York & North Yorkshire LOCAL ENTERPRISE PARTNERSHIP

UK Government

York & North Yorkshire LEP

CRF Energy Programme Evaluation

January 2023

centre for sustainable energy

ADD Specialists
delivering **impact** with public funds

Contents:

This project is funded by the UK Government through the UK Community Renewal Fund. The UK Community Renewal Fund is a UK Government programme for 2021/22. This aims to support people and communities most in need across the UK to pilot programmes and new approaches to prepare for the UK Shared Prosperity Fund. It invests in skills, community and place, local business, and supporting people into employment. For more information visit: www.gov.uk/government/publications/uk-community-renewal-fund-prospectus

Executive Summary

The 'Delivering a Carbon Negative Energy System in North Yorkshire' programme (hereafter referred to as the programme) was designed by York and North Yorkshire Local Enterprise Partnership (Y&NYLEP) and partners. The programme supported the decarbonisation of the energy system, and had two Work Packages (WP) – Local Area Energy Plans (LAEPs) and Feasibility Studies. The Feasibility Studies work package had three themes: Transport; Place-based renewable energy; and, Buildings. Overall the programme had ten individual schemes.

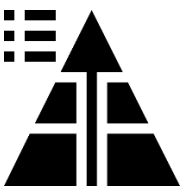
The programme secured £753,800 from the Community Renewal Fund (CRF) and had match-funding of £40,923, taking the total cost to £794,723.

A partnership approach was adopted and the programme included 3 District Councils (Craven, Richmondshire and Scarborough); Yorkshire Ambulance Service; York and Scarborough Teaching Hospitals NHS Trust; and, Community First Yorkshire. The programme was initially due to conclude in June 2022 but Government issued an extension and activity concluded in December 2022. The programme spent £745,439 (99% of the target); exceeded each of the CRF output targets; exceeded one outcome target and was close to delivering the other 2 outcomes.

The programme was evaluated at two points – an interim evaluation was completed in March 2022 and reflected progress made across the ten schemes as at the end of February 2022. This final evaluation was completed in January 2023 and drew on the following research:

- Analysis of progress against milestone, expenditure, output and outcome targets;
- Interviews with each scheme manager exploring themes including areas of good practice and lessons learnt; and,
- Bespoke surveys issued to Local E-Motion stakeholders and Decarbonising Community Buildings beneficiaires.

The main evaluation findings are summarised below:

 **Design**	The programme was well-designed and was informed by regional research into Carbon Abatement Pathways and the local priorities identified in climate action plans. The focus on filling gaps in knowledge and advancing the design of schemes was sensible given the type of funding available through CRF and the challenging delivery timetable. The partnership approach was also an effective design choice and built knowledge across a wide range of partners.
 **Targets**	There was considerable slippage against the original milestone targets and without the extension to the delivery period the quality of the research completed through the programme is likely to have been compromised. The programme performed very effectively on CRF output targets exceeding each of them, highlighting how effective activity has been in involving public, private and voluntary sector organsations. The programme exceeded the CRF outcome target relating to decarbonisation plans but didn't deliver the targeted 1 innovation plan, and delivered 52 instances of knowledge transfer against a target of 53.

Delivery

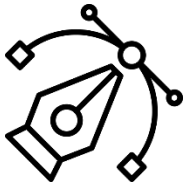
Whilst a greater proportion of milestones were completed between October and December 2022 than initially forecast, all milestones were achieved. A number of the schemes encountered challenges when seeking to procure consultants to deliver research and studies and this resulted in their work starting later than forecast. However, each scheme achieved its original aims and objectives. The LEP co-ordinated activity effectively, convening and chairing regular progess meetings throughout the delivery period and working with partners to identify solutions when challenges were encountered. Managers of individual schemes typically reported that the amount of time needed to effectively deliver their activities had been under-estimated in the application – an important lesson for future bids.

Outcomes

Good progress has been made on the five forecasted outcomes in the programme's logic model. The programme has made a strong contribution to the first forecasted impact by increasing awareness of the need for York and North Yorkshire to transition to net zero and carbon negative status. Schemes have filled specific gaps which were limiting the ability of public sector agencies to design effective interventions. There is evidence that the CRF Energy Programme has already informed funding bids. The LAEP work has helped inform priorities for other carbon negative schemes, and on the final outcome each of the scheme Project Managers interviewed were strongly of the view that the schemes will accelerate York & North Yorkshire's transition to net zero and carbon negative.

Value

The programme has minimised input costs whilst maintaining quality. Each of the studies, with the exception of the LAEPs, were openly tendered and therefore the market was tested. The LAEP works was procured through an existing Framework and it is therefore likely that good value was obtained. In relation to efficiency, the programme has converted inputs into outputs in a manner that represents good value, particularly given that all output targets were exceeded. For example, each voluntary sector organisation involved was achieved at a unit cost of £12,852 against a forecast unit cost of £24,848. Finally, on effectiveness the programme met the objectives outlined in the logic model.



Conclusions

This evaluation report concludes that the programme delivered effectively against the overall objective to '*accelerate York and North Yorkshire's progression towards net zero status by 2034 and carbon negative status by 2040.*' The programme spent of £745,439 of the £753,800 awarded by the CRF and in doing so exceeded each of the output targets and one of the outcome targets.

In terms of deliverables, the programme has delivered a series of studies which partners are already using to inform funding bids and guide action to reduce energy consumption in community and commercial settings. The evaluation team are strongly of the view that the programme has acted as a focus and catalyst and will assist partners to design and deliver schemes which address the call to actions outlined in the Local Enterprise Partnership's Carbon Abatements Pathway research.

CHAPTER 1 - Programme design

1.1 – Programme overview:

The 'Delivering a Carbon Negative Energy System in North Yorkshire' programme was designed by York and North Yorkshire Local Enterprise Partnership (Y&NYLEP) and partners. The programme supported the decarbonisation of the energy system, building on the regional research into Carbon Abatement Pathways and the local priorities identified in the development of Local Authorities' climate action plans. The application was submitted in June 2021 and described that the programme consists of two main Work Packages (WP): Local Area Energy Plans (LAEPs) and Feasibility Studies as summarised in the table below.

Work Package	Theme	Schemes
1. Local Area Energy Plans (LAEP)		Harrogate and Dales: covering Craven, Harrogate and Richmondshire.
		A1 Corridor: covering Hambleton and Selby.
		Scarborough and Moors: covering Ryedale and Scarborough.
2. Feasibility Studies	Transport	Local E-Motion: community-led co-design of electric transport hubs (WP2.1a).
		A+EV: feasibility assessment for installing electric vehicle (EV) charging infrastructure at Accident & Emergency (A&E) Departments.
	Place-based renewable energy	Skipton Station Triangle: studies to stimulate greener re-development focussed on Anaerobic Digestion (AD), water source heating and heat recovery.
		Sowarth's Field Industrial Estate: study on potential for AD at this site.
	Buildings	Hitting Hard: developing plans to tackle hard-to-decarbonise homes in Richmondshire and Scarborough.
		Hospital Twins: creating digital twins to support efforts to decarbonise Selby and Scarborough hospitals.
		Decarbonising Community Buildings: feasibility assessments for renewables and efficiency improvements in community buildings.

The table below confirms the organisations that led each scheme.

Themes	Scheme	Lead and partners
LAEPs	Harrogate and Dales, A1 Corridor & Scarborough and Moors	Y&NYLEP procured external consultants to prepare the LAEPs.
Transport	Local E-Motion	Richmondshire District Council (RDC) procured consultants to deliver the study.
	A&EV	Yorkshire Ambulance Service (YAS) and York and Scarborough Teaching Hospitals NHS Trust (Y&ST) jointly procured a contractor.
Place-based renewable energy	Skipton Station Triangle	Craven District Council (CDC) procured consultants to deliver the study.
	Sowarth's Field Industrial Estate	
Buildings	Hitting Hard	Scarborough Borough Council (SBC) procured contractors to deliver the study.
	Hospital Twins	Y&ST procured a contractor to develop the digital twin model.
	Decarbonising Community Buildings	Community First led the project.

In addition to the two Work Packages detailed above, there are two further WPs led by Y&NYLEP:

- WP3: Reporting – Y&NYLEP were responsible for overall programme management and reporting progress to Government.
- WP4: Evaluation – Y&NYLEP procured ADD Specialists and the Centre for Sustainable Energy (CSE) to complete the evaluation.

The application submitted to the Community Renewal Fund (CRF) outlined **short and long-term objectives** for each scheme. As summarised in the application '*the programme's short-term impacts mostly concern better strategic planning resulting in public sector cost savings and income generation. Community engagement and promotion of the projects' success will also raise awareness of regional net zero ambitions.'*

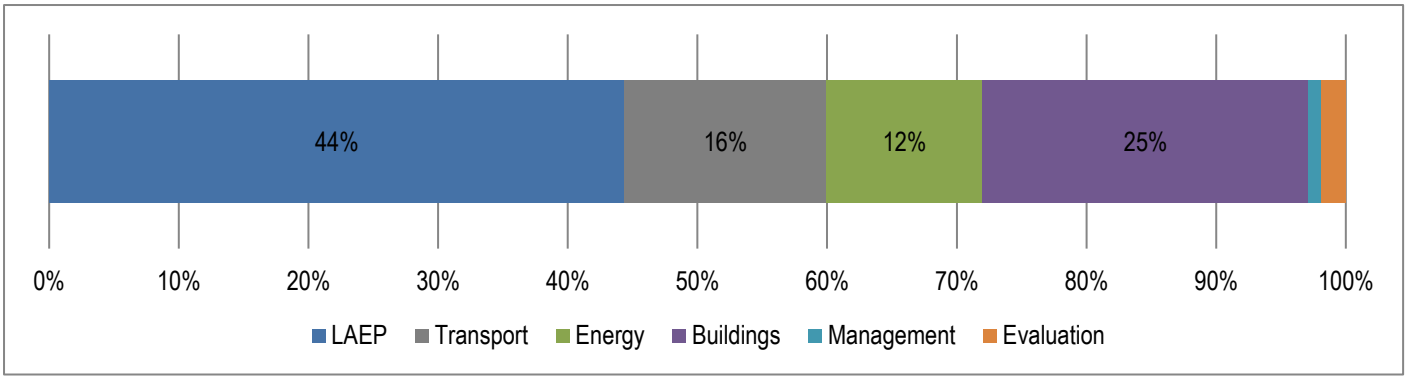
The application highlights that the majority of WP2 schemes will generate a business case for at least 1 capital project. In the case of the Hitting Hard scheme, the main output is an 'action plan' that should incorporate both funding bid suitable levels of detail around what to target in retrofit schemes, and wider action points including notes on possible planning policy changes.

The application detailed the forecast **cost** of each scheme as summarised in the table below.

Work Package and Theme	Schemes	CRF grant	Match	Total
LAEPs	1. Harrogate and Dales	£330,000	£22,090	£351,490*1
	2. A1 Corridor			
	3. Scarborough and Moors			
Transport	4. Local E-Motion	£89,100	£900	£90,000
	5. A&EV	£33,900		£33,900
Place-based renewable energy	6. Skipton Station Triangle	£70,000	£4,527	£73,527*2
	7. Sowarth's Field Industrial Estate	£20,000	£1,509	£21,509
Buildings	8. Hitting Hard	£99,000		£99,000
	9. Hospital Twins	£53,800		£53,800
	10. Decarbonising Community Buildings	£43,000	£4,000	£47,000
Programme Management		£0	£7,896	£7,896
Evaluation		£15,000		£15,000
	GRAND TOTALS	**£753,800**	**£40,923**	**£794,723**

*1: Please note that there was an error in the application and the actual total for LAEPs should have been shown as £352,090
*2: Please note that there was an error in the application and the actual total for Skipton Station Triangle should have been shown as £74,527

The chart below highlights the relative total cost of each theme.



The application provided a **milestone** table and this is provided below. However, it took longer than forecast for Government to confirm that the application was successful and revised dates are also shown in the table. These revised dates were set following the confirmation of Government funding, but prior to Government extending the lifetime of the scheme to December 2022, and form part of a more comprehensive milestone plan developed by York & North Yorkshire LEP.

Milestones	Original target date	Revised target date
Submission of CRF application	18 June 2021	18 June 2021
Project brief development and some procurement at risk	June to July 2021	June to December 2021
Decision received on CRF from Government	July to August 2021	3rd November 2021
Procurement begins for shorter projects	August 2021	December 2021
Delivery partners start work	August 2021	December 2021
Award consultancy commissions	August to October 2021	December 2021
Initial programme monitoring and progress review	September 2021	December 2021
Mid-term monitoring and progress review	November 2021	March 2022
Completion of all activity and programme end	31 March 2022	30 June 2022
Final evaluation monitoring	31 March 2022	31 July 2022

The application commits to the following **project impact indicators**:

Indicator area	Detail	Number
1a. Which groups will the programme target?	Public	13
	Private	19
	Voluntary sector	30
1b. What types of support will be provided?	1 to 1	2
	1 to many	130 people across 62 organisations
1c. What outcomes will be delivered?	Decarbonisation plans developed as a result of support	27
	Innovation plans developed as a result of support	1
	Organisations engaged in knowledge transfer activity following support	53

The table on the following page shows the allocation of project impact indicators across the programme.

Planned interventions	Groups			Support		Outcomes		
	Public	Private	Voluntary	1 to 1	1 to many	Decarb plan	Innovation plan	Know transfer
Harrogate and Dales (WP1a) A1 Corridor (WP1b) Scarborough and Moors (WP1c)	11	7	0	0	27	3	0	14
Local E-Motion (WP2.1a)	3	6	0	0	47	0	0	0
A&EV (WP2.1b)	2	0	0	0	6	2	0	0
Skipton Station Triangle (WP2.2a)	1	0	0	1	1	0	1	0
Sowarth's Field Industrial Estate (WP2.2b)	0	6	0	0	6	1	0	7
Hitting Hard (WP2.3a)	3	0	0	0	6	1	0	0
Hospital Twins (WP2.3b)	1	0	0	1	0	2	0	0
Decarbonising Community Buildings (WP2.3b)	0	0	30	0	45	20	0	30

The Funding Agreement categories the following project impact indicators as **outputs**:

Output – organisations involved	Total
Public	13
Private	19
Voluntary Sector	30

The Funding Agreement categories the following project impact indicators as **outcomes**:

Outcomes	Total
Decarbonisation plans developed as a result of support	27
Innovation plans developed as a result of support	1
Organisations engaged in knowledge transfer activity following support	53

The application included the following **risk register**.

