



# York Civic Trust

## **Response of the York Civic Trust Environment Committee to the City of York Draft Climate Change Strategy 2022-32**

**5<sup>th</sup> August 2022**

### **Summary**

We commend the Council for developing an ambitious strategy to transition the city of York to a Net Zero city. However, we have a number of concerns about the process adopted, which we consider under the following headings in our main submission:

1. the methodology adopted
2. the overall target set, and the treatment of sequestration and offsetting
3. the targets set for individual sectors, and the consistency between them
4. the approach to identifying possible measures and the scale of their implementation
5. the implications for domestic buildings (as the largest single source)
6. the implications for transport (as the largest source other than buildings)
7. the need for consistency with other strategies.

We summarise our main concerns and list our recommendations below.

The methodology adopted is a top-down one, using disaggregated national data, which does not always represent York adequately for the purposes of this strategy. We suggest that the Council work with local institutions to conduct a bottom-up analysis to facilitate further development of the strategy and implementation plans.

The overall target set is not compatible with York becoming zero carbon, even for Scope 1 and 2 emissions, by 2030. The reasons for this are not made clear, but appear to arise from use of the top-down model. Any shortfall will need to be achieved through sequestration and offsetting. The strategy needs to specify the levels of sequestration and offsetting which are required and the ways in which they will be achieved.

The targets for individual sectors differ considerably. Again, the reasons for these differences are not clear. We consider it important to ensure that the set of sector-specific targets represents the most cost-effective approach to achieving the overall target. This requires an assessment of the measures which are appropriate for York in each sector, and the costs of implementing them.

Within each sector, the measures to be adopted appear again to have been derived from a national top-down model rather than by assessing the measures which are relevant and feasible for York. There is thus an inadequate consideration of the measures that might be adopted and the enabling methods, public engagement and finance that will be required to implement them. These will need to be reflected in the implementation pathways which the Council intends to develop.

The strategies for domestic buildings and transport will be the most important for York, and we have assessed them in greater detail. For buildings there needs to be a clear understanding of what can be achieved, rather than relying on vague terms such as ‘medium retrofit’ or ‘deep retrofit’. There also needs to be a greater focus on the skills and capacity needed to deliver change and the engagement and financial support needed to ensure that householders and landlords make the changes needed. For transport, there appears to be an over-reliance on the switch to electric vehicles, and an under-emphasis on the need to reduce car use. The target of 89% of cars being electric or hybrid by 2030 does not specify whether this relates to new sales or the overall fleet. Government policy is that the figure for sales will reach 100% by 2030, but this implies that at most 45% of the fleet will be zero emission. The target of a 3% reduction in traffic flows is, we suggest, an order of magnitude low, and internally inconsistent with those for reductions in overall travel and increases in public transport and active travel.

The strategy currently makes little reference to the Council’s draft Local Plan, or its Economic Strategy, Air Quality Plan or intended Local Transport Plan and Tourism Strategy. It will be important to ensure that these strategies are designed to complement and reinforce one another.

### **Key recommendations**

- We recommend that the Council collect local data for the main emitting sources and work to develop inventories and mitigation options based on these local data and a local understanding of options available in York. We also suggest that the Council bears Scope 3 emissions in mind in developing its strategy.
- We recommend that the Council clarifies why it considers that the Net Zero Pathway cannot be delivered by direct emission reduction. We would like to see it then set out the fuller range of sequestration methods available, and their potential, when added to direct emission reduction, for achieving Net Zero. If these together still fail to achieve Net Zero, we recommend that the requirements for offsetting, the methods for achieving it, and their efficacy, be identified.
- We recommend that the Council sets out clearly how its sector-specific targets have been generated, and demonstrates that this set represents the most cost-effective overall approach to achieving the city-wide target.
- We recommend that the Council clarify how and why the specific set of measures has been chosen for each sector, and demonstrate that between them they can deliver the specified sector target and are the most cost-effective way of doing so.
- We recommend the development of a local spatially-designated database of domestic properties outlining ownership and building details, so that the measures needed and estimated cost to upgrade buildings in each category can be assessed. The strategy should then outline plans to engage with householders and landlords to enable change, to build the capacity and skills needed to carry out the required improvements, and the ways in which finance and subsidy can support these changes.
- We recommend that the Council clarifies the basis for its target of 89% of cars being EV or Hybrid EV by 2030, that it focuses solely on EVs, and that it checks carefully the feasibility of that target and its implications for behavioural change. It should then develop a bottom-up transport strategy which delivers the level of behavioural change required, and set clear targets for the resulting reductions in car use. We recommend our own Transport Strategy as a basis for this. We would also like to see targets for taxis, which are more directly under the Council’s control.
- We recommend that the Strategy outline the linkages between the Climate Strategy and other strategies, including the Local Plan and Local Transport Plan, and demonstrate that these strategies are complementary and mutually supportive.

