


National Gallery of Ireland

Climate Action Roadmap 2023

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Signed: 

Director

Date: 29/09/23

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1. A Message from the Director

Dear colleagues and stakeholders,

I am pleased to introduce the National Gallery of Ireland's Climate Action Roadmap 2023. This Roadmap outlines the Gallery's plans to achieve a 51% reduction in our Greenhouse Gas emissions by 2030, a 50% increase in the improvement of energy efficiency by 2030 and net zero energy-related emissions by 2050 or sooner.

As a National Cultural Institution, we are determined to lead by example by demonstrating our commitment to climate action and the positive impact that sustainable practices can have on the environment. As a public sector body, we are committed to supporting the Government's efforts to achieve its emissions reduction targets and transition to a low-carbon economy. And as one of the country's leading free visitor attractions, we are also committed to promoting energy efficiency and the use of low-carbon and renewable energy to all our stakeholders.

Our Climate Action Roadmap aligns with the Climate Action Plan (CAP21) and the Public Sector Climate Action Mandate. It outlines a range of activities we will implement, measure and assess to reduce our emissions where feasible and under our control. Energy efficiency is a core element of our activities and while we recognise that further improving the Gallery's energy efficiency is a challenge, it is essential. These measures include upgrading our lighting, heating and cooling systems, implementing energy management systems, and promoting sustainable practices at every opportunity.

The Office of Public Works and the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media are key partners in the operation and development of the Gallery's buildings and the completion of the final phase of the Gallery's Master Development Plan. As a result, they are critical agents for the success of this Roadmap.

This Roadmap is a live document. It will be updated next at the end of September 2024 and annually thereafter.

Dr Caroline Campbell
Director
National Gallery of Ireland

2. Introduction

The Climate Action Plan 2021 (CAP21) committed that all public sector bodies must complete a Climate Action Roadmap by the end of 2022. A Climate Action Roadmap is a document which communicates how each public sector body aims to meet the requirements of the Climate Action Mandate 2022 (the Mandate) and reach its 2030 carbon and energy efficiency targets.

In their Climate Action Roadmap, public bodies should focus most attention on their plans for reducing total energy related emissions and fossil fuel related emissions from their operations in line with the targets in CAP21.

This document is the National Gallery of Ireland's Climate Action Roadmap (the Roadmap). It focuses on our energy-related greenhouse gas emissions within our operations, in line with the target of a 51% absolute reduction by 2030. This Roadmap aligns with our vision of achieving the climate actions and targets we have set ourselves.

The Roadmap has been approved by the Director of the National Gallery of Ireland. It will be reviewed and updated annually and presented to the Board of Governors and Guardians. The annual executive review will assess our climate action progress, report our gap-to-target and will incorporate any updates to the National Climate Action Plan, the Public Sector Climate Action Mandate and changes to Guidance for Roadmaps.

2.1 Areas of focus

Our targets

The Gallery aims to meet the emissions reduction and energy efficiency targets, which include a:

- 51% reduction in energy related Greenhouse Gas emissions in 2030 (2016-2018 baseline)
- 50% increase in the improvement of energy efficiency by 2030 (2009 baseline)
- net zero energy-related emissions target for 2050 at the latest

Our people

The Gallery has appointed a Climate and Sustainability Champion, an Energy Performance Officer and established a Gallery Green Team. Collectively they are focused on delivering the managerial, technological, and behavioural improvements that will help the Gallery achieve our climate action targets.

Our ways of working

The Gallery's ways of working will include staff engagement and the integration of our actions into our business planning, goals and objectives. They also include promoting best practices in the Gallery, office, the home-office and in daily life, while providing support to our staff through appropriate training. We will assess the improvements made through our actions and we will continue to report our Greenhouse Gas emissions and energy consumption, with our data being returned into the SEAI Monitoring and Reporting System as required.

Our buildings and vehicles

The largest contributor to carbon emissions is our heating, ventilation and air conditioning system (HVAC), which is powered by natural gas boilers and our Combined Heat & Power Unit. In the long term, we intend to transition to a source of energy generation that aligns with the national decarbonisation plan. To achieve this, we will develop a capital budget plan and support for decarbonisation efforts with the OPW and the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media. As we progress, we will update Energy Certificates (DEC) displayed throughout the Gallery and in our supporting buildings.

