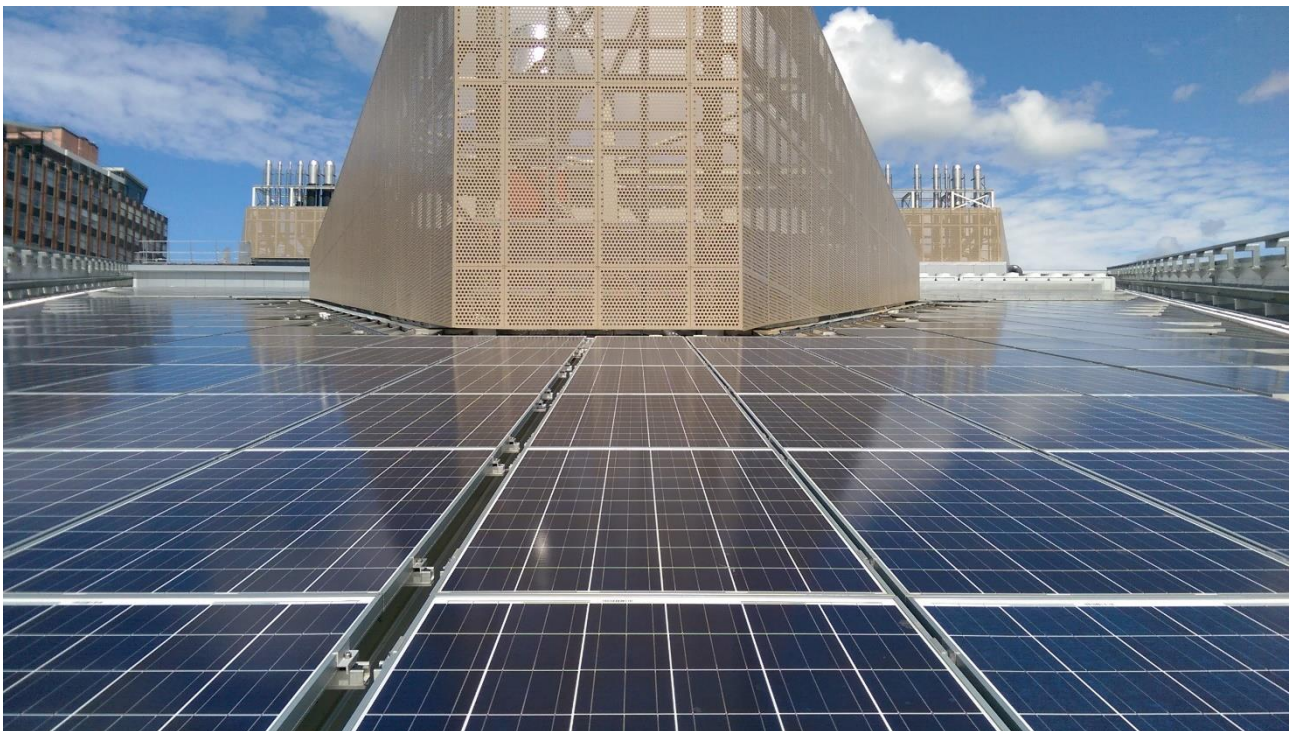


Vision Paper
Delivering Climate Neutral, Climate Resilient Districts
June 2021



1.0 Project Summary – Developing a Pathway to Net Zero by Delivering 100% Renewable Climate Neutral, Climate Resilient Districts.

This paper describes an innovative vision that uses a ‘Whole Systems’ approach to develop climate projects that will develop 100% renewable heat, power, transport, adaptation and wellbeing solutions that are socially inclusive and involve local communities. The solutions identified aim to directly engage with and solve the challenges faced in becoming climate neutral at scale and at speed. The projects are multi stakeholder and collaborative. They span across all operational University assets in the central belt of Scotland and they include projects that will enable us to deliver our University [Climate Change and Social Responsibility Policy and Plan](#). There are currently ten projects within the vision. More may be added!

1.1 Project Scope

By ‘climate neutral’ we simply mean energy carbon neutral in operation and climate resilient. That’s our starting point and core ethos. The University’s [‘Sustainable Strathclyde’](#) team is leading and investing in a series of technical and commercial studies all focused on creating climate neutral ‘districts’ by making use of our natural and physical resources under our direct control or in partnership with others. The solutions are being designed to be scaleable and most importantly replicable so that they can be deployed at all University and Local Authority districts as appropriate. Half are infrastructure related. Half focus on systems and process. All enable climate action.

The solutions seek to integrate new and innovative ways of thinking and planning, such as the use of emerging smart energy systems like grid balancing, energy storage and demand side response. The solutions will be designed to be future proofed. Importantly, the infrastructure solutions will also bring together climate change mitigation with adaptation elements and integrate them into the fabric and infrastructure of the different project areas, making them accessible for all and seeking to reduce greenhouse gas emissions at scale and enable climate resilience. The solutions will involve community aspects and seek to be socially inclusive where possible. We will work with community groups and organisations as we progress this work. The work will build on emerging climate policy and planning, for instance the emerging Heat Networks Act. Wherever possible the work seeks to integrate with existing and planned city and region infrastructure projects.

