Northumberland
County Council

DRAFT

CLIMATE COMMITMENT ACTION PLAN 2020-21

1. Introduction……....3
2. Executive Summary……..5
3. Northumberland's Energy Landscape……...7
4. Northumberland's Carbon Emissions……....8
5. Current National Picture and Future Energy Scenarios……...11
6. Northumberland's County Council Carbon Emissions……..11
7. Northumberland's/Northumberland County Council Reduction Targets……12
8. Programme Structure and Governance……..14
9. Funding and Financing……..17
10. Monitoring and Measurement……..18
11. Stakeholders and Partners……...18
12. Proposed Action Plan Implementation Measures…….20

1. Introduction

The need to continue to reduce our carbon emissions has accelerated recently with a growing understanding that restricting global temperature rises is the key priority in avoiding the issues associated with climate change.

These issues include threats to unique ecosystems, extreme weather events, impacts on food growing and access to water.

The world is currently 1C warmer than pre-industrial levels, every incremental increase in temperature worsens the impact of climate change. Reports from the Intergovernmental Panel on Climate Change (IPCC) , the UN body for assessing the science related to climate change in 2018 clearly stated that global warming has to be kept to a maximum of 1.5C to prevent serious impacts.

Climate science has clearly shown that in order to prevent dangerous levels of global warming carbon emissions do not just need to be reduced, they need to end. Net zero emissions are needed as soon as possible, the Government has legislated for this to happen by 2050.

Northumberland County Council understands that addressing climate change needs to be acted on urgently which is why our target date of net zero emissions for the county is 2030 and why we declared that there is a climate emergency. Our target date to halve our own operational emissions has been brought forward from 2030 to 2025 and we will publish an updated action plan for our own aim for net zero emissions by 2030 before 2024.

Clean growth is about decarbonising the county whilst improving the local economy. A post carbon economy becomes a necessity for net zero emissions and with this there are economic opportunities for Northumberland as the need for renewable, clean energy generation and use can attract clean economic growth, potentially lowering our residents', community and businesses' energy costs.

I sincerely hope our commitment to the climate is fully realised, it will require a change in our approach to everyday life in areas which have an impact on the climate. We also have to attract significant investment and funding in the application and advancements of low and zero carbon technologies.

Nonetheless, we have made progress in positioning the County to allow this change, such as securing the Borderlands Inclusive Growth Deal, and there are a number of areas where the Council can make a difference in the short to medium term, building momentum for our local action to be increasingly driven by a respect for and a desire to protect the environment for future generations to enjoy.

Councillor Peter Jackson
Leader of Northumberland County Council

2. Executive Summary

A net-zero 2030 target for our county reflects the latest climate science understanding that global average temperatures must be controlled. The IPCC reports that limiting global warming to 1.5 °C would require “rapid and far-reaching” transitions in land, energy, industry, buildings, transport, and cities. However, it also points out that it is possible within the laws of chemistry and physics.

Why 2030?

Urgency is the key when considering to deliver net zero, quite simply, the sooner the better and by declaring our intentions to make Northumberland a net zero emissions county by 2030 we position ourselves as a key Local Authority with the desire, commitment and ambition to deliver it but also meet the growing need to address our residents, communities and businesses concerns about the seemingly slow progress made nationally to meet an international climate emergency.

Other Countries are recognising the urgency, Sweden and New Zealand are aiming for 2045, Finland for 2035 and Norway for 2030 – the most ambitious of any government.

Northumberland has significant potential for capturing carbon emissions, tapping into renewable heat and generating renewable power. We have a proven track record in renewable generation and we must build on this and work harder to decarbonise heat and transport. We can make our own fair and equitable contribution to net zero by becoming net zero as soon as we can, but we need our residents and businesses as well as the Government’s support to do so.

Policy and financing approaches need to change, continued investment in innovation in our energy sector, both commercial and domestic across buildings and vehicles needs to come to Northumberland backed by investment in land based activities/management which can lower and capture emissions, generate energy whilst sustaining food production.

Individual actions count, everyone of them and the sooner we all reduce our emissions the more effect they will have on curbing global temperature rises in the critical time period needed.