## Introduction

We welcome the City of York Council's decision to develop a draft climate change strategy. Addressing climate change is a most urgent task and it is important that all stakeholders act as far as they are able to achieve the required emission reductions and carbon sequestration that will help to limit the warming experienced and the associated climate change.

Reducing emissions to the extent that will keep the target of limiting global warming to 1.5°C in sight requires a high level of ambition. We therefore welcomed the Council's ambitious target, set in 2019, for York to become a 'Net zero' emitter by 2030. This is even more ambitious now as only eight years remain, but this commitment will only have meaning if the actions proposed have a realistic chance of being implemented in this time-frame. Therefore, it is imperative that the adopted strategy provides clear and comprehensive guidance outlining:

- what needs to be done in relation to major emitting sources and sinks within the boundaries of the City of York
- a clear understanding of who has the power to influence and implement these actions
- a realistic implementation plan that can hope to achieve the goals and targets set overall and for different sectors and actors.

We understand that this strategy will be supported by detailed implementation plans that have not yet been developed. However, it is important that the strategy is transparent about the assumptions made and that consideration has been given to the feasibility of achieving targets for different sectors whilst setting the level of ambition for those different sources and sectors in the strategy. We are not convinced that the current draft strategy does this. We consider in turn below:

1. the methodology adopted
2. the overall target set, and the treatment of sequestration and offsetting
3. the targets set for individual sectors, and the consistency between them
4. the approach to identifying possible measures and the scale of their implementation
5. the implications for domestic buildings (as the largest single source)
6. the implications for transport (as the largest source other than buildings)
7. the need for consistency with other strategies
8. next steps.

### **1. Commentary on the methodology and the risks involved in a top-down approach**

Our understanding is that the numbers used to support the Strategy derive mainly from the use of the SCATTER model that has been developed by Anthesis together with the Tyndall Centre, Nottingham City Council and the Greater Manchester Combined Authority with BEIS funding. This model, as we understand it, develops emission inventories for GHGs for each local authority based upon a downscaling of national data. The SCATTER website indicates that currently the tool does not allow for upload of local data into the model.

We understand that, following government advice, the strategy focuses on Scope 1 and 2 carbon emissions, and does not consider Scope 3 emissions which arise in York, but as a result of actors outside York. We need to be in mind, however, that policies adopted by the Council might well result in significant increases in Scope 3 emissions, and should logically be taken into account when such policies are evaluated. We illustrate this with two examples from the transport sector. A policy substantially to increase the proportion of the vehicle fleet which is electric requires carbon to be emitted in producing such vehicles; such carbon emissions are treated as vehicle manufacturers' Scope 1 emissions, but will be influenced in part by the Council's policy. A decision to upgrade the

outer ring road will lead to substantial carbon emissions during construction, as well as some loss of carbon sequestration potential. Again, these are treated as the construction industry's Scope 1 emissions, but are a direct result of the Council's policy.

According to the description of SCATTER, historical energy consumption is based on local authority data. Gas and electricity use comes from the BEIS database using meter data for each local authority, for domestic and non-domestic categories. For transport emissions, consumption (GWh per Local Authority) is taken directly from the data for total final energy consumption at regional and local authority level published by BEIS (BEIS subnational energy consumption by Local Authority). Livestock data is apportioned to each local authority from data available for groups of local authorities. However, SCATTER does not then include local data on contributory factors such as housing stock and levels of insulation; fuels used of heating buildings; vehicle fleet; local infrastructure; or transport modal shares. Thus the causal process which leads to York's specific levels of energy consumption is not defined in the model.