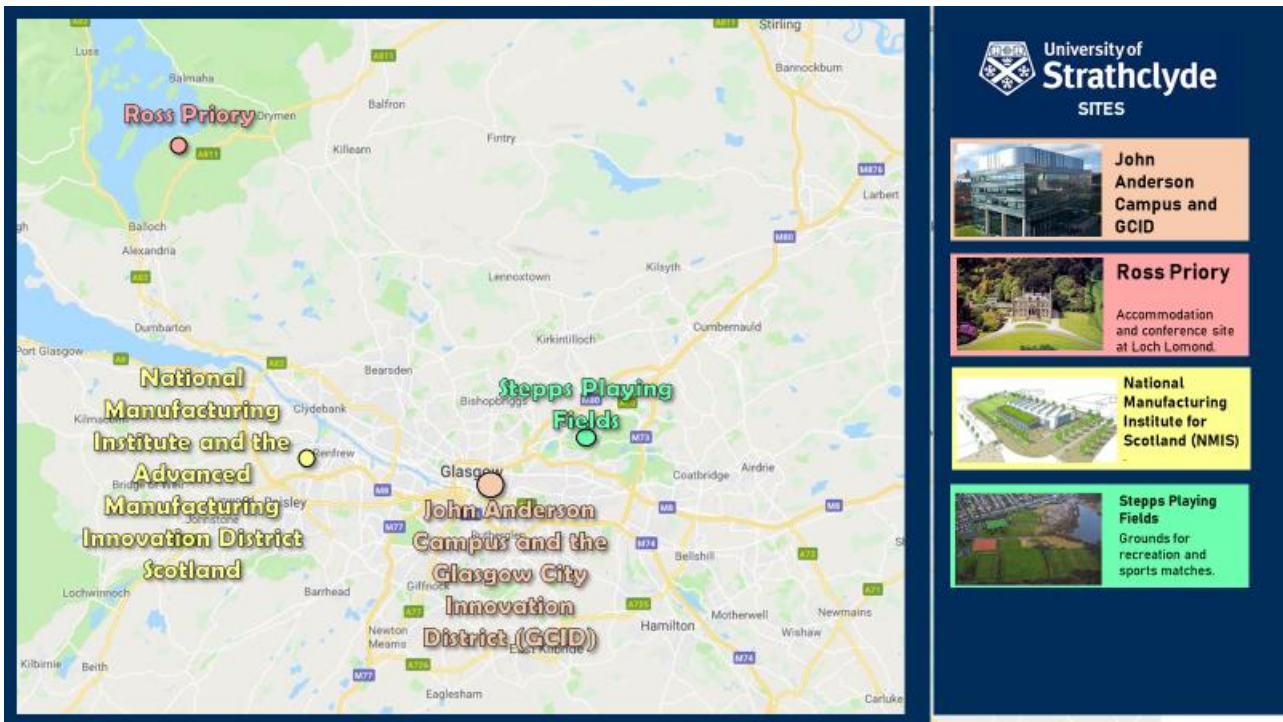
Each project ensures that there is a linkage provided between research, innovation and education as a shared learning outcome for all participants and the community.

The location of the projects is shown below. Several are focused on the main city centre campus but they also cover the other operational assets across west central Scotland. The solutions and infrastructure identified by the studies will be costed and prioritised so that they can be funded and also scaled up and replicated across the region and the HE sector.

The technical outputs of the vision are shared with the University community and with wider city and region stakeholder groups such as Sustainable Glasgow, Climate Ready Clyde etc.

1.2 Funding this work

The University is deploying its SALIX Development Budget funds to carry out this work and will also seek funds from others as appropriate. The University is delivering ‘in-kind’ assistance with the project by acting as the project lead for the work being carried out. This will be given by a senior staff member as noted in the contact section.



Location plan for the 'Districts' Vision

2.0 Lead Partner, Partner Institutions and Businesses

This work is led by the University of Strathclyde in partnership with Glasgow City Council and other stakeholders identified below. The Project Sponsor for the University is Dr Roddy Yarr, Assistant Director (Sustainability) e: rodny.yarr@strath.ac.uk

The work and scope noted here responds to the climate emergency by linking with existing collaborations, planned works and stakeholder groups in city and region who all bring forward innovative approaches for making the step-change in action needed and to help create opportunities of a new green economy.

Letters of support from each contributor have been received and a Steering Group for oversight and feedback is formed for each project as appropriate.

- Glasgow City Council
- Renfrewshire Council
- Strathclyde Passenger Transport
- Clyde Gateway
- Sustrans
- Scottish Futures Trust
- Scottish Enterprise
- SALIX Finance
- Scottish Water Horizons
- NHS Greater Glasgow and Clyde
- Climate Ready Clyde
- Local Energy Scotland

- Zero Waste Scotland
- Scottish Power Energy Networks
- Wheatley Group
- Construction Scotland Innovation Centre

3.0 Proposed Project and Context

3.1 Introduction

The schemes identified seek to ‘join the dots’ with other climate impact work underway in the city and region. For instance, learning from the Low Carbon Heat and Energy Efficiency Strategy (LHEES) work that Glasgow City Council, Renfrewshire Council, North Lanarkshire and West Dunbartonshire Council are bringing together. We are also working with the ‘Ruggedised’ project in Glasgow led by Glasgow City Council. The ‘Places for Everyone’ active travel work in Glasgow (University of Strathclyde, City of Glasgow College, Glasgow City Council and Sustrans). The City Deal Avenues project in Glasgow. Clyde Mission and the collaborative work of Climate Ready Clyde across city and region. ‘EnergyREV’ work carried out by the University with others.

The schemes proposed here can be scaled up locally and at a regional or sector level. If successful, they could be replicated across the region and across the HE sector. The Glasgow City Climate Innovation District work could be replicated at other Innovation Districts in Glasgow and elsewhere.

The strategic importance of this collaboration is that it responds to Scotgov targets for Net Zero by 2045; the ‘Programme for Government’ and the Ministerial Letter sent to SFC; the Climate Change Update of December 2020 and to work going on in the HE/FE sector. The work on developing a [Climate Neutral Glasgow City Innovation District](#) also helps to deliver the city’s aspirations for the imminent COP26 meeting in Glasgow.

3.2 Climate Emergency Strategic Planning

An increased understanding, awareness and need to tackle climate change and move towards a ‘net-zero’ economy that ensures social inclusion will enable the University and the city region to positively respond to this major societal issue. A deepening understanding of the importance of climate change has caused a recent and rapid increase in the number of climate change or climate-related laws and guidance that applies to the University and a need to take robust and radical action:

- **Scotland – Climate Change (Scotland) Act (2009)** set same targets as for the UK, but with an interim target of 42% by 2020.
- **New Scottish Climate Change Bill** – Sets a new target of 78% by 2030 and net zero by 2045.
- **Programme for Government**, September 2019 and the Ministerial Letter - contains clear reference to decarbonisation and climate action. Through the Ministerial letter, Scotgov requires SFC to work with Universities to develop a more ambitious agenda on climate change with increased sector commitments on greenhouse gas emissions reduction, plastic pollution and contribution to the SDGs.
- **Second Scottish Climate Adaptation Programme and the City Region Adaptation Plan, June 2021** – To deliver climate change adaptation solutions that cope with a rapidly changing climate with intensive rainstorms; higher average and extremes of temperature.

