



Northumberland County Council

EXECUTIVE TEAM

14TH SEPTEMBER 2020

NORTHUMBERLAND CLIMATE CHANGE BRIEFING

Report of: Rick O'Farrell, Interim Executive Director of Place
Cabinet Member: Cllr Glen Sanderson, Environment & Local Services

Purpose of report

To provide an update on the actions taken by the County Council since the full Council approved the *Climate Change Action Plan 2020-21* in January 2020 and to seek Cabinet approval for the proposed next steps, and the associated additional revenue expenditure.

The report sets out 7 priority action areas for the council to pursue its climate change ambition. These are a development of the themes set out in the Action Plan 2020-21. These original themes 'Energy, Transport, Carbon Sequestration and Land Management, Policy and Communications and Engagement' then form the body of the report with updates on progress and specific project details. A summary of decision points is listed below.

Recommendations

It is recommended that the Cabinet:

1. Note progress made against the Climate Change Action Plan 2020-21
2. Endorse all Priority Action Areas
3. Approve the allocation of financial resources of £69.3k revenue required for continued heat mapping work in 2020/21 from the Regeneration Reserve Development Fund.
4. Note and consider policy recommendations detailed in [section 5](#) of this report, namely:-
 - a) Each service area has been asked to produce an 'Enhanced Service Plan' which includes the requirement for every service to consider what actions and initiatives they could take to contribute to carbon reduction and sustainability ambitions so that climate change forms an integral part of the service planning process.

- b) In order to ensure Councillors make informed decisions when considering the climate change implications of a proposed policy coming to Cabinet and full Council, it will be necessary to undertake a carbon assessment for each policy decision. The details of how such a process will be operated and resourced will be provided in the climate action plan 2021-23, where approval will be sought to put this into place with a provisional starting date of April 2021 to coincide with the new financial year.
 - c) A new Procurement Corporate Social Responsibility policy is being developed by the procurement service which will seek to reduce carbon emissions where financially viable through our commissioned services and the Council's supply chains. The details of this policy will be brought to Cabinet in a separate paper.
 - d) It will be necessary to review the Council's salary sacrifice staff incentive schemes so that we recognise the environmental costs associated with some goods and services and to ensure we offer sustainable options. Our aim in this is not to limit choice but rather to encourage and support staff to make more sustainable options.
 - e) To help reduce the carbon impact and financial cost of business mileage there should be a virtual option for all meetings unless deemed inappropriate. This will allow officers, Councillors, external partners and residents to attend meetings without the requirement to travel.
 - f) It would be beneficial to conduct carbon emission evaluations on each of the Council's new housing projects. These evaluations will consider, in line with cost, affordable housing and other priorities, how we build energy efficiency measures into new projects to prevent expensive future retrofitting.
5. Note that further revenue and capital funding requirements will be identified to support the Council's Climate Change activities through the wider budgetary process being undertaken to develop the Council's Medium Term Financial Plan for 21/22.

Link to Corporate Plan

The Climate Change programme contributes to all of the priorities included in the Northumberland County Council Corporate Plan 2018-2021:

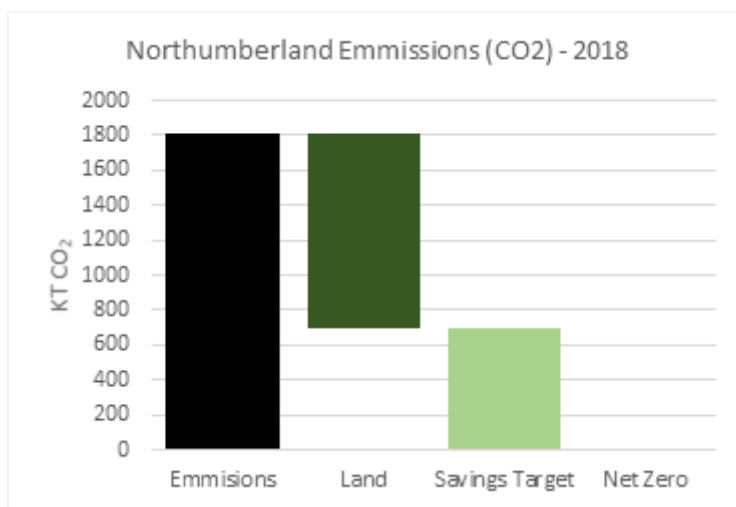
- How - efficient, open and work for everyone: We will listen to and consider public views as we develop and implement our plan and we will empower local communities to do their part to tackle climate change
- Living - living, safe, healthy and cared for: We will work to reduce the impact of fuel poverty and climate change on community wellbeing
- Enjoying - love where you live: We will conserve and protect our exceptional natural environment assets
- Connecting - access to the things you need: We will promote resident access to sustainable transport options and renewable energy sources
- Learning - achieve and realise your potential: We will encourage the uptake of science, technology, engineering and maths (STEM) skills to support the development of our green economy

- Thriving - attract more and better jobs: We will position the county as a national exemplar location for renewable and low carbon energy generation and other green industry

Key Issues

1. Climate Change Priority Statement

To meet our objective of net zero everyone in the County has a part to play, to take collective action. Focus on a prioritised approach is needed to ensure the highest emission reductions are met for the benefit of all. To achieve the net-zero target, work will need to focus on two fronts: protecting and increasing effective land use measures that capture carbon, and reducing emissions in a targeted way.



A significant amount of Northumberland's emissions (61%) are offset through Land Usage (e.g. forests). Assuming these levels are maintained, then CO₂ emissions will need to reduce by 701 kt or 39% across four areas; Transport (637 kt); Domestic (554 kt); Business (496 kt); and Agriculture (128 kt).

