CHAPTER 6.

CROSS CUTTING THEMES AND ISSUES

The Net-Zero Task Force has attempted to look at the whole picture in assessing how Devon can reduce its emissions to net-zero. We have tried to consider how sectors, such as energy and transport, interact and relate to each other in the real world. This approach to considering themes, as opposed to sectors, is an attempt to avoid the potential pitfalls that could arise from considering topics in isolation: such as a transport solution placing unfeasible demands on the energy network, which would require additional and further effort in that sector to then realise net-zero.

The Devon Carbon Plan is broken down primarily into sections on economy and resources; energy supply; the built environment; transport and food, land and sea. However, we have identified themes and issues which cut across these categories and relate to all sectors.

6.1 WHAT NEEDS TO HAPPEN?

The principal cross-cutting themes of action needed are:

1. **Behaviour change and community engagement**
2. **Knowledge sharing, skills and learning**
3. **Spatial planning**
4. **Finance, economy and resource access**
5. **Procurement and commissioning**

From the actions identified under each of the thematic chapters, the cross-cutting themes to which they contribute have also been identified – as shown in Figure 6.1. We hope it will help you to understand and follow the threads which run through the whole of the Plan. Some issues and resulting actions are presented in this section as they are particularly cross cutting, rather than belonging solely to a single topic area; these follow the summary table, Figure 6.1.

6.1.1 Behaviour Change and Community Engagement

Deep transformations in behaviour are needed across society to reach net-zero emissions in Devon, the UK and globally. Behaviour changes are sometimes neglected in strategies to address climate change, as they are seen to be about an individual's values and choices, separate from technological solutions and their associated emissions reductions, and are more difficult to quantify and predict. 11 But the reality is that behaviour change and technological solutions are

complementary. We need a combination of both for the Plan to be successful. Indeed, in many cases, simply waiting for a technological solution either risks leaving action to the very end of the plan or, in the worst-case, technological solutions not arising and the plan failing to achieve net-zero.

Our behaviour transformations need to include how and when and the extent to which we consume energy, travel, and buy products and services. What we do with products after we've bought them, and how and what we eat will also need to transform. We will live in and use buildings differently. Our behaviour at work will change. **Behaviour change means that by 2050 and before the lives we lead will be different. What is important is to ensure that they will also be better lives.**

However, a critical mass of 25 % of a population exhibiting a behaviour is needed before it becomes a social norm. 11 Behaviour is not easy to change – much behaviour is every-day, repeated and habitual and therefore not given much conscious consideration by individuals and groups. Whilst large-scale deep behavioural change is difficult, it can be done when widely supported with a combined approach encompassing behaviours, policies, technologies, infrastructures and institutions etc. For example, the move to, and acceptance of, homeworking as a result of the Covid-19 pandemic has happened more deeply and more quickly than would ever have been planned. This demonstrates that to speed up the achievement of social tipping points we must engage whole communities to change together.

Behaviour change requires agency, motivation, ability and prompts to carry out the new behaviours. For example, in order to cycle to work you need to be able to cycle a bike and to have access to a working bike and suitable equipment such as a helmet and waterproof, this could be aided by the Cyclescheme finance which many employers offer. You would need to know a route suitable for cycling and to be motivated to cycle, for example by wanting to get fitter, to save money or to enjoy the sunshine on the way to work. Prompts include seeing your helmet hanging by your coat, cycle routes near your house, obvious cycle parking at work and colleagues arriving by bike.

The easier actions are to take the less motivation is required. Therefore, actions which result in reduced greenhouse gas emissions (GHGs) must be made easier through a combination of upskilling, knowledge sharing, policy, technology and infrastructure etc. Clear and effective communication is required about the need for Devon to achieve net-zero, highlighting how change can lead to beneficial outcomes (health, prosperity, quality of life), rather than focusing on fear-based messaging around the environmental risks of inaction. Narratives of change must encourage everyone across all parts of Devon to be a part of the solution. Civil society and grassroots organisations (e.g. community energy groups) have an important role in facilitating and enabling behavioural change across Devon as they have strong networks, important local and specialist knowledge and tend to be highly motivated.

6.1.2 Knowledge Sharing, Skills and Learning

We will each need the skills and knowledge, to switch to net-zero lifestyles, at work, at home and when taking leisure and recreation. It must be clear how changes towards a net-zero Devon can be made by organisations, groups and individuals, ensuring access to the required skills, knowledge, resources and facilities etc. to enable behaviour change. Behaviour change is not an isolated individual endeavour.

A lack of people with the required skills could limit how quickly we can install newer technologies, such as heat pumps to houses[1]. Knowledge and skills sharing, and the opportunity for learning are critical to a just and fair transition to a net-zero Devon to ensure that no individual or community is left-behind.

