

EXECUTIVE SUMMARY

Meeting	Corporation					Date	13.12.21
Report Title	Carbon Management Plan and position statement						
Author	Gary McGinty						
Report Type	Strategic		Monitoring	x	Administrative		For Information
Action Required	Approve		Recommend		Discuss		Note
<p>Executive Summary of Main Issues: The Carbon Management Plan was approved at the meeting of the Environmental and Sustainability working group on 3rd November and presented to the Audit Committee at its meeting on 29th November. It sets out the college's current position with respect to carbon emissions and its stepwise plan for reducing these. It is presented here in completion of the Board action 14.12.2020 Action 3:</p> <p>To bring a Report to the Board on progress achieved against the priority areas highlighted in the Environmental Management Policy.</p> <p>Also attached as Appendix 1 is an action tracker from the Environmental Management Policy, to show the actions the college is taking to reduce its carbon emissions.</p> <p>In addition to this item, the Environmental Management Policy is to be taken for recommendation and approval under Item 8 at this Board meeting.</p>							
<p>Recommendation: Board is invited to note the management plan and accept it as completion of the above action.</p>							
<p>Internal review/approval of this report: The Carbon Management Plan has been approved by the Environmental and Sustainability working group and presented to the Audit Committee.</p>							
<p>Strategic Objective: Making the college more sustainable underpins all areas of the college's strategic plan.</p>							
<p>Any relevant policy: Environmental Management Policy</p>					<p>Date Policy Approved: Recommended for approval to this meeting under Item 8.</p>		
Risk Management Implications		Explanatory Note - to include reference to any current risk on college risk register					
Impact on learners/curriculum		PRO 2 - Risk that the College fails to meet expectations of stakeholders and regulators					
Financial		n/a					
Human Resources		n/a					
Legal/ Statutory Compliance		PRO 2 - Risk that the College fails to meet expectations of stakeholders and regulators					
Equality & Diversity/ Safeguarding		n/a					
Governance		n/a					
Reputational		PRO 2 - Risk that the College fails to meet expectations of stakeholders and regulators					

DOCUMENT DETAILS

Document Name:	Carbon Management Plan (and statement of current position)
Document reference	ES/COP/xxxxxxxxx
Version	V1
Issue Date:	December 2021
Review Date:	November 2022
Document Author	Director of Estates & Facilities
Document Owner	Director of Estates & Facilities
Applicability	This document supports the College's Environmental Management Policy.
Summary	The purpose of this document is to set out the measures the College have taken and would like to take to reduce the organisations direct carbon emissions.

DOCUMENT CONTROL

Version history			
Version	Date	Reason for release/version update	Issued by
1	28/10/21	First draft	GMc

DOCUMENT APPROVAL

Approving person/body	Job Role (where applicable)	Date Approved
ELT		
Finance and Assets Corporation	Committee	
	Governing Body	

COMMUNICATION

Date sent to ELT	12/11/21
Date sent to Internal Comms	
Publication required on External Website?	Yes

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1. INTRODUCTION

This document sets out Nottingham College's overarching approach to reducing carbon emissions by defining the current position and proposed next steps.

The College recognises that it has a legal obligation to become Carbon Neutral (Net Zero) by the year 2050, as defined in the Climate Change Act 2008. In response to this legal obligation Nottingham College is committing to become Carbon Neutral by 2038 for direct emissions (scope 1 and 2) combined with a desire of achieving this position by 2030.

This plan tackles Scope 1 and 2 emissions, as defined by the Greenhouse Gas Protocol, relating to direct and indirect emissions from owned or controlled sources and purchased energy.

The College is to use academic year 2018/19 as the baseline year for calculating the amount of Carbon emitted by the organisation. The College is to set the optimistic target of becoming Carbon Neutral, for direct emissions, by the year 2038.

2. BACKGROUND

2.1 Why does this matter

In addition to adhering to the Climate Change Act 2008 and subsequent directives issued on the need to reduce the worlds carbon emissions, Nottingham College has a moral duty to do their part to combat the global warming crisis.

2.2. Our Goal

Directives from government indicate that the preferred date for becoming carbon neutral should be before 2030. Nottingham City Council have set themselves the target of becoming carbon neutral by 2028. As part of the Nottingham community the College should aim for a similar status.