Also, the measures included in SCATTER are pre-loaded and not locally defined. The lack of data on contributory factors in York makes it difficult to assess the relevance of any specific measure in the York context. Moreover, the assumptions made in SCATTER on the performance of individual measures are not clearly specified. Between them, these two factors make it difficult to assess how realistic the assessment of carbon reduction from a specific measure is. There is a risk that an over-reliance on top-down approaches can give more credence to opportunities to reduce emissions than is really the case, or miss some locally specific opportunities to reduce emissions.

*Recommendation:* We recommend that the Council collect local data for the main emitting sources and work to develop inventories and mitigation options based on these local data and a local understanding of options available in York. We also suggest that the Council bears Scope 3 emissions in mind in developing its strategy. We have attempted below to suggest a locally based approach for domestic buildings and transport, and would be willing to assist in this process for these and other sectors.

## **2. Assessment of the overall target and treatment of sequestration and offsetting**

In the Strategy there is an exploration of the carbon emission reduction from 2005 to the present day. This is useful and the explanation is important, but it is important also to understand the impacts of the different causes of decarbonisation over this period. For example, what has been the influence of decarbonising the electricity grid nationally? What has been the impact of changes in energy efficiency of buildings and appliances within York?

The Strategy identifies what York needs to do to make its 'fair contribution to the Paris agreement'. It specifies a reduction of 196 ktCO<sub>2</sub>e or an 88% reduction in emissions from 2005 levels by 2030 as the amount by which York emissions need to be reduced to help make sure that the Paris agreement targets are met.

We are somewhat concerned, however, about the implications of Figure 4 and the decision to step back from that target. Figure 4 implies that York cannot achieve a net-zero carbon pathway, but it does not explain why that is the case, except by reference to SCATTER. The text states that the Projected Emissions Reduction Pathway is 'based on delivering actions that are currently available with the existing supply chain capacity, national policy and technological readiness.' However, no evidence is presented to justify this or explain why the full 88% target cannot be reached. If the Council is convinced that the Paris target cannot be met, it should make clear that York cannot in practice achieve net zero carbon by 2030, except by using offsetting and sequestration.

Any remaining emissions will be 'offset' according to the Strategy, or indeed 'inset' by sequestering carbon within York City Boundaries. The strategy itemises some key concepts but only provides details about the opportunities of tree planting. More consideration of these opportunities in the York context is needed. There are grasslands and wetlands that could be restored and this could absorb considerable carbon, as well as having wider benefits.

We appreciate that both the Projected Emissions Reduction Pathway and the Net Zero Pathway are extremely challenging, but we would like to see greater clarity as to the potential for sequestration to achieve Net Zero, the resulting need for offsetting, and the ways in which any such offsetting might be achieved.

*Recommendation:* We recommend that the Council clarifies why it considers that the Net Zero Pathway cannot be delivered by direct emission reduction. We would like to see it then set out the fuller range of sequestration methods available, and their potential, when added to direct emission reduction, for achieving Net Zero. If these together still fail to achieve Net Zero, we recommend that the requirements for offsetting, the methods for achieving it, and their efficacy, be identified.

### **3. Assessment of the targets for individual sectors and consistency between them**

As we understand it, the pre-loaded measures in SCATTER result in sector-based targets. Clearly, given the emission profile for York, major change in the transport sector and domestic and non-domestic buildings will be required. However, it is very unclear to us why the 71% reduction in transport and 63% and 56% reduction in commercial/industrial and domestic buildings should be the most appropriate sector-specific targets. To reach the overall target, there could be a different distribution of the ambition between these sectors. We would have expected that an analysis would be made of the cost of mitigation per unit of carbon reduction for each sector, so that a set of sector targets could be selected which together represent the most cost-effective means of achieving the overall target. It may be that SCATTER does this, but if so, this process is not clear from the strategy or its supporting documents.

This process of evaluating the impact of individual measures and their costs also needs to take into account the links from any one sector to emissions from the other sectors. For example, the government has stated that it wants to decarbonise the electricity grid by 2035, implying that in 2030 there will still be a net carbon emission from electricity generation, which would need to be factored into the targets for electric vehicles and domestic heating using electricity.