As we move towards net-zero, some sectors will shrink, whilst others will grow, Devon will need to support its employees and residents to retrain both to mitigate the effects of shrinking sectors and to seize the opportunities afforded by new growth areas. This is increasingly urgent in the context of the recent Covid-19 pandemic's direct and indirect economic impacts. Devon's business support, skills and learning organisations, such as Further Education colleges, have an important role in the transformations to come in providing the training needed.

Achieving net-zero will require the sharing of knowledge and adoption of not only new technologies, but institutional change, innovative business models, fresh policy design and behaviours.[1] For example, new forms of tenancy agreement for land use might be needed.

6.1.3 Spatial Planning

Net-zero Devon will be quite different from how it is now. Achieving net-zero will have strong spatial components, and so will need to be spatially planned for. Where things are in Devon and how they connect shapes most areas of our lives, it is a cross cutting issue and driver of GHG emissions. Devon has existing challenges each with their own spatial distribution which must shape how we achieve net-zero, for example challenges of access and socio-economic inequalities across and within rural and urban areas.

We will need to consider how to organise new development to best support achieving net-zero; where we site renewable energy (and where we choose not to); to layout our new housing so that getting to shops, workplaces and services can be accessed by public transport or by bike or walking. We will need to proactively and sensitively plan for changes needed within our landscapes to achieve net-zero. The Local Plans we make together for our neighbourhoods will need to account for tackling climate change. How we achieve net-zero could produce co-benefits in terms of designing better places to live, work and relax, as well as cutting emissions.

6.1.4 Finance, Economy and Resource Access

The flow of money and resources occurs between sectors of Devon's society and economy, making it a powerful key cross-cutting theme.

We need to be innovative in funding and resourcing the actions in this Plan and to work towards self-

financing models which generate local income streams that can be re-circulated into further carbon-reduction. Some sectors are more readily self-financing than others and so we must look at how we fund the shift to net-zero both by sector and collectively. In certain circumstances we need new financial products and mechanisms to stimulate change in the economy towards net-zero carbon. For example, crowd-sourced funds, where members of the community have an opportunity to donate or invest are a great opportunity for community led initiatives. Exeter Community Energy recently raised £75,000 from the community for a Solar Photo Voltaic installation. We should share good practice about successful use of crowd-sourcing funds for civil society groups, as well as other appropriate funding opportunities across sectors. This is explored further in the rest of the plan, particularly section 7, Economy and Resources.

6.1.5 Procurement and Commissioning

Organisations from across sectors have influence through what they buy, who they buy it from and how they engage with their potential suppliers. Getting procurement and commissioning of products and services right has the potential to stimulate and support the activities we need to achieve net-zero. Anchor institutions, those organisations which are unlikely to relocate and are large employers in the county such as the NHS and the councils have an important role in leading the way in impactful procurement.

For instance, anchor institutions and other larger organisations can lead the way in adopting electric vehicle fleets and installing charging points. They can also strengthen supply chains of sustainable local food through their procurement and commissioning. This is explored further in the rest of the plan, particularly section 7, Economy and Resources and 11. Food, Land and Sea.

Primary Theme	Cross Cutting Theme	Finance Economy & Resources Access	Knowledge Sharing, Skills and Learning	Behaviour Transfor-mation & Community Engagement	Procurement & Commission-ing	Spatial Planning
Economy and Resources		R3, R25, R26, R27, R29, R30, R31, R32, R34, R35	R2, R29, R32	R1, R4, R6, R8, R17, R19, R27, R28, R30, R31, R33	R7, R9, R23, R24, R25, R27	
Energy Supply		E1.5, E4, E5, E6, E7	E1.6, E7	E2		E1.6
Built Environment		B2, B4, B3, B9, B11	B1, B7 . B8, B11, B12	B6		B10, B13
Transport		T3, T18, T21, T23, T27, T39	T1, T42, T45	T1, T10	T18	T2, T30, T13, T35, T46
Food, Land and Sea		F6, F3, F4, F10, F14, F14.1, 14.2, F19.11	F5, F9, F12, F13, F14.4, F19.4, F19.9	F11, F14.4, F15, F19.2, F19.5, F19.6	F14.3, F14.5	F1, F1.1, F2, F2.1, F7, F8, F18

Figure 6.1 A summary of actions relating to cross-cutting themes, by action number and section of the Devon Carbon Plan

6.1.6 Priority Actions

C2 Support community groups to develop local net-zero visions, to imagine a decarbonised Devon collectively and in detail. [Cross Cutting Theme: Behaviour Transformation and Community Engagement]

C4 Local Plans and Neighbourhood Plans to demonstrate how they will shape places in ways

that contribute to radical reductions in greenhouse gas emissions so facilitating achievement of net-zero Devon, as a primary planning objective. This must include the requirement for new development to provide tangible plans for its contribution to Devon's net-zero future.

6.2 OPPORTUNITIES AND BENEFITS

Approaching the transition to net-zero by considering Devon as a whole opens multiple opportunities for cross sector collaboration and to achieve multiple benefits at once from targeted actions.