The desired objective for Nottingham College is to reduce direct (scope 1 & 2) carbon emissions by 100% by 2030 and to endeavour to reduce scope 3 emissions when practically reasonable possible.

A reasonable objective for Nottingham College is to reduce direct (scope 1 & 2) carbon emissions by 100% by 2038, using 2018/19 as the baseline measurement year.

2018/19 has been selected as the Baseline year as it is the first full, settled year after merger.

2.3. Carbon emissions in the baseline year

As can be seen from the table and breakdown below the total CO₂e across the estate for the academic year September 2018 to August 2019 was;

- Gross Internal Area 103,813 m²
- Gross Carbon Emissions 3,239 tCO₂e
- Intensity Ratio per m² 0.03 *

*Excludes any Scope 1 F Gas – leakage stated as zero, require logs to confirm

Emissions area	Status	Description	For Nottingham College	Total carbon emission 2018/19
Scope 1	IN SCOPE – 2038	Direct greenhouse emissions from sources controlled or owned by an organisation, e.g. fuels in boilers, vehicles.	Gas used across properties Oil used in properties Fuel used in vehicles	1,569 34 18
Scope 2	IN SCOPE – 2038	Indirect greenhouse emissions from electricity purchased and used by an organisation (fuels to generate electricity).	Electricity used across properties	1,618
Scope 3	OUT OF SCOPE - 2038	Indirect greenhouse from activities of the organisation but from sources not owned or controlled.	Examples includes, travel by students, teachers, water/ waste, and 3 rd party residences	TBC, not quantified
Total				3,239

In summary the above confirms that the gross (scope 1 and 2) carbon emissions in 2018/19 was 3,239 tCO₂e

2.4. What have we done since 2018/19

The estates relocation and disposals programme which completed in April 2021, with disposal of the final campus, has had a major positive impact on the College's carbon emissions. After accounting for the addition of the City Hub building this programme, it contributed a reduction of 1,039 tCO₂e. Reducing the size of the College's motor vehicle fleet has contributed a further reduction of 15 tCO₂e. The gross (scope 1 and 2) carbon emissions in 2020/21 was 2,184 tCO₂e, a 33% reduction on the baseline position.

The above sums are based on limited use of the City Hub between October 2020 and August 2021. The sums exclude F-Gas leakage.

3. MEASURES

3.1. Review of existing historic estate

A comparison between building gross internal area and energy used has enabled the College to identify the worst performing five buildings with regards to CO₂ emissions and energy consumption. In ranked order the worst performing buildings are:

1. Adams Building
2. Basford Hall
3. High Pavement
4. London Road
5. Arthur Mee

When considering actual space provided against ESFA space provision guidance, the Adams Building, Arthur Mee and London Road rank as the worst performers across the Nottingham College estate. These three buildings are of varying old age, which means the fabric of their envelopes is significantly behind the standards present in more modern buildings, i.e. they have poor levels of thermal insulation. The mechanical and electrical systems within these buildings have poor energy performance standards compared to that required under current Building Regulations.

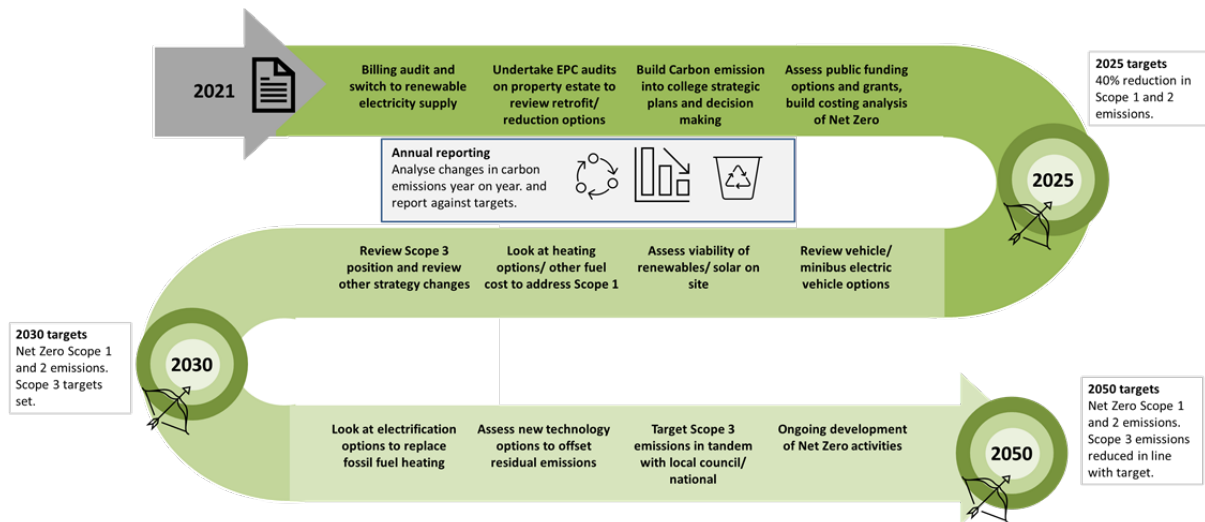
Basford Hall and High Pavement are two relatively new buildings both of which are well utilised. This indicates the problem lies with the mechanical and electrical assets that are fitted within these buildings or the performance or operation of these. For example, the lighting in both buildings is not up to current standards so may benefit from being changed to LED.

