

12 immediate actions for Scotland's response to the **Climate Emergency**

from the
Climate Emergency
Response Group

AUGUST 2019



**There is no
time to lose,
the time to
act is now.**

FOREWORD

We are already witnessing climate change's effects around the world and closer to home. The International Panel on Climate Change has said that we have just 12 years left to get ourselves on a pathway to avoid breaching 1.5°C of warming, a disaster for people and nature. That's only 2,000 working days, an extreme timescale to massively accelerate action. But it is achievable, and it can be an opportunity.

There is no time to lose, the time to act is now.

It is for this reason that a group of leaders spanning private, public sector, delivery organisations and membership bodies, met over the summer of 2019 as the Climate Emergency Response Group and produced this document. This report sets out what that group believe are the key actions that the Scottish Government needs urgently to take to respond to the climate emergency we face.

All these actions can be immediately implemented by Ministers, are commensurate with the scale of climate crisis we face, and will help make Scotland a better place to live and work. This package provides achievable actions that will accelerate our decarbonisation and put us on the path to net-zero. More will be required to achieve the full climate-friendly transformation of our economy, but these are the next steps.

The Scottish Government has made the very welcome statement that climate change "will be at the core of our next Programme for Government and Spending Review"¹. Including these recommendations in this Programme for Government would deliver on that commitment, and demonstrate the leadership that is critical to an effective climate emergency response.

An emergency requires an emergency response.

The 12 immediate actions:

- 1** Mobilise the £11bn of annual public procurement to support the product and service innovation the climate emergency response needs
- 2** Produce public guidance on sustainable, climate-friendly, healthy diets
- 3** A £100m Agricultural Modernisation Fund
- 4** Make regional land use plans for maximising the potential of every part of Scotland's land to contribute to the fight against climate change
- 5** Initiate 4 new Green City Region Deals
- 6** Signal that every one of Scotland's city centres will be vehicle emission free by 2030
- 7** Establish a public-interest company to invest in and operate CCS infrastructure
- 8** Enhance building standards to deliver zero-carbon homes and buildings
- 9** Accelerate Scotland's energy efficiency retrofit scheme, using regulation and public funding to support almost all homes and buildings in Scotland to reach at least EPC Band C by 2030 and zero-carbon by 2045
- 10** Create a Scottish Heat Pump Sector Deal that provides clear long-term market signals for the accelerated installation of heat pumps in Scotland
- 11** Complete plans for how we generate the renewable electricity needed to reach net-zero climate emissions
- 12** Dedicate the Scottish National Investment Bank to delivering on the Climate Emergency

HOW THESE ACTIONS DELIVER AGAINST THE SECTORS OF SCOTLAND'S CLIMATE CHANGE PLAN

	Electricity	Buildings	Transport	Industry	Waste	Land use	Agriculture
Climate emergency public procurement		✓	✓		✓		✓
Agricultural modernisation fund							✓
Sustainable diet guidance					✓		✓
Regional land use plans						✓	✓
Green City Region Deals		✓	✓				
Zero Emission city centres 2030			✓				
CCS public-interest company				✓			
Zero carbon building standards		✓					
Accelerated energy efficiency programme		✓					
A Scottish Heat Pump Sector Deal		✓					
Renewable electricity planning	✓						
SNIB for the climate emergency	✓	✓	✓	✓	✓	✓	✓

BACKGROUND

Scotland was the first nation in the world to declare a state of climate emergency. That provided the catalyst for a group of civic and business leaders to gather, as the Climate Emergency Response Group, intending to use their insights and influence to ensure that Scotland puts in place an appropriate response to the climate emergency.

The group met as individuals and identified, as an immediate objective, the development of a set of transformative policy proposals that would inform and influence the 2019 Programme for Government.

The group welcomes and strongly supports the Scottish Government's political commitments to action on climate change – legislating for a pathway to net-zero emissions by 2045, the creation of a Green New Deal for Scotland, and to a Budget and Spending Review that are consistent with the climate emergency. However, given the urgency of the situation, the group is keen to now see these commitments translated into urgent practical leadership, with the policies, initiatives, regulation and investment needed.

The group is ready to help and support politicians and decision makers with the implementation of these actions.

GROUP MEMBERSHIP

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EXPERT INTERVIEWS

CBI Scotland
Changeworks
CONFOR
City of Edinburgh Council
Community Energy Scotland
Energy Saving Trust
Existing Homes Alliance Scotland
Friends of the Earth Scotland
Forest Policy Group
Glasgow City Council
Greener Kirkcaldy
IPPR Scotland
Nourish Scotland
Scottish Carbon Capture and Storage
Scottish Land and Estates
Scottish Power
Scottish Renewables
Sustainable Scotland Network
Sustrans Scotland
The Climate Group
The Woodland Trust
Transform Scotland
University of Edinburgh
Urban Foresight
Zero Waste Scotland

SECRETARIAT

Elizabeth Leighton
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DEVELOPING OUR 12 ACTIONS

The group oversaw a rapid process to identify these practical actions. A long-list was developed drawing on literature, including the Committee on Climate Change's (CCC) report on net-zero, a series of expert interviews with individuals based in several different organisations, who all contributed in a personal capacity, and the personal knowledge and expertise of those involved in this initiative. This long-list was sifted down to a prioritised set of recommendations, making use of a set of criteria agreed by the group. This final report is the synthesis and conclusions of the Climate Emergency Response Group only.

The group has tested this package of 12 actions against the overall set of criteria, set out in the column opposite. Addressing climate change offers Scotland many opportunities. It is important that we understand action on climate change as a key opportunity to deliver inclusive growth, and the group is confident that delivering these 12 actions will also deliver on that goal.

These actions will need to be delivered in the right way, if they are to have maximum impact and benefits. The group's thoughts on these cross-cutting themes are set out further in the section, 'Implementing this package', at the end of this report.

The group hopes this set of constructive suggestions are included in the Scottish Government's upcoming Programme for Government. These actions are not all that needs to be done. Delivering on the climate emergency will need further action, and that will need to be set out in the revised Climate Change Plan the Government has said it will publish in 2020.