6.3 KEY OUTCOMES

- A culture of innovation, contributing to achieving net-zero
- Communities with shared visions of what net-zero could look and feel like in their local places
- Citizens which feel part of shaping the transition to net-zero
- Plan's for settlements which contribute to radical reductions in greenhouse gases
- Landscape qualities, features and characteristics which support our health, wellbeing and economy and contribute to resilience are protected whilst accommodating necessary changes towards net-zero

6.4 GOAL: BE INNOVATIVE TO ACHIEVE NET-ZERO

Types of Innovation Needed

As the Committee on Climate Change points out, "innovation is not limited to technologies, it also covers institutions, business models, policy designs and behaviours.".[1] Achieving net-zero by 2050 will require innovation including the deployment of less-mature technologies.

Responding to Covid-19 has exemplified the ways in which innovation can occur to respond to societal challenges, crossing social tipping points where a critical number of people change their behaviour and establishing a new "normal". From the NHS developing digital GP consultations and teams adjusting to home working, to innovations in social norms like social distancing and policy innovations such as the package of economic stimuli, as well as technological responses as from McLaren, who rapidly produced a breathing aid and ventilator components.

The Committee on Climate Change scenarios for pathways to net-zero highlight the extent to which uncertainties remain about the national policies which will help to achieve decarbonisation of sectors, as well as the areas which require technological innovation. For example, technology for low carbon aviation remains in development, as do solutions for heavy goods vehicles and carbon capture and storage. However, behavioural innovations which

popularise increased levels of behaviour change, such as higher uptake of active travel and lower consumption of carbon intensive foods open other pathways to achieving net-zero.

But we cannot expect huge innovations and changes in behaviour to occur without putting in place supportive infrastructures to enable those behaviours e.g. segregated cycling lanes for active travel. We are 'locked-in' to highly intensive carbon emissions in many ways, such as where we have located shopping facilities in out of town locations and it will take concerted effort and action to shift to new patterns of low emission production and consumption.

6.4.1 What Needs to Be Done?

The Committee on Climate Change, lays out three important ways that deployment of novel solutions can be supported (p 184): [2]

- Learning by doing Costs are driven down through learning by doing during deployment. This is especially true if deployment is at scale – so it will be important to aggregate delivery and for policy to help support and facilitate this.
- Policy design Policy should foster innovation, by providing certainty of the direction of travel and innovation in delivery, including 'system level' innovation e.g. how departments or industries could interact differently.
- Supporting infrastructure development providing supporting infrastructure can speed up the roll out of technologies, help lower costs and increase market confidence.

Devon needs to monitor technological developments and assess their relevance and application in our own context towards achieving net-zero. We must also realise opportunities to support innovation in varied ways. For instance, innovation could be further supported in sectors which the Heart of the South West Local Economic Partnership has identified as high value sectors with potential to contribute to green
growth. These include high-tech electronic and photonics, marine research, climate and environmental science expertise including big data handling and clean energy including technical development for offshore renewables. [3] Devon's Local Authorities can also foster policy innovation and pilots of initiatives to reduce emissions.

6.4.2 The Actions

C1. Foster innovation in technologies, institutions, business models, policy design and behaviour to achieve net-zero.

Case Study

SetSquared, Exeter Science Park

A number of Devon's most successful start-ups over the last decade have been spin-outs from the University of Exeter, with support from the Innovation Centre and SetSquared. In 2018, SetSquared was ranked as the World's Top Business Incubator managed by a university.

SETsquared Exeter is based at the Science Park. Exeter Science Park offers a space for knowledge-based science, technology, engineering and medicine-related enterprises to grow, working alongside well-established organisations like the Met Office and University of Exeter.[4]

SETsquared is an example of how Devon is able to attract national funding for innovation, Innovate UK have invested over £31 million in businesses in Devon, supporting 283 projects with more to be announced.[5]

6.5 GOAL: DEVON'S COMMUNITIES ARE SUPPORTED TO IMAGINE THEIR NET-ZERO FUTURE

A Need for Local Visions of the Future

Devon's citizens consume popular fiction and other forms of media portraying the near future, both positive and negative, such as the BBC's Years and Years. However, research at Plymouth University by David Sergeant has identified that fiction tends to either consider the individual, local scale or the mass global scale, neglecting stories and images that help us imagine our communities, region and even country in new ways. This leads to pessimism and loss of belief that we can contribute to a different future. The numerous films and books portraying society gone horribly wrong and the nearing end of the world reflects this.

Cli-fi, short for climate fiction is a growing genre of films where the plot is driven by climate change. An early example was Kevin Costner in Waterworld, where the earth is covered with water and humans struggle to survive. More recently the film Snowpiercer shows us a world where failed attempts to use geological engineering to address climate change throws the world into an ice age and chaos unfolds.

