SRUC Climate Change Action Plan 2020 – 25

Contents

Section 1: Foreword

Scotland's Rural College (SRUC) is an institution working hard every day to share knowledge and discover solutions to the some of the world's most wicked challenges, particularly around climate change.

For SRUC to be a leader in this area – as an enterprise university at the heart of the natural economy – we must exceed the expectations of our students, clients, partners, and stakeholders to reduce our own impact on the environment.

To do this, we need a plan. A plan that will set us on course to net zero by 2040. A plan that will set us a path to follow while allowing us to seize opportunities, ideas, and innovations as they present themselves.

I'm delighted to introduce you to our Climate Change Action Plan. This goes far beyond previous plans focussed solely on carbon emissions. And while reducing our carbon emissions are still vital, we need to do more about our holistic impact on the environment.

We need to reduce the energy and water we use. We need to travel less or in a more sustainable way. We need to reuse materials where we can. And where we can't reduce or reuse, we must seek to recycle as much as possible.

These simple tenets are a challenge in an organisation of our size and diversity, but they are easy to remember and can guide us.

Through the Climate Change Action plan, we will benefit from the positive reputation and financial saving it will create. But, most of all, the actions in the Climate Change Action Plan are simply the right things to do – for ourselves and future generations.

I would like to thank everyone in the SRUC community for helping to develop and deliver the Climate Change Action Plan – particularly the Climate Change Action Plan Group and Campus and Estates Services.

As stated by the Intergovernmental Panel on Climate Change, the time to act is now. This a plan not just for the whole of SRUC but for the whole planet.

Wayne Powell.

Professor Wayne Powell
Principal and Chief Executive
7 September 2021

Section 2: Introduction

SRUC's vision is to become Scotland's enterprise university at the heart of the sustainable natural economy.

Through SRUC's daily work underpinned by strategic science, we share responsibility for generating answers to the challenges that affect millions of people around the world. We achieve this with local-to-global reach, through partnership working to create solutions to the challenges of climate change.

This Climate Change Action Plan sets out what we will do over the next five years to deliver tangible, measurable, and achievable reductions in SRUC's own impact on climate change. Pragmatic reduction targets have been set and will be monitored on an annual basis.

The solutions and ideas to help address climate change are always emerging. This plan will continue to adapt and evolve with new ideas, projects, and initiatives. Agility and being open to new ideas will be vital to reducing our impact on climate change. This plan has been developed through engagement with the SRUC community to source ideas and they will continue to be an inspiration.

Our reductions will contribute to the Scottish Government's Climate Change ambitions and Scotland adopting the principles of **the 17 UN Sustainability Goals**.

Section 3: Climate Change Action Plan

Over the period of this plan, SRUC has set a target to reduce total carbon emissions by 20%, as measured from the 2019/20 revised baseline year (excludes farms emissions metrics, which is being developed as outlined below).

This would result in an overall emission reduction of 53.9% from the **2014/15 baseline**.
This will be achieved through:

- **A number of initiatives, including emissions reduction strategies, outlined in the themes action areas below**
- **A strategic rationalisation of the SRUC estate.**

This sets a realistic and positive pathway to ensure SRUC meets the Scottish Government's milestone target to reduce emissions by 75% by 2030.

Additional factors – Covid-19

Due to the Covid-19 pandemic, buildings were closed or partially occupied for most of 2020. This reduced energy usage and carbon emissions significantly.

This is expected to rebalance around the early part of 2022 and will be monitored and factored against reduction targets over the period of the Climate Change Action Plan.

Additional factors – SRUC Farms

While not included in the forerunner to the Climate Change Action Plan, SRUC Farms emissions metrics have been developed sufficiently and will now be included in annual reporting mechanisms.

This will add 20,272 tonnes to SRUC's annual headline emissions. Farms are in the process of reviewing the strategic direction of the farms business operating model and the impacts this will have on emissions sources and reduction metrics. As such detailed scoping analysis will be undertaken to develop robust and meaningful emission targets which aligns with SRUC's ambitions to lead by example and to exceed stakeholder expectations which reduces our overall environmental impact on the planet. As measurement techniques improve, farm emissions reporting may be refined over the course of the current Climate Change Action Plan.

Owing to the very different nature of greenhouse gas emissions from SRUC Farms, they will be developing a separate Net Zero plan with high-level metrics feeding into the overall SRUC net zero strategy. SRUC will seek to reduce all categories of greenhouse gas emissions from farms through proven measures as described under Theme 7.

Section 4: Climate Change Action Themes and Actions

SRUC has identified seven themes that require sustained action to reach the objectives of the Climate Change Action Plan.

For each theme, a list of actions has been developed which will set the framework for reduction measures and is set out in a series of tables.

The seven themes are:

1. **Climate Impacts Adaptation**
2. **Energy Carbon Management**
3. **Circular Economy**
4. **Sustainable Procurement**
5. **Sustainable Travel**
6. **Engagement and Education**
7. **Farming and Agriculture**

Theme 1: Climate Impacts Adaptation

The intergovernmental Panel on Climate Change (IPCC) defines Adaptation as "adjustments in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities".

Climate change in Scotland has already brought warmer, wetter autumns and winters and hotter, drier summers. The consequences of climate fluctuations include:

Physical Supply Chain Risks

- **Increased risk of extreme weather events threatening the estate**
- **Changes in the balance between heating and cooling, leading to the need to adapt performance and design, construction, management and use of buildings and surroundings.**
- **Possible disruption of transport, energy and communications networks in Scotland and around the world, impacting markets and affecting supply chains.**
- **Global energy market impacts affecting energy supplies and energy security, and disruption to global water and food supplies.**

Reputational risks

- **Lack of resilience in terms of physical supply chain risks could mean that SRUC feels the effects of a potential decrease in student enrolment and international collaboration ambitions.**
- **Lack of action and collaboration on climate change adaptation on SRUC's premises could damage the college's brand reputation for excellence in teaching and research.**

Along with action aimed at decelerating and reversing climate change (mitigation), further efforts will be needed, and adjustments made to the changing environment (adaptation).

