A Sustainable Vision for Sheffield City Region

A response to A Better Future Together: A Prospectus for the Sheffield City Region

by Sheffield Climate Alliance (Climate Jobs Team)

Introduction

“[There is] no certainty that adaptation to a 4°C world is possible. A 4°C world is likely to be one in which communities, cities and countries would experience severe disruptions, damage, and dislocation, with many of these risks spread unequally. It is likely that the poor will suffer most and the global community could become more fractured, and unequal than today. The projected 4°C warming simply must not be allowed to occur—the heat must be turned down.”

World Bank

“The only way to avoid the pessimistic scenarios will be radical transformations in the ways the global economy currently functions... This suggests a need for much more ambition and urgency on climate policy, at both the national and international level. Either way, business-as-usual is not an option.”

PricewaterhouseCoopers

There is much to celebrate in A Better Future Together: A Prospectus for the Sheffield City Region. We welcome the scope of the analysis, extending from economic challenges to social issues, with a recognition that these problems cannot be solved separately. We welcome the intention to benchmark Sheffield against other city regions that have taken transformative action. We welcome the focus on bolder ambition, coherent programmes of action and a culture of collective action.

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See: http://www.sheffieldclimatealliance.net/
6 Ibid, p.2
However, we are concerned that *A Better Future Together* fails to acknowledge both the urgent responsibility that SCR has to reduce its carbon emissions and, crucially, the social and economic benefits that would arise from doing so. Our argument is that a wide ranging programme of climate mitigation-related jobs and ecological investment (see Section 1) would do much to fulfil the stated objectives of *A Better Future Together*. We believe that by failing to explicitly address climate change, *A Better Future Together* is missing out on a ‘win/win’ opportunity. We would therefore like to see ‘Achieving our aims within a carbon budget compatible with the Paris Climate Agreement’ added to the list of significant challenges acknowledged in *A Better Future Together*.7

This Response first briefly explains why SCR faces an imperative to decarbonise and become more sustainable, and the necessity of bringing together coherent SCR leadership for creating the conditions to finance this transition. We then address the six programmes laid out by *A Better Future Together*. Each section mirrors its counterpart in *A Better Future Together*; first setting out a sustainable vision of the programme in broad terms, then making direct reference to the original propositions. We argue that the objectives of each programme can be best achieved through the implementation of sustainable policy.

**A forward-looking City Region?**

Cities and their surrounding areas are responsible for a large proportion of greenhouse gas emissions.8 These emissions cause climate change, which is already causing harm and if left unchecked will soon constitute an existential danger to the organised global economy and community.9 It need hardly be said, then, that climate change risks undermining *A Better Future Together*’s overall commitment to reducing deprivation and inequality gaps by disproportionately impacting disadvantaged groups.10 It is easy to put aside climate change due to its seemingly abstract nature, but the harms caused by climate change are already being felt around the world and young people in the UK today will be deeply impacted by it during their lifetimes.

The urgency of the situation must not be understated: even if global emissions peak between now and 2020, emissions must then be halved each decade and reduced to net zero by 2050 so as to ensure a reasonable chance of remaining under the internationally agreed limit of 2 degrees warming.11 While the UK has achieved its emission targets up to today, this has been due to historical factors leading to the closure of coal mines and the ‘exporting’ of emissions, so should not lead to complacency.12 The Committee on Climate Change warns of a growing ‘policy gap’ between

policy required and policy implemented or in the pipeline.\textsuperscript{13} The longer we delay, the more difficult and expensive the task will become.

