

Wednesday, 13 May 2020

To: Members of the SCR - Local Enterprise Partnership and Appropriate Officers

## NOTICE OF MEETING

You are hereby invited to a meeting of the Sheffield City Regional Local Enterprise Partnership to be held at **Virtual Meeting**, on: **Thursday, 21 May 2020** at **11.00 am** for the purpose of transacting the business set out in the agenda.



Dr Dave Smith  
**Chief Executive**



You can view the agenda and papers at [www.sheffieldcityregion.org.uk](http://www.sheffieldcityregion.org.uk) or use a smart phone camera and scan the QR code:

## Member Distribution

James Muir (Chair)	Private Sector Member
Nigel Brewster (Vice-Chair)	Private Sector
Lucy Nickson (Vice-Chair)	Private Sector LEP Board Member
Alexa Greaves	Private Sector LEP Board Member
Professor Chris Husbands	Representative for Higher Education
Gemma Smith	Private Sector LEP Board Member
Laura Bennett	Private Sector LEP Board Member
Neil MacDonald	Private Sector LEP Board Member
Owen Michaelson	Private Sector LEP Board Member
Peter Kennan	Private Sector LEP Board Member
Richard Stubbs	Private Sector LEP Board Member
Tanwer Khan	Private Sector LEP Board Member
Alison Kinna	Private Sector LEP Board Member
Bill Adams	TUC Representative
Professor Dave Petley	University of Sheffield
Councillor Chris Read	Rotherham MBC
Mayor Dan Jarvis MBE	SCR Mayoral Combined Authority
Councillor Julie Dore	Sheffield City Council
Mayor Ros Jones CBE	Doncaster MBC
Councillor Sir Steve Houghton CBE	Barnsley MBC

## SCR - Local Enterprise Partnership

Thursday, 21 May 2020 at 11.00 am

Venue: Virtual Meeting



### Agenda

Agenda Ref No	Subject	Lead	Page
1.	Welcome and Apologies	Mr J Muir	
2.	Declarations of Interest <ul style="list-style-type: none"><li>In relation to any agenda item</li><li>In relation to any activity since the last formal meeting</li><li>In relation to any forthcoming activity</li></ul>	Mr J Muir	
3.	Notes of Last Meeting	Mr J Muir	5 - 14
<b>Strategic Development</b>			
4.	Economic Implications of COVID 19 (inc. development of a response plan)	Dr R Adams	15 - 22
5.	Approach to Working with Businesses	Dr R Adams	23 - 28
6.	Energy Strategy	Mr Mark Lynam	29 - 66
<b>Governance</b>			
7.	LGF Update (year end 19/20 & 20/21 Programme)	Dr D Smith	67 - 72
8.	Annual Performance Review	Dr D Smith	73 - 76
9.	LEP Annual Report 2019-20 and Delivery Plan 2020-21	Dr R Adams	77 - 112
<b>For Information</b>			
10.	Mayoral Update	Mayor Dan Jarvis	113 - 116
11.	Chief Executive's Update	Dr D Smith	117 - 118
<b>Date of next meeting:</b> Thursday, 16 July 2020 at 11.00 am <b>At:</b> 11 Broad Street West, Sheffield S1 2BQ			

This page is intentionally left blank

**SCR - LOCAL ENTERPRISE PARTNERSHIP**

**MINUTES OF THE MEETING HELD ON:**

**THURSDAY, 5 MARCH 2020 AT 11.00 AM**

**11 BROAD STREET WEST, SHEFFIELD S1 2BQ**



**Present:**

James Muir (Chair)	Private Sector Member
Nigel Brewster (Vice-Chair)	Private Sector
Lucy Nickson (Vice-Chair)	Private Sector LEP Board Member
Laura Bennett	Private Sector LEP Board Member
Alexa Greaves	Private Sector LEP Board Member
Professor Chris Husbands	Representative for Higher Education
Peter Kennan	Private Sector LEP Board Member
Tanwer Khan	Private Sector LEP Board Member
Neil MacDonald	Private Sector LEP Board Member
Owen Michaelson	Private Sector LEP Board Member
Richard Stubbs	Private Sector LEP Board Member
Bill Adams	TUC Representative
Professor Dave Petley	University of Sheffield
Councillor Chris Read	Rotherham MBC
Councillor Tricia Gilby	Chesterfield BC
Councillor Chris Lamb (Reserve)	Barnsley MBC

**In Attendance:**

Dr Dave Smith	Chief Executive	SCR Executive Team
Dr Ruth Adams	Deputy Chief Executive	SCR Executive Team
Noel O'Neill	Chief Finance Officer/S73 Officer	Sheffield City Region
Mike Thomas	Senior Finance Manager/ Deputy S73 Officer	SCR Executive Team
Mark Lynam	Director of Programme Commissioning	SCR Executive Team
Sharon Kemp	Chief Executive of Rotherham Metropolitan Borough Council	Rotherham MBC
Sarah Norman	Chief Executive of Barnsley MBC	Barnsley MBC

Craig Tyler (Minute Taker)

**Apologies:**

Alison Kinna	
Mayor Dan Jarvis MBE	SCR Mayoral Combined Authority
Councillor Garry Purdy	Derbyshire Dales DC
Councillor Julie Dore	Sheffield City Council
Councillor Martin Thacker MBE	NE Derbyshire DC
Councillor Mary Dooley	Bolsover District Council
Mayor Ros Jones CBE	Doncaster MBC
Councillor Simon Greaves	Bassetlaw DC

Steve Davenport  
Huw Bowen  
Charlie Adan  
Damian Allen  
Dan Swaine  
Dan Swaine  
Neil Taylor  
Sarah Fowler

Chesterfield MBC  
Sheffield City Council  
Doncaster MBC  
NE Derbyshire DC  
Bolsover DC  
Bassetlaw DC  
Chief Executive Peak District National  
Park

1 **Welcome to Sheffield City Region Local Enterprise Partnership Annual General Meeting**

The Chair welcomed everyone present to the meeting.

It was confirmed the meeting was quorate and the business of the meeting's agenda may be transacted.

The Chair reminded the meeting this was the Annual General Meeting of the SCR LEP Board and would be webcast.

The Chair noted this would be the last SCR LEP Board meeting at which the non-Constituent districts would be represented prior to their formal joining of the D2N2 LEP.

2 **Declarations of Interest**

None.

3 **Notes of Last Meeting**

It was agreed the minutes of the previous meeting held on 16<sup>th</sup> January are agreed to be an accurate record of the meeting.

4 **Fairness in a Growing Economy**

The meeting welcomed colleagues from PwC to present their latest findings on the challenges of inclusive growth; how we ensure innovation in the public and private sector does not widen the gap between the 'haves' and 'have-nots'; and how we deal with the tension between the public and private sector when it comes to discussing the fairness narrative.

D Smith the reminded the meeting of the SCR's ambitions in respect of fairness and tackling inequalities for its residents and businesses.

PwC colleagues requested Members note the content of the report and provided a summary of its scope and intentions, referencing further reports either published or in production that deal with specifics aspects of 'fairness'.

Against the backdrop of the Government's Levelling Up agenda, examples were provided for where other regions and nations were starting to take an alternate approach to the UK's Green Book methodology regarding scheme

and policy assessment, recognising contributions to wellbeing rather than GDP, and using this as a means to develop new tests and also address perceived disconnects between decision makers and those affected by those decisions.

A further explanation was sought regarding how questions regarding geography and privilege had been factored into the findings, noting these are complex matters and informed by various potentially misleading perceptions, and that the findings may be inadvertently 'averaged out' to a point where the recommendations become less meaningful.

Consideration was given to what a concept of fairness could mean to the SCR and how this new approach to recognising fairness might inform each of the SCR's thematic agendas.

For the skills agenda, it was suggested the report presents some challenging thoughts on what the region's businesses need to do to engender fairness whilst recognising the need to train and re-skill staff in respect of likely changes to the workplace, such as through greater automation.

Prof Petley noted the 2 calls for action cited (for the government and for businesses) and questioned by similar calls hadn't been pitched towards the public sector or providers of training and education e.g. the universities. It was agreed we need to look at how these various sectors overlap and impact on each other, whilst informing such debates with the input of a wide scope of stakeholders.

It was suggested many of the findings of the PwC report in respect of national inequalities are already acknowledged and that a lack of fairness is something that's already championed by the media. It was therefore suggested the question needs to be 'what can we as a LEP Board do about this'?

The meeting considered suggestions including 'devolution is failing the people and 'LEPs and SEPS are disconnected from the people they represent'. However, these were countered with the suggestion that the SCR SEP will be appropriately connected to local communities and that Devolution, in its infancy as a concept, still needs to be given a chance to prove its worth.

The meeting considered what are widely regarded as fundamental flaws in the government's green book assessment methodology, noting this doesn't take adequate account of the mitigating impacts of costs on societal welfare and health care, with overly narrow success criteria which has arguably led to an inequitable distribution of funding nationally. It was suggested this is an area that should be tackled first and requested PwC give significant focus to this matter as they develop their findings.

The Chair confirmed he wants to see the development of a sound SEP that makes a compounding argument for further devolution and facilitates improvements to as many peoples' lives as possible, with fairness at its heart and delivering opportunities for people of all ages to better themselves.

The meeting questioned how this work aids disadvantaged communities and requested that care be taken to not equate low paid with low skilled, noting

many skilled professions only attract minimum wage but are essential to society. It was agreed this needs to be appropriately recognised in any definition of fairness as the workplace continues to evolve.

It was suggested examples should be sought for where decision makers and communities have better engaged each other.

The meeting was asked to recognise that perceptions can be misleading and there is a risk that actions based on perception can therefore be misinformed.

The Chair suggested that fairness is something that is implicit in SEP but perhaps not yet fully articulated.

The Chair proposed this was the time to also challenge the notion of trickle-down economics (at the national or local geography) suggesting this does not deliver the benefits it is alleged to do and does not engender fairness.

The Board members welcomed future discussions on how PwC might help the SCR unlock these challenges.

## 5 **Strategic Economic Plan Update**

A report was received to provide an update on the progress of the SEP following discussions at previous LEP Board meetings.

Members were provided with an overview of the feedback and how this has been responded to in the revised draft of the SEP, following the decision taken at the previous meeting to undertake further engagement and consultation on the draft.

It was proposed that the draft is now in a sufficient state to commence a period of public consultation on the Strategy, in keeping with the development timetable that culminates with the publication of the document over the summer.

Further information was provided to explain the planned consultation processes noting this would mirror the Devolution Deal consultation in identifying key thematic areas with targeted questions and also include a more qualitative approach engaging key stakeholders and especially the business community.

Members thanked officers for the work they have undertaken to produce the draft.

It was suggested the SEP could still be made more SCR-distinctive and the key points punchier.

It was noted there had been some district challenges to whether the draft SEP might be deemed ready for public consideration but suggested these may be captured during the next consultation phase

RESOLVED, that the Board:



1. Agrees the proposed consultation on the draft strategy.

Notes the timetable for completing and publishing the SEP.

## 6 **Freeports Consultation**

A report was received to provide a background to the development of this Government's 'Freeports' agenda and associated consultation.

It was noted the establishment of Freeports has been mooted throughout the Brexit debate in the context of opportunities that will arise due to repatriation of international trade policy. It is also now presented as an opportunity to 'level-up' and address regional inequality.

The meeting recognised the importance to the Region of such as initiative being based around Doncaster Sheffield Airport and considered how our pitch for such a proposal might attain wider pan-Yorkshire support. Other potential Freeports within Yorkshire, centred on other modes, were discussed.

Consideration was given to the potentially inadvertent consequence of Freeports, noting international examples where these haven't been beneficial in respect of engendering fairness (as discussed at agenda item 4) and what might be done to mitigate issues.

It was suggested we need to use the consultation exercise to help define what a Freeport might be.

Consideration was given to proposing the SCR be a wider multi-modal Freeport zone rather than over a limited geography, that links into the Humber ports.

It was agreed to reference the points made through the consultation. Also net zero etc.

Lots of cross cutting projects going on, need joined up into this to ensure our consultation response in all encompassing.

RESOLVED, that the Board:

1. Note the government's direction of travel on Freeports and the nature of the public consultation.

Note the criteria the Government are proposing for what a Freeport could be and the City Region's intention to work with Doncaster Sheffield Airport (DSA) on the consultation response.

## 7 **Energy Strategy - Next Steps**

A report was received to respond to the comments of the LEP Board made in January 2020 and outline changes that have been made to the SCR Energy Strategy to reflect those comments.

It was noted the final Energy Strategy will be received at a future meeting of the

LEP and MCA.

It was noted the paper also highlights how the SCR Energy Strategy fits into the overall Climate Emergency Response Framework.

It was noted the SCR has begun to work alongside the University of Sheffield and South Yorkshire local authorities through the newly established SCR:NZ Partnership. It was suggested this innovative agreement will bring together a virtual team from within the SCR Executive, local authority partners and leading academics to develop new and deliverable solutions to help us achieve our net zero target.

Members were invited to take a more active role in helping to shape this work.

RESOLVED, that the Board:

1. Notes the responses and changes to the SCR Energy Strategy based on the comments of the previous LEP Board meeting.

Notes the newly formed SCR:NZ Partnership as an innovative and collaborative way to meet our decarbonisation challenges.

## 8 **LEP Membership - Non-Constituent Members**

Cllr Gilby informed the meeting this would be the last that Chesterfield and the other non-Constituent districts would be represented at as a consequence of the government's ill thought out position on removing overlapping geographies; and that whilst colleagues in D2N2 had been most welcoming, this position doesn't reflect the reality that the economy of the north Midlands is intrinsically tied to that of the SCR.

Cllr Gilby confirmed Chesterfield would continue to be an active member of the SCR MCA

In response the Chair thanked Cllr Gilby for her service and dedication to the SCR LEP Board and made similar comments regarding government policy on this matter.

## 9 **LEP Annual Report**

A report was received to inform the meeting that following the publication of the Government's LEP Review report in July 2018, 'Strengthened Local Enterprise Partnerships', all LEPs are now required to produce and publish an annual report to outline the activities, outputs and achievements that the LEP has delivered in the preceding financial year.

This paper presents the plan for developing the SCR LEP Annual Report 2019/20.

RESOLVED, that the LEP Board Members to agree the production of an SCR LEP Annual Report 2019/20 for agreement at the LEP Meeting on 21st May 2020.

10

### **2020/21 Proposed MCA/LEP Revenue Budget**

A report was received to set out proposals for the Sheffield City Region MCA/LEP Revenue Budget for financial year 2020/21, for endorsement by the LEP Board and for onward approval by the MCA.

It was noted the proposed budget has been developed in line with the Medium-Term Financial Strategy agreed at MCA in November 2019 and based upon the going concern principle and the known funding sources for 2020/21.

Members were asked to recall the context of developing the strategy was a £1m reduction in Enterprise Zone receipts because of the LEP Review. It was noted early consideration at MCA Board and management review of operational structures has helped address this gap.

This report explained how that has been captured and incorporated into 2020/21 Budget proposal.

The meeting was asked to note the figures associated with the detailed cost centres.

Members were advised the section 25 statement (as required by the 2003 Local Government Act) proposes that overall this is a robust budget for the planned activities of the MCA/LEP for 2020/21 and the planned utilisation of reserves is a reasonable approach and leaves the MCA in a sound financial position to move forward with confidence.

Further information was provided in respect of the physical assets owned by the SCR.

RESOLVED, that the Board endorses the proposed revenue budget, including core operations as well as revenue programmes, for approval at the MCA on 23rd March 2020.

11

### **LGF Programme 19/20, 20/21 Update**

A report was received to provide an update on the 2019/20 LGF outturn position and sets out the draft 20/21 programme activity, noting this is the final year of the current six-year LGF programme.

It was noted the final settlement figure for 20/21 is still to be confirmed by government and that this information will be shared with Board members as soon as it is available.

Regarding the 2019/20 outturn position, it was noted a monthly claims process has been introduced to ensure all claims are maximised and avoid a year-end underspend position.

The Chair congratulated officers on the work they have done to redress what was recently predicted to be a significant potential underspend.

RESOLVED, that the Board notes the predicted 2019/20 LGF outturn position.

## 12 **Assurance Framework**

A report was provided to remind the Board that each year the Sheffield City Region (SCR) LEP and MCA is required to update its Assurance Framework to ensure that robust, transparent and effective governance arrangements are in place.

It was noted the draft Assurance Framework 2020 has been prepared in response to Government guidance (not updated this year) and that changes are largely as a result of changes to local governance issues includes the change in LEP status to the non-Constituent districts.

The Board was advised that MCAs with devolved funding and powers are required to submit their draft Assurance Frameworks to Government for approval. This is because their Assurance Frameworks outline the arrangements that are in place to manage the Single Pot allocation and Adult Education Budget (AEB). SCR will therefore need to revise the 2020 Assurance Framework with this information following the completion of the Devolution Deal. It was therefore noted a revised draft of the Assurance Framework will be presented to the LEP and MCA Boards later this year for endorsement, before being submitted to Government for approval.

It was questioned whether the Assurance Framework should reference the SCR's commitment to engendering fairness and agreed this matter would be considered going forward to inform future Framework agreements.

RESOLVED, that the Board:

1. Approves the updated Assurance Framework set out at Appendix 1 for publication by 31<sup>st</sup> March 2020.

Notes that the Assurance Framework will need to be revised following the completion of the Devolution Deal and submitted to Government for approval.

## 13 **Mayoral Update**

Provided for information.

## 14 **Chief Executive's Update**

Provided for information.

Re MIT REEP, RS keen to be part of that conversation.

## 15 **Chair's Remarks**

The Chair commented on how much had been achieved by the SCR over the last 12 months, noting the region was successfully overcoming a number of uncertainties in respect of Brexit and Devolution and due to the recognised efforts of members and officers was well placed to look forward to delivering

something significant, sustainable and inclusive that we can all be proud of.

The Chair also noted his intention to put the SCR at the heart of the Northern Powerhouse agenda.

In accordance with Combined Authority's Constitution/Terms of Reference for the Board, Board decisions need to be ratified by the Head of Paid Services (or their nominee) in consultation with the Chair of the Board. Accordingly, the undersigned has consulted with the Chair and hereby ratifies the decisions set out in the above minutes.

Signed .....

Name .....

Position .....

Date .....

This page is intentionally left blank

21<sup>st</sup> May 2020**SCR Economic Recovery Plan****Purpose of Report**

This report looks at the economic implications of Covid-19 and presents an update on the SCR Economic Recovery Plan.

**Thematic Priority**

This report relates to all the draft and current Strategic Economic Plan priorities.

**Freedom of Information**

The paper will be available under the Combined Authority Publication Scheme.

**Recommendation**

The Board is asked to note the economic implications and the process quickly implemented to react to the crisis and plan for recovery.

**1. Introduction**

- 1.1** The development of the Sheffield City Region (SCR) Economic Recovery Plan (ERP) is a vitally important move to mitigate the worst effects of the Covid-19 crisis and ensure a strong and timely recovery towards a more resilient economy and society.

The ERP will be aligned with the Economic Plan (SEP). The SEP will still be the SCR's overarching strategy. The Economic Recovery Plan will act as a bridge to the SEP, setting out the more immediate to medium term actions we need to take and should allow us to reset and confirm our priorities and the sequence of interventions needed.

- 1.2** The ERP will set out SCR's primary response to Covid-19. It aims to restore public and business confidence, support people in employment and education, stimulate investment in SCR, create jobs, and help the unemployed back into work in order to improve the lives of our people. The plan is designed to create a basis for rapid agreement between SCR stakeholders to get SCR's economy moving again.

- 1.3** A one-page summary of the ERP is attached at Appendix 1.

**2. Proposal and Justification****2.1 Economic implications of Covid-19**

The global and national economic outlook is widely predicted to be bleak, albeit it is difficult to quantify just how bad the economic impact will be. Numerous forecasts and publications have made a range of predictions, but it seems certain that a recession is

underway, and it is likely to be worse than 2008-09, and probably the worst since the Great Depression.

**2.2** The potential impact on the City Region could be devastating for our communities, particularly the predicted rise of unemployment. At the time of writing, 7.5m employees have been furloughed across the country, which is approximately a quarter of the private sector workforce. If the Job Retention Scheme (JRS) had not been in place, we would have seen unprecedented unemployment claimants. Nevertheless, the JRS is temporary and is too costly to be implemented for a long period of time. The extension of the JRS until October (it will be modified from August with employers sharing the cost) has avoided a cliff-edge in the short-term and will protect millions of jobs; however, the medium to longer-term employment situation is still precarious.

### **2.3 Short-term impacts**

Sectors such as tourism, non-food retail and leisure sectors have been hit harder in the short term due to social distancing measures. These sectors employ 113,000 people in SCR and consist of 17% of the workforce. Young people, women and the lowest paid are more likely to work in these sectors.

**2.4** Home working has been a short-term impact for many office workers. However, it is estimated that under 20% of workers are estimated to be able to work from home in Doncaster and Barnsley. The transition from 'lockdown' is therefore critical for the City Region's economy. Recent announcements for manufacturing and construction to return to work are welcome but practical questions have arisen (e.g. safety).

**2.5** Positively, estimates on the share of the workforce that is designated as 'key worker' show that South Yorkshire has a higher share (33%) than the national average (29%). Given that activity in these sectors have continued throughout the lockdown and there is likely to be government and public support in the longer term, this could be an economic asset.

**2.6** In terms of health, Covid-19 has disproportionately affected the elderly, BAME people, economic people, and marginally more males than females. There has been a disproportionate amount of excess deaths in poor communities. The ONS found that residents in deprived areas have experienced double the death rates of those in affluent areas. In terms of the economic impacts, Covid-19 has affected more women and younger people. For both health and economic impacts, less well-off and BAME people have been hit twice (see infographic in Appendix 2).

### **2.7 Medium-term impacts**

Despite businesses who cannot work from home returning to work, there is concern in the short to medium-term about reduced demand and supply issues. Manufacturing and construction businesses may have had relatively less initial exposure to this crisis than some sectors; however, supply chains are increasingly being affected and there will likely be months of disruption. The longer-term outlook for these sectors is also a concern. SCR has a greater share of manufacturing compared to the rest of the country with 12.1% of employees working in manufacturing compared to 8.2% nationally.

**2.8** The sector analysis of the Office of Budget Responsibility's long lockdown scenario showed that the worst affected areas would be construction, accommodation and food, and education. In terms of national ranks, Rotherham fared the worst in SCR and is 95th out of 382 local authorities; Barnsley is 203rd, Doncaster is 225th and Sheffield is 295th.

**2.9** Covid-19 has impacted groups of people and sectors in SCR differently. Those working in manual occupations, service sector roles or in the gig economy, have seen their hours reduced, placed on furlough or lost their jobs. Contrastingly, people who can work from home have seen their disposable income increase as costs have fallen. This could exacerbate existing inequalities, and it will also have an impact on the economic recovery



in terms of spending power and the issue of reduced demand for some businesses that reopen after lockdown.

## **2.10 Long-term impacts**

Experience from the 2008-09 recession, SCR's Brexit analysis and independent analysis from think tanks and consultants shows that the SCR economy lacks resilience due to its current composition and is therefore vulnerable to any national economic shock. Analysis of sectors more vulnerable during a recession shows that Metal Products, Engineering and Transport & Storage sectors have a high level of exposure. These sectors employ almost 89,000 people and over 7,500 businesses in SCR.

- 2.11** If the effects are like the previous 2008-09 recession then the unemployment rate could double, which could mean an extra 40,000 people being unemployed in the region, but the increase could be higher than this.

## **2.12 Mitigating the economic impacts**

Government has asked the Mayor to lead economic recovery in SCR with LEP support. The Mayor has convened a Covid-19 Response Group to oversee the development of the work. This has brought together anchor institutions from across the region to develop the ERP. The group has been effective in being the voice for business in terms of short-term lobbying on issues such as the Government's emergency loan scheme and considering long-term recovery.

- 2.13** The work to develop the ERP is anticipated to last eight weeks. The ERP will address issues highlighted in 2.1-2.11 and will draw upon two scenarios which identify different potential outcomes from the current situation. The plan will focus upon:

- The current landscape and impact upon Barnsley, Doncaster, Rotherham, and Sheffield.
- Gaps in interventions for different populations and business groups.
- Outlining an implementation plan and how to deal with uncertainty.

- 2.14** The plan will draw upon evidence including social, environmental and technological drivers of change which SCR will need to react, adapt and plan for. The ERP will need to consider how different interventions could play out, noting that the economy is a complex system. The plan will also consider how public sector can drive change and move towards the shared ambitions of economic growth, greater inclusion and a net zero future

- 2.15** To date, world leading academics have been engaged and a range of central government, public sector and private stakeholders have also been interviewed. The engagement stage builds upon a growing social and economic evidence and together these have provided insight into key challenges and measures will likely be required to recover from this crisis.

- 2.16** The ERP will provide a bridge to the SEP. It will identify short-term actions to mitigate the economic implications outlined and help ensure the longer-term structural reforms identified in the economic plan to help raise potential growth can be progressed. It will also highlight themes in the SEP which require being elevated in the new economic context created by Covid-19.

## **3. Consideration of alternative approaches**

- 3.1** We could have delayed the development of the ERP or instead amended the SEP. However, the SEP is a long-term strategy and retrofitting it could compromise the still desperate need to address our entrenched structural and foundational economic challenges. Not producing the ERP would ignore the huge economic and social change from dealing with Covid-19 and its subsequent impacts.

## **4. Implications**

### **4.1 Financial**

This work is supported by consultants who have been commissioned by the SCR to assist with the ERP.

### **4.2 Legal**

There are no legal issues for this paper.

### **4.3 Risk Management**

Risk assessment has been undertaken for the project and is continually monitored.

### **4.4 Equality, Diversity and Social Inclusion**

The emerging ERP will help to address poverty and the health and wellbeing of the local populations and therefore will contribute to improving social inclusion. Covid-19 has disproportionately affected vulnerable groups – from a health and economic perspective – so it is vital that the ERP addresses this.

## **5. Communication**

**5.1** Proactive communications will be delivered across a range of channels, including digital, social and traditional media, once the plan is in a position to be published.

## **6. Appendices/Annexes**

Appendix 1 – Summary

Appendix 2 – Distributional impacts infographic

Further thematic briefings are available on request.

<b>REPORT AUTHOR</b>	<b>Jonathan Guest &amp; Paul Johnson</b>
<b>POST</b>	<b>Senior Economic Policy Manager(s)</b>
Director responsible	Felix Kumi-Ampofo
Email	Felix.kumi-ampofo@sheffieldcityregion.org.uk
Telephone	Microsoft Teams (or 0114 220 3445)

Background papers used in the preparation of this report are available for inspection at: 11 Broad Street West, Sheffield S1 2BQ. Other sources and references: N/A.

# SCR Economic Recovery Plan Summary

Between now and the 8th of June, Sheffield City Region (SCR) is undertaking the process of developing an Economic Recovery Plan as a response to the current and potential social and economic impacts of COVID-19 on our region, its residents and its businesses.

The purpose of this plan will be to provide the SCR with the actions required to prepare the region best for recovery (1-3 years), but also to provide immediate relief (<1 year) and to build up the regions overall resilience for the long-term (3+ year timeframe).

In summary, this 8 week programme of work will cover the below activities:



## *Understanding the landscape: The impact on Barnsley, Doncaster, Sheffield and Rotherham of the present situation and national guidance*

- **Identification of the potential scenarios which must be considered** as a backdrop to the plan
- **Analysis of how Central Government responses will likely impact on the region** through scenario pathway modeling
- **Analysis of gaps within the Central Government responses requiring Barnsley, Doncaster, Sheffield and Rotherham to fill the gap**



## *Responding to the gaps in population needs*

- Based on the various responses from Central Government, and existing strengths / assets of the region, **identification of where the outstanding needs for the region are likely to remain**
- **Consideration for the changes in approach required to deliver against the key areas for the region**
- **Identification of the actions, or economic and social interventions which can be put in place to meet those needs** This includes identifying short, medium and long-term actions which considers the current crisis and regular market conditions.



