

**Report to:** Cabinet  
**Date of Meeting:** 10 July 2019  
**Public Document:** Yes  
**Exemption:** None  
**Review date for release** None



**Subject:**

**Climate Change Emergency – Our Response.**

**Purpose of report:**

This report is intended as a high level discussion document for Cabinet to assist in exploring our organisational ambitions in relation to climate change, consider how this topic might feature on the new Council's agenda and priorities, explore what is realistic and achievable, timescales, consider partnership working, how the activity might be resourced, and how we can act as an influencer and enabler of individuals and business to change behaviours that have a positive impact on reducing greenhouse gas emissions.

The Cabinet is invited to sign a declaration and give a steer, which will influence the development of an EDDC action plan, a series of commitments, and the process for contributing towards challenging reductions in greenhouse gas emissions. This approach needs to be consistent with international, national and regional efforts to limit further climate change.

As part of our considerations we need to form a view on:

- The extent of our ambitions in this area;
- Whether we are looking to be a Carbon Neutral Council and engage in carbon offsetting;
- How we establish an emissions baseline for Council activities/buildings (essential if wanting to become carbon neutral);
- How this ambition will be articulated politically, through communications and in the Council Plan;
- The resourcing requirements and financial implications;
- How we embrace this as a one council activity touching all Services;
- The extent to which we will work in partnership with others;
- How our education, influencer, and enabling role will operate;
- The wider policy context and where we can make meaningful interventions.

I am suggesting that our initial priority will be centred on what we can do to progress towards being a carbon neutral council, we will also need a focus on how we can influence and support our residents, businesses and visitors reduce their carbon footprint, and lobby government to ensure that national and international change is brought about to reduce the emission of greenhouse gases.

---

**Recommendation:**

**That the Council:**

- (1) Signs up to the Devon Climate Change Emergency Declaration; and**
- (2) Works with Devon County Council and other partners to produce a Devon wide action plan on climate change; and**
- (3) Prepares an East Devon District Council action plan to reduce our carbon footprint; and**
- (4) Links our plan with the work of the Low Carbon Task Force; and**
- (5) Supports the acceleration of the proposals to achieve zero carbon development in the West End of the district (separate paper on this agenda); and**
- (6) Reflects climate change as a priority in the new Council Plan and future updates of Service Plans and relevant corporate policies.**

**Reason for recommendation:**

To commit to an agenda and series of actions that have a positive impact on reducing our carbon footprint and greenhouse gas emissions with the ambition of becoming carbon neutral as an organisation at the earliest opportunity.

To also work in partnership with others on the climate change agenda to ensure that we are supporting and influencing regional, national and international responses, and assisting our businesses, communities and visitors reduce their carbon use.

**Officer:**

John Golding Strategic Lead – Housing, Health & Environment.

**Financial implications:**

Further work is required to identify cost implications of any action proposed and members will need to consider affordability when these are presented back to Cabinet and Council to consider. The Medium Term Financial Plan currently identifies a funding gap for the Council of £2.7m over the term of the new Council and actions are being taken to address this position; the Plan and expected costs do not include any additional costs that may arise from this Council response to climate change.

**Legal implications:**

The report raises no specific legal implications requiring comment. The recommendations identify further work to be carried out and as this progresses it is likely that legal issues will need to be considered in more detail and the Legal Team will assist with this as required.

**Equalities impact:**

Medium Impact

The policy approach being advocated will affect all sections of society and require individual, organisational and business changes. This will require changes in lifestyle, including procurement, travel, energy use, food and water consumption etc. Some groups may require additional support to make the changes necessary and this will be considered as part of the action plan and implementation plans.

**Risk:**

High Risk

The risk of not addressing this global problem is set out in scientific evidence and indicates devastating consequences for the planet if all individuals, organisations, communities, and countries do not reduce their carbon footprints.

**Links to background information:**

.

**Link to Council Plan:** Delivering and promoting our outstanding environment.

## **1. Introduction**

1.1 To reduce our carbon footprint as an organisation we must:

- Make some challenging lifestyle and operational choices for the organisation, our staff, our partners and our communities;
- Change our procurement requirements to only purchase sustainable products and services;
- Consume less (refuse and reduce), reuse and recycle;
- Operate a Green Travel Plan and a green fleet;
- Use our green spaces for carbon offsetting;
- Ensure that our buildings are energy efficient;
- Change work styles – less travel, more skype;
- Do our business differently with zero emissions in mind;
- Set an example for residents, communities, business, and visitors;
- Promote good practice to our residents, communities and businesses.