While this is likely to cause disruption to business as usual, it should be recognised that in adapting to climate change, there are not only challenges, but there may be opportunities as well.

Biodiversity Landscape

Climate change is introducing specific challenges to managing biodiversity and landscapes. Extreme weather events can make trees and landscapes more vulnerable to damage, while changing weather patterns will alter the optimum conditions and habitats for certain species.

Additionally, the spread of pests and diseases will result in damage and loss. Proactive actions will be required to maintain biodiversity and landscape value. This plan aims to deliver biodiversity strategies for each of the main college campuses.

In this theme we are setting out an ambitious programme of work to increase our organisation's resilience to climate change which will be taken forward by the following actions:

Ref no	Action	Objective/Benefit
CCA 1.1	Develop a Climate Change Adaptation Plan using the **"Adaptation Capability Framework"** developed by Adaptation Scotland.	Long-term resilience, risk reduction and financial savings for the organisation as a result of having a business prepared to proactively manage current and future climate risks.
CCA 1.2	Develop SRUC climate change adaptation risk register.	Assess hazards posed by climate change and monitor and review regularly to adapt to new climate change data. Communicate with colleagues about decisions being made. Engage the SRUC leadership and board.
CCA 1.3	Work with colleagues and students to develop specific Biodiversity Strategy for all main campuses.	New interventions to • Reduce flood risks • Improve water quality • Urban cooling • Support biodiversity • Reduce energy consumption • Improve air quality • Encourage physical activity and improve mental wellbeing.
CCA 1.4	Work with colleagues to create opportunities for students to get involved in activities to improve biodiversity through the curriculum.	Develop student awareness and expertise in biodiversity. Increased cohesion and improve culture at SRUC.
CCA 1.5	In our forthcoming estate strategy include opportunities to maximise the use of outdoor spaces, considering partnering opportunities with the community and students.	Provide enhanced staff and student environment which will deliver health and wellbeing.

Theme 2: Energy Carbon Management

Through emission management we will reduce greenhouse gas emissions.

To meet our targets, this is by far the most important area for action. A total of 84 per cent of SRUC's total emissions are associated with energy & water consumption within our facilities.

Reducing the carbon footprint will be challenging and will require innovation and investment.

For example:

- **Energy conservation measures identified through building energy audits**
- **Localised maintenance measures to replace LED lighting, pipe lagging and boiler replacements etc.**
- **Carbon reduction and renewable technology projects.**
- **Benchmarking and net zero study and associated delivery plan**
- **Estate rationalisation.**

The project list outlined in **Appendix 2** consists of energy conservation measures which has been sourced from high-level energy audits and suggestions from the SRUC community.

The project list will be the primary route to achieving further carbon emission reductions.

Further energy conservation measures will be added as further audits and feasibility studies are developed. The project list will be reviewed periodically to ensure that opportunities are not missed.

Emissions from farms vehicle diesel, machinery and heating appliances has not been captured in previous reporting and will be captured and reported going forward.

While often overlooked, providing a large estate with clean water is an energy-intensive process that contributed to 111 tonnes of carbon dioxide (2.1% of total emissions) in the baseline year.

We need to improve meter reading throughout the estate to identify unnecessary or undesirable water loss and implement reduction measures such as grey water recycling systems.

SRUC Net Zero Vision

The Climate Change (duties of Public Bodies: Reporting Requirements) (Scotland) Amendment Order 2020 sets out that public bodies will be required to provide a target date for achieving Zero direct emissions and for reduced indirect emissions within their annual reports.

This includes information on how the organisation will align spending plans and resources to delivery of emission targets and takes effect from the report year ending 31 March 2022 onwards.

To meet this, SRUC has set a Net Zero date of 2040, which is five years ahead of the Scottish Government's target date of 2045 for compliance. This will inform subsequent benchmarking and delivery plans which will outline SRUC's pathway to Net Zero.

This would see estates, buildings and entire operations cease to generate any emissions and a plan to support this initiative will be developed as an objective within this Climate Change Action Plan (action CCA – 2.2).

The gradual decarbonisation of the electricity supply will help. However, the reliance on fossil fuels for space heating and hot water is a more challenging area. Improving the thermal efficiency of SRUC buildings, coupled with the use of heat pumps, is the likely way forward.

For any new buildings, a commitment to the highest efficiency standards, and renewable technologies, will help to limit expensive conversion costs in future, although initial costs will be higher. Nonetheless, given the level of change required, and the timescale, the Net Zero plan is also likely to include carbon offsetting which enables the balancing out of carbon by negative emissions such as tree planting and bioenergy with carbon capture and storage.

Sustainable Capital Investment

As part of the new build capital programme, we are targeting highly efficient sustainable buildings and are developing the Inverness project to meet the **RIBA 2030** standard. This standard defines eight measurable outcomes which align with key UN Sustainable Development goals. The overarching aim of this standard is to target "Net Zero" whole life carbon emissions by 2030.

The Covid-19 pandemic has proven that agile and home working methods can be delivered while ensuring service delivery is maintained. These initiatives, along with the rationalisation strategies, will form the basis of the emerging transformational change programme, which will deliver a leaner, fit-for-purpose estate which meets the needs and aspirations of a modern and progressive university.

Emerging transformational change strategies as outlined above will lead to the rationalisation of the estate. However, it is not clear at this stage how this will impact on the footprint area of the new estate and therefore what it will deliver in terms of carbon reductions.

As the new Estates Strategy develops this will feed into the Climate Change Action Plan.

