



National Galleries of Scotland

Environmental Sustainability Report

2021/22



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Introduction

The National Galleries of Scotland (NGS) recognise the urgent need to play our part in combatting the Climate and Ecological Emergency. Sustainability has been part of the organisational strategy for many years now, with NGS assigning resources and colleague time to reducing our environmental impact.

Since reporting started in 2008/09, energy and carbon efficiency projects have helped the organisation steadily reduce its carbon footprint by 64%. Our Carbon and Environmental Management Plans have also focused on improving biodiversity, increasing recycling, encouraging active travel, and embedding sustainable practises in procurement and construction as well as engaging our colleagues on all matters of the environment. In 2018 NGS achieved Gold status for all our galleries through the Green Tourism Award.

In light of the Scottish Government declaring a Climate Emergency, NGS has been reassessing our work. Over the past year we have launched our new Environmental Response Plan for 2022-25, which outlines our role and key tasks for helping NGS transition to be part of a low carbon society. Identifying our three headline priority areas that NGS can make a difference (below).



Next Steps

The new Environmental Response Plan has been launched internally and on the NGS website for visitors. Our internal governance structure has been set up in early 2022 to monitor and manage the plan, and some projects are already underway. In line with Scottish Government reporting requirements, the focus for the year ahead is to now create a detailed pathway to net-zero for our direct emissions, and a plan of how we will influence our indirect emissions.

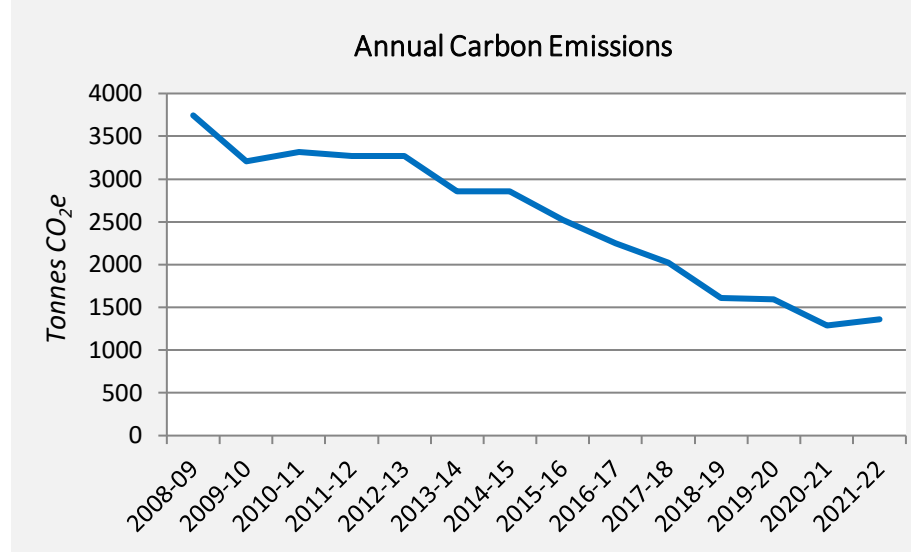
NGS Environmental Response Plan 2022-25 – Priority Areas



Performance 2021-22

2021/22 saw a continuation of Covid-19 restrictions and periods of lockdown, with the galleries reopening for visitors steadily throughout summer of 2021. Towards the end of the year more colleagues began returning to site, moving towards a phased hybrid working style for 2022/23.

NGS' emitted 1362 tCO₂e of carbon during 2021/22. This is a slight increase compared to 2020/21, however it is still significantly lower than pre-Covid emissions. Energy usage was the main contribution to the increase, as was expected with more visitors and colleagues onsite. Transport and waste emissions both rose slightly, with the cost of waste especially reflecting this increase. Water emissions stayed relatively steady however water costs continue to rise from the previous year.