1.2 The report to Cabinet in April 2019 set a context for the future ambitions of the new Council in relation to climate change, and proposed that we work in collaboration with DCC and others to have the greatest impact in reducing our carbon footprint. There was an expressed desire to be more ambitious and explore the implications of a challenging carbon neutral aspiration for the Council.

1.3 Once we have identified the changes we need to make, and commence implementation, we then need to encourage, facilitate, and enable others to do the same. We might strive for being a carbon neutral council and actively engage in carbon offsetting.

1.4 While governments and advocates have largely focused on the technological, economic and political changes needed to reduce greenhouse gas emissions, far less attention has been paid to engaging with the public in the global response to climate change. Public attitudes will have a huge impact in terms of the behaviour change required, and the need for significant lifestyle change, where normal (in wealthy countries) and aspirational (in developing countries) change is crucial if we are to limit global warming to 1.5 degrees centigrade. Being close to our communities we can play an important role in this regard.

1.5 The international community agreed in 2015 to 'pursue efforts' to limit global warming to 1.5 degree centigrade by the end of the century as part of the Paris Agreement on climate change. The IPCC (Intergovernmental Panel on Climate Change) October 2018 report lays out a vast array of social, political, cultural, economic and technological changes this would entail.

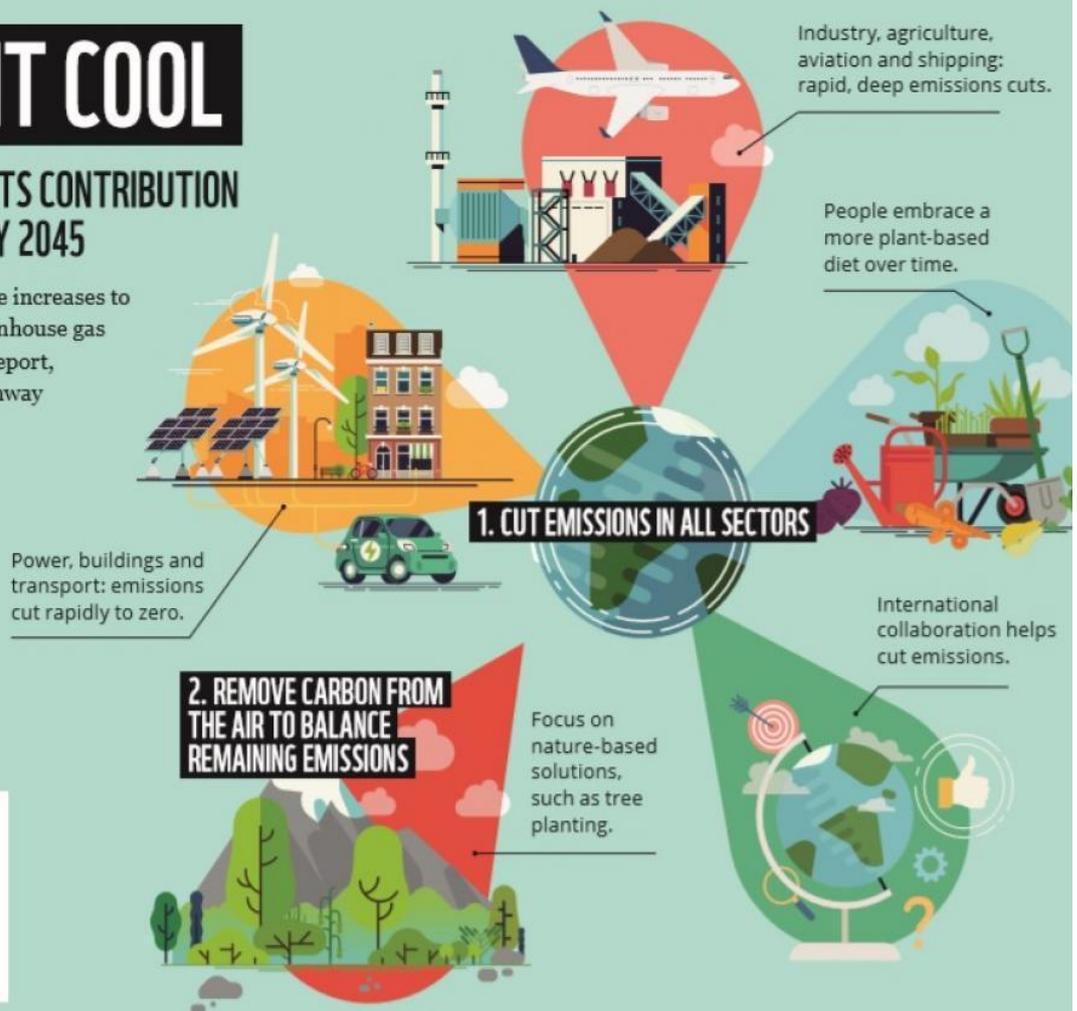
1.6 We know that accelerated action across the world is necessary to achieve this goal. Radical action is required if the challenging targets are to be attained. The position is illustrated in the graphic below.