Expanding on the themes set out in the Action Plan 2020-21- **Energy, Transport, Carbon Capture and Land Management, Policy** and **Communications and Engagement**, it is recommended that the council adopts a clear set of priorities as a framework within which key decisions can be made. Action in each of these priority areas will help reduce carbon emissions and grow a cleaner economy. It is therefore recommended that the Council publicly endorses the following key priority statements:

1.1. Priority Action Area 1 - Council Policy

All new policy decisions should be carbon neutral or should reduce Northumberland's emissions from their current level, unless there is significant justification in terms of other benefits to the county. Where such a policy cannot be carbon neutral, all available options to reduce its carbon impact should be explored. This will include commissioned and procured services and the associated supply chains where appropriate.

Adopting this stance will be critical to the Council's ability to achieve the 2030 net zero goal. This will also help us to increase the scale and pace of the projects that will deliver this ambition.

1.2. Priority Action Area 2 - Engagement and Partnership

The Council cannot achieve its ambition of a net-zero county by 2030 in isolation. The actions of residents, visitors and businesses will be integral to meeting this goal. We will commit to engaging and partnering to **Inform, Consult, Empower and Evaluate** on initiatives and activity focussed on climate change and the environment. We will set up direct lines of communication and will seek to create a network of Community Climate Champions who will be encouraged to engage with their community to develop and own evidence based community action plans with the Council's support.

Action in this priority area will build on the success of activities such as the Council's Free Tree Scheme.

1.3. Priority Action Area 3 - Heating Existing Buildings and New Buildings

Poor energy efficiency in both domestic and non-domestic buildings results in the demand for excess heating. This causes unnecessarily high carbon emissions and energy costs. Without compromising on heating and comfort standards we will work to address this through varied external and internal funding opportunities, partnerships and business case development. This priority can drive clean economic growth. We will adopt a whole systems approach to heat, which will consider/ focus on:

- Energy Efficiency Improvements (to reduce heat demand)
- Wasted Heat (supplied to nearby buildings usually via an upgrade)
- Upgraded Heat (low temperature heat such as geothermal in the form of minewater or air or water source upgraded by a heat pump)
- Direct Heat (where harder to decarbonise buildings or economically disadvantageous to decarbonise buildings need to use direct heat, where possible this will be as low a climate impact as possible from fuel such as Eco oil or Biogas, lower carbon LPG or renewable electricity to provide heat)

Action in this priority area will build on the existing work to develop heat networks in Blyth and Cramlington and help improve efficiency of homes and commercial buildings both internal to the council and external in the wider county.

1.4. Priority Action Area 4 - Transport

As a largely rural and a destination County we recognise the need for the right mix of public and private transport. That transport, where possible should be low carbon with zero tailpipe emissions, protecting local air quality and reducing noise. We will continue to invest in and grow our Electric Vehicle (EV) charging network, maintain our higher than England average number of charging points to ensure a practical solution for EV users. We will continue to encourage and support increased use of public transport and to support research into the development of alternative fuels for powering freight and passenger carrying vehicles.

We will encourage and support walking and cycling as the preferred mode of transport for short journeys and we will deliver our walking and cycling vision 'Our Way' (as set out in the recent cabinet paper of 9th June).

Action in this priority area will build on the expansion of EV charging points and improvements to walking and cycling infrastructure already underway as well as progressing the reopening of the Northumberland Line railway for passenger transport.

1.5. Priority Action Area 5 - Renewable Energy Generation

Continuing to generate energy from renewable sources across the County is both sustainable and a driver for economic growth. We will continue to invest and support the increase of technologies where appropriate which use renewable energy such as solar, wind, water and geothermal heat, across a range of stakeholders which form our County community. We will use various channels such as the Borderlands Inclusive Growth Deal to support local economic growth. This will meet the growing need for renewable electricity to power heat pumps and electric vehicles and help deliver net zero nationally and locally.

Action in this priority area will build on schemes already underway such as the solar carport at County Hall, the current technical feasibility study for a hydroelectric scheme in Hexham on the River Tyne and heat network feasibility studies for the use of renewable and waste/recovered heat in Blyth and Cramlington.

1.6. Priority Action Area 6 - Natural Resource-Based Carbon Sequestration

The County enjoys a vast spread of land and forestry. Carbon is sequestered by forestry and grassland, while carbon losses occur on existing cropland and natural land that is converted to cropland. We will continue to work with our partners in our natural capital sector to progress integrated land use which enhances, safeguards sequestration and the associated biodiversity, whilst supporting local climate action and boosting rural economic prosperity. This will be at the forefront of the Great Northumberland Forest.

Action in this priority area will be pursued in line with the recently awarded Local Nature Recovery Strategy pilot.

1.7. Priority Action Area 7 - Reducing Waste

Northumberland County Council will support and engage our communities to consider a more circular approach to our economy and reduce waste by supporting efforts to design out waste, keeping materials in operation and productive use for as long as possible. This will reduce climate impacts and open new opportunities for businesses and consumers to provide and purchase sustainable goods and services.

Action in this priority area will include reviewing the Council's Municipal Waste Strategy and service provision arrangements, as well as building upon existing engagement and awareness raising activities to reduce waste, such as the 'Love Food, Hate Waste' campaign.