The temporary marquees at Basford will be a contributing factor to the poor energy/CO2 performance of this campus.

3.2. Carbon Emissions Reduction Plan Overview 2021 - 2030

Progressing from the current position to becoming a carbon neutral college is dependent on changes in operational practice/ occupant behaviour and financially driven projects that physically changes assets.

These measures will be brought in to play through a controlled programme which commences with lower cost changes between 2021 and 2025 followed by a phase of mid to high-cost changes between 2025 and 2038. This indicative roadmap is shown below:



3.3. Carbon Reduction Short Term Plan (2021 to 2025)

A four step programme is to be introduced which if fully implemented could reduce the College's CO₂ emissions by circa 1400 tCO₂e per year.

Step 1

Switch to buying electric from a green supplier.

In April 2022 the College's new energy supply contracts commence. The electricity purchased through these contracts is from a 100% renewable energy source. The switch to this energy provider will further reduce the College's carbon emissions. Based on estimated energy consumption the switch to renewable energy will reduce the College's carbon emissions by circa 1,000 tCO₂e.

This will create an estimated cumulative total of 68% reduction on the baseline position.

The actual reduction maybe different after factoring in full utilisation of the City Hub and F-Gas leakage.

Step 2

Across all campuses the behaviour of building users' needs to be changed. Staff and students need to take responsibility for lowering energy and water consumption by acting appropriately. An education programme is to be launched which encourages staff and students to save energy and water by:

Turning electrical devices off when not in use,

- Not leaving monitors, TV's etc. on standby when not in use
- Turning lights off when the room is not in use,
- Turning off air conditioning when the room is not in use
- Turning down the heating whenever possible,
- Reporting dripping taps to the Estates Helpdesk,
- Reporting faulty heating or lighting assets to the Estates Helpdesk
- Etc.

Step 3

Focusing on the five poor performing buildings identified through the review of the existing estate. The operation of the heating, ventilation, cooling and lighting systems in these buildings will be closely analysed to determine if changes can be made to these systems. This analysis will consist of a full Energy Audit which assesses the performance and operation of the heating, ventilation, cooling and lighting systems, along with an analysis of energy consumption against time.

This will allow site specific carbon reduction target setting, determine any "quick win" one-off optimisation initiatives (such as temperature and motion sensors, controls, supply load balancing, water taps) and any renewable capital investment programmes such as LED lighting, boiler replacements and building insulation. This process will indicate why relatively modern buildings such as the Basford Centre and High Pavement are performing so badly.

Step 4

Simultaneously to step 3 evaluate the viability of self-generation of electricity through renewables. Predominantly this would be through the installation of photovoltaic solar panels.

Step 5

Implement changes identified through Steps 3 and 4. The delivery of this programme will primarily be controlled by affordability because the required capital will need to come from either grant funding or monies released by the College.

Prioritisation of the investment programme will be determined through business cases for each works package which will consider payback period, carbon reduction benefit and user satisfaction. Investment prioritisation will also consider changes to the estates strategy.

Step 6

Replacement of the existing college fleet of vehicles with electric powered vehicles, commencing with the vans used by various departments.

