



National Galleries of Scotland

Environmental Sustainability Report 2018/19



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Owner: Gillian Gibson, Sustainability Officer

Approval route: Audit & Risk Committee and Senior Leadership Team

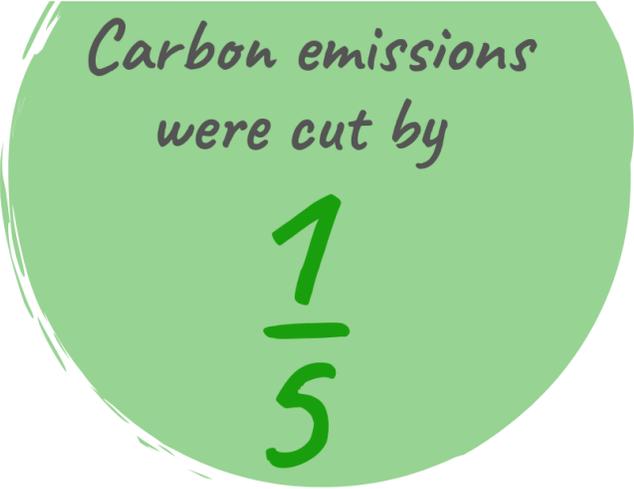
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2018/19 at a glance



Green Tourism
Gold Award
achieved in 2018



Cycle Friendly
Employer status
awarded May 2018



NGS won its
category for the
Sustrans
Workplace
Journey
Challenge



Introduction

Background

The National Galleries of Scotland (NGS) continues to make progress to become a more sustainable and efficient organisation. A new Carbon Management Plan and Environmental Management Plan launched in 2018 sets targets and outlines the NGS pathway for achieving these between 2018-2022. The plans endeavour to support the work of the Scottish Government in addressing climate change and reducing our environmental impacts.

This 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 and engagement with staff and visitors.

Our Sustainability Journey

NGS successfully reached its 2019/20 carbon reduction target of 42% two years early, prompting an overhaul of the Carbon Management Plan and Environmental Management Plan to scope out more opportunities for carbon savings and create a new target. NGS has now committed to reducing our carbon footprint by 60% by the end of the financial year of 2021/22 from our 2008/09 baseline – this will mean that we have reduced our annual emissions from 3984 tonnes of CO₂ equivalent (tCO₂) to 1524 tCO₂

2018/19 was a year of achievements for NGS as we gained the Gold standard of the Green Tourism Award for all three sites; The National Gallery, The Gallery of Modern Art (One & Two) and The Portrait Gallery. We are happy that our commitment to embedding sustainable practises in the way we run the organisation is now visible to everyone visiting the galleries.



Next Steps

In April 2019 Scottish and UK Governments declared a climate emergency. This will have an impact on NGS; it will be important over the next year to review the way that we approach all areas of our work; from internal processes, to visitor engagement and our international impact.

The launch of the Carbon Management Plan and Environmental Plan has created a new pathway of carbon saving projects and sustainability for the next few years to build on the success of reaching our previous targets. Senior Leadership Team have committed to supporting these projects with an annual budget of £50,000. The Carbon Management Plan has a strong focus on energy reduction projects due to the carbon and financial saving potential. Other projects for waste, travel, biodiversity, staff engagement and construction are visible in the Environmental Plan. Long term NGS continues to plan the National Collection Facility with future climate scenarios and low carbon options in mind.

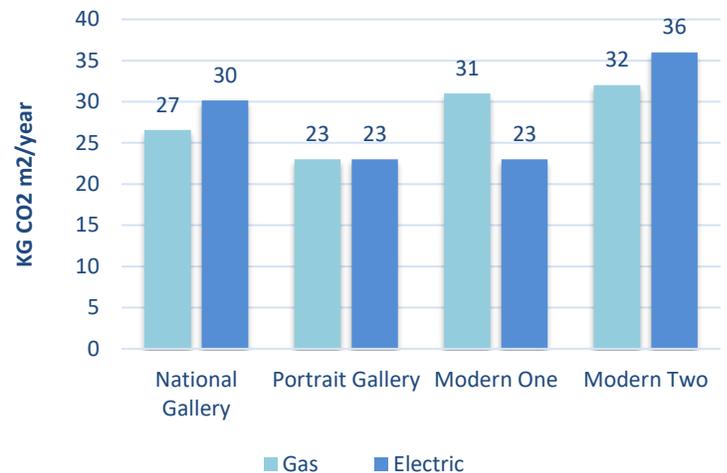
2018/19 Overall Performance

Overall carbon emissions across the National Gallery Scotland's galleries and stores continues to decrease. Between 2017/18 and the end of 2018/19 there was a 20.41% decrease in carbon emissions. This means a 57% reduction since the baseline of 2008/09.