We hope the engagement, projects, planning and support provided in our plan benefits both the planet and our people, reducing carbon, bringing jobs through clean growth and reducing costs as we attempt this hugely ambitious yet vitally important task. This action plan will be reviewed and updated each year, so we can track our progress towards achieving a net zero Northumberland by 2030

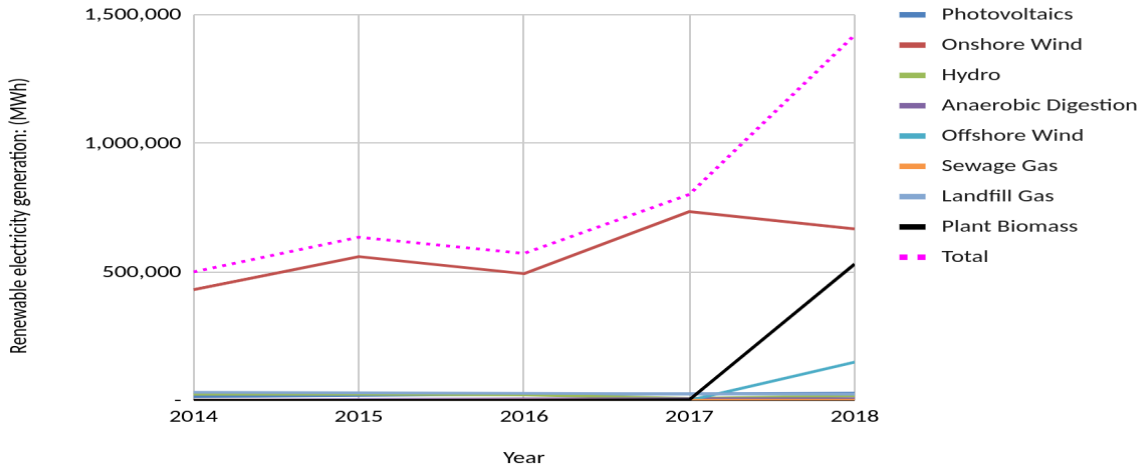
Glen Sanderson
Councillor Glen Sanderson
Cabinet Member, Environment and Local Services

3. Northumberland's Energy Landscape

Northumberland has a thriving energy community that is responding to climate change whilst driving clean economic growth. We have improved on the generation of renewable energy over the last five years and are delighted to report that we are 2nd in England for MWh generation in onshore wind, and 1st for Hydro generation and 6th in the UK for the number of solar photovoltaic sites.

In 2018 we generated over 1.4 million MWh of renewable energy from nearly 8,000 installations which is 54% of the equivalent overall electricity use for the county, with the national average being 34%.

At Lynemouth there is a major civil engineering project to convert the former coal fired power station to full biomass generating enough renewable electricity to power over 400,000 homes.



We contribute to the UK's renewable energy at an increasing level and are determined to do more in a manner which does not impede on our natural and unique land and landscapes.

Energy Central is a premier deep-water East Coast UK energy base located in Northumberland and is delivered through a unique partnership between Advance Northumberland and the Port of Blyth which brings together:

- Nearly 200 HA of strategic, quay linked development sites.
- The Port's expertise in managing and supporting time-critical offshore energy projects.
- National energy infrastructure including the North Sea Link UK/Norway Interconnector and National Grid assets.

- Market access offshore energy developments in the North Sea including offshore wind projects

- An extensive specialist supply chain capability

Northumberland is set to and will play a key role in the North East's transition to a growing clean energy sector.

Fuel poverty in Northumberland is higher than the national average. This needs to be addressed as part of our approach to climate change ensuring homes are energy efficient.

Northumberland has a high proportion of its homes not on the gas grid (18%) using more expensive fuels such as heating oil, resulting in higher carbon emissions. There is also a higher number of rural properties more difficult and expensive to insulate as well as homes which are not on the electricity grid.

However, there are more opportunities for renewably generated electricity, subject to full compliance of planning obligations and the backing of the community they could be installed in.

Our buildings and homes will almost all still be operational in 2030. Their heating and power requirements should not allow for inefficiencies in the use of unnecessary power and heat bringing with it a rise in emissions and costs.

Our supported travel planning has enabled schools and businesses to develop measures to reduce the reliance on the car whilst investing in more sustainable modes of travel. Northumberland has been a key advocator of sustainable travel as evidenced by our work in the proposed Northumberland to Newcastle passenger train line, EV infrastructure improvements and investment in cycling and walking.

A number of opportunities exist to realise significant emission reductions which include:

- Energy efficiency
- Renewable electricity generation at scale
- Community and rural energy schemes
- Heat networks
- Low carbon and renewable heat at scale
- Fuel poverty reduction
- Off-grid energy improvements
- Emissions Capture
- Infrastructure upgrades
- Increase in low and zero emission vehicles
- Decrease in car journeys able to be made by cycling and walking
- Freight consolidation

4. Northumberland's Carbon Emissions

The main driver for global warming are energy only emissions. These are derived from:

- Power
- Heat
- Transport

Our emissions are recorded as carbon dioxide emissions per kilotonne as recorded by the UK Government excluding large industrial sites (from 2013) some railways, motorways, aviation, shipping and land-use.