In developing these 12 actions, the group considered all the emission sectors identified in the Scottish Government's Climate Change Plan. Scotland has made significant progress in cutting emissions from electricity, with nearly 75% of our power needs now met from renewables, and from waste, where landfilling has been significantly reduced. Continued progress is needed in these areas, but to respond to the climate emergency, action now needs to be ramped up significantly in other sectors of our economy – particularly, heating, transport, industry and land-use (including agriculture). In all these sectors the CCC has highlighted that there is a need for new and concerted action from the Scottish Government. New action should provide the support, regulation and investment required to help people, businesses and communities to reduce their emissions from how they stay warm, how they travel around and from how they grow food.

THIS PACKAGE OF STEPS IS DESIGNED TO:

Slash our climate change emissions, across the economy, helping to put Scotland on track for climate neutrality by 2045

Be transformational, accelerating emissions cuts commensurate with the emergency

Impact globally and in Scotland, cutting global emissions through our leadership and by avoiding carbon leakage

Be achievable now, these steps can all be implemented now, in this Programme for Government, by Scottish Government, with existing technology and supporting innovation

Help the people of Scotland, providing the infrastructure, support and incentives required to help people across the nation make climate-friendly changes

Will make Scotland wealthier, healthier and greener, supporting prosperity, social well-being and working with nature to deliver wider environmental benefits.

Provide for a just transition, that changes our economy and our emissions in a fair way in terms of jobs, who pays and outcomes.

**An
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The 12 actions

The following immediate 12 actions for implementing Scotland's climate emergency response are all actions that can be taken now. They should all be included in the Programme for Government (PfG), and can all be completed within the 12 months to which the PfG applies.

These actions will accelerate the reduction of Scotland's climate change emissions, and, importantly, will also contribute many significant social, economic and wider environmental benefits. They will help everyone – individuals, communities and business – to adopt low carbon lifestyles and support a more prosperous society and economy.

Climate change is a far-reaching and complex problem. Every sector needs to play its part in responding to the climate emergency – businesses, individuals, and organisations. This document focuses on the key immediate actions our Scottish Government must take to provide leadership and facilitate action by others.

1

Mobilise the £11bn of annual public procurement to support the product and service innovation the climate emergency response needs

Why Scotland's climate emergency response needs this:

Procurement by the Scottish public sector must take a leadership role in responding to the climate emergency. The public sector is still buying fossil-fuel vehicles, building fossil-fuel heated buildings, maintaining inefficient buildings, commissioning carbon intensive infrastructure projects, serving high-carbon meals, purchasing single-use plastic products and so on, every day. This needs to stop urgently – the public sector needs to have its own house in order. Low-carbon alternatives already exist for all these products. But public procurement has an even bigger role to play in the climate emergency response. Public procurement should be used in a long-term and strategic way, to lead and stimulate the development and growth of new markets for climate-friendly goods and services that enable organisations to cut their emissions and help people to lead low-carbon lifestyles.

How it helps the climate and cuts emissions:

Put together, the public sector – across Scottish Government, local authorities, the health service and other public bodies – spends £11bn on procurement each year². This includes new infrastructure, buildings, vehicles, food, goods and services. While public bodies must comply with a sustainable procurement duty, there is still a huge amount of climate emissions embedded in all this expenditure. In addition to reducing these emissions, public procurement can shape markets long-term, creating demand for low-carbon goods and services, which once available, other organisations and individuals can also use and benefit from.

Co-benefits and opportunities

- New stable business opportunities. By providing a longer-term outlook to climate-friendly public procurement, this can create the market certainty and economies of scale for new business approaches to be established, which also means new options for consumers.
- Supporting local businesses. Providing a long-term outlook for public procurement opens new market opportunities for local SMEs, who will have time to develop the new goods and services that will be required in future.
- Consumer choice. New business opportunities, driven by the scale of public procurement, directly mean new options for consumers. But the public's awareness will also be raised, and alternatives 'normed' by decisions taken through public procurement

Immediate Implementation:

The Programme for Government should commit Ministers to using public procurement to respond to the climate emergency, and to using procurement with the purpose of leading markets for climate-friendly goods and services.

The Programme for Government should identify key immediate products and services that Scottish public procurement will support, including:

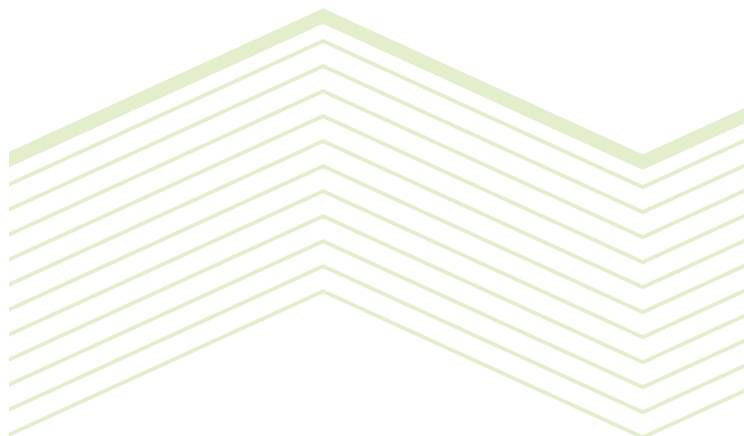
- **Zero-emission vehicles.** A collective, national announcement should be made that all Scotland's public sector bodies will only be operating zero-emission passenger vehicle fleets by 2030, and identify ambitious timescales for other vehicle types. These targets should be ambitious in relation to current model developments, so that they provide production foresight and incentivise vehicle manufacturers to develop new models.

Targets should also be in place for purchasing e-bikes and bicycles, and the purchasing of other products and services that encourage walking and cycling.

- **Zero-emission buildings.** All new public sector buildings should be zero-carbon, built to a high-level of energy efficiency and with a low-carbon heat source. Key public sector buildings should be district heating network ready, providing anchor load or a connection to existing schemes.
- **Building materials.** Infrastructure projects and buildings should be built with low embedded-carbon building materials.
- **Renewable electricity.** Purchasing renewables-only electricity supply, thereby signalling a long-term market for increased renewable electricity generation.
- **Food and catering.** Contracts for catering in schools, hospitals, prisons, canteens and so on should specify healthy lower-carbon meals. Public sector food should in the long-term help drive the transition to a climate-friendly food system, covering all potential aspects of reducing emissions, and following official guidance that we recommend should be developed.
- **Reducing single-use products.** The default should be to seek total-cost-of-service approaches which include ongoing maintenance, repair and reuse in the purchases. This should support the development of new business models. NHS National Services Scotland is piloting work in this area .