Next year we expect to see carbon emissions rise again as colleagues return to work more frequently; however, we are looking to continue some of the positive behaviours that have come from Covid-19 such as the reduction in business travel, less printing and flexible working styles. The effects of the increase in utility costs in early 2022 will also be reflected in these numbers next year.

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

Area	2008/09 Baseline year	2019/20 Performance	2020/21 Performance
Carbon from Energy ¹	3690	1292	1346
Total Energy Expenditure	£645,939	£412,717	£447,362
Carbon from Transport ¹	8.45	4	9
Total Transport Expenditure	£10,205	£28,584	£24,691
Carbon from Waste ¹	28.38	1	3
Total Waste Expenditure	£18,553	£7,980	£18,133
Carbon from Water ¹	18.09	5	4
Total Water Expenditure	£86,157	£113,549	£132,283
Total Carbon Emissions ¹	3745	1302	1362

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

Engaging & Inspiring

THROUGH OUR EXHIBITIONS, LEARNING PROGRAMMES AND DIGITAL CONTENT, WE WILL FIND INCLUSIVE AND SUSTAINABLE WAYS TO ENGAGE OUR AUDIENCES IN UNDERSTANDING HOW WE CAN ALL CONTRIBUTE TO A LOW CARBON SOCIETY

Engaging with our audiences

COP26

In November 2021, National Galleries of Scotland and the National Library of Scotland partnered for an engagement project to connect Scottish audiences with the UN Climate Summit COP26 being held in Glasgow. Using the power of both organisations' collections, audiences were encouraged to learn about Scotland's industrial and agricultural heritage and consider how landscapes have evolved and will continue to do so in the future, due to climatic, societal, and technological changes. Illustrations, photographs, audio-visual content, and textual sources were collated for five locations around Scotland: Outer Hebrides, the Cairngorms, River Clyde, Fife, and Edinburgh. These materials were then used to explain environmental topics such as sea level rise, the low carbon energy transition, active travel, and sustainable food production, exploring how these related to different landscapes across Scotland.



Visitors were encouraged to create their own artistic response to imagine how these Scottish landscapes could look in the future, with submissions including photography, collage (below), and drawings. Supported by funding from Museums and Galleries Scotland (MGS), workshops were held in-person and online to encourage discussion and wider participation. Our first engagement event was a pop-up activity day in Granton, where we are planning to build our new collections care facility The Art Works. The activity day, named 'Draw Play Eat', was aimed at children and families, and supported the project narrative on active travel and sustainable food production.



As part of the Preserving Pasts, Imagining Futures project, a partnership with artist Patricia Macdonald was formed, and a series of blogs were created to address the environmental topics of sea level rise and biodiversity loss in the Highlands and Islands; using images from Patricia's work included in the NGS art collection. With MGS support, NGS was able to extend the reach of this engagement by translating the blogs into Gaelic. Throughout the year, NGS' visitor website was updated to include information on our sustainability work and all these related resources. We are hoping to see this continue next year with more of the webpages updated as we look further into our role of responsible tourism, encouraging visitors to make their visit to the galleries as sustainable as possible.

Julia Clough *Land Use in the Outer Hebrides*

Exhibitions and Outreach

The public programme for 2021-22 and associated outreach work has had themes of nature and environment running throughout. In particular, the Thomas Joshua Cooper exhibition, *The World's Edge*, was shown at the Scottish National Portrait Gallery in 2021. The display covered three decades of Cooper's work circumnavigating the globe taking photographs of the most extreme points and locations surrounding the Atlantic Ocean. An additional podcast in conversation with Cooper explored his experience of witnessing climate change first-hand through his photography.

Education outreach work has also explored themes around our environment on a local level. *The Landscape Liberation Force* project with young people in East Ayrshire, asked them to explore the area's coalmining heritage and visualise the future landscape. *The Burnfoot Community School* project also discussed some environmental themes spontaneously whilst working with the P7 class. Although the collage sessions were not being focused on this specifically, the group were encouraged to use cut out letters to write about things they care about and matter to them. Words such as climate, nature and animals were chosen by the groups to be incorporated into their art works.