Risk 1: Time required to procure external contractors could reduce delivery window (all projects)		
Probability:	M	**Mitigation:** *All PMs have assessed the need for pre-emptive procurement for each project and, if necessary, are already working with their procurement teams to secure timely resource and begin caveated procurement processes prior to grant announcement.*
Impact:	H	
Risk 2: Projects are not delivered within the timeframe and within the cost envelope		
Probability:	L	**Mitigation:** *Pre-emptive procurement should allow projects to start as soon as funding is confirmed, and the projects have been tailored to fit the time available in conversation with prospective contractors. The programme management process (1d) should highlight any contract slippage risks in plenty of time and allow for flexibility in project definition to complete a minimum viable product by March 2022.*
Impact:	H	
Risk 3: Project Managers leave post		
Probability:	L	**Mitigation:** *Project management can be transferred to new post-holder and to another team member, and the Programme Manager can work with outgoing PMs to pick up any gaps in provision during recruitment.*
Impact:	M	
Risk 4: Projects involving significant stakeholder engagement hit difficulties with in-person engagement due to another Covid-19 lockdown		

Probability:	M	**Mitigation:** *All activity will be planned as 'virtual-first' wherever possible, with the option to include physical meetings and workshops built into projects as the guidance on social distancing clarifies closer to delivery.*
Impact:	M	
Risk 5: Tenders do not attract appointable contractors		
Probability:	L	**Mitigation:** *For all external work, the applicants have approached a range of potential delivery partners for soft-market testing and all projects have at least one organisation who has expressed an interest in applying to the tender. The Programme manager will ensure all potential avenues for early notification of the tender availability will be maximised to ensure a good range of applications.*
Impact:	H	

As detailed later in the report, it is worth noting that the A&EV scheme had a forecast of £82,800 but the contractor (BP Pulse) submitted a tender return costed at £0 and were appointed. The under-spend was allocated to the following schemes to extend their activity:

- WP1 (LAEPs);
- WP2.1a (Local E-Motion); and,
- WP2.3c (Decarbonising Community Buildings).

1.2 – Programme context:

In May 2019 the Climate Change Committee (CCC) published 'Net Zero: The UK's contribution to stopping global warming'. The report set out the Committee's advice that the UK should commit to achieving net zero greenhouse gas emissions by 2050. In June 2019 the Prime Minister announced that the United Kingdom will eradicate its net contribution to climate change by 2050.

As detailed in the CRF application the programme built on the Local Industrial Strategy (2020) for York and North Yorkshire which outlined the following vision: '*York and North Yorkshire will become England's first carbon negative region. The Local Industrial Strategy contributes to this, by transforming the way our economy works to deliver a carbon negative, circular economy that increases productivity and provides higher paid jobs.*'

The Strategy outlined the region's Unique Selling Point (USP) as the ability to contribute to the Clean Growth Grand Challenge by capitalising on the powerful synergy between the area's natural resources and its wealth of local innovation and industry expertise. The Strategy contains the following Priorities:

1. Connected and resilient places
2. People reaching their full potential
3. An economy powered by good business
4. World-leading land management

The programme also built on the LEP's '**Plan to Reshape Our Economy**' (2020) which contains a vision for a greener, fairer, stronger economy. The Plan provides the following definitions:

- Greener: *Natural capital is protected and prioritised, aiding job creation and accelerating the transformation to a carbon negative economy.*
- Fairer: *Opportunity is inclusive, with quality of life raised for all people and communities.*
- Stronger: *The economy is more resilient, able to adapt to challenges and harness growth potential.*

The Plan contained a number of pledges including to 'enhance our landscapes and provide more and accessible green spaces' with related actions including to 'develop a natural capital investment plan and pilot innovative actions.' Other actions include 'delivery of a programme that supports affordable, energy efficient house building and retro fit.'

In July 2020 the Centre for Sustainable Energy and Energy Systems Catapult published the **Local Area Energy Planning Method**. The methodology report was part of a wider project commissioned by Ofgem which also reviewed the different approaches currently available to model local energy systems; and, how local area energy planning could support better planning, stakeholder engagement and investment decisions in energy networks across the country.

The report outlines that Local Area Energy Planning (LAEP) is a process which has the potential to inform, shape and enable key aspects of the transition to a net zero carbon energy system. As outlined in the report '*if done well, LAEP can provide sound foundations for effective and sustained local action to cut carbon emissions taken by well-informed local leaders and initiative-takers. It will enable these actors – from local authorities and other public sector bodies to businesses, charities and community groups – to establish an explicit shared purpose and to work with the consent and involvement of a range of stakeholders and the wider public. They will have a clear*

pathway setting out the changes needed over time to achieve local commitments on net zero carbon emissions. And they will understand what others – such as national government, regulators and energy networks – need to do (and when) alongside them to establish the conditions for success.'

The LAEP Method outlines the four key elements which in combination can ensure these positive outcomes are achieved.

i) The use of robust technical evidence produced using analytical techniques which consider the whole energy system and make consistent use of available data, and whose strengths and weaknesses are well understood.

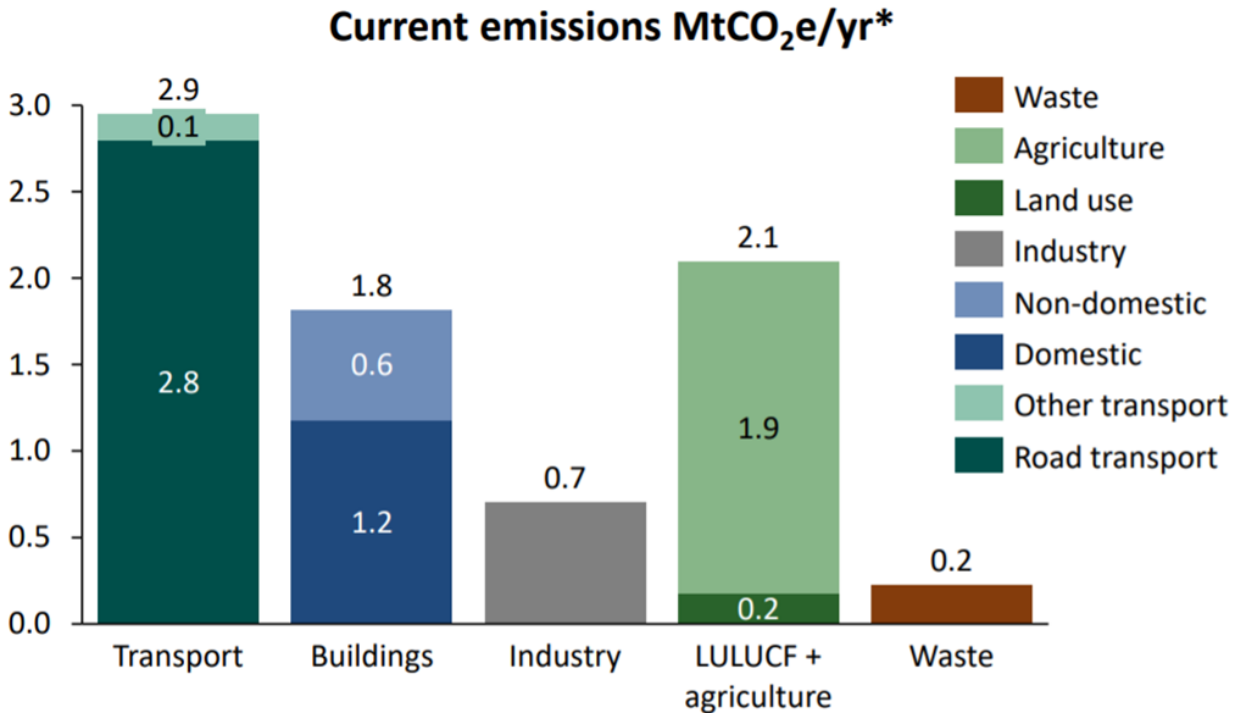
ii) A comprehensive assessment of wider non-technical factors which need to be understood and addressed to secure change.

iii) A well designed and involving social process which engages appropriate stakeholders effectively, uses the technical evidence appropriately, and manages vested interests effectively, thus ensuring the resulting plan can be seen as an informed and legitimate representation of local intent in relation to energy system decarbonisation.

iv) A credible and sustained approach to governance and delivery.

The development of the LAEP approach was adopted by the programme and the application highlights the appeal of the '*new integrated approach over a wide number of local authority service areas (development, housing, transport, waste management, economic services) and across a number of key partners. The focus on whole systems planning will allow us to realise system-wide efficiencies and secure value for money, whilst limiting increases in consumer bills.'*

In February 2021, the **Carbon Abatements Pathway** research was published covering West and North Yorkshire. This work directly influenced the focus of the programme. The Pathways research aimed to assess the technologies, interventions and policies needed to drive reduction in scope 1 and 2 emissions across the region.



The Pathways research concludes that York & North Yorkshire is more rural than many areas of the UK, with lower emissions from buildings and industry, but a larger share of emissions from agriculture and transport. The area faces specific challenges around private car use, off-gas homes and agricultural emissions. The Pathways research identifies top priority as well as short, medium and long-term actions that should be taken. The top priority short-term actions are highlighted in the table below, and actions that the programme addresses are highlighted in green

Top priority			
Transport	**Buildings**	**Land use & agriculture**	**Power and industry**
Reduce car use through modal shift and demand reduction	Reduce energy demand through energy efficiency	Ensure local land use priorities are met by setting the strategy	Support planning for CCUS & 2 hydrogen technologies and infrastructure
Short-term actions			
Transport	**Buildings**	**Land use & agriculture**	**Power and industry**
Improve cycling and walking infrastructure	Set up a 'One-stop shop' to help consumers decarbonise	Complete spatial land strategy	Complete regional energy planning, including solar PV
Explore bus Partnership	Retrofit existing LA buildings and put in place policy for wider building stock	Gather data and evidence on optimal local LULUCF solutions	Setup green public procurement programme
Invest in digital infrastructure	Implement heat networks	Develop food waste strategy	Financial scheme for efficiency, renewables, RD&D
Expand electric vehicle charging network	Influence Government to deliver planning policy and heat strategy	Influence Government to develop ELMs in a way that supports locally-relevant measures	Influence government to support CCUS/hydrogen infrastructure
Work with partners to limit road building and decarbonise rail			

It is worth noting that the programme took place against a backdrop of **significant Local Authority re-organisation**. In July 2021, the Government decided that a new single council would be formed to deliver across North Yorkshire. This new council will replace the current county and the seven district and borough councils and it will be in place from April 2023. This significant re-organisation has had a bearing on the capacity and ability of these local authority partners to engage in the programme.

Following the announcement of the new council for North Yorkshire, a devolution deal between Government and the Local Authorities of York and North Yorkshire was announced in August 2022. The devolution deal includes all of the district and borough councils (which will be replaced by the new North Yorkshire Council in April 2023), as well as the City of York, and will result in a mayoral combined authority launching late 2023 (subject to consultation). The Y&NYLEP and some of the climate leads at the local authorities have also been involved in the development of net zero funding opportunities within the devolution deal, further stretching capacity during the lifetime of the Programme.

1.3 – Programme logic model:

The logic model was developed by the consultancy team with input from the LEP and partners.

Context

At national level the UK Government is committed to achieve net zero carbon by 2050. York & North Yorkshire LEP seeks to become England's first carbon negative region with ambitions to be net zero by 2034 and carbon negative by 2040. Local Authorities have climate action targets and all organisations involved in the programme have carbon action plans. To aid the transition to carbon negative, the LEP commissioned Carbon Abatement Pathways research which concluded that these ambitions were feasible with significant leadership and investment. York & North Yorkshire is a diverse area with unique challenges. The CRF Energy Programme addresses many of the actions recommended in the Carbon Abatement Pathways research and seeks to engage communities and stakeholders, address specific challenges and develop innovative potential approaches.

Overall objective

Accelerate York and North Yorkshire's progression towards net zero status by 2034 and carbon negative status by 2040.

Specific objectives

- Engage communities and stakeholders across North Yorkshire in developing long-term strategic approaches to decarbonise the area's energy system.
- Bring partners together to assess how to accelerate the uptake of electric transport options through the development of hubs and charging infrastructure at specific sites.
- Bring partners together to assess how to deploy renewable energy at an industrial estate and development site.
- Identify how to treat hard-to-decarbonise homes and community buildings.
- Test how the development of digital models can facilitate decarbonisation at complex NHS sites.
- Accelerate the development of schemes by bringing communities and partners together and through feasibility assessments and the development of business cases.

Inputs

- £753,800 from CRF
- £40,923 match-funding
- Further in-kind staff time
- Data from partners
- Time from communities & stakeholders

CRF outputs

- 13 public sector organisations involved
- 19 private sector organisations involved
- 30 voluntary sector organisations involved

Wider outputs

- 3 LAEPs completed
- 29 Feasibility Studies completed
- 3 business cases developed
- 2 digital models developed

Activities

- Develop three Local Area Energy Plans covering the whole of across North Yorkshire.
- Complete options appraisals relating to electric transport hubs and develop a business case for the most suitable sites.
- Complete a feasibility assessment on the potential to install electric vehicle charging infrastructure at Scarborough and Selby Hospitals, and Yorkshire Ambulance Service at Scarborough.
- Complete a feasibility study on the use of renewable energy sources at Skipton station triangle and a feasibility study on the use of Anaerobic Digestion at Sowarth's Field industrial estate in Settle.
- Develop a plan outlining how best to treat hard-to-decarbonise homes in Richmondshire and Scarborough and identifying priority actions.
- Support the decarbonisation of Scarborough and Selby Hospitals through the development of two digital twin models.
- Complete feasibility assessments on how best to decarbonise community buildings in 30 locations with 20 site surveys and the development of a business case.