As has been done by countries in their Nationally Determined Contributions, it would be of interest if the Council were to outline what it can achieve with readily available national and local policy changes. This would represent the 'unconditional' target emission reduction that could be achieved without additional resources, and which thus has a high chance of being achieved. The further policy change and investment needed to achieve Net Zero would then represent a 'conditional' target, which can only be achieved if further resources are mobilised or if national policy changes are enacted.

*Recommendation:* We recommend that the Council sets out clearly how its sector-specific targets have been generated, and demonstrates that this set represents the most cost-effective overall approach to achieving the city-wide target. We also recommend that the Council consider identifying its unconditional target, reflecting emission reduction that can be achieved with current levels of finance and local policy changes, and a conditional target which would require additional resources or policy change.

#### **4. The need for care in identifying possible measures, defining them and assessing their potential in a York context**

In setting sectoral targets as official goals for York, we would expect the process to have included an assessment of which measures would be used to achieve these targets and a demonstration that these measures represent the most cost-effective package for achieving that sector target. This implies the need to:

- develop a clear bottom up inventory of relevant data for each sector: transport, buildings, industry, waste, agriculture and the natural environment
- identify the national policies and strategies that will affect each sector in York
- identify the full range of possible measures in each sector which can be applied within York
- assess which, among those measures, are the most cost-effective, bearing in mind other constraints such as governance and acceptability
- set targets for each measure which between them achieve the most cost-effective means of achieving the sector target, while bearing in mind that there are often direct interactions between types of measure
- provide clear, easy to understand descriptions for each of these shortlisted measures, as opposed to vague terms such as 'medium retrofit' or 'deep retrofit'
- develop pathway analysis for each of the shortlisted measures explaining how each links to the actions that can be taken by different stakeholders in York, and the assumptions made, including where finance is coming from.

*Recommendation:* We recommend that the Council clarify how and why the specific set of measures has been chosen for each sector, and demonstrate that between them they can deliver the specified sector target and are the most cost-effective way of doing so. We offer examples of how this might be done in the next two sections.

#### **5. Measures for domestic buildings**

Domestic building represent 31% of carbon emissions and it will not be possible to achieve Paris targets without ambitious change to these buildings. The emissions relate to heating, cooking and use of electricity. The demand for any fuel to heat houses will depend on the level of insulation, proportion of houses with double glazing installed, the plans for new-build and the standards to which they will be built and heated. There are three major challenges in setting out targets for change for domestic buildings, and the combination of these factors makes the use of national data and targets unhelpful:

1. *The nature of domestic buildings* – physical, in terms of their design and construction, and economic, in terms of their ownership – varies wildly, often on an almost property-by-property basis. Detailed understanding of the range of needs is required, at least leading to a range of typologies which provide some simplification of the process and some ability to plan more easily. This requires engagement at neighbourhood level, and a participative approach which acknowledges that citizens will be the ultimate decision-makers in the process.
2. *Consideration of climate impact cannot be divorced from location and planning matters* – the same house in two different contexts would have wildly different impacts under any sort of holistic analysis. Where new-build is concerned we need to link climate thinking with the Local Plan and develop the city differently, and with existing homes we need to consider ways of changing the neighbourhoods in which dwellings sit to make them more sustainable. It is not just that *houses* built in the past do not perform to current needs – neither do the *developments* in which they sit.

3. *Performance improvements and carbon reduction in dwellings involve a number of intricately related issues.* For most existing homes, simply switching to potentially zero-carbon space and hot water heating (e.g. using air source heat pumps) is unrealistic without major improvements to building fabric performance –in terms of both insulation and airtightness.

The Council therefore needs a typology of types of house, by size, construction, location and current level of insulation. For each type, an assessment will be needed of the requirements and costs for effective insulation and airtightness. Where these improvements are sufficient to permit the provision of air source heat pumps, the costs of conversion will be needed. Where air source heat pumps are not considered feasible, the alternative of providing more energy efficient heating will need to be costed.