- **Climate Change Plan Update** - in December 2020, the use of a whole systems approach was embedded and the University has adopted this approach. The new Heat Networks Act also brings forward requirements for action on low carbon heating.
- **The University's Climate Change and Social Responsibility Policy and Plan**

During the summer of 2019, the Scottish and UK governments declared a climate emergency and brought forward a climate 'net zero' target of 2045 and 2050 respectively. Local Authorities where the University has research and teaching facilities have all declared climate emergency (Glasgow City Council, North Lanarkshire, Renfrewshire, West Dunbartonshire). Glasgow City Council has set out a 'net zero' target for emissions by 2030. The University of Strathclyde has developed a robust response to climate emergency and net zero. This response builds on the University's existing Climate Change and Social Responsibility policies.

<https://www.strath.ac.uk/sustainablestrathclyde/policyguidelines/>

https://www.strath.ac.uk/media/ps/estatesmanagement/sustainability/sustainabilitytemp/SD_and_Climate_Change_Policy.pdf

https://www.strath.ac.uk/media/ps/purchasing/procurementmanual/Socio_Economic_Impact_and_Community_Benefits_Strategy_200318.pdf.pagespeed.ce.018esqse9A.pdf

3.3 University Context for Net Zero and Climate Action

The declaration of a climate emergency noted above includes all greenhouse gases (CO₂, Methane, Nitrous Oxide, refrigerant gases) and if the timescales set out by government are to be met, this requires radical change to occur rapidly and 'at scale'. The University has sets out a net zero pathway with a 70% reduction in emissions by 2025; 80% by 2030 and 100% by 2040.

The University has an excellent track record of engaging with climate change mitigation and adaptation and working with others to deliver positive change. The University is a member of Sustainable Glasgow, led by Glasgow City Council. The University is also a member of Climate Ready Clyde which consists of 15 private and public organisations dedicated to implementing climate adaptation solutions. The University's Energy Systems Research Unit is a partner on the Council's pan European smart cities project 'Ruggedised'.

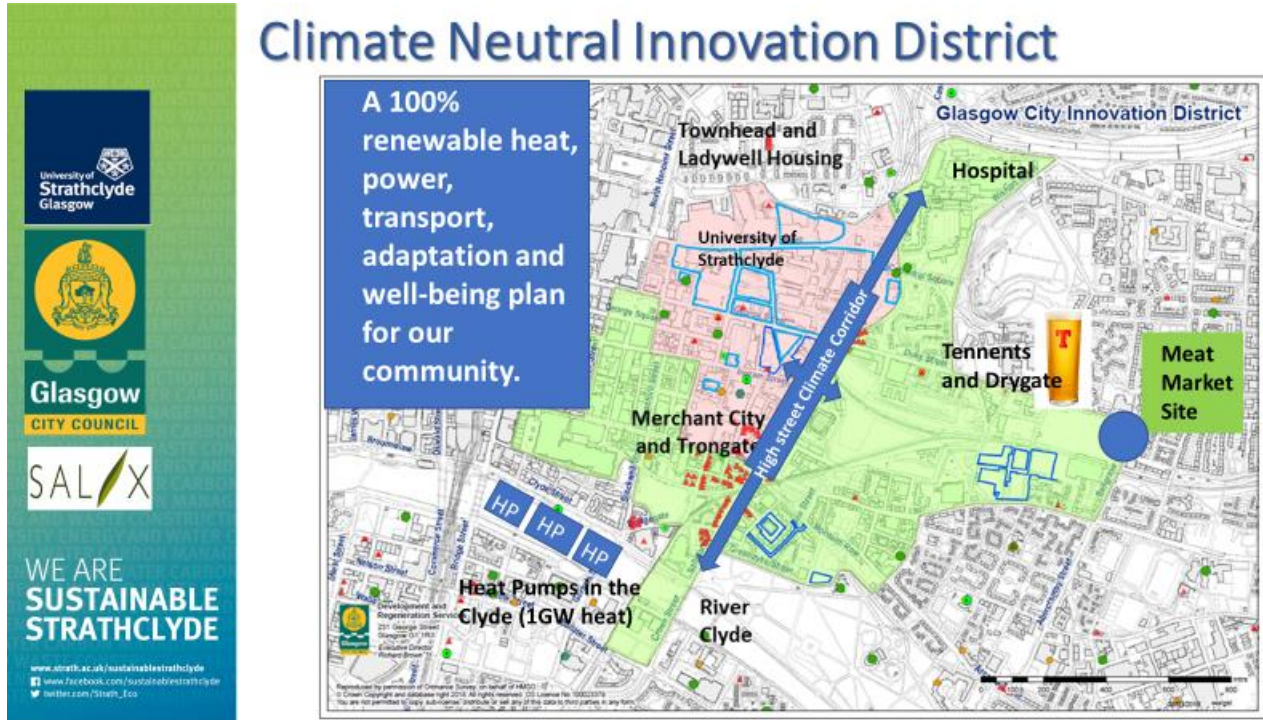
The University also has a strong track record of acting on climate issues and delivering capital works such as the £20M District Energy scheme completed in 2018. This major infrastructure project is delivering financial and carbon savings. The DH network is a long term legacy for the city of Glasgow to build on and to further decentralise energy generation and to create a more resilient city and region using renewable energy systems. It is hoped that the projects that will emerge from this collaboration can similarly act as a catalyst for 'at scale' climate action and delivery in Glasgow, Renfrewshire and in the West Dunbartonshire and the Loch Lomond and Trossachs National Park.

As a socially progressive University, we are determined to actively tackle climate change and to help to positively contribute to this hugely challenging global societal issue.