The Power of Imagination in Enabling Change

The importance of imagination has been highlighted by another Devon resident, Rob Hopkins, a co-founder of Transition Town Totnes and the international Transition Network, a movement of communities coming together to reimagine and rebuild our world and in doing so addressing the climate emergency[7]. Rob Hopkins argues that now more than ever we need to use our imaginations to look at how things could be different from how they are currently[8].

According to David Sergeant, the process of imagining how the near-future could be, within local communities, can provide a powerful way of reflecting on and working through differences of opinion and desires. The experience of exploring optimistic or 'utopian' thinking can open a sense of possibility for the future, build capacity for change and counter feelings that current ways of living are inevitable and set in stone.

For example, the Devon based Encounters Arts facilitated an event for Transition Network in Battersea Arts Centre called "Pop Up Tomorrow – Town Anywhere". Artists and facilitators Lucy Neal and Ruth Ben Tovim, helped almost 200 people to generate visions of the future through a variety of creative activities.

Figure 6.2 The 'Pop Up Tomorrow'- Town Anywhere event at Battersea Arts Centre in October 2019 facilitated by Encounters Arts helped people to imagine how the future could be, photo reproduced with permission of Transition Network

6.5.1 What Needs to Be Done?

New visions of better futures for Devon can help to build public support for the legitimacy and feasibility of change to net-zero. Imagining alternative and better futures can help people to realise that change can be for the better and that it can be worth taking the risk of doing radically different things. Supporting communities to re-imagine themselves in the context of net-zero increases local capacity for change.

We need to support community groups and engage the skills of Devon's creatives, artists, writers, musicians etc. to develop local net-zero visions, so they can imagine a decarbonised Devon in detail, collectively. This will help people personally invest in a net-zero future and feel it as possible and locally relevant, especially as people respond strongly and differently to change.

6.5.2 The Actions

C2. Support community groups and cultural creatives to develop local net-zero visions, to imagine a decarbonised Devon collectively and in detail. [Cross Cutting Theme: Behaviour Transformation and Community Engagement]

6.5.3 Opportunities

There is an opportunity to re-vitalise local communities, to preserve a sense of individuality and Local Distinctiveness. For example, the environmental arts charity Common Ground has Local Distinctiveness at the heart of its approach to conservation and local action on climate change: *"We want to build identity and pride in the particularity of places and support different communities in creating a quality of life which is more sensitive to nature, is more caring of the buildings and landscapes which express our continuing history, harbours our memories, and perpetuates knowledge of ordinary lives and local culture. With the right tools, people can uncover intimate attachments to places for themselves, developing the kind of enjoyment and resolve that strengthens community resilience and cohesion in uncertain times…Conservation and climate change can feel distanced from our day-to-day lives, problems that need solving elsewhere. But if we look closely at the landscapes nearby or observe the wildlife on our doorstep, however ordinary, we start to realise just how much of this life and history deserves our attention…. we should celebrate this wildlife and these landscapes in our back gardens and on our doorsteps and keep them part of our daily lives to ensure they do not become vulnerable to climate change and the footloose excesses of development."* - *Common Ground* [10]

This sort of work could build excitement about the possibilities in a net-zero future for communities in Devon. It could also form a useful evidence base for neighbourhood plans, for example it

may provide an opportunity for communities to undertake their own Landscape Character Assessments (LCAs). The use of visualisations to imagine the future landscape at 2050 can be an important tool to prompt discussion and agree a shared vision in a democratic way. Local LCAs can be added to the existing well- established Devon-wide LCAs that form part of the local plan evidence base and help inform planning and land management decisions.

6.5.4 Case Studies

Solar Panel Artworks

Art and Energy CIC (Community Interest Company) is an artist-led company reimagining solar panel technology as an art material for the future to explore creative responses to the climate emergency. They unveiled their first solar panel artworks at MikroFest at Kaleider Studios in Exeter in March 2019. "Each artwork has been designed to be displayed indoors and in sunlight they will generate enough energy to power a device like a phone or laptop."

They can imagine solar panel artworks for inside and outside, small or larger.
For example:

- Murals powering street-lighting, fields of sunbathing creatures powering a science park
- Waypoint markers that interpret sites and tell stories
- Flowering carports powering vehicles

They hope to:

- Give people new ways to engage with energy imaginatively
- Generate clean energy with art
- Increase acceptance of energy generation installations in special places [11]

Figure 6.3 Dawn Breaks by Chloë Uden - A solar panel artwork from the Art and Energy collective

6.6 GOAL: ALL OF DEVON'S CITIZENS FEEL PART OF SHAPING THE TRANSITION TO NET-ZERO

Achieving net-zero will require the long-term participation of all of Devon's citizens and substantial behaviour change. The development of the Devon Carbon Plan has provided a series of opportunities for the pubic to contribute to date: the Call for Evidence which received 893 submissions, a series of Thematic Hearings and a Youth Parliament. These contributions are referred to and drawn on throughout the Plan. There is currently a Public Consultation on the Interim Devon Carbon Plan and a Citizen's Assembly in 2021 will provide further opportunity for public participation.