Background

The Climate Change Action Plan 2020-21, approved by full council in January 2020, set out the foundations for work to begin towards the two key aims of **halving NCC's carbon**

footprint by 2025 (against a 2010 baseline) and achieving net-zero emissions for the county of Northumberland by 2030. The plan and associated cabinet paper, set out a number of projects scheduled for 2020, primarily aimed at reducing the council's own emissions. In addition to this, it set out an approach to understanding and tackling the net-zero ambition through engagement of key stakeholders, data analysis and feasibility for key capital projects.

This paper provides an update on progress so far whilst recommending actions and decisions required to pave the way for the next iteration of the climate action plan - 2021-23 which will include a more detailed route to net-zero emissions for the county.

Progress to Date and Next Steps

As set out in the Climate Change Action Plan 2020-21, the programme has been structured against five key themes: Energy, Transport, Carbon Capture and Land Management, Policy and Communications and Engagement. These themes are designed to focus work on the key sectors which contribute to Northumberland's emissions.

2. Energy

The energy reference group met at the beginning of 2020, where key stakeholders from industry, academia and the public sector set an approach to this theme. The key recommendation from this group was that a much clearer understanding of energy related emissions in Northumberland was required in order to prioritise and scope appropriate projects. It was recommended that energy related emissions were divided into three key areas:

- Domestic (our homes)
- Commercial (industry and businesses)
- Transport (due to its complexity, this has become a theme of its own)

Significant progress has been made over recent months in analysing available datasets to build this in-depth understanding of Northumberland's emissions. We are now able to say with reasonable accuracy, the average emissions of any given household in Northumberland at postcode level and to assess the most effective solutions required to reduce these emissions. Similar work is underway for commercial emissions. Whilst data analysis is still key in this area, work is also focused on building dialogue with businesses, particularly large industries. This business intelligence allows us to do a number of things:

- Build a targeted and bespoke engagement strategy which can communicate to residents based on their individual situation e.g. fuel type, housing type, location, level of income etc. - See [section 6.7](#) for more detail.
- Assess where government grant funding can be most appropriately directed e.g. Green Homes Grant Scheme.
- Accurately measure the impact of key capital projects on the county's emissions to ensure that maximum progress is made towards the net-zero ambition.

As stated above, an evidence based approach allows us to prioritise projects where the most impact can be achieved. Whilst a longer-term proposal will be made in the next Climate

Change Action Plan, there are a number of projects which require approval now in order to progress:

2.1. District Heat Networks

As stated in the Climate Change Action Plan 2020-21, initial studies have taken place to assess the feasibility of district heat networks in Blyth and Cramlington, using existing heat sources in those towns. A detailed report on the outcomes of these studies can be found in the attached District Heat Networks paper, summarised below.

In order to progress and develop these potential projects beyond the current high level feasibility detailed within this report, it will be necessary to undertake detailed Techno-economic feasibility studies for the schemes in both Blyth and Cramlington, and also to start the process of investigating potential heat sources and energy demand through masterplanning studies in Alnwick, Ashington, Berwick, Hexham and Morpeth. The overall cost of undertaking this next phase of activity is £210,000 with a required match funding revenue contribution from the Council of £69,300 which can be met from the Regeneration Reserve Development Fund provision already made in the MTFP for 2020/21. The details of the funding requirement is given in the table below.

Network Area	Study level	Total Cost (£000s)	BEIS Match (£000s) ¹	NCC required funding (£000s)
Blyth	Techno-economic feasibility	80	53.6	26.4
Cramlington	Techno-economic feasibility	80	53.6	26.4
Alnwick Ashington Berwick Hexham Morpeth	Energy masterplanning and heat mapping	50	33.5	16.5
Total		210	140.7	69.3

The accompanying detailed paper on district heat networks sets out the details of the next steps that will need to be taken in order to progress the projects above.

2.1.1. Summary of Blyth and Cramlington Feasibility Studies

Blyth and Cramlington were chosen to undertake a high level feasibility study part funded through the BEIS heat network delivery unit, known as a heat mapping and energy masterplanning study. The studies were a broad assessment of low carbon heating options, but focussed on the potential of utilising existing assets; namely mine water that has been brought to surface as part of the Coal Authority's responsibility to treat the heavy metals in

¹ BEIS match funding will need to be applied for through HNDU Round 11, which is available for applications until December 2020

the water in Blyth, and Estover’s biomass combined heat and power (CHP) unit in Cramlington.

The studies were undertaken specifically to understand the financial and carbon implications of various heat network options in each of the towns.

2.1.2. Blyth

Three network opportunities were identified for Blyth town, these have been identified as; Blyth West, Blyth Central and Blyth East. Of these, Blyth Central was identified as being the most economically viable at this stage and has potential for greater expansion, particularly encompassing the preferred project options within the Future High Streets Fund bid, meaning that those buildings could be built running on low carbon energy for heat rather than requiring a retrofit.

Table 2: details the investments, financial returns and carbon saved for Blyth Central;

Network	Investment (£)	Payback (years)	NPV (40 years) (£)	Carbon Savings (t CO₂) per year
Blyth - Central 5G WSHP	3,478,848	19	700,327	1,820

2.1.3. Cramlington

The Cramlington network is predicated on being able to utilise heat from the existing biomass combined heat and power asset that is controlled and operated by Estover Energy Ltd. In this options appraisal the various heat loads were either added or removed to calculate the economic and environmental impacts.