Therefore, when setting out a vision for the next 25 years, carbon emissions must be a primary concern that informs and shapes other decisions. This is not just an ethical imperative, but an economic one; we must avoid making investments that will lock SCR into carbon-intensive technologies, infrastructure and practices (‘path-dependency’) that will have to be written off at a loss before the end of their useful lives in order to stay within the stringent science-based carbon reduction targets mandated by the latest international policy commitments.\textsuperscript{14}

Fortuitously, sustainable policy is not a burden on cities. Rather it provides numerous developmental opportunities, some of which this Response elucidates.\textsuperscript{15} Across the world, city leaders are waking up to this and recognising that the past cannot be a model of development for the future. For example, Copenhagen aims to become carbon neutral by 2025. Crucially in the context of the A Better Future Together, at the core of Copenhagen’s strategy is “strengthening dialogue with the business community, and… building partnerships with both commercial and knowledge institutions”.\textsuperscript{16}

The risks of path dependency must also be acknowledged. Major cities are embracing innovative ideas and investing in infrastructure that ensure they remain relevant in a sustainable future that is potentially just around the corner.\textsuperscript{17} We believe that choices and agendas that may appear radical today are in fact essential for SCR to keep up in the 21st century. To put it baldly, SCR is faced with a choice: work towards becoming a truly sustainable region, or risk falling behind as the rest of the world progresses, all the time continuing to contribute to a dangerous future for all.

Climate leadership and financing sustainable projects

A Better Future Together is demonstrative of the power that SCR leaders have to set the agenda. This is crucially important as one of the main obstacles to ecological investment is the financing of projects. Some of the policy suggestions we make in this document require significant initial investment, but will often be cost neutral through direct or indirect co-benefits, or promote economic growth in the long-term, as by seizing the opportunity to be leaders in the field SCR will place itself in a position to export our research and expertise.

Consisting of a collaboration between health and education bosses, business, industry and the third sector, A Better Future Together epitomises a culture of collaborative leadership that has the potential to set the agenda and create conditions amenable to such investment in carbon-reduction programmes. We believe that those involved now have a responsibility to step up

\textsuperscript{14} Institute for New Economic Thinking, Oxford Martin School, “World’s Energy System Likely to be Committed to More than 2 Degrees C by 2017” (30 March 2016), http://www.inet.ox.ac.uk/news/2c-capital-stock
\textsuperscript{16} See: http://international.kk.dk/artikel/sustainable-city-initiatives
\textsuperscript{17} See: http://www.c40.org/
as climate leaders and make the case that sustainability is crucial to the development of SCR, thereby encouraging investment in sustainable projects.
Programme 1: Building an Ambitious Economy: Innovation and Enterprise

“[Climate change is]...the greatest economic challenge of the 21st century.”
Christine Lagarde, Managing Director, International Monetary Fund (IMF)

To decarbonise our economies and decouple them from carbon emissions in line with our climate targets, we must not only reduce our carbon intensity, but must do so with an urgency and scale that is not compatible with a ‘business-as-usual’ approach. Of course, SCR alone is not capable of rewriting the rules, but we must consider how we can contribute to and be part of the transformation that needs to happen.

In a recent presentation at Sheffield University, Louis Brimacombe (formerly of Tata Steel) gave an example of the sort of transformative thinking required. He argued that to achieve reductions in the carbon/energy footprint of steel for construction, a leasing system would be required, so that components can be re-used without melting them down. Girders would be microchipped and tracked, so when a building was knocked down they would go back to the steelmaker, who still owns them. This is the kind of innovation that SCR could seek to foster; rethinking such systems requires intelligent design, something our region can excel at.

If, instead, ‘innovation’ is merely about creating more consumer novelty and ‘enterprise’ is merely about selling more ‘stuff’, both will help drive the climate crisis. The alternative is to use the resources we have as a region to tackle the climate change and help enable a new, circular economy that creates prosperity for all without undermining the stability of the ecosystems (climate, soil, water, nitrogen cycles, for example) on which we all rely. Meanwhile, as an industrial region, we need to plan also for a ‘just transition’, ensuring alternative employment and training for those in high-carbon jobs and communities that depend on them.