## *Implementation plan and dealing with uncertainty*

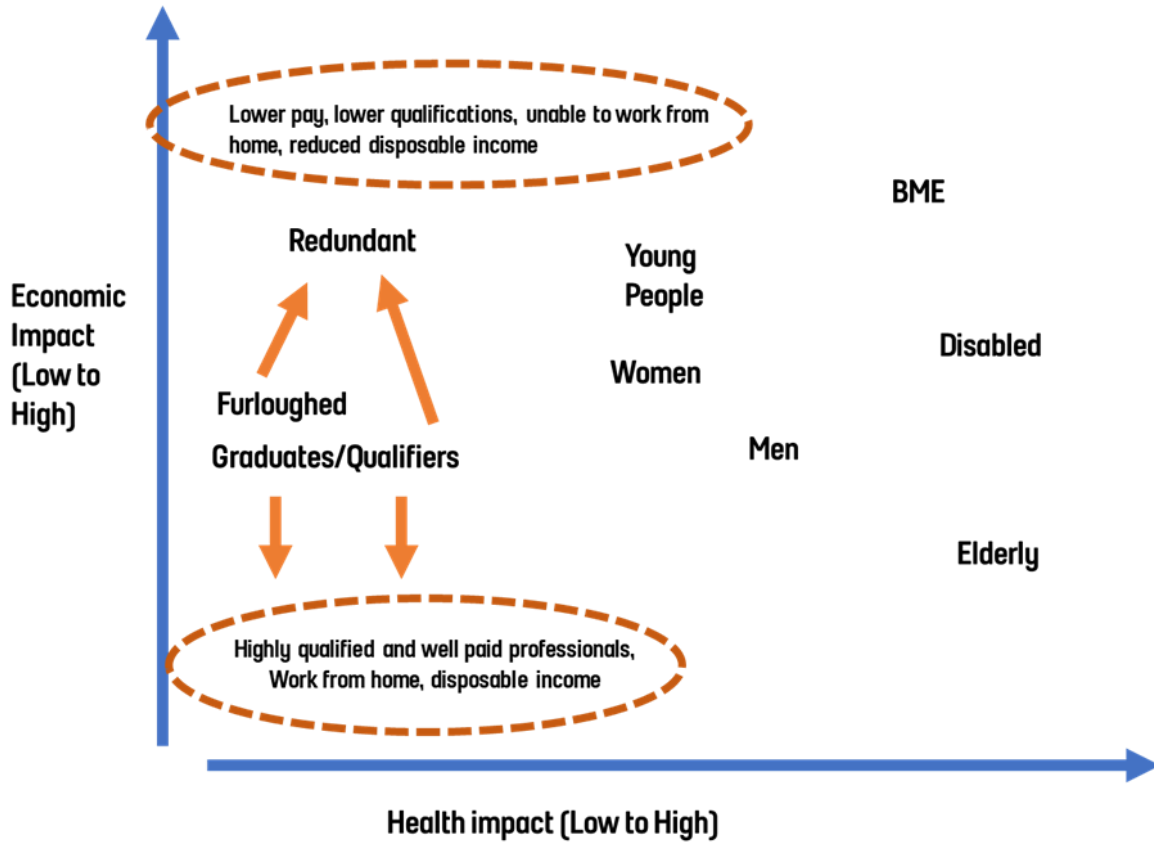
- **Implementation plan for the identified potential actions**, and identification of the requirements to enable this plan
- Determining **how the plan will deal with uncertainty, through risk mitigation frameworks**
- Identification of **stakeholder responsibilities across the region**, acknowledging the plan will be jointly owned across the public, private and third sector

As part of this programme we wish to understand the perspectives and priorities from a wide range of experts and stakeholders across the region, and are therefore carrying out 1:1 interviews and group discussions with members of an Advisory Panel. Further plans for engaging on the plan with additional stakeholders are in development and will be communicated in due course.

If you wish to know more please contact: [Felix.Kumi-Ampofo@sheffieldcityregion.org.uk](mailto:Felix.Kumi-Ampofo@sheffieldcityregion.org.uk)

This page is intentionally left blank

Figure 1: Economic and health distributional impacts



Source: SCR Policy Team (2020) drawing upon data and research to date.

This page is intentionally left blank

By virtue of paragraph(s) 3 of Part 1 of Schedule 12A  
of the Local Government Act 1972.

Document is Restricted

This page is intentionally left blank



21<sup>st</sup> May 2020

## SCR Energy Strategy

### Purpose of Report

This report presents the final draft SCR Energy Strategy for approval, which encompasses the amendments previously agreed by the LEP Board.

### Thematic Priority

This report relates to the following Strategic Economic Plan priorities:

- Secure investment in infrastructure where it will do most to support growth.
- Facilitate and proactively support growth amongst existing firms.

### Freedom of Information

The paper will be available under the Combined Authority Publication Scheme.

### Recommendations

The Board is asked to:

- Approve the SCR Energy Strategy as recommended by the SCR Infrastructure Board.
- Note the proposed next steps for implementation of the Strategy.

## 1. Introduction

- 1.1 The Sheffield City Region (SCR) Energy Strategy is part of a wider strategy for environmental sustainability and response to the Climate and Environmental Emergency declared by the Mayoral Combined Authority (MCA) in November 2019.
- 1.2 The Strategy was presented to the LEP Board in January 2020 with a further update on amendments being reported to the Board in March 2020. The SCR Infrastructure Board, which has overseen the Strategy's development, is recommending the attached draft SCR Energy Strategy for the LEP Board's approval.

## 2. Proposal and Justification

- 2.1 The preparation of the SCR Energy Strategy has been undertaken over the past 18 months and has been overseen by the SCR Infrastructure Board. It sets out the ambition and direction of travel for supporting a growing economy, building energy resilience, and supporting measures to tackle both the Climate Emergency within South Yorkshire and the transition to a low carbon economy.

**2.2** It has been developed alongside the preparation of the new draft SCR Strategic Economic Plan (SEP) to ensure alignment and complementarity with the broader economic and social inclusion ambitions of the region. The content of the energy chapter within the SEP is directly drawn from this Energy Strategy. Maximising the opportunities for growth from the high-growth low carbon sector could be particularly important in supporting the economic recovery from the current Covid-19 crisis.

**2.3** The final draft of the Strategy is attached at Appendix 1, and incorporates the amendments agreed by the LEP Board at its previous meetings, including further alignments with the new draft SEP. These amendments included:

- Noting that the SCR Energy Strategy forms part of a wider Climate Response Framework that will allow SCR to meet the agreed target of becoming a net-zero emissions region by 2040;
- Noting the establishment of the SCR:NZ Partnership and its role in helping to deliver the Vision and objectives of the SCR Energy Strategy;
- The requirement to develop a costed project pipeline, which is being developed as a key part of implementing the Strategy.
- Noting that it is vital that industries in our region are able to remain competitive whilst decarbonising. Equally, it is important that the skills inherent within our communities are transferrable to the production, installation, and development of low carbon technologies, as has been seen with the Nuclear AMRC. This will be critical as part of our approach to securing a 'Just Transition.'
- Noting that minimising energy use is as important, if not more than, increasing energy generation. Reducing the energy use of business and domestic consumers will reduce the financial burden of their fuel bills, and help businesses and households be more resilient to fluctuating / rising energy costs.

#### **2.4** Next Steps

Work with partners and key stakeholders has already begun on developing the next steps, which will include:

- Finalising the imagery and content prior to it being presented to the Mayoral Combined Authority in July 2020.
- Embedding the energy related ambitions into wider Net Zero Framework activities;
- Preparing an Implementation Plan(s) as part of the Net Zero Framework implementation, setting out the measures and timelines being undertaken to action the various elements of the Strategy. This will set out the specific actions to deliver the Strategy and how they are intended to be funded, and will be reported to the LEP Board for consideration in due course;
- Developing the energy and low carbon pipeline of capital projects that will support businesses and households to decarbonise and improve their energy efficiency to reduce both their carbon emissions and fuel bills;
- Supporting the preparation of business cases for accelerating the roll-out of key energy related infrastructure and innovation to support the Covid-19 recovery and help reset the economy on a more sustainable and environmentally friendly growth pathway; and
- Working with neighbouring LEP areas through both the North East, Yorkshire and Humber Energy Hub and the Northern Powerhouse on strategic joint projects and programmes which cross LEP boundaries.
- Working with local authority partners and other stakeholders to embed the Strategy's ambitions, vision and objectives within local plans and strategies.

### 3. Consideration of alternative approaches

- 3.1 The preparation of the Strategy involved several consultants at different stages, and a range of evidence and different options, approaches, objectives, vision etc which have been informed through consultation with key Stakeholders over the past 18 months. This included the check and challenge 'Provocation Exercise' by the University of Sheffield.

At every stage the evidence base, draft proposals and different versions of the Strategy have been considered and guided by the SCR Infrastructure Board, and previously the SCR Housing and Infrastructure Board.

### 4. Implications

#### 4.1 Financial

This work is supported by £40k from BEIS with a further £30k allocated from SCR funds. This budget was sufficient to complete the Strategy and undertake the Carbon Targets and Scenarios work. Further support from BEIS (£100k) was also secured for additional capacity to lead on Energy and Sustainability activity within the SCR Executive. The post is hosted by SCR and works alongside local authority officers across South Yorkshire as well as regionally through the North East, Yorkshire and Humber Energy Hub.

#### 4.2 Legal

A Memorandum of Understanding has been agreed with BEIS related to their funding contribution to support the preparation of the SCR Energy Strategy.

#### 4.3 Risk Management

Risk assessment has been undertaken for the project and is continually monitored.

#### 4.4 Equality, Diversity and Social Inclusion

None arising from this report. The SCR Energy Strategy will help to address fuel poverty and the health and wellbeing of the local populations and, therefore, will contribute to improving social inclusion.

### 5. Communication

- 5.1 Proactive communications will be delivered across a range of channels, including digital, social and traditional media, following approval of the final SCR Energy Strategy.

### 6. Appendices/Annexes

Appendix 1 – Final Draft SCR Energy Strategy

<b>REPORT AUTHORS</b>	<b>Karl Sample / Colin Blackburn</b>
<b>POST</b>	<b>SPM (Energy) /Assistant Director (Housing, Infrastructure &amp; Planning</b>
Director responsible	Mark Lynam,
Email	<a href="mailto:Mark.Lynam@sheffieldcityregion.org.uk">Mark.Lynam@sheffieldcityregion.org.uk</a>
Telephone	0114 220 3445

Background papers used in the preparation of this report are available for inspection at: 11 Broad Street West, Sheffield S1 2BQ. Other sources and references: N/A.

This page is intentionally left blank



**SHEFFIELD  
CITY REGION  
ENERGY  
STRATEGY**

**Sheffield  
City Region**

---

**A core part of the Northern Powerhouse, the Sheffield City Region (SCR) is a key driver of economic growth within the North. The SCR comprises the Mayoral Combined Authority (MCA), the Local Enterprise Partnership (LEP) and the South Yorkshire Passenger Transport Executive (SYPTe). The organisation works at a regional level to invest in delivering transport, housing, business growth, skills and economic development related projects, as well as delivering the Mayor's agenda.**

Through strong private-public partnership the SCR speaks with a single loud voice to Government and other key partners such as Transport for the North, fellow MCAs and other LEPs across the rest of the UK.

The aim is to make the region a better place; providing access to quality homes, infrastructure, jobs and education opportunities.

### Geography

This document and the statistics and targets therein are focussed on South Yorkshire.

The SCR is driving the right investment decisions to meet the region's economic, infrastructure and transport needs; developing more ambitious proposals to connect the great places within the region, across the North and nationally, and working with our communities, partners and businesses to grow an inclusive economy.



**Figure 1** – From April 2020 the Sheffield City Region LEP geography will be the four South Yorkshire local authorities

### Local Enterprise Partnership

The SCR Local Enterprise Partnership (LEP) was formed in 2010 as a partnership of business and political leaders. It brings together business leaders, the Mayor, local authority leaders, the Trades Union Congress and individuals from the private sector.

The role of the LEP is to champion the private sector in the across the region and support the Mayoral Combined Authority in making decisions. The LEP is responsible for producing the Strategic Economic Plan (SEP); which outlines the vision, aims and objectives for growing and transforming our economy. The SEP also sets ambitious and measurable targets that will determine how successful the SCR has been.

### Mayoral Combined Authority

The SCR Mayoral Combined Authority (MCA) is a formal membership of councils. Formed in 2014, the constituent members of the Mayoral Combined Authority are Sheffield, Rotherham, Barnsley and Doncaster councils. The councils of Bassetlaw, Chesterfield, North East Derbyshire, Derbyshire Dales and Bolsover are 'non-constituent' members. The MCA shapes policy and leads on decision-making. The MCA has funded regeneration projects across the region and has enabled crucial infrastructure projects such as road improvements and flood defences.

### Our Economy

The economy in South Yorkshire is not dominated by a single sector or type of industry. Instead there is a diverse base which focuses on advanced manufacturing and high-performance materials alongside transport, logistics and business services; all benefitting from close links to two world-class Universities and a proactive public sector. Yet, within South Yorkshire the productivity levels and wages are low, employment rates and entrepreneurship are below the national average, and growth is slow<sup>1</sup>.

The refreshed Strategic Economic Plan (SEP) focusses on ways to improve this picture including taking advantage of those sectors which offer increased growth and productivity. Productivity has several drivers including quality of infrastructure, business growth and innovation expenditure. Furthermore, too many of our citizens are distant from the labour market, not in employment or training, are experiencing poor physical or mental health, and have low or no skills to help them get better jobs.

Addressing productivity and raising the quality of local jobs, therefore, will require intelligent investments in high-quality and innovative sectors like the low carbon energy sector, which is highly productive, builds on our advanced manufacturing skills and heritage, and can contribute to South Yorkshire's productivity challenge.

The low carbon economy is projected to grow 11% per year until 2030; four times faster than the growth of the UK economy as whole<sup>2</sup>. The UK's low carbon and renewable energy (LCRE) economy grew by over 6.8% to £44.5 billion in 2017 of which 28% was in the manufacturing sector<sup>3</sup>. Of the 209,500 jobs in the LCRE sector, 29% were in the manufacturing sector and 9% in the professional and scientific sector. Once the indirect activity is also accounted for, the total turnover from the LCRE economy was £79.6 billion in 2017.

South Yorkshire is well placed to capture a significant slice of this projected growth. In so doing, we can show regional leadership in the delivery of the 'next generation' low carbon technology and be a national or global pace setter. If we can achieve this, we will help resolve the challenges created in a low wage economy.

<sup>1</sup>Sheffield City Region – Economic Evidence Base (2019) (<https://modern.gov.sheffieldcityregion.org.uk/documents/s1423/Appendix%201.pdf>; Accessed: 13/01/2020)

<sup>2</sup>BEIS – Clean Growth Strategy (2017) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/700496/clean-growth-strategy-correction-april-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf); Accessed: 05/12/2019)

<sup>3</sup>ONS – Low carbon and renewable energy economy final estimates (2019) ([https://www.ons.gov.uk/redir/eyJhbGciOiJIUzI1NiJ9.eyJpbmRleCI6IjE6MSwicGFuZVNpemUjOiJlLWVudHlljoxLCJ1cmkiOiIvZWVudm9teS9lbnZpcm9ubWVudGFsYWN-jb3VudHMvZGF0YXNldHMvG93Y2FyYm9uYW5kcmVudXdhYm9lZlZlcm9teS9lbnZpcm9ubWVudGFsYWNjYWNldClslmXpc3R0eXBlljoicmVsYXRIZGRhdGEiOiQ.nI8MRlMQU75J-LbmCVu0RsfFvW82J1g5dOfU7plvJ\\_U](https://www.ons.gov.uk/redir/eyJhbGciOiJIUzI1NiJ9.eyJpbmRleCI6IjE6MSwicGFuZVNpemUjOiJlLWVudHlljoxLCJ1cmkiOiIvZWVudm9teS9lbnZpcm9ubWVudGFsYWN-jb3VudHMvZGF0YXNldHMvG93Y2FyYm9uYW5kcmVudXdhYm9lZlZlcm9teS9lbnZpcm9ubWVudGFsYWNjYWNldClslmXpc3R0eXBlljoicmVsYXRIZGRhdGEiOiQ.nI8MRlMQU75J-LbmCVu0RsfFvW82J1g5dOfU7plvJ_U); Accessed: 05/12/2019)



## CONTENTS

Sheffield City Region	2
<b>Energy Strategy</b>	
Contents	4
LEP Board Chair & Mayoral Foreword	7
Executive Summary	8
Introduction	12
Vision and Goals	15
Vision	15
Evidence - Energy	16
Evidence - Built Environment	25
Evidence - Transport	31
Evidence - Industry & Commercial	35
Research, Development & Innovation	36
Key Challenges	
Objectives of the Energy Strategy	40
Delivery of the Strategy	44
Climate Targets	46

## LEP BOARD CHAIR & MAYORAL FOREWORD

In the Sheffield City Region we put people and our environment at the heart of everything we do. For centuries we have found solutions to challenges in manufacturing, engineering and technology, earning ourselves a reputation as innovators, pioneers and problem solvers.

Now, we face our biggest challenge to date. The world is in the midst of a Climate Emergency. We must act now to find solutions to a global climate crisis.

By working together we are far more than the sum of our parts and I am committed to bringing together academia, businesses and our communities to achieve net zero carbon emissions in our region by 2040, a full ten years ahead of the government's target.

As our region flourishes and prospers, we must continue to protect our planet and the most vulnerable people in society.

Building homes which are insulated and fuelled by sustainable energy, will help eradicate fuel poverty and prevent needless winter deaths. Removing cars from our roads will protect our children's lungs from air pollution, and growing the Northern Forest will reduce the devastating impact of climate change.

This strategy explores how innovation made here in South Yorkshire will heat our future homes, fuel our future transport networks and help make the lives we live sustainable.

We must now work together to unlock our region's energy potential and build a more sustainable future for us all.

**Mayor Dan Jarvis MBE MP**

The Sheffield City Region is built on a strong heritage of excellence in innovation. Our passion for revolution and commitment to excellence began during the Industrial Revolution, when our rail, coal and steel industries were renowned across the world.

Now we are fuelling the future, at the forefront of the North's Clean Energy Revolution. The Sheffield City Region is already home to England's most northern hydrogen refuelling station and the world's largest electrolyser factory by ITM Power opening near Meadowhall. But there's more to be done.

We have two excellent universities and a track record of creating successful partnerships between academia and business to make our region more prosperous. We're building a region where public investment unlocks social good, alongside productivity gains.

The world is in the midst of a climate emergency, but we have the opportunity to take climate action in our region. We can position ourselves at the forefront of clean energy innovation - capitalising on the opportunities brought about in the transport, housing and industrial sectors in our region.

This strategy highlights the potential the energy sector has in our region, we must now work together to reap the rewards and lead our region into a cleaner, greener new era.

**James Muir**



# Executive Summary

## Vision

For South Yorkshire to have:

**A clean, efficient and resilient energy system, which supports a healthier environment for people to live, work and visit, and which drives our transition to a low carbon economy.**

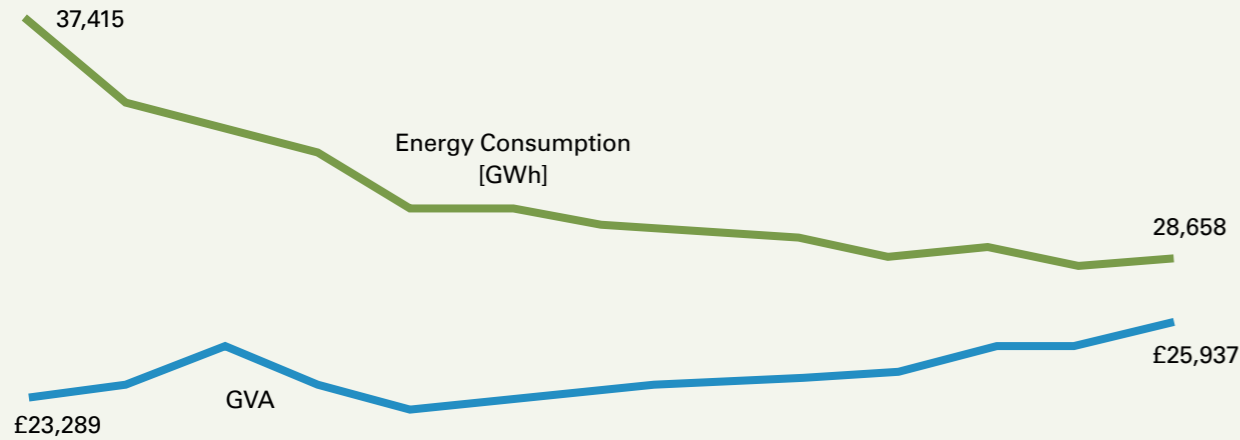
This SCR Energy Strategy sets out the vision, goals, policies and targets in support of the refreshed Strategic Economic Plan (SEP) and has been developed in collaboration with the Department for Business, Energy and Industrial Strategy (BEIS), local authority partners, and stakeholders from academia, business, industry, charity, community groups and members of the public.

It provides a strategic framework to give confidence to businesses looking to invest in low carbon energy generation, energy infrastructure, and energy efficiency within South Yorkshire. Over the past 15 years our energy usage and carbon emissions have decreased steadily whilst our economy has grown. This shows that there is no longer a direct link between economic prosperity and energy consumption (Figure 2) – indeed, quite the opposite. The UK's low carbon economy is projected to grow 11% per year until 2030; four times faster than the growth of the UK economy as whole<sup>4</sup> meaning that there are opportunities for our businesses and industry to take advantage of this market. Doing so will help create jobs, secure new investment, and grow our economy.

This SCR Energy Strategy also seeks to address aspects of social deprivation and health and well-being, and – perhaps most importantly – help to tackle the humanmade causes of climate change.

The SCR Energy Strategy therefore forms an integral part of the Mayor's Climate Emergency Response Framework which recognises that a broader set of changes are required across a range of issues if South Yorkshire is to achieve net zero. The SCR has begun to work alongside the University of Sheffield through the newly established SCR:NZ Partnership. This innovative agreement will bring together a virtual team from within the SCR Executive, local authority partners and leading academics to develop new and deliverable solutions to help us achieve our net zero target.

Trends of Economic Growth and Energy Consumption in South Yorkshire (2005-2017)



\* BEIS – Clean Growth Strategy (2017)  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/700496/clean-growth-strategy-correction-april-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf); Accessed: 17/12/2019)

**Our Vision will be achieved by meeting the following Goals:**

- 1 Drive clean growth and decarbonisation in our local businesses and industry whilst maintaining their competitiveness.
- 2 Promote investment and innovation in low carbon energy generation, distribution and storage technologies.
- 3 Improve the energy efficiency and sustainability of our built environment, and encourage communities to be part of the transition.
- 4 Accelerate the transition to ultra-low emission vehicles (ULEVs) and transport systems through modal shift and supporting infrastructure.

In addition to these Goals, the public sector has a responsibility to lead by example. As such, an SCR Climate Action Plan will be developed to put SCR as an organisation on a path towards net-zero carbon as part of a wider SCR Sustainability Plan setting out how public and private sector bodies, and individuals can contribute.

To succeed, there are many challenges across South Yorkshire that need to be addressed including energy resilience and the current reliance on fossil fuels.

**Energy Resilience & Clean Energy Transition**

South Yorkshire generates far less electricity than it consumes and has an over reliance on the 'import' of energy as a whole. All the 'traditional' fossil fuel electricity generation has been decommissioned in South Yorkshire leaving only low carbon generators. However, 83.5% of South Yorkshire's electricity is generated elsewhere and assuming that nationally 50% of this is low carbon, means that over 40% of the electricity consumed is still being generated using fossil fuels.

Although, the direction of travel is the move from fossil fuels such as coal and gas to renewables, as illustrated in the diagram below, fossil fuels will continue to play an important role in energy generation in the short-medium term through the transitional period, as other forms of renewable energy generators are developed and brought on stream. Similarly, it will be important that business competitiveness is not unduly impeded through this transitional period.







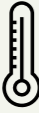




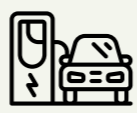


Figure 3 – The transition of electricity generation in the UK. The low carbon proportion of electricity generation increased to a record 50.1% in 2017 in contrast to coal whose share decreased to 6.7%<sup>5</sup>.







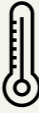




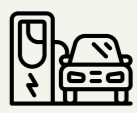
South Yorkshire is in a strong position to develop and implement solutions that will place clean growth and energy efficiency at the heart of our economy, including the high-value manufacturing industry. There is an opportunity to build on local supply chains and strengths in logistics to become forerunners in this quickly accelerating market.

The energy intensive sectors within South Yorkshire present a significant opportunity for transformational energy projects and innovative technologies, which will deliver increased productivity and significant cost savings that benefit the bottom-line of businesses. An example of this is the Government's Clean Steel Fund which will consider how hydrogen can be used to decarbonise the steel industry and reduce the reliance on imported fossil gas.

## Overview of Policies

<b>GOAL 1 – Business &amp; Skills</b>	 <p><b>Encourage Clean &amp; Efficient Business Growth</b> Support businesses to become more efficient and prosper from the high growth of the low carbon energy sector.</p>	 <p><b>Train and Upskill the Energy Workforce</b> Providing people with opportunity to gain the skills to design, install and maintain our future energy systems.</p>	 <p><b>Promote Industrial Decarbonisation</b> Support industry to both remain competitive and decarbonise. Link to cluster schemes e.g. Zero Carbon Humber.</p>
<b>GOAL 2 – Infrastructure</b>	 <p><b>Utilise Current Infrastructure</b> Make better use of our infrastructure for energy efficiency, low carbon energy generation, or sustainability.</p>	 <p><b>Enhance Energy Resilience</b> Enable the innovation and addition of further generation capacity, storage and balancing technology. Futureproofing with smart technology.</p>	 <p><b>Drive Investment in Heat Decarbonisation</b> Supporting the move to 4/5G heat networks, hydrogen for heat, and electrification of heat.</p>
<b>GOAL 3 – Built Environment</b>	 <p><b>Improve the Energy Efficiency of Existing Dwellings</b> Improve the energy efficiency of the current housing stock to reduce costs and support our most vulnerable residents.</p>	 <p><b>Increase the Standard of New Build Dwellings</b> Move towards all new-build dwellings having high levels of energy efficiency with EV charging points and smart technology.</p>	 <p><b>Enable Community Energy Schemes</b> Work closely with community groups to develop and support community schemes across South Yorkshire.</p>
<b>GOAL 4 – Transport</b>	 <p><b>Inspire Modal Shift Towards Active Travel</b> Promote and incentivise Active Travel where possible. Providing the infrastructure to allow the shift to happen.</p>	 <p><b>Deliver a Clean Transport Network</b> Work with partners to ensure South Yorkshire moves to a zero-carbon transport network.</p>	 <p><b>Accelerate the Uptake of ULEVs</b> Accelerate the transition to ultra-low emission vehicles and the roll-out of the required refuelling infrastructure.</p>

## Net-zero CO<sub>2</sub> emissions by 2040

<b>GOAL 1 – Business &amp; Skills</b>	 <ul style="list-style-type: none"> <li>90% of commercial lighting is LEDs by 2040.</li> <li>1,500 jobs created in the low carbon and renewable energy sector by 2040.</li> </ul>	 <ul style="list-style-type: none"> <li>Provide 2,000 people with training for the low carbon and renewable energy sector.</li> </ul>	 <ul style="list-style-type: none"> <li>Establish 5 low carbon clusters in South Yorkshire by 2040.</li> </ul>
<b>GOAL 2 – Infrastructure</b>	 <ul style="list-style-type: none"> <li>At least 5 minewater energy schemes operational by 2040.</li> </ul>	 <ul style="list-style-type: none"> <li>Increase solar PV capacity to 3.5GW by 2040.</li> <li>Increase onshore wind capacity to 1.55GW by 2040.</li> </ul>	 <ul style="list-style-type: none"> <li>Complete low carbon heating penetration (or hydrogen-ready) by 2040.</li> </ul>
<b>GOAL 3 – Built Environment</b>	 <ul style="list-style-type: none"> <li>65,000 cavity walls insulated by 2040.</li> <li>119,000 solid walls insulated by 2040.</li> </ul>	 <ul style="list-style-type: none"> <li>No fossil fuel heating in new homes from 2025.</li> <li>All new homes to be built close to Passivhaus standard from 2030.</li> </ul>	 <ul style="list-style-type: none"> <li>Double the number of community energy organisations in South Yorkshire by 2040.</li> <li>100kW per year of community energy by 2030.</li> </ul>
<b>GOAL 4 – Transport</b>	 <ul style="list-style-type: none"> <li>10% reduction in car miles by 2030, rising to a 25% reduction in 2040.</li> </ul>	 <ul style="list-style-type: none"> <li>Fully zero-emission public transport network by 2035.</li> </ul>	 <ul style="list-style-type: none"> <li>Fully zero-emission private hire fleet by 2035.</li> </ul>

<sup>5</sup>Digest of UK Energy Statistics (DUKES) 2018 (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/736148/DUKES\\_2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/736148/DUKES_2018.pdf); Accessed: 23/04/19)

[Note: These targets are indicative of the effort required in each area to get to net-zero carbon by 2040. Reaching these targets will require a significant investment across the economy – particularly by central government, but also non-public investment. These cannot be met with the current level of funding, power and resource available to the SCR LEP and MCA.]



## International Context

In 2013, the concentration of CO<sub>2</sub> in the atmosphere breached the 400 parts per million (ppm) barrier for the first time in human history<sup>6</sup>. In response to this, the international community have signed several treaties aiming to limit the emission of greenhouse gases.

The most notable of which being the 'Paris Agreement'. The Paris Agreement came into force in November 2016 and pledged to act to limit the average global temperature rise to 2°C with an aim to remain below 1.5°C warming. The Intergovernmental Panel on Climate Change (IPCC) published a Special Report on Global Warming in October 2018, which reported that *'Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate'*. Some of the impacts of this temperature increase will be long-lasting or irreversible.

## National Context

The UK's Industrial Strategy<sup>8</sup> sets out the Government's plan to create an economy that boosts productivity and earning power throughout the UK. The Industrial Strategy recognises that LEPs will play an important part in supporting local growth, and emphasises the importance of collaboration between LEPs, alongside the need for policy flexibility at the regional level. In terms of funding, Government recognises that LEPs require financial support to be effective. Additional financial resources will be made available to LEPs that demonstrate ambitious levels of reform. The Industrial Strategy sets four Grand Challenges including one in 'Clean Growth' which led to the publication of the Clean Growth Strategy (CGS)<sup>9</sup>. The CGS provides an ambitious blueprint for Britain's low carbon future, outlining how investment in green energy goes together with economic growth. Core to the CGS are:

- **Accelerating Clean Growth:** developing world leading 'Green Finance' capabilities.
- **Improving our Homes;** upgrading energy efficiency; strengthening building standards; rolling out heat networks; phasing out of high carbon heating.
- **Accelerating the Shift to Low Carbon Transport:** supporting the uptake of ULEVs; developing an EV charging network; shifting freight from road to rail; and battery technology.
- **Delivering Clean, Smart, Flexible Power:** phasing-out of coal, developing new ways of grid balancing through storage and demand response.
- **Improving Business and Industry Efficiency:** improving energy productivity and commercial building standards; delivering industrial energy efficiency; investing in industrial innovation.
- **Enhancing the Benefits and Value of Our Natural Resources:** a new network of forests; zero avoidable waste by 2050.
- **Leading in the Public Sector:** setting a voluntary public sector carbon reduction target; funding energy efficiency improvements in England.