Table 3: details the investments, financial returns and carbon saved for Cramlington Nelson Park Cluster;

Network	Investment (£)	Payback (years)	NPV (40 years) (£)	Carbon Savings (t CO₂) per year
Cramlington Nelson Park - 5G WSHP	1,515,686	18	412,279	837

Table 4: details the investments, financial returns and carbon saved for Cramlington full Network, the below provides the most environmentally advantageous case (maximum t CO₂ saved per year);

Network	Investment (£)	Payback (years)	NPV (40 years) (£)	Carbon Savings (t CO₂) per year
Cramlington Full Network - 5G WSHP	21,910,334	N/A	-19,559,724	4,578

The development of district heat networks must be a key focus of the climate change programme, in line with Priority Area 3 as they are a way of significantly reducing the emissions from our towns - a crucial aspect of reaching net-zero. Development of these networks will be closely aligned to town regeneration plans, starting with Blyth where the supply of clean heat will be a key pillar in proposed developments for the town centre such as Blyth Energy Central. In addition to attracting businesses to Blyth, investment in the district heat network will create many new jobs and add millions of pounds worth of value to the local economy. It also has the potential to reduce fuel poverty in some of our most deprived areas whilst making use of the existing legacy of mining, which will help build community buy-in.

It should be noted that the above options and analysis only provide a blueprint for the first generation of a heat network. There will be future opportunities for expansion. The network can also be developed to implement renewable electricity generation to power the network. There is a particularly good example of this opportunity in Blyth; there is a single wind turbine erected on the Cambois side of the estuary in Blyth, however there was planning permission granted for 7 turbines, the planning has now lapsed. Where further renewable electricity generation could be provided it could directly power the heat network providing a zero carbon heat network. Further to this if electric wires were installed at the same time as the heat network pipes then a zero carbon heat and power network could be formed. The cost benefits of selling electricity are far higher than the revenue earned from selling heat, hence it would almost certainly improve the business case. This further development is an aspect we intend to pick up in the next detailed feasibility study stage if the recommendation for funding in this report is approved.

A detailed list of next steps including a proposed project timeline can be found in the attached District Heat Networks paper. It is anticipated that if we progress as proposed here, the first customers in Blyth would be receiving heat in early 2022, with further development phases continuing throughout the 2022-2023 years.

2.1.4. Conclusions

The proposed networks provide a range of environmental, social and economic benefits to Northumberland County Council and the wider county. They directly support the climate emergency goals set and have the ability to be scaled to provide greater levels of benefit.

It is recommended that these schemes are properly resourced in terms of both financial expenditure and officer's time as well as a range of additional schemes commenced. To meet the 2030 net zero ambition, Northumberland will need to progress a number of these schemes simultaneously and it is therefore essential that we start the high level feasibility study schemes on the other 5 major towns within Northumberland as soon as possible.

It is also recommended that the existing studies in Blyth and Cramlington are taken further to a full level of development at the same time as the other 5 towns are undergoing this first stage. Heat Network Development Funding is available for all of these schemes, so Northumberland County Council will only need to contribute 33% of the cost of these studies (this equates to a contribution of £69,300).

2.2. Social Housing

Northumberland County Council owns 8442 residential properties, largely comprising former Blyth Valley and Alnwick District retained housing stock. All of the properties have benefited from significant investment during the Decent Homes period and subsequent planned improvements through a planned capital investment programme. The Housing Revenue Account (HRA) medium term financial plan makes provision for cyclical renewals of key elements on a lifecycle replacement basis but there is a need to refresh the asset strategy to ensure that statutory requirements are delivered, emerging priorities are included, and that homes remain fit for purpose and sustainable.

Due to the current regulations on when an EPC is required (i.e. prior to letting a property) we do not hold EPCs on all properties within the portfolio. Around 4850 are held and of those, 171 houses have an EPC rating of E or below. There are an additional 3590 houses without an EPC rating and, based on ratings of houses within the same postcode area, it is estimated that 219 of these would be rated EPC E or below - giving an estimated total in the region of 400 or 4.7% of the stock.

Based on the above data, a bid has been submitted to the current Green Homes Grant - Local Authority Delivery (LAD) funding which was announced in August. The bid was for £500k of grant funding and to be supplemented with a minimum of £250k Housing Revenue Account capital funding to target improvement measures on those properties with an EPC of E or below. The programme will be subject to change and tenant consultation but if successful the programme will see around 188 properties receive improvements this financial year, comprising Solar PV, cavity wall insulation and energy efficient door upgrades - with an average investment of approx £4k per unit.

Through scoping the above bid, it has identified a need to do more targeted work on those properties without an EPC and hard to heat properties, particularly of non-traditional construction to identify energy efficiency measures and future investment schemes in order to sustain them in the longer term. To support this work it is requested that consideration be given to funding a Sustainability Project Officer to analyse data within the housing stock, commission surveys to improve our understanding, identify funding bids and partnership opportunities and develop improvement schemes for those properties and estates that are in the greatest need of works as part of the housing asset strategy. Additionally this role would explore opportunities to link with other Registered Providers on partnership schemes and procurement of contractors. This proposal will be included for consideration as a revenue growth item within the Climate Change proposals that come forward when developing the MTFP for 2021/22.

3. Transport

The energy reference group which met in early 2020, recommended that transport have its own sub-group as it is such a complex area and contributes so significantly to Northumberland's total carbon footprint.

Similar to domestic and commercial energy, analysis of available data on transport emissions has been undertaken. This analysis forms a strong evidence base which will be used to inform the design of future projects.

The latest data shows that transport was responsible for 637 kt CO₂ of Northumberland's emissions in 2018, the vast majority of these emissions were from road use, highlighting the need to tackle this area. Using car registration data, and assumptions for mileage and associated carbon emissions (derived from various Department for Transport datasets), it is estimated that petrol and diesel cars owned within Northumberland contribute 366 kt CO₂ emissions annually. Up to the first quarter of 2020, 944 Ultra Low Emission Vehicles had been registered in the county. This has been consistently rising since 2014, with Northumberland having more of these vehicles than any other local authority area in the North East.