To ensure SCR meets the carbon budget implied by the Paris Agreement, targeted ‘ecological investment’ is required, which invests in jobs, assets and infrastructures in the following priority sectors:

- Retrofitting of buildings with energy- and carbon-saving measures
- Renewable energy technologies
- Redesigning utility networks, in particular the electricity grid
- Public transport infrastructures
- Public spaces (pedestrianisation, green spaces, libraries and so on)
- Ecosystem maintenance and protection

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These are ‘climate jobs’ sectors, where investment will actively reduce climate emissions and also create economic benefits such as employment, supply chain opportunities and reduced expenditure on energy. If the interventions are well-designed, this can in turn strengthen the local economy (see Section 2). These investments also have beneficial impact on health and wellbeing outcomes (see Section 3), and positive links with Education (see Section 4), the Green Network (see Section 5) and Connectivity (see Section 6).

We therefore propose that the above sectors need to be the priorities supported by investment and innovation. As a region we have Universities which are already engaged with research relevant to construction, energy and transport systems, innovative engineering, supply chain development and optimising resource use, which can support this.

The Proposition

1. ‘Creating Innovation Hubs/Districts’; ‘support targeted at potential leading edge businesses’; ‘developing links between businesses and the region’s research institutions’: These approaches could be applied to the ecological investment sectors listed, for example, creating an Innovation Hub for low-carbon building retrofit. Any development project, such as building an Innovation Hub, must itself be designed to be carbon neutral in terms of construction and connectivity.

2. ‘Support business growth through training, networking and test pitching’; ‘develop high quality management and leadership skills’; ‘retain high quality graduates across sectors’: These approaches could equally be applied to the ecological investment sectors. Such people-focused interventions can be designed to be carbon-neutral.

3. ‘Mechanisms to improve access to investors including angels’: This will be essential to achieve the level of investment required. The Mini-Stern Review for SCR outlines an £8 billion programme to reduce SCR’s emissions by around 40%, with an 8-year payback period based on energy savings.23

4. ‘Promoting design standards’: This must be a priority approach for SCR (and not just with respect to workplaces, as A Better Future Together suggests); an essential factor of a low-carbon economy is that it uses human intelligence and creativity more, and energy and materials less.

5. ‘Creating high quality places’: Prioritising the ecological investment sectors would ensure a virtuous circle between high quality work and excellent housing and public services.

6. ‘Innovative enabling and delivery mechanisms to improve planning and delivery, including using the 2008 Planning Act’: Innovative mechanisms will be required to set aside cost savings in areas such as energy and healthcare in order to pay back investment in the ecological investment sectors. In this, we could follow the lead of cities like Nottingham,

which has set up a council-owned energy company, reducing household bills and retaining profits in the local area.\textsuperscript{24} Innovative delivery partnerships will be required that bridge private, public and third sectors.

\textsuperscript{24} See: \url{http://www.nottinghampost.com/city-plugs-low-fuel-bills/story-20787098-detail/story.html}
Programme 2: Global excellence - Local impact

“13% of city-scale GVA [as of 2011] leaves the local economy every year through payment of the energy bill. This is forecast to grow significantly by 2022.”

"The Sheffield City Region could ... insulate itself against projected energy price increases to a very large extent through investments in energy efficiency and low carbon options."

Mini-Stern Review for SCR

We are supportive of the ambition outlined in A Better Future Together for SCR to “keep more of the overall value of what it spends”, and to be inclusive through maximising local impact. We consider that prioritising ecological investment in the priority sectors (as outlined in Section 1) is a powerful way to achieve these aims.

The ecological investments we propose would develop local infrastructure and directly improve the quality of the local environment, in ways that feed back into economic success. For example, creating non-polluting and reliable public transport makes journeys to work quicker and healthier, and urban streets more pleasant to spend time in. It is relatively easy to design such development projects to ensure that benefits accrue locally, by developing local supply chains. For instance, in Norfolk, training and supply chain development has helped local businesses to gain opportunities in construction to Passivhaus standards.