The Thematic Hearing on Cross Cutting Themes highlighted the importance of embedding collaboration and listening in Devon's institutions and finding ways to bridge conflicts which may arise. The Public Call for Evidence highlighted that participatory and deliberative approaches will be needed to create resilient net-zero communities, avoiding the imposition of proposals in a 'top-down' manner.

Creating the Conditions for Participation

Collaboration was described in the Thematic Hearing as a skill, which requires time and is affected by people's wider financial context, they may have less time if they are juggling multiple jobs or are unable to afford to travel to collaborate. Therefore, support and facilitation may be needed to empower communities to work together. This underlines the importance of principle 9 for implementing the plan, that a just transition is required to ensure that: a) vulnerable and low-income segments of society and rural communities are not disadvantaged b) the differing impacts of climate change on different groups e.g. disabled, minorities, gender, are addressed. People can only really feel empowered enough to enact change when their basic needs are being met.

Deliberation by Mini-Publics

Mini-publics randomly select a small number of citizens who are representative of the wider population to take part in a process to inform and devise new policies or decisions. There are many types of mini-publics, varying in size and format (e.g. citizens juries, citizens assemblies). Mini-publics can deliberate on specific topics, by considering information provided (e.g. by expert witnesses) and discussing this information together, in order to inform decision making.[7] Mini-publics can improve the relations between citizens and decision makers, enhancing trust. There is also evidence that participating in the process itself can lead to shifts in personal preferences, de-polarise opinions and increase knowledge and understanding. [7]

However, Citizens Assemblies are not without their own challenges. The University of Exeter report (2019) highlighted the significant issue that "deliberative processes can be costly, resource intensive and time consuming, and scaling up or institutionalising democratic innovations is challenging" [7]

National Use of Citizen's Assemblies

A national climate assembly for the UK was held during 2019-2020 and involved 108 citizens drawn from across the country. The participants agreed 25 principles underpinning the path to net zero, of which the three most important were: informing and educating everyone, fairness within the UK, and leadership from government. Evidence from the National Climate Assembly demonstrated

its value in enhancing political engagement, confidence and increasing the knowledge base of participants; 95% of participants strongly agreed with the statement "I have learned a lot during the assembly about how UK can achieve net-zero by 2050" ; and 90% of participants strongly agreed that "Assemblies like this should be used more often to inform government and parliament decision-making". [12]

A Citizens Assembly for Devon

The Devon Climate Emergency Response group has already decided to hold a Devon wide Citizen's Assembly in order to discuss and generate recommendations to feed into the Devon Carbon Plan. This signals in a tangible way how local organisations value public participation in achieving net-zero. The response group commissioned Exeter University to conduct a Rapid Review of Evidence and Best Practice on Developing a Net-Zero Citizens' Assembly for Devon to ensure that the Devon Citizen's Assembly will be properly designed to work effectively.[13] Owing to Covid-19 it is now due to take place in 2021. To inform the Devon Climate Emergency response to the pandemic Exeter has prepared a further report on the effectiveness of online deliberation.

6.6.1 What Needs to Be Done?

We need to secure the resources to ensure that we learn about the use of mini-publics from holding a Devon Citizen's Assembly on climate change and assess its effectiveness in a rigorous manner. Then we can consider the appropriateness of using mini-publics again in future, either to continue work on the Devon Carbon Plan or for other local issues, taking into consideration the resources and time required.

6.6.2 The Actions

C3. Seek funding to research the effectiveness of the Devon Citizen's Assembly on Climate Change to inform whether this approach could be applied to citizen participation in other decisions locally. [Cross Cutting Theme: Behaviour Transformation and Community Engagement]

6.6.3 Opportunities

- A greater sense of ownership of local policy by local communities, resulting from greater engagement.
- A more effective process could lead to greater adoption of the measures.
- Enhanced trust amongst citizens and stakeholder organisations.
- Increased legitimacy for the net-zero process of transformation across Devon.

6.7 GOAL: DEVON'S LOCAL PLANS 'SHAPE PLACES IN WAYS THAT CONTRIBUTE TO RADICAL REDUCTIONS IN GREENHOUSE GAS EMISSIONS...', AS REQUIRED BY THE NATIONAL PLANNING POLICY FRAMEWORK

The Importance of Spatial Planning

The Call for Evidence and Thematic Hearings both identified an enhanced role for spatial planning (through both statutory development plans and other land use strategies and frameworks) in facilitating the shift to net-zero. For instance, together they can help shape travel behaviour and reduce the need for travel, they can support combined heat and power to reduce building energy use, they can identify the most appropriate places for renewable energy and can support the optimal use of land to deliver competing land uses such as energy, food, nature, timber and carbon sinks. The National Planning and Policy Framework (NPPF) highlights the role of planning to "shape places in ways that contribute to radical reductions in greenhouse gas emissions"[14] - this ambition requires a step change in how we plan and what we plan for.