This data, alongside other insight, will be used to design projects which will increase the takeup of low emission vehicles, improve Northumberland's public transport offer and encourage walking and cycling.

Further analysis of transport emissions will be conducted and additional projects will be developed and included in the next iteration of the action plan. Progress on the transport related projects within the Climate Change Action Plan 2020-21 are detailed below.

3.1. Electric Vehicle Charging Points (EVCPs)

£500,000 was allocated in the Medium Term Financial Plan for "electric vehicle charger installation" during 2020-21. This funding has now been released and work is progressing on installing charging points at 12 key identified sites over the coming months. This has been the subject of a separate paper to Cabinet entitled *New Electric Vehicle Chargers 2020-21*. The locations and cost of those chargers is listed here for convenience.

3.1.1. Proposed EV Chargers 2020-21 - Confirmed Sites

Location	Charger Type	Charger Cost	Grid Connection Cost	Installation Cost	Total Cost
Alnmouth Station Car Park	Rolec EV Autocharge 7kw	£1,344.74	£4,800.00 (est)	£10,000.00	16,144.74
Greenwell Road Car Park Alnwick	ABB Terra54 rapid charger 50kw	£21,150.00	£2,209.35	£10,000.00	£33,359.35
Station Yard Car Park Ashington	ABB Terra54 rapid charger 50kw	£21,150.00	£1,860.48	£10,000.00	£33,010.48
Bolam Lake Country Park	Rolec EV Autocharge 7kw	£1,344.74	£2,477.94	£10,000.00	£13,822.68
Druridge Bay Country Park	Rolec EV Autocharge 22kw	£1,456.89	£3,000.00 (est)	£10,000.00	£14,456.89
Green Lane Car Park Holy Island	Rolec EV Autocharge 22kw	£1,456.89	£2,884.12	£10,000.00	£14,341.01
Kielder Village	ABB Terra54 rapid charger 50kw	£21,150.00	£3,985.23	£10,000.00	£35,135.23
Plessey Woods Country Park	Rolec EV Autocharge 22kw	£1,456.89	£5,609.80	£10,000.00	£17,066.69
South Beach Car Park Blyth	ABB Terra54 rapid charger 50kw	£21,150.00	£4,484.05	£10,000.00	£35,634.05
Prudhoe Waterworld	ABB Terra54 rapid charger 50kw	£21,150.00	£8,600.00 (est)	£10,000.00	£39,750.00
Merton Way North Car Park Ponteland	Rolec EV Autocharge 22kw	£1,456.00	£2,210.27	£10,000.00	£13,666.27
Lane at The Meadows, Belford	ABB Terra54 rapid charger 50kw	£21,150.00	£2,854.42	£10,000.00	£34,004.42
Total (to date)		£135,416.15	£44,975.66	£120,000.00	£300,391.81

Note: new chargers are also being installed in Amble as part of the Turner Street car park project, and at Haltwhistle by Highways England.

Work is also underway to identify further sites for charging points including possible solutions for residents without access to off street parking.

3.2. Other Transport Projects

There are a number of other relevant transport projects progressing which have their own line of reporting. It should be noted that the climate change programme is aware of and is supporting the following projects:

- Northumberland Line (current at GRIP 4 / Design Stage)
 - Updated Business Case, expected submission date Oct 2020
 - On track survey, expected completion date Oct 2020
 - Off track survey, expected completion date Dec 2020
 - Approval in Principle (AIP) Design, Expected completion date Mar 2021
- Cycling/Walking Plans
- Rail Improvement Bids
 - Gilsland Station
 - Newcastle – Berwick Enhanced Service
 - Belford Station
- Bus bids

The climate change programme group will lead on analysing the impact of these projects on carbon emissions reduction as they progress.

4. Carbon Capture and Land Management

Northumberland is in an advantageous position in having the highest negative emissions of any English county. This is largely due to the forestry which covers a significant part of the county. A crucial part of our net-zero strategy will be ensuring that this resource is maintained and increased.

The Carbon Capture and Land Management reference group met at the beginning of 2020 which involved key stakeholders from industry, academia and the public sector who have helped set an approach to this theme.

It was established that, whilst the stakeholders involved appreciated the council's role as a facilitator in this strand of work, a group already existed with similar members and a similar remit, albeit over a wider geographic area. The North of England Natural Capital Group includes senior representatives of all relevant stakeholders and can provide a steer on this area with input from council representatives.

Further projects will therefore be developed in collaboration with groups and initiatives such as the North of England Natural Capital Group and the Local Nature Recovery Strategy pilot. These will be detailed in the next iteration of the action plan.

4.1. The Great Northumberland Forest

This project continues to develop with Officers working in partnership with Defra associated agencies such as the National Park and Forestry Commission. Initial funding is being secured to resource the project to allow work to commence as soon as is practicable.

4.2. Local Nature Recovery Strategy

Project officers are working with Defra and associated agencies in establishing resources to deliver Northumberland's Local Nature Recovery Strategy. The county was selected as one of five areas nationally which will pilot the scheme. The Local Nature Recovery Strategy will see the development of a set of maps showing the most valuable existing sites and most promising opportunities for recovering nature for wildlife, people and to tackle climate change.

There are obvious synergies between the Great Northumberland Forest and Local Nature Recovery Strategy and there are opportunities to optimise resources and results in a more aligned manner which fully supports nature and carbon capture.

