

## **DURHAM COUNTY COUNCIL**

At a Special Meeting of **Environment and Sustainable Communities Overview and Scrutiny Committee** held in Committee Room 2 - County Hall, Durham on **Tuesday 30 April 2019 at 9.30 am**

### **Present:**

**Councillor E Adam (Chair)**

### **Members of the Committee:**

Councillors O Milburn, D Bell, J Carr, B Coult, R Crute, S Dunn, D Hicks, P Howell, P Jopling, R Manchester, C Martin, A Patterson, A Simpson, P Sexton and M Wilson

### **Co-opted Members:**

Mr T Bolton and Mrs P Holding

### **Also Present:**

Councillor J Clare

The Chairman reminded Members that the authority was now in Purdah.

The Chairman then welcomed everyone to the meeting and referred to two letters that had been received following the publication of the agenda. This had included a letter from Extinction Rebellion which had been sent to the Low Carbon Team and copied to all members of the committee and an email from Durham Roadblock sent to all members of the committee. He continued that as this was such an important issue he would allow comments from Members and confirmed that the Carbon Team would be happy to meet with the groups providing an opportunity for them to feed into the future consultation on the development of the Climate Emergency Response Plan.

### **1 Apologies**

Apologies for absence were received from Councillors L Brown and J Clark.

### **2 Substitute Members**

Councillor B Coult substituted for Councillor L Brown.

### **3 Declarations of Interest**

There were no Declarations of Interest.

### **4 Any Items from Co-opted Members or Interested Parties**

There were no items from Co-opted Members or Interested Parties.

### **5 Sustainable Heating - Overview**

The Committee considered the Joint Report of the Director of Transformation and Partnership and the Corporate Director of Regeneration and Local Services that provided Members with background information prior to a presentation by Professor Jon Gluyas, Dean of Knowledge Exchange, Dong/Ikon Chair of Geoenergy, Carbon Capture and Storage, Department of earth Sciences, Durham University on Sustainable Heating (for copy of report, see file of minutes).

The Committee received a presentation from Professor Jon Gluyas that looked at the Durham Energy Institute; Durham Past: energy county; Durham Today: energy consumption; Durham Future: e-mission zero; Durham Resources Base: earth wind and fire; The National Picture: the big heat; UK Energy Security and Heat Decarbonisation and Durham Geothermal (for copy of slides, see file of minutes)

Professor Gluyas informed the committee that the Durham Energy Institute is celebrating its 10<sup>th</sup> Birthday. Prior to the formation of the Institute partners tended to work separately in isolation however the institute brings the relevant partners together, encouraging collaboration between academia, industry, government and society. He highlighted that a lot of work is being undertaken in Durham University in relation to energy.

He continued by highlighting significant global challenges in relation to energy including future energy security, creating sustainable low carbon energy systems, developing affordable energy and reducing the risks associated with new energy technologies. He commented that society dictates the approach in relation to challenging issues and so far in relation to energy, we are getting the right narrative.

In relation to Durham's energy past, Professor Gluyas commented that Durham was the place to be, with the county producing 30 million tons/year of coal from 1877 to 1956 with the population of County Durham increasing tenfold. He continued by stating the targets from the motion to Council of 60% reduction in Durham County Council's carbon emissions by 2030 and an aim of carbon neutral by 2050 and commented that these targets particularly e-mission zero were to be achieved in the context of the County Durham Economic Partnership's key metrics for success focusing on employment rate, GVA, number of businesses, Gross Household Disposable Income and deprivation index reduction.

He confirmed that County Durham's Energy resource base includes Earth, wind and fire with energy from the Wear and Tees (Flow of rivers), wind turbines, solar panels and geothermal. He highlighted that the earth in County Durham is very warm with only Cornwall comparing. He continued that in relation to the Wear and Tees there is only one water turbine which generates 100KW (75% of passport office needs), onshore wind in West Durham generates 50MW (15% of CD power consumption), County Durham solar insolation generates 900kWh/m<sup>2</sup> per year with solar panels on 2% of CD meeting 33% of urban and industrial energy requirements. Highlighted that if we put solar panels on 30% of County Durham this would meet a 100% of our electricity needs in the county.