The *Art Around You* project designed activities for children of all ages to look at, talk about and make their own discoveries about art. Some of these have great links with the environment such as the use of Richard Long's artwork 'River Avon Mud Fingerprint Spiral' asking participants to use nature as the subject and the material with these activities inspired by the outdoors.

Plans for 2022/23:

- Continuation of engagement working group
- Considering our exhibition programme planning for environmental links to communicate
- Scoping further improvements to support responsible tourism for visitors

Working with partners

In the run-up to the UN Climate Summit COP26, Creative Carbon Scotland brought together NGS and several of Scotland's other largest cultural agencies and institutions. A short film was created to highlight the crucial but often overlooked potential of the cultural sector to advance climate action. *Climate Action Needs Culture* was created by film company,



Picture Zero, and narrated by Scottish-Nigerian supermodel, actress and activist Eunice Olumide MBE (left). It was launched online in November 2021 to policymakers as part of the Scottish Government's Climate Ambition Zone. The launch was followed by a climate and cultural leaders panel discussion including the Director-General of the National Galleries of Scotland, Sir John Leighton, providing effective examples of collaborations in climate action. The initial group of organisations who commissioned the film are now continuing this collaboration with further events planned for 2022.

NGS curators Emma Gillespie and Stephanie Straine co-judged entries from all over Scotland as part of WWF Scotland's Great Canvas project. The wildlife and conservation charity invited people to share artworks and poetry with an environmental theme. As well as being shown at COP26, the curated artworks were also presented as an online exhibition for people to view from anywhere in the world.

Working with suppliers through procurement is also an essential part of partnership working for tackling climate change. NGS have focused on strengthening the environmental requirements within our larger contracts and trialled the Scottish Government e-learning module on Climate Change which will support colleague training on sustainable procurement in 2022/23.

AS SCOTLAND AIMS TO REACH ITS NET ZERO TARGET BEFORE 2045, WE WILL REDUCE OUR ENVIRONMENTAL IMPACT BY ADOPTING LOW CARBON ALTERNATIVES WHEREVER POSSIBLE ACROSS OUR OWN ESTATE

Achieving Net-Zero

Energy & Carbon Management

Energy

2021/22 saw an increase in carbon emission from gas and electricity from 1275 tCO₂e to 1346 tCO₂e. This was to be expected as the previous year saw unprecedented low carbon emissions due to the impacts of Covid-19. As colleagues and visitors return to site heating and electricity was anticipated to begin increasing again.

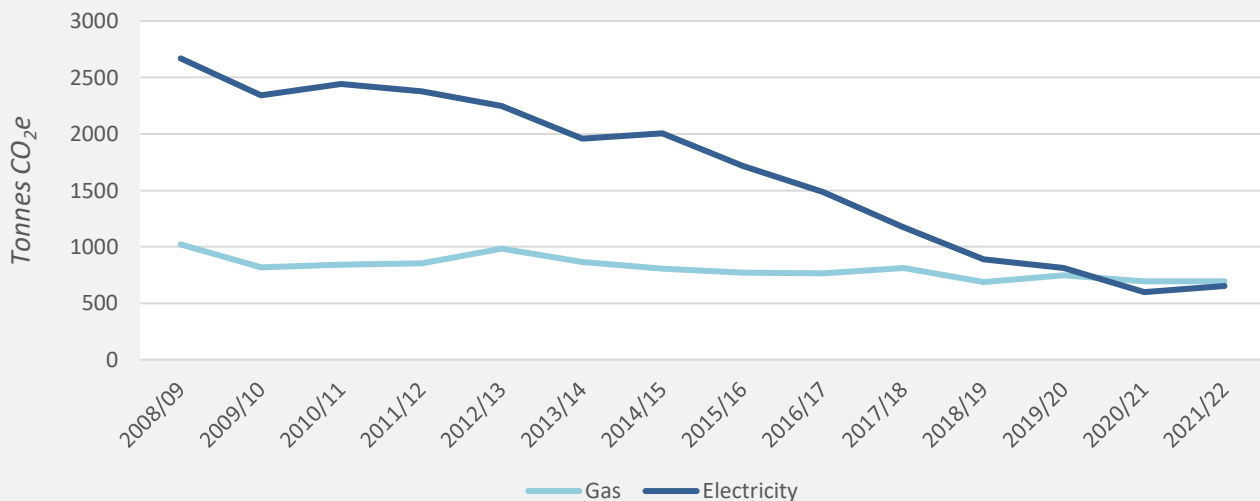
The focus for 2021/22 and 2022/23 in relation to energy is to map NGS' pathway to 'net-zero' carbon emissions. Working with consultants Harley Haddow, investigative reports have begun to identify projects to improve the fabric of the building, enhance efficiency in the existing kit and move to low carbon technologies. As carbon emissions from energy are the largest part of NGS' carbon footprint we are using the Scottish Government target year of 2038 for net-zero with the ambition that this date should be brought forward as work progresses and funding opportunities become available.