5. Policy

The Climate Change Policy group, chaired by the Service Director for Policy at Northumberland County Council, has met several times in 2020 to consider options and proposals for key policy changes and updates which will contribute to the County's Net Zero ambition.

5.1. Enhanced Service Planning

A key area identified where we can improve alignment to our Climate Action Plan is through the Council's service planning process. As part of the Council's Covid Recovery Planning, each service has been asked to produce an 'Enhanced Service Plan' to reflect the changing operating context during Covid and into the recovery phase. Enhanced Service Plans challenge every service to consider what actions and initiatives could be taken to contribute to carbon reduction and sustainability ambitions.

5.2. Carbon Assessments

It is proposed that a carbon assessment will be undertaken for each policy decision coming to Cabinet and full Council. All new policy decisions should be carbon neutral unless there is significant justification in terms of other benefits to the county. Where such a policy cannot be carbon neutral, all available options to reduce its carbon impact should be explored. These carbon assessments will support Councillors to make informed decisions when considering the benefits of a proposed policy. It is recommended that Cabinet approves this approach as set out in priority action area 1. Further information detailing how this will be operated and resourced will be provided in the climate action plan 2021-23, where approval will be sought to put this into place.

5.3. Procurement Corporate Social Responsibility Policy

The works, goods and services that the Council commissions have a carbon impact; a new Procurement Corporate Social Responsibility policy is being developed by the procurement service. It will consider many aspects of corporate social responsibility, including the

reduction of carbon emissions where financially viable through our commissioned services and the Council's supply chains. The policy will focus on the following areas: energy efficiency, whole life-cycle embodied carbon, renewable energy generation, educating and training in order to change behaviour, using local suppliers and waste reduction and recycling. This policy will be brought to Cabinet in a separate paper.

5.4. Salary Sacrifice

In parallel with creating a sustainable procurement policy for the goods and services the Council procures directly, we also recognise that indirectly, the Council has the potential to influence the purchasing decisions of our staff. Through the Council's salary sacrifice schemes, staff can access attractive deals on a wide range of goods and services including cars, electrical appliances and holidays. Whilst such schemes form a valued part of our overall incentive package for employees, we must also recognise the high environmental costs associated with some goods and services. We therefore propose to review our staff incentive schemes to ensure we offer sustainable options. Our aim in this is not to limit choice but rather to encourage and support staff to make more sustainable options.

5.5. Business Mileage

The Council's operational response to Covid-19 and the resultant restrictions has included an effective switch to remote working (mostly from home) and virtual meetings, including committees and meetings between officers and with external stakeholders. Whilst these approaches have primarily been about preventing the spread of Covid-19, these have undoubtedly accelerated the way we use technology to interact and work together in ways that reduce carbon emissions, whilst saving time and money. We will therefore review relevant policies to ensure we continue to capture the benefits from new ways of working in the longer-term.

There was an 86% reduction in business mileage claims across the organisation when comparing April 2019 with April 2020. As part of future recovery planning, we have identified the opportunity to update the Council's business mileage and travel policies to reflect the new operating context (i.e. reduced travel, better use of technology to attend meetings and increased homeworking). We also propose that, in collaboration with service directors and the head of performance, service areas are set KPIs to encourage them to keep business mileage claims low and maintain some of the reductions seen during lockdown. This will require analysis of each service area to set a reasonable KPI which will not inhibit service delivery.

There are of course some circumstances in which there is a need or strong desire for face-to-face interactions, and therefore there will not be a blanket ban on these meetings post-Covid and this will be considered in the policy review. It is recommended that Cabinet approves the proposal for there to be a virtual option for all meetings unless deemed inappropriate. This will allow officers, Councillors, external partners and residents to attend meetings without the requirement to travel.

5.6. Housing

We have identified housing as a fundamental area where policy can drive long-term and substantial reductions in carbon and waste. As the biggest housing landlord in the county with 8,442 homes and with a commitment to build 1,000 new council homes, our housing policy matters. So, we propose to conduct carbon emission evaluations on each housing project. These evaluations will consider, in line with cost, affordable housing and other priorities, how we build energy efficiency measures into new projects to prevent expensive future retrofitting.

6. Communications and Engagement

The council cannot achieve net-zero emissions for Northumberland alone. It will require the efforts of residents, businesses and visitors to meet this ambitious goal. Communications and Engagement is therefore key to the success of the climate change programme.

A dedicated communications officer was appointed to the climate change programme on 1st June 2020 and has developed a communications strategy based on our action plan. This strategy is currently being implemented and comprises a number of specific projects, alongside ongoing promotion of all relevant developments and projects contributing to the net zero ambition.

6.1. E-newsletter

The development of a monthly e-newsletter gives us the opportunity to directly communicate the latest projects and initiatives we are involved in with residents, businesses and communities. Subscribers will be maintained on an opt-in basis, complying with GDPR legislation. The e-newsletter will be promoted through a number of methods including through social media, our webpage and our residential magazine Northumberland News. Individuals will also be invited to subscribe following interest in specific projects.

6.2. Free Trees Scheme

Residents, schools and community groups were given the opportunity to obtain a free tree or tree pack to plant on their land in August. The scheme was originally budgeted for a 10,000 tree giveaway, but due to overwhelming take up in the first few days of launching the scheme, a further 5,000 trees were offered.

Residents were offered a choice of tree species which related to the size of their garden, and even offered planter-based shrubs for those with limited outdoor space.

