



National Galleries of Scotland

Environmental Sustainability Report 2020/21



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Introduction

Background

The National Galleries of Scotland (NGS) strives to make progress to become a more sustainable and efficient organisation. Our work is steered by Our Shared Strategy, with sustainability at 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.

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 Carbon Management Plan and Environmental Management Plan was updated 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. In 2019 we gained our Green Tourism Gold Award for all NGS sites.



Impacts of Covid-19

2020/21 was an unprecedented year for all, with Covid-19 and lockdown impacting society; economically, socially, and environmentally. NGS closed buildings to visitors and colleagues along with the rest of the world and colleagues stayed at home as we transitioned to this new way of working. Business travel stopped completely, and recycling and waste onsite was dramatically reduced.

This period was important for social sustainability – supporting our communities and doing what we could to use the collection and art as a way of aiding the emotional and social impacts of a global pandemic.

Engagement with environmental sustainability moved online to support colleagues with reducing energy use and waste at home as well as sharing conversations about nature, food growing, sustainable swaps and active travel that people were adopting while home working. It was also important for communication in understanding the most sustainable options in relation to PPE when returning to site.

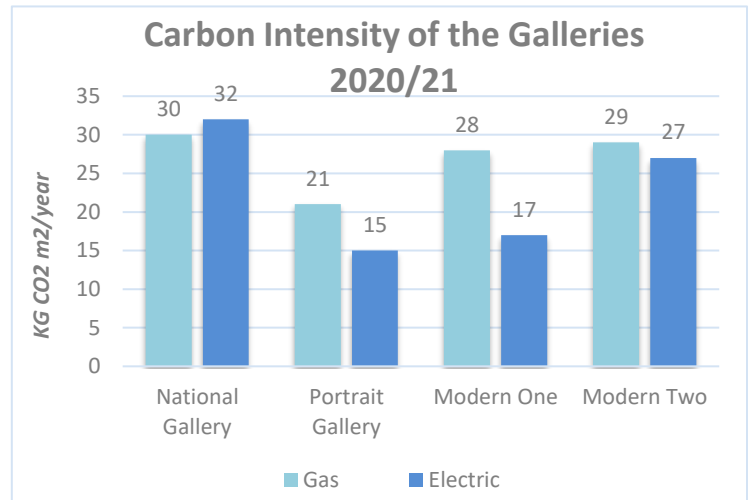
Next Steps

This year has been a chance to reassess and recalibrate the priorities for NGS as everyone navigates the challenges of coming out of lockdown. NGS have used this time to start planning a route to net-zero and actions for each department to address the Climate Emergency. With COP26 being hosted in Glasgow in November 2021 it is an encouraging time to make progress and engage with our communities.

2020/21 Overall Performance

Due to the drastic changes to the use of our buildings and the way that we approached work; the carbon reductions recorded in 2020/21 are an unrealistic portrayal of progress. As highlighted throughout lockdown, these are short-term wins for carbon reductions but as we return to working in our normal ways, these emissions will start to rise again. This is a period to reassess what a new 'Business as Usual' looks like and continue the more environmentally beneficial practises where possible.

Energy use was only marginally reduced as the gallery building need to maintain temperature and humidity levels for the preservation of the artworks. Carbon reductions were seen in transport since the fleet were minimally used however expenditure remained high due to ongoing services and insurance costs. Similarly, water consumption reduced with less visitors and staff on site, however costs increased due to fixed drainage charges.



We have omitted comparison data from this year's report since it does not provide an accurate narrative. Although not included in the overall emissions data we have given an estimate of the carbon emissions that may have occur with our staff working from home. Going forward a comparison will be with 2019/20 data which was more realistic of our energy use while fully operational.

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 | 1561 | 1292 |
| Total Energy Expenditure | £645,939 | £429,618 | £412,717 |
| Carbon from Transport ¹ | 8.45 | 14.15 | 4 |
| Total Transport Expenditure | £10,205 | £33,474 | £28,584 |
| Carbon from Waste ¹ | 28.38 | 2.71 | 1 |
| Total Waste Expenditure | £18,553 | £24,348 | £7,980 |
| Carbon from Water ¹ | 18.09 | 16.13 | 5 |
| Total Water Expenditure | £86,157 | £70,861 | £113,549 |
| Total Carbon Emissions ¹ | 3745 | 1594 | 1302 |

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

Energy & Water Use

Progress and Initiatives

In 2020/21 NGS used 1292 tonnes of carbon dioxide (CO²) equivalent for the running of the buildings during lockdown. As mentioned, the gallery buildings remained conditioned for the preservation of the artwork, with security staff on site the utilities continued to be in use but at a fraction of the normal consumption. Without visitors and staff using the cafes, kitchens and toilets the water usage was reduced dramatically.