The Royal Town Planning Institute argues that planning must accelerate progress towards net-zero, being pro-active and avoiding reliance on market-driven approaches [15]. They conclude that currently planning is failing to deliver the aspiration for new developments to be less car dependent [16].

The Role of Local Plans

Place-based shared visions are vital to ensure coordination between stakeholders and balancing strategic and community objectives in delivering net-zero. 10 The development of statutory local plans is currently a mechanism for community participation in planning decisions that have the potential to help citizens consider place-specific responses to climate change. The publication of the recent Planning White Paper creates uncertainty around future planning legislation and whilst it recognises planning as a key tool in addressing climate change, does not put a great enough emphasis on the need to plan for a low carbon future [17]. There is concern over losing local flexibility and the future control of planning.

6.7.1 What Needs to Be Done?

Statutory development plans, including Local Plans and neighbourhood plans, are a key lever in shaping spatial planning. When developing local plans, communities must be supported to meaningfully consider the local implications of climate change and how they can reduce emissions to net-zero. This will point to a different mix of solutions in different places. However, plans should include carbon reduction targets as a high-level planning objective which then will inform appropriate policy responses to measure against that aim.

A Need for Thriving Communities

There is the need for both thriving urban and rural communities, with access to the things they need within local reach in order to reduce their emissions. As Devon is a predominantly rural county, approaches to emissions reduction (e.g. providing high quality broadband to enable tele-working) must speak to rural communities and not just seek greater urbanisation.

The relocalisation of employment, service use and amenities, including cultural spaces, is key to reducing travel demand. This means delivering high quality new mixed-use developments and crucially, supporting the revitalisation of communities who may have become almost entirely residential.

6.7.2 The Actions

C4. Local Plans and Neighbourhood Plans to demonstrate how they will shape places in ways that contribute to radical reductions in greenhouse gas emissions so facilitating achievement of Net-Zero Devon, as a primary planning objective. This must include the requirement for new development to provide tangible plans for its contribution to Devon's net-zero future.

Needing Action Beyond Devon:

C5. Work with government on greater guidance on how to shape places in ways that contribute to radical reductions in greenhouse gas emissions. [Cross Cutting Theme: Spatial Planning]

6.8 GOAL: DEVON'S STRATEGIES AND GUIDELINES FOR PROTECTING ITS LANDSCAPES, PLAN POSITIVELY FOR CHANGE ARISING FROM THE NET-ZERO CHALLENGE

Devon is recognised for landscapes of national and international importance. 35% of Devon is protected as National Parks (Dartmoor and Exmoor), and by five Areas of Outstanding Natural Beauty (AONBs). We must continue to protect these landscapes from damaging development, as they are of benefit to everyone, particularly for their nature and historic value. We must also recognise how local landscapes, green spaces and routes close to where we live support our health, wellbeing, and sense of identity, offering contact with nature.

Landscapes change in response to changes in land use. This has been very evident over the last 50 years in Devon as in most other parts of England. Many natural habitats, such as species-rich hay meadows, hedgerows, orchards and field trees and tree belts have

been lost, fields enlarged, rivers engineered and so the list goes on. In short, landscapes have become much simplified and, as a consequence, more susceptible to further change. Without positive interventions landscapes could change fundamentally in the future in response to the changing climate. Yet responding to the net zero challenge offers a positive opportunity to revitalise landscapes, recreate diversity and increase landscape resilience to change. As through history landscapes will evolve, some features that will help meet net zero may mimic the past as in the expansion of carbon-rich semi-natural habitats and in the re-emergence of market gardening (although infrastructure needs will be different). Others will be new such as increased use of agroforestry which, nonetheless, may reflect the orcharding tradition in the County, and others will offer a new vernacular such as the greater use of timber in construction.

The Tools for Guiding these Changes are already Available

Devon's landscape character assessment (LCAs) provides a tool to manage and guide such changes. It describes the variations in character between different areas and types of landscape in the County. It provides an evidence base for local plans, articulating what people perceive as distinctive and special about all landscapes in Devon. It also sets out strategies and guidelines for the protection, management and planning of the landscape[18]. Whilst some have concerns about tensions between the changes which need to occur to achieve net-zero and protecting our landscapes, planning strategies and landscape character assessments can offer guidance on how landscapes can evolve in response to the demands of net-zero and the ecological crisis, but in ways that are sensitive to the character of the area.

6.8.1 What Needs To Be Done?

The National Planning Policy Framework contains both the imperative to 'shape places in ways that contribute to radical reductions in greenhouse gas emissions' as well as the need to conserve and enhance landscape and heritage assets. [17] The challenge that now needs to be addressed by all landscape character assessments and strategies is to identify what is the greatest quantum of benefit that individual landscapes can offer in terms of: (a) meeting net-zero; and (b) increasing the resilience of landscapes to climate change by, for example, siting new tree planting to control the flow of flood waters, all in ways that strengthen the fundamental character of the landscape and its special qualities. This requires understanding and planning for the necessary and inevitable changes to come, to ensure that change is beneficial to both achieving net-zero and to landscape qualities and resilience.