# KEEPING IT COOL

## HOW THE UK CAN END ITS CONTRIBUTION TO CLIMATE CHANGE BY 2045

To help limit global temperature increases to 1.5°C, the UK must reduce greenhouse gas emissions to net zero. WWF's report, *Keeping it Cool*, provides a pathway to achieve that by 2045.

[wwf.org.uk/keepingcool](http://wwf.org.uk/keepingcool)



## 2. Climate Change policy context

- 2.1 **International** - The Paris Agreement – the latest within the United Nations Framework Convention on Climate Change – unites the world to continue global efforts to deal with greenhouse gas (GHG) emissions mitigation and adaptation to the changing climate. As of February 2018, 197 parties have signed the agreement and the great majority have ratified it. The Agreement expects each country to plan its own ambitious emissions reduction activity and report its contribution to mitigating global warming in order to keep global temperature below 2°C above pre-industrial levels and ideally 1.5°C. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change.
- 2.2 **National** - Nationally, the UK is committed under the **Climate Change Act (2008)** to an 80% greenhouse gas emissions (GHG) reduction in 2050 compared to 1990 levels, and has legislated five-year carbon budgets covering the period to 2032 that are compatible with this long-term target. The UK was the first country to set legally binding carbon budgets. The scope covers the entire UK economy namely from the power, buildings, industry, transport, agriculture and waste sectors. Where emissions rise in one sector, the UK will have to achieve corresponding falls in another to meet the carbon budgets. Recently the outgoing Prime Minister announced a more ambitious target of 100% net carbon reduction by 2050.
- 2.3 Central government departments develop policy to reduce GHG emissions for the sectors they have responsibility over. Progress against the carbon budgets is reported annually by the **Committee on Climate Change (CCC)** which assesses both absolute emissions, and a range of performance indicators such as the carbon intensity of

electricity, emissions from new cars, number of lofts and walls being insulated etc. The CCC state that the first carbon budget has been met and that the UK is currently on track to outperform the second (2013-17) and third (2018-22) carbon budgets, but is not on track to meet the fourth, which covers the period 2023-27.

- 2.4 In the 2017 Clean Growth Strategy the government introduced a voluntary target for the wider public and higher education sectors in England called the Emissions Reduction Pledge 2020. This target would aim to reduce greenhouse gas emissions across these sectors by 30% by 2020/21, compared to a 2009/10 baseline. Government will review progress against this voluntary target by 2020, with a view to moving to a more ambitious target, or potentially a mandatory target, such as a 50% reduction by 2030.
- 2.5 **Local** - Local authorities play an important role in delivering national and international carbon targets and adaptation. They can drive and influence emissions reductions and improved resilience in their areas through the services they deliver, their role as community leaders and major employers, and their regulatory and strategic functions. For county councils this includes strategic plans related to Education, Highways, Waste Disposal, Public Health, Passenger Transport, Flood Risk Management, Minerals and Waste Planning, Economic Development, Transport Planning, Social Care, Libraries and Trading Standards all of which can play a role in area-wide climate change mitigation and adaptation.
- 2.6 For districts this includes more energy efficient buildings and assets; changes to our vehicle fleet and travel arrangements; changes to procurement and contract management; WorkSmart; embracing reduce/reuse/recycling; improved flood and coastal protection; planning; regeneration; community development; educating/enabling our communities to be more greenhouse gas emissions aware.