The Department for Transport collects average daily flow statistics by vehicle type on major roads (including A roads). Where this is not possible, regional average flows by vehicle type are used.

Carbon dioxide emissions from diesel rail are estimated using the number of kilometres, the location, the type of train (freight, intercity or regional), and an emissions factor.

Carbon dioxide emissions can be captured from the atmosphere via a variety of processes, these may be biological, chemical or mechanical. Land use, land use change and forestry (LULUCF) activities can impact the removal of greenhouse gases from the atmosphere. For the purposes of this section we have recorded our positive emissions not the negative. Whilst there are negative emissions created by our land and land use these are dependent on the potential reversibility of the land and its use. We have therefore not taken into account the negative emissions attributed to the county from our LULUCF emissions. We will develop a consistent methodology for recording these so they are an acceptable and transparent contribution to our commitment.

As heavy industry declined and was replaced with low carbon approaches nationally, there has been significant fall in our county emissions. Since 2010:

- Industry electricity emissions have fallen by 51%
- Domestic electricity emissions have fallen by 47%

However, gas consumption has been less successful as the move to decarbonise heat is much more difficult at scale and will rely on changes to renewable heat policies at a national level for it to be more successful.

- Industry gas emissions have fallen by 28%
- Domestic gas emissions have fallen by 16%

An area we need to improve on is transport emissions. We have seen since 2010 an increase of 5% in our transport emissions aided by an increase in car ownership of 8% in Northumberland in the last 10 years. Given the rural and wide ranging nature of the county, particularly to job and destination sites, there is a reliance on the

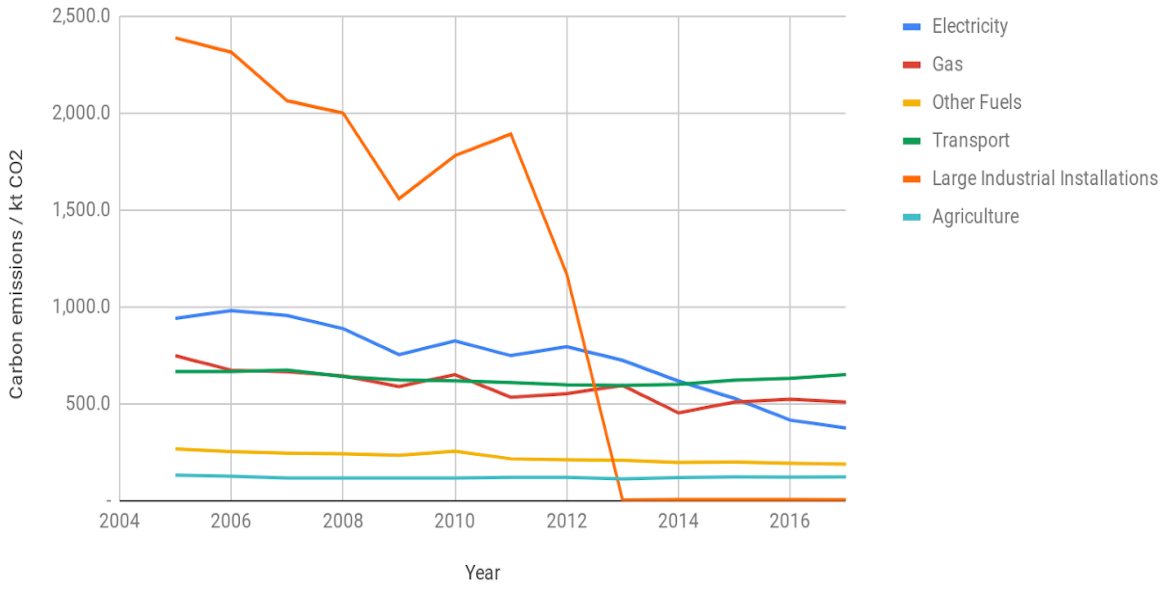
motorcar in the absence of widespread high frequency bus services seen in cities. Increasing the use of public transport, low and zero emission tailpipe vehicles supported by the reduction of short duration car journeys and freight consolidation will allow for that improvement.

Overall including other fuels, LPG, oil etc, we have the following emissions relating to energy.

Direct 'Energy Emissions' excluding LULUCF at 2017/18 were 1,855.5 Kilotonnes C02 Emissions.

	2010	2017
Industry	2,799.7	636.7
Domestic	832.2	566.9
Transport	619.4	651.9
Totals	***4,251.3***	***1,855.5***

This can be split into six areas of emission sources



5. Current National Picture and Future Energy Scenarios

Of UK electricity generated in 2018, gas accounted for 39.4% whilst coal accounted for only 5.0%. Renewables share of electricity generation increased to 33.3% in 2018, a record high.