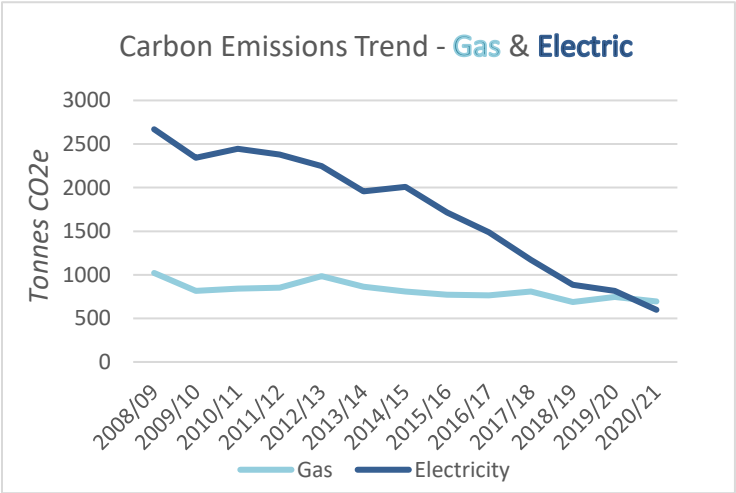
Air ventilation was highly utilised to ensure that there was enough circulation of fresh air into the gallery spaces when visitors returned. Small increases in energy and water use were seen but still did not return to the pre-Covid 19. consumption levels.

When lockdown rules allowed, NGS continued with carbon reduction projects such as the installation of more secondary glazing at Modern Two, swap over to LED lighting and installing submetering for our cafes to monitor energy usage.

To support staff in the run up to their first winter working from home, NGS partnered with Energy Saving Trust to deliver training and support for colleagues. The webinar included information and top tips for reducing energy use while keeping warm.

Looking ahead – we will

- Continue to track carbon emissions as NGS move to blended working
- Work with consultants to map a pathway to net-zero in relation to building energy use and efficiency opportunities
- Support colleagues to continue to reduce energy use on site and at home



Working from home emissions

In total 195 members of NGS staff were officially working from home through 2020/21. It was identified early on that although NGS carbon emissions may seem to reduce over the reporting year, it would be unknown how much additional carbon was being produced in our staffs' homes. Using the Ecoact Home Emissions White Paper an estimate of these emissions was calculated to give an indication of the carbon emissions that were generated. This is roughly calculated to include emissions from the use of laptops, lighting and heating which had been used at home. It was calculated that approximately an additional 17% of energy emissions last year would have been used by staff working from home. This has not been added to our carbon footprint as it is a very general estimate but something that will be considered in future.

Transport & Travel

Progress and Initiatives

Our Cycle Friendly Employer status was renewed by Cycle Scotland, showing our continued encouragement for staff to use bikes and active travel to commute to work and between the gallery sites. With a societal shift towards walking and cycling during lockdown, including the ‘Spaces for People’ changes to the Edinburgh streets, NGS are looking to support staff with more training sessions in the coming year to continue these behaviours when returning to site.

Fleet vehicles were used minimally during the past year, mainly for dropping off furniture at staff homes so they could work with the right equipment and some art movement within Edinburgh between our galleries and stores.

Going forward we will be looking to collate more information on staff commuting behaviours as we move towards a hybrid working patterns, supporting colleagues to choose active travel.

Looking ahead – we will

- Research options for a new Art Handling Truck to be in line with Edinburgh Low Emission Zones
- Engage staff to using electric vehicles.
- Develop the Business case for staff e-bike to add to fleet



The logo features the words 'Cycling' and 'Friendly' in a bold, blue, sans-serif font. The letter 'i' in 'Cycling' and the letter 'i' in 'Friendly' are replaced by a solid red circle.

Virtual Couriering

Business travel was restricted which primarily impacted the NGS loans programme. Before Covid-19 artworks were accompanied by a physical courier from the lending institution for insurance purposes; whether that was outgoing from the NGS collection or incoming artworks which NGS were borrowing. Loans activity has been much reduced over the last year as museums and galleries worldwide closed their doors and postponed planned exhibitions to future years. However, when the travel restrictions came in to force our loans programme was full and therefore we had many loans out across the world. Over the last year the majority of transport has been for returning loans. When lockdown occurred the Loans Team worked with colleagues worldwide as the profession looked to establish new protocols including ‘virtual couriering’. The use of virtual courier measures over the last year has resulted in 11 less UK trips, 9 less European trips and 6 less long-haul trips. Since March 2020 NGS have only had one in person courier.