6.8.2 The Actions

C6. Involve communities in an update to the landscape strategies and guidelines within Devon's Landscape Character Assessments to plan positively for achieving net-zero and the changes which climate change will bring. [Cross Cutting Theme: Spatial Planning, Secondary Theme: Built Environment]

6.9 OPPORTUNITY FOR DISCUSSION AT THE CITIZENS' ASSEMBLY:

Addressing net-zero in a way that is beneficial to the special qualities of our landscapes

Devon is recognised for its distinct landscapes with 35% of its land area designated as landscapes of national and international importance: Dartmoor and Exmoor National Parks and five Areas of Outstanding Natural Beauty: Backdown Hills, East Devon, North Devon Coast, South Devon and Tamar Valley. There are also two World Heritage Sites, the Cornwall and West Devon Mining Landscape and Jurassic Coast, and an International Dark Skies Reserve in North Devon.[19] These landscapes and coasts are major attractions for tourists, another major component of Devon's economy.

As noted above, the National Planning Policy Framework contains both the imperative to 'shape places in ways that contribute to radical reductions in greenhouse gas emissions' as well as the need to conserve and enhance landscape and heritage assets. [9] The challenge that now needs to be addressed is to identify what is the greatest benefit that individual landscapes can offer in terms of: (a) meeting net zero; and (b) increasing the resilience of landscapes to climate change - all in ways that strengthen the fundamental character of the landscape and its special qualities. This requires understanding and planning for necessary and inevitable changes, including how it will change special qualities, and to ensure that change is beneficial to both achieving net-zero and landscapes.

Therefore, it is suggested that the Citizens' Assembly deliberate how Devon's landscapes should evolve in ways that positively support net-zero and is beneficial to their special qualities.

6.10 OPPORTUNITY FOR DISCUSSION AT THE CITIZENS' ASSEMBLY:

Financial mechanisms acceptable to Devon's citizens to help discourage activities generating emissions and to fund emissions reductions

Significant behaviour change is needed for Devon to reach net-zero, it cannot be achieved through technological change alone. Large-scale behaviour change away from today's high-emitting lifestyles is necessary[20]. Reducing car travel, flying, and meat consumption are all high-impact areas for behaviour change to reduce greenhouse gas emissions, as well as reducing energy consumption [14]. Financial incentives for Devon's citizens to reduce their emissions is one potential mechanism for influencing behaviour, both by financially rewarding emissions reduction activities, for example through discounts on council tax or by increasing the cost of polluting activities. But local authorities have more limited powers than national government to use financial incentives.

Concerns and Opportunities

However, there are concerns that financial mechanisms, such as congestion charging zones, as introduced in central London, can have unintended consequences, like increasing social inequality[21]. Alternatives to the discouraged activity must be provided, such as better public transport where driving is penalised. But as well as reducing emissions, financial mechanisms can generate income that can be used to fund programmes or activities that will further reduce emissions.

One study found financial rewards to be the most effective intervention to reduce personal vehicle use, i.e. driving[22]. Financial mechanisms can also send important cultural signals about the social acceptability of high-emitting behaviours, which can contribute to reaching social tipping points after which new norms are established. [14]

Example Financial Mechanisms raised by the Thematic Hearings and Public Call for Evidence, by theme:

TRANSPORT

- Workplace Parking Levy
- Clean Air Zones or Congestion Charging Zones
- Frequent Flyer Levies
- Dynamic road user charging
- Extending Residents Parking Zones and linking charges to vehicle emissions
- Increasing the cost of town centre parking

BUILT ENVIRONMENT

- Pegging council tax against housing Energy Performance Certificate ratings
- Giving council tax discounts linked to proof of retrofit installation
- Local Authorities in Devon to use council tax collection mechanisms to offer residents the ability to opt into an additional contribution which would be ring fenced for tackling climate change

WASTE AND RESOURCES

- To encourage waste reduction and recycling, for example working with national government for law changes to allow pay-as-you-throw charges, enforcement fines or rebates on council tax for good performance
- Support for a nationally implemented per capita carbon allowance

The use of financial mechanisms to encourage emissions reductions are considered controversial and therefore require further consideration by Devon's citizen's assembly on climate change. Any such mechanisms which the citizens assembly recommended the adoption of would require careful communication and are likely to remain challenging to introduce.

Therefore, it is suggested that the financial mechanisms which would be acceptable to Devon's citizens as means to discourage activities generating emissions and to fund emissions reductions need to be deliberated at the Citizens' Assembly.