- **Recycled content in products.** Procurement should specify increased recycled content within materials purchases, driving guaranteed markets for secondary materials, and making new recycling business models viable.
- **Ferries.** Scotland's ferry fleet is publicly owned by CMAL, and this should be used to drive down emissions and maximise the use of Scottish renewable electricity. Ministers should announce that every new ship procured from 2025 onwards will be zero-carbon, making use of the expertise already developed in building hydrogen ferries in Scotland and in battery technology that is already operational in Scandinavian ships.

The Programme for Government should commit to developing new procurement guidance within the year and in partnership with the public sector. High profile announcements about purposes of public procurement – such as dates for achieving all electric passenger vehicle fleets – should be prioritised and occur within the year. There should also be a commitment to developing the necessary expertise, capacity and resource in public bodies so that they can effectively implement this new strategic approach and use their leverage with contractors.



2

Produce public guidance on sustainable, climate-friendly, healthy diets

Why Scotland's climate emergency response needs this:

Current dietary guidance, in the Eat Well Guide³, focuses only on good health. However, there is now a clear and growing public appetite for more sustainable and local food choices. There are many different climate change issues that people want to consider in their choices, including local food, organics, reduced meat consumption, food miles, various labelling initiatives and so on. It can be overwhelming and complicated for individuals and small organisations to work out how best to balance all these issues, whilst also maintaining affordability. Official guidance is therefore needed to support individual and institutional decision making.

The production of the new guidance is only a first step. Once developed, the new guidance should be implemented alongside a widespread programme of public engagement to inform the public about the new guidance and how they can make use of it in their own diets, cooking and consumption.

We have also recommended the use of public procurement to drive change towards a climate friendly economy and this guidance should inform food procurement strategies throughout the public sector. This would increase opportunities for local producers in Scotland and create new business opportunities for low-carbon food production. This should, in turn, open up new consumer offerings in the wider marketplace. The guidance should also inform future supply chain development work, supporting farmers and producers to provide products that are consistent with this dietary guidance.

How it helps the climate and cuts emissions:

There are a range of diet issues and choices that are responsible for greenhouse gas emissions – including food wastage, food miles, balancing of protein sources, and agricultural techniques. There is a growing public understanding of how diet choices impact on our environment and planet. Official guidance would provide advice and support to individuals and organisations on how they can best put that understanding into practice.

Co-benefits and opportunities:

New market opportunities – we would expect the guidance to influence consumer choices, for both individuals and for major organisations in the public and private sector. This should provide new domestic market opportunities for Scotland's high-quality and sustainable farmers and food processors. It should also create the market.

A planned transition for agriculture – as the guidance provides a basis for supply chain development work, it future-proofs the agriculture sector and enables a planned, just and supported transition.

Immediate implementation:

The Scottish Government should commit in the Programme for Government to developing public guidance, in consultation with Food Standards Scotland, on climate-friendly, sustainable and healthy diets over the next 12 months. The public guidance should include consideration of how sustainable food choices can help cut global climate change emissions and support sustainable Scottish agriculture. The process should be science-based and expert-informed, and should provide practical advice that is helpful to both individuals and organisations.

3

A £100m Agricultural Modernisation Fund

Why Scotland's climate emergency response needs this:

New machinery and equipment enable farmers to be more efficient and precise, cutting their emissions, as well as their business costs. But high upfront costs represent a significant barrier to uptake.

As part of a Green New Deal that delivers for Scotland's rural areas, a loan fund should make at least £100m available to Scotland's farmers in cheap or zero-interest loans that can be used for climate-friendly modernisation. A holistic approach should be adopted with the inclusion of energy efficiency measures, local electricity generation and demand management alongside machinery and equipment. The fund should be accompanied by a well-structured support service that helps land managers to identify suitable investments, and grant funding should be available alongside to support farmers with ongoing implementation and appropriate training.

The Fund should be future-looking, identifying the ways in which climate change will force (through changing weather) and require (to reduce emissions) agriculture to change, and should work with farmers to support them with these changes. For example, we have also recommended that a review of diet guidance takes place and this would provide, in future, valuable information about if and how Scottish agriculture will need to change to provide products that are consistent with climate friendly diets.

How it helps the climate and cuts carbon

There is significant untapped opportunity in the agriculture sector to further reduce greenhouse gas emissions by 35% whilst maintaining current production⁴. This is in addition to the future opportunities that are available to land managers and farmers to increase carbon sequestration through the planting of trees, recovery of soils and peatlands. New machinery and equipment should enable farmers to, for example, apply fertiliser (a major source of greenhouse gas emissions) efficiently and precisely at the minimal necessary levels. The fund also ought to be able to play a role, for example, in greater soil testing, reduced emissions from farm vehicles, and in covering slurry stores.

Training and knowledge transfer, supplied as part of the fund, will also support the proper use of new machinery and changes to more efficient and modern techniques and practices that are consistent with climate friendly land use and diets.

Co-benefits and opportunities:

Savings on inputs – Over-application of fertiliser is an issue on farms, causing significant environmental problems for our atmosphere and waterways. Reducing fertiliser application, through more precise methods and machinery, reduces these environmental problems and reduces long-term input costs for farmers.

Export opportunities – Many of the future challenges that Scotland's agricultural system faces are similar to the challenges faced in other countries. By finding solutions to these issues in Scotland we can create another value offering for Scottish agriculture and exports, and create expertise that can be offered elsewhere.

Immediate implementation:

The Programme for Government should commit to creating the fund in the forthcoming Budget and Spending Review. Funding should be committed to for the length of the Spending Review.

4

Make regional land use plans for maximising the potential of every part of Scotland's land to contribute to the fight against climate change

Why Scotland's climate emergency response needs this:

Scotland's land has a vital role to play in Scotland's climate emergency response – as the IPCC's Climate Change and Land special report makes clear is the case for the whole planet⁵. We can plant trees and restore peatlands and soils to take carbon out of the atmosphere. Maximising this potential requires planning how we use our land on a regional level, making sure we are managing land use options and conflicts. Putting in place spatial plans for land use are a vital first step, allowing future support programmes to effectively target where they can have most impact.

The 2016-21 Land Use Strategy⁶, a statutory document required by the 2009 Climate Act sets a good range of high-level and important objectives for how Scotland manages its land, including in relation to climate change. However, since 2016 there has been little action to take forward the implementation of the Strategy, despite its commitments to regional land use partnerships and frameworks.