In relation to the UK's CO<sub>2</sub> emissions it was confirmed that 75% of emissions reductions since 2012 have come from the power sector, the closure of coal mines and significant reduction of oil supplies has resulted in the decarbonising of electricity quickly and the development of wind and solar farms. There has been little reduction in emissions from other sectors. Electricity generation varies on a daily basis with 25% generated from photovoltaics and in relation to the decarbonising of UK electricity, we are doing O.K with good progress made in the last decade however still some way to go. He continued that 30.1% of electricity generated comes from renewables.

He continued that there is a need for the UK to be energy secure. In relation to gas and the squeeze on natural gas, the UK produces 40% of what we need with the remaining 60% of our requirements imported of which 40% is from Norway, 5% from the Netherlands and Belgium and the remaining from Qatar (15%). We only have 1% over our need as a country.

Currently there are opportunities to look at reusing heat from industry and geothermal energy with the geothermal gradient in the UK is 20-35 per km however in County Durham 30 to 35% warmer. County Durham has significant geothermal opportunities from our legacy of abandoned mines all of which are now flooded. In relation to the abandoned and closed mines, Professor Gluyas confirmed that the reserve in place would heat a minimum of 100,000 homes. It was highlighted that officers had visited Heerlen in the Netherlands, a coal producing district, which uses mine water heat and has facilities for storage. Professor Gluyas commented that a Heat Swot analysis has been undertaken which indicated that there are substantial quantities of geothermal and waste heat from abandoned coal mines, sedimentary basins and industry together with storage potential. Professor Gluyas concluded by highlighting that 77% of heat generated in the UK comes from burning fossil fuels, 66% of heat generated in the UK comes from burning gas. In order to meet our emission reduction commitments, the decarbonisation of heat is required, geothermal (and waste) heat could supply the UK almost indefinitely with abandoned and flooded mines a huge heat legacy.

The Chairman thanked Professor Gluyas for his presentation and asked Members for questions.

Councillor Martin indicated that decarbonisation had taken place over the last 30 years, with the Country becoming greener and asked how much of this was as a result of what needed to be done or was it by choice.

Professor Gluyas responded that he could not say for certain however the use of coal had been declining since 1911 together with the demand for gas (no one had thought how long our gas supply would last) following the cessation of coal mining. Government did not highlight the issue with the sustained supply of gas but gradually moved to looking at alternatives.

Councillor Jopling stated that Members of Parliament were not as concerned as the general public in relation to finding greener forms of energy and referred to Fracking and asked if there was interest from private companies to extract geothermal heat from abandoned mines in the county, which would be less problematic than other potential sources as they already existed.

Professor Gluyas referred to Fracking which is pushed for by the private sector and commented that the UK has the wrong kind of shale for fracking and that controls in the UK are stringent. He referred to a piece of work by Helen Goodman involving social scientists working with communities in Spennymoor explaining about the opportunities of geothermal which was available on the geothermal website. There were some companies who were developing heat manufacturing, however profit margins around geothermal are currently low for developers. In addition, developers know and prefer gas however there is one developer that wants sites in the county that are heat ready.

Mr Cattle-Jones, Housing Regeneration Project Manager stated that it was both refreshing and amazing the legacy left from coal mining. He commented that Durham County Council colleagues have worked on housing initiatives at Southmoor and Craghead, the Solid Wall Insulation Innovation (SWIi) project to externally insulates older homes, providing warmer homes and cutting energy bills. He continued that there are a number of people in County Durham who were in fuel poverty, so the alternative source needed to be cheaper. The insulation has also raised the value of the homes.