Energy scenarios from the National Grid understand that whilst a net zero scenario is possible for the UK it will require 'immediate' action across all policy sectors and technologies to reach it.

Included in the scenario is the need to increase in deployment across almost all technologies, including bioenergy, hydrogen when used in transport, generation capacity, Carbon Capture Use and Storage and energy efficiency measures.

There is a need to increase decarbonised electricity from renewable sources with 58% of this being decentralised. This transition is already underway and will accelerate offering opportunities for Northumberland to attract investment in projects which both decarbonise electricity but also heat.

6. Carbon Emissions - Northumberland County Council

We have seen success in reducing our carbon dioxide emissions, benefiting by a decarbonising electricity grid which we contribute to.

However, we also have implemented energy saving projects which have reduced emissions and identified further projects which can be seen in the implementation section of this plan.

- LED street lighting project will save over 6,000 tonnes of carbon dioxide on completion
- Solar PV 608,000 kWh generation renewable electricity p.a.
- Combined Heat and Power up to 2,000,000 kWh p.a. electricity generation via gas (right choice at time of commission)
- Ground source heat pumps installed in depots and fire stations with a project potential of up to 1,228 KW potential

We have measured our emissions in CO2te = carbon dioxide tonnes equivalent

Carbon dioxide equivalency describes, for a given mixture and amount of greenhouse gas, the amount of CO2 giving the same global warming potential.

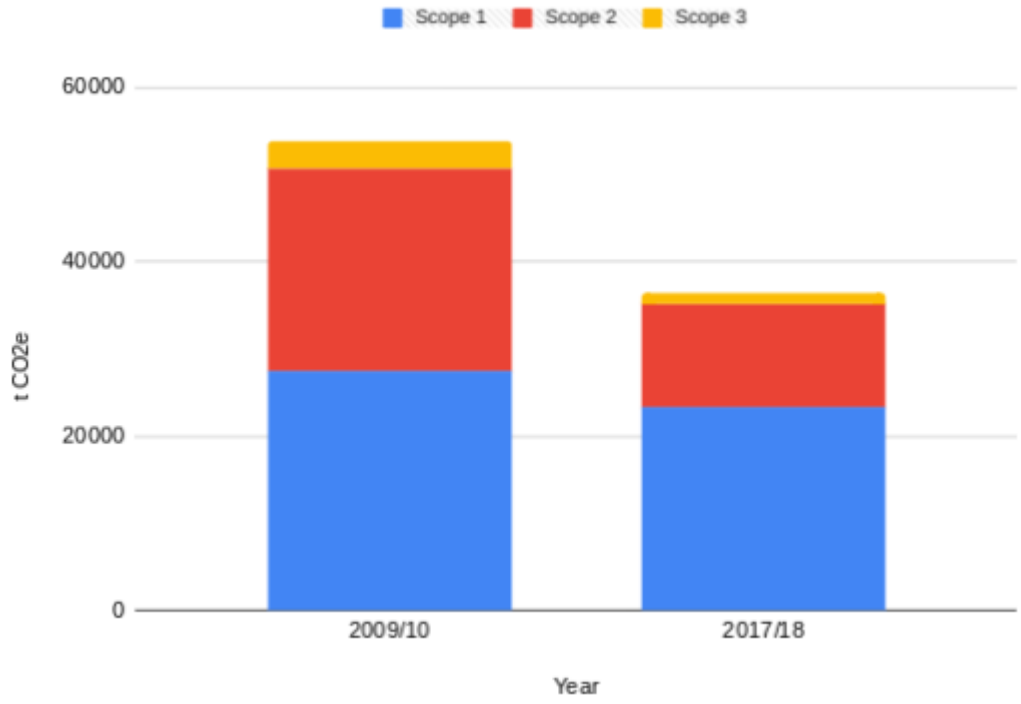
2017/18 CO2te 23,367 scope 1 includes school controlled transport contracts
2009/10 CO2te 27,434 scope 1 includes school controlled transport contracts (estimated)

2017/18 CO2te 11,752 scope 2
2009/10 CO2te 23,399 scope 2 (estimated)

2017/18 CO2te 1,228 scope 3
2009/10 CO2te 3,109 scope 3 (estimated)

Totals
2017/18 CO2te 36,347
2009/10 CO2te 53,942

This can be shown in the following illustration.