Estates projects continued throughout this year, with some contributing to energy efficiencies although not specifically identified as carbon reduction projects. In particular, the visitor and goods lifts are going through upgrades which are improving energy efficiency across the Gallery of Modern Art and plans to expand this to Granton Art Centre next year.

Plans for 2022/23:

- Expanding on Scope 3 emissions such as art transportation and procurement
- Further planning of net-zero pathway to help secure additional funding
- Monitor carbon emissions during trial year of hybrid working

Annual Carbon Emissions - Gas & Electric



Biodiversity

In late summer of 2021, biodiversity surveys were undertaken at the Gallery of Modern Art sites to help support the creation of a Biodiversity Action Plan. This site has the most potential for NGS to support and improve biodiversity due to the size of the grounds that we manage there. The survey covered the different habitats, the variety of trees and plants as well as surveying species in particular birds, bats, badgers, and otters in the surrounding area.



The grounds maintenance contract is being reviewed in 2022 and the recommendations from the survey for how we can manage the grounds in a way that will support biodiversity are to be included. Colleague and visitor engagement will also be incorporated into the Biodiversity Action Plan.

Engagement in relation to the biodiversity has continued at our Granton site where the future collections facility, The Art Works, will be built. Our Community Outreach Officer held biodiversity workshops with the curatorial team from the National Museum of Scotland (NMS). Surveys have been done by the NMS team and found some interesting species including birds of prey, invertebrates, and small mammals. Plans are ongoing to embed the aim of achieving at least 10% biodiversity gain post-construction of the new collections building.

Plans for 2022/23:

- Collation of Biodiversity Action Plan to incorporate habitat improvements, learning & engagement, and collection opportunities
- Update of grounds maintenance contract to incorporate biodiversity improvements for remit of new company contracted
- Engagement of colleagues and visitors on site

Resource Use

More waste and recycling have begun to be generated within the NGS galleries again, going from 1.5 tCO₂e in 2020/21 up to 3 tCO₂e in 2021/22.

A focus for this year has been the materials used within the exhibition process and how they can be repurposed and reused as much as possible. A Sustainability Project Assistant was hired for 9 months and focused their main project on tackling this issue. Through consultation with colleagues in the Collections & Research, Collection Management and Conservation departments; research was done into the main materials that were used during the process of an exhibition. Documents were created supporting colleagues to discuss more environmentally friendly materials and ones that are designed with circular economy in mind. The outputs of this research are now looking to be embedded into the planning process for exhibitions.