Professor Gluyas commented that insulation is a bigger win than changing the energy source.

Councillor Howell asked Professor Gluyas what one thing he would want to see introduced and by whom.

Professor Gluyas responded that he works very closely with the Climate Change and Sustainability Team and referred to the work undertaken at the Louisa Centre at Stanley which was an example of what could be achieved with the pool heated by geothermal energy from the mine with plans for the whole centre to be heated by

geothermal energy in the future. The team was currently working with a new developer in Easington who wanted to regenerate properties for rental and was considering using mine water as an energy source. In addition, a local wine company, Lanchester Wines has its own wind turbine, has installed solar panels at its business premises and their warehouse located at Gateshead uses mine water as a heat source. With the company receiving a number of calls from insurers who wanted to invest in their renewable energy offer. Professor Gluyas commented that we need to think big and consider using mine water to heat a whole housing estate.

Mr Bolton referred to the mine water treatment plant at Seaham and asked if there were any plans for the Council offices, industrial estate and new housing estate next to the plant to use water as a heat source using water from the treatment plant.

Mr McDonald, Principal Officer, Climate Change and Sustainability Team responded that the new housing site had obtained approval and they were in discussions with the developer and actively looking at water as a heat source. In addition, discussions are also taking place in relation to mine water as a heat source for the Council offices and the industrial estate.

Councillor Patterson asked how do we get the required infrastructure and new technologies into our homes and are there any risks associated with waterflow underground, erosion and sink holes.

Professor Gluyas responded that some of the water contains iron molecules and sulphur molecules however the water from the mines would be used as a heat exchanger and the mine water would be in a closed loop. He acknowledged that there are risks. The main concern would be the elevation of the earth's surface and advised that Nottingham was rising at 5mm a year but oil fields in Iraq were sinking however satellites have the ability to measure movement under the surface due to the pumping action involved with extraction and there would be a requirement to understand the flow of the water. With the technology in place we are in a better position to reduce any risks and manage the flow.

The Sustainability and Climate Change Team Leader indicated that they had recently visited Gateshead to look at their heat into homes distribution scheme with plate heat exchangers taking heat into homes.

Councillor Patterson asked how long it would take for all of County Durham to receive geothermal heat.

The Principal Officer, Climate Change and Sustainability Team responded that Gateshead's scheme took 10 years from the initial idea and Heerlen in the Netherlands took 20 years, however we could learn from their experience, so the time period should be shorter.

Professor Gluyas commented that the speed of implementing such a project is determined by the driver and if there is a will and funding change can be implemented in a relatively short timescale.

The Chairman thanked Professor Gluyas for attending the meeting and providing a very informative presentation.

**Resolved:** That the report and presentation be noted.

## **6 Climate Change Strategy and Delivery Plan and Carbon Management Plan - Progress**

The Committee considered the Joint reports of the Director of Transformation and Partnerships and the Corporate Director of Regeneration and Local Services that provided Members with details of progress made in relation to the County Durham Climate Change Strategy and Delivery Plan and to engage in the development of the new Climate Emergency Response Plan and a progress report on the Carbon Management Plan (for copy of reports, see file of minutes).

Ms Bosanquet, Team Leader, Mr McDonald, Principal Officer and Ms Farrow, Carbon and Energy Analyst, Sustainability and Climate Change Team were in attendance to present the report and deliver a presentation that highlighted the following points:

- Climate Change Strategy
  - Emissions Change
  - Renewable Energy Capacity
  - Progress/Projects in 2018
  - Partnership Working
- Carbon Management Plan
  - Targets
  - Current Projects
  - Future Projects

The Principal Officer, Sustainability and Climate Change Team referred to the motion agreed at Council to reduce Durham County Council emissions by 60% by 2030 and for the county to be carbon neutral by 2050 and that in order to meet these targets Durham County Council is developing a Climate Emergency Response Plan.