Biodegradable guards and care instructions will be provided, alongside fully sustainable and recyclable marketing materials when orders are collected. Collection points have been established to help residents minimise their travel emissions when collecting their trees.

Once trees have been collected, a series of case studies will be developed by the communications team with residents, community groups and schools. These will be published at the time, but will also be used in the promotion of future Free Tree Schemes.

6.3. Schools engagement

It is imperative that we effectively communicate with schools and offer engagement opportunities to help promote behavioural change from an early age and assist in a local education package for our schools. This is an ongoing area of work, with a detailed engagement plan currently in development.

6.4. Awareness campaigns

Where relevant and appropriate we will link council initiatives with national and international awareness campaigns, promoting these on social media and internally where necessary. Depending on the campaign, communications methods may be expanded to include working with communities, schools and services to create videos and/or photo calls, which will further be shared with the press.

6.5. Community Climate Champions

We will seek to create a network of Community Climate Champions who will be encouraged to engage with their community. They will develop and own evidence based community action plans and will be supported by the Council to do this. We hope to gain local insight to help develop tailored approaches that would be suitable for our unique communities.

6.6. Internal communications

As the majority of council staff live in Northumberland, our staff are a key audience to engage with for both external projects and internal workplace communications, such as sustainable procurement and salary sacrifice schemes.

Plans to set up a Staff Environment Champions scheme are currently in development, which will provide a platform for staff to voice their concerns around climate change and help us take steps to create change in the workplace and in the county.

Further development to the climate change training module on Learning Together is also being undertaken.

6.7. Government grants

Promotion of Government grants will be carried out on social media channels and on our webpages where relevant to try and help our residents, businesses and communities benefit from as much Government funding as possible to help reduce Northumberland's carbon emissions. These could also help scope areas of need for certain services, e.g. EV charger points.

6.8. Domestic Energy Engagement

The development of such a detailed dataset of domestic carbon emissions across our county ([see section 2](#)) offers a unique opportunity to open a dialogue with our residents about how our homes contribute to climate change. This engagement activity will comprise the following elements:

- **Inform**

Residents will be able to build an understanding of how the energy used in their home contributes to climate change and how that impact can be reduced, from small

changes such as turning the heating down, through to large projects such as installing a heat pump or improving insulation. Recommendations will focus on reducing cost and improving living standards alongside the carbon impact.

- **Consult**

Residents will be able to improve the data on their homes by voluntarily answering a series of questions developed in collaboration with Newcastle University. This will provide the council with a detailed understanding of residents' energy use and attitude towards climate change. It will also allow residents to be better informed, as more precise and tailored information or advice can be returned. This approach has been successfully piloted by Newcastle University in Humshaugh.

- **Empower**

The Humshaugh pilot demonstrated that the success of this process is improved by collective community action. Community Climate Champions will be encouraged to engage with their community through the use of this tool to develop and own evidence based community action plans with the Council's support.

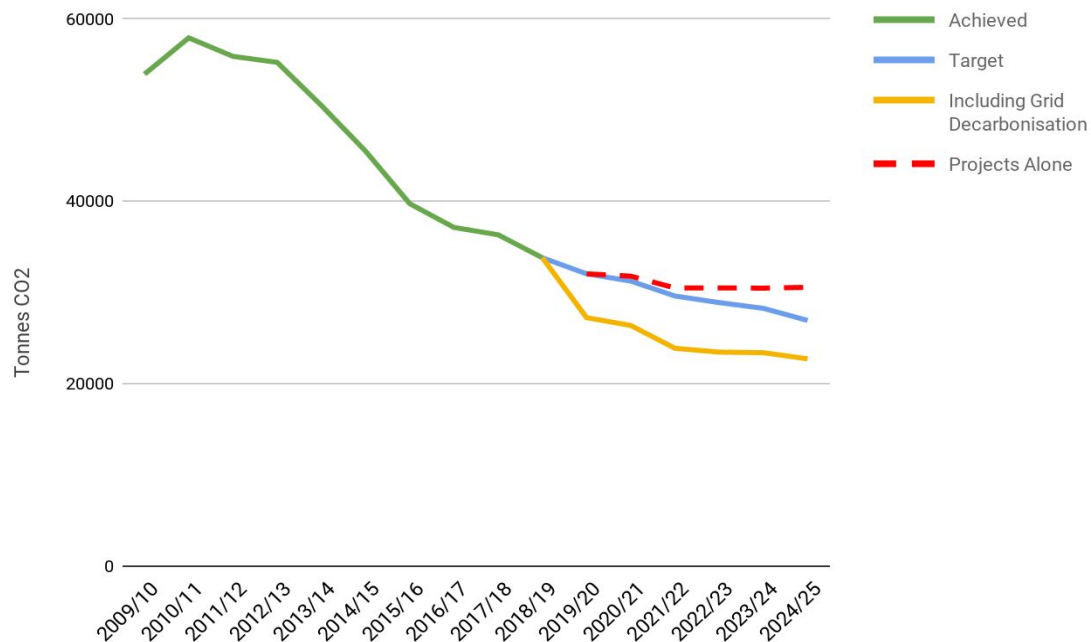
- **Evaluate**

Continued use of the domestic energy tool will allow the council and individual residents to measure the impact of changes they make on carbon emissions in Northumberland, improving the accuracy of our reporting and informing future decisions.

7. NCC 2025 Target

The Council has set out its ambition to reduce its own carbon footprint by 50% (with respect to a 2010 baseline) by 2025 and is on course to deliver and even exceed this due to a number of projects alongside the projected decarbonisation of the national electricity grid. Therefore, whilst we are confident of achieving this target, it should be noted that it is based on an assumption that the national electricity grid will decarbonise to the expected levels and that if this does not occur, there is a risk that we may fall short based on our projects alone as can be seen by the following graph.