Our Gap-to-Target

The energy consumption data collected by the Gallery feeds into the SEAI's Monitoring and Reporting System, which in turn contributes towards our gap-to-target annual reporting. The SEAI uses the M&R data to model decarbonisation gap-to-target over the period to 2030. This helps us to identify our GHG emissions target to 2030. It also helps the Gallery to model and report the impact of our actions, revisit our gap-to-target annually and assess future emissions pathways.

3. Our Targets

The *Climate Action and Low Carbon Development (Amendment) Act 2021* and other compliance requirements (See Appendix One) give legal underpinning to climate action by the public sector. The Climate Action Mandate sets emission reduction and energy efficiency targets for public bodies:

- 51% reduction in GHG emissions in 2030 (2016-2018 baseline), targets set for both thermal and total emissions.
- 50% energy efficiency improvement by 2030 (2009 baseline).
- A Net Zero energy-related emissions target for 2050 at the latest.

3.1 Achieving the carbon emissions reduction target (51% reduction by 2030)

The greenhouse gas emissions target is based on energy-related carbon dioxide equivalent emissions, with the baseline average of 2016-2018 emissions. It requires energy emissions, for heating and transport, and overall energy-related emissions (including electricity) be reduced by 51%. The SEAI Monitoring and Reporting System's records for this period allows the Gallery to set our baseline.

The Gallery houses the largest fine art collection in the state. As custodians, we have an obligation to ensure that environmental conditions for the display and storage of the Collection are met. It is critical that the Collection is maintained, in an environment, with sufficient lighting to display works to the best affect, maintaining temperature range between 19 and 22 degrees Celsius and controlling relative humidity (RH) within the parameters of 55% (+/- 5 %).

In 2021, a Gallery Climate Multidisciplinary Group (the Group) was setup, in an effort to move towards a more sustainable museum climate. The Group consisted of Gallery staff from the Conservation Department, Facilities Management and OPW Engineers. The aim of the Group was to identify ways to reduce energy consumption while exploring safe and sustainable boundaries for maintaining the Collection. The Group believed that a more sustainable Gallery climate can be achieved through the efficient running and control of our lighting and heating systems and further investment in these areas.

Multidisciplinary collaboration and discussion with stakeholders and the exchange of information with international museums and institutions is essential for the Gallery to achieve understanding and support for moving towards greater sustainability. This type of research and collaborations takes investment of time and effort in terms of reaching agreement and establishing technical solutions.

All of the above elements will be assessed and incorporated into the Gallery's planning process for reaching our carbon emission reduction target.

3.2 Achieving the Energy Efficiency Target (50% Improvement by 2030)

In 2009, energy efficiency target reductions were set for the Gallery. For the energy efficiency baseline, the SEAI Monitoring & Reporting (M&R) System recorded an EnPI baseline of 361 KWh/m² (2009). By the end of 2021, the Gallery had achieved a reduction of 46.7% in energy efficiency since 2009, reducing the initial use to a new EnPI baseline of

193 KWh/m². The Gallery aims to achieve the 50% target EnPI of 181 KWh/m² well in advance of the 2030 deadline.

Working together, the OPW and the Gallery will investigate any opportunities arising from the planned energy and building audit and improve on our current E2 Building Energy Rating. The Gallery will also engage with the OPW to specify a project pipeline up to the year 2030 with specific actions, timelines, financing requirements and responsibilities. Together we have identified the following projects, which can be undertaken to help achieve our targets:

- LED light replacement programmes
- Thermostatic radiator valves, which can be fitted to radiators
- Replacing electric storage heaters with more energy efficient heaters with improved controls.
- Identifying where duct & pipe insulation, boiler upgrades and controls can provide improved energy efficiency.
- Review of the Master Development Plan with regard to sustainable mechanical and electrical technologies and their incorporation
- Researching developed Energy Monitoring and Controls Technologies
- Staff engagement through 'Reduce Your Use' and 'Optimise Power Work' programmes

The Gallery will continue to improve our analysis of energy consumption with the SEAI's Gap-to-Target tool with the aim of helping us to identify high-energy use activity or locations and identify any needs that must be addressed. Where a 'gap' exists, we will identify more energy efficiency

pathway options through specific projects on our engagement with OPW.