<sup>6</sup>NASA Climate Change ([https://climate.nasa.gov/climate\\_resources/7/graphic-carbon-dioxide-hits-new-high/](https://climate.nasa.gov/climate_resources/7/graphic-carbon-dioxide-hits-new-high/); Accessed: 20/07/2018)

<sup>7</sup>Intergovernmental Panel on Climate Change – Special Report on Global Warming of 1.5°C (2018) ([https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15\\_Full\\_Report\\_High\\_Res.pdf](https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf); Accessed: 13/01/2020)

<sup>8</sup>BEIS – Industrial Strategy: Building a Britain fit for the future (2017) (<https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future>; Accessed: 14/01/2020)

<sup>9</sup>BEIS – Clean Growth Strategy (2017) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/700496/clean-growth-strategy-correction-april-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf); Accessed: 05/12/2019)

In May 2019, the Committee on Climate Change recommended that the *“The UK should legislate as soon as possible to reach net-zero greenhouse gas emissions by 2050.”*<sup>10</sup> This recommendation was accepted by the UK Government and, in June 2019, the UK became the first major economy to legislate for net-zero<sup>11</sup>.

In November 2020, the UK will host COP26<sup>12</sup> – the United Nations Framework Convention on Climate Change meeting of governments which will be working to develop the international response to the climate emergency.

## What is Net-Zero?

**“‘Net-zero’ emissions means that the total of active removals from the atmosphere offsets any remaining emissions from the rest of the economy.”**

i.e. all efforts are made to reduce emissions to zero, but all residual emissions are offset by removing emissions from the atmosphere.

<sup>10</sup>CCC – Net Zero: The UK’s Contribution to Stopping Global Warming (<https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf>), May 2019

<sup>11</sup>House of Commons Library – The Climate Change Act 2008 (2050 Target Amendment) Order 2019 (2019) ([https://www.legislation.gov.uk/ukdsi/2019/9780111187654/pdfs/ukdsi\\_9780111187654\\_en.pdf](https://www.legislation.gov.uk/ukdsi/2019/9780111187654/pdfs/ukdsi_9780111187654_en.pdf); Accessed: 18/12/2019)

<sup>12</sup>UNFCCC – UK to host COP26 (25 Sep 2019) (<https://unfccc.int/news/united-kingdom-in-partnership-with-italy-to-host-cop-26/cmp-16/cma-3>; Accessed: 18/12/2019)

<sup>13</sup>Ekosgen – SCR Independent Economic Review (2013) (<https://d2xj5f5riab8wu0.cloudfront.net/wp-content/uploads/2018/01/Independent-Economic-Review.pdf>; Accessed: 14/01/2020)

<sup>14</sup>BEIS – Driving productivity through innovation in high value manufacturing (2016) (<https://d2xj5f5riab8wu0.cloudfront.net/wp-content/uploads/2018/01/SIA-Full-Report-FINAL-v2-1.pdf>; Accessed: 14/01/2020)

## Purpose and Scope of the SCR Energy Strategy

The Department for Business, Energy, and Industrial Strategy (BEIS) is delivering a Local Energy Programme, which intends to enhance the levels of support that LEPs will receive when delivering low carbon projects. The first phase of this programme provided funding to all LEPs in England to support them in developing a bold, coherent and well-evidenced Energy Strategy, with an emphasis on identifying investable projects which enhance decarbonisation opportunities across their regions.

This SCR Energy Strategy will set the framework for South Yorkshire’s transition to a ‘net-zero carbon’ economy whilst taking advantage of the significant economic opportunities that it will unlock. In order to maximise the local economic benefit associated with the transition, areas of competitive advantage have been identified that can be utilised, including those brought by existing businesses, educational institutions, communities, and existing infrastructure. The SCR has a unique opportunity to stimulate innovative investment opportunities in the low carbon energy sector to develop and decarbonise the South Yorkshire economy.

The SCR Independent Economic Review<sup>13</sup> noted that South Yorkshire’s *“technology, manufacturing and engineering offer is as good as anywhere in Western Europe with a world-leading cluster of research institutes and innovative businesses centred around the Advanced Manufacturing Park”* which is a *“well-known and high profile asset and the forecasts for growth in the advanced engineering, energy and nuclear sectors suggest that significant growth could be achieved, both by attracting in new companies and through associated local supply chains”*. While the Science and Innovation Audit carried out by BEIS<sup>14</sup> also identified energy as a key sector that provides the potential for economic growth based on its science base.

This SCR Energy Strategy therefore highlights the areas where the SCR can have the greatest impact in terms of leading the rapid decarbonisation required in South Yorkshire, and those areas where partners will be required to take the lead with the SCR’s support. It is important that this SCR Energy Strategy is not seen as an end-point – it is much more a starting-point to meet the decarbonisation and economic aspirations of South Yorkshire, whilst maintaining energy resilience and not unduly impacting on the competitiveness of local businesses.

This will require close collaboration with our local, regional and national partners in a co-ordinated way to seek opportunities and to jointly invest in our low carbon future.

### Local Context

In November 2019, the Mayoral Combined Authority of Sheffield City Region declared that we were in a ‘Climate and Environmental Emergency’<sup>15</sup>. This followed declarations by Barnsley Metropolitan Borough Council, Doncaster Metropolitan Borough Council, Rotherham Metropolitan Borough Council and Sheffield City Council earlier in 2019.

This SCR Energy Strategy is part of a suite of documents that have been prepared as part of the Mayor’s Climate Emergency Response. Together these documents – and potential future implementation plans – will provide the solution to addressing the climate emergency in South Yorkshire.

<sup>15</sup>SCR – Minutes of Mayoral Combined Authority Meeting (09 Nov 2019) (<https://modern.gov/sheffieldcityregion.org.uk/documents/g173/Printed%20minutes%2018th-Nov-2019%2014.00%20SCR%20-%20Mayoral%20Combined%20Authority%20Board.pdf?T=1>; Accessed: 20/12/2019)

# Vision and Goals

## Vision

For South Yorkshire to have:

**A clean, efficient and resilient energy system, which supports a healthier environment for people to live, work and visit, and which drives our transition to a low carbon economy.**

## Goals

Four high-level Goals have been established to support the Vision. Within each of these Goals, three Policies have been developed to highlight specific areas of action.

- 1 Drive clean growth and decarbonisation in our local businesses and industry whilst maintaining their competitiveness.
- 2 Promote investment and innovation in low carbon energy generation, distribution and storage technologies.
- 3 Improve the energy efficiency and sustainability of our built environment, and encourage communities to be part of the transition.
- 4 Accelerate the transition to ultra-low emission vehicles (ULEVs) and transport systems through modal shift and supporting infrastructure.

The evidence supporting the Vision and these Goals is given in the following Sections.

# Evidence - Energy

## Energy Consumption

In 2017, South Yorkshire consumed a total of 28.7 TWh of energy. This represents a 23.4% decrease on 2005 levels (Figure 4)<sup>16</sup>. The reduction in energy use has been seen across transport, domestic, and industry and commercial; but the reduction has not been evenly distributed across the economy with industry reducing its consumption by over one-third<sup>17</sup> and transport reducing its consumption by only 5% owing mainly to increasing passenger-km travelled<sup>18</sup>.

Much like the rest of England, South Yorkshire's energy use is evenly split between transport (32%), domestic (34%), and industry and commercial (34%)<sup>19</sup>. However, there is a fairly large difference between the four Local Authority areas with the energy use in transport varying between 23% and 42% depending on the LA (Figure 5).

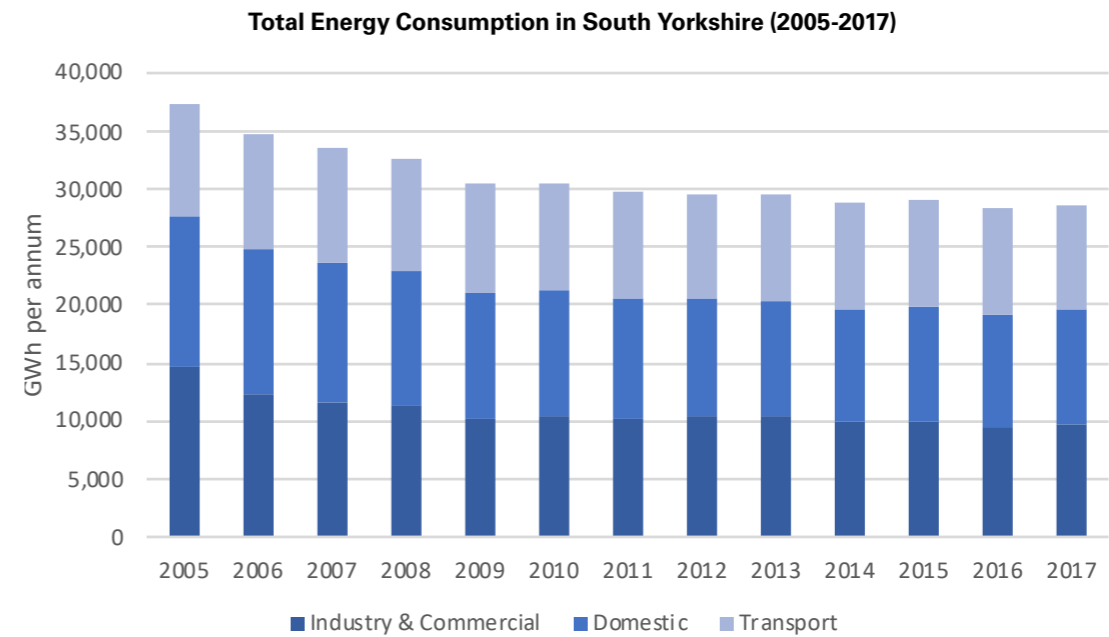


Figure 4 – Total Energy Consumption for South Yorkshire between 2005 and 2017

<sup>16</sup>BEIS – Sub-national total final energy consumption statistics (2019): [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/833987/Sub-national-total-final-energy-consumption-statistics\\_2005-2017.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833987/Sub-national-total-final-energy-consumption-statistics_2005-2017.xlsx) [Accessed: 30/10/2019].

<sup>17</sup>Although a proportion of this reduction is due to the closure of some energy intensive industry within South Yorkshire rather than efficiency gains.

<sup>18</sup>DfT – Modal comparisons: TSGb0101: Passenger transport by mode from 1952 (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/852681/tsgb0101.ods](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/852681/tsgb0101.ods); Accessed: 14/01/2020)

<sup>19</sup>BEIS – Sub-national total final energy consumption statistics (2019): [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/833987/Sub-national-total-final-energy-consumption-statistics\\_2005-2017.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833987/Sub-national-total-final-energy-consumption-statistics_2005-2017.xlsx) [Accessed: 30/10/2019].

Total Energy Consumption in South Yorkshire (2017)

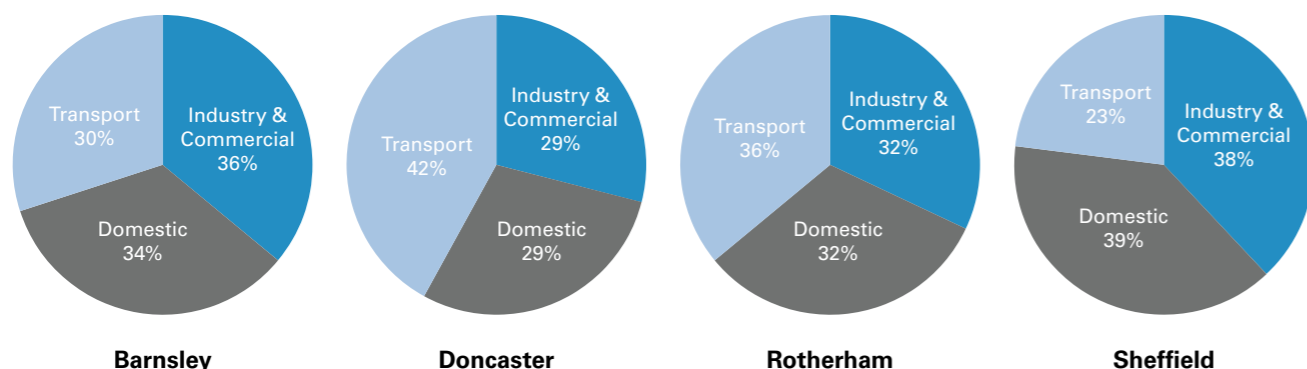
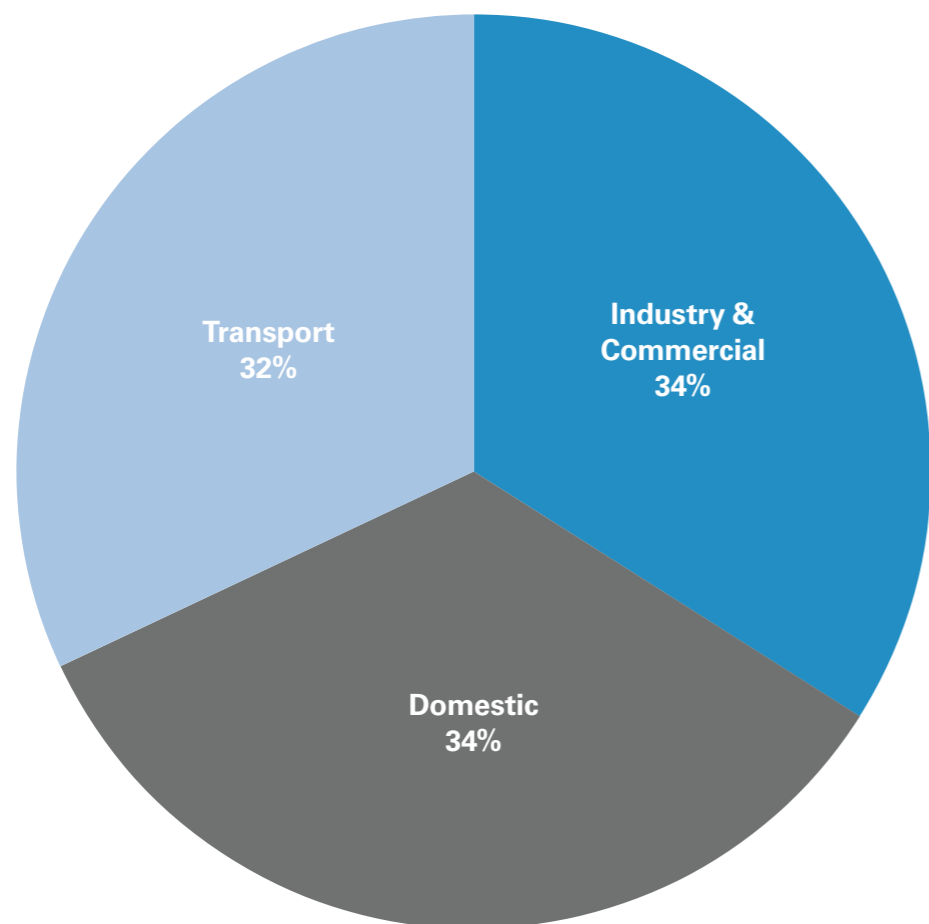


Figure 5 – Total energy consumption for each Local Authority in South Yorkshire in 2017<sup>20</sup>

<sup>20</sup>BEIS – Sub-national Total Final Energy Consumption Statistics (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/833987/Sub-national-total-final-energy-consumption-statistics\\_2005-2017.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833987/Sub-national-total-final-energy-consumption-statistics_2005-2017.xlsx); Accessed 31/10/2019)

Most of the energy that is consumed in South Yorkshire is produced from fossil fuels. Petrol and diesel still dominate in the transport sector, with fossil gas dominating in the domestic, industry and commercial sectors. Overall, fossil fuels still account for 89% of South Yorkshire’s energy supply with renewables, bioenergy and waste accounting for a small but growing proportion (11%). Fossil fuels therefore will be a required – but reducing – part of the energy landscape in the short-to-medium term.

Smart technologies are increasingly important in alleviating strain on the electricity network and meeting the demands of new patterns and types of energy consumption. They do this through increasing flexibility by shifting some of the demand to off-peak times, matching demand with generation, and digitising energy.

This will reduce the extent to which large scale replacement and upgrading works will need to be carried out on the electricity network, thus keeping costs down for consumers.

Demand-side response (DSR) is a proven way in which to reduce the effect of electricity consumption on the network by shifting usage from periods of high consumption (peaks) to periods of low consumption (troughs). Typically, the consumer receives a financial incentive to reduce usage on non-essential items when there is high demand or reduced supply, or a financial incentive can even be given to use power when there is an excess of supply e.g. a windy day. This provides the suppliers with a more stable load, and consumers with the opportunity to reduce their bills. Currently, DSR is underutilised within South Yorkshire but is becoming increasingly more accessible.

### Electricity Generation

South Yorkshire’s electricity generation is very low, owing to having limited generation capacity (Figure 6). In 2017, South Yorkshire consumed 5,399 GWh<sup>21</sup> of electricity but only generated 16.5% (892 GWh<sup>22</sup>) through renewable generation (Figure 7). This shows that we will likely rely on power from outside of South Yorkshire for the foreseeable future due to the increased consumption associated with the move towards electric vehicles and electrification of heat.

Much of the renewable generation in South Yorkshire comes from the Blackburn Meadows Power Station<sup>23</sup>: a 29MW<sub>e</sub> and 25MW<sub>th</sub> capacity biomass-CHP power station operated by E.On, whose district heat network supplies Sheffield Arena, Sheffield Forgemasters, and IKEA. The opening of Templeborough Biomass Power Plant in 2019 which has a capacity of 41MW<sub>e</sub> (enough to supply electricity to over 78,000 dwellings<sup>24</sup>) further increases South Yorkshire’s biomass generation.

<sup>21</sup>BEIS – Sub-national total final energy consumption statistics (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/833987/Sub-national-total-final-energy-consumption-statistics\\_2005-2017.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833987/Sub-national-total-final-energy-consumption-statistics_2005-2017.xlsx); Accessed: 30/10/2019)

<sup>22</sup>BEIS – Renewable Electricity by Local Authority (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/834142/Renewable\\_electricity\\_by\\_local\\_authority\\_2014\\_to\\_2018.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/834142/Renewable_electricity_by_local_authority_2014_to_2018.xlsx); Accessed: 13/11/2019)

<sup>23</sup>Blackburn Meadows Biomass Power Plant (<https://www.eonenergy.com/business/why-eon/case-studies/blackburn-meadows.html>; Accessed: 04/12/2019)

<sup>24</sup>Templeborough Biomass Power Plant (<https://www.templeboroughbiomass.com/templeborough-biomass-power-plant/>; Accessed: 04/12/2019)



Renewable Electricity Generation in South Yorkshire [MWh]

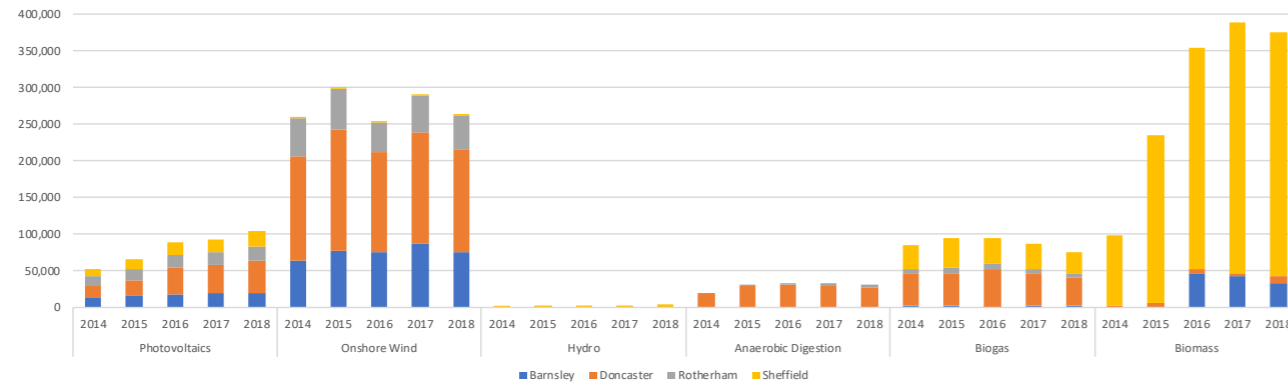


Figure 6 – Renewable electricity capacity in South Yorkshire [MW]<sup>25</sup>

Renewable Electricity Capacity in South Yorkshire [MW]

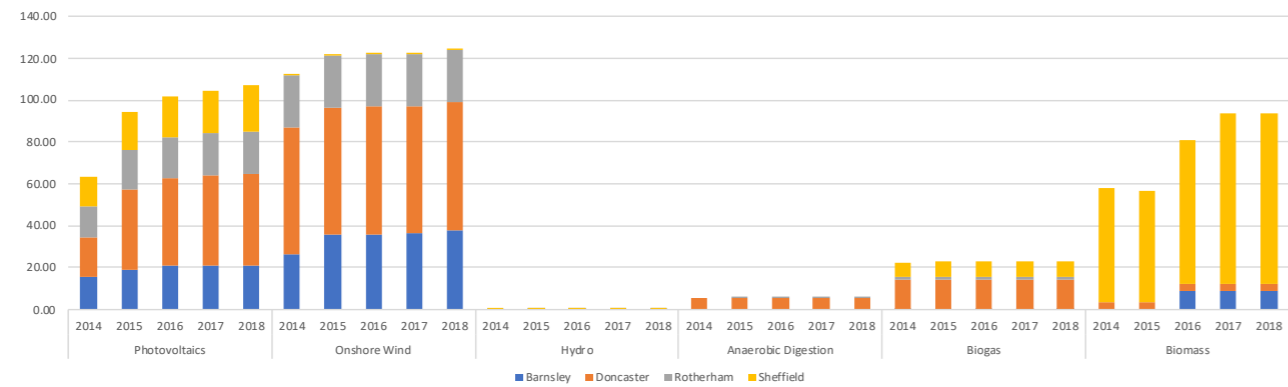


Figure 7 – Renewable electricity generation in South Yorkshire [MWh]<sup>26</sup>

Onshore wind contributes over 250 GWh of electricity to South Yorkshire; the largest proportion of which comes from Doncaster which has seven onshore windfarms including: an 8.2MW farm at Marr, an 8.2MW farm at Hampole, and a 44MW farm at Tween Bridge Moor<sup>27</sup> – the largest in South Yorkshire. Rotherham has a 20.4MW onshore wind farm at Penny Hill<sup>28</sup>.

Whilst solar PV has a lot of capacity within South Yorkshire, its capacity factor is low meaning that the amount generated is relatively low. Yet, one of the region’s solar PV successes is Energise Barnsley which was set up to deliver community-owned renewable energy, energy efficiency and energy supply projects.

As of October 2019, Energise Barnsley had 321 domestic installations of solar PV (alongside energy efficiency and battery storage) saving residents an estimated £150,000<sup>30</sup>. Residents of Barnsley were able to invest from £100 with an expected rate of return of 5%.

A further source of low carbon electricity is the contribution of EfW (energy from waste). In Sheffield, the Veolia EfW plant has an electrical generation capacity of 21MW<sub>e</sub> which feeds into the national distribution network and, via private wire, recharges the batteries on their two electric refuse collection vehicles<sup>31</sup>. In addition to this, there is a 3MW<sub>e</sub> EfW plant in Doncaster, and a planned 20MW<sub>e</sub> EfW site at Haughton Main in Barnsley.

Page 45

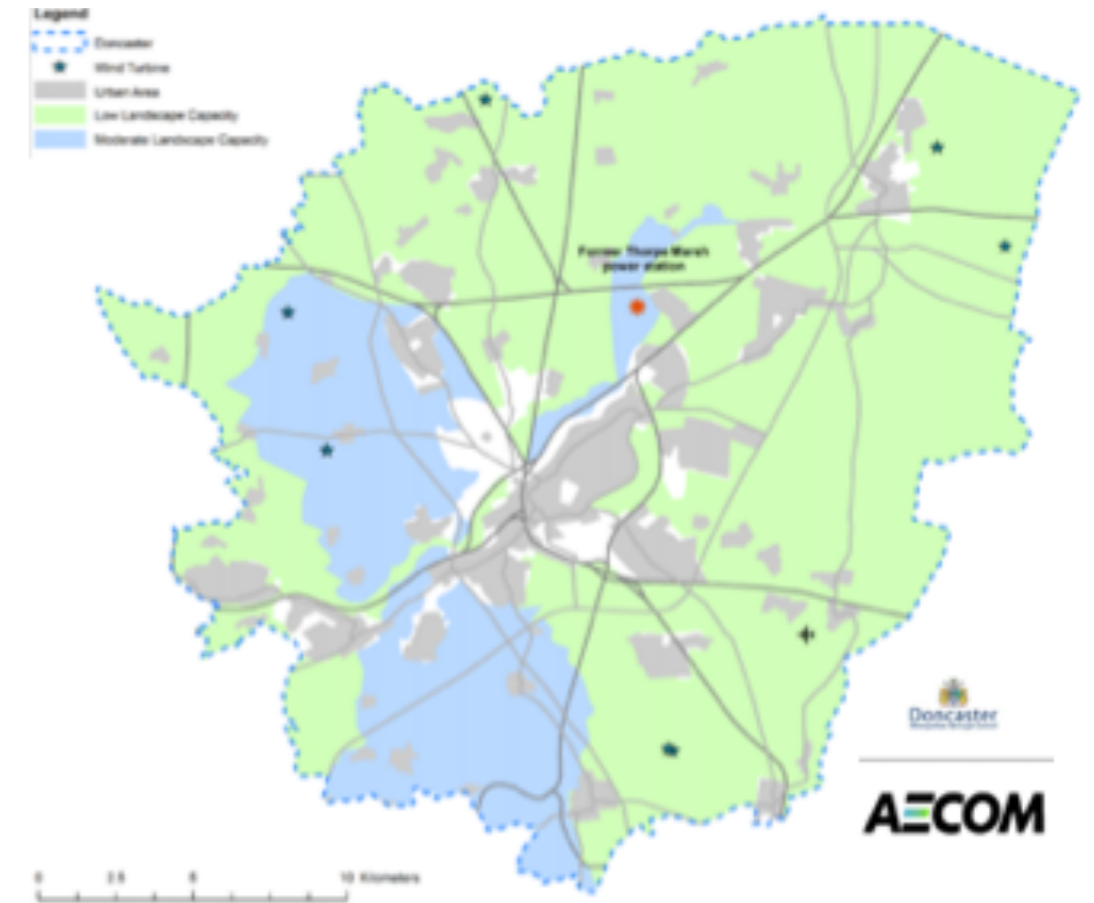


Figure 8 – Location of wind farms in Doncaster Borough (adapted from the Doncaster Local Plan)<sup>29</sup>

<sup>25</sup>BEIS – Renewable Electricity by Local Authority (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/834142/Renewable\\_electricity\\_by\\_local\\_authority\\_2014\\_to\\_2018.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/834142/Renewable_electricity_by_local_authority_2014_to_2018.xlsx); Accessed: 13/11/2019)  
<sup>26</sup>BEIS – Renewable Electricity by Local Authority (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/834142/Renewable\\_electricity\\_by\\_local\\_authority\\_2014\\_to\\_2018.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/834142/Renewable_electricity_by_local_authority_2014_to_2018.xlsx); Accessed: 13/11/2019)

<sup>27</sup>Eon – Tween Bridge (<https://www.eonenergy.com/About-eon/our-company/generation/our-current-portfolio/wind/onshore/tween-bridge>; Accessed: 14/01/2020)  
<sup>28</sup>Penny Hill Wind Farm (<https://www.banksgroup.co.uk/projects/renewables/penny-hill/>; Accessed: 04/12/2019)  
<sup>29</sup>Doncaster Local Plan – Publication Draft (Aug-Sep 2019) (2019) (<https://dmbcwebstolive01.blob.core.windows.net/media/Default/Planning/Documents/Local%20Plan/Local%20Plan%20Publication%20Version.pdf>; Accessed: 14/01/2020)  
<sup>30</sup>CRESR – Catalysing People-Powered Energy in Yorkshire and the Humber (<https://www4.shu.ac.uk/research/cresr/sites/shu.ac.uk/files/catalysing-people-powered-energy-y&h.pdf>; Accessed: 19/12/2019)  
<sup>31</sup>Veolia – ‘Veolia to trial electric Refuse Collection Vehicles’ (<https://www.veolia.co.uk/press-releases/veolia-trial-electric-refuse-collection-vehicles>; Accessed: 14/01/2020)

## Electricity Storage

There is not a significant amount of existing electrical storage capacity in South Yorkshire at the moment, however this is seen as a growth area for the region. Currently, there is over 90MW of electrical battery capacity with planning permission granted in South Yorkshire for an additional 60MW already operational (Table 1).

Location	Battery Capacity	Development Status
Nether Moor Field	49.9 MW	Awaiting Construction
Tofts Lane	40.0 MW	Operational
Aven Industrial Estate	20.0 MW	Awaiting Construction
Petre Street	20.0 MW	Operational
Long Lands Lane	12.0 MW	Awaiting Construction
Blackburn Meadows	10.0 MW	Awaiting Construction
Thrybergh Hydro Scheme	300 kW	Awaiting Construction

Table 1 – Location and capacity of electricity storage systems in South Yorkshire<sup>32</sup>

Although electrical storage deployment has been slow in South Yorkshire, all of the elements required for sector growth are in place. CREESA (Centre for Research into Electrical Energy Storage & Applications) – part of the University of Sheffield's Energy Institute – are leaders in research and development of electrical storage systems.

CREESA have demonstrated the potential of EV battery 'second life' as support to the electrical distribution network<sup>34</sup>. On a commercial level, RS Bruce in Rotherham are aiming to establish the UK's first lithium battery recycling centre in 2020<sup>35</sup>.