Northumberland County Council Emissions



Projects included in the graph above are only those which are approved and known at this stage. It is likely that as further projects are proposed and approved (e.g. continued fleet decarbonisation), we will get closer to achieving the target without grid decarbonisation. That said, to meet the target without reliance on predicted grid decarbonisation would require a significant scaling up of ambition and resources.

A summary of the key projects contributing to this target at this stage is included below, although it should be noted that the coronavirus pandemic and ensuing lockdown have adversely affected some of these.

7.1. NCC Project 1 - Solar Car Port

The County Hall solar car port, battery storage and electric vehicle charging point project has moved forward with the completion of the procurement exercise. Based on the tender responses, the project will commence April 2021 and will reach practical completion by October/November 2021. Once this demonstrator project is live, further projects of this nature will be developed in line with priority action area 5.

7.2. NCC Project 2 - Solar Roof Panels

Nine roof mounted solar projects are moving through to delivery this financial year. The installation of these projects has been delayed due to Covid-19, however they are still on track to be installed within the financial year. The increase in electric generation to Northumberland's solar PV estate from these projects represents a doubling in renewable electricity generation from solar against the 2019/20 financial year. These figures exclude the generation expected from the solar carport which will provide another significant increase in generation during the 2021/22 financial year.

7.3. NCC Project 3 - Fleet Decarbonisation

The business cases for replacing the small van fleet with electric alternatives and the required charging infrastructure have been approved. 7 vans have currently been ordered, with 1 having arrived. In total, 66 vans will be replaced with EVs this financial year (subject to manufacturers meeting delivery deadlines).

It is estimated that each electric van saves around 3 tonnes of CO₂ per year, so 66 vans will save around 200 tonnes of CO₂ each year.

Charging infrastructure is being put in place at Council depots across the county to ensure vans can operate at all necessary locations.

We have begun trialling two electric pavement sweepers for feasibility. These, and other larger EVs, require much more powerful charging points which could necessitate an upgrade to the electricity grid. If the trial is successful a business case will be written to assess the options for increasing supply at relevant depots.

We have also begun trialling battery operated hand held equipment with a view to replacing two-stroke engines on items such as strimmers and hedge trimmers. These are being well received by staff as they have significantly lower levels of noise and vibration as well as reducing emissions substantially. Two stroke engines are some of the worst polluters in terms of air quality.

What Next?

8. The Big Picture - a route to net-zero

The Council's target of becoming net-zero by 2030 poses significant challenges but also opportunities for economic growth and regeneration. Work is underway to develop the next Climate Change Action Plan 2021-23 which will propose plans to make further steps towards the net-zero ambition and will be brought to Cabinet early in the new year.

Based on the most recent published figures for carbon emissions in Northumberland (2018), CO₂ emissions will need to reduce by 701 kt a year or 39% to achieve net zero. This will require significant capital investment on the part of the council together with a dramatic shift in culture for our residents, businesses and visitors. It also creates a significant opportunity for the Council and the county when seen as a route to green economic recovery from Covid-19.

Northumberland is well placed to achieve green economic growth with a significant proportion of existing businesses linked to the green economy, and as the home of significantly more trees in England (2.5x; 6.4%; 86k hectares) than any other Local Authority, the county is the biggest 'sink' of CO₂ in England.

To deliver the maximum impact and make the best use of scarce resources the Council should tailor the focus of green recovery work to the areas of highest potential for the economy and the climate.

Focussing resources on the areas of highest potential



Through combining a Business Intelligence evidence-based approach with local knowledge and experience, a portfolio of projects that target immediate and long term results is starting to emerge. Fundamental to this approach will be the Priority Action Areas set out in this paper together with an increase in scale and pace across relevant projects.

Implications

Policy	Proposes Council policies should be aligned to mitigate climate change and support carbon reduction.
Finance and value for money	It is recommended that Cabinet approves additional revenue funding of £69.3k in the MTFP towards district heat network planning. Investing in low carbon technologies can bring about expenditure savings and a positive return on the capital investment over the lifetime of the technology from reduced utility costs. The need to resource carbon impact assessments and an energy audit of housing stock has also been identified and will be considered when developing the MTFP 2021/22.
Legal	N/A
Procurement	Proposes a sustainable procurement policy focussed on energy efficiency, whole life-cycle embodied carbon, renewable energy generation, educating and training in order to change behaviour, using local suppliers and waste reduction and recycling.
Human Resources	Possible implications on business mileage and salary sacrifice schemes. Possible impact on staff working arrangements due to opportunities to work from home whilst embracing agile technology.
Property	Possible reduced property demands due to staff working remotely.
Equalities (Impact Assessment attached) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	Where possible projects and programmes will assist residents in fuel poverty and try to bring about fairer and more equal access to more affordable energy.

Risk Assessment	See corporate risk register
Crime & Disorder	N/A
Customer Consideration	Residents of the council can expect the council to lead a move to a net zero target as climate change understanding accelerates.
Carbon reduction	Adopting recommendations in this paper will either directly or indirectly lead to significant carbon savings.
Wards	All

Background papers:

District Heat Networks (attached)
Climate Change Action Plan 2020-21
New EV Chargers 2020-21
‘Our Way’ Vision for Cycling and Walking in Northumberland
Economy And Regeneration Update 4 August 2020

Report sign off.

Authors must ensure that relevant officers and members have agreed the content of the report:

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