CRF outcomes

- 53 organisations engaged in knowledge transfer activity
- 27 decarbonisation plans developed
- 1 innovation plan developed

Wider outcomes

- Increased knowledge and experience amongst LEP and partners on how to advance schemes which will assist York & North Yorkshire progress to carbon negative status.
- Increased awareness amongst communities, stakeholders and public sector agencies of the need to begin planning for the transition to a carbon negative area, with increased knowledge and capacity to do so.
- Increased partnership working amongst public sector agencies, and between public sector agencies and communities on the transition to a carbon negative area resulting in cost savings and the acceleration of schemes.
- Increased ability to attract the interest of external investors in energy-related investment opportunities in North Yorkshire.

Overall impacts

- Increased awareness and commitment to transition to net zero and carbon negative.
- Increased knowledge of how to design and deliver schemes which support transition to net zero and carbon negative.
- Acceleration of funding secured to invest in individual schemes.
- Development of blueprints for how to advance other carbon negative schemes.
- Acceleration of York & North Yorkshire's transition to net zero and carbon negative.

1.4 – Programme design conclusions:

This section of the evaluation report analyses the programme's design using lines of enquiry provided by the Department for Levelling Up, Housing & Communities.

i) What was the programme seeking to do?

The programme had an overall objective to '*accelerate York and North Yorkshire's progression towards carbon neutral status by 2034 and carbon negative status by 2040.*' The programme has clear specific objectives to:

- Engage communities and stakeholders across North Yorkshire in developing long-term strategic approaches to decarbonise the area's energy system.
- Bring partners together to assess how to accelerate the uptake of electric transport options through the development of hubs and charging infrastructure at specific sites.
- Bring partners together to assess how to deploy renewable energy at an industrial estate and development site.
- Identify how to treat hard-to-decarbonise homes and community buildings.
- Test how the development of digital models can facilitate decarbonisation at complex NHS sites.
- Accelerate the development of schemes by bringing communities and partners together and through feasibility assessments and the development of business cases.

ii) What was the economic and policy context at the time that the project was designed?

The programme was designed in 2021, and the economy was recovering from the severe shock of the COVID-19 pandemic and resulting lockdown restrictions. Gross Domestic Product (GDP) across the United Kingdom (UK) rose by 5.5% from April to June 2021 but the level of GDP was 3.3% below the pre-pandemic position in December 2019. Unemployment was falling in Spring 2021 with job vacancies standing at their highest level since the onset of the pandemic.

The policy context was highly supportive at national and regional level. In May 2019 the Climate Change Committee (CCC) published 'Net Zero: The UK's contribution to stopping global warming'. In June 2019 the Prime Minister announced that the United Kingdom will eradicate its net contribution to climate change by 2050. The programme built on the Local Industrial Strategy (2020) for York and North Yorkshire which outlined the following vision: '*York and North Yorkshire will become England's first carbon negative region. The Local Industrial Strategy contributes to this, by transforming the way our economy works to deliver a carbon negative, circular economy that increases productivity and provides higher paid jobs.*' In February 2021 the Carbon Abatements Pathway research was published and this research directly influenced the programme's focus.

iii) What were the specific market failures that the programme was seeking to address? Was there a strong rationale for the programme?

The programme sought to address information failures including imperfect information. The studies completed by individual schemes were designed to fill gaps in information including for example, up-to-date costs for work to decarbonise hard-to-treat homes. The programme represents a public good in that there is no commercial incentive to complete the studies, and in

most cases there is no potential for commercial returns from the implementation of the studies. The evaluation team conclude that there was a strong rationale for the programme.

iv) Was the programme appropriately designed to achieve its objectives? Was the delivery model appropriate?

The programme was appropriately designed to achieve its objectives. The initial delivery period for CRF set by Government was highly challenging and the programme's focus on completing studies to address information failures was more realistic than seeking to deliver capital projects focussed on decarbonisation.

The delivery model was appropriate. The programme involved a wide range of delivery partners including Local Authorities, NHS Trusts and Community First Yorkshire. This partnership was appropriate given the programme sought to fill information gaps and catalyse action in the public, private and community sectors.

v) Were the targets set for the project realistic and achievable?

The targets were realistic and achievable, though as briefly explored below there were some key changes in context which exerted pressure on the delivery partners.

vi) How did the context change as the project was delivered and did this exert any particular pressures on programme delivery?

There were a number of major changes in context including Government's decision to extend the CRF delivery period. Delivery partners had budgeted for staff time for a short delivery period and the budget was stretched with the extension. During the delivery period, agreement was reached with Government on the form of Local Government Re-organisation (LGR) in North Yorkshire. Significant capacity has been required at the Local Authority delivery partners to engage in LGR and this has impacted on the delivery of the programme.

vii) Bearing in mind the project design itself and any changes in context could the programme reasonably be expected to perform well against its targets?

The evaluation team conclude that the changes in context did make it harder for the project to achieve the targets offered in the application submitted in June 2021. The achievement of these targets is explored in the next Chapter.

CHAPTER 2 - Progress against targets

2.1 – Activity targets:

A review of the extent to which each scheme met their activity targets is provided below. The baseline target dates are taken from modelling work undertaken by York and North Yorkshire LEP following confirmation that the Community Renewal Fund application had been approved by Government.

2.1.1: Local Area Energy Plans

The table below details the date milestones were achieved compared to the baseline target.

No.	Milestones	Baseline target date	Latest position	
			Status	Date achieved
1	Production of brief	Nov-21	Complete	Nov-21
2	Procurement of Consultants	Dec-21	Complete	Dec-21
3	Appointment of Consultants	Dec-21	Complete	Jan-22
4	Draft Local Area Energy Plans	May-22	Complete	Nov-22
5	Completion of Local Area Energy Plans	Jun-22	Complete	Dec-22
6	Submission of final claim and progress report	Jul-22	Complete	Dec-22

The actual timeline for the production of the three Local Area Energy Plans was delayed by six months. Whilst consultants were appointed in January 2022, only one month after the target date for appointments, contractual agreements between the framework that the work was commissioned through (Consultancy+) and the contractor (Energy Systems Catapult) took much longer than anticipated and were not finalised until May 2022.

In addition, despite best efforts to collect data prior to commencement of the LAEP work, the data gathering phase that had started in July 2021 also took much longer than anticipated and only ended in March 2022. LAEP work was therefore only able to fully commence after May 2022. The projects followed a six month timeline, in line with the target duration set out in the application, and terminated in December 2022. Despite the delayed start, the projects were not delayed any further once they were able to commence. The project also took advantage of the identified programme underspend from the £0 tender in the A&EV scheme (see 2.1.3) to deliver a visualisation tool to allow easier interpretation and interaction with the reports' findings.

2.1.2: Local E-Motion

The table below details the date milestones were achieved compared to the baseline target. Please note the table below is based on the original Local E-Motion scheme and does not include an extension to the scheme from funding not required by the A&EV scheme (see 2.1.3).

No.	Milestones	Baseline target date	Latest position	
			Status	Target date
1	Production of brief	Nov-21	Complete	Nov-21
2	Procurement of Consultants	Nov-21	Complete	Nov-21
3	Appointment of Consultants	Nov-21	Complete	Nov-21
4	Draft Feasibility Study	May-22	Complete	Sep-22
5	Completion of Feasibility Study	Jun-22	Complete	Sep-22
6	Submission of final claim and progress report	Jul-22	Complete	Sep-22

As can be seen, the initial milestones were achieved with consultants appointed in November 2021. The Feasibility Study was completed in September 2022, rather than July 2022.

2.1.3: A&EV

The table below details the date milestones were achieved compared to the baseline target.

No.	Milestones	Baseline target date	Latest position	
			Status	Target date
1	Production of brief	Dec-21	Complete	Jan-22
2	Procurement of Consultants	Jan-22	Complete	Feb-22
3	Appointment of Consultants	Jan-22	Complete	Jun-22
4	Draft Feasibility Study	May-22	Complete	Dec-22
5	Completion of Feasibility Study	Jun-22	Complete	Dec-22
6	Submission of final claim and progress report	Jul-22	Complete	Dec-22

As can be seen the consultants were appointed in June 2022 rather than January 2022 as initially forecast. This reflects some initial delays in agreeing the contract between Yorkshire Ambulance Service (YAS) NHS Trust and the LEP. YAS developed the specification for the commission and issued a tender, but did not include an indicative budget. A single tender response was received and was significantly over-budget. YAS therefore redesigned the specification and re-issued the tender. There was considerable interest amongst suppliers, with one supplier submitting a return costed at £0. There was some further delay whilst YAS checked the validity of this tender return, and the contract was then issued to BP Pulse. The final three milestones were compressed with the draft Feasibility Study issued in December 2022, and finalised in the same month.

2.1.4: Skipton Station Triangle and Sowarth's Field Industrial Estate

The table below details the date milestones were achieved compared to the baseline target.

No.	Milestones	Baseline target date	Latest position	
			Status	Target date
1	Production of brief	Dec-21	Complete	Jul-22
2	Procurement of Consultants	Jan-22	Complete	Aug-22
3	Appointment of Consultants	Jan-22	Complete	Sep-22
4	Draft Feasibility Study	May-22	Complete	Nov-22
5	Completion of Feasibility Study	Jun-22	Complete	Dec-22
6	Submission of final claim and progress report	Jul-22	Complete	Dec-22

As can be seen, the consultants were appointed 8 months later than initially forecast. This reflects challenges with capacity at Craven District Council with the original Project Manager leaving the post and an external contractor being appointed to fulfil the role. The delay in appointing the consultants led to the later milestones being delayed with the report finalised in December 2022.

2.1.5: Hitting Hard

The table below details the date milestones were achieved compared to the baseline target.

No.	Milestones	Baseline target date	Latest position	
			Status	Target date
1	Production of brief	Nov-21	Complete	Nov-21
2	Procurement of Consultants	Nov-21	Complete	Dec-21
3	Appointment of Consultants	Dec-21	Complete	Jan-22
4	Draft Feasibility Study	May-22	Complete	Nov-22
5	Completion of Feasibility Study	Jun-22	Complete	Dec-22
6	Submission of final claim and progress report	Jul-22	Complete	Dec-22

As can be seen, the initial milestones did not slip significantly and the consultants were appointed in January 2022, just a month later than initially planned. However the Feasibility Study was completed in draft in November 2022, 6 months later than initially planned.

2.1.6: Hospital Twins

The table below details the date milestones were achieved compared to the baseline target.

No.	Milestones	Baseline target date	Latest position	
			Status	Target date
1	Production of brief	Dec-21	Complete	Dec-21
2	Procurement of Consultants	Jan-22	Complete	Jan-22
3	Appointment of Consultants	Jan-22	Complete	Mar-22
4	Draft Feasibility Study	May-22	Complete	Aug-22
5	Completion of Feasibility Study	Jun-22	Complete	Oct-22
6	Submission of final claim and progress report	Jul-22	Complete	Dec-22

As can be seen, consultants were appointed in March 2022, a little later than planned. The Feasibility Study was completed in October rather than June 2022, with the final claim submitted in December. This reflects some challenges in obtaining the detailed data needed to inform the digital twin modelling.

2.1.7: Decarbonising Community Buildings

The table below details the date milestones were achieved compared to the baseline target. Please note the table below is based on the original Decarbonising community buildings scheme and does not include an extension to the scheme from funding not required by the A&EV scheme.

No.	Milestones	Baseline target date	Latest position	
			Status	Target date
1	Production of brief	Nov-21	Complete	Dec-21
2	Procurement of Consultants	Dec-21	Complete	Dec-21
3	Appointment of Consultants	Dec-21	Complete	Dec-21
4	Draft Feasibility Study	Feb-22	Complete	Dec-22
5	Completion of Feasibility Study	May-22	Complete	Dec-22
6	Submission of final claim and progress report	Jul-22	Complete	Dec-22

As can be seen, the Decarbonising Community Buildings scheme completed all milestones at the end of the delivery period, but this reflects that the scheme was extended with under-spend from

the A&EV scheme. The initial support provided by the Decarbonising Community Buildings scheme was completed well before December 2022.

2.2 – Expenditure targets:

The Funding Agreement confirmed that the commencement date was 3rd November 2021, and set out the total costs as set out below.

Programme name	CRF Contribution	Match Funding	Total Cost
Delivering a Carbon-Negative energy system in North Yorkshire	£753,800	£40,923	£794,723

The Funding Agreement did not include a profile of expenditure or a breakdown by scheme. However, each scheme's expenditure against a baseline developed by Y&NY LEP is explored in the sections below.

2.2.1: Local Area Energy Plans

The table below compares baseline and actual expenditure on the three LAEP schemes.

	Q3 2021/22	Q4 2021/22	Q1 2022/23	Q2 2022/23	Q3 2022/23	TOTAL
Baseline CRF spend profile	£0.00	£165,000.00	£165,000.00	£0.00	£0.00	**£330,000.00**
Actual spend	£0.00	£0.00	£0.00	£165,000.28	£178,200.28	**£343,200.56**

As can be seen, the actual spend occurred six months later than predicted, in line with the delayed project start, which is detailed in section 2.1.1. However, the activity on the LAEP schemes was extended with underspend from other schemes and overall spend of £343,200.56 was achieved against an original target of £330,000.

2.2.2: Local E-Motion

The table below compares baseline and actual expenditure on the Local E-Motion scheme.