Ref no	Action	Objective/Benefit
CCA 2.1	Implement energy conservation measures identified on project list (see appendix two).	Reduce carbon emissions and save on energy costs. Consider initiatives such as LED lighting, motion sensors heating controls etc.
CCA 2.2	Carry out SRUC-wide Net Zero benchmark study and associated delivery plan (include carbon offsetting strategy).	Develop renewable heat and power solutions which help to deliver net zero carbon emissions.
CCA 2.3	Upgrade SRUC houses to Energy Performance Certificates level D.	Comply with legislation and improve energy efficiency of houses.
CCA 2.4	Monitor water use and develop usage reduction plan i.e. recycling of grey water, sensor taps etc.	Improve data collection Reduce water usage and costs.
CCA 2.5	Embed the Climate Change Action Plan targets in our future estate strategy.	Develop a pathway to modern fit for purpose facilities which: • Support hybrid working to reduce maximum capacity Are more energy efficient
CCA 2.6	Develop corporate landlord space occupancy framework to drive space efficiencies by SRUC departments.	Reduced space requirements improve efficiencies.
CCA 2.7	Develop green lease scheme for SRUC commercial tenants.	Encourage energy efficiencies within leased premises.
CCA 2.8	Identify and install where appropriate, sub-metering and automated meter reading, monitoring and targeting systems.	Improve baseline information and usage data which will drive efficiency initiatives. Improve visibility usage at building by building basis.
CCA 2.9	Develop heating control strategy and review building management systems.	Ensure that space heating is operated at optimum efficiency.

Ref no	Action	Objective/Benefit
CCA 2.10	All new-build facilities to meet minimum sustainability criteria of RIBA 30. Full consideration of increased standards should be evaluated with a view to achieving BREEAM EXCELLENT standard or Passivhaus standard.	Ensure buildings are designed to the highest sustainability standards to minimise the environmental impact over the lifetime of the building.
CCA 2.11	All new-build facilities will use alternative to natural gas to provide space and hot water heating.	Ensure de-carbonisation of energy supply and that renewable technologies are explored and implemented during the design process.
CCA 2.12	Property refurbishments and planned upgrades will consider sustainable and renewable features.	Ensure de-carbonisation of energy use and that renewable technologies (heat pumps, solar systems, wind generation Biomass etc) are explored and implemented during the design process.
CCA 2.13	All new builds will be created with hybrid working principles to reduce space requirements and maximise efficiencies.	Create more efficient buildings from the outset.
CCA 2.14	Set up recording process for any escape of fluorescent gases from refrigeration and air conditioning systems.	Improve quality of reporting.
CCA 2.15	Appliances Policy. Ensure purchasing prescribes AAA plus equipment.	Ensure equipment purchasing aligns with energy efficiency targets.
CCA 2.16	Develop a Cloud First Policy.	Reduce our IT carbon footprint by storing files in the ‘cloud’.

Theme 3: Circular Economy

All SRUC business areas produce waste, and we are legally and morally responsible for the waste we generate and how we dispose of it.

Focusing on creating a circular economy is key to reducing our environmental impact, and to ensure material and financial security in a world of depleting raw materials.

This means looking at how, if and when we acquire goods and tools, how we can use them for as long as possible, how we can extract the maximum value and, once they reach the end of their life cycle, how they can be recycled or passed on to others.

This requires commitment from all business operations within SRUC to reduce waste production and improve recycling and is a key objective over the next five years.

Ref no	Action	Objective/Benefit
CCA 3.1	Review and update Waste and Recycling management strategy and processes.	Reduced waste volumes Increased proportion of recycled waste Introduce food waste recycling.
CCA 3.2	Behavioural change campaign advocating the need to reduce, reuse and recycle.	Promote understanding and influence positive behaviour change.
CCA 3.3	Revise and update contracts for waste collections.	Ensuring compliance, improving standards, and providing better monitoring and reporting on waste.
CCA 3.4	Plastic use reduction plan.	Reduction in the use of harmful plastics
CCA 3.5	Consider asset re-use portal to encourage the re-use of furniture, equipment etc. within SRUC.	Ensure optimum use of equipment and assets Reducing waste Saving on replacement costs.
CCA 3.6	Develop framework/policy to utilise recycling scheme for all redundant furniture and equipment (such as UniGreenscheme).	Free up space Generate income Reduce waste and associated disposal costs and reduce emissions. Give back to the community

Theme 4: Sustainable Procurement

Responsible purchasing can lead to environmental, ethical, social and economic benefits. Smart procurement can promote jobs and growth, encourage innovation as well as helping small businesses and partner organisations to compete effectively for contracts.

SRUC will embed sustainable procurement across all our activities, with the objective of being innovative and transformational when sourcing goods and services. This will contribute to Scotland's wider sustainable economy and the transition to a circular economy.

Within this plan we will develop a toolkit to ensure that sustainability is considered in all stages of procurement.

Ref no	Action	Objective/Benefit
CCA 4.1	Working with colleagues in finance, develop a sustainable procurement toolkit.	Ensure innovative and sustainable thinking is applied to the development of procurement strategies and processes
CCA 4.2	Implement circularity principles in tenders where the whole life cost of the goods and services purchased is given full consideration.	Ensure we leave a positive legacy for future generations in the form of high-quality materials and resources that offer the maximum opportunity for recycling while minimising waste.
CCA 4.3	Develop sustainability design principles for new build contracts.	Ensure new assets are designed to align with Net Zero carbon emissions targets thereby complying with legislation and reducing ongoing energy costs.
CCA 4.4	Develop reporting mechanisms for scope three sources, these include contractor emissions, procurement and supply chain and business accommodation.	Comply with emerging reporting legislation.
CCA 4.5	Seek out opportunities to collaborate with other organisations within HE/FE and the wider Public Sector.	To enhance procurement activities by sharing knowledge of best practice and lessons learned while partnering on tenders to achieve benefits of scale and reduce cost of tendering.