3.4. Strategic Carbon Reduction Opportunities

The worst performing building is the Adams Building and the Arthur Mee Centre sits within the College's top five. Replacement of these two buildings with modern facilities of an appropriate size will reduce CO₂ emissions by circa 450 tCO₂e.

The opportunity to move away from the Adams Building and the Arthur Mee Centre is to be evaluated, through the estates strategy programme. Achieving this would be advantageous because reducing the carbon emissions from these buildings will be difficult and expensive e.g. the Adams Building has single glazed windows, for the building to become thermally efficient these would need to be replaced with triple glazed units that comply with current Building Regulations. This would be an expensive change due to the size of the property and the building's Grade 2* listed status.

3.5. Carbon Reduction Medium Term Plan (2025 to 2038)

The extent of delivery of the Short Term Plan coupled with strategic estates changes (relocations, expansions, disposals, etc.) will set the scene for the objectives of Medium Term Plan. Hence it is difficult to determine at this juncture how many measures will need to be taken to move from the carbon emissions position in 2025 to net zero position for scope 1 and 2 emissions in 2038. The expected emphasis of this phase will be on moving away from heating generated by fossil fuels and self-generation of electricity and further improving the energy efficiency of buildings.

3.6. Scope 3 emissions

Whilst this plan focuses on scope 1 and 2 emissions, addressing scope 3 emissions will also be considered.

Scope 3 emissions are indirect emissions that occur in the value chain, for example through a reduction in flights taken on college business and travel to college on public transport.

Significant work on waste management and procurement of local food products has been completed over the last three years. This work has contributed to reduction in these emissions.

Going forward the college will continue to work on the various strands which contribute towards scope 3 emissions, including working with Nottingham City Council regarding travel to and from the college by staff, students and visitors.

4.0. Monitoring

The delivery of this Carbon Management Plan will be monitored by the Environmental and Sustainability Working Group. From 2022 an annual progress report will be issued for consideration by the Executive Leadership Team.

5.0. RESPONSIBILITIES

The CFO has overall responsibility and accountability for achieving compliance with Carbon Management legislation. The Director of Estates and Facilities will act as the appointed Senior Manager responsible for the Carbon Management Plan and reporting on progress.

6.0. DEFINITIONS

The technical information within this document has been developed through collaboration with Compliance 365, a consultancy that specialises in energy management and decarbonisation.

D1: Definitions of Scopes

Term	Definition	Example	Included in 2038 Carbon Zero plan?
Scope 1	Scope 1 emissions are direct emissions from owned or controlled sources	Natural gas Petrol Diesel LPG Refrigerants Biomass (release of GHGs through the combustion process, excluding CO ₂)	Yes
Scope 2	Scope 2 emissions are indirect emissions from the generation of purchased energy	Electricity (location based and market based)	Yes
Scope 3	Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions	Transport (commuting) Transport (business) Procurement of goods and services Waste water treatment Waste collection/treatment	No

D2:

Scope 1 F-Gas – leakage: refers to gas escaping from air conditioning systems. At the time of producing this calculation, information relating to this was not held by the College.

Appendix 1

Nottingham College – Environmental Management Policy
Delivering the objectives defined by the FE Climate Action Map

Updated: 16 November 2021

These objectives are to be delivered over three phases Phase 1 “Emerging” is to be completed / in place and operational by Sept 2022 Phase 2 “Established” is to be completed / in place and operational by Sept 2023 Phase 3 “Leading” is to be completed / in place and operational by Sept 2024 NOTE: Wherever possible the measures described in Phase 2 and 3 will be brought into play before their due dates							
	Priority Area	Strategy/How	Progress to date	Next steps (if applicable)	Proposed Outcome	Owner	Target Completion Date
Phase 1: “Emerging” is to be completed / in place and operational by Sept 2022							
1	Gather college views on sustainability	Through an Environmental Working Group	Group formed which includes student participants	Continue to reach out. Develop campus sustainability champions	Campuses take ownership and champion sustainability at a local level.	GMc	April 2022
2	Establish Sustainability Committee	Environmental Working Group formed			Environmental Working Group meeting regularly and actively participating in delivery of FE Climate Action Map	GMc	Complete