Fine Art shipping agents in the UK are actively looking at or already using electric vehicles and they have various recycling initiatives around reuse and recycling of packing crates. We are involved in ongoing seminars with colleagues worldwide about how we can measure, record, report and offset the ‘carbon costs’ of lending and borrowing as they sector aims to standardise their approach.

Resource Use

Progress and Initiatives

A primary focus when lockdown occurred was how we could ensure our staff and communities safety but also reduce the environmental impact of the PPE that we were using. Reusable masks were sent out to all staff and made available on site. Hand sanitiser was kept in larger bottles and staff were encouraged to refill smaller personal bottles that they carried around on site. Although volume of waste has decreased on site because there have been less people and visitors, and printing was reduced by 80% - unfortunately overall trends show that there has been more general waste this year than in previous years.

Our internal Green Team identified this as an issue for staff at work and at home so collaborated to create videos for colleagues to better explain the waste hierarchy. This also included a refresh of signage around the site as a reminder for all staff. Two 'Love food Hate Waste' webinars were also hosted by Energy Saving Trust which were well received by staff, helping identify ways to reduce food waste at home.

Another important collaboration was with Ki Culture to create their digital Ki Waste Book. A brilliant resource bringing together information on best practise from cultural organisations internationally on tackling waste reduction.

When possible, we continued to offer out furniture for reuse which we can no longer use internally. Through the Circular Arts Network website, which was launched in 2020, NGS was able to organise for Dumfries and Galloway Aviation Museum as well as University of Dundee to reuse some of the retail shop display tables, diverting them from landfill.

Looking ahead – we will

- Continue with the move to digital working and reducing paper use
- Continue to improve our exhibition design from an environmental point of view



Reusable Face Coverings

Inspired by a request for face coverings from a member of Edinburgh's Covid-19 Food Share Group, NGS staff teamed up with local group at North Edinburgh Arts, A Stitch in Time, to commission local volunteers and craft professionals to make reusable face coverings.

Four images from the Scottish national collection were agreed on through polls with colleagues from the Galleries and North Edinburgh Arts:

- John Francis Campbell, 'Suilven with Rainbow' (1848)
- Mabel Royds, 'Prickly Pear Cactus' (1924)
- Mabel Royds, 'The Waterfall' (about 1938)
- Samuel John Peploe, 'Tulips - The Blue Jug' (about 1919).

The designs were printed onto polyester fabric, and the masks layered with up-cycled cotton fabric donated by NEA. Nearly 500 face coverings were made through the hard work of machinists, in their own homes, and then volunteers from the local community who added in elastic. The coverings were then delivered to volunteers and residents as a gift through seven different local groups, including Granton Community Gardeners, Scran Academy Fresh Start and North Edinburgh Arts café.

The Galleries then commissioned a further 500 face coverings for colleagues to be made by one of the original makers, Francia Frank, a locally based couturier and designer.

Adaptation

Progress and Initiatives

In 2020/21 NGS has been part of the Adaptation Scotland Benchmarking Working Group; an invaluable network of public bodies for knowledge and skill sharing. Adaptation Scotland have supported the group with multiple training opportunities from climate adaptation communication to learning about digital facilitation when processes moved online. As part of this group NGS have been mapping our work through Adaptation Capability Framework which helps identify and steer progress to fully embedded adaptation processes.

NGS participate as a speaker at the international Cultural Adaptations Conference in March 2021 on our use of the Capability Framework and how we have been approaching internal Climate Risk assessments.

Our Archives and Library Team were able to join a webinar hosted by the Scottish Council on Archives, National Records of Scotland and Creative Carbon Scotland; helping the team consider the ways climate change may impact the NGS archives and consider ways of minimising the risk of this.

The NGS Conservation Team have been supporting a Masters student from University of Glasgow with her research on environmental sustainability and the issues of time-based media – with elements of adaptation having to be considered through this work.

Looking Ahead – we will

- Expand training to raise awareness of the potential impacts of our changing climate
- Continue our progress through the Adaptation Scotland Capability Framework

Sustainable Procurement

Progress and Initiatives

NGS has continued to make progress with sustainability through our Procurement Strategy for 2019-22. Continuing to engage with training through Zero Waste Scotland the ProCirc Project whenever possible.