South Yorkshire is also the location of several battery technology companies and in July 2019, the SCR provided a Business Investment Fund grant to Ricardo to set up a battery manufacturing and assembly plant in Rotherham for McLaren<sup>33</sup>. Battery re-use and recycling has become increasingly important due to the increased use of the technology in smart phones, EVs, and large-scale electrical storage.

## Heat Generation

Heat is generated for a variety of reasons and across different sectors. Within the domestic sector, heat energy is used for hot water supply and space heating, and within industry and commerce for process heating and drying processes, amongst many other applications. Heat is also a common waste product across many industries. The easiest and thus most common way to produce heat is through burning combustible matter, typically fossil fuels, which is highly carbon intensive. Technologies have been developed to decarbonise heating, although these are often not as well known or understood by the public or businesses, meaning the uptake of technologies such as heat pumps has been low.

The Renewable Heat Incentive (RHI) is a scheme that has been developed to encourage domestic and commercial users to generate heat from renewable sources, these may include: solar thermal systems, heat pumps (air source, ground source or water source), and biomass/biogas boilers. Users of the scheme benefit from payments for every unit of heat energy they generate and use themselves.

Data from the RHI<sup>36</sup> shows that 5.9GW of renewable heating capacity had been installed across Great Britain using the scheme by November 2019. Only 1.5% of the 5.0GW of renewable heating capacity on the non-domestic scheme was deployed in South Yorkshire.

The Veolia managed Sheffield District Energy Network is the most successful District Heat Network in the UK since its opening in 1988. The District Energy Network now provides more than 140 buildings with low carbon energy from un-recyclable waste that would otherwise be sent to landfill. Pipework currently extends 45km under Sheffield saving over 20,000 tonnes of carbon emissions and providing heat to Universities, hospitals, public and private businesses, and dwellings<sup>37</sup>.

The idea of using hydrogen gas to replace fossil gas for domestic heating has gained traction in recent years. The UK government and the wider industry have several large-scale innovation projects investigating the potential including H21<sup>38</sup>, and Hy4Heat<sup>39</sup>. Hydrogen used to make up 50-60% of the UK's 'town' gas supply in the mid-20th century, but now only 0.1% of hydrogen is allowed within the gas network<sup>40</sup>. Research<sup>41</sup> is currently ongoing at Keele University to understand the impact of increasing the percentage of hydrogen in the gas network to 20%.

<sup>32</sup>Renewable Energy Planning Database (REPD) – September 2019 (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/839368/Public-Database-September-2019.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/839368/Public-Database-September-2019.xlsx); Accessed: 13/12/2019)

<sup>33</sup>Machinery Market – 'Ricardo plans battery plant for Rotherham' (06 Jul 2019) (<https://www.machinery-market.co.uk/news/24247/Ricardo-plans-battery-plant-for-Rotherham>; Accessed: 13/12/2019)

<sup>34</sup>University of Sheffield (CREESA) – Willenhall Project Facts (<https://www.sheffield.ac.uk/creesa/willenhall/facts>; Accessed: 18/12/2019)

<sup>35</sup>RS Bruce – R S Bruce 'supercharges' its battery recycling ambitions (<https://rsbruce.com/lithium-ion-battery-recycling/>; Accessed: 17/12/2019)

<sup>36</sup>BEIS – Renewable Heat Incentive Statistics (Nov 2019) (<https://www.gov.uk/government/collections/renewable-heat-incentive-statistics>; Accessed: 14/01/2020)

<sup>37</sup>Veolia District Energy Network FAQs (<https://www.veolia.co.uk/sheffield/dealing-waste/district-energy-sheffield-heat-network/district-energy-network-faqs>; Accessed: 14/01/2020)

<sup>38</sup>Northern Gas Networks – H21 (2017) (<https://www.northerngasnetworks.co.uk/wp-content/uploads/2017/04/H21-Report-Interactive-PDF-July-2016.compressed.pdf>; Accessed: 21/11/2019)

<sup>39</sup>Hy4Heat (<https://www.hy4heat.info/>; Accessed: 21/11/2019)

<sup>40</sup>Gas Safety (Management) Regulation 1996 – Schedule 3 (Content and other characteristics of gas) (<http://www.legislation.gov.uk/uksi/1996/551/schedule/3/made>; Accessed: 22/11/2019)

<sup>41</sup>HyDeploy (<https://hydeploy.co.uk/>; Accessed: 21/11/2019)

### Heat Storage

There is little or no heat storage currently within South Yorkshire, but new opportunities exist, but will require demonstration projects to prove technical and commercial viability for ‘scaling up’ schemes, if they are to play a significant role in the future energy mix.

One such opportunity is to build on South Yorkshire’s mining heritage, and explore the use of geothermal energy from abandoned mines. This could be a key form of low carbon energy production in the future – particularly in areas where a decarbonised ‘gas’ network is not present.

These legacy subterranean structures can also be used to store thermal energy (from waste heat or purposefully generated solar heat) generated during summer months for use during the winter – ‘inter-seasonal storage’ (Figure 9). It is essential that these assets are exploited if commercially viable opportunities can be demonstrated, such that South Yorkshire becomes a front runner in developing former coalmines for use in energy schemes and thereafter benefitting from a variety of first-mover advantages in the market.

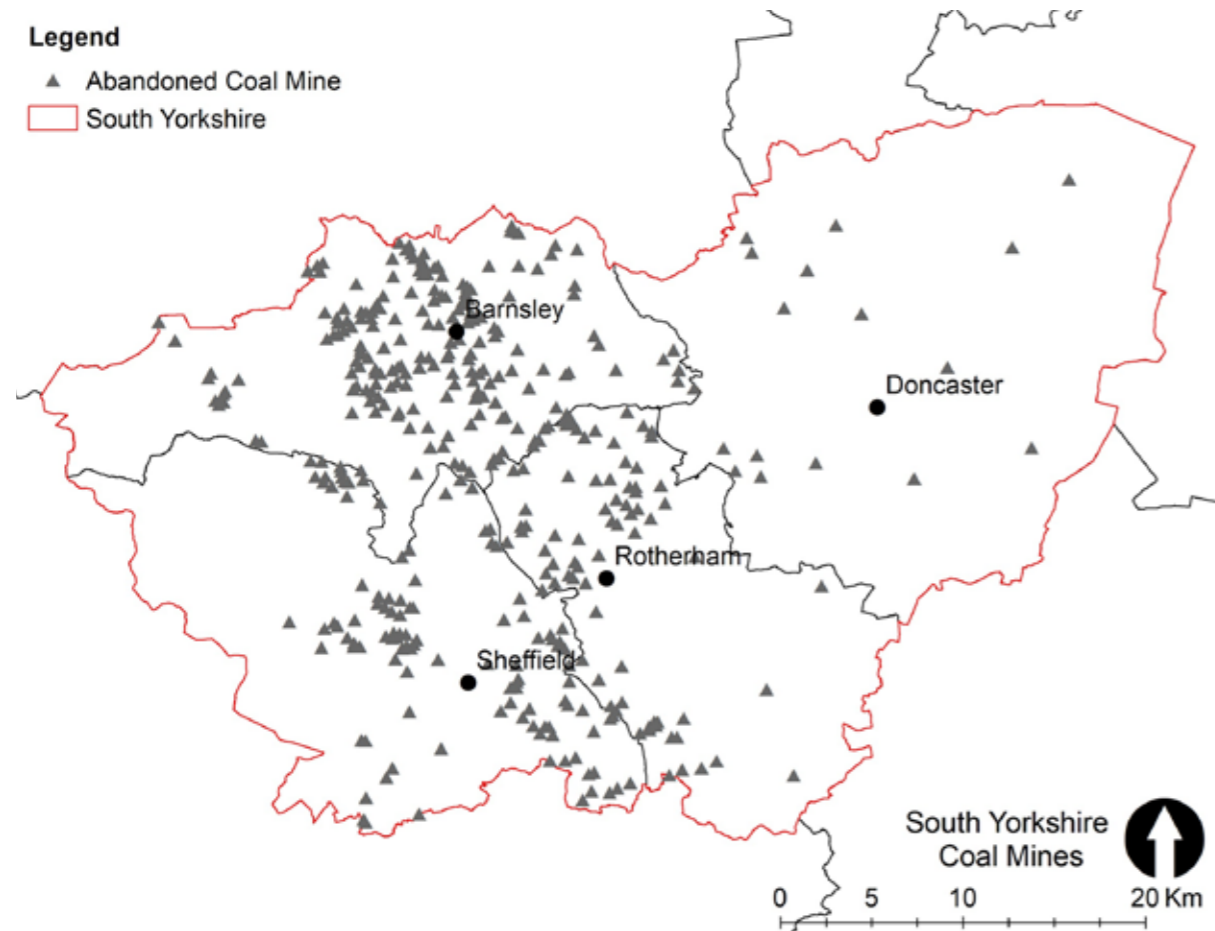


Figure 9 – The distribution of the 400+ mines throughout South Yorkshire<sup>42</sup>

### Community Energy

Community energy projects are a perfect way to accelerate the deployment of distributed energy, putting individuals at the heart of energy systems. These schemes can deliver an array of benefits resulting in improved resilience, education, and empowerment for local communities. A great example of this in action is Energise Barnsley, the largest local authority and community energy solar PV and battery storage project in the UK. But overall, South Yorkshire has a relatively low number of community energy projects per resident compared to the South West or London (Figure 10). Barriers to deployment include: changes in national policy e.g. feed in tariffs, capacity of volunteers and staff, economies of scale, connections to investors, access to sites, high risk-aversion, and costs associated with connecting to the electricity distribution network<sup>43</sup>.

By working with local authorities, the wider public and the voluntary sector, the development of more community energy schemes will be encouraged. Community Energy England – whose headquarters are in Sheffield – will be a key partner in this area and helping to achieve some of the recommendations in the ‘Catalysing People-Powered Energy in Yorkshire and the Humber’ report by the Centre for Regional Economic and Social Research at Sheffield Hallam University. It is also important that local communities can invest in the energy infrastructure of South Yorkshire.

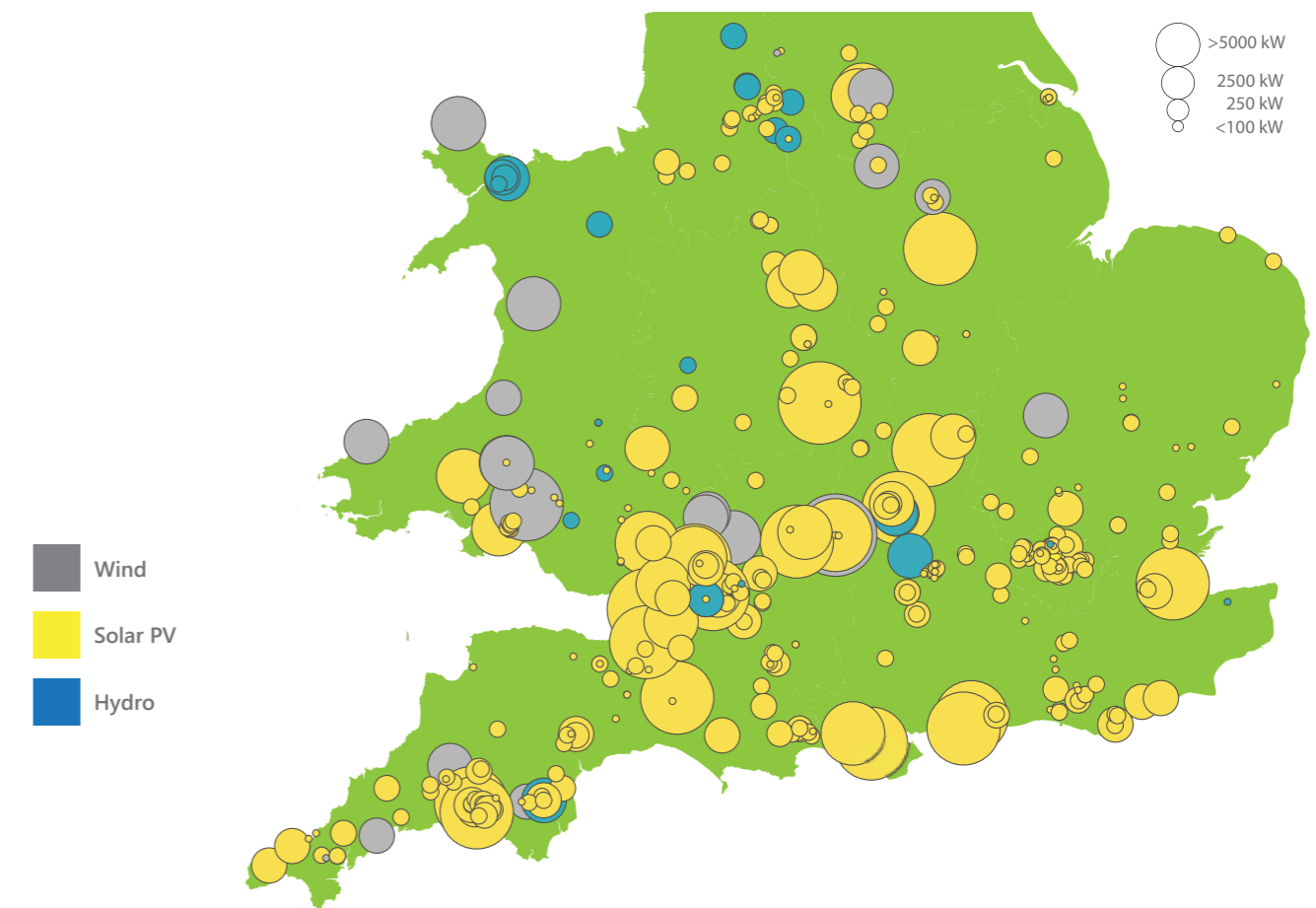


Figure 10 – Total electricity generation capacity from community energy schemes<sup>44</sup>

<sup>42</sup>University of Sheffield – Energy Strategy Provocation (2019) (<https://moderngov.sheffieldcityregion.org.uk/documents/s1865/Appendix%201%20University%20of%20Sheffield%20Provocation%20Draft%20Final%20Report.pdf>; Accessed: 11/11/2019)  
<sup>43</sup>CRESR – Catalysing People-Powered Energy in Yorkshire and the Humber (<https://www4.shu.ac.uk/research/cresr/sites/shu.ac.uk/files/catalysing-people-powered-energy-y&h.pdf>; Accessed: 19/12/2019)  
<sup>44</sup>Adapted from: Community Energy England – State of Sector 2019 (2019) ([https://communityenergyengland.org/files/document/327/1564062173\\_SOTS19\\_Infographicsv1.3StandardQuality.pdf](https://communityenergyengland.org/files/document/327/1564062173_SOTS19_Infographicsv1.3StandardQuality.pdf); Accessed: 04/12/2019)

# Evidence - Built Environment

Page 48

The climate-controlled Sheffield Winter Gardens - the largest urban glasshouse anywhere in Europe - has its heat provided by the Sheffield District Heat Network.

## Existing Housing Stock

Our population is forecast to grow by 9.3% between 2016 and 2041<sup>45</sup>. At the same time, predicted trends suggest that the average household size will reduce because of the increase in single person households. These trends put more pressure on our existing housing stock, and we need more new houses to support economic and population growth as well as to meet the demands of an ageing population.

Overall, South Yorkshire includes a significant proportion of older homes which are difficult to heat, and some, particularly in the private rented sector, are poorly maintained. In contrast, most of the social housing and housing association stock is largely in a good condition due to significant public investment. However, these need ongoing maintenance and further investment can help to reduce the costs of heating for residents meaning they have more disposable income.

An Energy Performance Certificate (EPC) is an indicator of the energy efficiency of a dwelling<sup>46</sup>. Across England in 2017, the average EPC rating was a 'D' with a score of 62 points<sup>47</sup> (Figure 11). The typical energy bill of a dwelling with a 'C' rating is around £270 lower than a 'D' rated dwelling, and £650 lower than an 'E' rated dwelling<sup>48</sup>. Using these figures, if all dwellings in South Yorkshire were brought up to a C rating, this would save residents over £250m per year<sup>49</sup>.

Distribution of EPCs in South Yorkshire

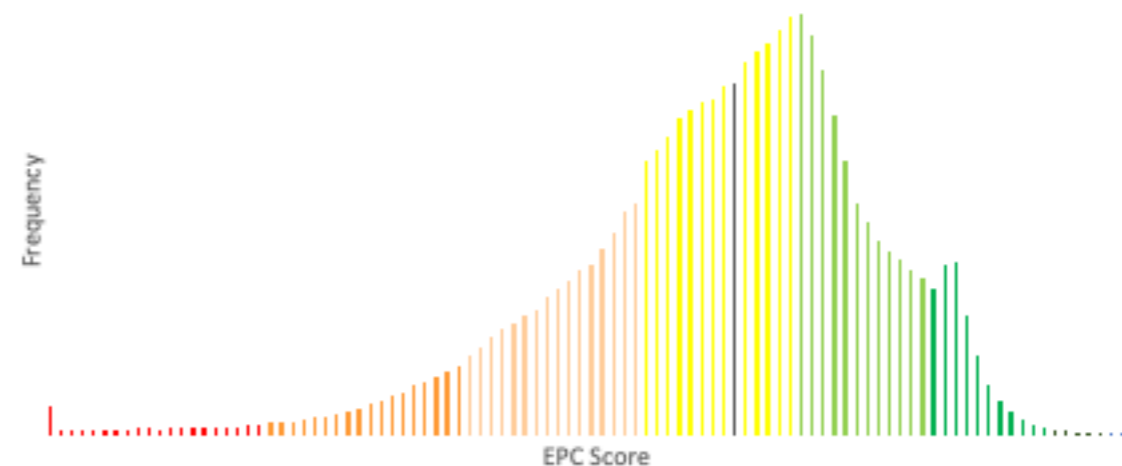


Figure 11 – Frequency of EPC score in South Yorkshire (2005-2016)<sup>50</sup> with 1 on the left to 100 on the right (average rating in England shown in grey).

<sup>45</sup>ONS - Population projections for local authorities (<https://www.ons.gov.uk/file?uri=%2fpeoplepopulationandcommunity%2fpopulationandmigration%2fpopulationprojections%2fdatasets%2flocalauthoritiesinenglandtable2%2f2016based/table2.xls>; Accessed 02/12/2019)

<sup>46</sup>Note: An EPC is only required on the transfer (sale/rent) of a dwelling and therefore the EPC database does not include each dwelling in South Yorkshire but is likely to be representative.

<sup>47</sup>MHCLG – English Housing Survey Headline Report (2017-18) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/834603/2017-18\\_EHS\\_Headline\\_Report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/834603/2017-18_EHS_Headline_Report.pdf); Accessed 04/12/2019)

<sup>48</sup>BEIS – Call for Evidence: Building a Market for Energy Efficiency (2017) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/653731/Call\\_for\\_Evidence\\_-\\_Building\\_a\\_Market\\_for\\_Energy\\_Efficiency\\_Final.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/653731/Call_for_Evidence_-_Building_a_Market_for_Energy_Efficiency_Final.pdf); Accessed 04/12/2019)

<sup>49</sup>Number of dwellings in South Yorkshire = approx. 586,000.

<sup>50</sup>MHCLG – Energy Performance of Buildings data: England and Wales (<https://epc.opendatacommunities.org/>; Accessed: 16/08/2019)

Figure 11 shows that South Yorkshire has a typical energy efficiency trend, but more will need to be done to reduce the amount that residents are spending on their energy bills. Figure 12 shows that South Yorkshire has a far lower median electricity consumption compared to England as a whole. This could be the result of better behaviours such as not leaving electrical equipment on when not in use, or technological improvements such as LED lighting. Nevertheless, this still results in an electricity bill of over £450 per year<sup>51</sup> per household (a total of £267m across South Yorkshire) £45 lower than the national average.

The median domestic gas consumption in England is 12,300 kWh per year<sup>53</sup> equating to around £515<sup>54</sup>. Some LSOAs (lower super output areas) in South Yorkshire are using far beyond this (Figure 13) but the reasons are not fully known – it could be that homes are poorly insulated; homes are much larger than average; there is an above average occupancy rate leading to higher cooking and hot water requirements; or a combination of these.

Median Domestic Electricity Consumption (2012-2017)

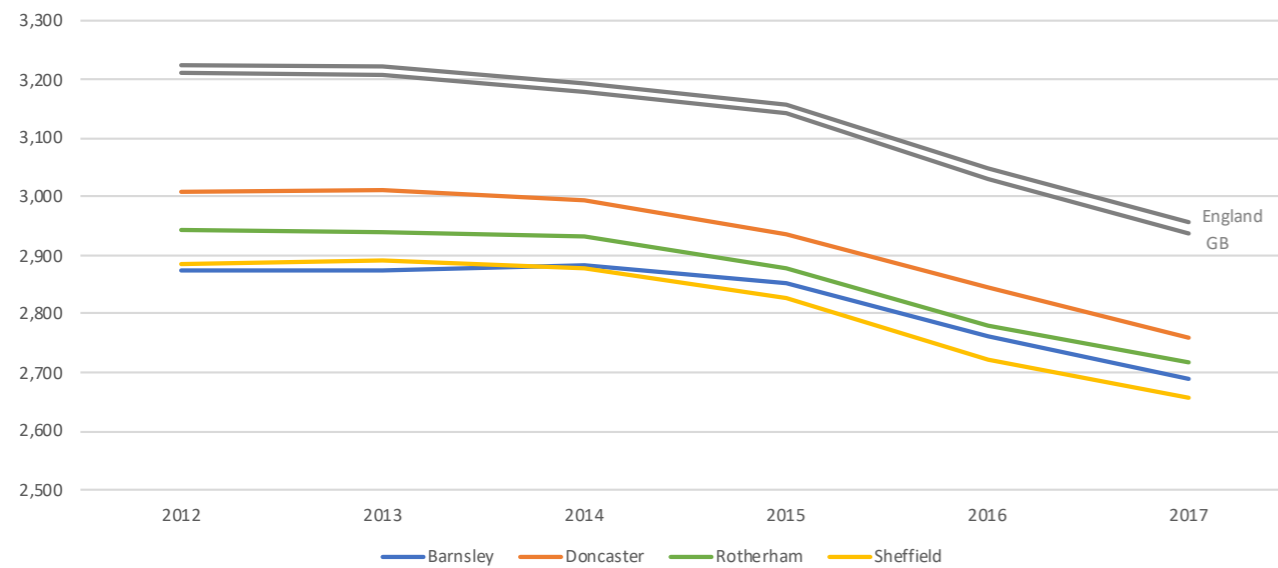


Figure 12 – Median domestic electricity consumption in South Yorkshire compared to England and GB<sup>52</sup>

<sup>51</sup>Electricity: 2,700kWh x £0.1500 per kWh = £405 per year. Standing charge: £0.15 per day x 365 days = £54.75 per year. Total = £459.75 per year.  
<sup>52</sup>BEIS – Sub-national electricity consumption statistics (2005-2017) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/834196/Sub-national\\_electricity\\_consumption\\_statistics\\_2005-2017.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/834196/Sub-national_electricity_consumption_statistics_2005-2017.xlsx); Accessed 30/10/2019). Note: Only 2012-2017 data used due to change in methodology.  
<sup>53</sup>BEIS – National Energy Efficiency Data-framework (NEED): Summary of Analysis, Great Britain 2019 (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/812561/National\\_Energy\\_Efficiency\\_Data\\_Framework\\_\\_NEED\\_\\_report\\_summary\\_of\\_analysis\\_2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/812561/National_Energy_Efficiency_Data_Framework__NEED__report_summary_of_analysis_2019.pdf); Accessed 04/12/2019)  
<sup>54</sup>Gas: 12,300kWh x £0.0375 per kWh = £461.25 per year. Standing charge: £0.15 per day x 365 days = £54.75 per year. Total = £516.00 per year.

Median Domestic Gas Use per LSOA in South Yorkshire (2017)

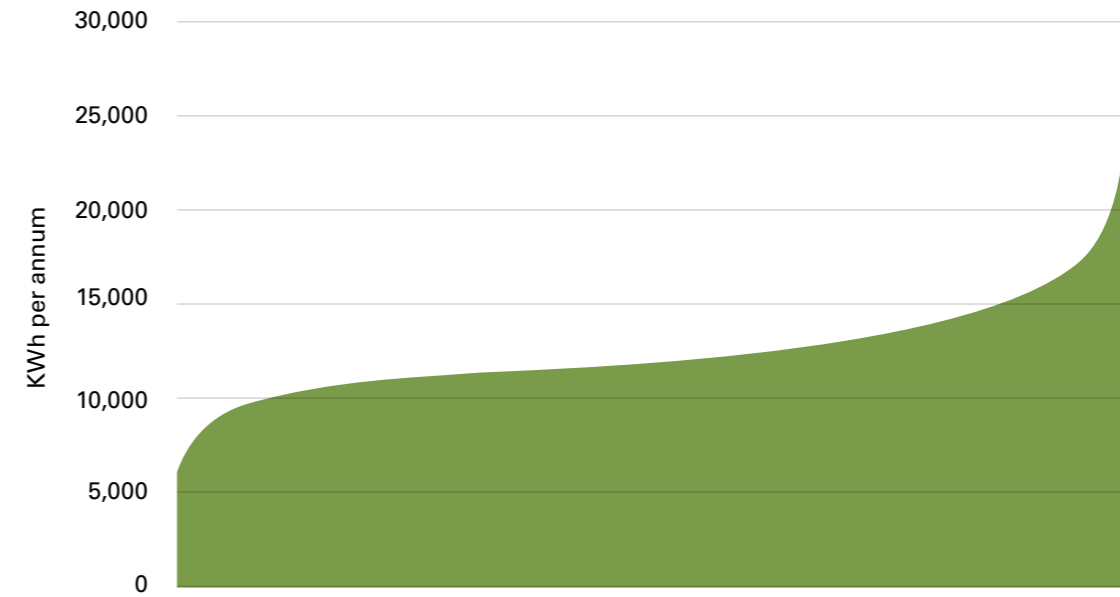


Figure 13 – Ranked median domestic gas use in each LSOA in South Yorkshire (2017)<sup>55</sup>

Installation of insulation or a new boiler is proven to reduce the gas bills of a dwelling (Table 2), in addition to increasing the perceived comfort level. These measures do typically come with a significant price tag which often puts them out of reach for those on the lowest incomes.

Energy Efficiency Measure	Median Savings <sup>56</sup>	Installation Cost <sup>57</sup>
Condensing Boiler	6%	£1,600 – £4,000
Cavity Wall Insulation	7%	£480 – £660
Loft Insulation	4%	£185 – £670
Solid Wall Insulation	13%	£6,800 – £15,000

Table 2 – Median gas savings in 2017 for measures installed the previous year and the range of installation costs

<sup>55</sup>BEIS – Domestic Gas Consumption by LSOA 2017 (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/766981/LSOA\\_domestic\\_gas\\_2017.csv.csv](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766981/LSOA_domestic_gas_2017.csv.csv); Accessed: 11/11/2019)  
<sup>56</sup>BEIS – National Energy Efficiency Data-framework (NEED): Summary of Analysis, Great Britain 2019 (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/812561/National\\_Energy\\_Efficiency\\_Data\\_Framework\\_\\_NEED\\_\\_report\\_summary\\_of\\_analysis\\_2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/812561/National_Energy_Efficiency_Data_Framework__NEED__report_summary_of_analysis_2019.pdf); Accessed 04/12/2019)  
<sup>57</sup>BEIS – What does it cost to retrofit homes? (2017) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/656866/BEIS\\_Update\\_of\\_Domestic\\_Cost\\_Assumptions\\_031017.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/656866/BEIS_Update_of_Domestic_Cost_Assumptions_031017.pdf); Accessed: 04/12/2019)

Whilst gas heating is still the most prominent within South Yorkshire, there are a proportion of dwellings who use alternate heating including: electricity, solid fuels, heating oil, and LPG. Approximately 1-in-40 dwellings is not connected to the gas network in South Yorkshire<sup>58</sup> which poses both challenges and opportunities. Assuming that any future hydrogen/bio-gas network will not expand significantly to accommodate these dwellings; this leaves the options of electrification of heat (e.g. air/ground source heat pumps) or mini heat networks connected to a local heat supply (e.g. minewater or waste heat).

Currently, the number of dwellings that have installed a low carbon heating system under the Government's Renewable Heat Incentive is low across South Yorkshire with under 1,400 applications between April 2014 and October 2019<sup>59</sup>.

### New Housing Stock

The ONS estimate that there will be 79,000 net additions to the housing stock in South Yorkshire between 2017 and 2041. This is slightly lower than the combined 4,000-5,000 per year being planned in Local Plans for the four South Yorkshire Boroughs. It is important to build quality new homes which meet the expectations of reduced running costs of the occupants and take account of the movement away from fossil fuels for heating<sup>61</sup>.

Several new housing schemes are being piloted in South Yorkshire to test new housing product innovations such as Passivhaus, modular build, and other higher energy efficient building standards, that lower the energy use of new homes and ensure they are fit for the future.

This includes the Citu development at Little Kelham<sup>62</sup> in Sheffield, supported by the SCR Housing Fund. The challenge is to learn from these pilots to enable the roll-out of these innovations at greater scale, which would present additional opportunities for up-skilling, local job creation, and local supply chains. In a similar way, community heating networks can also be developed on new housing areas or introduced to existing residential neighbourhoods.

For example, Sheffield City Council operates 135 community energy networks covering almost 6,000 council homes. They can enable residents to manage their energy use and costs much more effectively with high tech controls and smart meters as well as low carbon heating systems. New homes in South Yorkshire are increasingly required to be more climate resilient to reduce the impact of climate intensified flooding which will require additional green infrastructure and sustainable urban drainage systems (SUDS) to be installed.