### 3. **Climate Change and its impacts**

- 3.1 There is a scientific consensus that climate change is occurring. The UK Met Office defines climate change as “a large-scale, long-term shift in the planet's weather patterns or average temperatures”. The **Intergovernmental Panel on Climate Change (IPCC)** states that “Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen” and also that “Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems”. There is a very strong consensus in the scientific community that humans are the cause of this recent climate change.
- 3.2 Globally, the 21 warmest years on record (since 1880) have all occurred within the 23 years since 1995. Average temperatures in England have risen by approximately one degree Celsius since the 1980s, with 2014 being the warmest year on record. Annually, South West England has almost 21 fewer days of air frost than it did in 1961.
- 3.3 Annual mean precipitation over England and Wales has not changed significantly since records began in 1766. However, South West England is experiencing almost 10% more precipitation now that it did in 1961. Seasonal rainfall is highly variable, but over the same period has decreased in summer and increased in autumn and winter; 28% more in autumn, almost 16% more in winter, and approaching 9% less in summer.
- 3.4 All regions of the UK have experienced an increase in the contribution to winter rainfall from heavy precipitation events between 1961 and 2006. In summer, all regions except northeast England and northern Scotland show decreases.

- 3.5 Severe windstorms around the UK have become more frequent in the past few decades, although not above that seen in the 1920s. The 1990s saw 14 strong wind events, compared to 4, 5 and 8 in the 1960s, 1970s and 1980s respectively. These observations are correlated with the strength of the North Atlantic Oscillation for which no trend is identifiable. Relative sea level (sea level taking into account changes in land height due to post-glacial rebound) in the South West has risen by approximately 250mm since 1916.
- 3.6 The 2009 UK Climate Projections (UKCP09) provide likely projections of climate change for the UK, UKCP09 gives projections for a number of scenarios, each of which suggest a different pathway of economic and social change over the course of the 21<sup>st</sup> Century; it is not possible to assign probabilities to each scenario. The current global emissions trajectory indicates that the “High” emissions scenario best represents the current status quo. Under this scenario, by the end of the 21<sup>st</sup> Century central estimates are that mean summer temperatures in Devon will increase by 2 – 3°C (with the warmest summer day being 4 – 6°C hotter) and that precipitation will increase by 20 – 50% in the winter and decrease by 30 – 40% in the summer. Upper and lower end estimates are more extreme, but are equally likely to occur as the central estimates.
- 3.7 Projected climate changes will result in a number of threats and challenges to the UK. The UK’s Committee on Climate Change has identified the **top six areas of climate change risks** for the UK:
1. **Flooding and coastal change** risks to communities, business and infrastructure - climate change may lead to increases in heavy rainfall and significantly increased risks from fluvial and surface flooding by mid-century. Rising sea levels may further increase the risk of flooding and erosion along our coastline.
  2. **Risks to health, well-being and productivity** from high temperatures - warming UK temperatures, combined with demographic change, may lead to an increased risk of overheating. The number of heat-related deaths in the UK could more than double by the 2050s from a current baseline of around 2,000 per year.
  3. **Risk of shortages in the public water supply**, and for agriculture, energy generation and industry - climate change combined with population growth may put greater pressure on water availability. By the 2050s, many catchments across the UK will need to manage water deficits and competing demands for water for public supply.
  4. **Risks to natural capital**, including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity - there is clear evidence of northwards shifts in species distributions and the timing of seasonal events due to climate change. This poses threats to our natural capital and the goods and services it provides, from timber, food and clean water to pollination, carbon storage and the cultural benefits of landscapes and wildlife.
  5. **Risks to domestic and international food production** and trade - extreme weather can affect international food production, trade and supply chains. Longer-term incremental changes in climate will affect agricultural productivity in regions that are important for food production. At the same time, climate change will present risks and opportunities for domestic production.
  6. **New and emerging pests and diseases** and invasive non-native species affecting people, plants and animals - there is an urgent need for research in the next five years to improve our understanding of how climate change will affect the threat of

pests and diseases and the best approaches to monitor, detect and manage outbreaks and develop resilience to disease.