Theme 5: Sustainable Travel

Transport accounts for 27% of **Scotland's greenhouse gas emissions** and 73% of this is from road transport. Sustainable travel is the promotion and implementation of low and zero carbon modes of transport.

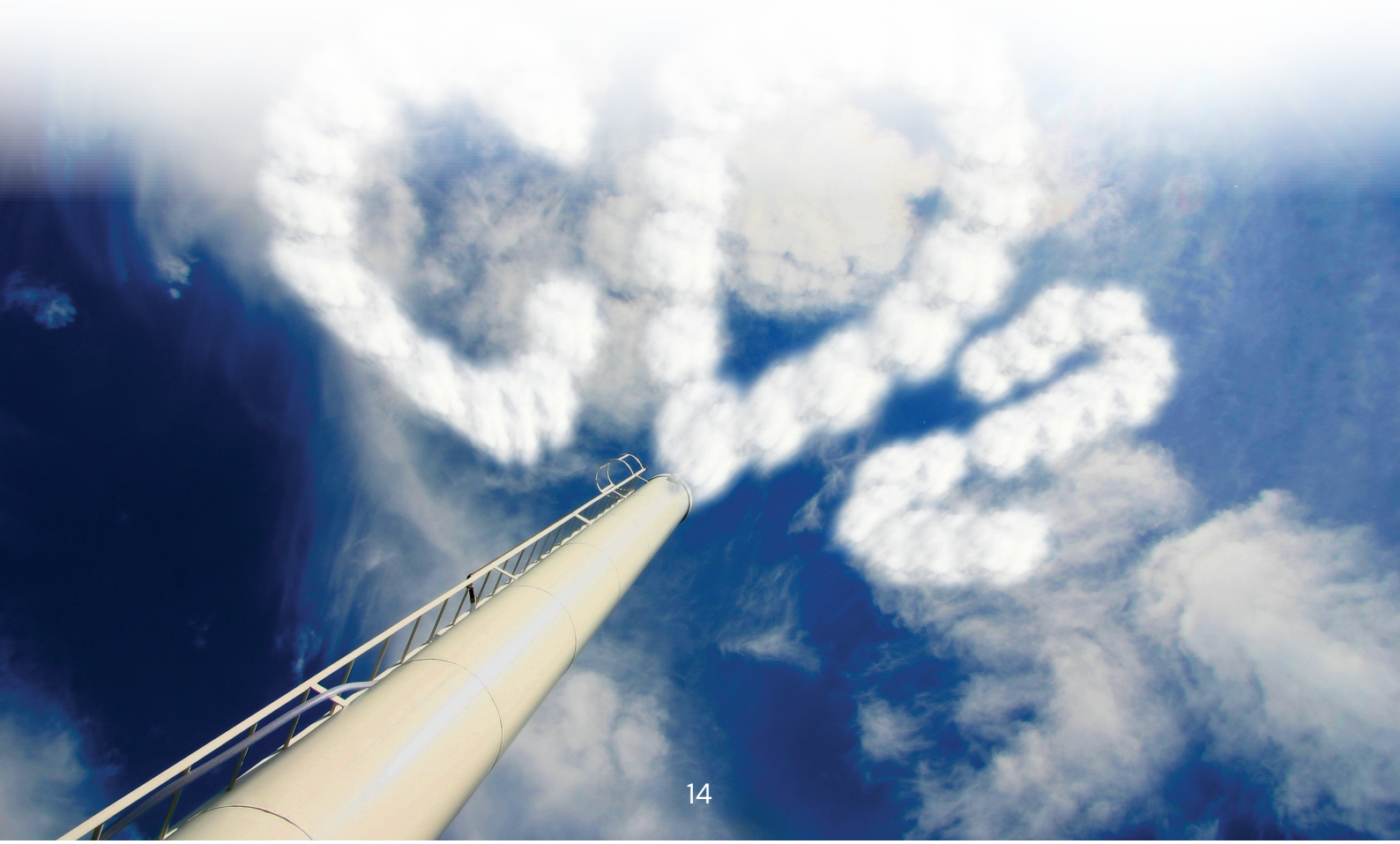
Fleet transport and business travel makes up 15.6% of SRUC's carbon footprint. Note: this excludes commuting which we are aiming to include within the scope of future reporting.

The Scottish Government's Climate Change Plan outlines that petrol and diesel cars and vans will be phased out by 2032, and Scotland's cities have already begun to introduce low-emission zones.

The decarbonisation of road transport means that SRUC will need to support low-carbon travel, including staff and student commuting. This will require promotion of active travel and travel alternatives including how we use our fleet vehicles.

We aim to invest in electric vehicles (EV) and associated charging infrastructure and promoting their use throughout SRUC. Additional benefits from the provision of more sustainable travel options include reductions in air pollution and congestion, more healthy lifestyles and improved staff wellbeing.

We aim to be an organisation which is able to work flexibly and promote hybrid working which encourages staff and student health and wellbeing.



Ref no	Action	Objective/Benefit
CCA 5.1	Develop a Sustainable Travel Guidance and Policies to support better decision making.	Cost savings and contribution to emissions reduction targets by means of organisational change.
CCA 5.2	Improve the quality of business travel usage data.	Improved accountability contributing to emissions reduction targets.
CCA 5.3	Further improve IT alternatives to travel through platforms and promote hybrid working. This will be achieved through the SRUC digital vision.	Reduced emissions relating to business travel.
CCA 5.4	Develop and begin a strategy to provide EV infrastructure across the organisation for staff, students and visitors.	Prepare SRUC for transition to low/no carbon modes of transport.
CCA 5.5	Develop strategy to increase EV fleet with the aim of decarbonising the fleet by 2032.	Help meet national targets set out by the Climate Change Plan (RPP3).
CCA 5.6	Increase access to and availability of staff pool bikes, electric bikes, and associated schemes.	Reduced emissions and costs associated with staff business travel. Improvement in staff wellbeing.
CCA 5.7	Implement a framework to record and manage colleague and student commuting emissions.	New Scope 3 requirements previously not recorded but is due to fall within standard reporting duties.
CCA 5.8	Work with neighbours and local partners to develop sustainable transport networks.	Improved cycle infrastructure, pathways etc.
CCA 5.9	Consider facilities which support active travel in our future estate strategy.	Consider bike sheds, showers to encourage staff and student uptake.
CCA 5.10	Investigate salary sacrifice scheme for bus/train season passes.	Encourage shift from individual car use.
CCA 5.11	Explore and implement sustainable methods for travel to campus.	To reduce the emissions created by staff and student commuting.
CCA 5.12	Develop a Business Travel Policy.	To reduce the emissions created by flights, rail, and petrol/diesel car travel.