Alongside these factors there is an over-arching need to clarify the council's role. The council cannot simply demonstrate good practice and assume that improvements to its own stock will prompt change in other sectors – and this applies both to new-build and to retrofit. The council needs to extend its reach to engage in a variety of ways if targets are to be in any way meaningful and achievable. It needs to consider the process and act to ensure all of the components of that process have the capacity required. So, for example, the Council needs to:

- *engage with partners to build capacity to carry out the required improvements* – working with training providers, contractors and professionals to build a network where both individual components (for example building trades) and connectivity (for example the ability to move from an initial householder approach through design and specification to carrying out the work) function adequately. They currently do not.
- *examine opportunities to bring funding to bear*, looking creatively at innovative partnerships and how the value of work can be used to leverage funding for costs. Also, it needs to examine opportunities for infrastructure (such as neighbourhood-level heat networks etc) which require large-scale coordination and funding.
- *engage with householders and landlords in ways which enable change.* This is not about education or carbon literacy but about an asset-based approach (as already practised by Local Area Coordinators) which equips individuals and neighbourhoods to address change in ways which use and develop local resources, and equips the Council with the skills and frameworks to support this process.
- *assess the level of subsidy needed to stimulate change.* What level of subsidy will be needed to achieve the required shift to heating by electricity? How will such subsidies be funded?

In order to inform the strategy there is a need to develop a detailed implementation plan which answers the questions posed above and which models the rate of implementation of the building retrofit from the start of the strategy until 2030.

*Recommendation:* We recommend the development of a local spatially-designated database of domestic properties outlining ownership and building details, so that the measures needed and estimated cost to upgrade buildings in each category can be assessed. The strategy should then outline plans to engage with householders and landlords to enable change, to build the capacity and skills needed to carry out the required improvements, and the ways in which finance and subsidy can support these changes.

## 6. Measures for transport

At 28% of Scope 1 and 2 carbon emissions it is clear that measures to reduce emissions from transport will have to be taken. The target is for a 71% reduction. While this may be needed to meet the Paris target emission reduction trajectory, it will be important to identify those steps that could be feasibly implemented for the strategy to be taken seriously. All the literature on carbon reduction from transport makes clear that the strategy will need to involve a combination of improvements in vehicle technology and behavioural change. The less that can be achieved from technology, the greater the reduction needed from behavioural change. Moreover, the elements of behavioural change will involve a combination of a reduction in overall travel and a change in modal shares. Again, the more that can be achieved by reducing travel (through shorter journeys or alternatives to travel), the less that is needed from modal change. It is not clear to us that the strategies generated by SCATTER reflect these trade-offs. We also note that the starting point in SCATTER is that 74% of journeys nationally are by car, whereas the latest figure for York is 58%. This suggests that SCATTER will misrepresent the mix of measures needed in York.

The headline figure in the transport strategy is that 89% of cars are EV or Hybrid EV by 2030. Unfortunately, the document does not make clear whether this is 89% of sales in 2030 or 89% of the overall fleet in York in that year. This is a fundamental distinction, and needs to be made clear. If it relates to sales, the target is realistic; indeed government policy is still that all sales should be EV or Hybrid EV by that date. But this would imply a much lower figure for the fleet as a whole, with existing petrol and diesel cars retained for some considerable time into the 2030s, particularly by households unable to afford the change. To illustrate this, Norway has been particularly successful in promoting sales of EVs, which now account for over 50% of all sales. Yet the percentage of the fleet which is electric remains below 10%. We estimate that a target of 89% of sales being electric in 2030 would be equivalent to around 45% of the fleet being electric by then. As a check on this, the UK's Climate Change Committee briefing document on the UK's transition to electric vehicles aims at getting 55% of all vehicles electric by 2030, 'if UK Government and industry implement a range of policy and market mechanisms needed particularly for passenger vehicles and vans, while also addressing wider transportation emissions through reduced vehicle usage as well as moving towards electric, hydrogen or 'cabling' of heavy-duty vehicles' (Wills 2020).

Conversely, a target of 89% of the fleet being electric by 2030 (if that is what is meant) would only be feasible if the Council, or government, were to adopt a scrappage policy on a scale not seen elsewhere in the world. We discount this option as being totally implausible. We would also caution against combining EVs (operationally near carbon neutral) and hybrid EVs in the overall strategy. The latter have a very different non-zero carbon profile very much dependent on user behaviours, and sometimes little better than current petrol or diesel cars.

Any shortfall in the carbon reduction obtained through technological change therefore has to be achieved through behavioural change, and it is noteworthy that a range of recent studies estimates that car mileage will have to fall by between 20% and 50% from 2018 levels by 2030. No figure is given in the strategy for car reduction in York, but the nearest relevant target is a 3% reduction in road transport use by 2030. It is clear from all other relevant studies that this is totally inadequate.