#### 4. Towards a Devon wide and EDDC Climate Change Action Plan

- 4.1 There is overwhelming global consensus that society must rise to the challenge of tackling climate change. East Devon is a leader and influencer on Climate Change and we should aim to inspire individuals, businesses and other organisations to commit to take action to reduce the districts carbon footprint.
- 4.2 We have been working on a Climate Change Declaration with other Devon local authorities (**annex 1**) this involves local authorities and a number of other public sector organisations. It has been produced to reflect the climate change emergency and demonstrate a renewed commitment to reduce the amount of greenhouse gas emissions and carbon use. As a sign of our commitment I am suggesting that we adopt the Declaration and agree to deliver the commitments.
- 4.3 A Local Action Plan is being developed (still in draft form) as part of the declaration commitments (**annex 2**), with actions to be delivered by a range of organisations from the public, private and voluntary sectors. Progress will be monitored and reported on annually by the Council. There is an expectation that local action plans are produced within six months of signing the Declaration. A series of workshops are being planned to engage staff and Members in shaping and delivering the action plan.
- 4.4 I am proposing that our local action plan covers the following priorities, addressing the key themes, and identifying the meaningful contributions we can make towards the following:

##### Energy Supply

- Reduce electricity consumption within the commercial and public sectors
- Introduce smart meters and energy storage solutions in East Devon
- Develop heat supply networks to deliver low carbon heat in East Devon
- Increase the amount of energy generated locally using renewable technologies

##### Low Carbon Development

- Buildings in East Devon to be built to high standards of energy efficiency incorporating on-site renewable energy where possible
- Retrofit energy efficiency measures into East Devon buildings
- Improve properties to reduce fuel poverty in East Devon
- Enable the uptake of Green Deal and associated grants in East Devon
- Minimise the 'embodied carbon' incorporated in construction projects
- Continue to develop planning policies that:
  - support the reduction of greenhouse gas emissions directly and indirectly from the district
  - reduce the risks of climate change to the communities of East Devon

##### Natural Environment

- Improve the quality and connectivity of natural habitats
- Promote Nature Recovery Corridors
- Encourage local community groups and businesses to become more involved in the management of local green spaces
- Use green spaces for carbon offsetting

## Water Supply and Flooding

- Manage demand for and supply of water to reduce the expected impact of water shortages on consumers and on wildlife
- Reduce the carbon footprint of water supply and water heating
- Reduce the risk of damage due to flooding and coastal erosion

## Transport

- Develop a transport infrastructure which supports more low carbon travel options for people in East Devon
- Reduce energy use and embodied energy in transport infrastructure
- Manage transport infrastructure and services to prepare for climate change
- Encourage non-car travel for all sectors of the population, through targeted advice, incentives and enforcement
- Reduce the air pollution from vehicles

## Purchasing, Supply and Consumption

- Enable people to make sustainable purchasing choices
- Support and encourage local purchasing and the development of local supply chains
- Promote and encourage new business models focused around the 'circular economy'
- Develop standards and the commitment to sustainable procurement in both the public and private sectors
- Increase recycling rates
- Reduce waste by supporting the re-use and repair of products and materials

## Education, Communication and Influencing Behaviour

- Further integrate sustainable behaviour promotion and practice throughout schools, colleges, universities, and workplaces
- Ensure that communication which is aimed at influencing climate change related behaviour is delivered in a consistent and targeted way
- Engage organisations in the private sector, including residential and commercial landlords, in effective action to reduce their carbon footprint
- Develop the market for climate change related local business and the skills to ensure that local jobs are created in line with the growing low carbon economy

## Community

- Build community activity relating to sustainable communities
- Build community resilience to climate change and self-sufficiency (collective and individual)
- Reduce consumption by building a 'sharing economy'
- Build an 'alternative economy' focused on quality of life and emphasising sustainable communities

4.5 If we are really ambitious we should aim to become **Carbon neutral**. Carbon neutrality is a term used to describe the action of organisations, businesses and individuals take to remove as much carbon dioxide from the atmosphere as each put in to it. The overall goal of carbon neutrality is to achieve a zero **carbon footprint**.

4.6 Having a net zero carbon footprint, refers to achieving net zero carbon dioxide emissions by balancing carbon emissions with carbon removal (often through carbon offsetting) or simply eliminating carbon emissions altogether (the transition to a post-carbon economy). It is used in the context of carbon dioxide-releasing processes associated with transportation, energy production, and commercial/industrial processes.

4.7 To become carbon neutral we need to accurately measure our carbon footprint. In the past we have performed calculations to show our carbon use and these have been reported on our website:

<http://eastdevon.gov.uk/property-services/carbon-footprint/>

The assessment needs to be brought up to date so we have a baseline from which to measure the reductions that we plan to make, and make informed intervention decisions.