The Proposition

1. ‘Support for small and micro businesses; ‘support the development of social enterprises’; ‘Procurement Protocols which encourage local spend’; ‘performance measures for local value’: We support these aims. Small and micro businesses often need help with energy management to help control costs, and all these measures would ensure more re-circulation of money in the local economy, which is a powerful way to increase prosperity in our region. We would like to see additional support for businesses and small/micro enterprises that promote zero carbon emissions solutions, and environmentally safe technologies and practices, as well as for agricultural and horticultural practices that enable sustainable food solutions and healthy eating. We can look to organisations like ‘Sheffield Renewables’ for models of successful local sustainability schemes.

2. ‘Maximise return from major developments, including training and apprenticeships for local people’: The ‘major developments’ that we favour would be in non-polluting transport

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28 See: https://www.sheffieldrenewables.org.uk/
and active travel, renewable energy and conservation of energy (for example, a housing insulation retrofit programme worth £3bn). Such programmes can be delivered well by local construction and engineering companies, enabling long-term jobs, as well as training and apprenticeships, and collaboration with educational and research institutions.

3. ‘Possibility of SCR local challenger bank’: Local challenger banks are proving to be a successful model for supporting local small and medium sized businesses, for example in Cambridge.\(^{29}\) We believe a SCR local challenger bank could aid development of local and community owned sustainable projects. Related is our suggestion to the South Yorkshire Pension Authority that its pension funds be divested from fossil fuel companies and re-invested in local projects such as renewable energy and local energy-saving schemes. To do so would be to follow the lead of other local authorities, such as Manchester and Strathclyde, who are beginning to divest from fossil fuel companies and reinvest in sustainable funds and/or in sustainable community energy projects.\(^{30}\)

4. ‘Developing further Local Food Production initiatives’: We support this aim. Procurement initiatives by hospitals and schools (such as Cornwall NHS’s successful local buying scheme\(^ {31} \)) could help shift diets towards vegetables and fresh food, while also encourage local sourcing of food. Local food production is better at implementing ecological methods, reducing emissions and achieving social value.


Programme 3: Joining-up Health and Wellbeing

“Climate change is the biggest global health threat of the 21st century.”

Lancet Commission on Climate Change

“Tackling climate change could be the greatest global health opportunity of the 21st century.”

2nd Lancet Commission on Health and Climate Change

Acting to mitigate climate change has huge potential for win-wins around health inequalities - reducing illness and the deprivation that often drives it. Public health research backs up all we say here.\(^33\) We concur with A Better Future Together’s focus on preventative health care, and we see that ecological investment is aligned with this in four main areas:

- Insulating homes and reducing their energy bills has huge potential to improve the physical and mental health outcomes of the occupants.\(^34\)\(^35\)
- Investment in clean transport systems is the major necessity for reducing deaths and illness caused by air pollution.
- Enabling modal shift away from car use towards active travel has powerful preventative health effects by integrating exercise into daily life.\(^36\)
- Shifting diets towards getting more calories from vegetables and less from meat and dairy products is a key priority for both preventative health and climate mitigation.

We suggest that the positive links between climate action and health improvement are so strong that, even if climate change did not exist, these investments would still be the best way to ensure the desired health outcomes.

Meanwhile, the NHS is the largest single emitter of greenhouse gases in the public sector, and contributes 25% of the emissions of all public sector organisations, with NHS procurement accounting for as much as 65% of its emissions, of which 30% came from pharmaceuticals and medical devices.\(^37\) Creating a healthier population will help to reduce demand on the health service with consequent carbon and cost savings. On the other hand, according to the UK Health Alliance on Climate Change the “UK health services are currently unprepared for the risks posed by climate change”, leaving it exposed to costly hazards associated with our changing climate.\(^38\)

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\(^{33}\) Wang & Horton, ibid