### Fuel Poverty & Excess Winter Deaths

A household is considered to be in fuel poverty where<sup>63</sup>:

- they have required fuel costs that are above average
- were they to spend that amount, they would be left with a residual income below the official poverty line

The three main contributors to a household being in fuel poverty are: household income; household energy requirements; and fuel prices.

In 2017, the percentage of households in fuel poverty in South Yorkshire was 10.6%<sup>64</sup>. Indeed, all four of the South Yorkshire local authorities had fuel poverty levels slightly below the England average of 10.9% (Table 3), however there is significant variation depending upon the IMD (index of multiple deprivation) decile (Figure 14)

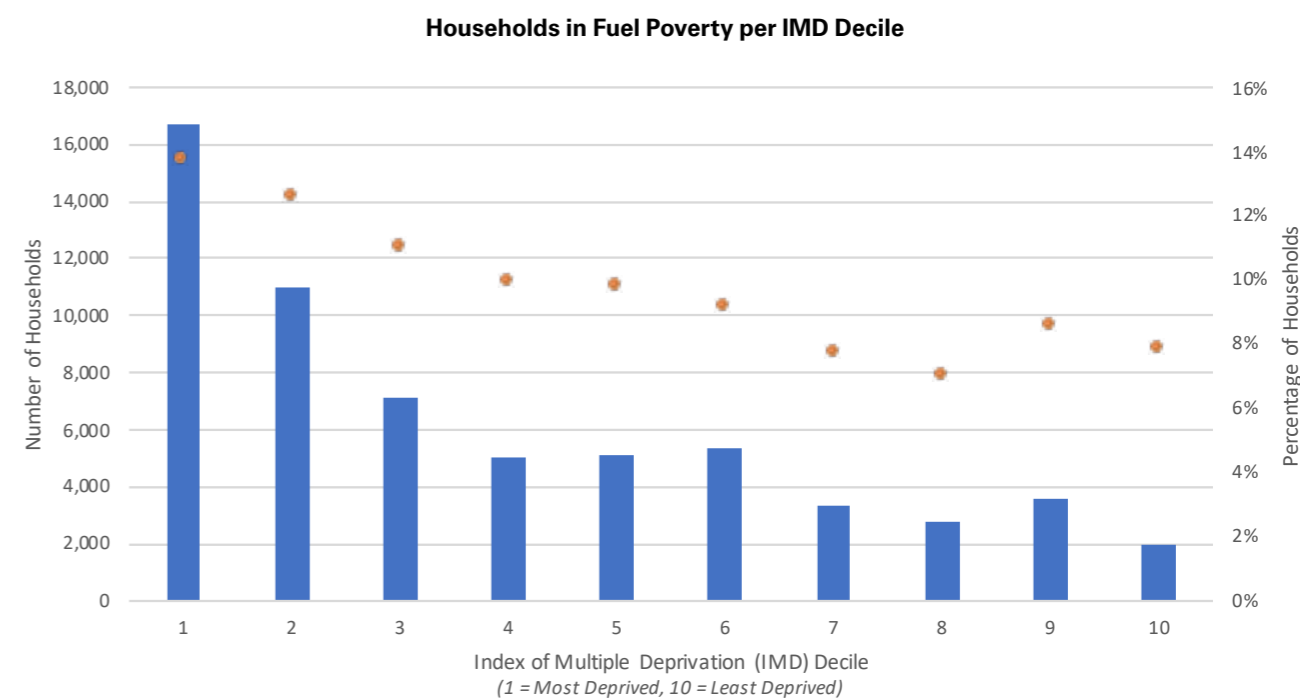


Figure 14 – Number (bars) & percentage (dots) of households in fuel poverty by IMD decile<sup>65</sup>.

<sup>58</sup>BEIS – MSA estimates of households not connected to the gas network (2018) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/767351/MSOA\\_estimates\\_of\\_households\\_not\\_connected\\_to\\_the\\_gas\\_network\\_2017.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/767351/MSOA_estimates_of_households_not_connected_to_the_gas_network_2017.xlsx); Accessed: 17/12/2019)  
<sup>59</sup>BEIS – RHI Deployment Data (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/847371/RHI\\_monthly\\_official\\_stats\\_tables\\_Oct\\_19\\_final.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/847371/RHI_monthly_official_stats_tables_Oct_19_final.xlsx); Accessed: 18/12/2019)  
<sup>60</sup>ONS – Household projections for England (2019) (<https://www.ons.gov.uk/file?uri=%2fpeoplepopulationandcommunity%2fpopulationandmigration%2fpopulationprojections%2fdatasets%2fhouseholdprojectionsforengland%2f2016based/maintablesupdatedniupdated.xlsx>; Accessed: 02/12/2019)  
<sup>61</sup>The UK Government have pledged to introduce a future homes standard, mandating the end of fossil-fuel heating systems in all new houses from 2025. (HC (13 March 2019) Vol 656, Col 351. Available at: <https://hansard.parliament.uk/commons/2019-03-13/debates/5B9C772E-1769-437A-A4F0-06DEAC55D676/SpringStatement> (Accessed: 02/06/2019))  
<sup>62</sup>Citu – Little Kelham, Sheffield (<https://citu.co.uk/citu-places/little-kelham>; Accessed: 01/12/2019)  
<sup>63</sup>Definition taken from: <https://www.gov.uk/government/collections/fuel-poverty-statistics> (Accessed: 02/12/2019).

<sup>64</sup>BEIS – Fuel Poverty Statistics (2019) (<https://www.gov.uk/government/statistics/fuel-poverty-detailed-tables-2019>; Accessed: 02/12/2019)  
<sup>65</sup>Analysis carried out by Sheffield City Region by matching the fuel poverty statistics to the IMD statistics at LSOA level.  
<sup>66</sup>BEIS – Fuel Poverty Statistics (2019) (<https://www.gov.uk/government/statistics/fuel-poverty-detailed-tables-2019>; Accessed: 02/12/2019)  
<sup>67</sup>ONS – Regional gross disposable household income by local authority (2018) (<https://www.ons.gov.uk/file?uri=%2feconomy%2fregionalaccounts%2fgrossdisposablehouseholdincome%2fdatasets%2fregionalgrossdisposablehouseholdincomegldhbylocalauthorityintheuk%2f1997to2016/vcregionalgldhbylareordered.xlsx>; Accessed: 04/12/2019)

Local Authority	Fuel Poverty <sup>66</sup>	Average Gross Disposable Household Income (2016) <sup>67</sup>
Barnsley	10.7%	£15,552
Doncaster	10.8%	£15,595
Rotherham	10.1%	£15,465
Sheffield	10.7%	£15,057

Table 3 – Comparison of fuel poverty rate and disposable income per head in each of South Yorkshire’s local authority areas

Fitting existing homes with energy efficiency measures is proven to be the most effective way to tackle fuel poverty and raise living standards, by reducing energy use and helping keep energy prices affordable, especially when combined with households transitioning to more affordable low carbon heating. Together these actions will help not only reduce the number of people living in fuel poverty, but they will improve health and well-being which ultimately will reduce the excess winter deaths.

A wide range of people are vulnerable to the cold, often due to a medical condition, a disability or other personal circumstances, such as a low income. In 2017/18 there were approximately 1,290 excess winter deaths in South Yorkshire – the highest figure for 20 years (Figure 15).

# Evidence - Transport

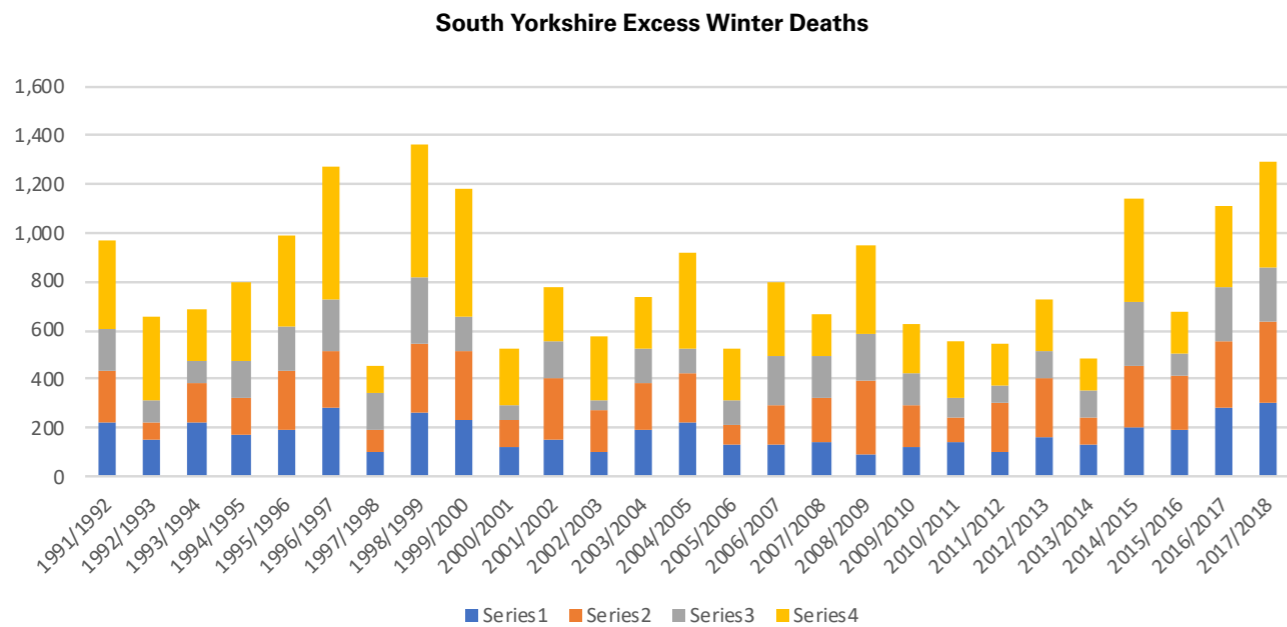


Figure 15 – Excess winter deaths in South Yorkshire by Local Authority area<sup>68</sup>

<sup>68</sup>Office of National Statistics - Excess winter mortality in England and Wales: 2018 to 2019 (provisional) and 2017 to 2018 (final) (2019) (<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/excesswintermortalityinenglandandwales/2018to2019provisionaland2017to2018final#excess-winter-mortality-across-regions>; Accessed 27/11/2019).

This SCR Energy Strategy aims to complement the SCR Transport Strategy<sup>69</sup> to deliver an innovative, cleaner public transport networks and kick-start further ambitious projects for active travel. It will be a key priority of the SCR Executive Team to ensure that the low carbon elements of the SCR Transport Strategy are aligned and delivered jointly. Projects of this type will lower carbon emissions and have a significant positive impact on both air quality and health. Equally, the future demands on the energy system will be strategically managed.

### Modal Shift & Active Travel

In April 2019, Dame Sarah Storey became the SCR Active Travel Commissioner with the brief to champion active travel and enable more people within South Yorkshire to travel on foot, by bike, or by public transport<sup>70</sup>. The position of SCR Active Travel Commissioner enhances the targets set in the SCR Transport Strategy to increase trips by: 18% on bus, 100% on rail, 47% on tram, 21% walking and 350% cycling.

#### The Mayor and Active Travel Commissioner's pledges are<sup>71</sup>:

1. Being led by communities
2. Enabling walking and cycling rather than encouraging it
3. Requiring infrastructure to meet or exceed requirements
4. Requiring infrastructure to be accessible for all

Following this the Active Travel Interactive Map<sup>72</sup> was launched in October 2019 which asked people what they think of the current walking and cycling infrastructure, and what they would like to see in the future.

Recognising the parallels between energy, transport and improvements to our air quality, reduced dependency on the private car is seen as a key part of the solution thereby changing the way people travel, and encouraging more active travel. Where journeys cannot be made via Active Travel or using public transport it needs to be ensured that there is a coherent city-wide network of refuelling infrastructure, helping to increase the uptake of electric and other ultra-low emission vehicles (ULEVs).

<sup>69</sup>Sheffield City Region – Transport Strategy (2019) ([https://d2xjf5riab8wu0.cloudfront.net/wp-content/uploads/2019/03/SCR\\_Transport\\_Strategy\\_11.04.2019.pdf](https://d2xjf5riab8wu0.cloudfront.net/wp-content/uploads/2019/03/SCR_Transport_Strategy_11.04.2019.pdf); Accessed: 04/12/2019)

<sup>70</sup>Sheffield City Region – ‘Dame Sarah Storey Named as Mayor Dan Jarvis’ Active Travel Commissioner’ (01 Apr 2019) (<https://sheffieldcityregion.org.uk/dame-sarah-storey-active-travel-commissioner/>; Accessed: 18/12/2019)

<sup>71</sup>Sheffield City Region – ‘Dame Sarah Storey Announces Active Travel Pledges for the Sheffield City Region’ (17 Jun 2019) (<https://sheffieldcityregion.org.uk/dame-sarah-storey-announces-active-travel-pledges-for-the-sheffield-city-region/>; Accessed: 18/12/2019)

<sup>72</sup>Sheffield City Region – SCR Active Travel Interactive Map (<https://cyclewalkscmap.sheffieldcityregion.org.uk/>; Accessed: 18/12/2019)

<sup>73</sup>20% increase from 2017 to 2018 (DfT – Vehicle Licensing Statistics: Annual 2018, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/800502/vehicle-licensing-statistics-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/800502/vehicle-licensing-statistics-2018.pdf); Accessed 02/10/2019)

<sup>74</sup>2.2% of new registrations in 2018 (DfT – Vehicle Licensing Statistics: Annual 2018, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/800502/vehicle-licensing-statistics-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/800502/vehicle-licensing-statistics-2018.pdf); Accessed 02/10/2019)

<sup>75</sup>Business, Energy and Industrial Strategy Committee – Electric Vehicles: Driving the Transition (2018) (<https://publications.parliament.uk/pa/cm201719/cmselect/cmbeis/383/383.pdf>; Accessed 02/10/2019)

### Electric Vehicles

In 2015, the UK Government set a target for ‘almost every’ car and van to be zero emission by 2050. This was followed in 2016 by a plan to ban the sale of diesel and petrol cars and vans by 2040. To meet this target, an interim target was set in the ‘Road to Zero Strategy’ stating that at least 50% of new car sales and 40% of new van sales will be zero emission by 2030. In 2020, the ban the sale of diesel and petrol cars and vans was brought forward to 2035.

Whilst nationally the sales of ULEV cars are increasing at a rapid rate<sup>73</sup> their overall penetration into the private vehicle market is low<sup>74</sup>. ULEV sales are expected to continue to grow exponentially as market projections suggest EV price equivalence with petrol and diesel (ICEs) by the mid-2020s<sup>75</sup>. At time of writing, the Government has a grant available to help boost the uptake of EVs but the grant for ‘plug-in-hybrids’ was removed in 2018.

In line with the projections of EV uptake, the EV charging infrastructure is expected to grow in the UK. There are now almost 30,000 connectors to 17,000 chargepoints in more than 10,600 locations<sup>76</sup> an increase of 400% in five years. However, only 5% (1,552) of the UK’s EV connectors are in the Yorkshire and Humber. These connectors service the 16,300 ULEV vehicles registered in Yorkshire and Humber, including more than 3,800 registered in South Yorkshire<sup>77</sup>.

In November 2019, the UK Department for Transport published a table showing the number of public ‘charging devices’ per 100,000 population. The table shows the wide variation in charge point provision and shows that South Yorkshire has 10 per 100,000, which is one of the lowest allocations nationally<sup>78</sup>.

The National Infrastructure Commission recommends that Government, Ofgem and local authorities roll-out charging infrastructure in line with EVs making up 100% of new vehicles by 2030. National Grid projects that the increase in peak demand from EVs is likely to be in the region of 5GW nationally. Smart charging technologies, vehicle to grid technology and incentives to charge vehicles at off-peak times will reduce the impact. If clusters of EV chargepoints emerge without sufficient planning and mitigation measures, then charging could overload low voltage networks. Yet, Northern Powergrid’s recently published tool<sup>79</sup> shows which of the low voltage substations will be under strain in different EV uptake scenarios allowing for an immediate overview of where reinforcement will be required.

The University of Sheffield, alongside seven other northern universities, is part of the DecarboN8 network which focusses on surface transport emissions and are leading the ‘Digitisation, Demand and Infrastructure’ theme. In 2017, road transport alone contributed around 36% of South Yorkshire’s total CO<sub>2</sub> emissions. A battery electric vehicle emits during a full functional life, half the amount of CO<sub>2</sub> compared to a conventional reference vehicle.



## Hydrogen Vehicles

Hydrogen vehicles are still relatively scarce in the market but are increasing their penetration in areas such as HGVs, buses, trains. A hydrogen-based switch over for HGVs would require approximately 800 refuelling stations to be built across the UK before 2050<sup>80</sup>. Given the strategic road networks (M1, A1(M), and M18) that pass through South Yorkshire, and the iPort located in Doncaster, presents an important economic opportunity in developing the refuelling network. In addition to this, analysis has been carried out by Arup, on behalf of the SCR, to investigate the costs and practicalities of introducing hydrogen buses within the South Yorkshire public transport system.

South Yorkshire is already at the forefront of the quickly growing hydrogen economy. Sheffield is home to ITM Power who are creating the largest electrolyser manufacturing facility in the world which – when opened in early-2020 – will be capable of producing 1GW of electrolysers per year<sup>81</sup>. ITM Power's current operations require them to employ around 180 members of staff; this will increase with the demands of the new facility and the recent award of a £500,000 grant from the UK Government to demonstrate the delivery of bulk, low-cost and zero-carbon hydrogen<sup>82</sup>.

Doncaster also has an innovative electrolyser manufacturer, CPH2, which has plans for significant growth. The electrolysers produced by these local companies are essential for the move towards hydrogen vehicles as they are an integral part of the refuelling infrastructure.

Rotherham has the northern-most hydrogen refuelling station in England in operation connected to the UK's largest Hydrogen Mini-Grid System<sup>83</sup>. The refuelling station creates hydrogen gas from water using the power from a 225kW wind turbine making the fuel truly zero carbon 'green hydrogen'<sup>84</sup>.

Further detail about South Yorkshire's emerging hydrogen economy<sup>85</sup> and the opportunities that exist can be found in the report 'Establishing a regional hydrogen economy' produced by Arup on behalf of the South Yorkshire Hydrogen Network – a collaboration of public and private sector partners.

## Air Quality

South Yorkshire faces significant air quality issues with 28 Air Quality Management Areas (AQMAs) across South Yorkshire (Figure 16). Poor air quality is linked to a variety of health concerns ranging from short term illness to serious diseases and premature death.

Public Health England has written extensively on the impacts of poor air quality and its effect on life expectancy<sup>86</sup> and in South Yorkshire an average of 5.5% of all adult deaths can be attributed to PM2.5<sup>87</sup> air pollution (Barnsley 5.4%, Doncaster 5.6%, Rotherham 5.7%, Sheffield 5.5%)<sup>88</sup>.

The number of diseases attributed to PM2.5 air pollution between 2017 and 2035 in South Yorkshire is more than 31,000 at a cost of over £220m<sup>89</sup>. Individuals who are particularly sensitive and exposed to the most elevated levels of pollution have an estimated reduction in life expectancy of as much as nine years. The impact on health and life expectancy is more significant for some social groups than others; including the most deprived in South Yorkshire.



Figure 16 – Air Quality Management Areas (AQMAs) in South Yorkshire

<sup>80</sup>ZapMap Statistics (2019) (<https://www.zap-map.com/statistics/>; Accessed: 14/01/2020)

<sup>81</sup>DfT – Licensed ultra-low emission vehicles by local authority (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/853463/veh0132.ods](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/853463/veh0132.ods); Accessed: 14/01/2020)

<sup>82</sup>DfT – Electric vehicle charging devices by local authority (2019) (<http://maps.dft.gov.uk/ev-charging-map/>; Accessed: 27/11/2019)

<sup>83</sup>Northern Powergrid Future Energy Scenarios 2019 (<https://odileeds.github.io/northern-powergrid/>; Accessed: 14/01/2020)

<sup>84</sup>CCC – 'Net Zero – The UK's contribution to stopping global warming' (2019) (<https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf>; Accessed: 19/12/2019)

<sup>85</sup>ITM Power – New Factory Update and Senior Production Appointment (22 Jul 2019) (<https://www.itm-power.com/news/new-factory-update-and-senior-production-appointment>; Accessed: 19/12/2019)

<sup>86</sup>ITM Power – 'Gigastack Feasibility Study with Ørsted' (29 Aug 2019) (<https://www.itm-power.com/item/58-project-to-demonstrate-delivery-of-bulk-low-cost-and-zero-carbon-hydrogen-through-gigawatt-scale-pem-electrolysis-manufactured-in-the-uk>; Accessed: 19/12/2019)

<sup>87</sup>Public Health England – Health Matters: Air Pollution (2018) (<https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution>; Accessed: 14/01/2020)

<sup>88</sup>Public Health England – Estimating Local Mortality Burdens Associated with Particulate Air Pollution (2014) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/332854/PHE\\_CRCE\\_010.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/332854/PHE_CRCE_010.pdf); Accessed: 16/01/2020)

<sup>89</sup>Calculated from Pimpin, L. et al. (2018) – Estimating the costs of air pollution to the National Health Service and social care: An assessment and forecast up to 2035 (<https://doi.org/10.1371/journal.pmed.1002602>; Accessed: 17/01/2020)

Across Sheffield alone there are 51 locations where the European Union's annual average limit value for NO<sub>2</sub> (40µg/m<sup>3</sup>) has been exceeded in one or more of the three-year periods (2010-2012), and a 30% reduction in NO<sub>2</sub> emissions would be needed in order to comply with the limit value.

Analysis indicates that road transport is the single most significant contributor to Sheffield's NO<sub>2</sub> emissions at these locations therefore reducing exhaust pipe pollutants has an important part to play; including the use of Clean Air Zones (CAZs). The significant air quality issues across South Yorkshire also emphasises the importance of delivering transport networks that encourage shifts to low carbon transport. A move to ultra-low emission vehicles (ULEVs) such as those powered by hydrogen or full-electric would significantly reduce emissions in South Yorkshire.

Sheffield City Council (SCC) and Rotherham Metropolitan Borough Council (RMBC) are undertaking a CAZ Feasibility Study, to ensure compliance with legal thresholds in the shortest possible time. To address the challenges in Sheffield, a Charging CAZ<sup>90</sup> has been proposed which would target the most polluting vehicles that do not meet required emissions standards. At the time of writing, the consultation has closed on SCC's proposals that would require improvements to buses, coaches, taxis, HGVs and LGVs from 2021.

This is an important challenge for SCR and, together with the South Yorkshire Passenger Transport Executive, is in a strong position to deliver the pace of change required through the devolved power given by Government and the aims of the SCR Transport Strategy. Mitigating the impact of the motorway network on air quality represents a significant challenge for South Yorkshire and success will be dependent on collaboration with Highways England and national Government.

## Evidence - Industry & Commercial

<sup>90</sup>Sheffield City Council – Clean Air Zone Outline Business Case (2019) (<https://www.sheffield.gov.uk/content/dam/sheffield/docs/pollution-and-nuisance/air-pollution/clean-air-zone/Sheffield%20and%20Rotherham%20CAZ%20-%20Outline%20Business%20Case.pdf>; Accessed 04/12/2019)

**South Yorkshire is synonymous with industry; decarbonising this sector while maintaining its competitiveness will be an enormous challenge<sup>91</sup>. However, the challenge also offers an opportunity to both find cost savings and new markets in which to sell. It is essential that any changes introduced avoids the short-term switching of production to other areas of the UK, which in turn will put pressure on the low wage economy.**

The manufacture of fabricated metal products is the largest contributor to turnover of businesses with locations in South Yorkshire. This is aligned with the South Yorkshire's industrial heritage, with products from this sector feeding into aerospace, automotive, defence and energy sectors – all growth areas under Industry 4.0.

Industry 4.0 is characterised by exponential changes to the way we live, work and communicate due to the adoption of cyber physical systems and the Internet of Things, and will lead to much greater digitisation across all industries and aspects of society.

The steel industry is one of the most polluting in the UK, contributing around 12 MtCO<sub>2</sub> to UK emissions in 2017. The sector employs around 32,000 people including 9,000 in Yorkshire and Humber. Three of the five electric arc furnaces, which melt scrap steel instead of requiring raw materials, in the UK are in South Yorkshire. Since they're electrically powered, decarbonising these is integrated with the decarbonisation of the electrical network as a whole. Yet, by investing in on-site renewable generation and battery storage, costs can be reduced when generating power but also by purchasing electricity when the price is low and selling electricity to the network when generation is lower than demand. This would also improve resilience against power outages.

Fossil gas is used for many of the steel manufacturing processes including re-heating and drying. Hydrogen could be used to decarbonise these processes, but it is likely that a redesign of equipment will need to take place as the combustion of hydrogen produces water vapour (which is detrimental to the drying process) and will need to be removed. The UK Government's proposed Clean Steel Fund<sup>92</sup> and Low Carbon Hydrogen Production Fund could provide a step-change in this industry, and South Yorkshire is well-placed to capitalise.

<sup>91</sup>"Government must implement an approach to incentivise industries to reduce their emissions through energy and resource efficiency, electrification, hydrogen and CCS in ways that do not adversely affect their competitiveness. In the short-term, this is likely to imply a role for Exchequer funding."

(CCC – 'Net Zero – The UK's contribution to stopping global warming' (2019) <https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf>; Accessed: 19/12/2019)

<sup>92</sup>BEIS – Creating a Clean Steel Fund: Call for Evidence (<https://www.gov.uk/government/consultations/creating-a-clean-steel-fund-call-for-evidence>; Accessed: 19/12/2019)

<sup>93</sup>BEIS – Energy Efficiency Scheme for Small & Medium Sized Businesses – A Call for Evidence (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/785541/energy-efficiency-scheme-smes-cfe.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785541/energy-efficiency-scheme-smes-cfe.pdf); Accessed 21/11/19).

Opportunities also exist in other energy intensive industries to use hydrogen, including glass manufacture where high temperatures are used to melt the raw materials, and a hydrogen-rich atmosphere is used in the manufacture of float glass. These high energy users typically produce a significant amount of waste heat which can be 'dumped' into a heat network to provide an additional income stream.

There are many opportunities for non-industry to gain from the transition to a net-zero carbon economy. The Clean Growth Strategy (CGS) set out a stretching ambition to support businesses to improve their energy efficiency by at least 20% by 2030 leading to a potential 30% reduction in SME energy bills<sup>93</sup>. Despite this, there remains a large proportion of SMEs who are unaware of how to reduce their energy usage and the extent of savings they could make through implementing resource efficiency measures. Support is therefore required to help businesses reduce the costs involved in initial connection to the energy grid and invest in energy efficiency measures and low carbon heat and power, which could significantly reduce fuel bills for businesses within South Yorkshire, protecting them against rising energy prices.

One of the UK Government's Industrial Strategy Missions is to 'establish the world's first net-zero carbon industrial cluster by 2040 and at least 1 low-carbon cluster by 2030'. Humber is making strides to achieve this goal with the Zero Carbon Humber project<sup>94</sup>. As a neighbouring region, South Yorkshire is well placed to support this transformative project.

<sup>94</sup>Zero Carbon Humber (<https://www.zerocarbonhumber.co.uk/>; Accessed: 19/12/2019)

# Research, Development & Innovation

Page 56

**South Yorkshire has a significant offering with regards to world-leading research, development and innovation. Some of the areas with direct impact on the energy sector have been highlighted in this Section.**

## University of Sheffield<sup>95</sup>

The University of Sheffield is a world-class university ranked 12th overall in the UK, and part of the prestigious Russell Group of leading research-led institutions. The University is home to the Energy Institute, one of the largest energy research institutes in Europe with over 120 academics and 250 PhD students working across the spectrum of energy technologies to support the UK on its journey to net-zero.

It is also home to The University of Sheffield's Advanced Manufacturing Research Centre (AMRC), based in Rotherham. The AMRC has specialist expertise in machining, casting, welding, additive manufacturing, composites, designing for manufacturing, testing and training. It has a global reputation for helping companies overcome manufacturing problems and has become a known model for collaborative research involving universities, academics and industry. In 2007, it was the winner of the 2007 Queen's Anniversary Prize for Higher and Further Education<sup>96</sup>.

Based alongside the AMRC, the Nuclear Advanced Manufacturing Research Centre is dedicated to helping UK manufacturers win work across the nuclear sector. Both The University of Sheffield's AMRC and the Nuclear AMRC are part of the High Value Manufacturing Catapult, a national alliance of seven leading manufacturing research centres. Established by Innovate UK, the Catapult provides access to world-class research and development facilities and expertise that would otherwise be out of reach for many businesses in the UK. In 2018/19 the Catapult supported 4,650 innovative projects (including almost 2,500 with SMEs) which totalled over £0.5bn.

## The Advanced Resource Efficiency Centre (AREC)<sup>97</sup>

AREC is a facility to promote collaboration between industry and academia to meet the challenge of resource efficiency and sustainability across supply chains by proposing new ways of reducing risk for partners in overcoming the challenges of resource availability. AREC has the infrastructure in place to work in partnership with industry to address world challenges in supply chain resource sustainability, focussing on four key areas: advanced materials and manufacturing, energy and nuclear; water; and agritech and food.

## UK Carbon Capture and Storage Research Centre (UKCCSRC)<sup>98</sup>

UKCCSRC brings together a network of more than 1,400 world-class academics, industrial experts, regulators, Government and others in the sector to provide a national focal point for the research and development of carbon capture and storage. The University of Sheffield is the host institution of UKCCSRC.

## Pilot-Scale Advanced CO<sub>2</sub> Capture Technology (Pact)<sup>99</sup>

The Pilot-scale Advanced CO<sub>2</sub> Capture Technology (PACT) facilities are the national specialist research and development facilities for carbon capture technology, research for power generation and industrial applications. The PACT facility will form part of the new Translational Energy Research Centre later in 2020.

