is a frequent spot for lunchtime walks. Highlights so far included baby otters, a badger, migrating Redwings and Canadian Geese. It is planned that these sightings will be regularly submitted to iRecord to help towards data collation for science and conservation.



Looking ahead

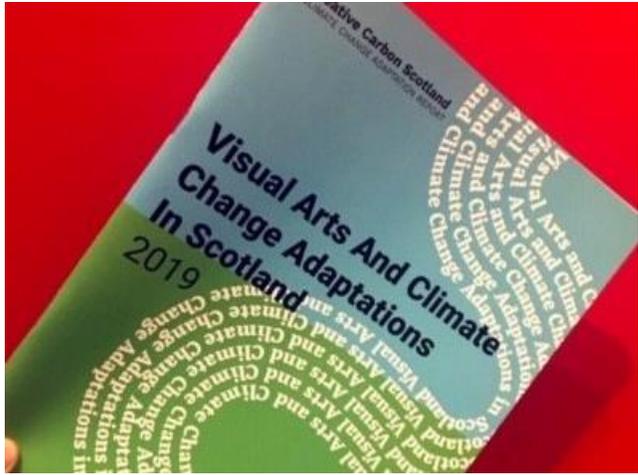
- Create a Biodiversity Action Plan
- Create resources to help engage and educate the public on biodiversity

Adaptation

Progress and Initiatives

As we start to see the impacts of Climate Change more frequently it is important for NGS to start preparing for future climate scenarios such as wetter winters, hotter summers, more frequent storms. This is important for the preservation of the Scottish art collections, our staff and visitors, our local communities and our historic gallery buildings. Adaptation is key to this and is implemented through the NGS Environmental Plan for 2018-22.

NGS had the brilliant opportunity to contribute to Creative Carbon Scotland’s research *Visual Arts and Climate Change Adaptations in Scotland*. This provided an insightful evaluation of the trends, barriers and incentives which impact cultural organisations adapting to climate change. NGS hosted CCS’s launch event for this report at the Portrait Gallery in June 2019 with attendees for a variety of art and public sector organisations. For access to the full report please visit the Creative Carbon Scotland website.



Looking ahead

- Participating in Adaptation Scotland’s Benchmarking Working Group for Public Bodies.

Staff & Visitor Engagement

Progress and Initiative

A large part of addressing sustainability in the National Galleries of Scotland is about engaging with staff and visitors on how they can contribute to reducing the carbon emissions both at NGS as well as in the local community and at home.

Within NGS the Green Team has started working together collating ideas for sustainability improvements and projects to tackle organisational behaviour change such as reducing resource use and improving energy efficiency in the office areas. The group is a great representation from every NGS department and from all our galleries sites – bringing a wealth of knowledge and being representatives for sustainable change across NGS.

The NGS Outreach Team within the Learning & Engagement Department have been involved with various projects addressing climate change and using art to help communicate this. Through the *Image Liberation Force* initiative, a group of young unemployed people based their ideas around art and activism in the face of climate change. Inspired by the painting *The Porteous Mob* (1855) by James Drummond, the group led a procession through the local town to raise their newly designed wooden template for a new world (*right*), and protest about the climate being under threat.

Theme of climate change were also highlighted in the recent NOW 6 exhibition with the internationally renowned Scottish artist Katie Paterson. The exhibition features a newly commissioned film about Paterson’s expansive 100-year artwork, *Future Library*, 2014-2114 which discussed climate change and raises questions about the future of the planet and what this generation will leave for generations to come.

Looking ahead

- Green team development of projects
- Promotion of the NGS Sustainability ethos to visitors
- Community outreach work through The Artworks Project.



Totality, 2016
Katie Paterson
Collection: Courtesy
of the Lowry
© Katie Paterson



APPENDIX: Performance Figures

The following table provides a summary of how we are performing against our carbon reduction targets.

	EMISSIONS	2008/09	2018/19	2019/20	Change from previous year
Targets	Total Carbon (CO ₂ e)	3,745	1,612	1,594	-18
	Our Target 60% by 2021/22	-	-56.86%	-57.33%	0.83%

The following chart provides a summary of how we are performing in energy use.

	SCOPES	2008/09	2018/19	2019/20	Change from previous year
Gross Emissions (Tonnes Co ₂ e)	Scope 1: Direct (gas)	1,021	688	747	8.67%
	Scope 2: Indirect (electricity generation)	2,476	820	750	-8.53%
	Scope 3: Other (electricity transmission & distribution)	193	70	64	-8.53%
	Total	3,690	1,578	1561	-1.04%

The following chart provides a summary of how we are performing in transport.

Transport	Scope 1	2008/09	2018/19	2019/20	Change from previous year
Gross Emissions (Tonnes Co ₂ e)	Direct (vehicle fleet)	8.62	12.96	14.15	9.18%

The following chart provides a summary of how we are performing in water.

Water	Scope 3	2008/09	2018/19	2019/20	Change from previous year
	Water m ³	20,639	16,006	15,330	-4.22%
	Water tonnes (CO ₂ e)	18.09	16.84	16.13	-4.23%

The following chart provides a summary of how we are performing in waste.

Waste	Scope 3	2008/09	2018/19	2019/20	Change from previous year
	Waste Total (tonnes)	117	201	148	-26.22%
	Waste Recycled (tonnes)	16	28	19	-30.58%
	Waste to Anaerobic Digestion (tonnes)	0	31	28	-11.18%
	Waste to Refuse Derived Fuel (tonnes)	0	114	73	-35.55%
	Waste to Landfill (tonnes)	97	0	0	-
	Waste (Co ₂ e) tonnes	28.38	373	268	-28.14%

Emission Factors 2019/20

Electricity Generation (kWh)	Electricity Transmission & Distribution (kWh)	Gas (kWh)	Water Supply (m3)	Water Treatment (m3)	Waste to Landfill (tonne)	Waste Recycled (tonne)	Diesel (Litre)	Petrol (Litre)
0.256	0.022	0.184	0.344	0.708	586.531	21.354	2.594	2.209

Scope Definitions

Scope 1: Direct – This includes directly consumption of gas and oil. Emissions from NGS owned fleet vehicles are included.

Scope 2: Indirect – This is for emissions which result from energy consumed which is supplied by another party. For us this is electricity generated by another party.

Scope 3: Others – This is for emissions relating to official business travel, waste disposal, water supply and treatment and electricity transmission and distribution.