4.0 Projects - Summary

Project 1 – Climate Neutral Glasgow City Innovation District

The vision includes the creation of a [Climate Neutral Innovation District](#) in Glasgow (within the City Innovation District) with the creation of a series of ‘climate corridors’, an ecosystem of solutions that bring forward decarbonisation and resilience for communities living and working in this zone of the city.



The technical team working on this consists of: **Atkins** with support from the **Energy Systems Catapult**, **Star Renewable Energy**, **Comsof**, **MiniBems**, **Ikigai Capital** and **Smarter Grid Solutions**.

Who is doing the work?

Technical Team

- University of Strathclyde
- Glasgow City Council
- Atkins (Lead consultant)
- UK Energy Systems Catapult
- The 'Weegie Board'
 - Star Renewable Energy
 - Comsof
 - Mini Bems
- Ikigai Capital
- Smarter Grid Solutions

Our Steering Group

- Clyde Gateway
- SALX
- Local Energy Scotland
- Scottish Futures Trust
- ClimateReadyClyde
- SP Energy Networks
- Zero Waste Scotland
- NHS Greater Glasgow and Clyde
- Wheatley Group
- Green network
- Scottish Enterprise
- Scottish Water Horizons
- Sustrans

The technical work started on the 14th of August 2020 and is due to report in July 2021. An interim report has been issued and shared with the Climate Neutral Innovation District Steering Group and with Sustainable Glasgow Partnership Board of which the University is a member. The report will be included within a wider consultation exercise once ready.

The final report will include a matrix of costed and prioritised climate solutions for the city centre Innovation District. The solutions identified will include details of the financial and funding models for each as well as how such scalar solutions might be procured and operated. The reports produced include a set of recommendations and a 'next steps' section that includes a delivery programme.

Why is this work important? – It enables a climate neutral Glasgow City Innovation District; a first for the University; it also brings forward the prospect of an at scale and at speed green investment in the order of circa £0.5BN; leading by example.

Heat Potential in the River Clyde



WE ARE SUSTAINABLE STRATHCLYDE
www.strath.ac.uk/sustainablestrathclyde
www.facebook.com/sustainablestrathclyde
twitter.com/strath_eco

- 175km long
- 3,250km² catchment
- 10m³/s flow rate over the weir (95%)
- 200MW potential at the weir and pipe bridge, we need 100MW
- Heat discharges added from STWs (circa 20MW)

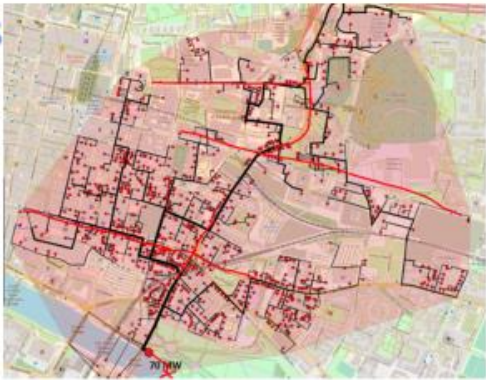
Identified Early Interventions

Opportunity for Climate Corridors delivered through Avenues project to be aligned with climate neutral requirements, enabling:

- › High Street as an Avenue – a climate corridor
- › Include and enable District Heating Network infrastructure, e.g. High Street
- › Include power and digital/control and adaptation infrastructure
- › Personal mobility, active travel and well being
- › More roadspace priority for bus, engaging with Transport Strategy

Reducing Risk for Investment and Financing

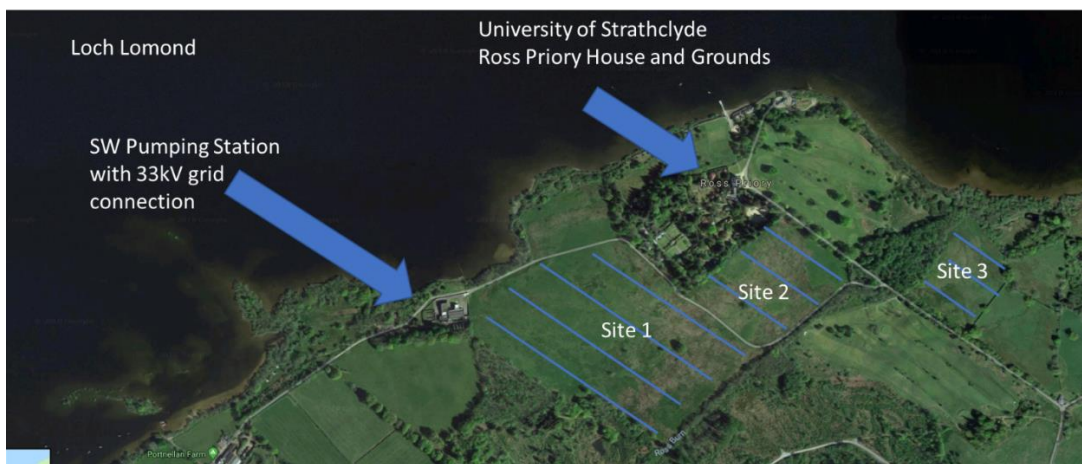
- › Realistic Contract and Commercial Risk Allocation.
- › e.g. enabling GI surveys for DHN through public funding.



Project 2 – Creating a 21MW Community Solar Array, Energy Storage and Smart Grid System at Ross Priory, Gartocharn, Loch Lomond and Trossachs National Park – Achieving Net Zero at scale with in-built smart energy and transport systems.

Early stages feasibility work to develop this proposal to generate clean energy on rough grazing land that is lying fallow and to also enable the land to act as a long term carbon sink. Using the natural land resource to decarbonise the Ross Priory facility but to also do so in collaboration with Scottish Water and the local community. The Scottish Water strategic water pumping station is adjacent to the site and this solar development would enable it to be carbon neutral for energy. We have had early discussions with the Kilmarnock Community Development Trust with assistance from Local Energy Scotland who have funded the feasibility work so far. The early stage work will lead to a more in depth analysis involving site constraints; planning aspects; a cost plan; and potential pathway for delivery. Including a cost for Landscape and Visual Impact Assessment and Environmental Screening Opinion to enable planning discussions with the National Park Authority.