	Q3 2021/22	Q4 2021/22	Q1 2022/23	Q2 2022/23	Q3 2022/23	TOTAL
Baseline CRF spend profile	£0.00	£10,500	£71,700	£0.00	£0.00	**£82,800.00**
Actual spend	£1,076.08	£8,838.49	£15,831.54	£54,268.51	£10,152.82	**£90,538.30**

As can be seen, expenditure on the scheme commenced immediately. The actual expenditure profile differed to the baseline with £25,746.11 cumulative spend by Q1 2022/23 compared to a target of £82,800. However, overall expenditure exceeded the baseline target to reflect extension activity.

2.2.3: A&EV

The table below compares baseline and actual expenditure on the A&EV scheme.

	Q3 2021/22	Q4 2021/22	Q1 2022/23	Q2 2022/23	Q3 2022/23	TOTAL
Baseline CRF spend profile	£0.00	£0.00	£33,900.00	£0.00	£0.00	**£33,900.00**
Actual spend	£0.00	£0.00	£0.00	£0.00	£1.00	**£1.00**

As can be seen, the scheme had a forecast of £82,800 but BP Pulse submitted a tender return costed at £0 and were appointed. The £1 forecast in Q3 2022/23 is a nominal value, paid out to delivery partner YAS to ensure that the grant agreement previously drafted remained binding. The under-spend was allocated to the following schemes: WP1 (LAEPs); WP2.1a (Local E-Motion); and, WP2.3c (Decarbonising Community Buildings).

2.2.4: Skipton Station Triangle and Sowarth's Field Industrial Estate

The table below compares baseline and actual expenditure on these two schemes.

	Q3 2021/22	Q4 2021/22	Q1 2022/23	Q2 2022/23	Q3 2022/23	TOTAL
Baseline CRF spend profile	£0.00	£0.00	£90,000	£0.00	£0.00	**£90,000.00**
Actual spend	£0.00	£0.00	£0.00	£0.00	£90,000	**£90,000.00**

As can be seen, the scheme achieved full spend of £90,000 but did so several quarters later than forecast reflecting the delays outlined in the milestone table in Section 2.1 of this report.

2.2.5: Hitting Hard

The table below compares baseline and actual expenditure on the Hitting Hard scheme.

	Q3 2021/22	Q4 2021/22	Q1 2022/23	Q2 2022/23	Q3 2022/23	TOTAL
Baseline CRF spend profile	£2,250.00	£29,973.00	£57,377.00	£0.00	£0.00	**£89,600.00**
Actual spend	£3,595.56	£16,386.60	£16,026.30	£15,673.88	£37,917.66	**£89,600.00**

As shown in the table above, Hitting Hard achieved the target in full spending £89,600 by Q3 2022/23. The actual spend profile took place over a longer period of time than forecast in the baseline profile.

2.2.6: Hospital Twins

The table below compares baseline and actual expenditure on the Hospital Twins scheme.

	Q3 2021/22	Q4 2021/22	Q1 2022/23	Q2 2022/23	Q3 2022/23	TOTAL
Baseline CRF spend profile	£0.00	£0.00	£53,800.00	£0.00	£0.00	**£53,800**
Actual spend	£0.00	£0.00	£0.00	£0.00	£53,800.00	**£53,800**

As can be seen, the scheme achieved the expenditure target in full, but two quarters later than originally forecast reflecting delays briefly explored in Section 2.1 of this report.

2.2.7: Decarbonising community buildings

The table below compares baseline and actual expenditure on the Decarbonising community buildings scheme.

	Q3 2021/22	Q4 2021/22	Q1 2022/23	Q2 2022/23	Q3 2022/23	TOTAL
Baseline CRF spend profile	£0.00	£0.00	£43,000.00	£0.00	£0.00	**£53,800**
Actual spend	£11,475.00	£13,725.00	£0.00	£18,064.00	£20,050.00	**£63,314.00**

As can be seen, actual expenditure commenced in the first quarter and in total the scheme exceeded its baseline profile with total spend of £63,314 against an original target of £53,800. This reflects extension activity utilising underspend from the A&EV scheme.

2.3 – Output targets:

The Funding Agreement confirmed that the programme had the following output targets:

Output	Total
Public sector organisations involved	13
Private sector organisations involved	19
Voluntary Sector organisations involved	30

The application detailed which individual schemes would contribute to the outputs. The table below shows the output allocation for each scheme and confirms the actual outputs achieved up to the end of November 2022; and the forecast for December 2022.

Schemes	Public orgs involved		Private orgs involved		Voluntary orgs involved	
	Target	Actual	Target	Actual	Target	Actual
Harrogate and Dales A1 Corridor Scarborough and Moors	11	29	7	28	0	9
Local E-Motion	3	15	6	3	0	8
A&EV	2	2	0	0	0	0
Skipton Station Triangle and Sowarth's Field Industrial Estate	1	2	6	5	0	2
Hitting Hard	3	10	0	1	0	0
Hospital Twins	1	1	0	0	0	0
Decarbonising Community Buildings	0	0	0	0	30	40
Totals	**21**	**41**	**19**	**35**	**30**	**58**

Please note that the totals are lower than the sum of the individual WP numbers, due to removal of double-counted organisations, such as Richmondshire and Scarborough Councils who were involved in multiple work packages.

As indicated above the outputs allocated to the schemes exceed the total contractual target for the programme. This over-programming was to ensure that the overall programme target was achieved. The programme's overall performance is outlined in the table below.

Output	Target	Actual performance	Difference (count)	Difference (%)
Public sector organisations involved	13	41	+28	+215%
Private sector organisations involved	19	35	+16	+84%
Voluntary Sector organisations involved	30	58	+28	+93%

Public sector organisations involved:

The majority of this target sat with the LAEP schemes, but each scheme, with the exception of Decarbonising Community Buildings, contributed to the target. Overall the LAEP schemes significantly exceeded the target numbers of public bodies involved. Several of these organisations were identified as key stakeholders during the data gathering stage of the LAEP process. This shows that the data gathering stage was thorough and that the LAEP schemes were dynamic and responded positively to the needs that they encountered.

Private sector organisations involved:

This target sat with 3 schemes – the LAEPs, Local E-motion and the Skipton Station Triangle and Sowarth's Field Industrial Estate studies. The LAEPs engaged with 4 times the target organisations for the private sector. Similarly to what has been set out in the previous section, this is reflective of their stakeholder engagement process being comprehensive and flexible throughout. Overall the programme exceeded this output, engaging 16 more private sector organisations that forecast – a rise of 84%!

Voluntary Sector organisations involved:

This target sat solely with the Decarbonising Community Buildings scheme and was exceeded with 40 voluntary organisations involved against a target of 30.

Whilst the LAEP work packages did not have any targets for engaging with voluntary organisations, throughout the process a need was recognised for inclusion of those who represent other interests that may not be central to decisions and interventions towards the decarbonisation of the local areas, but that are crucial to ensuring the plans produced are palatable to the local communities and to building a sense of shared purpose. The initial delay in the programme allowed for more time to identify these organisations and engage with them. In practice the LAEP work engaged 9 voluntary organisations.

2.4 – Outcome targets:

The Funding Agreement confirms that the programme has the following outcome targets:

Outcomes	Total
Decarbonisation plans developed as a result of support	27
Innovation plans developed as a result of support	1
Organisations engaged in knowledge transfer activity following support	53

The table below shows the outcome targets assigned to individual schemes.

Schemes	Decarbonisation plans		Innovation plans		Knowledge transfer	
	Target	Actual	Target	Actual	Target	Actual
Harrogate and Dales A1 Corridor Scarborough and Moors	3	3	0	0	14	38
Local E-Motion	0	0	0	0	0	0
A&EV	2	2	0	0	0	0
Skipton Station Triangle and Sowarth's Field Industrial Estate	1	4	1	0	7	4
Hitting Hard	1	1	0	0	0	0
Hospital Twins	2	2	0	0	0	0
Decarbonising Community Buildings	20	28	0	0	30	13
Totals	**29**	**40**	**1**	**0**	**51**	**52**

As indicated above the outputs allocated to the schemes exceed the total contractual target for the programme as a whole. The programme's overall performance is outlined in the table below

Outcomes	Target	Actual performance	Difference (count)	Difference (%)
Decarbonisation plans developed as a result of support	27	40	13	+48%
Innovation plans developed as a result of support	1	0	-1	N/A
Organisations engaged in knowledge transfer activity following support	53*[1]	52	-1	-2%

*1: Please note that the figure of 53 in the application was an error and should have been 51. However, the figure of 53 is used here as it ws including in the funding contract.

Decarbonisation plans developed as a result of support:

The majority of this target sat with the Decarbonising Community Buildings scheme and 28 plans were produced against a scheme target of 20. This reflects that the scheme was extended with underspend from the A&EV scheme and a second round of community buildings were supported in practice. A number of other schemes met their targets with the Skipton Station Triangle and Sowarth's Field Industrial Estate scheme exceeding their target and producing 4 decarbonisation plans against a scheme target of 1.

Innovation plans developed as a result of support:

This target sat solely with the Skipton Station Triangle and Sowarth's Field Industrial Estate scheme and no innovation plans were produced against a target of 1. On re-evaluation of the type of outputs provided against the definitions within the CRF guidance, all four studies produced were classified as decarbonisation plans rather than innovation plans.

Organisations engaged in knowledge transfer activity following support:

The majority of this target sat with the Decarbonising Community Buildings scheme (target of 30) and the LAEP schemes (target of 14). The Decarbonising Community Buildings scheme reported an actual of 13 organisations engaged in knowledge transfer activity following support. This is lower than the scheme target, as most organisations so far have only interacted on a one-to-one basis with the consultants and Community First Yorkshire, rather than in wider discussions that have continued past the project close date, although we expect organisations on be re-engaging with a programme of follow-on activities in Spring 2023. The LAEP schemes reported 38 organisations engaged in knowledge transfer which is more than double the scheme target. This demonstrates that the LAEP schemes are set to successfully exceed expectations in sharing learnings with a wide range of interested stakeholders that are likely to play a key role in the decarbonisation of the areas.

2.5 – Progress against targets conclusions:

This section of the evaluation report answers the evaluation prompts provided by the Department for Levelling Up, Housing & Communities.

i) Has the programme delivered what it expected to in terms of spend and outputs?

The programme has a total CRF budget of £753,800 and has spent £745,439 which is 99% of the target. We therefore conclude that the programme has performed well on the overall expenditure target, and note that considerable spend occurred towards the end of the delivery period.

In relation to outputs the programme has exceeded each of the core CRF outputs which relate to the involvement of public, private and voluntary sector organisations involved. On this basis the evaluation team conclude that the programme has delivered what was expected in relation to outputs.

ii) What are the factors which explain this performance?

Interviews were held with delivery partners and a range of factors were identified which affected performance. Firstly, there was a **delay to the programme's start** with Government confirming the funding award later than forecast. It is also took longer than forecast for the Local Enteprise Partnership to agree contracts with each individual scheme, due in part to challenges in internal capacity at the delivery partners (see Local Government re-organisation below).

Many of the individual schemes experienced **challenges in procuring suppliers**. A number of delivery partners highlighted that they issued tenders at the end of the 2021/22 financial year and did not receive much interest from suppliers. It may be that capacity in supplier market was limited given the volume of tenders that are typically issued towards the end of financial years. A small number of schemes did not receive any initial response and had to re-tender causing delay. There was one scheme which received a tender response which set out the supplier would deliver the work without charge. The validity of this tender response had to be checked again causing delay. The £0 tender generated a significant risk balancing exercise – a multi-gateway plan was put together to prepare extension activities in other work packages to make use of the underspend, whilst scrutinising closely the potential for the WP2.1b work to slip and potentially not deliver the required output, due to the provider having little to no incentive to engage with the CRF deadlines and output requirements.

Local Authority delivery partners highlighted that their organisations' **capacity was reduced by Local Government re-organisation**. Programme delivery took place against a backdrop of significant Local Authority re-organisation. In July 2021 the Government decided that a new single council would be formed to deliver across North Yorkshire. This new council will replace the current county and the seven district and borough councils and it will be in place from April 2023. Local Authority delivery partners highlighted that their organisations' engagement with the re-organisation process absorbed considerable time and energy reducing capacity for the CRF programme delivery.

iii) When the programme draws to a close, is it expected to have achieved what it set out to?

The programme has spent £745,439 against a target of £753,800. The programme has exceeded all output targets by December 2022 and we therefore conclude that the programme has achieved what it set out to. The slight underspend was due to two key factors:

- tenders coming in below expected levels and some project management underspend at delivery partners; and,
- the relatively short timescale between identifying the signifcant underspend in the A&EV study (June 2022) and programme wrap up, limiting opportunity for further reallocation.

A total of £48,293 of underspend was reallocated throughout the programme to deliver extra outputs within the original work packages.

CHAPTER 3 - Delivery and management

3.1 – Theme 1 delivery & management:

Scheme overview:

The CRF programme funded the production of three LAEPs that cover the following areas of North Yorkshire:

- Harrogate and Dales
- A1 corridor
- Scarborough and Moors

The LAEPs were undertaken all in parallel and along with an LAEP for the City of York, which was funded separately and directly by City of York Council. This evaluation does not concern the City of York LAEP specifically, although it is noted that the production of this was within the wider work package that also includes the three LAEPs funded through the CRF.

The contracted consultants Energy Systems Catapult (ESC) led the technical analysis, whilst the LEP led the non-technical analysis and stakeholder engagement elements of the local area energy planning process.

The main aim of the LAEPs was to support the North Yorkshire region in meeting its targets of achieving net zero by 2034 across the whole region and becoming England's first 'carbon negative' region by 2040. To do this, the LAEP projects sought to support the local areas in enabling the transition to an affordable and decarbonised energy system within the timeframe set by their net zero targets.

The LAEPs explored potential pathways considering a range of technologies and scenarios. Combined with stakeholder engagement this led to the identification of the most cost-effective preferred pathway and sequenced plan of proposed actions to achieve the area's net zero goal. The scope of the LAEPs covers the current energy consumption and associated greenhouse gas emissions, as well as the projected consumption in the study areas to 2050, primarily focussing on the built-environment and some aspects of energy used for transportation. The LAEPs sought to provide a proposed future plan for the area from which more detailed work can be derived to deliver specific elements.