4.8 The **Low Carbon Task Force** – for a number of years we have been part of a task force and have made some valuable progress towards reducing carbon use in the greater Exeter area, and developing a vision for continuing reductions over the next few years. The Mission of the Low Carbon Task Force is to:

- reduce carbon emissions in the Greater Exeter area
- increase energy efficiency and renewable energy generation
- enhance energy resilience
- realise non carbon benefits, including a reduction in air and noise pollution.

4.9 The members of the task force are all engaged in delivering low carbon projects as part of their remit. Collectively, the task force commissions research, develops joint strategies, has an agreed action plan, bids for funding and supports a range of implementation projects. The task force has a strong track record and ambitious plans for the future.

4.10 The partners are: Devon County Council, East Devon District Council, Exeter City Futures, Exeter City Council, Heart of the South West Local Enterprise Partnership, Local Energy Hub, Mid Devon District Council, Regen, Royal Devon & Exeter NHS Trust, Teignbridge District Council, and the University of Exeter.

4.11 The Low Carbon Task Force was set up in September 2011, and all parties involved in creating the Task Force signed a Memorandum of Understanding (MoU) to formally recognise this collaborative and innovative partnership. The MoU was revised in April 2019 to include additional partners.

4.12 The principle objectives of the MOU are to:

- Reduce carbon emissions
- Increase energy efficiency and renewable energy generation
- Reduce fuel poverty
- Promote the transition to a zero carbon economy
- Secure opportunities for business development and job creation
- Bring about additional benefits to the community including: Education, Training, Job Creation and Community Engagement in energy.
- Project development including funding for innovation and pilot schemes
- Support Exeter City Futures 12 goals.

4.13 The Low Carbon Task Force have undertaken some impressive work and have an action plan that sits alongside the Devon commitments, with a series of actions that are entirely consistent with the ambitions I am proposing in this report. It makes sense to tap into the expertise in the task force, and to align our ambitions towards carbon reduction.

4.14 There is a separate report to Cabinet on actions to move our West End towards zero carbon. This is an ambition and opportunity entirely consistent with the commitments in the Climate Change Declaration and our emerging action plan. Our large scale developments

such as we are seeing in the West End are areas where we need to be innovative to ensure that new development is having a minimal negative impact on our environment.

- 4.15 **Carbon offsetting** is a position where a reduction in emissions of carbon dioxide or other greenhouse gases is made in order to compensate for emissions made elsewhere. Carbon offsets are measured in tonnes of carbon dioxide-equivalent (CO<sub>2</sub>e). One tonne of carbon offset represents the reduction of one tonne of carbon dioxide or its equivalent in other greenhouse gases.
- 4.16 There are two markets for carbon offsets. In the larger, compliance market, companies, governments, or other entities buy carbon offsets in order to comply with caps on the total amount of carbon dioxide they are allowed to emit.
- 4.17 In the much smaller, voluntary market, individuals, companies, or governments purchase carbon offsets to mitigate their own greenhouse gas emissions from transportation, electricity use, and other sources. Offsets typically support projects that reduce the emission of greenhouse gases in the short- or long-term. A common project type is renewable energy, such as wind farms, biomass energy, or hydroelectric dams. Others include energy efficiency projects, the destruction of industrial pollutants or agricultural byproducts, destruction of landfill methane, and forestry projects. Some of the most popular carbon offset projects from a corporate perspective are energy efficiency and wind turbine projects.
- 4.18 The **Kyoto Protocol** has sanctioned offsets as a way for governments and business to earn carbon credits that can be traded on a marketplace. The protocol established the Clean Development Mechanism (CDM), which validates and measures projects to ensure they produce authentic benefits and are genuinely "additional" activities that would not otherwise have been undertaken. Organisations that are unable to meet their emissions quota can offset their emissions by buying CDM-approved Certified Emissions Reductions.
- 4.19 Offsets may be cheaper or more convenient alternatives to reducing our fossil-fuel consumption. However, some critics object to carbon offsets, and question the benefits of certain types of offsets. Due diligence is recommended to help businesses in the assessment and identification of "good quality" offsets to ensure offsetting provides the desired additional environmental benefits, and to avoid reputational risk associated with poor quality offsets. We have opportunities to explore carbon offsets through for example a tree planting programme on our land.
- 4.20 A **circular economy** is an alternative to a traditional linear **economy** (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life. I am recommending that we adopt the circular economy approach wherever we can in our Council activities.
- 4.21 As well as creating new opportunities for growth, a more circular economy will:
- Reduce waste
  - Drive greater resource productivity
  - Deliver a more competitive UK economy.
  - Position the UK to better address emerging resource security/scarcity issues in the future.
  - Help reduce the environmental impacts of our production and consumption in both the UK and abroad.