The key next step is to put in place regional land use partnerships and frameworks for every part of Scotland. Scotland needs different regional and local land use solutions, and the land use strategy will only have an on-the-ground impact through the establishment of regional partnerships.

How it helps the climate and cuts emissions:

The CCC has highlighted⁷ the key role that land use will play in greenhouse gas removal, which is essential if we are to meet the new target of net-zero greenhouse gas emissions by 2045. With full political support, adequate resourcing and regional delivery, regional land use strategies could provide a mechanism to deliver the strategic and integrated land use and management change required to maximise greenhouse gas removal in Scotland.

Co-benefits and opportunities:

Responding to the climate emergency offers new opportunities for the management of Scotland's land. Tree planting and peatland restoration should offer long-term opportunities for Scotland's rural areas, which are valued and paid for by society, as part of any future subsidy regime.

By working with nature, Scotland's land use plans can support carbon sequestration alongside the recovery and restoration of natural habitats, the provision of flood prevention areas, and economically productive agriculture.

Once regional land use frameworks are in place, there will be an opportunity to align with development planning, making sure that Local Development Plans are complementary. This will help manage and avoid conflict. For example, regional land use frameworks should recognise the need for renewable electricity generation development and the emissions reductions that this will bring. Where generation opportunities are identified in local planning, this should feed through into decisions taken about regional land use planning.

Immediate implementation:

The Programme for Government should commit to:

- Completing, within 12 months, proposals for how regional partnerships and frameworks are developed;
- Establishing a regional land use partnership for every part of Scotland by 2021, with each partnership tasked with creating a regional land use framework by 2023 that identifies where resource can have the biggest climate impact locally;
- Using any future rural support regime to support the activities and areas that contribute most to our climate ambitions, as identified through the regional land use frameworks;
- The forthcoming budget allocating the necessary resource to develop the partnerships and frameworks, and the necessary capacity and skills in local authorities to oversee implementation.

**Responding
to the climate
emergency
offers new
opportunities
for the
management
of Scotland's
land.**

5

Initiate 4 new Green City Region Deals

Why Scotland's climate emergency response needs this:

Scotland's cities have a key role to play in Scotland's response to the climate emergency. They are home to the majority of the population, and therefore emissions, and their population density provide particular opportunities for the decarbonisation of transport and heating.

New co-funding agreements should be made between the Scottish Government, local authorities and the private sector, to finance infrastructure projects that are vital to Scotland's climate-friendly transition. Local authorities should take a lead in designing projects that are appropriate for the city region, in partnership with communities, business and the Scottish Government. There should be strict criteria in place to ensure each new city region deal delivers significant climate emission reductions, as part of wider zero-carbon city planning. Projects that could be included, according to regional needs and decisions, are:

- city centre transformations, including walking and cycling infrastructure;
- district heating networks and energy efficiency projects;
- freight consolidation projects that remove the largest HGVs from city streets;
- strategic electric vehicle charging infrastructure;
- bus priority measures (enforced bus priority lanes, bus gates and so on);
- and other transformational public transport initiatives.

These Scottish Green City Region Deals should be new and additional to the existing City Deals that have been developed in partnership between the UK Government, Scottish Government and local authorities. Where still possible, existing city deals could be reshaped to achieve the Green City Region Deals criteria.

How it helps the climate and cuts emissions:

Each of the Green City Region Deals should bring forward significant new low-carbon infrastructure projects, helping local individuals, communities and businesses change to climate-friendly behaviour. New transport projects should support modal shift, helping people move to lower carbon public transport that is made more attractive and reliable, or to walking and cycling that feels safer and more enjoyable. Heating and energy efficiency schemes should help people cut their emissions, reducing the amount of fossil fuels that are burned to heat buildings.

Minimising the embedded carbon through more sophisticated procurement should also be a core part of the programme.

Co-benefits and opportunities:

Scotland's city regions play a key role in the nation's economy and Green City Region Deals will offer many social and economic benefits, including:

- Increased productivity and connectivity through low-carbon transport projects;
- Increased attractiveness for inward migration and investment, as cities are made more liveable;
- Improved health, as air is cleaned up, and active travel encouraged more.

Immediate implementation:

The Scottish Government can start right away by committing to working with local authorities to develop Green City Region Deals in the Programme for Government, for each of Scotland's largest city regions, and by allocating a significant amount of capital expenditure for each of the city deals in the forthcoming Scottish Budget and Spending Review. The Scottish Government should seek co-financing from others, such as local authorities in the city regions, and from the private sector. Support should be given to the development of new business models that enable local authorities to bring in additional capital financing from the private sector and investors. The existing governance structures, developed for the last round of city deals, could provide an immediately available mechanism for channelling the investment, and developing concrete project proposals.

In addition, where possible due to the stage of development, existing City Deals should be reshaped to deliver more strongly on the cutting of emission reductions.

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6

Signal that every one of Scotland's city centres will be vehicle emission free by 2030

Why Scotland's climate emergency response needs this:

Ground transportation is a significant source of carbon emissions in Scotland. Signalling that Scotland's city centres will be vehicle emission free helps achieve this in two ways. Firstly, it helps to directly decarbonise our cities, maximising the use of public transport, walking and cycling, and creating more liveable and healthy cities. Secondly, it provides a powerful market signal for the wider decarbonisation of road transport across the whole of Scotland.

This policy would help support the transformation of Scotland's cities, building on ambitious plans that are already being developed and working in tandem with our proposal for Green City Deals that would create the new infrastructure needed to support public transport, walking and cycling. Low emission zones are already being developed in Scotland's largest four cities, and this takes that further, supporting decarbonisation of transport as well as tackling important air quality issues.

However, perhaps the larger decarbonisation impact of this policy would be in driving the purchase of zero-emission vehicles. The two major barriers to the electrification (and thereby decarbonisation) of Scotland's vehicles are a lack (partly perceived, partly real) of sufficient charging infrastructure and a lack of manufacturers bringing enough products to forecourts, despite the demand for electric vehicles and the affordability of the technology. The Scottish Government is making world-leading progress in reducing the first barrier with its development of charging infrastructure. It should therefore be asking what it can do to address the current and future supply of zero emission vehicles to the Scottish vehicle market.