The Proposition

1. ‘Putting health promotion and disease prevention at the heart of everything we do’: As outlined above, we see massive opportunities for practical programmes in our schools, hospitals and workplaces. These should aim to shift diets and enable access to healthy food in all communities, and expand the provision of ‘cycle shops’ and ‘cycle schools’. At the same time we must ensure that homes are warmer through inclusive whole-home retrofit programmes and excellent new build standards. A holistic approach to town planning is clearly important in achieving these aims. Another potential gain for public health and climate change mitigation would be taking measures to reduce the levels of meat consumption in SCR. Livestock is one of the largest contributors to emissions globally, while the current levels of meat consumption in the UK have been linked to various chronic non-communicable diseases.39 We believe a drive to eat less, but better quality, meat could reduce net levels of meat consumption, while supporting local farming and businesses (see also Programme 2).

2. ‘Transforming Sheffield City Region into the most physically active region in the UK’: This requires investing in enabling infrastructure for active travel (instead of more roads - see Section 6) and offering social and cultural support to participate in physical activity and be inspired (such as happened through the Tour de France in Yorkshire). Ensuring enough local parks and green spaces, with more outdoor gym equipment installed, plus more playgrounds/outdoor soft play and junior climbing walls would encourage fitness at a young age and counteract the digital/gaming habits of the newer generations.

3. ‘Mental Health being integral to our ambitions’: There is good evidence that hard-to-heat homes are a major factor against mental well-being, and that investment to create warm, healthy homes repays itself easily in health and care costs.40 The links between exercise and mental health are also well-established, as is the beneficial impact of experiencing green spaces and trees.41

4. ‘Treating people as close to home as possible and enabling their neighbourhoods to support healthy lifestyles’; ‘Fulfilling the aspiration for everyone to have good access to high quality care, so no matter where people live, they receive the same standard experience and outcomes from their care and treatments’; ‘Aligning care services that flow seamlessly from one to the next, so people don’t have to tell their story twice to the different people caring from them and everyone is working on a shared plan for individual care’; ‘Developing and supporting a flexible health and care workforce that comes together in neighbourhood hubs and specialist centres to offer people the best and most appropriate care’: These are all worthwhile aims for the delivery of healthcare. We would

like to emphasise that investing in people working in healthcare and education roles is relatively low-carbon and therefore climate-beneficial. These jobs, achieving important social outcomes, can often be best achieved through labour-intensive, person-centred approaches so that people are listened to and understood, and supported and cared for as individuals. This implies local clinics, hospitals and GP surgeries in enough supply/accessibility, including good transport to ensure they are reachable.

5. ‘Pioneering the development and use of new medical devices and healthcare technologies which bring positive benefits to individuals and the wider economy’; ‘Remaining at the forefront of clinical research to ensure our region benefits from early translation of evidence based findings into clinical practice and treatments’: We would add that these principles should apply not only to medical technologies, clinical research and clinical treatments, but also to public health research and policies on housing, transport, air quality and food that deliver preventative health outcomes.
Programme 4: Transformation in Education and Skills

“Education for sustainable development (ESD) is the process of equipping students with the knowledge and understanding, skills and attributes needed to work and live in a way that safeguards environmental, social and economic wellbeing, both in the present and for future generations”

Guidance for UK Higher Education Providers, HEA & QAA

The transition to a low-carbon economy will require a major shake-up of the education sector. There is currently a large ‘skills gap’ between where we are now and where we need to be for a decarbonised future economy.

In recognition of the wide spectrum of disciplines that are directly relevant to the low-carbon transformation, we need to ensure that young people within the region have access to the training opportunities necessary to enable them to contribute to the future low-carbon economy - from home insulation to procurement, public transport and local food production. We must also focus on the reskilling of employees currently working in high-carbon industries to ensure a just transition.

This calls for an integrated approach across all sectors and communities. The Region will then be known not only for the talent and skills of its people, but also for the ingenious contributions they are making towards decarbonising the City Region.