7. Targets

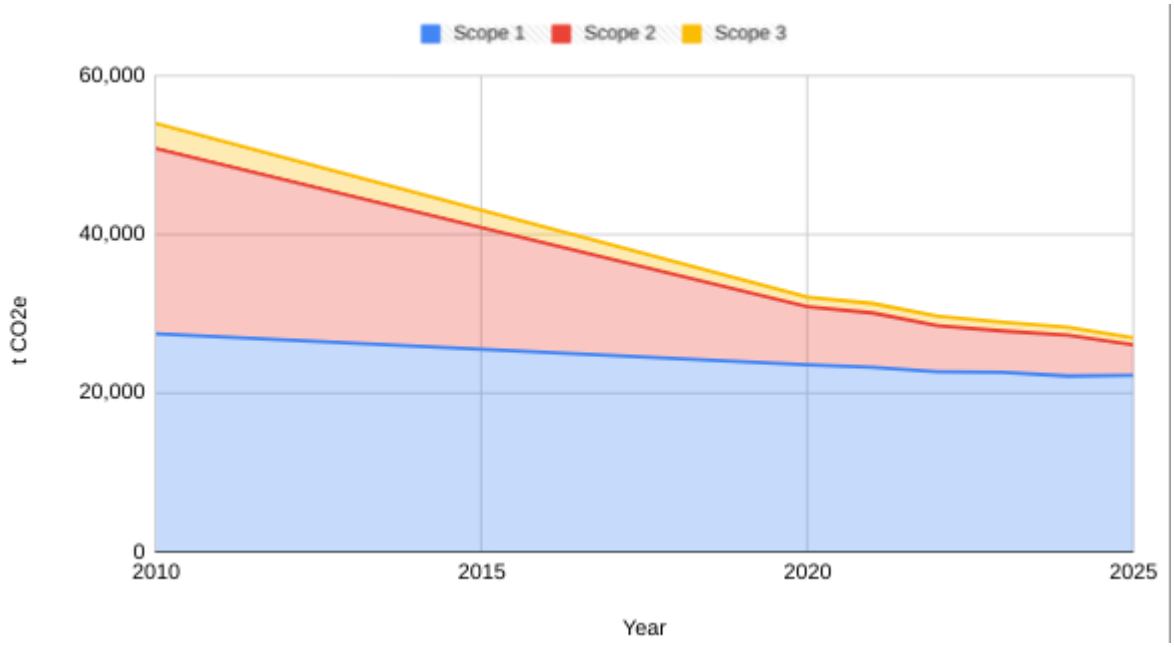
Emissions within the county will be projected in tonnes of carbon dioxide equivalent (CO_2e). CO_2e reports the impact of emission of all greenhouse gases in relation to the amount of CO_2 that would produce the same level of warming. SCATTER is the gold standard tool for carbon emission modelling at a regional level. It was produced by Anthesis, BEIS and Tyndall Centre. The updated version will be available to the council by the end of 2019, and data will be inputted into this report.

SCATTER takes national greenhouse gas data for the county of Northumberland.

It allows levels of ambition to be set against 35 measures within the fields of agriculture and land use, energy, industry and commercial, transport, domestic and waste; there are 4 levels of ambition for each measure. The tool projects carbon emission pathways following achievement of goals.

Pathways will be published by setting ambition levels to 1, 2, 3 and 4.