Why is this work important? – It enables an energy carbon neutral Ross Priory facility; it also decarbonizes a strategic asset pumping water to residents in Glasgow; removing oil usage for heating; displacing CO2e emissions by generating zero emission power on site; generating a return on investment; and with wider community benefits.



Aerial view of Ross Priory showing the Scottish Water pumping station and the potential sites for a 13MW community solar array.



Proposal for a 21MW community solar array in partnership with Scottish Water at Ross Priory on 75 acres of rough grazing land. Taken from desktop study.

Project 3 – The National Manufacturing Institute for Scotland (NMIS) and the Advanced Manufacturing Innovation District Scotland (AMIDS) - A Transport and Energy Carbon Neutral Development.

This development is currently under construction and it will be the first University building that will operate as energy carbon neutral. A first for Scotland at this scale. There is no gas connection and instead heat is provided in the form of an ambient district energy network from the local sewage treatment works. Energy is being provided by a large rooftop solar array and a car park PV canopy for EV charging and E Bikes. The energy and transport collaboration involves: Renfrewshire Council; SALIX, Scottish Water; LCITP, SFC, Buro Happold, HLM, Davie McCulloch.

Why is it important? – It enables an energy carbon neutral NMIS; a University first, leading by example; it also supports the wider AMIDS site sustainability objectives.

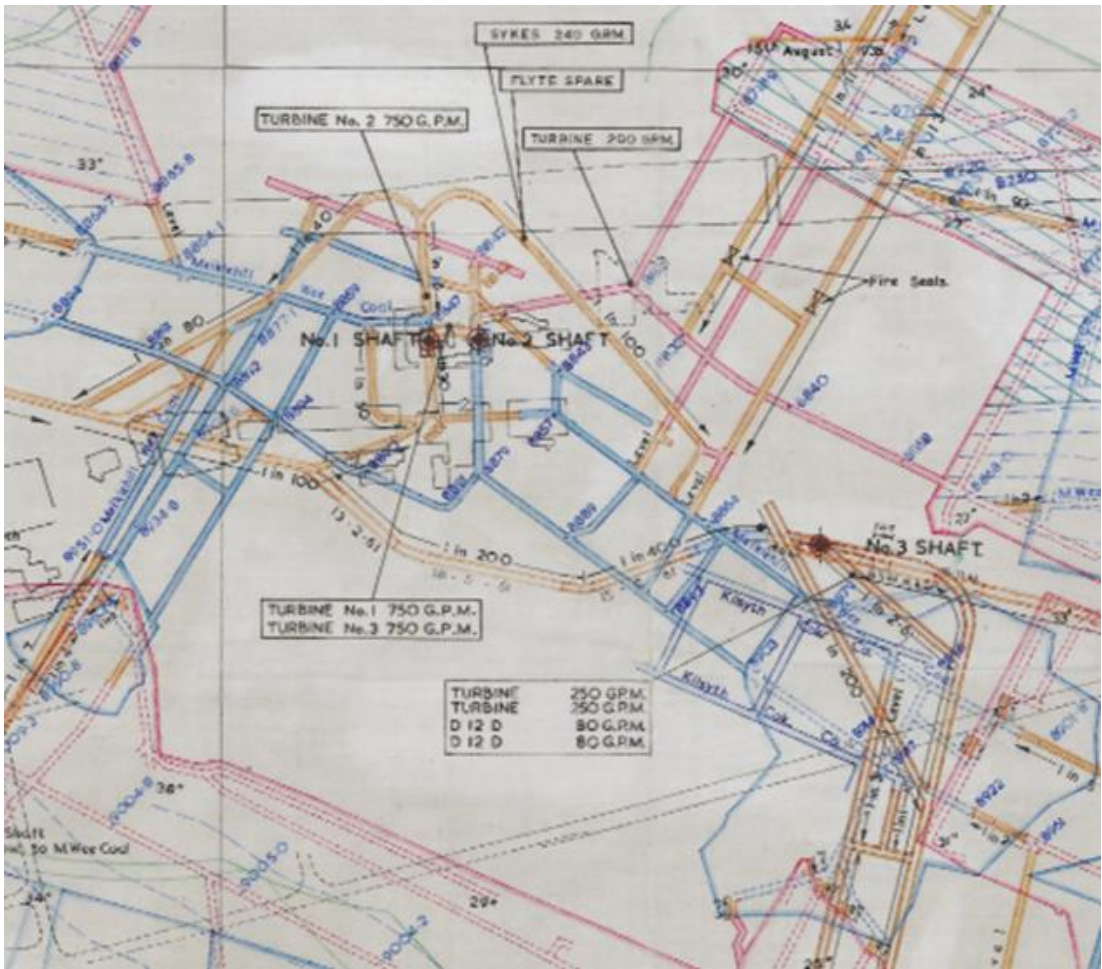


Project 4 Stepps University Playing Fields – The University sports facility on the edge of Glasgow and North Lanarkshire. A ground source, water source (minewater heat from the former Cardowan Colliery) and solar PV prospect.