The Proposition

1. ‘A well-promoted programme of skills training at mid and upper skill levels, drawing in employers, the further education colleges and the universities, placing equal value on academic and vocational training routes’: It is important to ensure the provision of both ‘block’ and ‘day release’ training programmes to skill up the workforce to undertake the low-carbon transition. Support must be made available to small businesses to allow their staff to take time off work to retrain. This will also require investment in the expansion of well-equipped training workshops in FE colleges to give students access to simulated learning and advanced hands on knowledge of low-carbon skills. We must ensure that training is in place to support a ‘just transition’ for those currently employed in high-carbon jobs, so that they are provided with equally skilled local alternatives in the low-carbon economy and the ability to reskill.43

2. ‘Ensuring the region attracts and retains the most talented teachers and leaders through a programme of workforce development’: There has to be a focus on those who can provide

the necessary education in the low carbon skills of the future.

3. ‘Enhancing the region’s apprenticeship provision’: There is a need for long term apprenticeships with clear progression pathways in the region and ensuring that they are aligned with low-carbon growth areas.

4. ‘Developing the educational reach in relation to regional skills and workforce development, giving a central role to the region’s two universities and further education colleges’: This will require a curriculum shift in schools, colleges and universities to one which focuses on education and training in the areas necessary for decarbonisation and sustainable development, preparing students for future climate jobs. These institutions must also focus on attracting funding for internationally leading research on climate adaptation and low-carbon technologies and translating that expertise into local demonstration projects.

5. ‘Making retaining more graduates in the region a priority’: We believe that promoting SCR on the basis of its cutting edge focus on sustainability would help retain more graduates in the region.

Programme 5: Promoting the Regional Green Network

“The move to a ‘Living Landscapes’ approach is partly driven in response to climate change, but also due to greater awareness of the importance of ‘ecosystem services’ – the public goods and services that natural areas provide – and the need for high quality green infrastructure. Only by working with local communities, coordinating plans and policies, and encouraging people to understand and value the landscape can we rebuild the region’s biodiversity and restore the UK’s battered ecosystems.”

Sheffield & Rotherham Wildlife Trust

First, we want to emphasise that the ecological investment argued for in this Response is not primarily concerned with just the protection and use of the local environment, which is the focus of Programme 5. To us, it is also vital that the proposals in Programme 5 will not be used to ‘greenwash’ any action that emerges from A Better Future Together. For example, the protection (or extension) of green spaces or trees must not be conflated with the urgent need for systematic reductions in carbon emissions within SCR.

We agree that the ‘outdoors’ is of great value to SCR. The differing geology from west to east means that the Region has extensive green assets spread across it. We welcome the proposition of creating Britain’s first Urban National Park, a concept that chimes well with the aim of integrating economic, environmental and personal well-being, which is central to A Better Future Together.

We therefore think it is important to protect our local environment, particularly by ensuring that no fracking takes place and by reducing air pollution to very low levels. Fracking is a danger to both the climate, and the local environment, and through that to health. It also leads to unintended emissions of methane, a powerful, fast-acting greenhouse gas. Fracking is incompatible with the UK’s legally-binding climate commitments, unless other sectors shoulder more of the burden of emissions reduction, which is unlikely to happen.

The Proposition

1. ‘Comprehensive region-wide environmental strategy’: We agree with this proposal - it would help to assess the relative economic and social benefits of, for example, fracking development versus an Urban Park with regular festivals of walking, cycling, running and climbing. Experience from the USA is instructive, where Urban Parks make up nearly a third of the US national park system and draw 40% of all national park users.

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2. ‘**Co-ordinating efforts and resources in investing in the region’s natural assets both for what they can provide for us and to retain an environment essential for a high quality of life and wellbeing**’: The importance of green/blue environment in attracting new businesses and skilled staff is well attested, as is the importance of experiencing parks and green places for mental health.\(^{49}\)\(^{50}\) Well-managed woodland is not only an environmental but also an economic and social asset.\(^{51}\) Very little, perhaps no, land in SCR is untouched by human hands, and so investing in ‘natural assets’ must include protection for many types of green space that are valued by communities but threatened by proposed transport, housing and business developments (as for example at Smithy Wood).