Although this may appear that NGS is close to the new reduction target already, a major influence on this reduction is the start of the major renovation works for the Scottish National Gallery Project. Energy consumption has almost halved as parts of the building are closed off for ongoing. It is expected that the carbon emissions will fluctuate as the work continues and when the gallery is reopened fully to the public.

Decreases in carbon emissions can be seen for transport and waste even though the expenditure for these areas has increased.

Carbon Intensity of the Galleries 2018/19



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

Area	2008/09	2017/18 Performance	2018/19 Performance	Change from Baseline Year	Change from last year
Carbon from Energy ¹	3690	1982	1575	-57.32%	-20.53%
Total Energy Expenditure	£645,939	£421,380	£416,808	-35.47%	-1.09%
Carbon from Transport ¹	8.45	16.31	12.96	53.37%	-20.54%
Total Transport Expenditure	£10,205	£30,754	£40,373	295.62%	31.28%
Carbon from Waste ¹	28.38	5.46	4.37	-84.60%	-19.98%
Total Waste Expenditure	£18,553	£24,178	£30,727	65.62%	27.09%
Carbon from Water ¹	18.09	16.43	16.70	-7.67%	1.68%
Total Water Expenditure	£86,157	£50,547	£73,481	-14.71%	45.37%
Total Carbon Emissions ¹	3745	2021	1609	-57.04%	-20.41%

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

Energy Use

Progress and Initiatives

There are continuous reductions in the carbon emissions from electricity and gas within NGS with contributing factors of carbon reduction projects, the decarbonisation of the grid as well as a mild winter. More sub meters have been installed over the year so we can take strategic actions on areas of high usage and monitor each building.

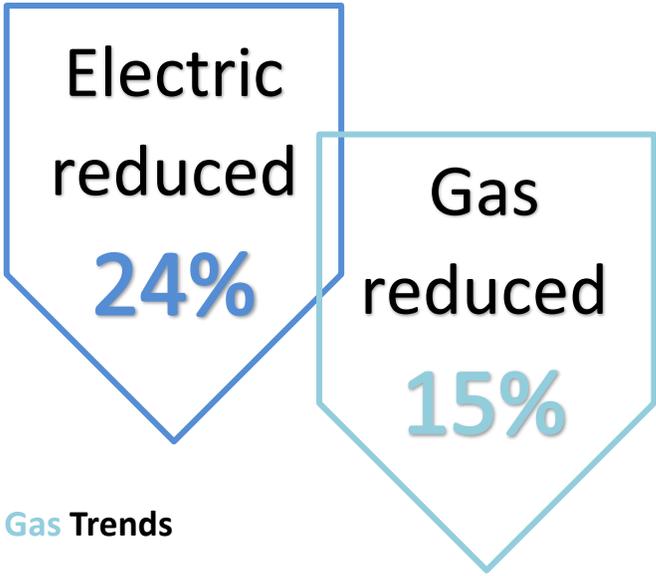
Projects included the installation of secondary glazing in the basement floor of Gallery of Modern Art One; this improves the insulation of the area as well as benefitting staff wellbeing during winters.

The IT Department have begun the roll out of 'Thin Client' desktop terminals which are significantly more energy efficient than the previous desktop and hard drives used. These will eventually be rolled out across the organisation through 2019/20.