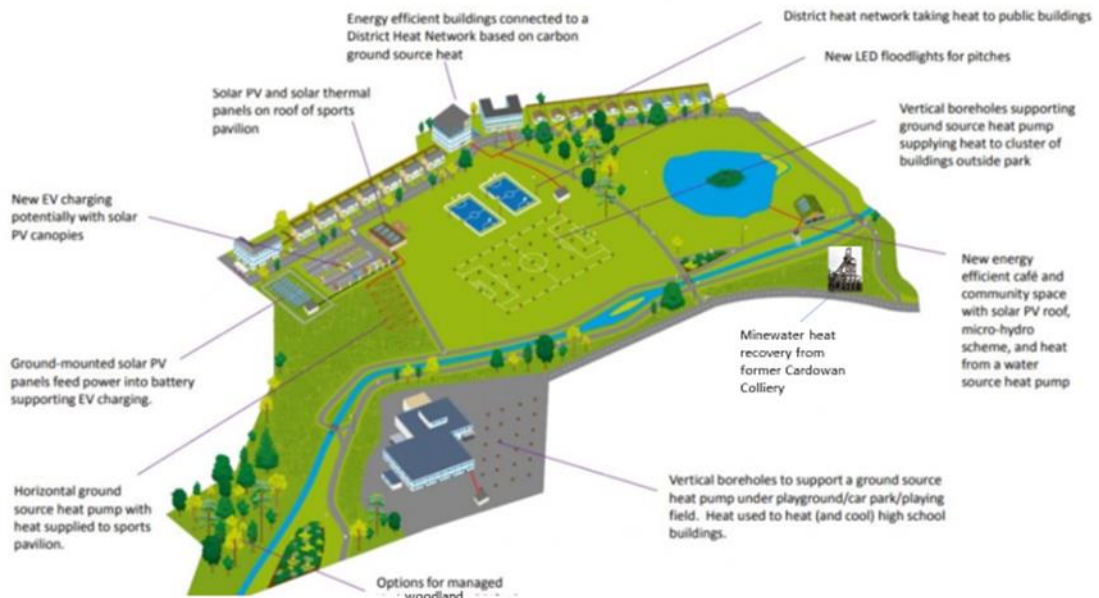
The technical feasibility work and 3D geo-modelling assessment aligns with North Lanarkshire's Low Carbon Heat and Energy Efficiency Strategy and seeks to use the greenspace and subsurface geology as an energy source for the University and the local community. The work is identifying the most innovative and effective combined energy solutions, risks, constraints, costs and planning a pathway for delivery.

The work is led by the University's geoscience community working with industry partners to understand the heat and power potential. The Cardowan Colliery was mined from 1924-1983. At its peak in 1959 the colliery had a workforce of 1,970. The geological appraisal work being carried out has enabled an understanding of the scale of the workings that may have the potential to generate heat for use at the Sport facility and for community use. Extensive workings of the Meiklehill Main, Meiklehill Wee, Cloven Coal and Kilsyth Coking coal are present between 400 and 620m below the sports fields at Stepps and the surrounding area, covering a combined area of 14 million m². Groundwater flow is likely to be recharged from the Campsie Fells to the north.

Why is this work important? – It enables an energy carbon neutral Stepps facility; displacement of emissions using renewables; potential community energy connection at Stepps in collaboration with North Lanarkshire Council.



Stepps Playing Fields and Pavilion – Climate Solutions and Climate Neutral Vision



Schematic showing the vision of a climate neutral district at Stepps Playing Fields

Project 5 Pathway to Net Zero – how to decarbonise the existing estate buildings located at the John Anderson Campus; Stepps Playing Fields; Power Networks Demonstration Centre; Advanced Forming Research Centre; and Ross Priory.

The aim of this technical feasibility study is to carry out a ‘whole systems’ analysis to determine how best to combine a set of innovative solutions that together deliver a 100% net-zero system delivering power, heat and transport solutions, at each of the University’s built environment. This work includes a main focus on emissions reduction of the existing estate, how to make the building energy systems more efficient, better insulated improving fabric performance, deployment of 0.5MW of solar power generation. Enabling connection to renewable energy systems and deployment at scale with learning/teaching and research opportunities.

Why is this work important? – It enables demand side reduction of energy in our buildings with reduced energy in use, cost savings, generating our own low carbon power; improved user comfort, future proofing the built estate and enabling connection to city scale district energy (Project 1 above) that moves us away from the use of fossil fuels.



Solar panels on the roof of the Sir William Duncan Building, part of a 0.5MW deployment underway

6. Management of Residual (Net) CO₂e Emissions

The University is testing a model for the management and funding of those net emissions that it cannot easily reduce and which remain after decarbonization strategies have been implemented. The ‘Invest-

Divest- Sequester' Model is being developed to test the potential for carbon sequestration via a renewable investment model. The University has joined the regional Clyde Climate Forest Programme which is identifying and bringing forward reforestation and sequestration prospects in the Clyde region. We have also joined 6 other UK Universities in an offsetting pilot test within the HE sector and led by the Environmental Association of Universities and Colleges. This year we will be piloting the offsetting of TIC COP 26 emissions as a minimum.

Why is this work important? – It enables understanding of how the University can sustainably manage any remaining 'net' emissions and develop a robust offsetting strategy for the University.

University of Strathclyde Concept – a green recovery solution for net emissions



7. Climate Adaptation Strategy Deployment

Delivery of the University's Climate Adaptation Plan to enable the built environment to be resilient to the changing climate. We have already developed our Plan and have begun implementation. Our urban design guide includes adaptation principles; our Learning and Teaching Building has a green roof over the main atrium area; our Heart of the Campus project includes provision of rain gardens; we are seeking to plant a mini forest adjacent to the Sir William Duncan building.

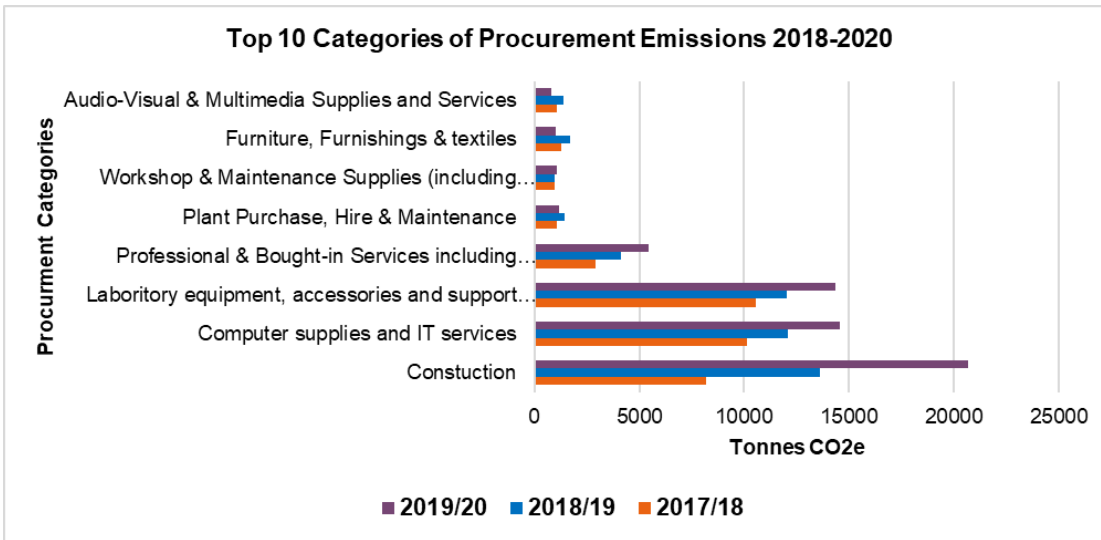
The University is a long standing member and contributor to the multi stakeholder Climate Ready Clyde group and we are actively collaborating with stakeholders across city and region.