3. ‘**Growing the green networks so that they connect across the whole region for walking, cycling and family leisure and giving them a role as part of a Healthy Living Agenda**’: This is a laudable aim. Such leisure opportunities already abound but are not accessed on a regular basis by all sections of the community. So a priority for the Healthy Living Agenda must be to reduce inequalities of access, for which joined up thinking on public transport would be essential.

4. ‘**Providing long and mid-distance foot and cycle-paths across the region, signposted with car park access, to encourage people to switch to these modes of travel**’: Cheap and reliable bus and train services, with provision for taking bicycles on local train services, would reduce reliance on cars for leisure or for commuting. For example, the National Cycle Trail crosses Sherwood Forest, but is not easily accessed from public transport.

5. ‘**Expanding Urban Forestry and Biodiversity Projects**’; ‘**Improving access to and making better use of rivers and canals**’; ‘**Providing new and upgraded playspace**’: These are all good aims, which we support. Climate mitigation and adaptation needs to be factored in by, for example, creating more connected green networks that enable adaptation to changing climate, and biodiverse habitats (woodlands, retaining moisture in peatlands) to reduce flooding downstream.\(^{52}\)

6. ‘**Developing new roles for river and canal corridors including for fitness, digital connectivity and local energy generation, as well as longer term flood management**’: Local hydro-electric generation should be prioritised as a contribution to green energy and the local economy. Climate change is already resulting in more frequent flooding and so we recommend an early, integrated approach to flood management.

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49 Ciria Open Space, “Economic Value of Open Space” (2017),
http://www.opengreenspace.com/opportunities-and-challenges/economic/

50 Public Health England, “Green Space, Mental Wellbeing and Sustainable Communities” (2016),

51 Mark Kivner, “Green spaces ‘can save NHS billions’, BBC News (2013),

52 Rewilding Britain, “How Rewilding Reduces Flood Risk” (2016),
7. ‘Continuing to tackle air quality issues’: Little has in fact been achieved so far: children’s health, for example, is being impaired in much of the region by poor air quality. Tackling climate change and improving public health make this a win-win proposition (see more detail in Sections 3 and 6).

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Programme 6: Better Internal and External Connectivity

“If we are to successfully reduce our emissions from transport in the long-term, a shift in our relationship with our vehicles will help. For that to happen we also need good, reliable alternatives that get us where we want to be, when we want to be there. Given that about 80% of the UK population live in urban areas, focusing on cities is the obvious place to start.”

Committee on Climate Change\textsuperscript{54}

The path-dependent nature of transport and digital infrastructure means that the decisions made today regarding connectivity determine what the Sheffield City Region will look like for decades to come. Sustainable connectivity is essential for a SCR equipped for the future: we must not tie ourselves to carbon intensive systems of connectivity that are already old and will soon be antiquated. We can instead create a SCR that is built around mass public transport and in doing so become “economically dynamic, healthier and [have] lower emissions”.\textsuperscript{55} By acting soon, the transition will be easier and we will enjoy the numerous benefits for longer.

A sustainable connectivity agenda that focuses on improving public transport networks, reducing the numbers of petrol and diesel cars, and making active transport available to all would create over 1300 jobs and save SCR over £250 million per annum, while creating £66 million worth of jobs.\textsuperscript{56} It would also lead to a healthier and happier population. Currently, poor air quality results in up to 500 early deaths in Sheffield alone and costs £160 million: systematic introduction of sustainable connectivity options would drastically reduce air pollution levels.\textsuperscript{57} Furthermore, making active transport more accessible impacts positively on public health.\textsuperscript{58}