Scheme delivery:

The schemes were procured through a framework rather than open procument due to the very short initial timescales. As outlined in previous sections, there were significant delays in contract agreements at the start of the project. These were between Reed Talent Solutions, who were running the framework, Consultancy+, and the contractor ESC.

The delivery of the LAEPs comprised the following elements:

- Data gathering – this was initially commissioned separately starting in July 2021 to prepare the foundations for the development of the LAEPs that were due to start in December 2021. This phase took longer than anticipated and was concluded in March 2022, therefore running into the planned timeline of LAEPs. The extended timeline of this phase was mainly due to delays in finalising data sharing agreements with external stakeholders. However, as

outlined above, severe initial delays with contractual agreements meant that the LAEP work was not held back by the delays in data gathering.

- Technical assessment – ESC undertook the modelling and analysis for the decarbonisation of buildings, heating systems, transport, local energy generation and networks for the whole region covering the 4 LAEPs. For the purposes of the place based analysis, the region was divided into 44 geographic areas based on their connection to the electricity network. ESC identified three future scenarios for decarbonisation and developed pathways to net zero for each of the four areas covered by the LAEPs.

- Non-technical assessment – the LEP undertook a PESTLE (Political, Economic, Sociological, Technological, Legal and Environmental) analysis with the LAEP Steering Group with the aim of identifying the local non-technical factors that are key for the adoption of net zero solutions in the study area.

- Stakeholder engagement – the LAEP Steering Group included the LEP, ESC, climate action leads for all Local Authorities that the study area comprises, Northern Powergrid, the distribution network operator (DNO), and Northern Gas Network, the gas distribution network (GDN). The Steering Group convened eight times over the production of the LAEPs. A Technical Advisory Panel was also formed with the aim to complement the Steering Group in 'ground-truthing' the outputs of the technical analysis and consider their potential implications for the area. The panel was brought together twice during the duration of the schemes. The stakeholder planning undertaken by the LEP and Steering Group at the start of the LAEPs identified further engagement to be undertaken with wider audiences after completion of the first draft LAEPs.

- Deliverability and governance – within the LAEP documentations, ESC have included an overview of how the implementation components of the LAEPs, as well as the necessary next steps that will be key for taking forward the LAEPs. ESC also provided an overview of business models that show innovative ways to fund the deployment of technologies required for the transition towards net zero.

A structured interview was held with the Project Manager for the schemes on 19th October 2022 and an evaluation workshop was held with the Steering Group on Monday 28th November 2022. Two additional follow-up short interviews were held with the Project Manager to ensure all the information captured was correct.

The aims of the interviews and workshop were to understand from those involved in producing the LAEPs how the process had developed and gather their reflections and insights at the end of the projects. In particular, the intention was to assess whether the relevant stakeholders felt that the LAEPs met their expectations and provided what is needed for their implementation.

From the consultation undertaken, the following were highlighted as main areas of **good practice**:

- The data gathering process was initiated ahead of the start of the LAEPs. Data gathering can be a long process that has the potential to slow down or even hold back the delivery of these schemes. It was recognised that commencing this six months prior to the start of the LAEP allowed time for unforeseen delays, e.g. in data sharing agreements.

- The LAEP final documents included numerous data visualisations in the form of figures and maps. These are a very helpful and engaging way of presenting data and the results of the technical modelling and assessment. These will also be particularly useful in presenting the LAEPs in further engagement with wider audiences.

- The LAEP analysis aligns with substantial work previously undertaken for the Carbon Abatement Pathways. This has given confidence that the climate ambitions and pathways established for the local area are aligned and coherent.
- The Steering Group size and composition worked well and a good range of additional key stakeholders were engaged and involved throughout the process.

- The LAEP programme was well structured overall, with clear project milestones and continued engagement from the Steering Group. After the initial delays, the programme timescales were then adhered to.

- There was a strong political buy-in from the outset and high level of awareness at senior level within the relevant local authorities, reflecting successful top-down engagement. This will be key during the implementation phase of the plans.

A number of **learning points** were also identified by the Project Manager and Steering Group during interviews and the workshop. The most notable were as follows:

- The data gathering phase took much longer than anticipated. Gathering local based data was found to be particularly challenging. Depending on the timescales available, using national datasets or modelled data where the local data is not readily available could be a more efficient approach.

- More regular updates on modelling inputs and assumptions with the Technical Advisory Panel would have been beneficial to ensure alignment with work undertaken by others, e.g. the DNO.

- More clarity from the outset on how the LAEP integrates with other plans and strategies would be recommended. Local area energy planning is a new type of process which is evolving and where best practice is still being established. It is important that, before the LAEP process starts, local governments establish where the LAEP will sit within their governance structures and local strategies and plans. It was also noted that planning policy departments should play more of a key role in the process, in light of the overlap between the outcomes of the LAEPs and Local Plans.

- The six month timeline for the LAEPs presented some challenges. More time available would have allowed for thorough reviewing of outputs throughout and flexibility to adjust the process if needed, as well for more opportunity to map and plan wider stakeholder engagement – this could then include a bottom-up approach to engagement, but also involve a number of large local players that will be key in the implementation phase of the LAEPs.

- The non-technical analysis undertaken at the beginning of the process was not revisited. A process where highlights from the analysis can be reviewed and refreshed throughout would make it possible to include important changes in the local area, e.g. the on-going local government reorganisation, and the national level, e.g. central Government changes.

- Immediate next steps for the governance of the LAEP seem to be unclear. A brainstorming session to explore delivery options and actions is planned for the immediate future. A similar session could also be carried out at the beginning of the LAEP process to gauge expectations, awareness and intentions of the key stakeholders involved.

- An individual “sponsor” at senior level in the local government acting as an advocate for the LAEPs from the start would have facilitated better engagement and collaboration within the local authorities.

Scheme outcomes:

The schemes have achieved the main purpose of the LAEP process which is to provide the foundations for effective and sustained local action towards a net zero whole energy system. The schemes included all the four key elements of the LAEP process as described in the Local Area Energy Planning: The Method[1] document. The schemes have delivered the guidance provided in the document checklists as follows:

- *Robust and consistent technical analysis*: the LAEPs have delivered an evidenced and robust technical analysis. A clear geographical scale was defined for all of them, modelling and data inputs and outputs were set out clearly, and changes to the system required over time were presented in a compelling manner.

- *Understanding the wider determinants of success*: as part of the LAEP schemes a PESTLE analysis was undertaken. This covered a characterisation of the non-techcnial factors that will be key for the successful delivery of the plans. During the evaluation workshop the Steering Group identified a further need for updating the PESTLE analysis to ensure it reflects local and national changes that will affect the conditions for success. The LAEPs also include a number of actions to be taken at different times over the coming years for a wide variety of stakeholders.

- *Evidence of an effective social process and engaged stakeholders*: the schemes delivered an initial engagement of relevant stakeholders (the Steering Group, Technical Advisory Panel and Peer Challenge Group). As the delivery timelines did not allow for wider stakeholder engagement, the evaluation workshop identified that key next steps will need to include a clear design of the social process going forward and planning of further and wider engagement.

- *A realistic and deliverable plan*: the LAEP reports include a routemap for the local area to become carbon negative and clear next steps to be taken for its delivery. The reports were reviewed and endorsed by all key stakeholders involved in the Steering Group. Further work will be needed in the near term, as part of further stakeholder engagement, to map out governance arrangements, especially in light of the local government reorganisation, and progress monitoring.

The LAEPs delivered can provide a starting point for the successful decarbonisation of the local area energy systems analysed. As identified in the documents and throughout the evaluation, time constraints throughout the scheme have meant that more work needs to be done promptly to ensure effective implementation of the LAEPs, with a particular focus on the social process and deliverability aspects. As an important next step in relation to the governance of the schemes, it will be key that clarity is made with regard to integration of the LAEPs with existing and upcoming local authority plans and strategies. It may also be useful to revisit and review the non-techncial analysis to ensure that it is up-to-date and includes the right opportunities that can be built upon during the delivery phase.

The LAEPs are considered to contain the assessment and information needed to enable the local areas to reach their net zero targets. However, as confirmed by the Project Manager and Steering

[1] https://www.cse.org.uk/downloads/file/LAEP-method-final-review-draft-30-July-2020.pdf

Group, some key important next steps need to be agreed as soon as possible to ensure that the momentum is kept and the LAEPs are delivered promptly and effectively.

3.2 – Theme 2 delivery & management:

3.2.1: Local E-Motion

Scheme overview:

The overall aim of the Local E-Motion project was to work with local people and communities to explore the opportunities for local e-transport hub-based schemes, and to co-design sustainable and well evidenced proposals that will best meet the need of those in rural communities who wanted to make affordable low carbon transport choices. The personal e-transport options which the scheme examined included:

- shared and privately owned e-scooters;
- shared and privately owned e-bikes;
- privately owned electric cars;
- electric car clubs; and,
- demand responsive transport (DRT).

The scheme had two specific objectives:

- Undertake research, community engagement, and feasibility, deliverability, and business case development work for pilot schemes to deliver affordable personal electric transport choices in two areas of North Yorkshire.
- Co-design virtual and/or physical hub-based holistic and bespoke personal e-transport solutions with the communities of (and visitors to) four diverse settlements by using hyperlocal data and community insight.

The long-term aim was to reduce car use through modal shift and demand reduction. As detailed in the original CRF funding application '*the scheme will benefit local communities, particularly those at risk of being left behind in the transition to a low carbon future, delivering a greener, fairer, stronger North Yorkshire.*'

A key part of the rationale for Local E-Motion is that whilst schemes like e-bikes and e-scooters are commercially viable in large cities, but less viable in smaller, dispersed rural settlements. In commissioning the Local E-Motion study Richmondshire District Council and Scarborough Borough Council were completing business case work to understand and address the viability gap involved in establishing local e-transport hubs in the target areas.

Scheme delivery:

The scheme was led by Richmondshire District Council. A specification was developed for the commission and several tender responses were received, and Cenex was appointed to complete the work.

The scheme focussed on the following settlements: Catterick, Eastfield and Whitby. The work in Whitby was supported by a reallocation within the programme. A report was produced for each of the three settlements with suggested measures including:

- E-bikes;
- E-scooters;
- Electric Vehicle (EV) charging points; and,
- EV car pools.

The reports were informed by community consultion including in-person meetings with community groups; online resident meetings; engagement with Councillors; and, engagement with key stakeholders including the Ministry of Defence in relation to Catterick Garrison.

A Steering Group was formed to oversee the scheme and the members included representatives from the LEP, Nort Yorkshire County Council, Richmondshire District Council and Scarborough Borough Council. The Steering Group met monthly and oversaw Cenex's delivery of the Local E-Motion study.

A dissemination event was held on the 14th October 2022 and involved stakeholders including Local Autorities. Following this event an online survey, designed by the evaluation team, was issued to attendees. The survey was left open for several weeks and 2 responses were received. Analysis of the modest responses to key questions is provided on the following page.

To what extent do you agree or disagree that the E-motion scheme was successful in its aim to…				
	Involve local communities	Co-design sustainable solutions with communities & stakeholders	Develop low carbon transport solutions to meet the needs of rural communities	Develop bid-ready business cases
Strongly agree	50%	50%	50%	50%
Agree	50%	50%	50%	50%
Neither				
Disagree				
Strongly disagree				

As shown above, the stakeholders that complete the survey felt that Local E-motion has been successful in each of its aims. The table below contains analysis of questions designed to determine the benefits generated through the scheme's delivery.

To what extent do you agree or disagree with the following statements?			
	Strongly agree or agree	Neither	Strongly disagree or disagree
The process of developing plans for E-Motion hubs has increased awareness of the need to reduce private car use.	50%	50%	
The process of developing plans for E-Motion hubs has increased community engagement in the need to reduce private car use.	50%	50%	
The communities involved now have feasible low carbon transport solutions.	50%		50%
The communities involved now have plans in place which will make it easier to attract funding for low carbon transport solutions.	50%	50%	

It is hard to draw robust conclusions given the sample size but it appears that stakeholders are generally of the view that the scheme has increased awareness of the need to reduce private car use and will make it easier to attract funding for low carbon transport solutions.

An interview was held with the scheme's Project Manager and the following areas were identified as representing **good practice**:

- The procurement was run to schedule and enabled work on Local E-motion to commence reasonably early in the overall delivery timetable.

- The community engagement was effective and directly informed the recommendations for Catterick Garrison, Eastfield and Whitby including the location of local e-transport hubs. The effectiveness of the community engagement was assisted by the fact that Richmondshire District Council and Scarborough Borough Council had strong existing links with the community groups.

A number of **learning points** were identified including:

- It would have been useful to conduct some engagement with providers of personal e-transport solutions before the specification was developed and Cenex were appointed. This would have enabled Richmondshire District Council and Scarborough Borough Council to provide a stronger early steer on the likely focus of the transport hubs.
- Demand Responsive Transport (DRT) is a specialist area and it may have been worth including a requirement in the specification that bidders had to include DRT expertise within their team.

Scheme outcomes:

The Local E-Motion reports demonstrate that an initial subsidy is needed to establish local e-transport hubs in the target communities. Richmondshire District Council and Scarborough Borough Council will now seek funding for capital costs and initial revenue costs involved in establishing the hubs. The initial intention was to seek funding from the Shared Prosperity Fund, but the focus will now be on the LEP's Net Zero Devolution fund which is inviting applications in February 2023 with funded projects commencing from November 2023.

The completion of the Local E-Motion scheme has filled specific information gaps and secured community support for local e-transport hubs in Catterick Garrison, Eastfield and Whitby. Richmondshire District Council and Scarborough Borough Council now have the knowledge and support needed to design and commission local e-transport hubs in the three target communities.