3	Upskill on measuring emissions	Refer to the College's Carbon Management Plan					
4	Measure college carbon footprint using existing data	Refer to the College's Carbon Management Plan					
5	Meet with leaders to set net zero target	Revised Environmental Management policy to be issued to ELT	Revised document produced	Corporation sign off the College's Carbon Management Plan	Proposed Environmental Policy and Carbon Management Plan adopted by the College	GMc	December 2021
6	Publish targets	Produce overview and publish on existing Staffnet	Page now live on Staffnet: https://nottinghamcollegeacuk.sharepoint.com/sites/sustainability	Add the adopted Proposed Environmental Policy and Carbon Management Plan	Sharing of information which encourages participation in environmental and sustainability activities	SH	December 2021
7	Demonstrate commitment to becoming carbon neutral by Signing the Global Climate Letter	https://www.educationracetozero.org/home The link above sets out the benefits of this measure	Not started - to commence after the college adopts a Carbon Management plan	Gather information on the letter	Nottingham College join other prestigious education providers by publicly committing to become carbon neutral.	GMc	January 2022
8	Ensure recycling/signage is available in every building	Build on successful work already in place	Waste currently segregated	Improve signage so to encourage		MM	January 2022

				correct use of bins			
9	Deliver carbon literacy training to staff and students		The college currently offer applicable courses e.g. Understanding Environmental Sustainability (TQUK Level 2 Certificate)			DF/ RP/CS	Ongoing
10	Implement strategies to reduce energy use	Production of accurate data which can be shared and compared	Driving forward an energy efficiency agenda this year is not conducive with a Covid management strategy which requires high volumes of ventilation.	Collect data on energy usage compared to GLH or students on campus so campuses can be compared.	League tables which compare campuses. Energy usage / reduction becomes a measurable target.	GMC	Commence in Sept 22
11	Negotiate with food suppliers for sustainable food options		Purchasing from local suppliers is well progressed; fruit / vegetables and bread come from suppliers within the City of Nottingham. More of our deliveries are delivered in 1 vehicle only (fresh, ambient, chilled & frozen) thus keeping carbon footprint low. Waste oil is removed and becomes biofuel.	Ensure our suppliers are working toward a sustainable future with the introduction of electric delivery vehicles. Introduction of more vegan menu items and, for example as part of our	Removal of all plastics from service delivery. Move towards a food offer with more plant based ingredients.	MM	On going

				<p>theme days “meat free Monday “</p> <p>Cut down on plastic packaging waste by preparing more made to order sandwiches</p>			
Phase 2: “Established” is to be completed / in place and operational by Sept 2023							
12	Develop and implement plan to measure Scope 3 emissions					MH	Latest date Sept 2023
13	Incorporate net zero ambitions in strategic plan and establish ring-fenced budget					GMc	Latest date Sept 2023
14	Sign SDG Accord https://www.sdgaccord.org/	Evaluate what this means for Nottingham College	The SDG Accord is the university and college sector's collective response to the sustainable development goals (SDGs). ... To inspire, celebrate and advance the critical role that education has in delivering the SDGs and the value it brings to governments, business and wider society	Apply when the above actions are significantly progressed / complete		GMc	Latest date Sept 2023
15	Modify estates strategy in-line with net zero target	To be included in Part 3 of the proposed estates strategy				GMc	July 2022