Members were advised that in relation to the county's emissions the most current data is from 2016 which shows a 52% reduction in emissions from the baseline of 1990 (the target is 55% reduction by 2020). The largest reductions relate to industry, commercial and domestic use. However there had been a slight increase in relation to emissions from transport. Possible reasons for the reduction in carbon intensity was less coal fired power stations and warmer winters reducing the amount

of heating required. There was an increase in the amount of renewable energy capacity in photovoltaics and offshore wind power. Regionally County Durham has the second highest level of renewable installed with only Northumberland higher.

Members were advised that projects have taken place in schools with 241 or 90% of County Durham schools are supported by the ECO2 Smart School Programme, Housing Regeneration have received £2.5m ERDF for the SWli scheme, in relation to transport a dedicated electric vehicle working group has been established and is looking at the roll out of EV cars and infrastructure, concerning communities the Civil contingency unit supports the emergency plans and there is the de-culverting of the Cong-burn at Chester-le-Street and in relation to SME's, a 168 have received funding via the BEEP project. It was highlighted that the reduction in emissions had been achieved through strong partnership working at a local and regional level.

In relation to the Carbon Management Plan, the committee was informed that Durham County Council's 2015 target of 40% reduction in emissions was met by 2018 and was increased to 45% by 2020 with progress on this target to be reported in July. It was confirmed that the council was on target to meet the 45% target and that this has resulted from decarbonising of the electricity grid, completion of the first phase of the LED lighting project, reduction in the number of properties owned by Durham County Council and energy efficiency projects in retained buildings.

Members were then informed of successful projects/work undertaken last year including Light BEER (Building Energy Efficiency Retrofit) a spin off programme from the light retrofit scheme, Eco2Smart Schools project and LED lighting installations in Durham County Council buildings. The committee was also informed of proposed work for the year ahead including Tanfield Solar Farm consisting of 200 solar photovoltaic panels and following the success of the SPA 3 project the service is revisiting the installation of solar PVs on Durham County Council buildings. In addition, a project is being explored looking at developing a zero-carbon depot and more work is to be undertaken at the Louisa Centre. Looking ahead, it was confirmed that in relation to the development of the Climate Emergency Response Plan, areas of focus have already been identified including Transport, heat and insulation, electrical generation and monitoring and targeting.

Councillor Crute suggested that in order to continue to reduce emissions we need to have more partnership working. He then asked how confident the service was that they could sustain initiatives and accelerate projects following withdrawal from the EU when there is uncertainty of possible funding from the Shared Prosperity Fund.

The Principal Officer, Climate Change and Sustainability Team responded that funding was difficult, but they were applying for the next phase of EU funding but did not know thereafter if they could rely on funding and needed to commercialise the offer going forward in order to maintain and grow projects in the future. He continued that the BEEP project had been successful, and the team were looking at

ways of commercialising this project but would carry on applying for available funding to maintain the project.

Mr Bolton commented that Durham County Council is a major purchaser of goods and services and asked if the team were involved with procurement and if so how embedded carbon reduction is in the tendering process.

Officers responded that they worked closely with procurement and that there is a Sustainable Procurement Plan with examples provided including reducing Durham County Council's use of Single Use Plastics (SUPs) and the sourcing of fish.

The Chairman referred to transport emissions and asked if measures were in place to bring this figure down and if the authority had any control with bus companies.

Officers commented that transport was driven by national policy and referred to the big drive by government to electric vehicles and that the production of diesel and petrol engines would cease by 2040. He continued that the rise in transport emissions was probably due to increased ownership in cars and the rural nature of the county with more driving taking place. A number of the Council's fleet were moving to electric vehicles and the team would report back on in due course. There was an emphasis on authorities to take ownership and install electric charging points and they were currently working with the northern power grid.

Councillor Crute commented that in relation to transport, transport was brought together through Transport for the North.