Setting a clear mid-term expectation for local authorities to develop low-emission zones into zero-carbon emission zones (by 2030), would provide a clear, mid-term market signal to vehicle manufacturers, bus companies and freight

operators that they will need to start developing products and business strategies now, or will otherwise be unable to operate in city centres in the long-term. Fleet operators would have a clear signal that they should start purchasing zero-emission vehicles.

Assuming a fleet turnover rate of approximately 5 years, and a 5 year timescale for vehicle manufacturers to bring new products to market, it is vital that market signals are given now if cities are to play the leading role they should in achieving the phase out of fossil-fuel car and van sales by 2032.

How it helps the climate and cuts emissions:

Transport emissions make up a quarter of Scotland's climate emissions, and are not yet falling – indeed in some years there have been year-on-year rises. The majority of climate emission reductions in the transport sector will need to occur through the electrification of surface transport, alongside potential for hydrogen fuel cell vehicles for specific operations and HGVs, increased walking and cycling for shorter journeys and increased public transport usage.

The Scottish Government have set the right timescale for phasing out the sale of fossil fuel cars and vans, by 2032, but more active policy is required to achieve this. City centres should play a leading role in the achievement of the 2032 target – they have good public transport, shorter journeys that can be more easily changed to active travel, and clean air issues.

Co-benefits and opportunities:

This is a cost-effective approach, with the CCC's analysis showing that the electrification of transport is more cost-effective than allowing fossil fuel vehicles to persist, even before climate costs are considered.

Zero-emission zones in city centres will make for more liveable cities, that offer international levels of desirability for both residents and tourists, and provide healthy clean air to breathe.

This policy supports rural areas, by giving them longer to decarbonise road transport – which makes sense with a higher number of longer journeys, less frequent public transport services and less dense population. It's fair for cities to take a leading role in going more quickly with the decarbonisation of road transport.

Immediate implementation:

The Scottish Government have set clear expectations on local authorities that they must deliver low-emission zones on a rigid timetable and this is already driving implementation, whilst also giving local authorities the space to design the detail of their own individual schemes to reflect their own city's circumstances. The Transport Bill, currently going through the Scottish Parliament provides the legislative basis for this.

The Programme for Government should commit Ministers to bring forward amendments at Stage 3 of the Transport Bill that place clear expectations on local authorities that they should develop their low-emission zones into zero-emission zones by 2030. The Scottish Government should then work with and support the cities with creating their own local strategies for implementation that deliver in locally appropriate ways, whilst also maintaining the powerful collective market signal of zero-emissions city centres.

**a powerful market
signal for the wider
decarbonisation
of road transport
across the whole
of Scotland.**



7

Establish a public-interest company to invest in and operate CCS infrastructure

Why Scotland's climate emergency response needs this:

According to the CCC, Carbon Capture and Storage (CCS) technology is necessary for Scotland to achieve net-zero by 2045, particularly for the industrial sector and for achieving negative emissions through bioenergy and CCS (BECCS). However, there has been, in recent years, limited progress in bringing the technology to commercialisation in the UK. If Scotland and the UK are to achieve net-zero, this will have to change very soon. Long-term and large-scale capture and storage of carbon will require a price on carbon and this is best achieved at a European level. In the meantime, the Scottish Government should support the development of Scotland's CCS infrastructure, ready to take advantage of future carbon price controls.

CCS infrastructure (piping, transportation infrastructure etc.) will operate most efficiently under collective public operation. This has been clear since 2016 when the UK Parliamentary Advisory Group on CCS reported to BEIS⁹ and recommended the creation of a nationalised company. Although there has been no action since at a UK level, this is not a barrier to the Scottish Government pursuing this model by creating a public-interest Scottish CCS infrastructure company.

How it helps the climate and cuts emissions:

In its net-zero report the CCC concludes that many industries will be able to cut emissions through greater efficiency and electrification, if the right market incentives are in place to include climate pollution costs. However, some industrial processes will require carbon capture and storage (CCS) as the most cost-effective route to decarbonisation. CCS will also have a role in providing negative emissions through bioenergy and CCS (BECCS).

Co-benefits and opportunities:

Scotland's offshore geology, well understood and developed through oil and gas extraction, is advantageous (at a level of at least European significance) to long-term offshore underground carbon storage. This, combined with transferrable oil and gas skills and infrastructure, makes the north east of Scotland advantageous to the development of CCS. Existing piping infrastructure already connects the north east with central Scotland's industrial areas.

Scotland's best chance for competing economically in global industrial markets will be to focus on net-zero approaches and establish Scotland as a global centre of net-zero industrial expertise.

Long-term, CCS infrastructure could become profitable for the company, as carbon prices increase. The Scottish Government, unlike private sector financing, can take a longer-term view. As the CCS industry develops, profitable models are likely to emerge, and future Scottish Governments will have influence over this – for example by introducing targeted industrial carbon taxes – which would allow the Government to recoup its initial investment.

Immediate implementation:

The Programme for Government should commit to having identified the appropriate model and establishing the public-interest company within the coming 12 months. Company structures such as Network Rail or the London Olympics Delivery Agency could provide a model for the company, or a regulated private monopoly such as National Grid would be another option.

Scotland's best chance for competing economically in global industrial markets will be to focus on net-zero approaches and establish Scotland as a global centre of net-zero industrial expertise.



8

Enhance building standards to deliver zero-carbon homes and buildings

Why Scotland's climate emergency response needs this:

Every year in Scotland we build many new buildings, including around 20,000 homes a year, that will require retrofitting within the next 20 years to make them suitable for a net-zero Scotland. This must urgently stop. We are storing up a problem and a cost for the future, when the technology and ability is there to make every new building a zero-carbon one. The upgrading of building standards for new build properties should reflect this.

Building standards should also play an important role in supporting the retrofit of energy efficiency measures and the replacement of fossil fuel heating devices (such as gas or fuel oil boilers) with low-carbon alternatives (such as heat pumps, and other new electric heating systems). Upgraded building standards should also specify that all buildings undergoing a major refurbishment that requires a building warrant should, at the same time, be required to install additional energy efficiency measures that will bring the building significantly closer to net-zero carbon emissions.

Our buildings must also be adapted and ready for Scotland's changing climate. More extreme temperatures, greater rainfall and more severe weather events all pose challenges against which our buildings stock must be resilient.

There is already a review of building standards underway and Ministers must be clear that this will result in building standards that reflect the climate emergency.