Why is this work important? – It enables existing University assets to be updated to cope with climate change. Informs new green infrastructure for new build and nature based solutions.

8. Scope 3 Supply Chain Analysis and Supplier Engagement

The University recognizes the need to transform its supply chain to make it more sustainable and to engage suppliers to understand what they are doing and how we can help. We already have knowledge around our Top 10 supply chain emissions sources and we have a solid understanding of our Business Travel emissions. We have developed a new Travel Policy soon to be launched. We know that more work is needed and we are determined to be a sector leader in this important area.

Why is this work important? – Informs Scope 3 emissions including our consumption patterns. Embodied carbon and operational carbon emissions.



9. Last Mile Delivery Consolidation and Circular Economy Facility

We are preparing to repurpose and expand the infrastructure at our Corn Street furniture storage facility to create a last mile delivery platform using E transport solutions. Also including bulk recycling and reuse centre for furniture, wood, metal, card, paper and general waste. Funding has been allocated to this work and we are engaging with the city stakeholders to determine how this plan fits into a wider strategy for consolidation of freight to reduce congestion and improve air quality in the city.

Why is this work important? –It enables a Last Mile Delivery process. Enhances student experience by removing HGV, LGV and Vans from campus. Enables E cargo and E mobility services. Reduces congestion. Improves air quality.



The Consolidation, Resource Reuse and Recycling Centre (CRRReC) at Corn Street, Glasgow

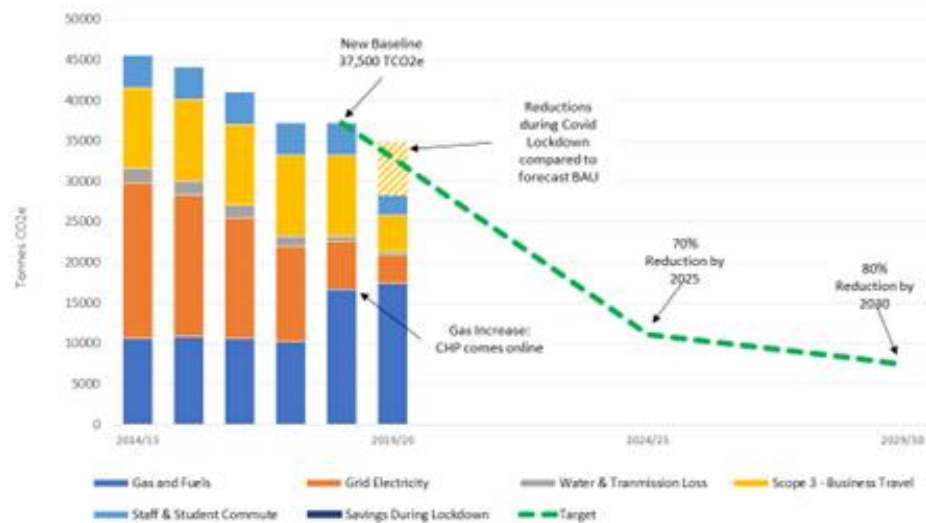
10. Monitoring and Reporting of progress against Net Zero

Working with colleagues across the University to develop a bespoke monitoring and scenario planning tool for robust monthly monitoring and tracking system for our Net Zero targets tracking. We are working towards reporting against the Global Reporting Index and alignment with the Greenhouse Gas Protocol for future reporting and verification.

Why is it important? – We need robust monitoring and reporting tools, supporting our plans to report against Global Reporting Index and alignment with our UN SDG reporting. Enables insight into areas of focus and good decision making to guide our net zero and CCSR planning.



Vision 2025 - Net Zero Trajectory



5.0 Summary Table - Climate Neutral Districts Vision Update, June 2021

The University has developed an ambitious vision that forms the potential to achieve at scale and at speed decarbonisation that is also socially inclusive. Using a whole systems approach, the ten work packages outlined here are all innovative and bold in their approach. They involve multi-stakeholder collaborations and they directly respond to the UN SDGs 11, 12 and 13 as the main focus. Much of the funding for this work is provided by our SALIX Energy Investment Fund at this feasibility stage.

Climate Neutral District Vision – Project Summary	Scope of Work	Emissions Reduction Potential/Investment Scale and Progress
<p>1. Glasgow City Innovation District</p>  <p>Climate Neutral Innovation District - Update</p> <p>A 100% renewable heat, power, transport, adaptation and well-being plan for our community.</p>	<p>A 100% renewable heat, power, transport, adaptation and well-being plan for our community. Technical Feasibility underway. First UK climate neutral innovation district. 80KT CO2e reduction challenge.</p> <p>Why is it important? – It enables climate neutral GCID; a first for the University; green investment in the order of circa £0.5BN; leading by example.</p> <p>Now included within City Region Investment prospectus.</p>	<p>Emissions Reduction Potential – Very High Investment Scale – Very High (£0.5BN est. for DH element) Progress - Final Report due early July 2021</p>
<p>2. National Manufacturing Institute NMIS – Energy Carbon Neutral in Operation</p>  <p>Climate Neutral District Project 2– NMIS</p> <p>The National Manufacturing Institute Scotland – the University's first energy carbon neutral development</p>	<p>The University's first energy carbon neutral development. Enabling the AMIDS district heating scheme using waste heat from Laigh Park STW. Large scale roof top solar. BREEAM Outstanding. Collaboration with Renfrewshire Council; SFC; LCITP; EST, Cycling Scotland, SALIX</p> <p>Why is it important? – It enables carbon neutral NMIS; a University first; leading by example.</p>	<p>Emissions Reduction Potential - Medium Investment Scale – Medium (in budget) Progress - Under construction. Further £2.8M secured for PV canopy, battery storage and EV and E Bike charging.</p>