3.3 Our Progress to Date

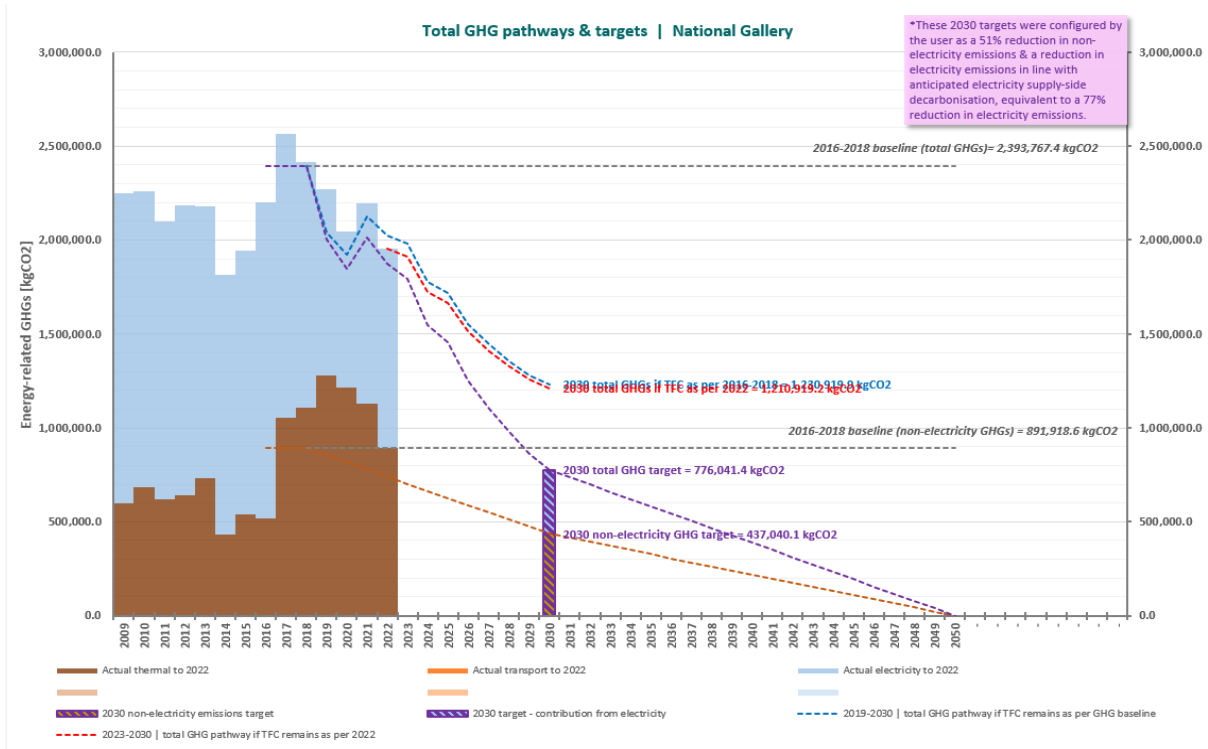
SEAI's Public Sector Monitoring and Reporting (M&R) System

incorporates recently released 2022 data which will allow for modelling of the Gallery's carbon and energy reductions toward 2030 targets.

3.4 Energy Efficiency

Following extensive renovations to the Dargan and Milltown Wings in 2017, the Gallery's Mechanical and Electrical Footprint almost doubled in size. The introduction of a Combined Heat and Power (CHP) Unit in a new Energy Centre during these renovations helped the Gallery achieve a reduction of 46.7% in energy use to an EnPI baseline of 193 KWh/m² since 2009. The Gallery hopes to achieve the 50% target EnPI of 181 KWh/m² by the end of 2023, well in advance of the 2030 deadline.

Chart One: Total Greenhouse Gas Emissions & Targets



3.5 Closing the GHG Emissions Gap

The Gallery is aware that significant action required before 2030 if we are to achieve a 51% reduction in energy related GHG emissions in 2030 (2016-2018 baseline). In 2024, with assistant of a consultant, we will assess the actions required to achieve our GHG emissions targets. This assessment will involve identifying the additional people and financial resource requirements, our project readiness and the relevant timelines to achieve the targets.