How it helps the climate and cuts emissions:

The decarbonisation of heating and buildings is a key next step for Scotland's journey to net-zero, building on our progress in developing a high-renewable electricity grid. Almost half of all Scotland's greenhouse gas emissions come from demand for heating and almost all our heating requirements are currently met by the burning of fossil fuels.

By 2045, we will have had to retrofit the vast majority of Scotland's existing building to make them climate-friendly, with improved energy efficiency and a renewable heat source. By building new buildings that are not zero-carbon, we are adding to this problem and adding to our retrofit task between now and 2045.

Co-benefits and opportunities:

This is a cost-effective action. By putting up new buildings that are not fit for our climate friendly future, we are, as stated, storing up a future cost that will fall to either the homeowner/building owner or the state. By making every new building zero-carbon, this future liability is avoided. Total costs of decarbonisation to the whole economy are also reduced, as the installation of measures is cheapest during the building process, as opposed to retrofitting at a later date. By building energy efficient buildings that stay warm and do not overheat, building running costs will be reduced – again an overall saving to the economy and the building owner.

Major refurbishments are a logical and cost-effective time to retrofit existing homes, when disruption is already taking place.

Immediate implementation:

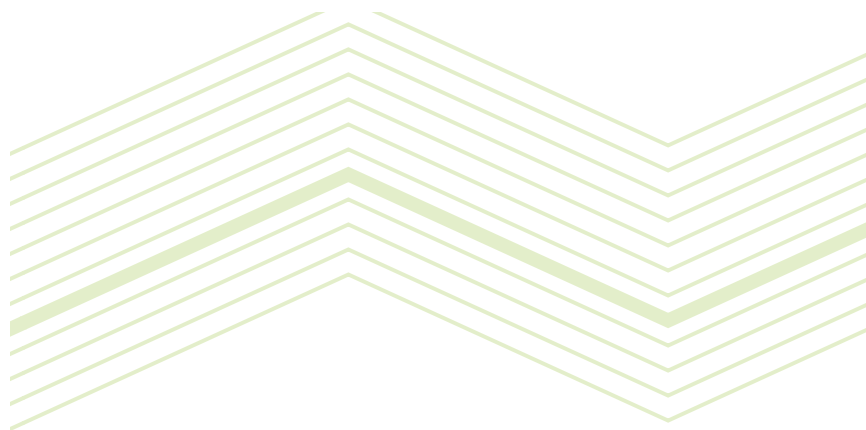
The Programme for Government should commit to the building standards review currently under way resulting in standards that ensure:

- from 2021 the installation of fossil fuel heating systems in new buildings has stopped, and they are not being connected to the gas grid (going faster than the UK Government's announcement for England that this will be achieved by 2025 for homes);
- that all new homes and buildings are built to an excellent level of energy efficiency;
- that all new homes and buildings are built resilient to climate change, designed to deal with overheating and more frequent major rainfall events and secure from flooding;
- EV charging infrastructure is provided in all appropriate homes and buildings;
- that onsite renewable generation takes place in all appropriate locations;

all so that every new building built in Scotland is climate-proof and will not require net-zero retrofitting, and so that building standards are supporting the retrofit of existing buildings to be zero-carbon by 2045.

A longer-term review should also commence, setting out how the future trajectory of standards aligns with net-zero and how this can be used to strengthen Scotland's energy efficiency and low-carbon heat supply chains. The second phase review should also ensure building standards are providing clear market signals about future demands for lower-carbon buildings materials, including the use of wood in construction and low-carbon concrete.

The decarbonisation of heating and buildings is a key next step for Scotland's journey to net-zero



9

Accelerate Scotland's energy efficiency retrofit scheme, using regulation and public funding to support almost all homes and buildings in Scotland to reach at least EPC Band C by 2030 and zero-carbon by 2045

Why Scotland's climate emergency response needs this:

The climate emergency requires increased delivery, investment and ambition if we are to deal with Scotland's existing stock of draughty and leaky buildings, and to replace fossil fuel heating systems with much faster installation of renewable heating devices.

The Scottish Government have established Energy Efficient Scotland as Scotland's national programme of energy efficiency retrofit. However, the programme is not yet improving existing buildings at the rate that is implied by the designation of energy efficiency as a 'National Infrastructure Priority'. This leaves Scotland with thousands of inefficient and leaky buildings.

Responding to the climate emergency and meeting our net-zero target for 2045 means speeding up this programme, improving more buildings every year, so that we are on course for almost all buildings having a good standard of energy efficiency by 2030 and to eliminate climate pollution from the heating and cooling of our buildings by 2045.

How it helps the climate and cuts emissions:

Heating accounts for almost half of all Scotland's climate change emissions. Improving energy efficiency is the simplest, most cost-effective and most sustainable way to reduce these emissions. Improved energy efficiency reduces the amount of heat generation Scotland will require in future, reducing the cost of the renewable heat devices needed and reducing the amount of increased renewable energy generation required.

Co-benefits and opportunities:

- Reduced fuel poverty – energy efficiency of homes is the driver of fuel poverty over which the Scottish Government has full control and this action will significantly reduce fuel poverty.
- New jobs and economic opportunities – energy efficiency retrofit offers a good investment to job creation return, supports a more efficient economy and frees up money previously spent on heating bills for consumer expenditure or business investment.
- Improved health for householders – cold, damp and draughty homes are a contributor to heart and lung disease and to poor mental health.
- Incorporation of climate adaptation measures into Energy Efficient Scotland will prevent issues arising in the future, such as food damage or overheating.

Immediate implementation:

The Programme for Government should commit to using regulation and public funding to support almost all homes and buildings in Scotland to reach at least EPC Band C by 2030 and zero-carbon by 2045. This should include:

- The forthcoming Budget at least doubling the fuel poverty/domestic energy efficiency budget.
- The Budget significantly increasing the funds available for supporting energy efficiency in non-domestic buildings.
- Address current limitations of the methodology which underpins the EPC's so that it supports the net-zero carbon requirements, particularly in the case of rural properties, and ensure robust quality assurance procedures for assessments are put in place.