Northumberland County Council targeted emissions reduction tCO_2e

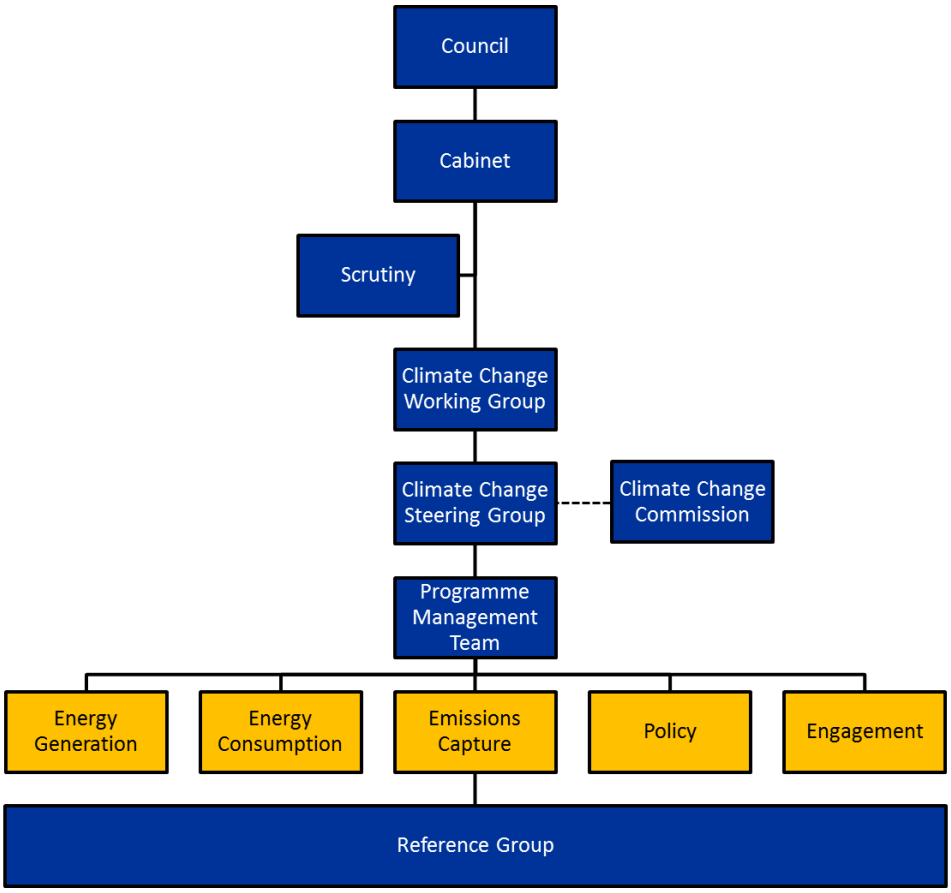


Year	Scope 1	Scope 2	Scope 3
2010 Baseline	27,434	23,399	3,109
2020	23,541	7,301	1,228
2021	23,244	6,828	1,200
2022	22,678	5,806	1,155
2023	22,601	5,196	1,120
2024	22,114	5,129	1,044
2025	22,200	3,874	888

Scope 1 *all direct emissions owned or controlled by the council, including gas, coal, oil used to heat buildings as well as fuel used in council owned and controlled fleets, including school transport.*
Scope 2 *all indirect emissions from purchased electricity, heat, steam and includes street lighting*
Scope 3 *other indirect emissions from business travel*

8. Programme Structure and Governance

The Council has established a governance structure to oversee the development of an action plan to deliver the 2025 and 2030 commitments. As part of the action plan it is also proposed that a Climate Change Commission for Northumberland is established bringing together leaders and experts from business and academia to assist Northumberland in achieving net zero carbon emissions by 2030.



Roles within governance structure

Reference Group:

- The Reference Group will be an advisory group with broad membership which will provide for valuable lay and specialist expert input into specific themes arising from the Action Plan
- Reference Group members will be invited to participate in particular thematic strands, will be consulted on the development of the Action Plan and will provide feedback to inform the work of the Climate Change Steering Group.
- Membership of the Reference Group is set out in the Terms of Reference for the Steering Group.

Thematic strands (Energy Generation, Energy Consumption, Emissions Capture, Policy, Engagement):

- The programme will be organised around 5 thematic strands.
- Each strand will have a project team of key stakeholders who will inform the development of the action plan for that strand.
- Each thematic strand will receive input from relevant reference group members.
- Each thematic strand project team will meet monthly.

Programme Management Team:

- The programme management team will be responsible for coordinating and supporting the development of the action plan across the 5 thematic strands and ensuring interdependencies are managed.
- The team will be responsible for providing information and updates on the programme to the Steering Group and other stakeholders.
- The team will coordinate the delivery of the programme and put in place mechanisms for tracking its progress and measuring its impact.

Climate Change Steering Group:

- The Climate Change Steering Group will provide strategic advice to the Council and partner organisations aimed at achieving carbon neutrality by 2030.
- The Steering Group will oversee the development of the Action Plan, will monitor progress on delivering the programme and will monitor its impact.
- Its membership is set out in its Terms of Reference.
- It will meet quarterly.

Climate Change Cabinet Working Group:

- The Cabinet Working Group will be a cross-party ‘sounding board’ comprising of representatives from all parties. It will help to ensure full council support going forward and recognise the common interest in climate change issues.
- The Working Group will receive quarterly updates from the Steering Group.

Scrutiny:

- The work of the Climate Change Steering Group will be reported six-monthly to the cross-party Corporate Services and Economic Growth Overview and Scrutiny Committee commencing December 2019.
- Scrutiny will review and scrutinise the information received and provide advice to Cabinet and Council on any decisions in respect of the Council’s climate change policy or delivery.

Cabinet:

- The work of the Climate Change Steering Group will be reported six-monthly to Cabinet commencing December 2019.

- The Climate Change action plan will be submitted to Cabinet for Approval.
- Cabinet will be responsible for decision-making on whether to progress any proposed actions which involve a significant budget commitment for the Council or significant impacts on communities in the County.

Council:

- Council will ultimately be responsible for approving the action plan and for approving the allocation of resources as part of the Council's medium term financial plan budget setting process.

Climate Change Commission:

- The Commission, formed from a wide range of both academic, professional and business experts will provide independent strategic advice, guidance and feedback to the Steering Group and Council on their action and implementation plans.