Chart Two: Total Greenhouse Gas Emissions Target



4. Our People

4.1 Leadership and Governance for Climate Action

The Gallery Green Team reports to the Director of the Gallery who is supported by the Executive Leadership Team (ELT).

The Director reports to The Board of Governors and Guardians of the National Gallery of Ireland.

Climate & Sustainability Champion

The ELT nominated **Andrew Hetherington, Head of Audience Development & Stakeholder Engagement** to act as the Interim

Climate and Sustainability Champion (C&SC). On their appointment, the permanent Director of Corporate Services will assume this role. The C&SC has responsibility for implementing and reporting on the Mandate and must be a member of the Gallery's ELT.

Energy Performance Officer

The ELT nominated **Christiaan Clotworthy, Head of Operations to act as the Energy Performance Officer (EPO).** The EPO has decision-making powers with regard to facilities management, corporate budgets and procurement, along with responsibility for corporate and financial reporting. They will;

- Lead the development of our Energy Management Plan as an integral part of our Business Planning and Performance Management processes.
- Drive the implementation of the actions and projects agreed under our Energy Management Plan.
- Assign clear responsibility for implementation of our Energy Management Plan and ensure staff have the necessary training and support to carry out these tasks.
- Ensure the setting of our annual energy saving targets.
- Ensure the timeliness and quality of our annual data reports to the SEAI Public Sector Energy
- Delegate tasks as part of annual goal setting under SEAI's Performance Monitoring & Reporting System
- Ensure Gallery data is input to SEAI's Performance Monitoring & Reporting System
- Ensure timely provision of our report for the Annual Memorandum to Government on the implementation of this Strategy.

The Gallery Green Team

The Gallery has established a *Gallery Green Team*, which reports to the ELT. The Gallery Green Team will become the integrated drivers of sustainability at the Gallery. The *Terms of Reference* for the Gallery Green Team committee have been approved by the National Gallery of Ireland *Executive Leadership Team (ELT)* and the Board of Governors and Guardians; they have also appointed the initial personnel to commence the work of the Green Team.

The Gallery Green Team's responsibilities include:

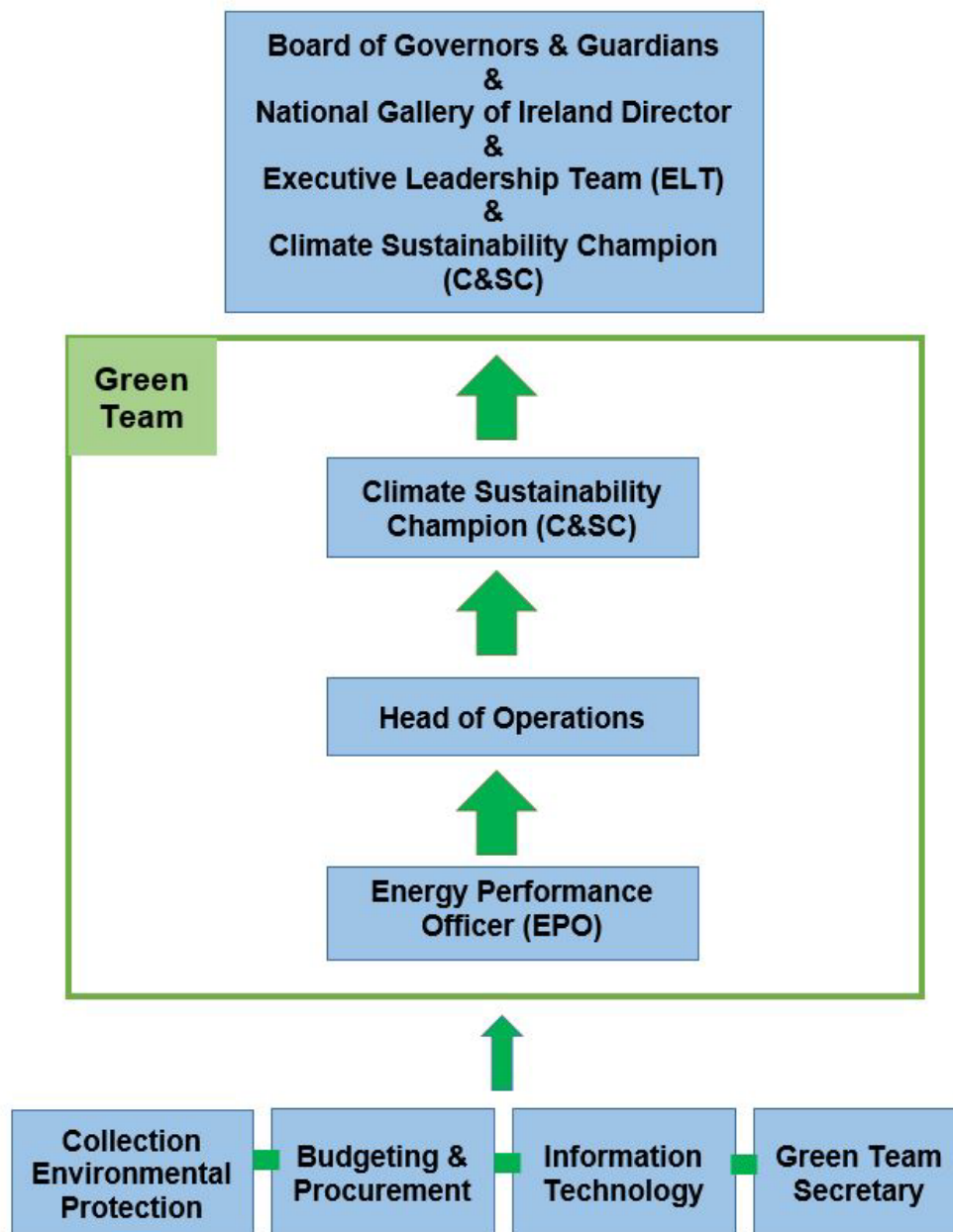
- Preparing and reviewing the Gallery's Climate Action Roadmap on an annual basis
- Presenting the Gallery's Climate Action Roadmap to the Director and the Board of Governors and Guardians for approval.
- Developing a Sustainability Policy and presenting it to the Director and the Board of Governors and Guardians for approval.
- Setting out the Gallery Green Team's technical work streams including annual workshops/events.
- Focusing on energy decarbonisation and outlining the steps required to meet or exceed our 2030 targets.
- Identify gap-to-target strategic projects for the reduction of carbon footprint
- Implementing the Gallery's Reduce Your Use (RYU) Policy

The Gallery Green Team members are:

Green Team Member	Role & Responsibility	Email
Andrew Hetherington	Climate and Sustainability Champion (C&SC). Member of Executive Leadership Team (ELT) reports directly to the Director.	ahetherington@ngi.ie
Christiaan Clotworthy Head of Operations	Holds the role of Energy Performance Officer (EPO). Oversee strategic implementation of Climate action plan with regard to future capital works	cclotworthy@ngi.ie
Ciaran Troy – Facilities Manager	Manages Facilities and Energy through seeking saving on operations, upgrades of existing plant and services for Climate Action Plan.	ctroy@ngi.ie
Bernadette Kenny Finance Business Partner	Budgeting & procurement for Climate Action Plan	bkenny@ngi.ie
Muirne Lydon Conservator	Environmental protection of the Collection	mlydon@ngi.ie
Green Team Secretary - Rotating	Secretary to NGI Green Team. Record minutes of meetings. Circulate updated information on Climate Action and Energy Saving, including the ‘Reduce your Use’ campaign to staff to encourage user engagement by staff. Monitor and respond to emails to Gallery Green Team at; greenteam@ngi.ie	NGIDirectorsOffice@ngi.ie

Please refer to *National Gallery of Ireland Green Team Terms of Reference 2022* for further detail on the Green Team.

Chart Three: Governance Structure



4.2 Engaging and Training Staff

The Gallery Green Team (and other nominated staff) will present at least one annual staff engagement workshop/event (commencing in winter 2023). Initially, this will focus on energy related emissions and over time

it will focus on wider climate issues and on reducing the Gallery's carbon footprint.