- Pressing on with plans for owner-occupied sector regulation, including mandatory energy performance standards for privately owned homes by 2025 (with a 5-year lead in) at point of sale and major refurbishment. (Regulatory pathways are already in place for the socially rented and private rented sectors.)
- Establishing an Oversight Body for the infrastructure programme, to co-ordinate activities between local authorities and agencies, to plan the overall programme, to drive purchasing efficiencies, and to support the supply chain and labour market so it is ready to meet the increased demand.
- Bringing all non-domestic buildings into the scope of regulations to require significant carbon savings by 2030. In particular, by 2030 all larger buildings (over 1000m²) should have undertaken and acted on an energy improvement Action Plan, with the 'Display Energy Certificates' option abolished, ensuring that non-domestic building owners have undertaken all technically feasible and cost-effective improvements.
- Using the current building standards review to require that when major refurbishments take place that require a building warrant, the installation of additional energy efficiency measures should at the same time also take place.

Improving energy efficiency is the simplest, most cost-effective and most sustainable way to reduce these emissions.

10

Create a Scottish Heat Pump Sector Deal that provides clear long-term market signals for the accelerated installation of heat pumps in Scotland

Why Scotland's climate emergency response needs this:

Heat pumps are the key technology that will deliver the majority of heat decarbonisation in Scotland, with the CCC stating that there should be of the region of at least 10 million heat pumps (including many hybrid heat pumps) operating in UK homes by 2035⁹. This requires a vastly more rapid installation rate for heat pumps in the coming years and this will require a concerted, integrated effort to achieve.

A sector deal with the heat pump industry (including related businesses, service providers and public agencies) should set parameters for how the industry is expected to grow in Scotland in the coming years, the Scottish Government's actions for how it will provide incentives (including, crucially, the replacement of the Renewable Heat Incentive), support and market access that will allow the industry to grow at that scale, and on the industry side the responsibilities and commitments that the industry will make (for example to supporting Scottish supply chains).

How it helps the climate and cuts emissions:

Just 6% of current heat demand is currently met from renewable sources¹⁰. Most of the rest comes from the burning of fossil fuels.

The CCC have identified that heat pumps will be the key technology for delivering the majority of heat decarbonisation, with potential roles long-term for other technologies, including the retention of the gas grid to deliver low-carbon hydrogen to homes during cold spells.

A structured approach to the accelerated deployment of heat pumps will ensure smooth implementation and that the economic and carbon reduction potentials are maximised through well designed programme development and delivery.

Co-benefits and opportunities:

This should be an industrial policy, designed to maximise the economic opportunities for Scotland of the renewable heat transition that urgently needs to accelerate. Where an industry starts, the industry tends to remain – Scotland should lead the UK in the deployment of heat pumps, providing a strong scale domestic market base from which manufacturers can expand out. There is an existing manufacturing base in Scotland, for example the Mitsubishi factory in Livingston, and this heat pump sector deal should provide market certainty and a route map to very significant expansion.

The UK Government's Offshore Wind Sector Deal has brought together the industry, provided a common purpose between industry and government, and elicited commitments to sourcing and diversity from the industry. A similar model for renewable heat in Scotland will transform how we heat our homes, and in doing so support the development of new industries and businesses in Scotland.

Immediate implementation:

The Programme for Government should:

- Announce that a Scottish Heat Pump Sector Deal will be completed within the year, led by a steering group drawing membership from across heat pump manufacturers, installers, distribution network operators, householder and business support agencies, social housing providers and other appropriate representatives.
- Commit to setting out this parliamentary year how the Renewable Heat Incentive (RHI – due to expire in 2021) will be replaced, and how its replacement will provide the financial incentives that deliver increased heat pump deployment.
- Commit to consulting within the year on the introduction of the phased regulations or emission standards that are needed to drive the accelerated installation of renewable heat devices.
- Announce funding for a real-world practical retrofit trial of 10,000 heat pumps and hybrid heat pumps. It should cover homes, community facilities and SME business. It should trial a range of different technologies in an integrated way – including retrofit of air-source and ground-source heat-pumps, hybrid heat pumps and bivalent approaches, and also including local thermal storage.
- Announce a timeline for stopping extensions of the gas network to existing homes.

**an industrial
policy,
designed to
maximise the
economic
opportunities
for Scotland
of the
renewable
heat transition**

11

Complete plans for how we generate the renewable electricity needed to reach net-zero climate emissions

Why Scotland's climate emergency response needs this:

The Scottish Government's main powers in terms of the electricity sector relate to planning. The CCC's evidence on net-zero gives us a sense of scale for how Scotland's renewable electricity generation needs to continue to grow, to complete the transformation of our electricity sector, and to support the decarbonisation of transport and heat. The Scottish Government should commit to using its various upcoming planning documents to set out where this generation capacity should be placed and how it should be delivered by a range of technologies and scales of generation.

The new Sectoral Marine Plan for Offshore Wind and combined Scottish Planning Policy and National Planning Framework currently being prepared by Scottish Government will play a vital role in facilitating the release of areas suitable for the next phase of Scotland's renewable electricity deployment. Marine planning should also support further renewable electricity deployment. Terrestrial planning should take account of the forthcoming repowering needs of existing onshore wind assets and identify how these opportunities can best support delivery against the climate emergency with the most efficient technologies.

How it helps the climate and cuts emissions:

While Scotland has already made huge strides in decarbonising its electricity generation, the integrated decarbonisation of heating and transport will require very significantly increased renewable electricity generation and an energy systems approach. The CCC's scenarios for reaching net-zero call for an indicative installation across the UK of up to 4GW/year of offshore wind (including the repowering of existing sites) and a further 1GW/year of onshore wind and up to 4GW/year of solar. Although the CCC say such deployment rates are feasible, this will nonetheless require a concerted effort to address current market barriers, electricity network capacity and flexibility and work to ensure that planning systems are able to deliver.

Co-benefits and opportunities:

Economic – the equivalent of nearly 75% of Scotland's electricity needs¹¹ are now met from renewable sources, a remarkable transformation that has happened only in a handful of years and one that has already brought significant economic benefit to Scotland. The continued expansion of renewable electricity generation will continue to be a key part of Scotland's sustainable and inclusive economic growth.

Immediate implementation:

Taken together, these marine and terrestrial plans should be designed to deliver the potential renewable energy requirements of a net-zero Scotland, across all types of renewable electricity generation, all scales of generation, and all forms of ownership (including local and community owned, as well as commercially developed).

The Programme for Government should commit to completing a review within a year to determine those requirements and how the Scottish planning system can help to deliver them.