Programme Controls and Reporting Structures

The Programme Manager will develop detailed reporting processes and templates for the programme to ensure the Steering Group is able to oversee programme progress and track the impact of each project on the programme's overall aim, benefits, success criteria, risks and costs. The key reporting structures will be as follows.

Purpose of report	**Responsibility**	**Frequency**
Highlight report to Programme executive sponsor	Programme Manager	Monthly
Progress updates and matters for escalation from thematic groups	Thematic leads	Monthly
Progress updates and matters for escalation/decision to steering group	Programme Manager	Quarterly from Nov 2019
Progress updates to cross party working group	Co-ordinated by Programme Manager on behalf of the Steering Group	Quarterly from Nov 2019
Progress updates to Cabinet and Scrutiny	Co-ordinated by Programme Manager on behalf of the Steering Group	Half yearly from Dec 2019

Matters for decision by Cabinet / Council	Co-ordinated by Programme Manager on behalf of the Steering Group	At key milestones and decision points in programme

9. Funding and Financing

Financing for climate projects needs to be balanced against other financial demands on the council, however in terms of projects which deliver carbon emission reductions from our operations then an invest to save approach from utility cost reductions makes these projects financially sound, aligning environmental and financial planning.

Wider costs of work to engage in county emissions reductions have significant benefits to the local economy. Residents and businesses utility costs can be reduced and Parish and Town councils can assist wider work in aligning their funding to climate change measures. However, we do recognise that additional financial resources will be required so we will establish through planning and project development (as projects are realised and fully commissioned) a medium term budget value to ensure the work both continues and accelerates.

This work will be facilitated and enhanced by positioning Northumberland as a key investable area in low carbon economy planning. Backed up from available funding mechanisms and an agreed medium term budget. Funding mechanisms include:

- European Regional Development (ERDF) and its replacement
- Borderlands Inclusive Growth Deal (Energy specific fund)
- North of Tyne Combined Authority (Supported match funding)
- Green Home Finance Innovation Fund (as it develops)
- Dept of Business Energy Industrial Strategy
- North East Local Enterprise Partnership Energy Hub (Energy specific funding)
- Rural Community Energy Fund
- Community Municipal Bonds (for community buy-in)
- UK Research and Innovation (for investment in innovative low and zero carbon technology)
- OLEV (for investment in low carbon vehicles)
- Department for Transport
- Charitable funding streams for charities and relevant organisations

All Council related financial decisions are scrutinised and routed through an established governance framework for financial planning.

10. Monitoring and Measurement

Measurement of carbon emissions are undertaken at a county level by the UK Government for both emissions and renewable generation. These will allow for

monitoring and measurement of our success, as will the use of the council's own in house measurement tools.

There are other success criteria we can use to measure.

- Emissions reductions per agreed period
- Renewable energy generation increases per annum/per technology
- Energy consumption reduction per annum/per energy source
- Funding successfully secured for climate change projects
- Level of engagement in climate change awareness/projects increases
- Increased uptake of low carbon vehicles, walking and cycling
- Residents and staff more climate conscious and able to make informed choices

Equally there other outcomes which measure success.

- An emissions outcome realising as near to net zero emissions balance by 2030
- A clean-growth driven economy delivering increased jobs, securing Northumberland as a key energy and supply chain sector and investible area
- A route map advising businesses and residents how to achieve lower energy and transport costs, which assist people out of fuel poverty and establish fairer access to energy.
- An increased economic and social value of our natural capital assets whilst protecting and enhancing their environmental quality.

11. **Stakeholders and Partners**

Key Stakeholders	**Interests**
Northumberland County Council	Engagement with Councillors and with various services including housing, procurement, planning, transport, regeneration, waste and asset management will be required. Climate change strategies will need to be balanced with other policy priorities within financial constraints.
Climate Action Northumberland Network	Climate change campaign group
Friends of the Earth	Climate change campaign group; other campaigns include increase in tree cover, reduction in plastic use and opposing fracking
Northumberland Association of Local	Representing the interests of parish, town and community councils, whilst offering specialist training advice and