Theme 6: Engagement & Education

Climate change is widely regarded as one of the most significant challenges facing the world today. As an educational institution, SRUC recognises its duty to educate students on this global issue facing future generations.

To implement the plan and raise awareness of sustainability challenges more generally, it is important to engage widely with our internal stakeholders. Climate change and sustainability concepts are present in curricula across many areas of SRUC learning, teaching and research programmes. This plan proposes to carry out an audit from which a baseline of relevant activity can be drawn, and improvements measured. This would also allow SRUC to report such activity with greater accuracy.

Ref no	Action	Objective/Benefit
CCA 6.1	Host a series of sustainability workshops.	Raise student and colleague awareness of climate change.
CCA 6.2	Develop signage strategy linked to behavioural change activities.	Encourage a culture of green thinking and micro-actions.
CCA 6.3	Audit of climate change-related learning, teaching and research activities; further embedding of sustainability concepts in learning, teaching and research activities.	Establish baseline and develop action plan.
CCA 6.4	Promote the development of Green Impact Teams throughout SRUC.	Drives climate change reductions and initiatives locally.
CCA 6.5	Make SRUC environmental impact data available to students and researchers for use in Academia.	Cross-SRUC cohesion and opportunities for innovation.
CCA 6.6	Work with colleagues in Academia to provide learning opportunities for students.	Tap into existing expertise and knowledge and explore opportunities to introduce sustainability learning opportunities within the curriculum.
CCA 6.7	Look at possibility of introducing departmental financial disincentives such as Carbon flight “tax”, car parking “tax” etc.	Reduction in travel and emission.

Theme 7: Farming and Agriculture

Unlike many other academic institutions, SRUC operates a number of farms, which incorporates livestock and other agricultural systems which produce embedded carbon emissions. This includes academic teaching and research activities covering a range of areas such as dairy, beef and sheep, crops, organic farming and conservation.

Baseline emission metrics for farming and agricultural activities for 2019/20 is 20,272 tons of carbon, which is broken down into the following emission sources:

By activity	Total Kg Baseline 2019/20	Co2 Tonnes Baseline 2019/20
Enteric methane	8,207,064	8,207
Manure management	3,339,923	3,340
Fertiliser and lime	2,963,673	2,964
Purchased feed	4,675,332	4,675
Fuel	755,784	756
Other	330,645	331
Total emissions	**20,272,421**	**20,272**

These baseline metrics, when added to SRUC's existing emissions information (5,328tonnes), provides a total revised baseline emission figure of 25,600 tonnes which will be added to recording and reporting mechanisms.

Key actions being taken forward to reduce farming emissions are outlined as follows:

Ref no	Action	Objective/Benefit
CCA 7.1	Remove soya from dairy diets.	Reduce CO2 emissions from direct deforestation associated with new soya plantation in producing countries.
CCA 7.2	Model soya reduction in pigs and poultry diets.	If successful will deliver emission reductions.
CCA 7.3	Review farms estate.	Review estate which meets strategic and operational requirements and delivers reduction in emissions (farming and energy).
CCA 7.4	Develop farm – estate-wide tree and plantation strategy.	Absorb CO2 which can be offset against CO2 and other greenhouse gas emissions.
CCA 7.5	Feasibility study for biodigester systems at farms (pilot to be carried out at Barony).	Renewable heat/electricity generation to reduce demand for fossil fuel-derived energy.
CCA 7.6	Develop proposals to replace main items of slurry handling kit.	Reduce the need for splash plate spreading to ensure better retention of slurry nutrient.
CCA 7.7	Develop real-time analysis of slurry spreading.	Reduce the need for purchased fertiliser and therefore reduce i) embedded carbon in manufacture. ii) Emission of nitrous oxide from soils where nitrogen fertiliser applied.
CCA 7.8	Provide nitrification inhibitor in first fertiliser applications.	Reduce the bacterial conversion of nitrogen fertiliser to nitrous oxide and reduce leaching of nitrate.

Section 5: Governance, Monitoring Reporting

Progress to meet climate change goals requires strong leadership and commitment from the entire SRUC community, with appropriate plans for review and an understanding of obligations for reporting.

Monitoring

The cycle will be aligned to feed into mandatory and other regulatory annual returns, and an annual report will be submitted by the Climate Change Action Group to ELT and the SRUC Board.

Statutory Reporting

As part of the Climate Change (2009) Scotland Act we will continue to submit our annual Public Bodies Climate Change Report in compliance with climate change duties.

From March 2022 onwards, SRUC will have to provide, as part of its annual reports, information outlining the organisation's plans and progress to meet Net Zero obligations by 2045 (SRUC has targeted 2040 – five years ahead of schedule).

The specific actions in this plan are set out to cover a five-year period, after which the document will undergo a formal review. Owing to the rapidly evolving nature of Climate Change knowledge and information, as well as changes in government policy and legislation, it is acknowledged that elements of this plan may require flexibility.