Oddly, the other targets, of a 25% reduction in passenger miles per person, a 25% increase in bus use and a 33% increase in active travel by 2030 between them suggest a much higher reduction in car use. At the Council's request we submitted our own estimates of what might be needed in March 2021. These do not appear to have been taken into account in the Council's strategy. We compare the two in the table below.

Target	Change by 2030	
	CYC	YCT
Person-km	-25%	-15%
Car-km	-3% <sup>1</sup>	-25%
Bus-km	+25%	+30%
Active-km	+33%	+40% <sup>2</sup>

(1) All traffic

(2) Weighted average for cycling and walking

In most cases the two targets are of the same order. However, the target for all traffic (and hence for car use) appears to be an order of magnitude low. The Council should check carefully the basis for its target for reduced road use and adopt a more appropriate one.

Existing policies and plans will also need review, otherwise delivery of the net zero target may be prejudiced. This risk is exemplified in York by the proposed partial widening of the York Outer Ring Road. The Council claims that this will be used to reduce traffic levels within the city, which should contribute positively to carbon reduction. But without complementary measures to achieve that reduction, the upgrade would lead to increases in traffic and hence in carbon emissions.

We have recently conducted a similar analysis in 'A Transport Strategy for York 2022' document (see: <https://yorkcivictrust.co.uk/home/planning/a-transport-strategy-for-york-2022/>). In it we recognised the problem of the time it will take to move the existing vehicle fleets to non-fossil fuelled ones by the 2030 target date, in the absence of any national scrappage scheme. We then identified a potential approach to reaching the carbon reduction target by placing greater reliance on behavioural change. As the table above illustrates, this involves ambitious targets for reducing travel overall (through increased home working, on-line shopping and home deliveries and shorter journeys), and for increases in walking, cycling and public transport use for residual journeys. These are consistent with our target of a 25% reduction in car use.

*Recommendation:* We recommend that the Council clarifies the basis for its target of 89% of cars being EV or Hybrid EV by 2030, that it focuses solely on EVs, and that it checks carefully the feasibility of that target and its implications for behavioural change. It should then develop a bottom-up transport strategy which delivers the level of behavioural change required, and set clear targets for the resulting reductions in car use. We recommend our own Transport Strategy as a basis for this. We would also like to see targets for taxis, which are more directly under the Council's control.

## 7. The importance of linking together different strategic plans

It is unlikely that the climate strategy will be successful in achieving its goals unless the Council's other strategies are consistent with, complement and reinforce it. Critical to this are the Council's draft Local Plan, Economic and Health and Well-being Strategies, Local Transport Plan, Air Quality Management Plan and proposed Tourism Strategy.

Built infrastructure is a major contributor to CO<sub>2</sub> emissions in York, and the climate strategy thus needs to be closely aligned with the draft Local Plan. At present there are no references to the draft Local Plan in the draft Climate Strategy, and the policies on climate change in the draft Local Plan are out of date. It is crucial that this is remedied before the Local Plan is finalised. The Council needs to develop a more sustainable approach to planning for York's future development needs that reduces rather than increases carbon emissions. It should take the opportunity of the Phase 4 hearings in September to initiate this, and should then undertake a more fundamental review of the adopted

Local Plan against the Council's net zero ambition as soon as practically possible. Our own preference would be to adopt the 15 minute city concept, where the bulk of people's daily needs can be addressed within a 15 minute walk, cycle or bus ride of their homes.

The Council is still reliant on a Local Transport Plan (LTP3) produced in 2011, which takes no account of the current need to reduce carbon emissions. It will be required by government, by 2024, to produce an updated Local Transport Plan which demonstrates the ability to achieve committed reductions in carbon emissions from transport. Unfortunately, the Council appears to have assumed that it can thus leave the production of its new Local Transport Plan until that date, which will leave only six years in which to achieve the targeted 71% reduction in carbon emissions from transport. This is a totally unsustainable approach, and it is essential that the Council commits to a new Local Transport Plan on which implementation can commence early in 2023.