3.2.1: A&EV

Scheme overview:

This scheme delivered a feasibility assessment for installing Electric Vehicle (EV) charging infrastructure at Scarborough and Selby Hospitals. The assessment included:

- Reviewing existing localised EV demand and provision;
- Analysing network capacity, on-site generation and storage options, and potential EV numbers (ambulances, hospital fleet vans and pool cars, staff, visitors);
- Designs and costings for microgrids (EV charging + Solar + Batteries);
- Reviewing charging management systems, including revenue generation and load balancing technologies; and,
- Assessing impact (economic, social, environmental).

A&EV explored novel technological solutions to the problems of load balancing with a constrained local electricity grid and the need to prioritise charging for emergency response vehicles, whilst providing slower charging for staff and rapid options for suppliers and visitors.

Scheme delivery:

There were some initial delays in agreeing the contract between Yorkshire Ambulance Service (YAS) NHS Trust and the LEP. YAS developed the specification for the commission and issued a tender, but did not include an indicative budget. A single tender response was received and was significantly over-budget. YAS therefore redesigned the specification and re-issued the tender. There was considerable interest amongst suppliers, with one supplier submitting a return costed at £0. There was some further delay whilst YAS checked the validity of this tender return, and the contract was then issued to BP Pulse.

As part of completing the commission BP Pulse visited both Selby and Scarborough hospitals and completed detailed surveys. BP Pulse worked closely with staff from both hospitals and agreed to complete extra work examining a proposed Ambulance Hub at Scarborough hospital. BP Pulse experienced some delays in obtaining the data needed to complete the modelling work, and the A&EV report was submitted to YAS in December 2022.

An interview was held with the scheme's Project Manager and the following areas were identified as representing **good practice:**

- The process was useful in gaining insights into the barriers that need to be overcome to agree the installation of EV charging points within A&E Departments. A route map to addressing these issues is included in the report.
- As identified earlier, BP Pulse agreed to do additional work examining the potential to install EV charging points at a proposed Ambulance Hub.
- The commission involved a wide range of internal stakeholders including staff from Estate Teams and Fleet Teams. Involving these stakeholders has helped secure increased understanding and commitment to installing EV chargers.

A number of **learning points** were identified including:

- The tender process was challenging and the Invitation to Tender had to be issued twice. It would be worth undertaking market engagement in advance of issuing similar tenders.
- The commission directly involved three organisations - Yorkshire Ambulance Service, Scarborough Hospital and Selby Hospital. The Project Manager highlighted that a greater amount of pre-planning would have been helpful, with a greater level of detail on the specific tasks involved and agreement on which organistion would lead in each area.

Scheme outcomes:

The work completed on A&EV is being used to inform a planning application for the proposed Ambulance Hub at Scarborough Hospital. The A&EV Project Manager also used data from the commisision to inform a funding application for the installation of EV charging points at Hull Royal Infirmary.

Work will now commence on securing funding to install EV charging points at Scarborough and Selby Hospitals. This will includes presentations to the Humber and North Yorkshire Integrated Care System and the Greener NHS Team to secure internal resources for EV charging points. The A&EV study represents the first cross-organisational assessment of installing EV charging points in A&E Departments.

3.3 – Theme 3 delivery & management:

3.3.1: Skipton Station Triangle and 3.3.2: Sowarth's Field Industrial Estate

Overview of both schemes:

The Skipton Station Triangle scheme delivered a Feasibility Study exploring three potential low carbon heating opportunities in Skipton:

- Assessing a possible Industrial Heat Recovery Site;
- Exploring the potential for an Anaerobic Digestion facility; and,
- Assessing water source heating opportunities in the Leeds-Liverpool Canal.

The Sowarth's Field Industrial Estate scheme delivered a Feasibility Study exploring the placement of an Anaerobic Digestion facility in Settle.

Delivery of schemes:

Craven District Council led the two schemes. The original Project Manager left the Council and a new Project Manager was appointed at the end of May 2022. The Council appointed an external contractor to deliver the Project Manager role reflecting limited internal capacity.

The procurement of a contractor to complete the Feasibility Study was delayed, with an initial procurement process in March and April 2022 abandoned due to the lack of internal contracting support and then concerns raised around the provision of internal project management. Once the new Project Manager was in place, the scope of work was finalised in July 2022. The Fusion21 Framework was identified as a suitable means to procure a contractor and in September 2022 Buro Happold was appointed to complete the Feasibility Study.

Buro Happold had a 12 week timetable to deliver the four Feasibility Studies listed above. The four studies involved technical analysis which typically needs at least 6 to 8 weeks to complete, this placed pressure on the request for information (RFI) stage of each study. Every effort was made to collect data needed for the studies from internal and external stakeholders but ultimately a cut off point had to be applied and the technical component of the studies had to progress based on the best information available.

The studies were completed by early December 2022 and a feedback session was delivered on the 7th December with attendees including community groups, businesses and representatives from Craven District Council.

An interview was held with the scheme's Project Manager and the lead consultant and the following areas were identified as representing **good practice:**

- There was open and regular communication between the Project Manager and the Buro Happold consultancy team and the progress on each Feasibility Study was visible.
- Buro Happold quickly mobilised following their appointment and produced highly technical studies in a challenging time period.
- The completion of the Feasibility Studies provides a focal point for further action, and takes concepts that have been of interest for a considerable time and identifies where there are viable use cases. The information gathered through the studies will enable the LEP and the new North Yorkshire Council to bring stakeholders together and develop schemes.

A number of **learning points** were identified including:

- Craven District Council lacked sufficient capacity to complete early engagement works including involving stakeholders in the specification for the four Feasibility Studies. This capacity was impacted by the Local Government re-organisation work that ran in parallel with delivery of the CRF Energy Programme.

- The Feasibility Study period of 12 weeks was too short and a longer period would have allowed for greater stakeholder engagement and more thorough responses to the Request for Information. The study period would have been longer if it had been possible to appoint Buro Happold much earlier, in line with the original forecast milestones.

- The specification for one of the Feasibility Studies in particular was quite broad, and resulted in Buro Happold needing to complete some options analysis first. This work was valuable and helped rule out some options that were not feasible, but it reduced the time available for technical modelling.

Scheme outcomes:

The completion of the four Feasibility Studies has delivered a range of immediate benefits including:

- Identifying which of the ideas have strong use cases and appear economically viable.
- Calculating the potential for viable schemes to reduce carbon consumption.
- Increasing knowledge and understanding within the public, private and voluntary sectors of the potential of innovative technologies to displace grid gas and electricity.

It is unlikely that Craven District Council will take any immediate action to progress the schemes given that the new North Yorkshire Council comes into effect from April 2023. However, there is the potential to fund the next stage of development work on several of the schemes from the Heat Networks Delivery Unit (HNDU) which can support feasibility studies or detailed project development studies. The funding is open to both Local Autorities and private sector organisations. It is anticipated that the new North Yorkshire Council and the LEP will explore how to progress the schemes tested through Skipton Station Triangle and Sowarth's Field Industrial Estate Feasibility Studies.

3.4 – Theme 4 delivery & management:

3.4.1: Hitting Hard

Scheme overview:

This scheme sought to create a plan to tackle hard-to-decarbonise stone homes in Richmondshire and Victorian terraces in Scarborough.

The scheme aimed to directly prepare Scarborough and Richmondshire councils to better utilise the expanding portfolio of housing decarbonisation funding opportunities (e.g. Green Homes Grant Local Authority Delivery schemes, Energy Company Obligation, Home Upgrade Grants). It also sought to support the ambition to transform the lives of more homeowners who live off the gas grid, particularly in rural areas.

Scheme delivery:

The scheme was led by Scarborough Borough Council who worked in partnership with Richmondshire District Council. Scarborough Borough Council was experienced in delivering retrofit schemes but recognised a challenge in approaching particularly hard-to-treat properties including Victorian terraces. Richmondshire District Council sought information on how best to approach retrofit work on rural properties.

A specification was developed and focussed on the following ares:

- Critical assessment of emerging technological approaches;
- Quantification of extra retrofit costs;
- Identifying planning barriers and how to overcome them; and,
- Using community insights from the Green Homes Grants to produce an action plan of prioritised locations, funding options and engagements.

The specification was issued to the market in late 2021, and a tender response was received from a single potential supplier. The appointed consultant, Sustenic, completed the majority of the work remotely using local and national data. The consultant did complete site visits to both Scarborough and Richmondshire and completed physical surveys of archetypal properties.

Sustenic delivered the commission in stages reflecting the four areas detailed in the specification. A final report presentation was delivered on 22nd November 2022 at a hybrid event with attendees being in-person and online. The final action plan was being finalised as this evaluation report was being completed.

There were a number of challenges encountered during the completion of the study. For example, the consultant sought information on the focus and structure of the new North Yorkshire Council and this information was only available towards the end of the commission. The Project Manager would have liked to have widened participation in the study but a number of target stakeholders had limited capacity due in part to the Local Government re-organisation work which ran in parallel with the Hitting Hard commission.

An interview was held with the scheme's Project Manager and the following areas were identified as representing **good practice:**

- The appointed consultant were responsive and flexible.

- The Action Plan in development is highly tailored to the specific needs of Richmondshire District Council and Scraborough Borough Council. The Plan includes technical recommendations but also considers how retrofit capacity and capability can be built within the new North Yorkshire Council.
- The report includes a detailed cost model with accurate costings for major components of retrofit work. The cost model will help North Yorksire Council accurately price for retrofit work and justify forecast costs to Central Government.

A number of **learning points** were identified including:

- It would have been useful to deliver market engagement before issuing the tender. This may have led to the receipt of a greater number of tender responses.
- The original CRF delivery timetable did not allow sufficient time for feeding back on the staged reports. The extension to the timetable was welcome, but did mean that the budget for Scarborough Borough Council's Project Manager had to be stretched over a much longer timeframe.
- It would be valuable to secure a full-time Project Manager for similar future commisions. This approach would enable the commission timetable to be shortened as it would reduce the time taken to feedback on the staged report.

Scheme outcomes:

The Hitting Hard study has already been used to inform a funding submission. Scarborough Borough Council assisted North Yorkshire County Council to complete a bid to the Government's Home Upgrade Grant (Phase 2) on behalf of all district and borough councils in North Yorkshire, which provides funding for local authorities to improve the energy performance and heating systems of off gas grid homes in England.

The application was submitted by the deadline of 18/11/2022 and whilst the Hitting Hard study had not been fully completed, the information developed as part of the study directly informed the funding bid. A decision on the application is expected in the coming weeks.

The study has also informed workstreams in place for the formation of the new North Yorkshire Council. The study calls for dedicated Officers at the new Council fully focussed on retrofit and the evidence gathered as part of the study has strengthened and evidenced this need. The strong attendance at the Hitting Hard final presentation in December reinforced the strong interest in retrofitting across North Yorkshire.

Sustenic delivered the commission in stages reflecting the four areas detailed in the specification. A final report presentation was delivered on 22nd November 2022 at a hybrid event with attendees being in-person and online. The final action plan was being finalised as this evaluation report was being completed.

Work has commenced to replicate the data analysis that Hitting Hard secured for Scarborough and Richmondshire across the rest of Nort Yorkshire. The Hitting Hard Project Manager has been invited to deliver a presentation on Hitting Hard at a Housing Advisory Group Seminar hosted by the Association for Public Service Excellence – this provides an opportunity for the study to influence the design and delivery of retrofit schemes across the country.

3.4.2: Hospital Twins

Scheme overview:

This scheme was led by York Teaching Hospital NHS Foundation Trust and York Teaching Hospital Facilities Management. The Trust is committed to a route to net zero and learned about the opportunity that CRF presented through connections with the Local Enterprise Partnership. The Trust had previously secured funding from the Government's Public Sector Decarbonisation Scheme and sought detailed information on heating systems at Selby and Scarborough hospitals to inform how best to decarbonise them.

The scheme created 'digital twins' to aid plans to decarbonise Selby and Scarborough hospitals. As part of the development work the following activities were completed:

- Heating system surveys;
- Technology options appraisal;
- Creation heating systems 'digital twins';
- Provision of techno-economic business case for system upgrades; and,
- Generation of long-term energy decarbonisation strategy.

Scheme delivery:

Selby Hospital was built in 2011 to the BREEAM excellent standard, and is a relatively modern building powered with a Combined Heat and Power Unit. In contrast Scarborough Hospital consists of a series of buildings on a campus, and some of the buildings require a fabric-first approach.

Two separate consultants were commissioned to develop the digital twin models for the two hospitals. Scarborough hospital has an energy performance contract with Vital Energi, following a competitive tendering process, and Vital were commissioned to develop the model. Selby Hospital developed a specification for their model and issued a tender, receiving a single response and appointing Hysopt.

The original timescales for the study were demanding and the extension was welcomed by York Teaching Hospital NHS Foundation Trust and York Teaching Hospital Facilities Management. The consultant appointed to develop the model for Selby had numerous public sector commissions and had to balance their resource to meet competing demands. Supporting the consultants completing the modelling work was time consuming and had to be balanced with other priorities including a bid to the Government's Public Sector Decarbonisation Scheme. For example, it was necessary to gather paper files for numerous individual buildings within the Scarborough Hospital campus.

An interview was held with the scheme's Project Managers and the following areas were identified as representing **good practice:**

- The digital twin models have helped the hospitals understand how existing space heating and hot water systems work, and be modified to reduce carbon emissions.
- The theoretical recomemndations made following the digital twin modelling were througly tested by engineers representing both hospitals. This ensured that practical consideration were fully considered and reflected in the models.

A number of **learning points** were identified including:

- The Trust identified that they need better Building Management Systems (BMS) that record energy consumption data to support efforts to decarbonise hospitals. Funding is being sought from the Public Sector Decarbonisation Scheme to upgrade Scarborough's BMS.
- The original timescales for the delivery of the digital twin models would have been very difficult to meet and may have resulted in a sub-optimal outcome.

Scheme outcomes:

The digital twins study has accelerated efforts to decarbonise Scarborough and Selby Hospitals. The modelling completed fed directly into a funding submission to the Government's Public Sector Decarbonisation Scheme and a decision is expected in the coming weeks.