However, a sustainable connectivity agenda cannot just focus on the creation of sustainable internal transport networks. SCR must also eschew conventional carbon intensive transport projects, like major road projects which lead to further polluting behaviour. By choosing to go ahead with large road and rail projects like those mentioned in A Better Future Together, SCR would lock itself into a future that is incompatible with our carbon reduction targets.\textsuperscript{59} There should instead be a policy emphasis on enabling people to \textit{live well by travelling less far}. To ensure economic vibrancy and success, SCR must focus on developing state-of-the-art digital connectivity. It should be accepted that a prosperous and sustainable future may, at least in the medium term, involve less

\textsuperscript{54} Committee on Climate Change, “UK Transport is Heading in the Wrong Direction” (2015), https://www.theccc.org.uk/2015/09/15/uk-transport-is-heading-in-the-wrong-direction/


long distance transport. Promoting higher levels of urban density within built up areas of the SCR would help achieve this goal.\textsuperscript{60-61}

The Proposition

1. ‘Supporting non-rail locations’; ‘Extending train, super-tram and tram-train networks’: We agree that improving public transport must be a high priority. SCR has to aspire to make journeys within the region easier to undertake by public transport than by private transport. Improved public transport networks will lead to economic growth.\textsuperscript{62-63} Following the lead of cities such as Nottingham and York, low emission or electric buses should be introduced. Doing so would reduce tailpipe air pollution emissions as well as reducing carbon emissions.\textsuperscript{64} We need to aim for there to be fewer and cleaner cars within SCR. Major institutions within SCR, such as the NHS, Local Authorities and Universities, should act as leaders by switching to electric vehicles. SCR must draw on lessons learnt by pioneer cities such as Amsterdam, which aims for all its buses and taxis to be electric by 2025.\textsuperscript{65}

2. ‘New smart demand-led public transport’: We agree that smart technology can help to integrate different modes of travel, for example through integrated ticketing/discounts, booking a ‘street car’ to complement a rail journey, and real-time travel information.

3. ‘Integrating new housing and workplaces through transit-oriented urban expansion areas’: There needs to be a focus on connecting new housing and workplaces with accessible active travel. It is well established that active travel has numerous benefits, including better public health, economic advantages and air pollution reduction. We have to emphasise the importance of cycling and walking as alternatives to private transport. Working alongside local groups such as Cycle Sheffield, we have to prioritise the creation of infrastructure that allows people to cycle and walk safely and easily so that active travel is “safe, convenient and enjoyable” to all.\textsuperscript{66} Within the urban areas of SCR, active travel should become the primary mode of transport for short distances and as part of longer journeys, an aspiration aligned with the current Government’s ‘Cycling and Walking Investment Strategy’.\textsuperscript{67}

\textsuperscript{60} Alex Steffen, ‘Move a Little Closer Please’ in “Carbon Zero” (2013), accessible at http://grist.org/carbon-zero/


Furthermore, public transport and active travel complement each other. For example, taking the bus five days a week provides the average person with half of their recommended weekly exercise, due to increased distance walked.  

Major institutions should be encouraged to introduce active travel plans for their employees and provide support for their implementation.

4. 'Enhancing high capacity/quality rail links through early resolution of HS2 and HS3 options'; 'Examining Woodhead 4 as a complementary rail or alternative rail/road link to the extremely ambitious proposed Trans Pennine Road tunnel'; 'Reinforcing the wider City Region role of Doncaster Sheffield Airport'; 'Improving the capacity and flow of the M1 corridor'; 'Significant investment in trans-Pennine road routes': Investing a fraction of the projected cost of projects like HS2 would generate much more value if spent on bus network funding, cycling and walking infrastructure, and super-fast broadband roll-out. A similar case can be made in relation to the other large infrastructure projects suggested in A Better Future Together, which would lock the region into destructive behaviour patterns for decades more. In particular, we suggest that efforts should be focussed on making our digital and rail connections with Manchester a showpiece of what is possible without building new road infrastructure. Our region is blessed with the rugged and intricate landscape of the Pennines: let’s make that the heart of our prosperity, rather than destroy it with outmoded and expensive infrastructure that benefits only a minority of people.