Councils	support to its members
Northumberland VCS Assembly	Inform, engage with, co-ordinate and champion the views of the voluntary and community sector. Engage with public sector partners and strategic partnerships to shape and respond to the challenges and opportunities facing the sector in Northumberland.
Northumberland Youth Parliament	Today's youth using their voice to bring about social change
Northumbria NHS Healthcare Trust	Shared services alignment for procurement and best practice with the potential for health benefit analysis of an increased healthier lifestyle.
Advance Northumberland	Explore the development of a "Northumberland Green Business Charter Mark"
Environment Agency	Advice on hydro projects, water and heat extraction from mines as well as scientific advice on climate change adaptation models for vulnerable areas.
Northumberland National Park Authority	Advice on bog preservation and restoration, native broadleaf woodland restoration, wet grassland restoration, species rich grassland restoration, heathland restoration, planning discussion for renewable technologies
North East Chamber of Commerce	Enhancing conditions for business growth
Federation of Small Businesses	Representing members to support their ambitions to play a role in a net zero future and lobby Government.
North East Local Enterprise Partnership	Supporting local businesses and energy for growth
National Centre for Energy Systems Integration, Newcastle University	Supporting optimised energy systems integration to ensure costs and emissions from the whole energy system fall and using real life data to influence Government policy.
Northumberland Schools	Engagement with children and teachers on climate change issues
Northumberland Cycling and Walking Board	Engagement on sustainable transport options and influencing public choices

Additional stakeholders will be identified throughout the programme.

Stakeholders will be able to advise on relevant projects through invitation to a reference group as discussed previously in the governance arrangements.

12. Proposed Action Plan Implementation Measures

There are a wide ranging suite of measures which can reduce emissions from direct intervention through technology use to increasing awareness about more climate friendly choices.

We have split these into five thematic areas which allows for key support for the necessary staff, partners and key stakeholders to work together to maximise opportunities. Funding and effective approaches to realise the results we need in the form of significant reductions will be key.

1. **Energy Generation -** supporting the county's current important renewable contribution
2. **Energy Consumption** - reducing the amount of energy needed by reducing energy waste
3. **Emissions Capture** - supporting natural carbon assets
4. **Policy** - monitoring the implementation of planning policy to ensure climate change mitigation and adaptation
5. **Engagement** - with residents, businesses: large organisations, SMEs & communities

Our Proposed Actions for 2020/21

The broad range of measures below will be prioritised and progressed by the council and its partners during 2020/21. Some of these are individual projects that have already secured funding and will proceed into the delivery phase, others include feasibility studies to help develop proposals and detailed business cases. The council is also developing programmes that will help facilitate and support others to make changes that will have a positive effect on climate change.

What We're Doing Now?

- Continuing to support the Schools Go Smarter work to ensure sustainable transport and travel are adopted where possible.
- Working with our partners and stakeholders to boost efforts in the five themed groups by hosting the first meetings of each group during November 2019
- Increasing the amount of electric vehicle chargers by 2020/21.
- Identifying Local Cycling and Walking Infrastructure Plans
- Promoting walking and cycling to improve health and wellbeing, to maximise the environmental, economic and community benefits
- Recently secured £265,000 through the Forestry Commission's Urban Tree Challenge Fund to plant 633 standard trees within our parks and public open spaces over the next two years, to improve our urban tree cover, enhance the

landscape and biodiversity and make a positive contribution to carbon capture.
- Continuing to develop the Northumberland passenger train line project, linking Ashington to Newcastle Central via Bedlington and Blyth.
- Monitoring the implementation of planning policy to ensure climate change mitigation and adaptation.
- Installation of heat pumps to Fire Stations by December 2019 (subject to planning approval)
- Installation of solar PV carport by Summer 2021 (subject to planning approval)
- Planning for procuring electric council fleet vehicles
- Launching a council staff climate change awareness programme
- Designing new public buildings and upgrading existing council buildings to include renewable electricity generation and increased energy efficiency measures
- Applying for funding to undertake technical feasibility studies to ensure renewable generation projects are viable
- Mapping potential heat sources from mine-water.

Our Future Proposals

- Looking into low carbon heat networks for residents and businesses.
- Identifying land which can host battery storage to help renewable energy generation.
- Supporting the potential for land management practices which help reduce the impact of climate change.
- Supporting potential solar, hydro and wind sites for lower cost renewable energy generation for residents and businesses, which have the backing of local communities.
- Working with the Government to develop supportive innovative climate policy.
- Working with public transport service providers to improve access to bus and rail services and to promote and attract passengers to services which serve the many residential, tourist and business destinations as a cost-effective alternative to the private car.
- Identifying energy projects needing innovation and support both on and off grid.
- Identifying joint-working opportunities which support the North East Local Enterprise Partnership's (NELEP) Energy for Growth Strategy.
- Continuing to build Energy Central in Blyth as a premier deep-water East Coast UK energy base - attracting clean growth investment to the county.
- Supporting rural community energy projects through a partnership approach.

- Further promotion of the Business Energy Saving Team (BEST) project to make companies more energy efficient.
- Continuing to support programmes to increase access to affordable warmth, aiming to reduce fuel poverty in the county.
- Assessing the potential to increase waste reuse and recycling.