3. Steps – heat from Minewater Project



Heat from minewater study at our Steps Playing Fields. Using the heat resource of the minewater in the former Cardowan Colliery. Technical work led by Prof. Zoe Shipton and Dr Billy Andrews. 3D model under development. 1MW heat potential. Potential links to North Lanarkshire Low Carbon Heat and Energy Efficiency Strategy planning.

Why is it important? – It enables carbon neutral Steps; displacement of emissions using renewables; potential community energy connection at Steps.

Emissions Reduction Potential - **Medium**
 Investment Scale – **Medium**
 Progress – Stage 2 technical report complete. ET paper in preparation.

4. Ross Priory Community Solar PV Array



Feasibility of a community solar array to deliver energy and transport carbon neutral estate and form community links with Gartocharn. Partnership with Scottish Water and Local Energy Scotland. 21MW potential with e transport and community benefits.

Why is it important? – It enables carbon neutral Ross Priory; removal of oil as a heating fuel; displacement of emissions using renewables; a strong and long term commitment to net zero and investment in the local community.

Emissions Reduction Potential - **Medium**
 Investment Scale – **Medium (has good ROI)**
 Progress – Stage 1 technical report complete.

5. Existing Estate – Net Zero Pathway (decarbonising and adapting)



Developing decarbonisation and adaptation plans for all existing estate assets; costs; commercial models for funding for the retrofit required. Includes mitigation and adaptation solutions.

Why is it important? – It enables demand side reduction i.e reduced energy in use, improved user comfort, future proofs the built estate and enables connection to city scale district energy (Project 1 above).

Emissions Reduction Potential - **High**
 Investment Scale – **High £100M+ est**
 Progress – tender awarded June 8th 2021. Reports end 2021.

6. Management of Residual Emissions

University of Strathclyde Concept – a green recovery solution for net emissions

1. Invest in Renewables 2. Divest from carbon sources 3. Sequester carbon



'Invest- Divest- Sequester' Model has been developed to test potential for carbon sequestration via a renewable investment model. Clyde Climate Forest Programme Board. Member of EAUC UK offsetting pilot that will trial a UK based offset project within the HE sector. Offsetting TIC COP 26 emissions as a minimum.

Why is it important? – It enables understanding of offsetting strategy for the University.

Emissions Reduction Potential - **High**
Investment Scale – **High**
(£100/TCO2e)
Progress – initial report due July

7. Climate Adaptation Strategy Deployment

Reimagining Rottenrow Gardens with pedestrians first; universal access; greenspace; rain gardens.

Planning approved Nov 2020.

WE ARE SUSTAINABLE STRATHCLYDE

The Heart of the Campus Project
Design & Access Statement



Delivery of the University Climate Adaptation Plan. University is a long standing member of Climate Ready Clyde. Member of the Clyde Climate Forest group. Supporting Clyde Mission work. Collaboration on resilience ongoing across city and region.

Why is it important? – It enables existing University assets to be uprated to cope with climate change. Informs new green infrastructure for new build and nature based solutions.

Emissions Reduction Potential – **N/A**

Investment Scale – **medium to low**

Progress – ongoing

8. Scope 3 Supply Chain Analysis and Supplier Engagement

Scope 3 emissions are better understood for Business Travel but work needed on staff and student commuting, consumables, construction, embodied carbon. Need to better understand our 'gaps' in knowledge and how to remedy them.

Why is it important? – Informs Scope 3 emissions including our consumption patterns. Embodied carbon and operational carbon emissions

Emissions Reduction Potential – **High**

Investment Scale – **low**

Progress – ongoing

9. Last Mile Delivery Consolidation and Circular Economy – Corn Street Facility



The Consolidation, Resource Reuse and Recycling Centre (CRRReC) at Corn Street, Glasgow

Preparing to repurpose and expand the infrastructure at Corn Street to create a last mile delivery platform and bulk recycling and reuse centre for furniture, wood, metal, card, paper, general. £250K of funding has been allocated to this work within the Capital Investment Plan.

Why is it important? – Enables Last Mile Delivery process. Enhances student experience by removing HGV, LGV and Vans from campus. Enables E cargo. Reduced congestion. Improved air quality.

Emissions Reduction Potential – **Low**

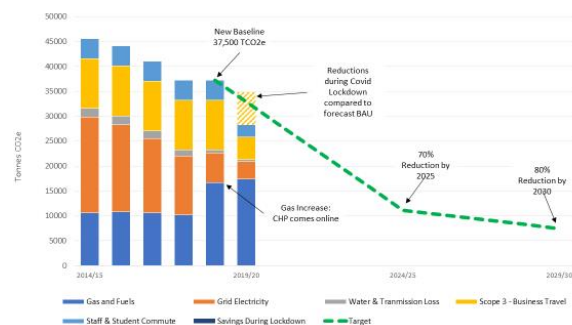
Investment Scale – **low**

Progress – upgrade of Corn Street in Capital Investment Plan. Scheduled for 21/22

10. Monitoring and Reporting of progress against Net Zero



Vision 2025 - Net Zero Trajectory



Working with the University Strategy and Policy team to develop the SUNBIRD tool for monthly monitoring and KPI review for our Net Zero targets tracking. Using GRI and GHG protocol for future reporting and verification.

Why is it important? – Will need robust monitoring and reporting tools. Aligns with plan to report against Global Reporting Index. Enables insight into areas of focus and good strategic planning.

Emissions Reduction Potential – **N/A**

Investment Scale – **low**

Progress – ongoing

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