The Procurement Strategy is the next step for embedding principles of Circular Economy and Whole-Life Costing into contracts. Social sustainability has also been considered with priority areas such as Equality & Diversity, Fair & Ethical Trading and Community Benefits. For example, NGS transferred its investment portfolio to the COIF Charities Ethical Fund, managed by CCLA. The fund's investment policy has strong ethical and sustainable investment criteria

Effort has been focused on the larger tender exercises where maximum impact could be had, such as the Building Maintenance Services Contract and Provision of Fine Art Crates. Our Terms and Conditions were also updated to include reference to our Environmental Policy and strengthen our requirements for suppliers and contractors to take environmental factors into consideration.

Staff training is a priority, using the Scottish Government Climate Literacy eLearning tool launched in March 2021. The first step will be to trial training on the key departments who manage the larger contracts to improve sustainability knowledge.

Looking Ahead – we will

- Provide procurement training for key departments and larger contracts
- Embed circular economy questions within our tender processes.

Biodiversity

Progress and Initiative

Appreciation for nature and green spaces was a theme for many during 2020-21, especially during lockdown. NGS kept access to the grounds open at the Gallery of Modern Art during this period for the local community. While the gallery building were closed, the art sculpture trail around the site allowed locals to still enjoy art while out in nature. While the grounds were quieter, the gardening team took the opportunity to allow more of the grass to grow longer to encourage more biodiversity, it is planned for this to continue this going forward.

More bird and bat houses as well as insect hotels were installed around the grounds of the Gallery of Modern Art to support local species such as robin, wrens, tits, and woodpeckers as well as swallows and swifts in the warmer months.

As part of The Wildlife and Natural Environment (Scotland) Act 2011, NGS as a public body are required to publish a report every three years on our contributions to support and improve biodiversity. The NGS Biodiversity Report for 2018-21 is available on our website, covering all actions taken to protect biodiversity, engagement projects with visitors too.

Looking ahead – we will

- Carry out a biodiversity site survey of the Gallery of Modern Art
- Use the national collection to engage with visitors on the natural environment



*Waterfront nursery exploring the Mobile Orchard
Photo: Roberto Ricuitti*

The Mobile Orchard engagement programme

The Art Works project is currently in the planning stages designing a new building centred around the care and research of the national art collection. The 4.5-hectare site, located in North Edinburgh Granton area is currently home to the Mobile Orchard comprising of 90 Scottish heritage apple trees. NGS' Community Outreach Officer organised for three local gardening groups and the Edinburgh Waterfront Nursery to visit the site last year.

The gardening groups participate in a pruning workshop with Scottish Heritage Fruit Trees expert John Hancox. The visit included discussions with the group on the importance of the rewilded self-seeded trees shrubs and plants which have grown across the site over the past 20 years, and how to preserve them. The nursery group sessions involved planting activities using herbs and spring flowering bulbs. The children were also given some trowels and forks to dig around in the loose soil to investigate for bugs and earthworms.

A final visit was made by the National Museum of Scotland colleagues from the Natural History Curation Collection Team. Discussions are currently underway for organising ID workshops from invertebrates, and vertebrates and sustainability workshops with a local primary school.

Staff & Visitor Engagement

Progress and Initiative

The majority of staff engagement took place online in 2020-21. A primary focus was training of staff when returning to site in relation to new social distancing procedures and the use of PPE. NGS took this opportunity to include a module of training on sustainability for on site, from reducing waste and energy use to reminders of support for sustainable forms travel when commuting to and from work.

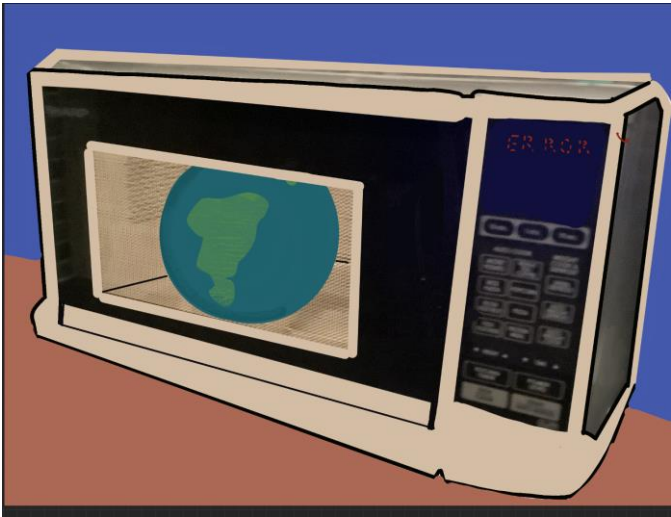
During lockdown NGS also rolled out the use of Microsoft 'Yammer', within which a 'Green Things' social channel was set up for staff to share any environmental focused projects they were doing at home, or ask for help or tips from fellow colleagues. This was a great resource for staff to stay connected which people sharing new gardening endeavours, cycle routes they had found as well as discussing energy saving tips.