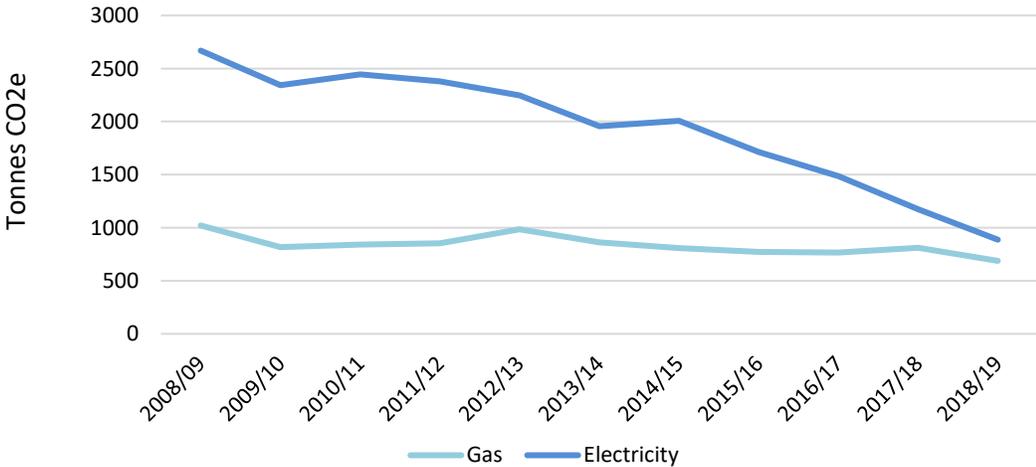
The organisation participated in its sixth WWF Earth Hour on 30 March 2019 to help raise awareness to staff as well as the wider public. We also had a 'Christmas Switch Off' campaign to encourage staff to turn off all unnecessary equipment during the festive period.

Future Projects

- Further trial of secondary glazing at The Gallery of Modern Art.
- Improvements with kitchen equipment at National Gallery and Gallery of Modern Art.
- Swap over to LED lighting in car parks
- Analyse data and adjustments to Building Management System
- Continuation of IT Thin Client roll out
- Work with Green Team, staff and engage with the wider public on the positive benefits of energy efficiency.



Carbon Emissions - Electric & Gas Trends



Transport & Travel

Progress and Initiatives

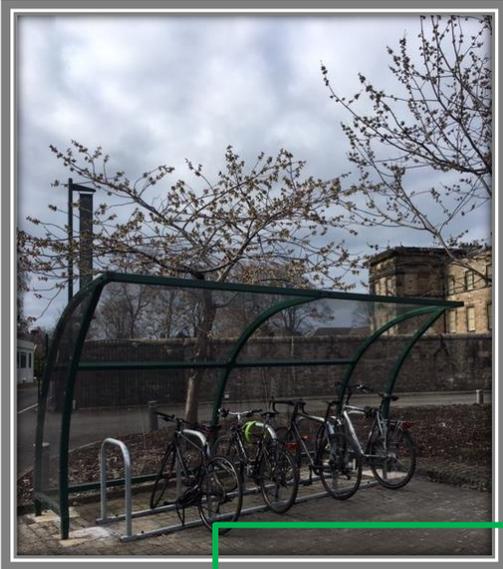
Reductions in the NGS carbon emissions from transport have occurred over 2018/19 after the introduction of the electric bus for visitors and the electric car within the staff fleet.

2018/19 was a big year for active travel at NGS. Firstly, we gained Cycle Friendly Employer status from Cycle Scotland in May 2018, with our commitment to support staff to cycle. This was followed up with the Cycle Scotland Development Fund helping to fund three new bike shelters being installed at the Gallery of Modern Art; these were installed following feedback from staff on the need for secure and sheltered parking.

In March 2019 NGS won its category in the Sustrans' Scottish Workplace Journey Challenge. This challenge encouraged staff to commute and move between sites using sustainable transport methods such as walking, cycling and public transport. This was a big success with a third of staff taking part in the competition; 2621 sustainable journeys; primarily by people choosing to walk and cycle. This saved 1435kgs of carbon in comparison to people making these journeys by car and burned nearly 280,000 calories too to the benefit of their health.

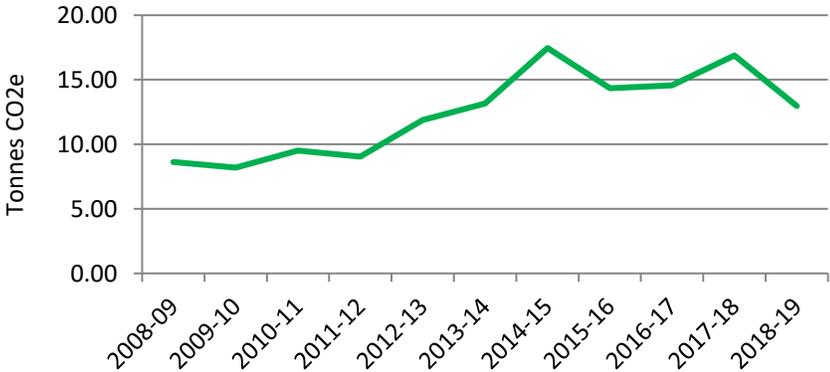
Future Projects

- Options for rationalise fleet
- Edinburgh 'Just Eat' Cycle Hire installation project to help promote sustainable transport to visitors coming to the galleries
- E-bike trial for staff



Travel emissions reduced **21%**

Carbon Emissions - Fleet Trend



Waste Management

Progress and Initiatives

This year showed significant improvements to the waste process with the introduction of segregation of the recycling on site. This resulted in a 20% reduction in waste emissions with the quality of our recycling also improving. The roll out of separate recycling bins for paper, cardboard, tins/cans, plastic bottles and glass was supported by staff in the Green Team who helped feedback and encourage engagement throughout the offices.