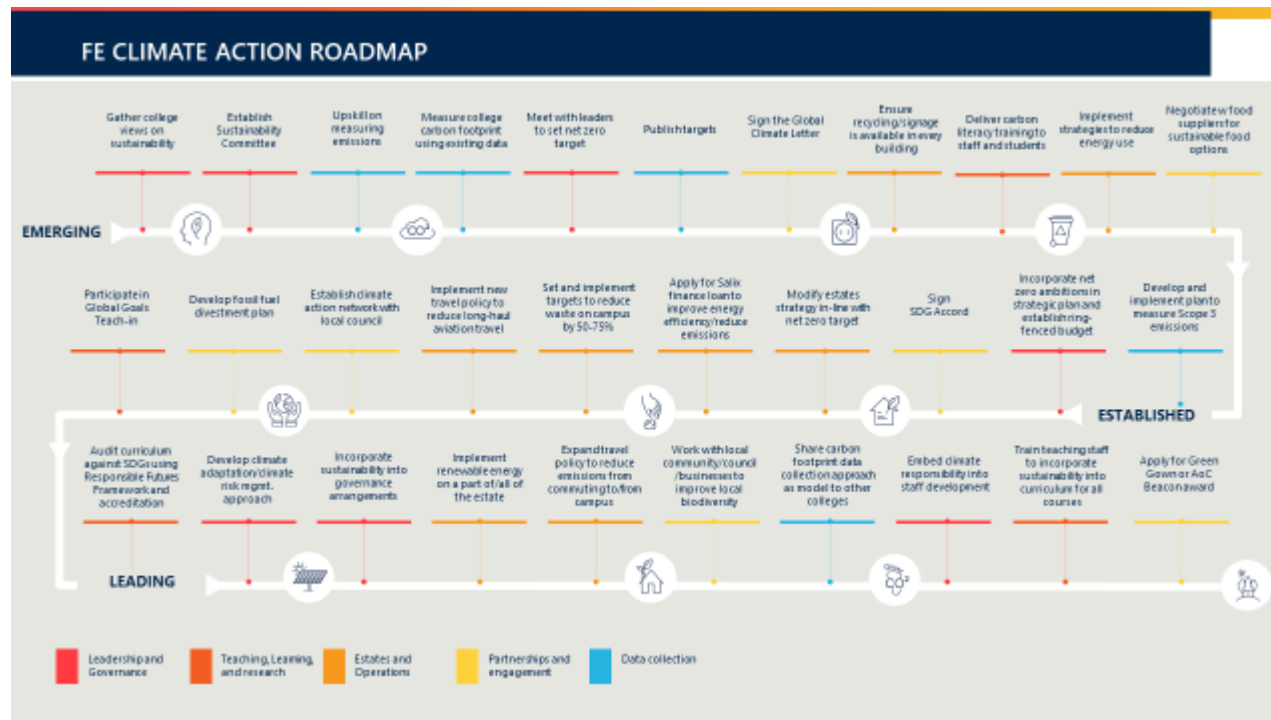
16	Apply for Salix finance loan to improve energy efficiency/reduce emissions	Continue to apply for all available grants (not loans)	Application to ESFA Sustainability fund in 2020 failed	Submit new application when the next round of grant funding becomes available. Prepare projects, up to RIBA stage 2, so the college ready and able to make for swift application.	Obtain grant funding towards the physical change measures described in the Carbon Management plan	JS/GMc	Latest date Sept 2023
17	Set and implement targets to reduce waste on campus by 50-75%	Build on success of existing programme	50% of waste recycled Use of single use plastics.			MM	Latest date Sept 2022
18	Implement new travel policy to reduce long-haul aviation travel					TBC	Latest date Sept 2023
19	Establish climate action network with local council	Established liaison with Notts Council CN30 group					Complete
20	Develop fossil fuel divestment plan	Addressed through Carbon Management Plan					
21	Participate in Global Goals Teach-in					TBC	Latest date Sept 2023

Phase 3: "Leading" is to be completed / in place and operational by Sept 2024							
22	Audit curriculum against SDGs using Responsible Futures Framework and accreditation					TBC	Latest date Sept 2024
23	Develop climate adaptation/climate risk mgmt. approach					GMc	Latest date Sept 2024
24	Incorporate sustainability into governance arrangements					TBC	Latest date Sept 2024
25	Implement renewable energy on a part of/all of the estate	Refer to Carbon Management plan					
26	Expand travel policy to reduce emissions from commuting to/from campus	Utilise existing network points Notts CN28 Group				GMc	Latest date Sept 2024
27	Work with local community/council/businesses to improve local biodiversity	Utilise existing network points Notts CN28 Group	Preliminary discussions with the Council have commenced			GMc	Latest date Sept 2024
28	Share carbon footprint data collection approach as model to other colleges	Consider – when our systems reach this maturity point				GMc	Latest date Sept 2024
29	Embed climate responsibility into staff development					DF	Latest date Sept 2024
30	Train teaching staff to incorporate sustainability into		Level 2 course on Sustainability and Environment has been launched.	Incorporate sustainability		RP/CS	Latest date Sept 2024

	curriculum for all courses			into more courses.			
31	Apply for Green Gown or AoC Beacon award	Apply when the above actions are significantly progressed / complete				GMc	Latest date Sept 2024

Reference information:

FE Climate Action Roadmap



FE Climate Action Roadmap Activities by Area