Online support for communities also continued online; NGS' Sustainability Officer along with other colleagues participated in a Q&A session with the arts & cultural studies students from Queen Margaret University in Edinburgh.

The annual Schools Arts Competition was still able to take place digitally and during summer the art works were on display in the Gallery of Modern Art One. The theme for Secondary 1-3 was 'Climate Change' and Special education Schools theme was 'Amazing Nature' with an incredible response from students. Topics they covered included the depletion of natural resources, visions of future landscapes as well as the Australian forest fires from early 2020.

Looking ahead – we will

- Continue our community outreach work through The Art Works project.
- Continue sustainability training for all colleagues



Thomas Shields, South Kelvinside Academy



Mustafa Ezzo, Braidburn School

APPENDIX: Performance Figures

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

| | EMISSIONS | 2008/09 (Baseline) | 2019/20 | 2020/21 |
|---------|----------------------------------|-----------------------|---------|---------|
| Targets | Total Carbon (CO2e) | 3,745 | 1,594 | 1302 |
| | Our Target 60% by 2021/22 | - | -57.33% | -65.16% |

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

| | SCOPES | 2008/09 (Baseline) | 2019/20 | 2020/21 |
|-------------------------------------|---|-----------------------|---------|---------|
| Gross Emissions (Tonnes Co2e) | Scope 1: Direct (gas) | 1,021 | 747 | 693 |
| | Scope 2: Indirect (electricity generation) | 2,476 | 750 | 551 |
| | Scope 3: (Electricity transmission & distribution) | 193 | 64 | 47 |
| | Total | 3,690 | 1561 | 1292 |

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

| Transport | Scope 1 | 2008/09 | 2019/20 | 2020/21 |
|-------------------------------|-------------------------------|---------|---------|---------|
| Gross Emissions (Tonnes CO2e) | Direct (vehicle fleet) | 8.62 | 14.15 | 4.16 |

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

| Water | Scope 3 | 2008/09 (Baseline) | 2019/20 | 2020/21 |
|-------|----------------------------|-----------------------|---------|---------|
| | Water m3 | 20,639 | 15,330 | 4,323 |
| | Water tonnes (CO2e) | 18.09 | 16.13 | 4.55 |

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

| Waste | Scope 3 | 2008/09 (Baseline) | 2019/20 | 2020/21 |
|-------|--|-----------------------|---------|---------|
| | Waste Total (tonnes) | 117 | 148 | 76 |
| | Waste Recycled (tonnes) | 16 | 19 | 4 |
| | Waste to Anaerobic Digestion (tonnes) | 0 | 28 | 6 |
| | Waste to Refuse Derived Fuel (tonnes) | 0 | 73 | 56 |
| | Waste to Landfill (tonnes) | 97 | 0 | 0 |
| | Waste (Co2e) tonnes | 28.38 | 268 | 142 |

Emission Factors 2020/21

| 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) |
|------------------------------|---|-----------|-------------------|----------------------|---------------------------|------------------------|----------------|----------------|
| 0.233 | 0.020 | 0.184 | 0.344 | 0.708 | 458.176 | 21.317 | 2.546 | 2.168 |

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.

Working from Home Emissions

[Ecoact Homeworking White Paper](#) was used for making an approximately calculation to indicate how much carbon was generated from NGS staff working from home during 2020/21.

NGS specific data include

- 195 Full Time Equivalent staff working from home
- 7.5 hour working day

Disclaimer: although some NGS specific information has been included, the whitepaper calculations are based on generic assumptions such as average power load of desk (including laptop / monitor / phone /printer) and typical expected domestic gas usage. To name a few, these calculations do not take into consideration types of heating fuel used, number of people in household, actual heating hour, specific technology used for home working. More information would need to be gathered from staff through an on-going process to make this data more accurate.