The Board of both hospitals carefully consider the balance of benefits and costs when considering new investments, including in decarbonising heating systems. The completion of the digital twin modelling has strengthened the case that can be made for decarbonisation.

3.4.3: Decarbonising Community Buildings

Scheme overview:

This scheme delivered feasibility assessments for renewables and efficiency improvements in community buildings. The activity included:

- Desktop assessments of 30 locations, presented to community venues;
- Conducting 20 site surveys;
- Investigating funding sources, barriers and risks; and,
- Creating a business case for a joint decarbonisation package.

The multi-organisation community collaboration employed in decarbonising community buildings had not been attempted before in these districts.

Scheme delivery:

The scheme was originally managed by North Yorkshire County Council (NYCC) but the Project Manager left and the LEP approached Community First Yorkshire to gauge their interest in delivering it.

Community First Yorkshire took the scheme on in January 2022 and the Project Manager began in February 2022. NYCC had already procured the consultancy firm d3 Associates to deliver the study. The scheme initially was just focussed on Richmondshire and Scarborough with the intention to complete per Local Authority area:

- 15 desk-based reviews of community buildings with initial reports; and,
- 10 detailed reports based on a site visit and liaison with the community building operators.

The scheme invited operators of community buildings in Richmondshire and Scarborough to apply to the scheme. A greater number of applications were submitted by community buildings in Richmondshire, but ultimately 10 detailed reports were completed on buildings in both areas. The buildings analysed included a wide-ranging selection of venues from village halls, charity premises and sport facilities to libraries, a museum, a theatre and a pub. The ages of the buildings also varied ranging from the 12th to the 21st century with an impressive array of building construction - from solid stone and brick cavity to prefabricated modular buildings.

Presentation events were delivered for both areas with the event for Scarborough delivered online, and the event for Richmondshire delivered in person.

Under-spend from elsewhere in the CRF Energy Programme was used to extend the Decarbonising Community Buildings scheme. The initial application window was open for 2 weeks and during this time 47 applications were made demonstrating strong demand for the scheme. A virtual event was held for operators of community buildings across the whole of North Yorkshire and 19 groups attended.

An interview was held with the scheme's Project Manager and the following areas were identified as representing **good practice:**

- A Steering Group was established and they were effective in supporting the Project Manager and guiding the delivery of the scheme.
- The initial application was adapted over the course of delivery to ensure that the language was clear and accessible.

- The delivery of the scheme has been effective, particularly considering that the work supported volunteer groups running community buildings. These volunteers have to balance competing demands and needed some support to guide them through the process.

A number of **learning points** were identified including:

- Community First Yorkshire would have benefitted from additional resource funded by the CRF Energy programme to provide intensive support to the volunteer groups running community buildings.
- The delivery approach was amended in the extension to include one-to-one meetings between the appointed consultant and volunteer groups. This reflected feedback that groups involved in the initial activity felt a little over-whelmed and required more advice and support.
- It may be worth including a small funding pot in future similar schemes to support the costs of small-scale improvements that decarbonise community buildings. It would also be worth including resource to assist the volunteer groups to identify and bid for funding to address recommendations in their reports.

A survey was designed by the evaluation team and issued by Community First Yorkshire to volunteer community groups. The survey was issued at the start of November 2022 and closed in mid December 2022. A reminder was issued by Community First Yorkshire in mid-November and 4 survey responses were received, of which 2 related to community buildings in Scarborough and 2 to buildings in Richmondshire. Analysis of responses to key survey questions is provided below.

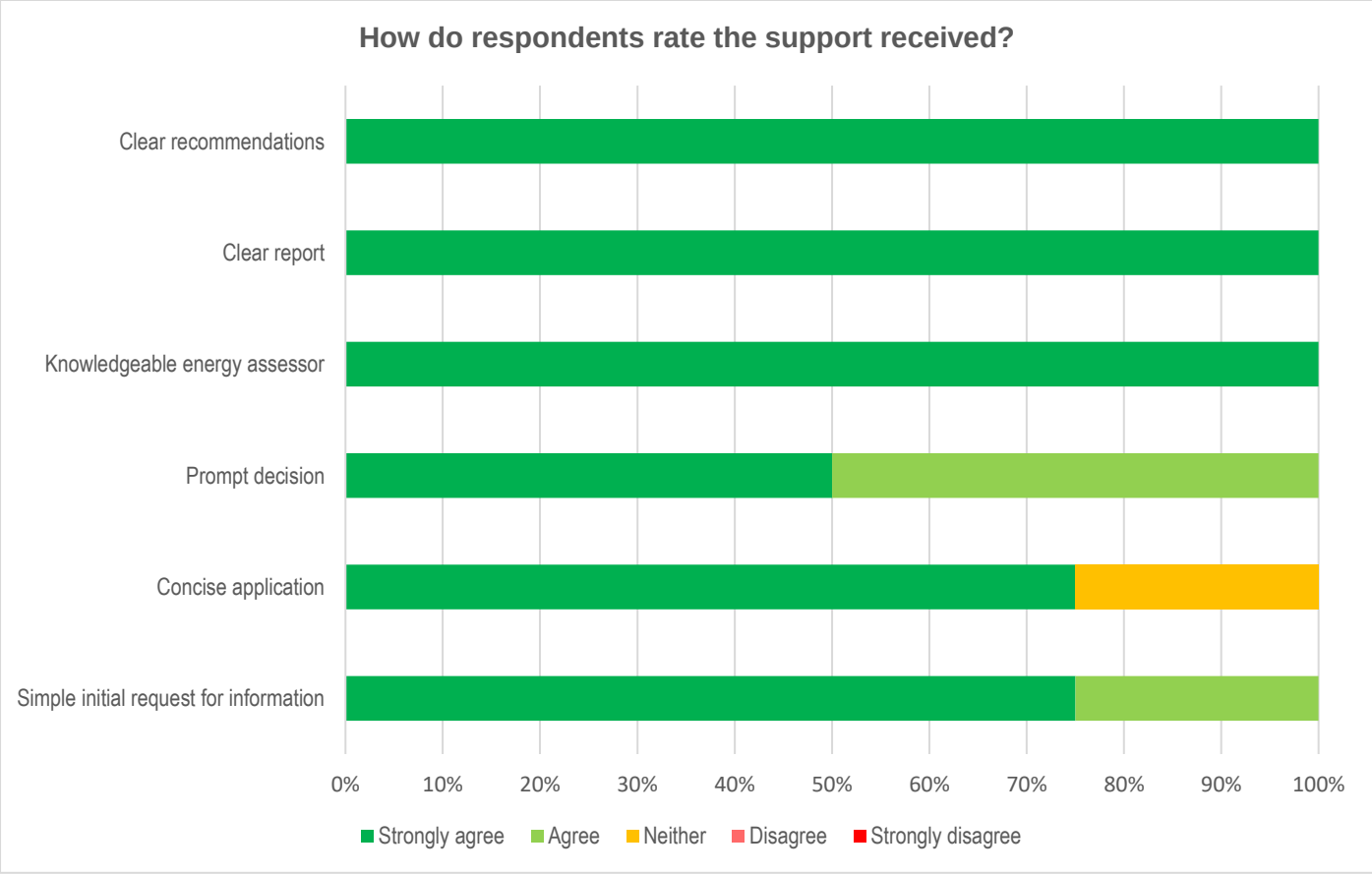
Prior to engaging with the scheme what were the barriers you faced in reducing energy use at your community building?	
Barriers	**Percentage of respondents that cited this barrier**
We were unsure which would be the most effective actions to take in order to reduce energy usage.	100%
We were unsure of which technologies would be most effective in reducing energy usage.	75%
We lacked the money needed to fund actions to reduce energy usage.	25%
We were unsure of potential funding sources to reduce energy usage.	50%
We lacked the detailed evidence needed to approach potential funding sources.	75%

As shown above all respondents stated that they were unsure which would be the most effective actions to take in order to reduce energy usage. Three-quarters of the respondents cited uncertainty over the available technologies and a lack of evidence to support funding applications. Interestingly only 1 of the 4 respondents cited a lack of funding as a barrier.

Respondents were invited to identify additional barriers, and one respondent identified a '*lack of buy-in by committee members – until the analysis was done and the options listed and costed the committee did not have the impetus to do anything about reducing carbon emissions.*'

Respondents were provided with a series of statements relating to the support they received and were asked to identify the extent to which they agreed or disagreed with them. As shown in the table and chart on the following page, respondents were particularly positive about the expertise of the energy assessor; the clarity of the report; and the utility of the recommendations.

To what extent do you agree or disagree with the following statements about the support you received?					
	Strongly agree	Agree	Neither	Disagree	Strongly disagree
The initial request for information we had to complete was clear and concise.	75%	25%	0%	0%	0%
The application form we had to complete was clear and concise.	75%	0%	25%	0%	0%
We received a decision on our application promptly.	50%	50%	0%	0%	0%
The energy assessor was knowledgeable and explained opportunities to reduce energy use.	100%	0%	0%	0%	0%
The report we received was clear and detailed.	100%	0%	0%	0%	0%
The report we received included clear recommendations on actions we could take to reduce energy useage.	100%	0%	0%	0%	0%



Scheme outcomes:

Survey respondents were asked whether they felt the original barriers to action had been addressed by the support received through the Decarbonising Community Buildings scheme.

As highlighted earlier, the main barriers identified were uncertainty over the most effective actions to take; uncertainty about the most effective technologies; and, a lack of detailed evidence for funding bids.

Respondents were asked the extent to which they agree or disagree with the following statements:

- We now have a better understanding of the actions we can take to reduce energy usage.
- We now have a better understanding of the technologies that can assist us to reduce energy usage.
- We now have a better understanding of potential sources of funding to reduce energy usage.
- We now have detailed evidence to include in funding bids.
- We now have contacts that may be able to assist us take action to reduce energy usage.
- Overall, we are now more likely to take action to reduce energy usage at our community building.

The table below provides the analysis of responses.

To what extent do you agree or disagree with the following statements?						
	Strongly agree	**Agree**	**Neither**	**Disagree**	**Strongly disagree**	**Don't know**
We now have a better understanding of the actions we can take to reduce energy usage.	50%	50%	0%	0%	0%	0%
We now have a better understanding of the technologies that can assist us to reduce energy usage.	50%	50%	0%	0%	0%	0%
We now have a better understanding of potential sources of funding to reduce energy usage.	0%	100%	0%	0%	0%	0%
We now have detailed evidence to include in funding bids.	50%	50%	0%	0%	0%	0%
We now have contacts that may be able to assist us take action to reduce energy usage.	25%	50%	0%	0%	0%	25%
Overall, we are now more likely to take action to reduce energy usage at our community building.	25%	75%	0%	0%	0%	0%
We now have a better understanding of the actions we can take to reduce energy usage.	50%	50%	0%	0%	0%	0%

As shown above, all respondents agree that they have a better understanding of the actions they can take; and the technologies that can reduce energy useage; and, they now have evidence for funding bids. Therefore the scheme appears to have been successful in addressing the three most significant barriers identified by respondents.

The survey asked what final barriers community groups face and the following were identified:

- Securing planning permission (identified by 2 respondents); and,
- Finding the considerable time needed to complete a funding application (identified by 2 respondents).

Finally the survey asked 'have you submitted a bid to fund any actions identified in your report?' All 4 respondents responded to confirm that they have not yet done so but expect to in the coming 12 months.

3.5 – Programme delivery & management:

As outlined in the previous sections, there were delays in Government announcing the allocation of funding to York and North Yorkshire Local Enterprise Partnership (Y&NYLEP) and partners. A number of delivery partners highlighted that it took longer than anticipated to agree a contract with the LEP for their specific scheme.

Each delivery partner procured a supplier. Several partners were able to access suppliers from existing Frameworks and this reduced the time involved considerably. This approach was particularly important before Government confirmed the availability of an extension to the CRF delivery timetable. A number of delivery partners experienced challenges in procuring a supplier and this resulted in delays to the commencement of schemes.

Capacity was an issue for a number of partners – the management of the Decarbonising Community Buildings scheme was transferred from North Yorkshire County Council to Community First Yorkshire. Craven District Council secured a consultant to project manage the Skipton Station Triangle and Sowarth's Field Industrial Estate schemes. Other delivery partners highlighted that the Local Government re-organisation work that ran concurrently with the CRF Energy Programme reduced capacity across their organisations.

The extension to the delivery timetable was welcomed by all delivery partners with a number highlighting that it would have been very difficult to deliver their schemes if the original timetable was in place. However, delivery partners also highlighted that the extension led to the budgeted project management resource being stretched over a much longer time frame than anticipated.

The specific activities delivered through the programme are of a high standard, and address the market failures identified in Chapter 1. The main direct beneficiaries for the majority of schemes are the delivery partners that led the scheme. For example, Richmondshire and Scarborough Councils benefit from the research conducted through the Hitting Hard scheme and will use this to secure funding which will reduce energy consumption at homes across North Yorkshire with home owners and tenants the ultimate long-term beneficiairies. Delivery partners for these schemes were positive about the work undertaken through the programme and were able to identify areas of good practice, and lessons that they would pass onto organisations planning similar activity.

The direct beneficiairies of the Decarbonising Community Buildings schemes were voluntary groups and as highlighted in Section 3.4, respondents to an online survey were very positive about the quality of the support provided.

In relation to programme management and governance, York and North Yorkshire Local Enterprise Partnership established and facilitated regular management meetings which involved each delivery partner. These meetings were used to asses progress, discuss challenges and successes and plan for the remaining delivery period. The LEP also gathered information from delivery partners through regular progress and monitoring reports.

A number of the delivery partners established Steering Groups for their schemes. This includes the Local Area Energy Plan work led by York and North Yorkshire Local Enterprise Partnership. These Steering Group meetings were an effective way of engaging stakeholders and co-ordinating action.