Section 6: Context Drivers for Climate Change

Global Context

The international panel for climate change (IPCC) in its "Global Warming of 1.5oC Special Report", highlighted that limiting global warming to 1.5oC would require "net zero" carbon emissions by around 2050. The panel recognises that any additional warming above 1.5oC would significantly worsen the risk of drought, floods, extreme heat, and poverty for hundreds of millions of people around the world.

These climate change challenges provide us with a unique opportunity to lead by example and demonstrate what meaningful climate action looks like by achieving the objectives set out in this plan.

Reputational Context

As a world-leading institution, SRUC should be seen as a leader and innovator in sustainability across all its activities. Successfully and vigorously addressing climate change can only enhance our reputation as a leader in the sector.

Corporate Responsibility

We aim to be socially responsible in our business activities, our work with communities and in response to environmental issues. We strive to be a sustainable, well-resourced organisation with exemplary environmental credentials and real ownership among students, staff and stakeholders.

Legislative Context

The need for climate action has never been clearer. In April 2019 the Scottish Government declared a climate emergency, highlighting that nothing short of transformational change was now needed to address climate change. This led to the introduction of Climate Change (Emissions Reduction Targets), (Scotland) Act 2019, which establishes a legally binding net zero target by 2045 for Scotland. Furthermore, it sets the following interim targets for delivery from baseline 1990 levels:

- **75% reduction by 2030**
- **90% reduction by 2040**
- **100% reduction by 2045 (net Zero)**

As major employers and procurers of goods and services, public bodies are expected to lead by example in combating climate change. Climate change regulations place duties on public bodies to:

- **Contribute to carbon emissions reduction targets**
- **Contribute to climate change adaptation**
- **Act sustainably**

Other inter-related contextual drivers for reducing carbon emissions include:

- **SRUC has committed to the University Colleges Climate Commitment for Scotland (UCCCfS) agreement which is entered into by universities and colleges across Scotland to support the Scottish Government achieve its carbon reduction targets.**

- **The Climate Change (duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015 requires Scottish public bodies to prepare annual reports on compliance with their climate change duties. Reporting will include Net Zero plans from 2022.**

- **Financial drivers to reduce rising energy, water, waste and travel costs.**

Section 7: Baseline Emissions and Future Projections

In this Climate Change Action Plan, a revised baseline has been adopted using data from the end of SRUC's first carbon management plan which covered the period between 2015 to 2020.

The revised baseline will be used to monitor and verify progress against the plan's objectives. With a wider view than just carbon, we will also begin reporting on our use of water and other emissions which contribute to climate change.

Emissions by Scope

Scope 1, 2 and 3 are different categories of emissions. Scope 1 emissions are those directly under the organisation's control (e.g. from fleet transport, leased and owned cars as well as natural gas and oil). Scope 2 are indirect emissions, meaning the organisation does not directly control them and this includes purchased electricity generation. Scope 3 emissions are all other indirect emissions from SRUC activities, including travel to and from campus, business travel and emissions from waste and water.

Data is converted into tonnes of carbon dioxide equivalent (tCO2e) by the application of Defra's conversion factors which converts data such as distance travelled and litres of fuel used into carbon emissions.

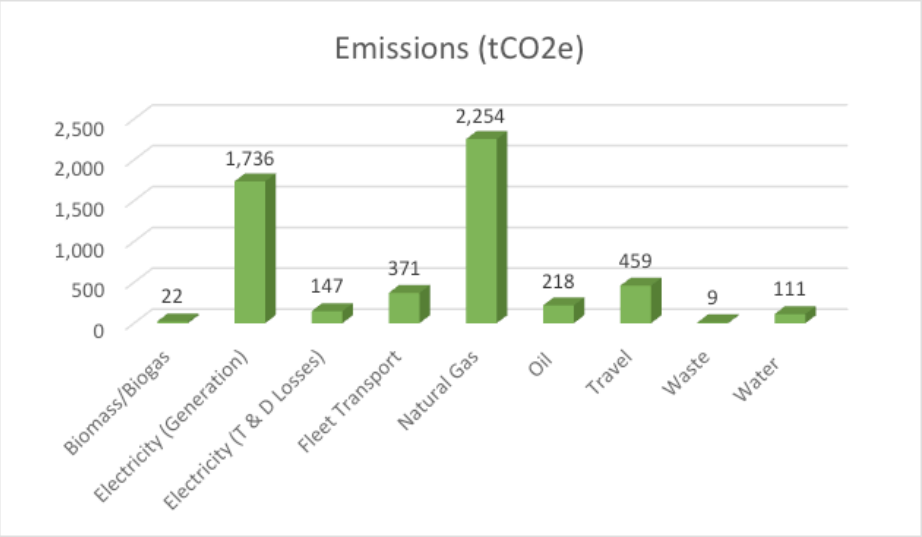
Baseline Consumption and Emissions

SRUC's first baseline year for carbon reporting is financial year 2014/15 as this was the first year where a complete data set was available. The baseline metrics for 2014/15 was 9,264 tCO2e and the cost impact was £2.8m. The revised baseline year for this Climate Change Action Plan is the end of financial year 2019/20 and delivered the outputs in table 2 and graph 1 below:

Table 2: Baseline emissions 2019/20

Emissions Source	Emissions (tCo2e)	%	Cost
Biomass/Biogas	22	0.4%	£43,874
Electricity (Generation)	1,736	32.6%	£935,911
Electricity (T D Losses)	147	2.8%	£70,202
Fleet Transport	371	7.0%	£412,394
Natural Gas	2,254	42.3%	£421,120
Oil	218	4.1%	£46,588
Travel	459	8.6%	£275,713
Waste	9	0.2%	£149,000
Water	111	2.1%	£302,098
	5,328	100.0%	£2,656,900

Graph 1: Emission Sources (tCo2e)



From the tables above it can be seen that gas (42.3%) is the largest emission source closely followed by electricity which produces (35.4% including transmission and distribution losses).