The Gallery Green Team will research, identify and deliver appropriate training, which will increase general knowledge of climate action among our ELT and key staff in 2023 and for all staff in early 2024. The Green Team will also advise the Gallery's HR department on appropriate climate action training that will be incorporated into ongoing staff learning and development. The above may involve conducting a training needs analysis in 2023 and an action plan for its delivery from 2024 onwards.

In Q4 2023, an assessment of uptake of the 'TaxSaver' and 'Bike to Work' schemes to date is underway. The Gallery is committed to identifying ways to enhance the uptake of these schemes.

The Gallery Green Team will also research and identify specific training relevant to our climate action activities, which is relevant to certain positions in the Gallery. Specialist training may be required in areas such as:

- Green Procurement
- Facilities Management
- Energy Management and Energy Conservation Measures
- Strategies appropriate to our buildings, collections and activities.

Training modules relevant to Gallery staff will be assessed and recommended by the Gallery Green Team. Modules that may be required include:

- Energy Reduction – Initiatives and Achievements

- SEAI Monitoring and Reporting Performance
- Climate Action Plan Updates – SEAI Updated Guidance
- Understanding Gap-to-Target Analysis - What You Need to Know
- Travel and Transport – Our Individual Carbon Footprint

Staff will also be made aware of information, training and other SEAI supports that are freely available. These include:

- SEAI Energy Academy
- Reduce Your Use in the Public Sector – Energy Awareness Programme
- Engaging People Accelerator
- Energy Basics and Carbon Basics
- Public Sector Partnership Programme

Where required, the Gallery Green Team will present information on any training needs analysis undertaken to relevant stakeholders. It will assess and present feedback on any staff engagement activities and training undertaken. The Gallery will support the Gallery Green Team and our staff by providing time and funding for suitable engagement activities and training.

5. Our ways of working

In 2023, the Gallery will provide the following in our Annual Report:

- A report on our impact and progress on GHG emissions
- A report on the implementation of The Mandate
- Provide a sustainable activities report
- Provide a statement on the Gallery's compliance with circular 1/2020: Procedures for offsetting the emissions associated with official air travel
- Report on the implementation of Green Public Procurement activities
- Report on our paper usage and progress toward digitisation

We will also

- Commence the development of a waste action plan that increases recycling and minimises waste generation at the Gallery.
- Cease providing disposable cups, plates and cutlery in our administrative buildings' canteens

5.1 Reducing paper use and moving to digitised processes

We will review the Gallery's paper usage, ensure recycled paper is the default and our progress towards digitisation so it is our default approach.

5.2 Energy & Environmental Management Systems and Accreditation

The Gallery Green Team together with the OPW will investigate the most appropriate form of energy management system that we plan to put in place at the Gallery. This will be achieved by:

- Assessment of annual energy usage spend against targets.

- Setting of target date for achievement of the energy management programme appropriate to the Gallery
- Identify whether formal accreditation for ISO500001 will be required for the energy management programme

5.3 Green Public Procurement

The Green Public Procurement (GPP) is a process where public authorities seek to source goods, services or works with a reduced environmental impact. The EPA has published GPP guidance and ten accompanying criteria sets that support the inclusion of sustainable and green practices into public sector procurement procedures.

The ten criteria sets published are; Road Transport Vehicles & Services; ICT Products & Services; Food & Catering Services; Indoor Cleaning Services; Office Buildings Design, Construction & Management; Indoor & Outdoor Lighting; Heating Equipment; Energy related Products and Paper Products & Printing Services.

The Green Team will introduce GPP in 2024 to support our climate action ambitions. These include:

- Green criteria for selection and award criteria when procuring all goods and services (reference Circular 20/2019), using the published GPP guidance and criteria sets.
- Setting up a system to gather and record data on GPP implementation in the Gallery, using reporting guidance and a templates provided for Government Departments

6 Our Buildings and Vehicles

The Gallery works in partnership with the OPW on the operation and development of our buildings. Along with the Department of Tourism,

Culture, Arts, Gaeltacht, Sport and Media, they are key partners for the current and future operation of our buildings, the completion of our Master Development Plan, upon which these targets are reliant, and ensuring our buildings meet all legal and compliance requirements.

6.1 Our buildings

The Gallery Green Team will seek from the OPW an up-to-date Display Energy Certificate (DEC) for all National Gallery of Ireland Buildings that are open to the public. We expect to have renewed certificates by Q4, 2023. The Gallery will ensure that any buildings leased will meet our compliance and legal requirements.