The *circular economy* is an alternative to our current *linear economy* based on *take, make and throw away*, which assumes the earth has *infinite resources*. It is an

economy designed to be *regenerative* and *restorative*, keeping resources in use at their *highest value* for as long as possible.

Practically that means an economy where products, components and materials are designed and made for reuse, refurbishment, recycling and safely returning materials to the planet. Promoting the circular economy should be an important part of our action plan going forward. We should adopt these principles as part of our actions to reduce our carbon reliance.



## 5. Next steps

- 5.1 I would advise that we sign up to the **Devon Climate Change Declaration** to show our commitment to the challenge. Following this we need to adopt an ambitious **action plan** that sets out how we become carbon neutral, how we influence and lead others to achieve the same, and how we influence and lobby government to achieve national and international change. A process to produce the Devon action plan is being finalised (**annex 3**) and this will include a form of Citizens Panel to engage our wider community, including business.
- 5.2 Your officers have been scoping the task, gathering information and working with partners. Assisting us has been DCC's Climate Change manager and Exeter University Centre for Energy and the Environment. From this work we now know that:
- In 2016 each person in East Devon emitted 5.0 tonnes of CO<sub>2</sub>. While this is down by 30% from 7.1 tonnes per head 10 years ago, incremental CO<sub>2</sub> emissions reduction gets harder.
  - Straight line extrapolation would give zero carbon in the next century.
  - Zero carbon in ten years will require radical behaviour change and the rapid uptake of zero carbon technology.
  - Of the 5 tonnes per person in 2016, 1.3 tonnes is from Commercial & Industrial sources (including agriculture), 1.6 tonnes from domestic and 2.4 tonnes from transport.
- 5.3 We know that changes in individual's behaviour will be key to achieving targets requiring us to:

- Travel less.
- Walk and cycle more.
- Live cooler in winter and warmer in summer.
- Consume less and re-use more.
- Eat less red meat and dairy products and waste less food.

#### 5.4 In addition, we need to champion **Action to reduce energy consumption**

- Travel regulation to reduce vehicle and air travel e.g. through road pricing (with support for low income households) and high charges on and/or rationing of air flights.
- A carbon tax which raises all energy prices to cut energy consumption (with income support for fuel poor households).
- Regulation of energy efficiency in buildings which requires building owners to significantly improve building fabric thereby reducing energy consumption (with subsidies for low income households).
- Regulation to ensure true zero carbon (in use) new buildings.
- Regulatory and/or financial incentives to reduce consumption of stuff and encourage re-use.
- Regulatory and/or financial incentives to reduce red meat and dairy consumption and cut food waste.

#### **Action to increase renewable energy generation**

- Regulation to take diesel and petrol vehicles off the road and convert all transport to a combination of zero carbon electric and/or biogas and/or hydrogen fuels.
- Regulation to require the conversion of heating to renewables either through the installation of electric heat pumps and/or connection to heat networks supplied with 100% renewable heat and/or a greened gas grid (converted from methane to bio methane and/or hydrogen).
- Heat storage in homes and on a large scale where there are heat networks.
- The generation of 100% renewable electricity locally and nationally for all consumption. This expansion needs to plan for current demand plus the significant increase in electricity consumption which will be brought about by EVs and heat pumps. This step change would require a radical departure from current practise and would see the very wide scale installation of PV, the adoption of onshore wind turbines in all technically suitable sites (including ANOBs for example) and deployment of electricity storage (battery) technology at all scales.
- Changes in agricultural practise to reduce beef and sheep production and fertiliser usage.

#### 5.5 The likely impacts will be:

- A rise in the costs of clean energy.
- Significant additional capital expenditure on energy efficiency and energy systems.
- Potential public resistance and dissatisfaction.

Whilst the barriers will include:

- Political
- Cultural
- Psychological

- Economic
- Technology

5.6 So in conclusion, we can see that the analysis of the climate change challenge clearly points to a radical change required in lifestyle that results in reduced reliance on carbon and greenhouse gas emissions. We have a big job to do, and doing nothing is not an option. We need to 'get our own house in order' as well as encourage communities, business, visitors and individuals share our aspirations. Our position is articulated in the Devon Climate Change Declaration and the evolving Devon and Local Climate Change Action Plans.