Councillor Martin asked in relation to the target of 60% reduction in Durham County Council's emissions by 2030, was it possible with resources to be carbon neutral by that date. The Head of Environment responded that Durham County Council will work hard to meet the target and respond to the motion agreed at Council.

The Chair advised that Council had agreed the targets in the motion to Council and to meet these targets an Emergency Response Plan is being developed with more information in relation to the plan coming to a future meeting of the committee following the consultation.

Councillor Crute indicated that the targets were agreed by Council and work will be undertaken to meet those targets.

Councillor Howell commented that in relation to the targets, if officers during their discussions and with changes in technology thought they could exceed the 60% target then they will report back to committee.

The Chair commented that there is a lot of good positive work being undertaken in relation to reducing carbon emissions and that the authority is heading in the right direction.

**Resolved:** (i) That the report and presentation be noted.

(ii) That the Environment and Sustainable Communities Overview and Scrutiny Committee includes in its future work programme for 2019/2020 a further progress update on the Carbon Management Plan.

## **7 Approach on the Report to Full Council Regarding Climate Emergency Declaration - Overview**

The Committee considered the Joint Report of the Director of Transformation and Partnerships and the Corporate Director of Regeneration and Local Services that provided Members with the proposed approach in the drafting of a report to full council scheduled for 17 July 2019 in describing how Council and County climate change targets may be made (for copy of report, see file of minutes).

The Head of Environment was in attendance to present the report and deliver a presentation that sought scrutiny comments on the approach to the development of Plan (for copy of slides, see file of minutes).

Members were reminded of the motion that was agreed by Council in February 2019 and that according to the figures for 2016/2017 Durham County Council has a carbon emissions level of 3% (69,377 tonnes and that the rest of the county was responsible for 97% of the total emissions.

Durham County Council was looking at areas to focus on that it can influence such as the fleet moving to an electric fleet in the future and how it can reduce vehicle emissions currently by moving to low emissions vehicles, linking with schools via various projects including building improvements and retrofits, insulation projects for heat retention, renewable heat generation and Eco advocates and reviewing and monitoring targets. It was confirmed that the Climate Emergency Response Plan (CERP) will be further refined and developed through a series of workshops and then consultation.

A report detailing the approach to the development of the plan, areas of focus in the plan and detail of engagement to be undertaken will be considered by Cabinet in July.

The Chairman thanked the Head of Environment for his presentation.

Councillor Howell fully endorsed the view that it is a partnership approach as the Council only contributes 3% to carbon emissions and supported the proposed approach completely.

Councillor Crute commented that he was glad to see a broad-brush approach being adopted. He asked if there were plans for the County Durham Environment

Partnership to be involved in the CERP and highlighted that the plan needs to be embedded into the new vision and for them to run in tandem. The Corporate Scrutiny and Strategy Manager agreed and confirmed that the vision was currently being revised.

Councillor Crute commented that he was glad to see a broad-brush approach being adopted. He referred to the County Durham Environment Partnership and asked if there were plans for the partnership to be involved in the development of the CERP and highlighted that the plan needs to be embedded into the new vision. There was little mention about the environment within the emerging vision and suggested when workshops were held in the Autumn partners such as the partnership need to be invited. The Corporate Scrutiny and Strategy Manager agreed and confirmed that the vision was currently being revised and there was an opportunity to look at how the vision and the CERP will link.

The Head of Environment responded that partnership working was an important key to success.

Councillor Jopling endorsed the plan and asked what influence Durham County Council has in relation to transport and haulage.

The Head of Environment advised that in relation to transport the biggest driver is national policy. However, Durham County Council needs to work to ensure that County Durham has an infrastructure that can cope and gave the example of the Park and Ride sites and commented that Durham County Council is proactively looking for opportunities for the electrification of vehicles and the Committee for Climate Change was due to make recommendations on what more needed to be done.