The Gallery will engage with the OPW to ensure that it will not install heating systems that use fossil fuels after 2023, unless at least one of the following exceptions apply:

- The fossil-fuel use is only through the use of electricity from the grid
- There is no technically viable non-fossil alternative (generally only related to applications for a purpose other than space heating)
- The installation of a renewable energy space heating system would increase CO2 emissions
- The fossil-fuel use is provided for backup, peaking, or operational purposes (and makes up less than 10% of annual heating energy)
- Where the direct replacement of existing fossil fuel heating is required for an emergency maintenance purpose

The Gallery will consult with the OPW in relation to these requirements if or when replacing planned heating systems works. We will also consult with the OPW to identify our buildings' retrofitting requirements.

6.2 Our vehicles

The Gallery will only purchase or lease zero-emissions vehicles where available and required from 2023. It is noted, that the National Gallery of Ireland has one van but that no further purchases are planned in 2023.

6.3 Bicycle friendly

The Gallery will continue to create bicycle friendly facilities for employees and visitors. Covered bicycle stands are currently available for visitors and staff at the Merrion Square. entrance. In Q4 2023 we will focus on the use of bicycles and shared mobility services among our employees and visitors.

7 Summary of Next Steps

1. Planning Phase (Year 1)

- Seek sustainability consultancy expertise
- Conduct initial energy audit of all buildings with the OPW
- Develop a decarbonisation strategy for our building(s) with the OPW
- Define emissions reduction targets for each building
- Identify possible building adjustments with the OPW
- Develop a capital budget plan and support for decarbonisation efforts with the OPW and the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media.

2. Monitoring and reporting (Years 1-8)

- Monitor energy usage and emissions to track progress towards targets
- Report the impact of our actions to stakeholders in our annual report to help maintain momentum and build support for our climate action efforts
- Evaluate and adjust the energy management plan as necessary based on monitoring and reporting results

3. Education and training (Years 1-8)

- Conduct staff workshops, events and awareness campaigns to encourage behavioural changes
- Develop and deliver training programmes to educate staff and building occupants on energy efficiency and emissions reduction
- Encourage staff participation in energy conservation and emissions reduction initiatives.

4. Energy efficiency improvements (Years 2-4)

- Identify all potential Reduce Your Use improvements

- Where required, work with the OPW to upgrade our lighting control systems
- Work with the OPW to Develop HVAC improvements and operational control to increase efficiency
- Work with the OPW to incorporate building adjustments, which are aligned to the National Gallery of Ireland Master Development Plan and deliver on our sustainability targets
- Assess the feasibility and implementation other ideas for energy performance improvement
- Review Master Development Plan with regard to sustainability performance with the OPW and the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media.

5. Renewable energy installations (Years 3-4)

- Conduct feasibility studies for potential alternative renewable energy sources (heat pumps, solar, biofuel, biomass)
- If/where possible, work with the OPW to transition to new form of power generation.

Appendix One – Compliance & Legal Requirements

The Gallery needs to be aware of our legal requirements relating to energy and climate action and acknowledge these in our roadmap.

These requirements include:

- **Climate Action and Low Carbon Development (Amendment) Act 2021**, which requires all public bodies to perform their functions in a manner consistent with Ireland’s climate ambition.
- **SI393/2021 Energy Performance** of buildings, which requires installation of Building Automation and Control by 2025, for

buildings with HVAC rated output over 290kW; requires installation of electric vehicle charging points in car parks for new or refurbished buildings with more than 10 car parking spaces.

- **SI381/2021 Clean Vehicles Directive**, which sets targets for the procurement of clean light and heavy-duty vehicles, with the first target falling in 2025 and the second in 2030. The definition of clean vehicle changes to zero emission vehicles in 2025.
- **SI4/2017 Energy Performance of Buildings**, which requires all new public sector buildings built since 2018 to be “nearly zero emissions”.
- **SI646/2016**, which requires that public bodies procure only energy using products and vehicles that are on the Triple E register.
- **SI426/2014**, which requires the public sector to demonstrate exemplary energy management and requires public bodies to undertake energy audits every four years.