[1] Committee on Climate Change, 2019, Net Zero Technical Report, https://www.theccc.org.uk/publication/net-zero-technical-report/

[2] Stark, C, Thompson, M, Andrew, T, Beasley, G, Bellamy, O, Budden, P, Cole, C, Darke, J, Davies, E, Feliciano, D, Gault, A, Goater, A, Hay, R, Hemsley, M, Hill, J, Joffe, D, Kmietowicz, E, de Farias Letti, B, Livermore, S, Mackenzie, C, Millar, R, Nemo, C, Scott, V, Scudo, A, Thillainathan, I & Vause, E 2019, Net Zero: The UK's contribution to stopping global warming. UK Committee on Climate Change. <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/>

[3]Heart of the South West, 2019, Local Industrial Strategy Progress Statement 2 https://heartofswlep.co.uk/wp-content/uploads/2019/08/190807-Heart-of-the-SW-LIS-Progress-Statement-2.pdf

[4]University of Exeter, 2015, SETsquared named as best university incubator in Europe for third time https://www.exeter.ac.uk/news/university/title_479006_en.html

[5]Devon Delivers, 2020, Choose Devon Accessed 16/1//2020 https://www.devondelivers.co.uk/why-devon-innovation

[6]McKinnon, M. 2015, The 8 Best Movies About Apocalyptic Climate Change, Gizmodo, accessed 2/10/2020 : https://io9.gizmodo.com/the-8-best-movies-about-apocalyptic-climate-change-1747018787

[7]Transition Network, Homepage, accessed 15/9/2020 https://transitionnetwork.org/

[8]Hopkins, R. 2020, The Book, https://www.robhopkins.net/the-book/

[9]Hopkins, R. 2020, Pop-up-tomorrow (London) Voices of those who were there, https://www.robhopkins.net/2020/01/20/pop-up-tomorrow-london-voices-of-those-who-were-there/

[10] Common Ground, 2020, What We Do, accessed 16/11/2020 https://www.commonground.org.uk/what-we-do/

[11] ART and Energy, 2019, Artworks, accessed 13/11/2020: https://artandenergy.org/services/pilots

[12] Climate Assembly UK, 2020, The path to net zero, Climate Assembly UK full report https://www.climateassembly.uk/report/read/about-climate-assembly-uk.html#about-climate-assembly-uk-about-this-chapter-and citizens assemblies

[13] Devine-Wright. P and Moseley, A., 2019, Developing a Net Zero Citizens' Assembly for Devon, University of Exeter

[14] Ministry of Housing, Communities & Local Government, 2019, National Planning Policy Framework, accessed 3/9/2020 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf

[15] Royal Town Planning Institute, RTPI, 2020, Plan The World We Need: The contribution of planning to a sustainable, resilient and inclusive recovery, accessed 26/8/2020 https://www.rtpi.org.uk/media/5688/plantheworldweneed_june2020.pdf

[16] Foundation for Integrated Transport, Transport for New Homes
PROJECT SUMMARY AND RECOMMENDATIONS JULY 2018, https://www.transportfornewhomes.org.uk/wp-content/uploads/2018/07/transport-for-new-homes-summary-web.pdf

[17] Ministry of Housing, Communities & Local Government, Planning , August 2020, Planning for the Future, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907647/MHCLG-Planning-Consultation.pdf

[18] Devon County Council, 2020, Devon's landscape character assessment (DLCA) accessed 17/9/2020 https://www.devon.gov.uk/planning/planning-policies/landscape/devons-landscape-character-assessment#:~:text=Devon%E2%80%99s%20landscape%20character%20assessment%20%28DLCA%29%20Devon%E2%80%99s%20landscape%20character,distinctive%20and%20special%20about%20all%20landscapes%20in%20Devon.

[19] Westcountry Rivers Trust and Local Nature Partnership, 2020, Climate Change and
Devon's Natural Environment

[20] World Resources Institute, 2020, Expert Perspectives: Changing Behaviour to Help Meet Long Term Climate

Targets, the necessity of behaviour change to meet climate targets https://www.wri.org/climate/expert-perspective/changing-behavior-help-meet-long-term-climate-targets

[21] Spiro, J. 2019 When Time Is Money: Impacts of the Congestion Charge, Here Mobility, accessed 17/9/2020 https://blog.mobility.here.com/congestion-charge-impact#:~:text=Increasing%20social%20inequality%3A%20A%20flat%20fee%20congestion%20charge,benefit%20from%20emptier%20roads%20and%20faster%20travel%20times.

[22] Wynes, S., K.A. Nicholas, J. Zhao, and S.D. Donner. 2018. "Measuring What Works: Quantifying Greenhouse Gas Emissions Reductions of Behavioural Interventions to Reduce Driving, Meat Consumption, and Household Energy Use." Environmental Research Letters 13: 113002. Accessed 17/9/2020 https://iopscience.iop.org/article/10.1088/1748-9326/aae5d7/pdf