Travel and fleet transport accounts for 15.6% of total emissions. Oil, biomass, waste and water combined accounts for 6.8% of emissions. It is therefore considered that reduction measures/ initiatives should focus on gas, electricity, travel and transport to ensure the biggest impact on our carbon emission reductions.

As alluded to in Theme 7 above, baseline data including Farms emission sources is now 25,600 tonnes. Further work to determine emission reduction targets will be carried out as outlined in section 3.0: Additional Factors – SRUC Farms above.

Section 8: Communication and engagement

The launch of this Climate Change Action Plan is just the beginning. Everyone working or studying with SRUC has a role to play in successfully implementing this plan.

The Climate Change Action Plan was created through a thorough three-step process with colleagues and students.

1. **We presented five areas of discussion through a series of blog posts, a dedicated intranet page and engagement via the SRUC internal social network, Yammer. Colleagues provided feedback via blog post, Yammer or by email. This generated many of the ideas you see in the Climate Change Action Plan.**

2. **A first draft was shared with colleagues who came forward with a real interest in Climate Change as well as managers and teams from across SRUC who will help deliver the plan.**

3. **The feedback from these teams was used to create the final version of the Climate Change Action Plan you are reading.**

We will continue to engage with colleagues and students to demonstrate the progress being made under each of the projects and streams. This is vital to embed positive actions to mitigate against climate change within our culture and values.

And because not all solutions will be known until we see the technology of tomorrow, we will maintain open and honest dialogue to encourage innovation and the sharing of solutions to the challenges we face.

Throughout the delivery of the Climate Change Action Plan, we will always look to be receptive to new ideas and opportunities from our colleagues and our students and to involve them in our collective decision making. We will also look to share their success stories to highlight the work taking place across SRUC to mitigate against climate change.

Feedback on the impact of the plan is also important, not just for transparency, but also to encourage behavioural change within SRUC. We will look to report back to the organisation on our targets within the actions plan at least once a year.

Appendix 1: The global impact of farm emissions

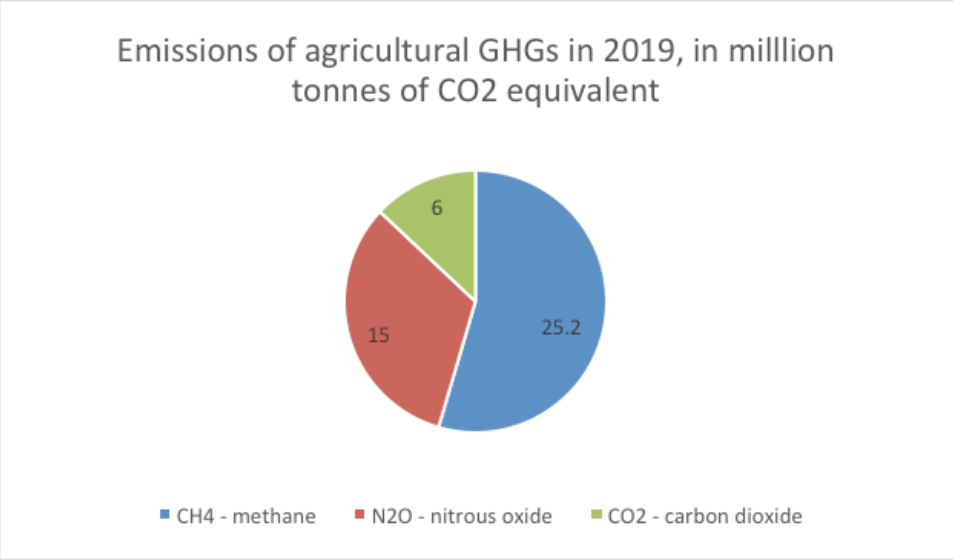
According to official figures, agriculture accounts for around 10% of the UK's greenhouse gas emissions – see DEFRA 2020 report – although inclusion of global land-use changes for animal feed would increase this figure – see WWF-commissioned report from 2009. For other sectors, greenhouse gas emissions are nearly all of CO2.

However, the characteristics of key agricultural greenhouse gases are very different. Methane and nitrous oxide both occur at low levels due to natural environmental processes (unlike CO2 from burning fossil fuels), and emissions caused by agriculture are hard to quantify accurately.

Both gases are much more powerful greenhouse gases than CO2. Methane breaks down relatively quickly in the environment, so methane is much less potent than carbon dioxide.

Nitrous oxide is less prevalent than methane but persists for much longer. Although less powerful, CO2 may be recycled by plants and animals repeatedly but effectively remains in the atmosphere or ocean until captured and stored, for instance in new and permanent forest, timber buildings, or rocks.

The overall balance of emissions from agriculture is derived from a combination of the ability of the different gases to trap heat, their persistence, and their concentration. Over the 100-year timescale used to measure Global Warming Potential (GWP), and discounting effects of land-use changes, methane (CH4) is seen as the most significant gas in UK agriculture, followed by nitrous oxide (N2O), then CO2. This is illustrated below, using the latest figures of UK agricultural greenhouse gas emissions from **https://data.gov.uk/dataset/9568363e-57e5-4c33-9e00-31dc528fcc5a/final-uk-greenhouse-gas-emissions-national-statistics:**