<sup>95</sup>University of Sheffield (<https://www.sheffield.ac.uk/>)

<sup>96</sup>Award was presented for 'working with leading companies to improve efficiency in aero engines' (<https://www.queensanniversaryprizes.org.uk/winners/researching-and-embedding-new-manufacturing-techniques-in-aerospace-engineering/>; Accessed 28/11/2019)

<sup>97</sup>AREC (<https://www.sheffield.ac.uk/arec>)

<sup>98</sup>UKCCSRC (<https://ukccsrc.ac.uk/>)

<sup>99</sup>PACT (<https://pact.group.shef.ac.uk/>)

### Translational Energy Research Centre (TERC)<sup>100</sup>

The Translational Energy Research Centre is a state-of-the-art testing facility for energy technologies which will be instrumental in the UK's transition to a low carbon economy and will help businesses stay at the forefront of this rapidly growing market and ensures that research and development leadership in clean energy is retained locally. The Translational Energy Research Centre will dramatically broaden the scope of the pilot-scale testing facilities currently available in the UK and include equipment for conventional energy, carbon capture, utilisation and storage, biomass, hydrogen, renewable energy, energy storage and smart grids.

### Centre for Research into Electrical Energy Storage and Applications (CREESA)<sup>101</sup>

CREESA is one of the UK's leading research centres on all aspects of electrical energy storage and home of the 'Centre for Doctoral Training in Energy Storage and its Applications'. It includes the unique Battery Energy Storage Demonstrator – a 2MW grid connected research facility utilising a lithium titanate battery at a substation in the West Midlands. More recently the facility has been set up as a test bed for Industry 4.0, in collaboration with industrial partners, for battery digitisation research with reference to the Internet of Things and cloud computing.

### Nuclear Advanced Manufacturing Research Centre (Nuclear AMRC)<sup>102</sup>

Based in Rotherham, the Nuclear AMRC is part of the High Value Manufacturing Catapult and is a collaboration of academic and industrial partners from across the nuclear supply chain, with the mission of helping UK manufacturers win work. The Nuclear AMRC has developed its position at the heart of the UK's civil nuclear manufacturing industry and is leading on the research and development of small modular reactors (SMRs) and the Fit4Nuclear<sup>103</sup> (F4N) benchmark. The F4N programme helps companies measure their current operations against the standards required to supply the UK's new generation of nuclear power stations and take the necessary steps to enter this £40bn market.

### Sheffield Siemens GAMSEA Renewable Energy (S2GRE)<sup>104</sup>

Siemens established its UK wind turbine generator R&D competence centre at the University of Sheffield in 2009. The research centre specialises in providing the overall technology, architecture and design of onshore and offshore wind turbine generators for the global market. The collaboration translates into real world solutions with benefits to both the wind industry and the environment. The University of Sheffield are also the lead for the EPSRC Prosperity Partnership: A New Partnership in Offshore Wind<sup>105</sup>.

### Urban Flows Observatory<sup>106</sup>

The Urban Flows Observatory seeks to understand how the physical (energy and material resources) metabolism of cities can be effectively measured, understood and utilised. To do this, mobile and fixed sensors will be deployed around Sheffield to improve our understanding of the city. The aim is to provide the methodologies and tools to manage and analyse urban data streams. From this, a robust evidence base will be developed to facilitate local and national decision making, supporting the creation of zero carbon, healthy, happy cities.

### Sheffield Hallam University<sup>107</sup>

Sheffield Hallam University (SHU) is one of the largest universities in the UK by student population, with more than 30,000 enrolled<sup>108</sup>. SHU has thirty research centres spanning a wide range of topics including Health and Social Care, Sport and Exercise Science, and Food Engineering.

The Olympic Legacy Park (OLP)<sup>109</sup> in Sheffield will provide a world-class centre for research and innovation in health and well-being. The Advanced Well-Being Research Centre will be based at the OLP and will be the most advanced physical activity research and development centre in the world. Other research centres at SHU include CRESR and MERI.

### Centre for Regional Economic and Social Research (CRESR)<sup>110</sup>

CRESR focusses on the impact of social and economic disadvantage and the assessment of policies which aim to address these issues. Sustainability is one of the workstreams of CRESR which is broken down into: housing, place, responses to climate change, and valuation of environmental benefits. Previous work from this research group includes studies into fuel poverty, community energy, heat networks, and the economic benefits of improvements to the natural environment. CRESR has also worked on the 'State of the Coalfields'<sup>111</sup> report showing the contrast between these communities and other economic areas in the UK.

### Materials and Engineering Research Institute (MERI)<sup>112</sup>

MERI is an interdisciplinary research institute dedicated to addressing industrial challenges. MERI encompasses groups including: the Centre for Automation and Robotics Research which has research areas such as artificial perception and integrated manufacturing; the Thin Films Research Centre which has a research group focussing on solar energy conversion; and Hallam Energy which has expertise, and provides consultancy in, areas including industrial heat recovery working with international companies such as Nestlé to improve the efficiency of their operations.

### UK Atomic Energy Authority (UKAEA)<sup>113</sup>

In autumn 2020 the UK Atomic Energy Authority (UKAEA) will open a 2,500m<sup>2</sup> nuclear fusion research facility at the Advanced Manufacturing Innovation District (AMID) in Rotherham. The facility will bring 40 highly skilled jobs to South Yorkshire following funding from BEIS and the SCR's Local Growth Fund.

UKAEA's aim is to produce a conceptual design for a 'Spherical Tokamak for Energy Production' (STEP) reactor by 2024 and ultimately commercialise nuclear fusion as a plentiful source of low carbon electricity<sup>114</sup>. The facility will require specialist metals and materials, providing further opportunities for companies in South Yorkshire and boosting the region's economy.

<sup>100</sup>TERC (<https://www.sheffield.ac.uk/news/nr/translational-energy-research-centre-sheffield-university-leading-experts-uk-work-with-collaborate-1.852523>)

<sup>101</sup>CREESA (<https://www.creesa.co.uk/>)

<sup>102</sup>NAMRC (<https://namrc.co.uk/>)

<sup>103</sup>Fit4Nuclear (<https://namrc.co.uk/services/f4n/>)

<sup>104</sup>S2GRE (<https://www.sheffield.ac.uk/eee/research/groups/electrical-machines-and-drives/siemens-gamesa>)

<sup>105</sup>New Partnership in Offshore Wind (NPOW) (<https://npow.group.shef.ac.uk/>)

<sup>106</sup>Urban Flows Observatory (<https://urbanflows.ac.uk/>)

<sup>107</sup>Sheffield Hallam University (<https://www.shu.ac.uk/>)

<sup>108</sup>Higher Education Statistics Agency (HESA) – Where do HE students study?

(<https://www.hesa.ac.uk/data-and-analysis/students/where-study>; Accessed: 20/12/2019)

<sup>109</sup>Sheffield Olympic Legacy Park (<https://sheffieldolympiclegacypark.co.uk/>)

<sup>110</sup>CRESR (<https://www4.shu.ac.uk/research/cresr/>)

<sup>111</sup>CRESR – The State of the Coalfields 2019 (<https://www4.shu.ac.uk/research/cresr/sites/shu.ac.uk/files/state-of-the-coalfields-2019.pdf>; Accessed: 19/12/2019)

<sup>112</sup>MERI (<https://www.shu.ac.uk/research/specialisms/materials-and-engineering-research-institute>)

<sup>113</sup>UKAEA (<https://www.gov.uk/government/organisations/uk-atomic-energy-authority>)

<sup>114</sup>BEIS – UK to take a big 'STEP' to fusion electricity (03 Oct 2019) (<https://www.gov.uk/government/news/uk-to-take-a-big-step-to-fusion-electricity>; Accessed: 20/12/2019)

## KEY CHALLENGES

1. Far fewer people are employed in the low carbon sector in South Yorkshire than other parts of the North of England.
2. Forecasts suggest South Yorkshire will capture only a minimal amount of potential economic growth and new jobs in the low carbon and renewable energy sector.
3. Current infrastructure is under-utilised and deployment of technologies to improve resilience is slow.
4. Reducing the energy demand of South Yorkshire's industry will require significant investment from central government.
5. South Yorkshire generates less than 20% of the electricity that it consumes.
6. Two-thirds of dwellings in South Yorkshire have an Energy Performance Certificate rating below band C with over one-quarter being in the lowest bands (E, F or G).
7. There are more than 1,200 excess winter deaths each year in South Yorkshire and 10.6% of households are in fuel poverty.
8. South Yorkshire has significantly fewer community energy schemes compared to other regions.
9. Poor air quality blights parts of South Yorkshire with 28 designated Air Quality Management Areas (AQMAs).
10. Road transport is the single largest contributor to CO<sub>2</sub> emissions in South Yorkshire.

# Objectives of the Energy Strategy

## Introduction

Beyond the adoption of this SCR Energy Strategy a range of projects will be developed, started, or accelerated depending upon their current position within the pipeline. Complementary projects will form programmes of work which will ultimately seek to meet the overall goals and targets of this Strategy. Some of these projects/programmes will be led by SCR; some the SCR will contribute to; and others which SCR will seek to influence. Delivery will therefore rely on a whole host of public and private organisations and individuals.

This section of the Strategy gives more information about the policies that we believe – based on analysis of the evidence provided earlier in this document and refined based on stakeholder input – will address the goals and key challenges. The key strategic interventions that are currently known to the SCR, and how they will be brought forward within the national and sub-national context, will also be detailed below.

### The Goals to be met by the Policies are:

- 1 Drive clean growth and decarbonisation in our local businesses and industry whilst maintaining their competitiveness.
- 2 Promote investment and innovation in low carbon energy generation, distribution and storage technologies.
- 3 Improve the energy efficiency and sustainability of our built environment, and encourage communities to be part of the transition.
- 4 Accelerate the transition to ultra-low emission vehicles (ULEVs) and transport systems through modal shift and supporting infrastructure.

## Local Interventions

Our local interventions need to build on those being developed nationally. Globally, there is an increasing focus on energy being generated locally in a decentralised way rather than being reliant on large-scale electricity generation. This provides a number of opportunities within South Yorkshire for the development of schemes which generate renewable electricity.

For heat, the national focus is in three areas: electrification, hydrogen, and heat networks. Since South Yorkshire has a history of developing and running an efficient heat network this is an obvious area for expansion. However, it would be foolish to place all eggs in one basket. Fourth and fifth generation heat networks make use of low temperatures which then allows for the incorporation of electrically driven heat pumps, either at the source and/or user-end.

South Yorkshire also has a head-start with world-leading expertise in hydrogen generation via electrolysis. Hydrogen provides two key contributions: generating hydrogen for both heat and transport fuel, and it can be used as a storage medium to help balance the national electricity network by generating hydrogen when there is a surplus of renewable electricity being generated rather than paying generators to not produce electricity.

There will likely be a spatial element to any local interventions owing to the natural resources and current assets that already exist within South Yorkshire. For example, the wind resource is far more plentiful in some areas than others making the case for onshore wind – which is already the cheapest form of electricity generation available in the UK<sup>115</sup> – much more viable and cost-effective.

The SCR take a principled approach to any direct investment and would aim to prioritise those opportunities where it is possible to recover the investment to re-invest in further decarbonisation schemes or energy related infrastructure.

The remainder of this section provides an indication of some of the local interventions that could be implemented by SCR or public or private partners. Each of the interventions are guided by our policies and support the commitments set out in the Strategic Economic Plan and those made in the Mayoral manifesto.

<sup>115</sup>BEIS – Electricity generation cost report (Annexes 1-3) (2019) ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/803605/Generation\\_Costs\\_Report\\_2016\\_Annexes.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/803605/Generation_Costs_Report_2016_Annexes.xlsx); Accessed 03/12/2019)

## A – ENCOURAGE CLEAN AND EFFICIENT GROWTH IN OUR LOCAL BUSINESSES AND INCREASE THE NUMBER OF JOBS IN THE LOW CARBON ENERGY SECTOR.

### To achieve this, we will:

- Provide support to businesses to help them: reduce the costs involved in initial connection to the gas and electricity network, and invest in energy efficiency measures and low carbon heat and power.
- Support SMEs to become aware of, and apply for, low carbon innovation funding provided from the UK Government and elsewhere.
- Establish South Yorkshire as an innovation incubator where energy innovations can be taken from concept, to prototype, to trial, through to full-scale production.
- Aim to create regular networking and CPD opportunities for energy professionals within our SMEs to allow skills and knowledge transfer, and further learning.

## B – INVEST IN THE TRAINING AND UPSKILLING OF THOSE WHO WILL BE DESIGNING, INSTALLING AND MAINTAINING OUR FUTURE ENERGY SYSTEMS.

### To achieve this, we will:

- Assist businesses and young people to develop the skills they need to take advantage of opportunities in the energy sector.
- Encourage those working in sectors with similar skill sets to re-train and/or gain additional qualifications such that they can also operate in the low carbon sector. This could be achieved by working with national organisations like CIBSE, and subject specialist organisations to tailor qualifications to the skills required in South Yorkshire.
- Work with the Department for Education and technical to develop an apprenticeship scheme for those who are looking to work within specific areas of the low carbon energy sector where we expect high growth e.g. hydrogen, heat networks, heat pumps, and electrical engineering.

## C – PROMOTE INDUSTRIAL DECARBONISATION AND CLUSTER SCHEMES TO DELIVER ENERGY AND COST SAVINGS, AND DRIVE INNOVATION IN KEY GROWTH AREAS.

### To achieve this, we will:

- Support industry to take advantage of central government funds including the Industrial Energy Transformation Fund and the Clean Steel Fund.
- Work with colleagues in the Humber region to assist with their development of the 'Zero Carbon Humber' net-zero industrial cluster and linking businesses in South Yorkshire to the arising opportunities.
- Work with organisations to implement cluster schemes within hubs of local economic activity which deliver collective energy and financial savings, and drive innovation in key growth areas.
- Seek opportunities where partnerships can be created between developers of energy efficient technologies and industrial companies willing to test innovative technologies on-site.
- Build linkages and efficiencies in the supply chain feeding the low carbon sector.

## D – UTILISE AND/OR REPURPOSE OUR CURRENT INFRASTRUCTURE AND NATURAL RESOURCES TO DECARBONISE THE ENERGY SUPPLY.

### To achieve this, we will:

- Partner with the Coal Authority to understand the sub-surface conditions of former mining areas and prioritise those that have the best potential for minewater energy schemes.
- Work with Local Energy Hubs to establish the regulatory requirements to bring minewater energy schemes to fruition.
- Plan the heat network required to distribute the low cost, low carbon minewater energy to those buildings in close proximity.
- Work with residents and business owners to build an understanding of the pros/cons of a minewater energy scheme.
- Bring forward other opportunities that have an energy resilience, decarbonisation, and economic benefit.

## E – IMPROVE OUR ENERGY RESILIENCE THROUGH THE ADDITION OF LOCAL LOW CARBON GENERATION AND STORAGE, AND THE INCREASED USE OF SMART GRIDS.

### To achieve this, we will:

- Investigate energy storage opportunities within South Yorkshire, including for energy intensive industries, to increase efficiency and help to balance the load on the local electricity/gas distribution network.
- Consider 'meanwhile uses' of public land and buildings to generate further power from renewable sources for South Yorkshire.
- Seek to develop and deploy a zero-carbon smart microgrid within South Yorkshire; this could include working with Northern Powergrid as part of their Smart Grid Enablers project.
- Consider further opportunities for onshore wind as part of South Yorkshire's renewable energy mix; subject to local planning, environmental constraints, and community engagement.
- Develop a number of technical and financial mechanisms to significantly increase the deployment of low carbon generation.
- Locate areas in which hydrogen electrolysers could be deployed to offer storage and grid balancing, particularly where there are additional benefits (e.g. refilling station, injection into the gas network, industrial use, etc.).



## F – DRIVE INVESTMENT IN HEAT DECARBONISATION INCLUDING HEAT NETWORKS, THE ELECTRIFICATION OF HEAT AND HYDROGEN FOR HEAT.

### To achieve this, we will:

- Support the expansion of existing, and development of new, heat networks throughout South Yorkshire particularly low temperature (fourth and fifth generation) heat networks.
- Work with organisations and industries who expel waste heat to connect into a heat network and a mechanism for payment for the waste heat.
- Consider improvements to heat networks including increased monitoring, thermal storage, and the physical connection of heat networks into a heat grid.
- Work with gas network operators to understand the potential for mixing hydrogen into the fossil gas supply, and whether this could be a phased roll-out across South Yorkshire.
- Plan the roll-out of heat pumps – particularly in areas not connected to the gas network.

## G – SUPPORT AND INVEST IN WIDESPREAD ENERGY EFFICIENCY IMPROVEMENTS TO EXISTING DWELLINGS ACROSS SOUTH YORKSHIRE.

### To achieve this, we will:

- Identify 'priority' dwellings/households i.e. those with biggest need for improvement (e.g. solid walls, fuel poor, elderly, deprived areas, etc.).
- Use devolution funds to create a 'Mayor's Community Energy Fund' to help priority households with capital costs of installing low carbon heating/cooling and energy efficiency measures using circular economy principles.
- Work with partners to develop innovative ways to quickly assess the required improvements to dwellings and their rapid deployment.
- Develop financial mechanisms to hasten the deployment of energy efficiency measures and microgeneration of renewable energy in existing dwellings.

## H – ENSURE THAT NEW HOUSING WITHIN SOUTH YORKSHIRE IS OF A HIGH QUALITY IN TERMS OF ENERGY USE AND EFFICIENCY.

### To achieve this, we will:

- Work with developers and Local Planning Authorities to strongly encourage the adoption of higher energy efficiency standards, beyond those of Part L of the UK Building Regulations, towards the levels required for the Passivhaus standard.
- Focusing the SCR Housing Fund to supporting housing developments with high energy efficiency standards and/or low carbon heating systems.
- Seek to create an off-site, modular construction supply chain within the South Yorkshire which focusses on creating quality, low-carbon housing at scale.

## I – ENABLE COMMUNITIES TO DEVELOP LOCAL ENERGY SCHEMES AND PROVIDE OPPORTUNITIES FOR RESIDENTS OF SOUTH YORKSHIRE TO INVEST IN ENERGY INFRASTRUCTURE.

### To achieve this, we will:

- Encourage and support community energy schemes in which residents can invest and benefit with low risk. Schemes could include (but are not limited to) solar farms, onshore wind farms, hydro power, low carbon heat, or electric vehicle infrastructure.
- Work closely with Community Energy England to identify opportunities for community energy schemes within South Yorkshire.
- Ensuring that the profits from community energy schemes are reinvested locally to broaden the impact of chosen interventions and create a circular economy/investment fund.

## J – ENABLE A MODAL SHIFT AWAY FROM INDIVIDUAL CAR USE TO PUBLIC TRANSPORT, CYCLING AND WALKING.

### To achieve this, we will:

- Work towards delivering the pledges laid out by the Mayor and Active Travel Commissioner, and the shared priorities set out in the SCR Transport Strategy.
- Provide sustained investment in high-quality cycling and walking infrastructure.
- Develop a plan for, and roll-out, Low Traffic Neighbourhoods across South Yorkshire.

## K – DELIVER A LOW CARBON TRANSPORT NETWORK INCLUDING A ZERO CARBON PUBLIC TRANSPORT NETWORK.

### To achieve this, we will:

- Deliver a zero-carbon public transport network, which requires upgrading the bus and taxi fleets, and other public vehicles, and supporting decarbonisation programmes for our railways.
- Consider the expansion of the ECO Stars Fleet Recognition Scheme to encourage HGV, bus, coach and taxi operators to improve efficiency, reduce fuel consumption and cut their emissions.
- Support pan-Northern schemes to electrify railways and extend EV charging infrastructure along pan-Northern routes.

## L – ACCELERATE THE DEPLOYMENT OF ULTRA-LOW EMISSION VEHICLES, AUTONOMOUS VEHICLES AND RELATED INFRASTRUCTURE.

### To achieve this, we will:

- Invest in expanding the network of EV charging points and hydrogen refuelling stations across South Yorkshire in a strategic way to ensure full coverage.
- Encourage private vehicles using our roads to be ULEVs, and to be used primarily for trips that cannot be made by alternatives, such as public transport, walking and cycling.
- Work with partners to introduce and enforce clean air zones; supporting them in delivering cuts in emissions through encouraging sustainable modes of transport and reducing the need to travel.
- Encourage freight to shift from road to rail or canal boat; and where this is not possible, encourage those road vehicles to be electric, hydrogen, or using a first/last mile service to reduce the number of delivery vehicles in urban centres.
- Work with Highways England to create the UK's first zero carbon service station on the strategic road network.

# Delivery of the Strategy

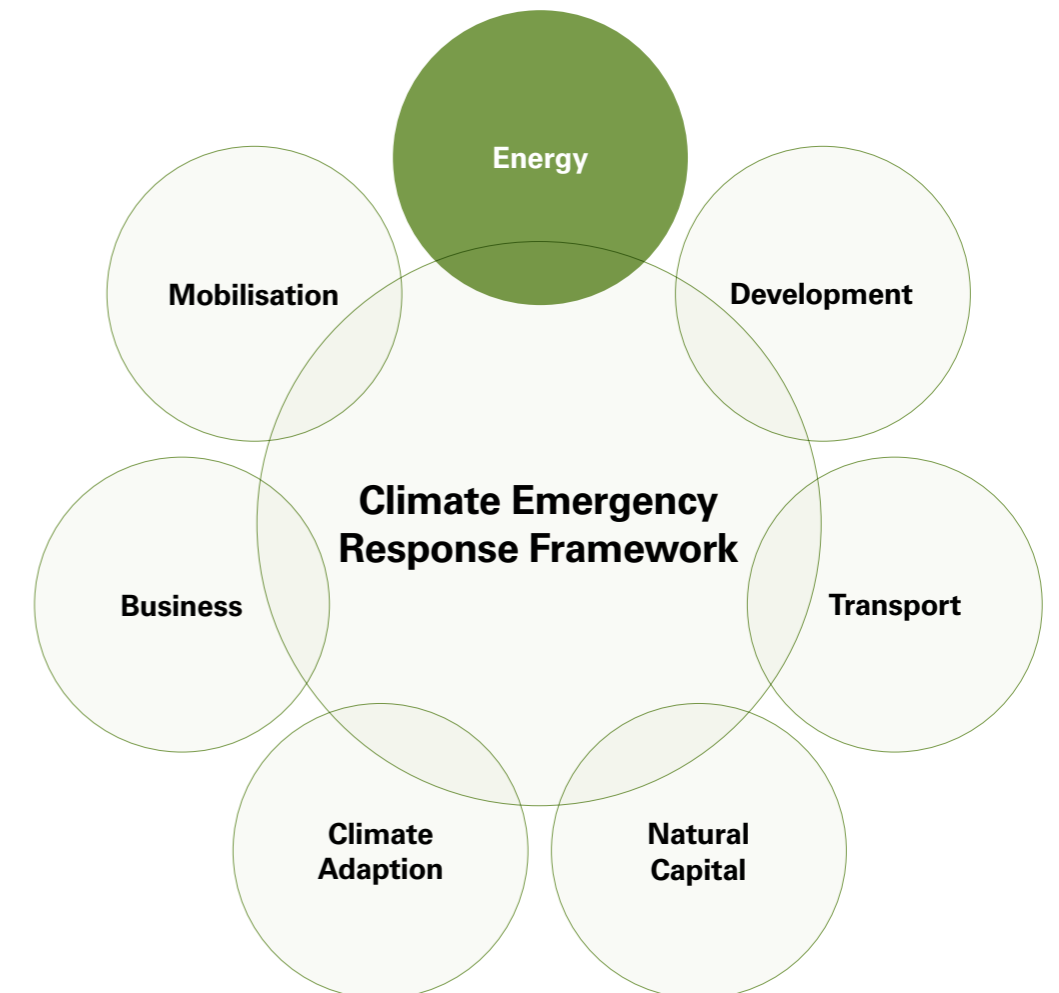


## Introduction

Implementing this Energy Strategy will require joint working between the Sheffield City Region (SCR) Mayoral Combined Authority (MCA), Local Enterprise Partnership (LEP), local authorities, central Government, private organisations, charitable/community bodies, and individual residents of South Yorkshire. Some of the schemes that are implemented following publication of this strategy will be brought forward directly from private organisations who are looking to optimise their working procedures and become more efficient.

Yet, there will be schemes that will need some funding or directional support by the public sector including the SCR LEP and MCA where relevant – subject to agreement and the appropriate due diligence.

This Energy Strategy forms part of the Mayor's Climate Emergency Response Framework. The Framework is depicted below as a radial Venn diagram:



### Developing Future Work Programmes

To ensure that the goals, policies and targets of this ambitious Energy Strategy are achieved, an Evaluation Framework has been created by the Carbon Trust to ensure that ongoing and future projects around South Yorkshire are aligned with SCR strategic priorities. Any project requiring the input of the SCR will be initially assessed using this Evaluation Framework (Figure 17) to inform consideration onto any SCR project pipeline through the appropriate SCR governance arrangements and due diligence processes.

We will therefore use this Evaluation Framework as a 'first filter' to developing a project pipeline/programme within South Yorkshire, in liaison with partners, scheme sponsors and stakeholders. By its very nature, the scheme pipeline will be a fluid and will adapt as the low carbon energy market grows and shifts, and as technological changes take place. It will allow new projects and innovations to be considered in the context of our low carbon principles.

<b>Strategic Fit</b>	The extent to which the project aligns to strategic priorities identified within the Sheffield City Region ESDP, SEP and emerging Local Industry Strategy.
<b>Deliverability</b>	The ability to demonstrate that the project is deliverable, including the complexity, risks, planning permissions and constants and adequacy of funding package.
<b>Economic Outcomes</b>	The economic impact, including the value and number of jobs created, the ability to drive economic growth and raise productivity, and the delivery of skills outcomes.
<b>Environmental Benefits</b>	The ability of the project to deliver environmental benefits, including in GHG emissions reduction, climate change mitigation air quality improvement.
<b>Value for Money</b>	The ability of the project to provide a competitive levelised cost of energy (LCOE), payback period and cost per tonne of carbon mitigated.

Figure 17 – Evaluation Framework for potential energy schemes

Page 63

### Climate Targets

In 2019, the SCR commissioned Ricardo Energy & Environment to undertake analysis which would result in a science-based carbon budget being developed for South Yorkshire and the specific actions that would be required to stay within that budget. There were three phases to the commission: a top-down analysis, a bottom-up analysis, and an economic analysis.

The top-down analysis gives an understanding of what South Yorkshire's 'fair share' of the 2015 Paris Agreement target but not the achievability of that target. The bottom-up analysis has assessed deliverability to give confidence that the target, whilst stretching and ambitious and reflecting the nature of the climate emergency, is also achievable. The economic analysis has then assessed the impact on jobs, GVA and productivity of the possible pathways to decarbonisation.

### South Yorkshire's Carbon Budget

The analysis by Ricardo Energy & Environment concludes that the overarching carbon budget for South Yorkshire between 2020 and 2100 is 44.7 MtCO<sub>2</sub>. At 2017-rates, this would be emitted in under seven years. To make progress towards remaining within that budget, annual emissions reductions of 13.2% is required across the whole of South Yorkshire.

In line with the UK-level targets, only Scope 1 and Scope 2 emissions are included within this budget. These include agriculture, fuel combustion for heating, waste, industrial processes, transport and generated electricity. However, Scope 3 emissions are excluded meaning emissions from aviation and shipping do not form part of this budget.

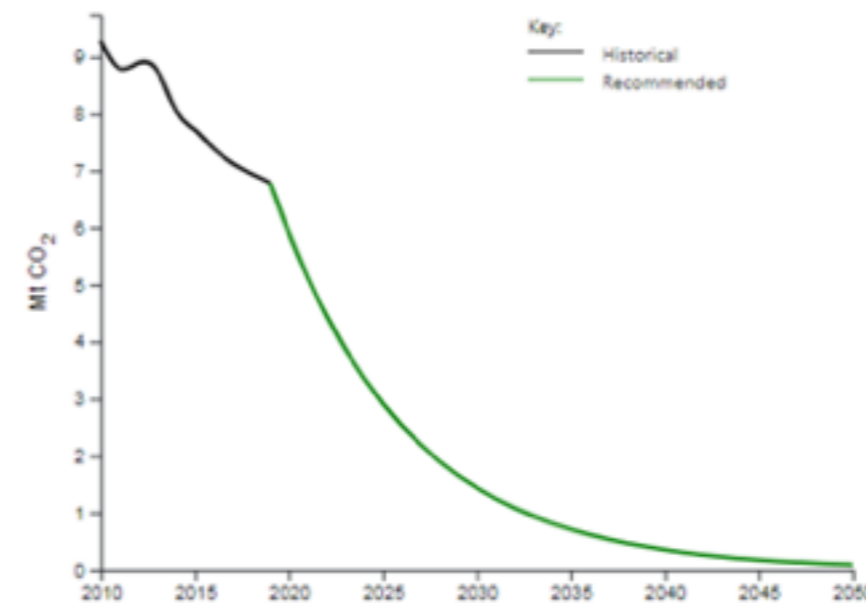


Figure 19 shows that South Yorkshire should reach zero or near zero carbon no later than 2042 (5% of carbon budget remains).

## Policy Targets

The policy targets set out in this section are indicative of the level of effort required to get South Yorkshire to net-zero carbon by 2040.

At this stage the targets have not been assessed for deliverability (e.g. is enough land available to create the number of solar/wind farms required) but give an understanding about the level of effort required in each area and the likely investment required from central government and across the economy.