The Council is also overdue producing its 4th Air Quality Action Plan, following the expiry of the 3rd plan at the end of 2020. Transport is the primary source of NO<sub>2</sub> and PM<sub>10</sub> emissions, and a substantial contributor to PM<sub>2.5</sub> emissions. The move to electric propulsion and the proposed reduction in motorised traffic and mileages envisaged in the draft Carbon Strategy should support improved air quality, and this link needs to be demonstrated.

There are other linkages which should be identified. The Economic and Tourism Strategies are likely to generate new activity which could potentially add to carbon emissions; both need to be designed instead to achieve low carbon activity. The Health and Well-being Strategy will be supported by steps to reduce local pollution and noise, to increase active travel, and to support the 15 minute city.

*Recommendation:* We recommend that the Strategy outline the linkages between the Climate Strategy and other strategies, including the Local Plan and Local Transport Plan, and demonstrate that these strategies are complementary and mutually supportive.

## **8. Next steps**

York Civic Trust would welcome the opportunity to help the Council to develop its Climate Change Strategy further. We see the need to ensure transparency about the methods and data used, review the targets set and specify an implementation plan for individual measures that will deliver the targets set. With our university colleagues we are able to draw on planning tools such as LEAP to derive emission pathways, on GIS-based spatial analysis, transport policy, carbon sequestration in grasslands and wetlands, and citizen science-based participatory approaches.

We also suggest that it would be helpful to look at examples of strategy development in other cities, and as an example we have outlined, in Annex 1, some aspects of the strategy and underlying technical detail for Bristol, which has attempted to develop a bottom-up approach.

## **Annex 1: Example of planning from another city in the UK – Bristol**

All cities in the UK and around Europe are facing the same challenges – wanting to set ambitious targets to showcase the forward-looking nature of their city and to ensure that their city remains at the forefront of low carbon and sustainable development – and yet also making sure that action is actually taken that will achieve realistic targets. Therefore, having provided a critique of the current strategy, we thought it instructive to consider how other cities are addressing these challenges. We have looked at the approach taken by Bristol, the first city to be named European Green Capital and who have developed a ‘One-City Climate Strategy’ that says that Bristol will be a Net Zero City by 2030.

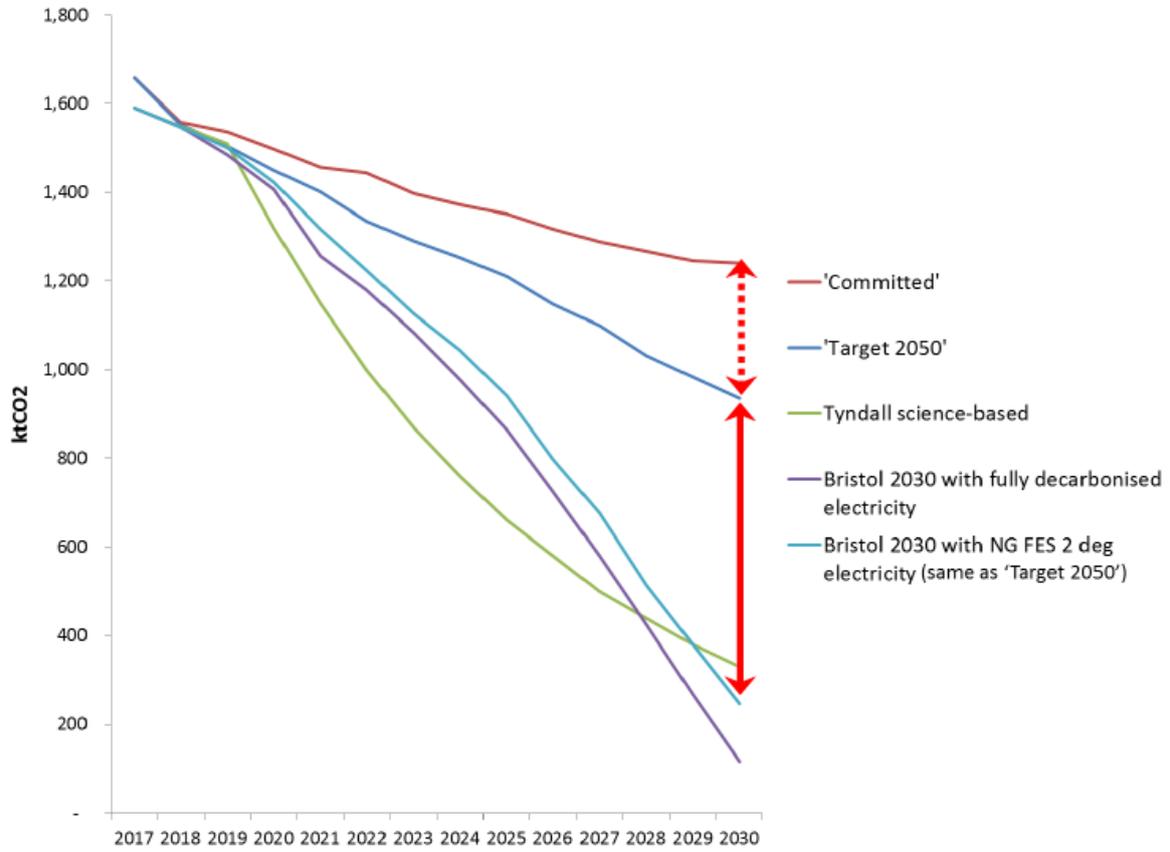
Bristol has developed a one-city approach and the overall strategy is called ‘Bristol One City’. This means that the different strategies have been brought together and the different stakeholders involved have been connected. The one city approach is taking an integrated approach to governance recognising that bringing together the six themes identified will help to deliver projects that will improve Bristol. This is overseen by six Boards who interact with each other.