Appendix 2: Climate Change Action Plan Project List

No	Site	Building	Measure	Savings (£)	Capex (£)	Payback (Yrs)	Savings (Co2)
1	Barony Campus	Main Building | Dining Room	Upgrade electric heating	1,092	2,000	1.83	2
2	Oatridge Campus	Landscape Workshops	LED Lighting & Controls	1,035	2,300	2.22	2
3	King's Buildings Campus	Plant Growth Greenhouses	LED Lighting & Controls	13,104	34,320	2.62	27
4	Barony Campus	Main Building | Engineering Workshop	Switch Radiant heaters to biomass supply	9,848	32,000	3.25	29
5	King's Buildings Campus	Peter Wilson Building	VSDs	1,098	4,000	3.64	2
6	Oatridge Campus	Sports Barn	LED Lighting & Controls	1,035	4,100	3.96	2
7	Oatridge Campus	New Learning Centre	AHU Replacement	5,049	25,000	4.95	10
8	Oatridge Campus	Arran Room	LED Lighting & Controls	20	105	5.18	0
9	Oatridge Campus	New Learning Centre	LED Lighting & Controls	1,096	6,160	5.62	2
10	Barony Campus	Forestry Engineering Workshop	LED Lighting & Controls	647	3,750	5.80	1
11	King's Buildings Campus	Edinburgh School of Agriculture	LED Lighting & Controls	12,457	75,550	6.06	25
12	Barony Campus	Main Building | Engineering Workshop	LED Lighting & Controls	1,475	9,440	6.40	3
13	Barony Campus	Main Building | Games Hall	LED Lighting & Controls	125	800	6.40	0
14	Craibstone Campus	Ferguson Two	LED Lighting & Controls	5,680	37,080	6.53	12
15	Craibstone Campus	Ferguson One	LED Lighting & Controls	2,945	20,280	6.89	6

No	Site	Building	Measure	Savings (£)	Capex (£)	Payback (Yrs)	Savings (Co2)
16	Craibstone Campus	Mackie Hall	LED Lighting & Controls	906	6,300	6.96	2
17	Barony Campus	Small Animals Unit	LED Lighting & Controls	316	2,240	7.09	1
18	Oatridge Campus	Cromarty, Solway, Moray & Lorn	LED Lighting & Controls	1,000	7,360	7.36	2
19	Barony Campus	SFITC	LED Lighting & Controls	268	2,080	7.76	1
20	Oatridge Campus	Teaching Block	LED Lighting & Controls	1,542	12,000	7.78	3
21	Barony Campus	Kirkmichael House & Main Building	Heating Zoning	1,222	10,000	8.18	1
22	Craibstone Campus	Hunter Hall	LED Lighting & Controls	349	3,160	9.05	1
23	King's Buildings Campus	Plant Growth Unit	LED Lighting & Controls	569	5,520	9.70	1
24	Craibstone Campus	Small Animals Care Unit	LED Lighting & Controls	1,120	11,520	10.28	2
25	Barony Campus	Forestry Centre	LED Lighting & Controls	258	2,720	10.54	1
26	King's Buildings Campus	Edinburgh School of Agriculture	Solar PV	5,997	70,000	11.67	12
27	Oatridge Campus	Sports Barn	Solar PV	2,391	28,000	11.71	5
28	Barony Campus	Nith & Cree Residential Blocks	LED Lighting & Controls	388	4,940	12.73	1
29	Craibstone Campus	Ferguson Two	Solar PV	3,002	42,000	13.99	6
30	Barony Campus	Forestry Engineering Workshop	Solar PV	1,946	28,000	14.39	4

No	Site	Building	Measure	Savings (£)	Capex (£)	Payback (Yrs)	Savings (Co2)
31	Oatridge Campus	Tay	LED Lighting & Controls	165	2,560	15.53	0
32	Craibstone Campus	Sutton Hall	LED Lighting & Controls	587	9,780	16.66	1
33	Barony Campus	Kirkmichael House	LED Lighting & Controls	430	7,680	17.85	1
34	Barony Campus	Main Building | Dining Room	LED Lighting & Controls	103	1,920	18.71	0
35	Craibstone Campus	Ferguson Two	Boiler Upgrade	1,961	40,000	20.40	16
36	Craibstone Campus	Sutton Hall	Boiler Upgrade	1,067	24,000	22.50	9
37	Oatridge Campus	Forth	LED Lighting & Controls	606	13,680	22.59	1
38	Oatridge Campus	Clyde	LED Lighting & Controls	101	2,800	27.61	0
39	Craibstone Campus	Mackie Hall	Boiler Upgrade	2,079	76,000	36.55	17
				85,080	671,145		212
				cost per tonne	3,165.33		

Note: at this stage the £671k of investment required is not committed. The projects will be tested against SRUC Strategy and specifically the Estates Strategy and will also have specific business cases prepared where required.

Appendix 3: The SRUC Estate

The college merger in 2012 resulted in SRUC inheriting an excessive, geographically spread estate, with inefficiencies in operational delivery, space utilisation and flexibility. In addition, the estate has suffered from a significant lack of operational lifecycle maintenance and capital investment, which has led to the gradual deterioration of the estate.

The estate strategy 2018 – 23 takes account of current failings, and outlines opportunities for a rationalised, fit-for-purpose estate, which focuses on key themes such as agile working, space culture, the use of technology to enable our buildings to operate intelligently and flexible/ connected spaces, which will transform the way we operate.

SRUC has a diverse and geographically spread estate which comprises a footprint area of 175,000 m^2 GIA (1 April 2020) as outlined in Table 3 below.

Table 3: SRUC Occupied Floor area m^2

Business Area	GIA m^2
Campus	74,037
Farm	81,453
Consultancies	6,205
Consultancy and Research	534
Golf	2,111
Vet Centre	5,978
Other	4,352
Total	174,671

The impending disposal of facilities at Craibstone as part of the CALA land drawdown deal will reduce the estate footprint by 19,000m^2 GIA, which is an 11.1% reduction in footprint area.

Capital investment is in place to build a new Rural Veterinary Hub in Inverness which is due to be completed in December 2022. In addition, business case proposals have been approved as part of the Dairy Nexus project at Barony. The two approved capital investment projects will increase SRUC's footprint area by circa 3,000m^2 GIA. Ongoing disposals and new-build projects will be reconciled within existing carbon emission metrics.