Councillor Dunn welcomed the report and presentation and was glad to see the officers in attendance as climate change cuts across all departments of the Council. He continued that there is still more work to be done and indicated that climate change impact should be included in the appendix of implications for every report and should also be a consideration of all committee reports including carbon costs.

He continued that Durham County Council can facilitate and encourage partners to look at their carbon emissions and that a lot of research to reducing carbon emissions would need to be undertaken and that resources should be made available for this.

Councillor Dunn suggested that we look at what other authorities were doing and have plans in place to ensure that when financial resources become available the Authority is in a position to progress.

He continued by proposing that planning departments put pressure on developers to deliver carbon neutral homes and recommended that the authority invest in the green economy as there was no reason why green businesses could not be set up.

He then referred to the letter from Extinction Rebellion that was copied to all members of the committee that states by 2032 the earth's temperature will have increased by one and a half degrees and will affect animals and people.

Councillor Dunn highlighted that the letter referred to inclusive democracy and therefore we need to ask people what they want as the poorest and marginalised people in our society will be those most affected. He continued that the letter asks that we act now, Durham County Council is taking action with the declaring of a climate emergency. The letter asks that we look at our investments and we need to do this, it asks that we look at achieving targets earlier and Durham County Council will look to do this, however we have set targets which are realistic, we do have clear targets which will be monitored.

Councillor Dunn also mentioned that an email had been received by members from Durham Road Block that raised issues with both the northern and western relief roads.

He then referred to the opposition to Milburngate Bridge but where would the City be without it if it had not been built. Taking traffic outside of the City centre focused on the climate emergency agenda.

The Head of Environment indicated that Areas of Outstanding Natural Beauty was also under his remit and referred to peatlands which contributed to a 10% reduction of carbon emissions. He continued that if areas of the Peatlands are made wet which can be achieved through small dams, then this captures carbon and locks it in and stops it contributing to further carbon emissions. However, Peatlands were not included in carbon reduction targets.

Mr Bolton asked if parish councils would be included in the engagement and consultation. The Head of Environment confirmed that it was important to consult, and that Town and parish Councils would be included in the consultation on the CERP.

In response to a question, the Head of Environment indicated that buses for staff to commute to and from work had not actively been considered but the authority was just one of the many large employers in the county. This needed to be looked at with public transport. A lot of progress had been made through the Inspire Team with more flexible working for staff who can work from home or work from Council offices closer to their home. Technology was also being used for meetings to avoid staff having to travel.

Councillor Martin commented that perfection was impossible to achieve but the authority should aim to get as close as possible. The targets were realistic, and he hoped that the targets would get more challenging and suggested that officers look to Redcar and Cleveland both of which had good results.

The Chair asked if the team had considered agriculture and farming sector in relation to decarbonising. The Head of Environment advised that through the influence of Areas of Outstanding Natural Beauty and possible post Brexit solutions relating to the agri-environment, agriculture and farming are looking at decarbonising. The County Durham Environment Partnership and various networks would be used as an influencer; however, the authority did not have a huge amount of direct control.

The Chairman referred to carbon capture and how the authority had a lot of land that could be used for the planting of trees.

The Head of Environment responded that he was aware that the Committee had looked at the management of woodland sites and that Heritage Lottery funding had been obtained for woodland revival projects and the creation of new woodlands.

The Principal Officer, Climate Change and Sustainability indicated that they were working with the Landscape Delivery Officer on the woodland revival projects which would be incorporated into the emerging Climate Emergency Response Plan.

Councillor Manchester asked if LED lighting had been installed in schools.

Officers responded that work was taking place with schools via the Enlighten Scheme and that it was proposed that this scheme would be rolled out across the county.

The Chair asked if members would be involved in the planned workshops.

The Head of Environment confirmed that members would be involved.

**Resolved:** (i) That the report and presentation be noted.

(ii) That the Environment and Sustainable Communities Overview and scrutiny committee includes in its future work programme for 2019/2020 the monitoring of the progress made in relation to the further development of the plan and the identified targets.