Colleagues have also been taking waste projects into their own hands, with a member of the Visitor Services department diverting 100 packets of confectionery from landfill to the Edinburgh SHRUB co-op when they realised it could not be sold in the gallery shop post Covid-19. Similarly, departments with excess materials are now advertising these on the staff intranet and distributing stationary to other teams when not needed.

Plans for 2022/23:

- Work with waste contractor to align work with Scottish Government targets of 70% of waste to recycling by 2030
- Engagement and training sessions with onsite restaurants and cafes to improve recycling
- Outline waste strategy for RIBA Stage 3 of The Art Works project

Empowering Colleagues

The main colleague engagement project last year was the creation of the new Environmental Response Plan for 2022-25. This was a whole-organisation collaboration, with each department planning out in the short, medium, and long term, how their work could help the organisation achieve net-zero carbon emissions and become more environmentally friendly. This engagement was a great opportunity to have all colleagues’ voices heard from front of house, back of house, managers through to Board members.

The launch of the plan was integrated into an internal strategy refresh and placed as one of the organisation’s key priorities along with Equalities, Diversity & Inclusion and Health & Wellbeing. The interactive strategy session was attended by 326 colleagues over a two-week period, and since then regular updates are given from key projects.

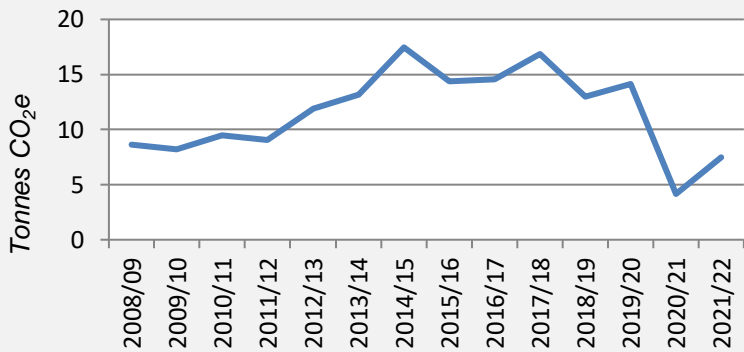


Plans for 2022/23:

- Embedding sustainability into all colleague training
- Engagement sessions for colleagues on key topics
- Green Forum formed to allow discussion of main ERP

Sustainable Travel

Carbon Emissions - Fleet Travel



Business travel carbon emissions from air and rail have stayed relatively low this year due to the business travel still being impacted by Covid-19 restrictions. Although it has increased from 5 tCO₂e in 2020/21 to 9 tCO₂e in 2021/22, this is still well below pre-Covid travel emissions recorded. With hybrid working commencing in 2022 and travel restrictions being lifted we expect to see a slight increase next year again. Feedback from a colleague survey during 2021/22 has shown the reduction in commuting being one of the top 3 benefits with working from home. As a way of understanding colleagues approaches to commuting during hybrid

working, a travel survey will be conducted in 2023/24 to identify ways to support active and low carbon travel.

Within the NGS fleet, The Art Handling department have been considering ways of reducing carbon emissions through art movement logistics and the vehicles they use. With the upcoming implementation of the City of Edinburgh Low Emissions Zone, a smaller panel van has been procured to transport art, colleagues, and equipment between our main sites and stores. The current HGV will continue to be in use for limited journeys with the view to move to an environmentally responsible choice when the time comes to replace it.

In September 2021, NGS took part in an activity day at Granton organised by the local group North Edinburgh Active Travel (NEAT). NGS attended with our electric art cargo bike to deliver ‘Art in the Open’ sessions to the 90 visitors that attended. The day included bike repair sessions, art, and exhibitions as well as information sessions about local and sustainable food.