The targets are provided using the SCATTER tool produced by Anthesis (UK). SCATTER gives differing levels of 'ambition' for a range of levers covering the transport sector, domestic sector, commercial and industrial sector, and waste. If these levers are set to maximum ambition across the board then this will deliver net-zero in South Yorkshire just after 2040. In addition to SCATTER, the Committee on Climate Change analysis for the 'Net Zero report'<sup>116</sup> was used and scaled down to the South Yorkshire level. Further to this, Ricardo used professional expertise and judgement to ensure that the scenarios were grounded e.g. if the target was too challenging or more could be achieved the target was adjusted accordingly.

Area	Target <sup>117</sup>
Solar PV	3.5GW of capacity added
Solar thermal	70% of homes
Onshore wind	1.55GW of capacity added
Draught-proofing	512,000 homes
Triple glazing	481,000 homes
Floor insulation	512,000 homes
Cavity wall insulation	65,000 homes
Solid wall insulation	119,000 homes
Electric cooking	305,000 homes & 100% commercial cooking
Heat pumps	570,000 homes & 80-90% of commercial buildings
Other renewable heating inc. hydrogen/biogas	101,000 homes & 10-20% of commercial buildings
Lighting and appliances	90% of commercial lights LEDs
Road modal shift	25% reduction in car miles
Road transport demand	30% reduction in road freight miles
EV or hydrogen fuel cell vehicles	100% by 2035

Table 4 – Indicative targets to achieve net-zero carbon in South Yorkshire by 2040

<sup>116</sup>CCC – Net Zero: The UK's Contribution to Stopping Global Warming (<https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf>), May 2019

<sup>117</sup>Targets assume that the number of households increase to 671,000 in 2040.

In this document, only the scenario that would allow South Yorkshire to reach net-zero carbon by 2040 is given.

In addition to these, there are some wider targets including:

- 1,500 jobs created in the low carbon and renewable energy sector by 2040.
- Provide 2,000 people with training for the low carbon and renewable energy sector.
- Establish five low carbon clusters in South Yorkshire by 2040.
- At least five minewater energy schemes operational by 2040.
- No fossil fuel heating in new homes from 2025.
- All new homes to be built close to Passivhaus standard from 2030.
- Double the number of community energy organisations in South Yorkshire by 2040.
- 100kW per year of community energy by 2030.

## Estimated Investment, GVA Growth and Jobs

The estimated total investment required between 2020 and 2040 to meet the targets above is £28.8bn – an average of £1.7bn per year. This estimation has not taken into account any of the savings that would be accrued over the period including those that could be reinvested, nor that some of this would be spent regardless (i.e. not all of the investment is additional).

Taking into account the direct and indirect effects of a £1.7bn per year investment in South Yorkshire, this could result in a £2.8bn increase in GVA and provide over 25,000 jobs across the national economy.

**Sheffield City Region  
Mayoral Combined Authority**

11 Broad Street West, Sheffield,  
United Kingdom  
S1 2BQ  
+44 (0)114 220 3400  
[enquiries@sheffieldcityregion.org.uk](mailto:enquiries@sheffieldcityregion.org.uk)  
[sheffieldcityregion.org.uk](http://sheffieldcityregion.org.uk)

Publication Date: **March 2020**

**Sheffield  
City Region**

---

This page is intentionally left blank

21<sup>st</sup> May 2020

**LGF Update (Year end 2019/20 and 2020/21 Programme Position)**

**Purpose of Report**

This paper is to inform LEP Board members of the LGF Year end 2019/20 position and sets out the 2020/21 LGF programme activity, noting this is the final year of the current six-year LGF programme

**Thematic Priority**

Cross cutting - financial

**Freedom of Information and Schedule 12A of the Local Government Act 1972**

This paper will be made available under the MCA publication scheme.

**Recommendations**

Members are asked to

1. Note the 2019/2020 Year End position and,
2. Note the predicted 2020/21 LGF programme activity.

**1. Introduction**

- 1.1 LGF is a 6 year, £360m funding programme secured through three rounds of Local Growth Fund bids. 2020/21 is the final year of funding. This paper is to inform members of the 2019/20 final position and sets out the predicted 2020/21 programme activity.
- 1.2 The notional allocation of LGF Grant for the 1920/21 year we are expecting to receive from government is £43,238,940.

**2. Proposal and justification**

**2.1 LGF Final Position 2019/20**

The total LGF spend target for 2019/2020 was set at £35.6m. Close working with delivery partners towards the end of the 2019/20 financial year enabled the region to meet and slightly exceed the annual target. The end spend position was £36.12m. Some projects highlighted during 2019/2020 that they may not be able to spend their full year LGF project allocation and proposed slippage into 2020/21. This enabled SCR Executive to ensure there was enough other LGF activity to meet the 2019/20 annual target

## **2.2 LGF programme position 2020/21**

The Local Growth Fund Programme is now in its sixth and final year. Some investment made in the early years of the programme have now repaid loan funding back to the programme which has increased the total value of available programme funding to £377.6m.

The programme position to date is:

- £123.1m of projects have now completed
- £186.5m of projects are currently in delivery
- £11.2m has been approved for projects which are in the process of satisfying contract conditions

This totals £320.8m

The LGF total of £377.6m includes a ringfenced amount of £40.1m for a major transport project which is retained for separate approval by the DfT. Taking this and the £320.7m commitment this gives a total of £360.9m

## **2.3 The level of funding remaining available for LGF projects across all thematic areas (the programme headroom) is now £16.7m**

Board Members are asked to note a further £13.7m, subject to appraisal, will be put forward for approval at a future MCA. If approved, this would give a total spend or committed position of £374.6m thus reducing the available headroom to £3m.

A list of projects with spend in 2020/21 is attached at Appendix 1.

## **3. Consideration of alternative approaches**

### **3.1 Do Nothing – this is not an option and the MCA, on behalf of the LEP Board, is obliged to accept the final year grant money to manage its contractual obligations.**

## **4. Implications**

### **4.1 Financial**

This paper set out the indicative LGF budget for 2020/21. The total expenditure of the LGF programme will continue to be managed so that it will not exceed the financial resources available.

All funding needs to be fully spent (defrayed) by 31<sup>st</sup> March 2021.

### **4.2 Legal**

Prior to accepting the grants, the SCR will ensure that the conditions are acceptable, and will subsequently put in place arrangements to comply with the grant conditions. The legal implications of acceptance of grant will be fully considered by a representative of the Monitoring Officer.

### **4.3 Risk Management**

High risk schemes will continue to be monitored and reported back to the LEP and MCA.

A report detailing delays due to COVID-19 has been prepared and issues are being highlighted to MHCLG and an extension to the LGF programme has been requested. However, at the present time no extension has been granted.

### **4.4 Equality, Diversity and Social Inclusion**

None as a direct result of this paper.

## **5. Communications**

### **5.1 The current position reported in this paper has been communicated to Local Authority Chief Executives and Directors of finance prior to publication.**



## 6. Appendices/Annexes

### 6.1 Appendix 1 – LGF Project List with 2020/21 spend

Report Author	<b>Sue Sykes</b>
Post	<b>AD – Programme and Performance Unit</b>
Officer responsible	Ruth Adams
Organisation	SCR Executive
Email	Ruth.adams@sheffieldcityregion.org.uk
Telephone	0114 220 3442

Background papers used in the preparation of this report are available for inspection at: 11 Broad Street West, Sheffield S1 2BQ

This page is intentionally left blank

<b>Project</b>	<b>LA Area</b>	<b>20/21</b>
Upper Don Valley Flood Alleviation Scheme	SCC	£2,299,948
A630 Westmoor Link Dualing	DBC	£2,231,909
DN7 Unity - Hatfield Link Road	DBC	£751,800
M1 Junction 36 – A6195 Dearne Valley Economic Growth Corridor (Phase 1 Hoyland)	BMBC	£6,046,325
M1 Junction 36 – A6195 Dearne Valley Economic Growth Corridor (Phase 2 Goldthorpe)	BMBC	£5,064,181
M1 Junction 37 Ph2 –Economic Growth Corridor (Claycliffe)	BMBC	£10,178,154
Strategic Testing Tools	SCR	£190,186
DMC2 Digital Media Centre	BMBC	£106,596
Digital Engineering Skills Development Network	SCC	£3,092,425
Doncaster UTC Ltd	DBC	£50,000
Barnsley College Digital Innovation Hub	BMBC	£1,870,633
BIF	SCR	£5,619,849
Corporate	SCR	£1,165,487
Curvalux	RMBC	£8,000,000
Skyline	SCC	£619,000
<b>Pipeline Project</b>	<b>LA Area</b>	<b>20/21</b>
Greasbrough Road Junctions	RMBC	£2,400,000
Forge Island Phase 2	RMBC	£1,300,000
BIF	SCR	£10,000,000

This page is intentionally left blank

21<sup>st</sup> May 2020

**Annual Performance Review**

**Purpose of Report**

This report presents the outcome of the 2019 / 2020 LEP Annual Performance Review.

**Thematic Priority**

Cross cutting.

**Freedom of Information and Schedule 12A of the Local Government Act 1972**

The paper will be available under the Mayoral Combined Authority Publication Scheme.

**Recommendations**

LEP Board members are asked to note the outcome of the Annual Performance Review, to consider any subsequent improvement planning and how the Board can contribute to this.

**1. Introduction**

**1.1** As set out in the 2019/20 Annual Performance Review Guidance the review is the formal way by which the Government and each LEP come together to:

- discuss the contribution the LEP has made towards driving forward local economic growth
- to review LEP governance and assurance processes and compliance with the National Assurance Framework
- to look at progress on delivery of key local growth programmes; and
- to discuss the LEP's strategic impact, priorities and challenges for the year ahead

Critically, the Annual Performance Review also acts as a key milestone in the process of confirming LGF payments for the following financial year.

**1.2** The review required the submission of a number of preparatory documents as well as compliance "spot checks" and concluded with a formal meeting with the Cities and Local Growth Unit, LEP Chair, Chief Executive and Finance Director plus other key SCR Executive Team members at the end of January.

**1.3** As in previous years, the review focussed on three themes: governance, delivery and strategic impact.

For the themes of delivery and governance one of four markings was available: inadequate; requires improvement; good; or exceptional. This year, the theme of strategic impact has been assessed as either "requirements met" or "requirements not met".

## **2. Proposal and justification**

### **2.1 Review findings**

Following the conclusion of the Annual Performance Review it has been confirmed that the Sheffield City Region LEP has attained 'good' for the themes of delivery and governance and 'requirements met' for strategic impact.

### **2.2 Next Steps**

Noting that the indicators for 'exceptional' include, for delivery, all output targets being exceeded and, for governance, the achievement of a 50/50 gender split on the Board, an improvement plan for 2020/21 is being developed. The plan will be broader than indicators identified in Annual Performance Review Guidance and will support the key activities for 2020/21 outlined in the LEP Delivery Plan.

Members are asked to suggest any particular areas of focus for the improvement plan and consider how the LEP Board can feed into the development of the plan.

## **3. Consideration of alternative approaches**

**3.1** Compliance with Government guidance is mandatory. However, the arrangements in place are proportionate and reflective of the context of the SCR LEP.

## **4. Implications**

### **4.1 Financial**

Non-compliance with Government's best practice guidance and a poor audit opinion could result in funds being withheld by Government. The findings of the Annual Performance Review demonstrate that SCR's arrangements meet Government requirements, therefore funding will not be affected.

### **4.2 Legal**

As a public private partnership, responsible for the economic growth of the City Region, the LEP has a responsibility to have robust, but proportionate, governance arrangements in place - especially in relation to, funding streams, such as its Growth Deal, that it is responsible for. The findings of the Annual Performance Review provide assurance that current arrangements are fit for purpose.

### **4.3 Risk Management**

Robust governance arrangements form an important risk management mechanism for the public funds the LEP is responsible for. No concerns have been raised through the review relating to LEP's approach to risk management.

### **4.4 Equality, Diversity and Social Inclusion**

Current Board composition meets the required 33% female membership. The LEP Diversity Policy sets out a commitment to achieving a private sector 50/50 split by 2023. This will be addressed through future recruitment processes.

## **5. Communications**

**5.1** None.

## 6. Appendices/Annexes

6.1 None.

<b>REPORT AUTHOR</b>	Claire James
<b>POST</b>	Senior Governance and Compliance Manager
Officer responsible	<b>Ruth Adams</b>
Organisation	<b>SCR Executive</b>
Email	<b>Ruth.adams@sheffieldcityregion.org.uk</b>
Telephone	<b>0114 220 3442</b>

Background papers used in the preparation of this report are available for inspection at: 11 Broad Street West, Sheffield S1 2BQ

Other sources and references: None

This page is intentionally left blank



21<sup>st</sup> May 2020

**LEP Annual Report 2019-20 and Delivery Plan 2020-21**

**Purpose of Report**

A requirement of the LEP Review 2018, is that all LEPs are required to publish an end of year report to outline the activities, outputs and achievements that have been delivered in the preceding financial year, and an annual delivery plan of activities for the coming year. This paper presents, for approval, the LEP Annual Report (2019-20) and Delivery Plan (2020-21).

**Thematic Priority**

Cross-cutting across all six thematic priorities.

**Freedom of Information and Schedule 12A of the Local Government Act 1972**

Under the Freedom of Information Act this paper and any appendices will be made available under the Combined Authority Publication Scheme.

**Recommendations**

LEP Board members are asked to:

- Endorse the content of the LEP Annual Report (2019-20) and Delivery Plan (2020-21) and provide feedback where required;
- Delegate final approval of the final document to the Chief Executive, in consultation with the Chair, to comply with the requirement to publish by the 31<sup>st</sup> May 2020.

**1. Introduction**

**1.1** On 24 July 2018, the Government published the '*Strengthened Local Enterprise Partnerships*' report which outlined the conclusions and recommendations from the LEP Review.

**1.2** To improve the accountability of LEPs and to strengthen the monitoring and reporting of LEP performance, the Government require all LEPs to produce and publish an annual LEP delivery plan and an end of year report from May 2019. This paper presents the LEP Annual Report for 2019-20 and LEP Delivery Plan for 2020-21 combined into a single publication at Appendix A.

**2. Proposal and justification**

**2.1** The LEP Annual Report 2019-20 and Delivery Plan 2020-21 provides a review of activities undertaken by the LEP during the previous financial year including progress made towards the Strategic Economic Plan (SEP) targets and notable achievements. It also summarises

the LEP's plans and key projects that will be delivered in the current financial year; the last year of the six-year LGF programme.

## 2.2 Achievements and Successes from 2019-20

Notable achievements and successes that are highlighted in the report include:

- The new initiatives that have been launched by the SCR Growth Hub (eg. Talent Bank, the Scale-Up initiative, Brexit Planning Tool and Access to Growth +, which have assisted in the SCR Growth Hub being ranked in the top three of Growth Hubs nationally.
- The successful trade mission to India to showcase the City Region's strengths in advanced manufacturing.
- The launch of the Locate in SCR online tool to provide a wealth of information to potential investors on our sites, potential workforce and opportunities to aid their decision-making.
- Skills Bank 2 signing-up over 100 businesses and 1,000 individual learners and employees within nine months of its launch.
- The engagement of over 250 business leaders and partner organisations from the public, private and voluntary sectors on the development of the revised Strategic Economic Plan.
- The launch of the new Thematic Boards which are co-chaired by a LEP Board member and local authority Leader.
- Achieving 100% of planned spend on the LGF programme.

## 2.3 Key Activities for 2020/21

The report includes a table of the outputs that LEP funded projects will deliver in the 2020/21 financial year. Other key activities that are highlighted for delivery this year include:

- Full engagement with the SCR Mayor on the development and production of the Economic Recovery Plan as a result of the COVID-19 pandemic.
- Public consultation and publication of the [new Strategic Economic Plan](#).<sup>[RA1]</sup>
- Undertake preliminary work with neighbouring LEP areas and the Greenscies Partnership to investigate innovative and deliverable minewater heat schemes.
- Preparation of the SCR Digital Infrastructure Strategy to provide a framework for the roll-out of full fibre and 5G across South Yorkshire.
- Completion of the SCR Housing Review and implementation of the agreed recommended actions.

2.4 LEP Board members are asked to consider the draft LEP Annual Report and Delivery Plan at Appendix A and advise of any required changes. The finalised document will be submitted to Government and published on the SCR website by 31st May 2020.

## 3. Consideration of alternative approaches

3.1 The documents could have been drafted and published as two separate documents – this has been discounted as there was considerable overlap in the forewords and introduction.

3.2 Doing nothing and not producing the required documentation is not a viable option as it would adversely affect our Annual Performance Review grading.

## 4. Implications

### 4.1 Financial

The professional design of the LEP Annual Report and Delivery Plan will incur £2,450 + VAT.

### 4.2 Legal

There are no legal implications arising from this paper.

#### **4.3 Risk Management**

Should SCR fail to produce these reports / combined report, SCR could be subject to Government intervention. This ranges from regular performance meetings and remedial action plans to risk-based deep dive reviews and ultimately, the withholding of LEP funding.

#### **4.4 Equality, Diversity and Social Inclusion**

The LEP Review stipulated that LEP Boards should ensure that by 31st March 2020, one third of their members were women. SCR LEP met this requirement. The current gender composition of the LEP Board's permanent private sector members is 33.3% female and 66.7% male and 50% of co-opted private sector members are women (combined ratio of 35.7%).

### **5. Communications**

- 5.1** Once approved, the combined LEP Annual Report 2019-20 and Delivery Plan 2020-21 will be published on the SCR website. A mid-year report on progress towards the activities, expenditure and outputs outlined in the Delivery Plan will be presented to the LEP Board in November 2019 and published on the SCR website.

### **6. Appendices/Annexes**

- 6.1** Appendix A: LEP Annual Report 2019-20 and Delivery Plan 2020-2021

Report Author	<b>Lyndsey Whitaker &amp; Anika Huetten</b>
Post	<b>Senior Economic Policy Manager / External Affairs Officer</b>
Officer responsible	Dr Dave Smith
Organisation	Sheffield city Region Executive Team
Email	<a href="mailto:dave.smith@sheffieldcityregion.org.uk">dave.smith@sheffieldcityregion.org.uk</a>
Telephone	0114 220 3421

Background papers used in the preparation of this report are available for inspection at: 11 Broad Street West, Sheffield S1 2BQ

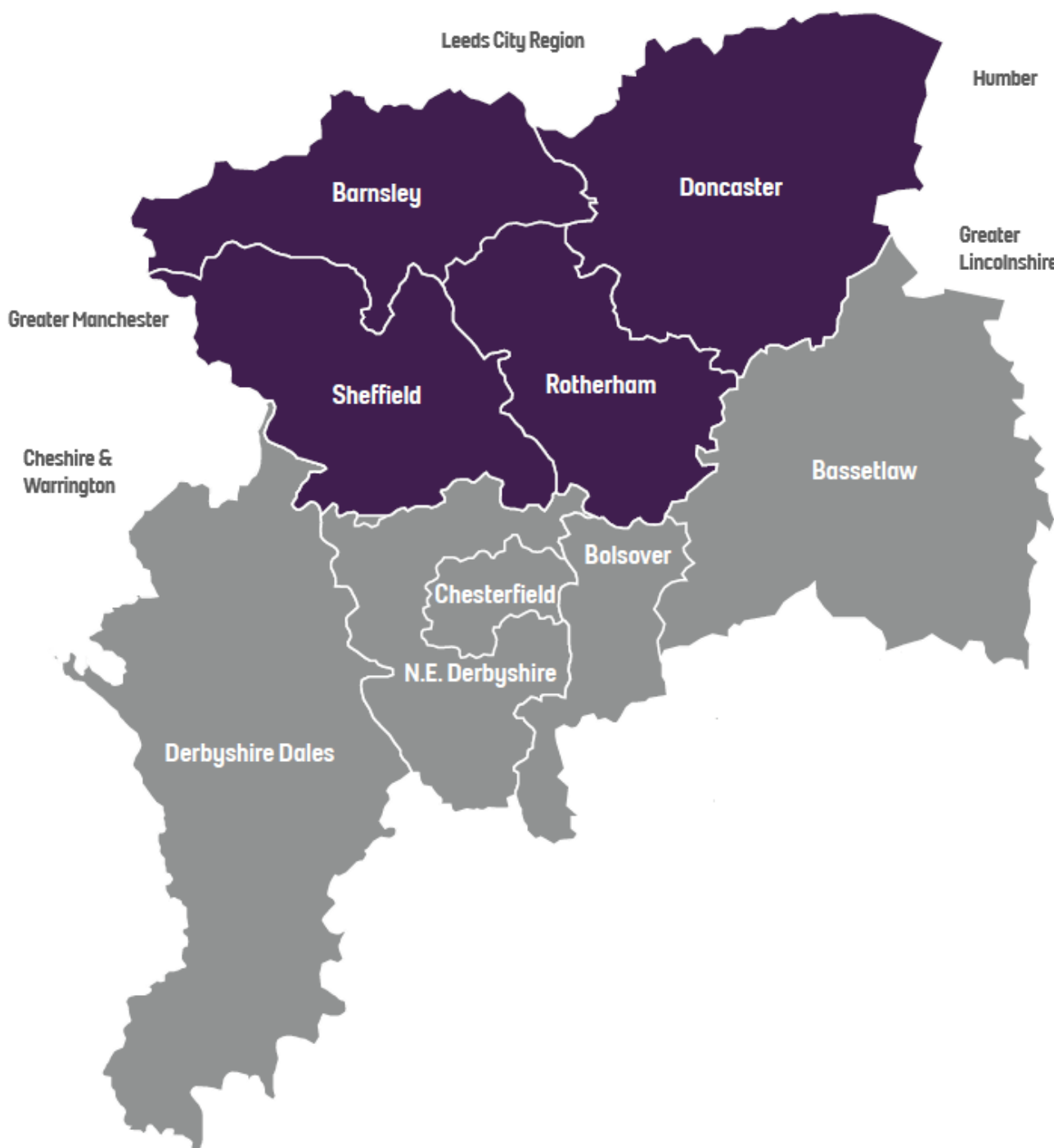
Other sources and references:

This page is intentionally left blank

# Annual Report 2019/20 and Delivery Plan for 2020/21

# Sheffield City Region

LOCAL ENTERPRISE PARTNERSHIP



## Contents

Introduction from the LEP Chair .....	3
Update from the SCR Chief Executive .....	4
Introduction .....	6
The Local Enterprise Partnership Board (LEP) .....	6
Highlights of 2019-20 .....	7
Review of 2019/20 .....	8
Programmes the LEP has delivered .....	8
Progress made towards our ten-year targets .....	8
Development of a new Strategic Economic Plan .....	9
Mayoral Combined Authority Projects .....	9
Made changes to our governance model .....	9
A high performing organisation .....	10
Case Studies .....	11
Supporting small businesses .....	11
Developing the skills of our employees .....	12
Attracting new investors to the region .....	14
Investing in our urban centres .....	14
Growing our visitor economy .....	15
How we spend our money – and our budget plans for the next year .....	17
Our plans for 2020/21 .....	18
The LEP Board .....	26

### Version Control

V1	1 <sup>st</sup> Draft	AH
V3	2 <sup>nd</sup> draft	AG
V4	Further cuts to text	
V5	Put some comments in	RA
V6	Added highlight section & case studies	AH
V7	Amended text	
V8	Inclusion of additional text, outputs and finance information	LW
V9	V8	Final edits

## Introduction from the LEP Chair

James Muir, Sheffield City Region LEP Chair



I am pleased to present the 2019/20 LEP Annual Report and Delivery Plan for 2020/21. This report and plan come at an incredibly challenging time for our businesses and our communities. The COVID-19 pandemic is not only creating the biggest economic crisis in living memory, it will have a lasting effect on our way of life, our attitudes and behaviours.

The LEP will play a central role in supporting the economy during, and in the immediate aftermath of this crisis, but it must also prioritise its plans to ensure that in the recovery phase we build back a stronger and more resilient regional economy.

We can 'build back better' if we collaborate across all stakeholders in the most effective manner possible.

The past year should give us confidence that we can deliver, that we have the right governance, the right team and the right partnership in place to develop and deliver recovery programmes that help businesses get back on their feet, that help people back into work and that helps our places emerge even stronger and more vibrant.

In the last year we met our target of £35.5million investment in the region's economy, we created or safeguarded 5,246 jobs, we supported 1,282 businesses, assisted 1,834 new learners and levered in £140.5 million of private sector investment. These are results that we should be proud of.

With the LEP fully embedded in the work of the Mayoral Combined Authority our governance model is robust and we continue to renew our Board membership with a focus on improving diversity and building a broader mix of expertise and skills.

We will also approach the next year with a clearer focus on the strategy we need to pursue over the long term. The work we have done in the last year on establishing a new Strategic Economic Plan stands us in good stead locally and nationally and helps set the long-term framework for our economic recovery plan.

Despite the challenges we face I look forward to the year ahead. We should be positive, bold and relentless in our focus on delivery.

I look forward to working with the private and public sector to make this happen.

James

## Message from the Mayor

Dan Jarvis, Mayor of the Sheffield City Region



DRAFT



## Update from the SCR Chief Executive

Dr Dave Smith, Sheffield City Region Chief Executive



We have much to be proud of over the last year. This Annual Report and Delivery Plan exemplifies the quality and commitment of the organisation I am proud to lead. Whilst retaining a focus on delivery of a complex capital programme I am delighted that over the last year we have invested heavily in the development of a new Strategic Economic Plan.

Our track record of delivery, the improvements to governance, transparency and accountability and the development of an exciting pipeline of new investment into the region is testament to the work being done by the LEP Board, the Executive Team and all our partners across the region.

There is no doubt that we are ambitious. We are seeking to transform our economy, to connect our businesses and people to economic opportunity, to build a cleaner and greener region, and to run a safe and reliable transport network.

The city region is growing but we know we can achieve a lot more to transform our economy, to provide opportunities and prosperity for our communities and businesses, to build on our strengths as a region in which people want to live, work and invest.

The challenges are formidable and include reversing decades of underinvestment, developing innovative ways of dealing with the outcomes for businesses and people of Brexit and Covid-19, and devolving powers and resources from Government so that decisions can be made by those who best know the city region.

As we look forward to what will be an incredibly challenging year, I am confident that the organisation is ready to step up once again.

Dave

## Introduction

This Annual Report and Delivery Plan looks back on our achievements in the last year and forward to our plans for delivery in 2020/21.

### The Local Enterprise Partnership Board (LEP)

Our business-led partnership brings together the private sector, the four Leaders of the Local Authorities and the Sheffield City Region Mayor to drive economic growth in the region.

The LEP works hand in glove with the Mayoral Combined Authority (MCA).

Five Thematic Boards support our work in delivering the aims and objectives of the Strategic Economic plan. These boards focus on Business Growth, Housing, Infrastructure, Skills and Employment and Transport.

The work of the LEP is supported an SCR Executive Team which advises the LEP, SCR Mayor and MCA on policy, commissioning of projects and programmes, and manages and monitors the delivery of projects.

DRAFT



## Review of 2019/20

### Programmes the LEP has delivered

The Sheffield City Region LEP delivers a range of programmes to support the growth of the local economy. The majority of these programmes are funded through the Local Growth Fund (LGF) – a £363.7 million investment that provides grants and loans to a broad range of projects over the period 2015 to 2021.

In the last year we have delivered the following programmes:

- **Infrastructure Programme** – we commenced work on redeveloping vacant land and property into new commercial premises including the Digital Media Centre in Barnsley, building new link roads such as the DN7 Hatfield Link Road to the M18 and installing a flood alleviation scheme in the Upper Don Valley.
- **Business Investment Fund** - we have helped indigenous and re-locating businesses to plug finance gaps which could not be met through traditional sources.
- **Growth Hub** – we launched several new initiatives to provide advice and practical support to business owners including the Scale-Up initiative, our Brexit Planning Tool, Access to Growth + and Talent Bank. We are proud that our efforts resulted in the SCR Growth Hub being ranked in the top three Growth Hubs nationally and secured a prestigious pilot innovation programme with the Massachusetts Institute of Technology (MIT).
- **Trade and Investment** – we launched the ‘Locate in SCR’ online tool to provide a wealth of information to potential investors on our sites, potential workforce and opportunities to aid their decision-making. We have worked intensively with 30 foreign-owned companies through our Key Account Management (KAM) project to secure further Foreign Direct Investment into the Northern Powerhouse. We also held a successful trade mission to India to showcase the City Region’s strengths in advanced manufacturing.
- **Skills and Employment** – we signed-up over 100 businesses and 1,000 individual employees and learners on our Skills Bank 2 project within nine months of its launch. We also matched 50 employers with 50 schools and colleges to improve careers advice and guidance for young people through our Enterprise Adviser Network (EAN) programme.

In the last year we have met our target of investing £35.5million in the region’s economy, we attracted £140.5 million of private sector investment, created or safeguarded 5,246 jobs, supported 1,282 businesses, assisted 1,834 new learners and completed 326 new homes.

### Progress made towards our ten-year targets

The LEP is on track to surpass the targets of our current Strategic Economic Plan, which were to create 70,000 new jobs and 6,000 businesses by 2024.



**Target:**

Grow the economy by 10% (or £3.1 billion) by 2024.

**Progress to date (2019/20):**

We achieved this target in 2018 due to strong performance in a range of industrial sectors. The SCR economy is currently valued at £35 billion.



**Target:**

Create 70,000 net new jobs by 2024, with 30,000 to be highly skilled.

**Progress to date (2019/20):**

We are ahead of schedule on achieving this target with 57,000 jobs created since 2014. This growth has been private sector-led with the business services and manufacturing sectors adding the most jobs.



**Target:**

Generate 6,000 new business start-ups by 2024.

**Progress to date (2019/20):**

9,435 new businesses have started-up in the Sheffield City Region since 2014.

## Development of a new Strategic Economic Plan

Over the past year, the LEP began work on a twenty-year economic strategy which sets out the economic vision and policy objectives for our businesses, our communities and places. To ensure that our plan addresses the needs and ambitions of our businesses and partners, we engaged with over 250 business leaders and organisations from the public, private and voluntary sectors on the draft strategy.