In the development of Bristol’s climate change strategy, detailed plans have been considered for all sectors identified by Bristol City Council in a study led by the Centre for Sustainable Energy, based in Bristol, with Ricardo and Eunomia ([https://www.cse.org.uk/downloads/reports-and-publications/policy/insulation-and-heating/energy-justice/renewables/behaviour-change/building-performance/Bristol\\_net\\_zero\\_by\\_2030\\_study\\_CSE\\_26\\_Feb\\_2020.pdf](https://www.cse.org.uk/downloads/reports-and-publications/policy/insulation-and-heating/energy-justice/renewables/behaviour-change/building-performance/Bristol_net_zero_by_2030_study_CSE_26_Feb_2020.pdf)). These have fed into targets set for mitigation in each sector. The Council went through an extensive consultation process, including marginalised groups, in the development of the strategy. The report builds on a baseline emission inventory for Bristol developed by Regen.

For buildings they have outlined ‘technically feasible and potentially affordable pathways to decarbonising the space and hot water heating needs of Bristol’s buildings by 2030’. These include details such as ‘The replacement of every gas boiler in the city by 2030 with either a connection to a suite of new heat networks (supplied by large heat pumps) (for c. 68,000 buildings in the selected scenario) or an individual building package, usually involving the installation of an air source heat pump and (in most cases) solid wall insulation (for 95,000 buildings in the selected scenario). Capital investment of £3 billion over the decade in a programme which establishes a 40 year zero carbon heat solution for the city (with avoided costs of £500 million on new gas boilers)’. In other words, they have considered the technology, the cost and the carbon reduction achieved.

They used available local data but had to make a number of assumptions about the housing stock and level of insulation. They also assumed that all new buildings built in the city would either be linked to district heating or heated with a heat pump. They undertook a spatial analysis of where district heating would be provided in the city. With the increased electricity demand there is also an estimate of what proportion of this can be delivered by solar panels within the boundaries of Bristol.

For transport, their decarbonisation plans include a 50% reduction in car-miles and a 40% reduction in van and lorry miles. They anticipate a significant modal shift to walking, cycling and public transport similar to Amsterdam. As in the York strategy, they assume a 90% shift in the fleet to ULEVs – mainly electric. As in the York strategy, it is unclear how they assume that this will be achieved. Bristol is not considering offsetting carbon emissions as an option. The strategy outlines the gap between committed reductions and the challenge to meet the net zero by 2030 as shown in Figure 1.



**Figure 1.** Bristol Scope 1 and 2 carbon emission trajectories, revealing the gap in action required. The vertical red lines on Figure 1 represent the gaps between (a) current 'committed' delivery and what is required to be on track to meet the legally binding national target of net zero by 2050 (dotted red line) and (b) the action required by 2030 to reach net zero by 2050 and that required to meet net zero by 2030 on the same electricity decarbonisation scenario (FES '2 degrees') (solid red line).