Plans for 2022/23:

- Incorporating Scottish Government target into plans for public sector vehicles to be electric by 2025
- Monitoring travel behaviours with our Working Flexibly pilot – supporting colleague choices

WE WILL PREPARE FOR THE EFFECTS AND IMPACTS OF CLIMATE CHANGE IN ORDER TO PROTECT SCOTLAND'S WORLD-CLASS ART COLLECTION FOR FUTURE GENERATIONS

Protecting the Collection

Green Collection Care

With the care of the national art collection being the central remit for NGS, this aspect of improving sustainability impacts multiple departments and the way that we all operate. The teams have begun exploring some of the processes which can be improved to make them more environmentally friendly and reduce carbon emissions.



Research was done early in the year by Framing Conservator, Emma John on the source of the gold leaf used within the Conservation department, initially sparked from concerns around the social and ethical issues with the supply chain of gold procurement. Information requested by our suppliers found that they are members of the Responsible Jewellery Council who trade in second-hand and recycled gold. This type of social and environmental information request will be embedded into future procurement. Other elements of sustainable procurement are being considered by the Collections Management department such as reusable crates.

The Art Handling Department have been monitoring their use of plastic gloves in the handling of artwork and chemicals, with the aim to register with a recycle scheme such as TerraCycle for such specific items. Several types of paper tape are also being considered for use in art packing and are currently being tested for durability.

Plans for 2022/23:

- Green solvents research
- Taking part in Sustaining Art Conference 2022 'People, Practice, Planet in Contemporary Art Conservation'

Climate Impacts & Adaptation

NGS continued to participate in the Adaptation Scotland Benchmarking Working Group, this group has been an incredible source of support, knowledge sharing and case studies from other public sector organisations. NGS have continued to map our work against the Adaptation Capability Framework as part of this group. Adaptation also became a central discussion point with colleagues while planning our new Environmental Response Plan for 2022-25. As part of the engagement sessions with departments it was important for adaptation to be discussed simultaneously with mitigation measures, resulting in a full section of the new plan being dedicated to tackling this issue.

NGS have also been engaging with Edinburgh World Heritage's Climate Change Risk Assessment research. With the early signs of climate change already being seen, the research aim has been to understand the vulnerabilities in the historic Edinburgh buildings and associated communities, to map out adaptation interventions to protect these spaces long term.



Plans for 2022/23:

- NGS Estates department climate change risk assessment
- Embedding adaptation into all colleagues training involving climate change

APPENDIX

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

	Emissions	2008/09 (Baseline)	2020/21	2021/22
Targets	Total Carbon (CO ₂ e)	3,745	1302	1362
	Our Target 60% by 2021/22	-	-65.16%	-63.58%

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

	Scope	2008/09 (Baseline)	2020/21	2021/22
Gross Emissions (Tonnes CO ₂ e)	Scope 1: Direct (Gas)	1,021	693	695
	Scope 2: Indirect (Electricity generation)	2,476	551	599
	Scope 3: Indirect (Electricity transmission & distribution)	193	47	53
	Total	3,690	1292	1347

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

Transport	Scope	2008/09	2020/21	2021/22
Gross Emissions (Tonnes CO ₂ e)	Scope 1: Direct (Vehicle fleet)	8.62	4.16	7.5
	Scope 3: Indirect (Air and rail business travel)	-	0.85	1.25

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

Water	Scope 3	2008/09 (Baseline)	2020/21	2021/22
	Water m ³	20,639	4,323	8,979
	Water tonnes (CO ₂ e)	18.09	4.55	3.78

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

Waste	Scope 3	2008/09 (Baseline)	2020/21	2021/22
	Waste Total (tonnes)	117	76	165
	Waste Recycled (tonnes)	16	4	15
	Waste to Anaerobic Digestion (tonnes)	0	6	26
	Waste to Refuse Derived Fuel (tonnes)	0	56	95
	Waste to Landfill (tonnes)	97	0	0
	Waste (CO ₂ e) tonnes	28.38	1.42	2.89

Emission Factors 2021/22

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)
0.212	0.019	0.183	0.149	0.272	467.046	21.294	2.512	2.194

Scope Definitions

Scope 1: Direct

This includes direct 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.