Challenges continue with items being mixed between recycling and general waste bins causing contamination - this contributed to the increase in waste expenditure in 2018/19. However, the number of contaminated bags of recycling has decreased by 83% since the roll out of the new bins in December 2018; helped by organisation-wide communications and an updated Recycling Policy.

Reuse of non-heritage items such as furniture has been trialled throughout NGS. Any items that will no longer be reused internally have been offered to local charities throughout Edinburgh. We have been able to help organisations such as the Edinburgh Furniture Initiative, Out of the Blue Arts and Education Trust and Millar Organics (pictured right).

Future Projects

- Reduce recycling and general waste rates
- Introduce food waste bins into staff area
- Further training on reuse and recycling of non-heritage items e.g. furniture
- Work with staff to increase awareness of how waste is dealt with and how our recycling system works
- Provide training for staff, such as café and cleaning staff who are dealing with disposing of waste



Waste
emissions
reduced
20%

Carbon Emissions - Waste Trend



Water Consumption

Progress and Initiatives

Carbon emissions from water rose slightly by 2% in 2018/19. There was a significant increase in the water expenditure which increased 45% from last year. This increase is due to the phasing in of property rates following a revaluation from our water supplier.

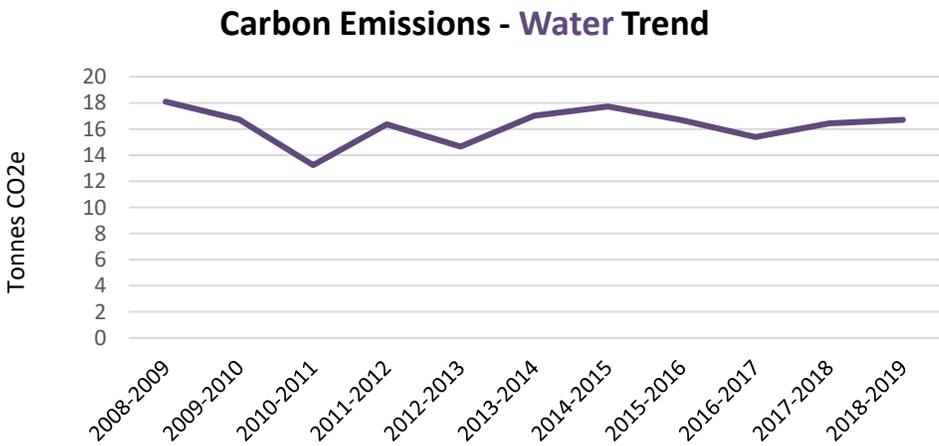
After identifying leaks in the Jencks Landform at the Gallery of Modern Art One, repairs were made in Autumn 2018. The Landform is no longer using water after these repairs which has been a noted improvement in the consumption at the Gallery of Modern Art.

More sub meters have been installed over the past year so that we can identify specific areas of significant water use. It is expected that with increased visitor numbers that the water consumption may also increase. To mitigate this, we will be scoping the use of water efficient taps and toilets.

Further investigation into how we control the environmental conditions of the gallery spaces will also be considered due to large amounts of water are consumed by our humidifiers. More efficient controls and monitoring of gallery spaces will be a priority going forward.

Future Projects

- Focus on water efficiency devices and communications throughout the galleries.
- Consider the viability of galleries for rainwater harvesting
- Engage with our cafes to investigate more efficient water use practises
- Install more water efficient devices in our staff toilet facilities



Water emissions increased 2%

Biodiversity

Progress and Initiatives

NGS continues to commit time and effort to creating spaces which support and increase biodiversity.

The gardeners tend and care for the green spaces in particular at the Gallery of Modern Art. The car park was replanted with pollinator plants which encourage bees and butterflies which have been a great addition to the site. These have helped support the two beehives in the wild garden area which were installed the previous year in partnership with Contini Restaurants who sell the honey at their restaurants in Edinburgh.