## Mayoral Combined Authority Projects

In 2019/20 we have delivered several major projects and initiatives which are funded by the Mayoral Combined Authority, but which relate to the LEP's thematic priorities. These are:

**Working Win** – we invested £2.179 million into our Health Led Employment Support Trial; a pilot project which is assisting over 6,000 people with mental and physical health issues and disabilities into sustainable employment.

**Transforming Cities Fund** - we secured £166 million through the Government's Transforming Cities Fund to support sustainable travel in the Sheffield City Region and complement our LGF investment in improving transport connectivity.

**One Public Estate** - we delivered £328,000 revenue savings and secured planning permission on public sector owned buildings and land to develop new housing and employment sites.

## Made changes to our governance model

- Over the last year we have effected a move from the LEP covering the nine local council areas of South Yorkshire (Barnsley, Doncaster, Sheffield, Rotherham) and the North Nottinghamshire and Derbyshire district council areas (Bassetlaw, Bolsover, Chesterfield, NE Derbyshire and Derbyshire Dales) to the four South Yorkshire council areas only.
- The accountable body status for all LEP funds was transferred to the MCA.
- The MCA became the employing body for the SCR Executive Team.
- Five new Thematic Boards were launched which are co-chaired by a LEP Board member and local authority Leader.
- The first LEP Delivery Plan was published.
- All key policies, governance, scrutiny and assurance documents and procedures have been reviewed and updated.

### A high performing organisation

Each year the Government undertake a review of LEP performance. In the last year the LEP has received a clean bill of health. The results of the Government's Annual Performance Review indicated that the LEP was rated as 'Good' for Governance, Delivery and Strategy.

DRAFT

## Case Studies

### Supporting small businesses

**Bag It Don't Bin It (BIDBI)** produce branded cotton tote bags. BIDBI make bags for some of the world's top brands, arts establishments charities, as well as independent businesses large and small.

Working with our Growth Hub the company have accessed funding to install new equipment, expand its manufacturing footprint and create a further 10 jobs.

“As a business, the help and support given to us from day one has been tremendous....as a result we have decided to stay within Sheffield City Region as the business continues to expand – we feel it's important to keep the young vibrant spirit our of culture by staying central in a city where investment and growth has been high on the agenda.”



### Kingsbury Press

Kingsbury were established in Doncaster in 1971 and specialise in the printing of high-quality books, brochure and presentation products to luxury sectors across the UK and also in the USA.

Through a £300,000 Business Investment Fund contribution we have supported a significant expansion to double Kingsbury's production footprint.



### Laminates Limited

Laminates are the UK's leading specialists in the manufacture and distribution of bespoke kitchen surfaces.

In 2019 the Sheffield based business with over 30 years' experience in the industry secured a new contract with the largest supplier to the UK Kitchen Retail market and resulting supply chains with the largest Laminate manufacturers in the world.

In a move which would triple their manufacturing output, they had to invest heavily in new equipment and premises. A Business Investment Fund grant of £100,000 was awarded in support of the project delivery; not just future proofing the family-owned company but also creating 6 new jobs for the region.



## Developing the skills of our employees

### Aardvark Swift

Specialist recruitment company Aardvark Swift have boosted their plans for international expansion after receiving training and support through Skills Bank.

The Rotherham-firm, who specialise in recruitment in the video game industry, have put 18 members of staff through training secured via the Sheffield City Region's Skills Bank programme; unlocking their growth plans with a focus on global clients and new markets.





### PES Performance

Engineering design firm PES Performance has used Skills Bank to increase services available for existing clients, as well as target new customers.

The firm, based at Sheffield's Advanced Manufacturing Park, recently put four of their senior engineering design team through training with the support of Skills Bank.

The team attended training on Finite Element Analysis (FEA) after the company spotted the opportunity to grow their offer to existing and new clients by incorporating this new in-house capability.



## Attracting new investors to the region

[UK Atomic Energy Authority](#) is a UK government research organisation responsible for the development of fusion power. The unique research and testing facility for fusion components will create up to 40 highly skilled jobs. The 2,800 square meter, purpose-built facility is currently under construction at the Advanced Manufacturing Park in Rotherham. Once completed, the building will be used to develop joining technologies for various materials including novel metals and ceramics, and then to evaluate the materials and components under test conditions that will simulate those that would be experienced inside a fusion device.

Sheffield City Region Local Growth Fund allocation: £2,200,000

Total project cost: £22,000,000



## Investing in our urban centres

[The Glass Works](#) project helps transform a 3.8-hectare site in the heart of Barnsley town centre.

The scheme will also act as a catalyst for wider private sector investment in the town centre, housing developments, commercial space and transport infrastructure.

Sheffield City Region Local Growth Fund allocation: £7,430,000

Total project cost: £142,303,975



### Growing our visitor economy

Our investment in the [Yorkshire Wildlife Park Expansion](#) helps to unlock a new entrance, a visitor hub with themed restaurants, a destination hotel and investment in signature animal reserves; expanding the existing park by 150 acres to make Yorkshire Wildlife Park one of the top destinations in the UK.

Sheffield City Region Local Growth Fund allocation: £5,000,000 (100% loan)  
Total project cost: £56,900,000



The innovative [Grey to Green Phase II](#) project will make Castlegate and Exchange Street a location for new investment and cutting-edge businesses, as well as attracting additional city centre living. Due to be completed in 2020, it creates habitats for wildlife and will help city cooling, as well as providing local park and riverside access.

Sheffield City Region Local Growth Fund allocation: £3,320,000  
Total project cost: £5,083,865

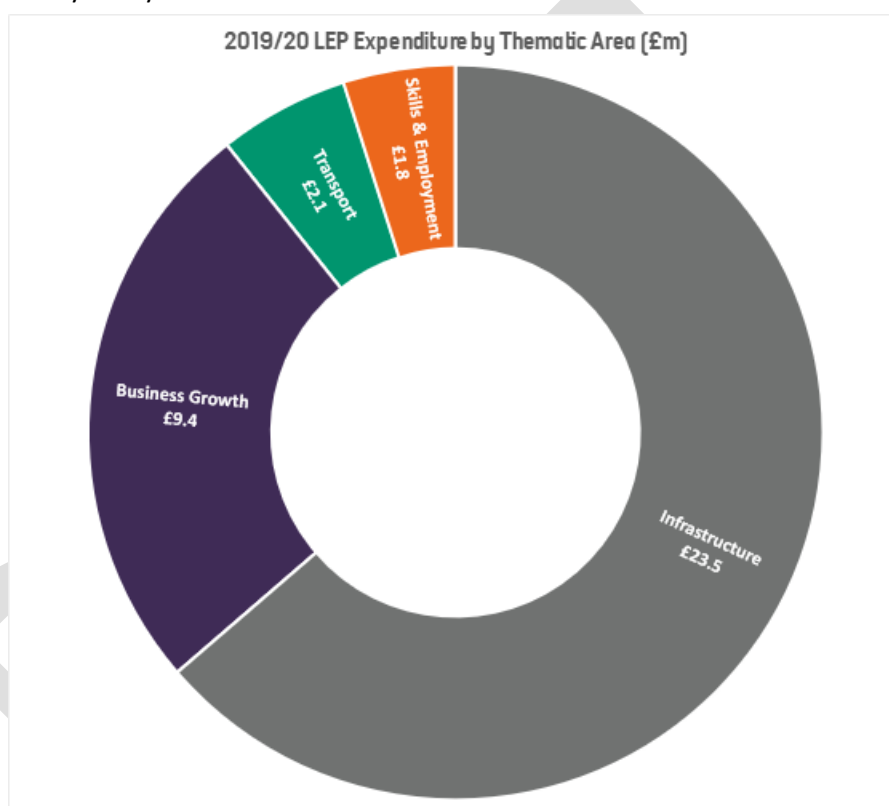


## How we spend our money – and our budget plans for the next year

As a public body we must ensure that our budget is balanced. The majority of the LEPs' revenue funding comes from enterprise zone income, commercial income from assets, national government contributions and local council subscriptions. Capital funding comes through the LEP Growth Deal with Government and other investment grants that support our capital infrastructure programmes, including improvements to road, rail and cycleways, regeneration schemes, new college facilities and housing developments.

We also bring in Government, European and private sector funding to support our economic services and support for businesses. Like all public bodies, we face financial pressures and consistently look for ways to make our investments go further, reduce costs and leverage private sector investment.

The diagram below shows how LEP revenue and capital income was invested in projects during the 2019/20 financial year by thematic area.



## Our plans for 2020/21

The only thing that we can be certain of in the year ahead is that it will prove to be one of the most challenging years that businesses and communities across the Sheffield City Region ever face.

The work of the LEP Board will no doubt change as a result and we will have to be resilient, we will have to work differently, smarter and more effectively than ever before to help make sure that we emerge from the health, economic and social crisis that Covid-19 pandemic brings.

The work done in the last year to prepare a strong evidence based Strategic Economic Plan must be completed, with our Covid-19 Economic Recovery Plan acting as the bridge between the current economic crisis and the longer-term ambitions of the SEP. The LEP will fully engage with the SCR Mayor on the development and production of the Economic Recovery Plan.

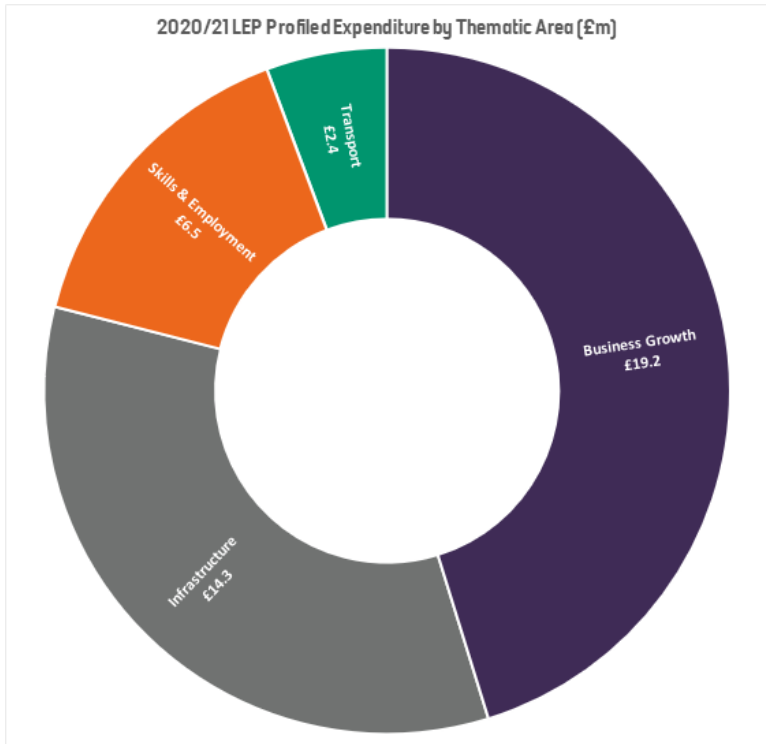
We also look forward to consulting businesses, partners and the general public on our longer-term vision and priorities for economic growth.

Whilst considerable focus will be spent on supporting businesses to recover from the pandemic to safeguard jobs in the region, we must also look to capitalise on opportunities for business development and job creation in the future.

In 2020/21 we will prepare the SCR Digital Infrastructure Strategy to provide a framework for the roll-out of full fibre and 5G across South Yorkshire to support businesses and employees to operate virtually. There is significant potential to re-purpose South Yorkshire's expansive network of mines as an innovative and renewable energy source, so we will undertake preliminary work with neighbouring LEP areas and the Green Smart Community Energy Partnership to investigate Minewater heat schemes.

We will also complete the SCR Housing Review and implement the recommendations to ensure that the City Region provides affordable, high-quality and resource-efficient homes.

The diagram below shows how we plan to investment LEP revenue and capital income in projects during the coming year by thematic area.



DRAFT

In 2020/21, we will invest our funding in the following contracted projects and programmes:

Strategic Priority	Thematic Area	Programme/Project	Project Start Date	SCR Investment 2020-21	Expected Outputs/Outcomes 2020-21	Total SCR Investment (All Years)	Total Expected Outputs/Outcomes (All Years)
Facilitating and proactively supporting growth amongst existing firms.	<b>Business Growth</b>	Business Investment Fund (BIF)	April 2015/16	£17.69m	Jobs: 620	£52m	<b>Achieved by 2020/21</b> Jobs: 3,472  <b>Projected by 2024/25</b> Jobs: 3,959
		Hub Enhancement		£0.034m			
Facilitating and proactively supporting growth amongst existing firms and ensuring that new businesses receive the support they need to flourish.		Growth Hub	April 2015/16	£0.684m			
Facilitating and proactively supporting growth amongst existing firms.		Access to Finance		£0.126m			
Attracting investment from other parts of the UK and overseas and improving our brand.		Key Account Management (Trade & Investment)		£0.140m			
<b>Sub-Total</b>				<b>£18.674m</b>			



Strategic Priority	Thematic Area	Programme/Project	Project Start Date	SCR Investment 2020-21	Expected Outputs/Outcomes 2020-21	Total SCR Investment (All Years)	Total Expected Outputs/Outcomes (All Years)
Securing investment in infrastructure where it will do most to support growth.	Infrastructure	<b>DN7 Hatfield Link</b> Delivery of 2km new road from M18 J5 to unlock a mixed use development comprising 3,100 houses, 395,000 m2 of commercial floor space and retail and educational facilities.	March 2019	£0.797m	Jobs:100	£11.16m	<b>Achieved by 2021/2022:</b> Homes: 100 Jobs: 439 GVA: £0  <b>Achieved by 2022/2023</b> Homes: 200 Jobs: 476 GVA: £0  <b>Total Projected:</b> Homes: 3,100 Jobs: 7,681 GVA: £910,587,387
		<b>Digital Media Centre</b> The Project will acquire and refurbish 'The Core' building, delivering three floors of "grow on" office space, a ground floor co-working space and provision of a tech lab facility.	March 2019	£0.107m	Jobs: 137	£2.13m	<b>Achieved by 2021/2022:</b> Jobs: 137  <b>Achieved by 2022/2023:</b> Jobs:137  <b>Total Projected</b> Jobs: 137
		<b>Grey to Green Phase 2</b> Transformation of Castlegate /Victoria Quays as a major location for new investment, particularly for cutting edge technology and creative businesses. Providing 1,235 m2 of Sustainable Urban Drainage, 2,852 m2 of meadow planting, a 2,860 m2 new cycleway and 5,209 m2 new carriageway.	Feb 2019	£0m	Jobs: 0 GVA: £0	£3.32m	<b>Achieved by 2021/2022:</b> Jobs: 355 GVA: £0  <b>Achieved by 2022/2023</b> Jobs: 355 GVA: £18,000,000  <b>Total Projected</b> Jobs: 766 GVA: £29,000,000

Strategic Priority	Thematic Area	Programme/Project	Project Start Date	SCR Investment 2020-21	Expected Outputs/Outcomes 2020-21	Total SCR Investment (All Years)	Total Expected Outputs/Outcomes (All Years)
Securing investment in infrastructure where it will do most to support growth.	Infrastructure	<p><b>Upper Don Valley Flood Alleviation Phase 2</b></p> <p>Providing 1.07 km of linear flood defence to three discrete flood 'cells' within a high risk flood area on the River Loxley (a tributary of the River Don) and at the confluence of the Loxley and the River Don. The project will provide improved resilience to flooding for households, commercial properties and transport and other critical infrastructure whilst opening up development sites.</p>	Dec 2019	£2.300m	Jobs:0 Businesses with improved flood defence: 152	£3.46m	<p><b>Achieved by 2021/2022:</b> Jobs:0 Businesses with improved flood defence: 152</p> <p><b>Achieved by 2022/2023</b> Jobs: 86 Businesses with improved flood defence: 152</p> <p><b>Total Projected</b> Jobs: 86 Businesses with improved flood defence: 152</p>
		<p><b>M1 junction 37 (Claycliffe Economic Growth Corridor) Phase 1</b></p> <p>The Project will deliver highway improvements to the A628 Dodworth Road and Pogmoor Road crossroads; a key arterial route into Barnsley's principal road network. Highway improvements will unlock prime development land currently restrained by highway capacity.</p>	Sept 2019	£0m	Jobs:167 GVA: £11.6m	£1.17m	<p><b>Achieved by 2021/2022:</b> Jobs:167 GVA: £11.6m</p> <p><b>Achieved by 2022/2023:</b> Jobs:167 GVA: £11.6m</p> <p><b>Total Projected</b> Jobs: 167 GVA: £63.6m</p>

Strategic Priority	Thematic Area	Programme/Project	Project Start Date	SCR Investment 2020-21	Expected Outputs/Outcomes 2020-21	Total SCR Investment (All Years)	Total Expected Outputs/Outcomes (All Years)
Securing investment in infrastructure where it will do most to support growth.	Infrastructure	<b>M1 junction 36 (Goldthorpe A6195 Dearne Valley Economic Growth Corridor) Phase 2</b>  Highways improvement to alleviate current constraints and to facilitate the proposed development of 72.9ha of employment land at Goldthorpe.	July 2019	£5.039m	Jobs:0	£7.32m	<b>Achieved by 2021/2022:</b> Jobs:0  <b>Achieved by 2022/2023</b> Jobs: 83  <b>Total Projected</b> Jobs: 1,400
		<b>M1 junction 36 (Hoyland - A6195 Dearne Valley Economic Growth Corridor) Phase 1</b>  1.8km of new and improved highways that will unlock significant employment land, opening up the regeneration and growth of the whole Dearne Valley.	Dec 2015	£6.046m	Jobs:154	£15.7m	<b>Achieved by 2021/2022:</b> Jobs:605  <b>Achieved by 2022/2023</b> Jobs: 4,555  <b>Total Projected</b> Jobs: 4,555
		Energy and Sustainability		£0.044m			
<b>Sub-Total</b>				<b>£14.33m</b>			
Developing the City Region's skills base, labour mobility and education performance	Skills and Employment	Digital Engineering Skills Development Network	Dec 19	£3.092m		£3.713m	
		Doncaster UTC	Mar 2020	£0.050m		£0.150m	

Strategic Priority	Thematic Area	Programme/Project	Project Start Date	SCR Investment 2020-21	Expected Outputs/Outcomes 2020-21	Total SCR Investment (All Years)	Total Expected Outputs/Outcomes (All Years)
Developing the City Region's skills base, labour mobility and education performance	Skills and Employment	Barnsley College Digital Innovation Hub	Mar 2020	£1.871m		£2.590m	
		Skills Bank 2		£0.790m			
		Enterprise Advisor Pilot		£0.180m			
<b>Sub-Total</b>				<b>£5.983m</b>			
Securing investment in infrastructure where it will do most to support growth.	Transport	<b>Inner Ring Road (Sheffield)</b> Improvements to selected junctions on the Sheffield Inner Ring Road to provide increased capacity for planned city centre regeneration particularly in the Riverside Business District. Project seeks to provide additional traffic capacity by adding a 2km of newly built road.	Feb 2019	£0m	Jobs: 150 GVA: £8.72m	£3.79m	<b>Achieved by 2021/2022:</b> Jobs: 150 GVA: £8.72m  <b>Achieved by 2022/2023</b> Jobs: 150 GVA: £8.72m  <b>Total Projected</b> Jobs: 150 GVA: £8.72m
		<b>A630 West Moor Link Road (Doncaster)</b> This improvement scheme will provide extra capacity both under the rail bridge and at key junctions for traffic along the route, with improved journey times for commuters, business users and public transport providers	Mar 2020	£2.232m			

Strategic Priority	Thematic Area	Programme/Project	Project Start Date	SCR Investment 2020-21	Expected Outputs/Outcomes 2020-21	Total SCR Investment (All Years)	Total Expected Outputs/Outcomes (All Years)
Securing investment in infrastructure where it will do most to support growth.	<b>Transport</b>	Transport Scheme Testing Tools		£0.19m			
<b>Sub-Total</b>				<b>£2.422m</b>			
<b>Total Committed Expenditure 2020-21</b>				<b>£41.409m</b>			

DRAFT

## The LEP Board

The LEP Board brings together 12 permanent private sector representatives, including two representatives from the Higher Education sector, the four Leaders of the Local Authorities and the SCR Mayor as well as a Trade Union representative and two co-opted private sector members.

DRAFT

	<p>James Muir</p>
	<p>Chair of LEP and LEP Equality and Diversity Champion</p>
	<p>Nigel Brewster Managing Director of Brewster Partners Recruitment Group</p>
	<p>LEP Vice Chair</p>
	<p>Lucy Nickson Chief Executive Club Doncaster Foundation</p>
	<p>LEP Vice Chair</p>
	<p>Alexa Greaves Chief Executive at AAG</p>
	<p>Small Business Champion</p>
	<p>Professor Sir Chris Husbands Vice Chancellor of Sheffield Hallam University</p>
	<p>Representative for Higher Education</p>

	<p>Gemma Smith Managing Director at Strata</p>
	<p>Laura Bennett Specialist In entrepreneurship &amp; digital economy</p>
	<p>Neil MacDonald Former Master Cutler</p>
	<p>Owen Michaelson Chief Executive at Harworth Group</p>
	<p>Peter Kennan Chartered Accountant &amp; Tax Advisor</p>
	<p>Richard Stubbs CEO at Yorkshire &amp; Humber Academic Health Science Network</p>



		<p>Tanwer Khan</p>
		<p>Alison Kinna Senior Vice President in Supply Chain Management at OutoKumpu Co-opted LEP Board Member</p>
		<p>Bill Adams Regional Secretary of TUC Yorkshire &amp; Humber Trade Union Representative</p>
		<p>Professor Dave Petley Vice-President for Innovation at the University of Sheffield Co-opted LEP Board Member</p>

	<p>Councillor Chris Read Leader of Rotherham Metropolitan Borough Council</p>
	<p>Mayor Dan Jarvis MBE Mayor of Sheffield City Region</p>
	<p>Councillor Julie Dore Leader of Sheffield City Council</p>
	<p>Mayor Ros Jones CBE Leader of Doncaster Metropolitan Borough Council</p>
	<p>Councillor Sir Steve Houghton CBE Leader of Barnsley Metropolitan Borough Council</p>

**Sheffield City Region**

**11 Broad Street West**

**Sheffield**

**S1 2BQ**

**+44 (0)114 220 3400**

**[LEPBoard@sheffieldcityregion.org.uk](mailto:LEPBoard@sheffieldcityregion.org.uk)**

**[www.sheffieldcityregion.org.uk](http://www.sheffieldcityregion.org.uk)**

DRAFT

**May 2020****Mayor's Update****Purpose of Report**

To provide LEP Board Members with an update on key Mayoral activity relating to the economic agenda.

**1. The Covid-19 pandemic**

Since the LEP's Board last meeting at the beginning of March our daily lives have changed beyond recognition as the nation and world has been gripped by the struggle against the Covid-19 pandemic.

As the greatest challenge we face, our response to the coronavirus will define our society for years and decades to come. Future generations will judge us by our actions, and we cannot and must not be found wanting.

**2. The response effort**

I am doing everything I can to keep our economy afloat. I have brought together our key regional stakeholders and anchor institutions to forge a collective economic response to the crisis through the South Yorkshire Economic Recovery Group.

I am working around the clock to ensure South Yorkshire has what it needs to respond to the virus. We are in close contact with the Local Resilience Forum, Integrated Care System, Public Health England, Police and Government and want to reassure everyone the best preparations are being made.

The activity I have undertaken to support our response to the crisis includes:

**Supporting the NHS and social care sector**

- Campaigned for the NHS and its hard-working staff to get the equipment and support they need during the pandemic, and pressed for free parking for NHS key workers.
- Lined up South Yorkshire's industry to help with the production of PPE and hand sanitiser for the NHS and social care sector.

**Backing business and our workers**

- Put more resource into Growth Hub, to ensure South Yorkshire businesses can access advice and support during COVID-19.
- Written to 7,500 South Yorkshire businesses to make them aware of the support on offer from Government. Launched an online social media awareness campaign – providing businesses with targeted, more detailed support on the Government schemes relevant to them.
- Created a [dedicated webpage](#) which consolidates all available support and information for

businesses and the self-employed.

- Lobbied the Government for additional support for small businesses, who currently fall between the gaps of their rescue packages in response to the Covid-19 crisis.
- Secured Government backing to support local newspapers with a public information advertising campaign during Coronavirus.
- Asked Government to make import tax payments more flexible so that businesses like Distinction Doors in South Yorkshire can continue to receive orders from overseas and keep people in work.
- Begun looking at the scope for flexing the 'Skills Bank' initiative to offer additional training for businesses that need help to stabilise and move, for example, to online operations.
- Raised the issue of workers' rights and social distancing guidelines for warehouse and distribution staff in South Yorkshire directly with the Business Secretary.

### **Kept South Yorkshire moving**

- Secured a deal with Department for Transport and Operators to ensure Supertram remains operational despite low patronage – ensuring key workers can continue to get to Sheffield's hospitals. Total investment in South Yorkshire's transport network worth £11m.
- Secured new funding to support active travel as Covid-19 lockdown measures are eased, making it easier for more people to cycle to work, instead of returning to their cars.
- Committed to maintaining pre-COVID levels of concessions for bus operators until at least June 2020.
- Extended concessionary travel to over 65s to ensure they can access supermarket grace shopping periods.

### **Supporting the Combined Authority's work to create prosperous places**

- Lobbied the Government to release devolution monies and provide greater flexibility on existing funds to provide instant support to those affected by COVID-19.
- Making the case for changes to Government's Green Book, to ensure that more investments are made in South Yorkshire and the North.
- Lobbied the Government for additional support for anchor institutions in South Yorkshire, including our Universities and our local authorities.
- Deferred loans for three major companies to ensure cash flow, protect jobs and provide certainty.
- Maintained a commitment to a £5m loan to Doncaster Sheffield Airport.

## **3. The recovery and renewal effort**

I welcome the commitment from the Prime Minister to work closely with Mayors to lead the country out of the coronavirus pandemic. We must build on these constructive discussions with Government to ensure Mayors have a strong mandate to transform our economy and society. The scale of the underlying challenges to be overcome, so it's vital Mayoral Combined Authorities have meaningful powers and resources to build a brighter future and truly level up.

Covid-19 and the associated lockdown has shone a spotlight on some of the uncomfortable truths by which our society has operated. Every death from this virus is a tragedy, but the latest data from the Office of National Statistics shows the disproportionate impact on the country's most

deprived communities<sup>1</sup>.

This will mean that we need to think beyond merely 'recovering' from this crisis. Our combined efforts therefore also need to be about renewal and resilience. We have a once in a generation opportunity to build a better Britain; one that is economically robust, socially just and which addresses the climate emergency.

South Yorkshire stands ready to not just close these divides but play a leading role in transforming our region and nation. My Economic Recovery Group brings together the region's major institutions, including the private sector, business bodies, universities, trade unions, local authorities and community groups to lead our fightback to the pandemic.

The Mayoral Combined Authority has a vital role to play, both in the response to the Coronavirus pandemic and in the South Yorkshire we rebuild – together – in its aftermath.

---

1

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsinvolvedbylocalareasanddeprivation/deathsoccurringbetween1marchand17april>

This page is intentionally left blank



May 2020

**Chief Executive's Update**

**Purpose of Report**

To provide LEP Board Members with a general update on activity being undertaken by the LEP outside of the agenda items under discussion.

**1. Establishment of a Covid-19 Economic Response Group**

The Mayor has established a Covid-19 Economic Response Group comprising key stakeholders and anchor institutions. A number of LEP Board members are included on the group; including both Vice Chancellors and the LEP Chair.

A sub-group chaired by the LEP Chair has also been established to bring together all of the business representative organisations in the region. Membership of this group comprises the Chambers of Commerce, FSB, MakeUK, CBI, Manufacturers Forum, the British Business Bank and the TUC.

**2. Northern Powerhouse 11**

The LEP Chair and the Chief Executive continue to meet regularly with the NP11 Board and Chief Executives Group to discuss the Northern business response to the economic crisis and the wider work programme incorporating trade and investment, clean energy, supply chains and innovation. The SCR are taking a lead role in the wider economic response work at the Northern Powerhouse level.

**3. Business engagement**

To augment the insight from the Economic Response Group and the business sub-group some LEP board members will be conducting a series of around fifty 1:1 meetings with a range of businesses to get a deeper understanding of the challenges they're facing, recovery plans and their views of support on offer.

**4. Covid-19 Skills Bank changes**

The SCR has introduced two new strands of activity to the Skills Bank programme:

- A suite of on-line training programmes to support businesses as they make changes to day-to-day operational practices
- Rapid Response for specialist workforce development for those businesses who are directly contributing to the government's Covid-19 strategy, including business that are switching production to ventilators and PPE. Working with the supply chain to increase their range of remote access/online training provision.

**5. Growth Hub mobilisation**

As expected there has been increase in the volume of enquires – and a shift in the nature of those enquires, including for example an increase in enquiries such as asking for a facilitation role around helping provide PPE.

The Growth Hub response includes:

- Developing a new “Re-start to Growth” Initiative - repurposing business support package to focus on businesses looking to restart/repurpose / continue to trade.
- The initial creation of Coronavirus specific mini-site on the Growth Hub website.
- Drafting of content for business support information packs (e.g. CBILS / BBILS) for use by comms / marketing teams to then create the outward business comms and publication on the website
- Creation of new search facility for Covid related support on the Growth Hub Knowledge Bank portal and addition of new support schemes
- Creation of new search facility for Covid on the online and interactive Growth Hub events calendar.

The Growth Hub team are also heavily engaged in wider coordination groups, including participation in weekly calls with NP11 groups, Y&H Cluster, the National Network, as well as other groups to understand their challenges, share experiences and develop better approaches.

It is expected that BEIS will provide additional resources to all growth hubs for this financial year – with a principal focus on enabling additional ‘on the ground capacity’.