12

Dedicate the Scottish National Investment Bank to delivering on the Climate Emergency

Why Scotland's climate emergency response needs this:

The Scottish National Investment Bank has a vital role in directly funding the zero-carbon transition, as well as mobilising funds elsewhere in the private sector in support of Scotland's climate objectives.

The Bank should have this zero-carbon purpose written into its DNA, in its articles of association. It is vital that the Bank does not invest in projects that will be harmful for achieving Scotland's climate change goals, and that its focus is on driving investment in our climate-friendly economy. The Bank should not be permitted to lend to projects that are not consistent with Scotland's climate goals.

How it helps the climate and cuts emissions:

There are investment opportunities for the Bank in both rural and urban areas, supporting emissions to fall across agriculture, land use, buildings and transport sectors. Using its 'mission approach' and patient finance, the Bank should invest in new business models that are scalable, and that will in time unlock new approaches that support all kinds of businesses and communities across the country with rapidly slashing emissions.

Co-benefits and opportunities:

The zero-carbon transition is a key economic opportunity for Scotland. And developing skills, expertise and technology which can be exported as other countries follow Scotland's climate lead, is a pragmatic economic strategy.

Immediate implementation:

The Scottish Government should commit in the Programme for Government to bringing forward amendments to the Scottish National Investment Bank Bill to put the zero-carbon transition in the Bank's DNA, in its articles of association.

The Scottish Government should also set out in the Programme for Government that the Bank will not be allowed to invest in any high-carbon projects, and that the Bank will have to regularly report on how its investments are aligned with Scotland's climate change targets.

Implementing this package

The Scottish Government are committed to putting climate change at the heart of this Programme for Government. These recommended actions can all be initiated now, without delay. But delivering on them, and the climate emergency, will take time and concerted effort.

Across all these policy actions and in delivering on the climate emergency, there are common cross-cutting themes for how the Scottish Government should lead the implementation of accelerated action. These principles must apply across the board to Scotland's response to the climate emergency:

Global Leadership

Scotland is an outward looking nation with a powerful tradition of innovation. Indeed, we carry a heavy responsibility, because it is Scotland's innovation that kick-started the fossil fuel era. But we are now exporting our zero-emission renewables expertise across the globe¹². Scotland has set world-leading climate-change targets, and our actions should be designed not just to slash Scotland's emissions but to lead the world in doing so too. While we have cut rapidly our territorial climate change emissions, Scotland's consumption emissions remain stubbornly high. We cannot simply transfer our fossil fuel emissions offshore to other countries who make the products we buy. Scotland's biggest role in cutting global emissions is to lead by example, and to tell our success stories. It will be important to assess how Scotland can best make a contribution to the COP26 in Glasgow, if the UK bid is successful. A summit/strand modelled on the global climate action summit, with a strong sub-state and non-state focus, is one way to do this.

Engaging with People

Public understanding and awareness of the climate crisis has placed the climate emergency at the top of the political agenda. The public want to see changes to their economy and society to cut emissions, but gaps do exist in individuals' understanding of the speed and breadth of the changes needed. As this new action is taken forward, the Government and people must engage with each other, co-creating the delivery of policy, understanding hopes and concerns, and framing new action as change and an opportunity, rather than as a burden. People and government must continue to take this agenda forward together, challenging each other, expecting leadership, and continuing to expect that actions are commensurate with the climate emergency we face.



Just transition

Action on climate change is a massive economic opportunity for Scotland. But, the objective of sustainable and inclusive growth requires policy delivery that ensures those economic benefits and opportunities are shared fairly. Across people, communities, sectors and industries. In delivering accelerated policy, Ministers must make decisions on how costs are shared between individuals and the state, how policies can be win-wins for the climate and society, and how job creation opportunities are maximised here in Scotland. Leadership is vital to all these issues, and the establishment of the Just Transition Commission is a welcome step.

Resourcing Leadership

The climate emergency presents a pressing and complex challenge, cutting systemically through our economy. If the Scottish Government is to effectively lead our climate response, proper investment in the co-ordination of planning, in policy development and delivery, and in engagement with people is a necessity. This will require increased civil service capacity, across many areas, and, in all likelihood, the establishment of new organisations and agencies. This challenge should not be shied away from, and the right investments in capacity need to be made. Local authorities also have a particularly important role to play in delivering many policies, especially those for buildings and transport. The Scottish Government needs to work with local authorities to ensure that they have sufficient capacity in place.

Timeline for implementation

2019



2020



References

- 1 <https://www.gov.scot/publications/global-climate-emergency-scotlands-response-climate-change-secretary-roseanna-cunninghams-statement/>
- 2 <https://www.gov.scot/policies/public-sector-procurement/>
- 3 <https://www.foodstandards.gov.scot/consumers/healthy-eating/eatwell>
- 4 Vivid Economics and WWF Scotland https://www.wwf.org.uk/sites/default/files/2019-01/WWF_Report_VIVID_Jan_2019.pdf
- 5 <https://www.ipcc.ch/report/srccl/>
- 6 <https://www.gov.scot/publications/getting-best-land-land-use-strategy-scotland-2016-2021/>
- 7 <https://www.theccc.org.uk/publication/land-use-reducing-emissions-and-preparing-for-climate-change/>
- 8 <http://www.ccsassociation.org/news-and-events/reports-and-publications/parliamentary-advisory-group-on-ccs-report/>
- 9 From the CCC's net-zero technical report. <https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-Technical-report-CCC.pdf>. The 10million figure is indicative of scale, and is presented as only meaning hybrid heat-pumps on on-gas grid homes. We would expect additional heat pumps in new homes and in off-gas grid areas, but these are not provided by the CCC. A simple pro-rata amount would suggest 1million in Scottish homes, but a greater prevalence of off-gas grid homes and so on suggests Scotland could taken a leading role, and deliver more rapidly on heat-pump uptake. The Sector Deal should identify in detail the number of heat pumps that are aimed for, the type (e.g. air-source, ground-source, hybrid etc.) and the location (off-gas grid, new homes, retrofit).
- 10 <https://www.gov.scot/publications/update-renewable-heat-target-action-2018/>
- 11 <https://news.gov.scot/news/renewable-electricity-at-record-levels>
- 12 According to research by Scottish Renewables, Scotland's renewable energy expertise is being put to work in 72 countries, <https://www.scottishrenewables.com/news/scotlands-green-energy-export-impact-revealed/>

The organisations supporting the process and work of the Climate Emergency Response Group are:



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