The Gallery of Modern Art Café Garden continues to thrive with the produce from the orchard and raised beds being used in the café recipes; helping promote local and low carbon food produce. The gardens don't use herbicides or pesticides and compost on sites as well.

We continue to implement our Litter Prevention Action Plan which keeps the grounds litter free in order to protect the biodiversity; the gardening team do regular checks and litter picks throughout the sites.



Future Projects

- Create a Biodiversity Action Plan
- Allow longer growth of grass areas to support biodiversity
- Create resources to help engage and educate the public on biodiversity

Sustainable Procurement

Progress and Initiatives

Sustainable Procurement is one of the seven key priorities in Our Procurement Strategy 2019-22; this supports our commitment to economic, environmental and social sustainability.

Our terms and conditions for contracts as well as our sustainability requirement for tenders were updated in 2018/19. This emphasised the need for all organisations awarded contracts with NGS to address the environmental impacts of their work and align with our environmental and carbon management plans and policies.

Work has begun to explore options for 'circular economy' with some of our larger contracts, focusing on departments such as Estates and IT which have more opportunities for circular approaches to contracts and purchases to be applied. Further trialling and staff training on this will be considered going forward.

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



Future Projects

- Provide Sustainable Procurement information and training for staff with procurement responsibilities.
- Scoping and trialling of circular economy approaches

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 of NGS.

The year kicked off with a campaign for staff to 'Chuck the Cup', encouraging people to not use single use cups for hot drinks. This was in partnership with the 2050 Climate Group as part of an initiative run by Marissa Stoffer from the Visitor Services Team who was taking part in the 2050 Young Leaders Development Programme. Staff members were offered a reusable cup for free with over 200 staff taking up the offer to use them.

As part of our Scottish Government's Social Impact Pledges for 2018 we aimed to achieve the Visit Scotland's Green Tourism Award. This award shows commitment to People, Places and Planet. NGS succeeded in gaining the highest award in August 2018. We will continue to strive for improvements on all areas of the award criteria.

As part of the internal staff award scheme, colleagues were invited to design thank you cards to use between teams. The winning design (pictured right) designed by a member of the Licensing Team reflects the NGS Values and raises awareness of the impact of plastic packaging on green products, an important message to communicate throughout the organisation.

Future Projects

- NGS Sustainability Driver launch for staff including engagement initiatives
- Green team projects being rolled out throughout the galleries
- Promotion of the NGS Sustainability ethos to visitors



'The Colours We Eat' – Laura Lloberas

APPENDIX: Performance Figures

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

	EMISSIONS	2008/09	2017/18	2018/19	Change from previous year
Targets	Total Carbon (CO ₂ e)	3,745	2,021	1,609	-20.40%
	Our Target 60% by 2021/22	-	-	46.20%	-
	Difference	-	-	10.90	-

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

	SCOPES	2008/09	2017/18	2018/19	Change from previous year
Gross Emissions (Tonnes Co ₂ e)	Scope 1: Direct (gas)	1,021	826	701	-15.13%
	Scope 2: Indirect (electricity generation)	2,476	1,075	817	-24.00%
	Scope 3: Other (electricity transmission & distribution)	193	146	112	-23.29%
	Total	3,690	2047	1630	-20.37%

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

Transport	Scope 1	2008/09	2016-17	2017-18	Change from previous year
Gross Emissions (Tonnes Co ₂ e)	Direct (vehicle fleet)	8.62	16.88	12.96	-23.22%

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

Water	Scope 3	2008/09	2017/18	2018/19	Change from previous year
	Water m ³	20,639	17,096	15,877	-7.13%
	Water tonnes (CO ₂ e)	18.09	16.43	16.7	1.64%

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

Waste	Scope 3	2008/09	2016-17	2017-18	Change from previous year
	Waste Total (tonnes)	117	389	201	-48.42%
	Waste Recycled (tonnes)	16	171	28	-83.87%
	Waste to Anaerobic Digestion (tonnes)	0	42	31	-26.84%
	Waste to Refuse Derived Fuel (tonnes)	0	119	114	-4.18%
	Waste to Landfill (tonnes)	97	0	0	0
	Waste (Co ₂ e) tonnes	28.38	722	373	-48.28%

Emission Factors 2016/17

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)
0.283	0.024	0.184	0.344	0.708	586.531	21.384	2.627	2.203

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.