3.6 – Delivery and management conclusions:

This section of the evaluation report answers the evaluation prompts provided by the Department for Levelling Up, Housing & Communities.

i) Was the programme well managed? Were the right governance and management structures in place and did they operate in the way they were expected to?

The programme was well managed, York and North Yorkshire Local Enterprise Partnership established and facilitated regular management meetings which involved each delivery partner. These meetings were used to asses progress, discuss challenges and successes and plan for the remaining delivery period. The LEP was responsible for monitoring and designed progress and claim reports which delivery partners completed at regular intervals.

As highlighted earlier, a number of schemes established Steering Groups including the Local Area Energy Plans (LAEP) schemes and the Decarbonising Community Buildings scheme. The LAEP Steering Groups helped co-ordinate the collection and collation of data and were used as a means to gather feedback on draft reports. The Decarbonising Community Buildings Steering Group helped guide the Project Manager's work and the scheme was successful modified throughout the delivery period to offer the best quality support to voluntary groups running community buildings.

ii) Has the programme delivered its intended activities to a high standard?

At the point this evaluation was completed a number of schemes were awaiting final reports from their appointed suppliers. However, through interviews with scheme Project Managers it is clear that they are satisfied with the quality of the work undertaken. Areas of good practice have been identified for each scheme, along with learning that Project Managers would pass to organisations planning similar activity.

As highlighted earlier, an online survey was issued to voluntary groups that engaged with the Decarbonising Community Buildings scheme. Whilst the number of responses received was modest, satisfaction with the support was unanimously positive.

iii) Could the delivery of the programme have been improved in any way?

There are number of key themes relating to lessons learned that emerge from interviews with individual scheme Project Managers, and they are summarised below:

- Delayed start – there were delays in Government confirming the funding allocation and a number of scheme Project Managers highlighted that it then took a considerable amount of time to complete grant agreement drafting and sign off with the LEP, despite the LEP sending draft grant agreements out within days of receiving the grant agreement from Government. This reduced the delivery period and contributed to a number of schemes running right up to December 2022 resulting in the evaluation being completed when some schemes had not been fully completed.

- Procurement of suppliers – a number of schemes experienced challenges in procuring suppliers. Some Project Managers speculated that the timing of tenders being issued may have led to low levels of interest from the market. Some schemes were able to appoint suppliers from existing Frameworks and this accelerated the procurement process. The procurement of suppliers could perhaps have been improved by undertaking market engagement work with the aim of generating a greater number of tender responses.

iv) For programme with direct beneficiaries: did the programme engage with and select the right beneficiaries? Were the right procedures and criteria in place to ensure the programme focused on the right beneficiaries?

The programme was focussed on research to fill information gaps relating to accelerating York and North Yorkshire's progression towards carbon neutral status by 2034 and carbon negative status by 2040. The direct beneficiaries were largely the delivery partners that managed each scheme and they gained information to help them design and secure funding for schemes that will accelerate the progression towards carbon negative status.

The Decarbonising Community Buildings scheme had direct beneficiaries and Community First Yorkshire used a two-stage process to identify community groups. Firstly, community groups completed a Request for Information (RFI) form. Submitted RFI forms were assessed by Community First Yorkshire with a range of criteria including: what is the size of forecast carbon savings; and, how often is the community buildng used? The evaluation team are of the view that the procedures and criteria in place for the Community First Yorkshire scheme enabled them to identify and support appropriate beneficiaries.

v) How are programme activities perceived by stakeholders and beneficiaries?

As part of the evaluation an online survey was issued to the stakeholders involved in the Local E-Motion scheme, and beneficiaries of the Decarbonising Community Buildings scheme. Whilst the response rates were low in both cases both stakeholders and beneficiaries were highly positive about the schemes.

In relation to Local E-Motion stakeholders agreed that the scheme had achieved its aims including to involve local communities; co-design sustainable solutions with communities and stakeholders; and, develop low carbon transport solutions to meet the needs of rural communities. Stakeholders also agreed that:

- The process of developing plans for E-Motion hubs has increased awareness of the need to reduce private car use.
- The process of developing plans for E-Motion hubs has increased community engagement in the need to reduce private car use.
- The communities involved now have plans in place which will make it easier to attract funding for low carbon transport solutions.

The beneficiaries of Decarbonising Community Buildings were highly positive about the support they received with all strongly agreeing that:

- The energy assessor was knowledgeable and explained opportunities to reduce energy use.
- The report we received was clear and detailed.
- The report we received included clear recommendations on actions we could take to reduce energy useage.

CHAPTER 4 – Outcomes and impacts

4.1 – Contractual outcomes:

The programme had the following contractual outcomes:

- 53 organisations engaged in knowledge transfer activity;
- 27 decarbonisation plans developed; and,
- 1 innovation plan developed.

The table below confirms the programme's achievement of contractual outcome targets.

Outcomes	Target	Actual performance	Difference (count)	Difference (%)
Decarbonisation plans developed as a result of support	27	40	13	+48%
Innovation plans developed as a result of support	1	0	-1	N/A
Organisations engaged in knowledge transfer activity following support	53*[1]	52	-1	-2%

*1: Please note that the figure of 53 in the application was an error and should have been 51. However, the figure of 53 is used here as it ws including in the funding contract.

Decarbonisation plans developed as a result of support:

The majority of this target sat with the Decarbonising Community Buildings scheme and 28 plans were produced against a scheme target of 20. This reflects that the scheme was extended with underspend from the A&EV scheme and a second round of community buildings were supported in practice. A number of other schemes met their targets with the Skipton Station Triangle and Sowarth's Field Industrial Estate scheme exceeding their target and producing 4 decarbonisation plans against a scheme target of 1.

Innovation plans developed as a result of support:

This target sat solely with the Skipton Station Triangle and Sowarth's Field Industrial Estate scheme and no innovation plans were produced against a target of 1. On re-evaluation of the type of outputs provided against the definitions within the CRF guidance, all four studies produced were classified as decarbonisation plans rather than innovation plans.

Organisations engaged in knowledge transfer activity following support:

The majority of this target sat with the Decarbonising Community Buildings scheme (target of 30) and the LAEP schemes (target of 14). The Decarbonising Community Buildings scheme reported an actual of 13 organisations engaged in knowledge transfer activity following support. This is lower than the scheme target, as most organisations so far have only interacted on a one-to-one basis, rather than in wider discussions that have continued past the project close date. The LAEP schemes reported 38 organisations engaged in knowledge transfer which is more than double the scheme target. This demonstrates that the LAEP schemes are set to successfully exceed expectations in sharing learnings with a wide range of interested stakeholders that are likely to play a key role in the decarbonisation of the areas.

4.2 – Wider outcomes:

The logic model developed by the evaluation team in partnership with the programme delivery team contained the following four wider outcomes:

- Increased knowledge and experience amongst LEP and partners on how to advance schemes which will assist York & North Yorkshire progress to carbon negative status.
- Increased awareness amongst communities, stakeholders and public sector agencies of the need to begin planning for the transition to a carbon negative area, with increased knowledge and capacity to do so.
- Increased partnership working amongst public sector agencies, and between public sector agencies and communities on the transition to a carbon negative area resulting in cost savings and the acceleration of schemes.
- Increased ability to attract the interest of external investors in energy-related investment opportunities in North Yorkshire.

On the first outcome the programme has indeed enhanced the knowledge and experience of York and North Yorkshire Local Enterprise Partnership and the delivery partners, on how to advance schemes that will assist progress to carbon negative status. Each of the individual schemes within the programme has addressed gaps in information placing the LEP and delivery partners in a stronger position to design and secure funding for projects which will accelerate progress towards carbon negative.

On the second outcome each of the schemes has involved public sector agencies and has enhanced their knowledge and capacity to plan for the transition to a carbon negative area. A number of the schemes involved community engagement activity, including the Local Area Energy Plan (LAEP) schemes, the Local E-Motion scheme, and the Decarbonising Community Buildings scheme. These schemes have raised awareness amongst communities of the need to begin planning for the transition to carbon negative. Many of the schemes have involved stakeholders either directly in the research work, or through feedback and engagement events. The evaluation team conclude that the programme has made a strong contribution to the second forecast outcome.

The third outcome is focussed on increasing partnership working amongst public sector agencies, and between public sector agencies and communities on the transition to a carbon negative area resulting in cost savings and the acceleration of schemes. As highlighted earlier the LEP convened and facilitated regular management meetings which each of the delivery partners – these meetings provided a means to enhance partnership working across public sector agencies.

Several of the individual schemes had Steering Groups and delivered stakeholder engagement events. The Local Area Energy Plans in particular have been developed in consultation with a Steering Group comprising the LAEP delivery team (ESC and the LEP), the relevant Local Authorities, the DNO Northern Powergrid and the GDN Northern Gas Network. The work of the Steering Group was crucial in the delivery of the plans. In addition, a Technical Advisory Panel was consulted on with regard to the technical analysis elements of the schemes. The LAEP schemes have delivered successful engagement that has resulted in positive relationship building between the LEP, the involved Local Authorities and actors that play a key role in the local energy sector. The LAEP schemes have provided those involved in their development with the tools to enable the implementation of the plans towards a carbon negative local area. Plans for further

engagement with the wider community have also begun in order to ensure momentum is kept and the schemes are successfully implemented.

On the final wider outcome, the programme has filled specific gaps which were limiting the ability of public sector agencies to design and deliver energy-related investment opportunities. For example, the Skipton Station Triangle scheme delivered a Feasibility Study to stimulate a greener redevelopment at Skipton Station Triangle including an Anaerobic Digestion facility; water source heating using the Leeds-Liverpool canal; and, Heat Recovery from local light manufacturing facilities. The Sowarth's Field Industrial Estate scheme delivered an Anaerobic Digestion (AD) Feasibility Study focussed on Sowarth's Field industrial estate in Settle, including a proposed partnership with the on-site creamery operators Arla.

4.3 – Impacts:

The logic model developed by the evaluation team in partnership with the programme delivery team contained the following forecasted impacts:

- Increased awareness and commitment to transition to net zero and carbon negative.
- Increased knowledge of how to design and deliver schemes which support transition to carbon neutral and carbon negative.
- Acceleration of funding secured to invest in individual schemes.
- Development of blueprints for how to advance other carbon negative schemes.
- Acceleration of York & North Yorkshire's transition to carbon neutral and carbon negative.

The programme has made a strong contribution to the first forecasted impact by increasing awareness of the need for York and North Yorkshire to transition to net zero and carbon negative status. The delivery of the individual schemes has involved a wide range of stakeholders securing their engagement and commitment. The programme's legacy includes a more aware and committed series of stakeholders across the region.

On the second forecasted impact a number of schemes have filled specific gaps which were limiting the ability of public sector agencies to design effective interventions. For example, the Hitting Hard scheme has created an accurate cost model for retrofitting works to existing homes and recommendations include adopting a hybrid approach to internal and external insulation.

It is clear from interviews with Project Managers that the CRF Energy Programme has already informed funding bids. For example, the early stages of the Hitting Hard reports have informed a bid to the Government's Home Upgrade Grant (Phase 2) which provides funding for local authorities to improve the energy performance and heating systems of off gas grid homes in England. The Hospital Twins scheme informed a funding bid to the Government's Public Sector Decarbonisation Scheme and the experience of gathering the data needed for the study influenced the hospital to include an upgrade of Building Management Systems (BMS). Community First Yorkshire report that a number of community organisations have already submitted applications to decarbonise their community buildings. Respondents to the online survey all confirmed that they plan to submit funding bids to decarbonise their community buildings within the next 12 months. The Local E-motion scheme intends to apply for the Net Zero Fund for capital project delivery (available from November 2023, subject to Y&NY devolution consultation).

On the fourth forecasted impact the LAEP work has helped inform priorities for other carbon negative schemes. The LAEPs include recommendations for implementation and identify the further work that is required for the successful delivery of the plans. This includes the development of further schemes, such as feasibility studies for identified priority projects. The implementation guidance outlined in the LAEPs is structured in a way that identifies how actions to carbon negative local areas should be prioritised. The workshop held with the stakeholders involved confirmed that the LAEP have provided useful insights and guidance for the scale of change needed over the coming years.

On the final forecasted impact, each of the Project Managers interviewed as part of the evaluation were strongly of the view that the schemes will accelerate York & North Yorkshire's transition to net zero and carbon negative. Stakeholders surveyed in relation to Local E-Motion stated that they felt the scheme will make a modest contribution to an overall objective to accelerate progression to net zero status. The online survey to voluntary groups running community

buildings seems to support this view with each respondent agreeing or strongly agreeing with the statement that '*overall, we are now more likely to take action to reduce energy usage at our community building.*'

4.4 – Outcomes and impact conclusions:

This section of the evaluation report answers the evaluation prompts provided by the Department for Levelling Up, Housing & Communities.

i) What progress has the project made towards achieving the intended outcomes and impacts?

As detailed in the previous sections the programme has made strong progress towards the forecasted outcomes and impacts outlined in the logic model. It is recommended for future similar funding streams that the evaluation is programmed for at least 12 months after all programme activity has been completed.

ii) To what extent are the changes in relevant impact and outcome indicators attributable to project activities?

Given the nature of the programme and the timing of the evaluation, it is not possible to apply quantitative measures to the intended outcomes and impacts. However, Project Managers and beneficiaries have indicated that the programme has delivered a range of impacts including informing and accelerating the development and submission of funding bids for decarbonisation projects.

iii) What are the gross and net additional economic, social and environmental benefits of the project (where relevant and applicable to project activities)?

As indicated above, given the nature of the programme and the timing of the evaluation, it is not possible to apply quantitative measures to the intended outcomes and impacts.

iv) Can these benefits be quantified and attributed to the project in a statistically robust way?

The evaluation has not sought to quantify benefits and attribute them in a statistically robust way to the programme. This reflects that the fact that the programme is ultimately delivering enabling work which will lead to the design and delivery projects which will have quantifiable benefits.

v) How has the project contributed to the wider strategic plan under which it was developed?

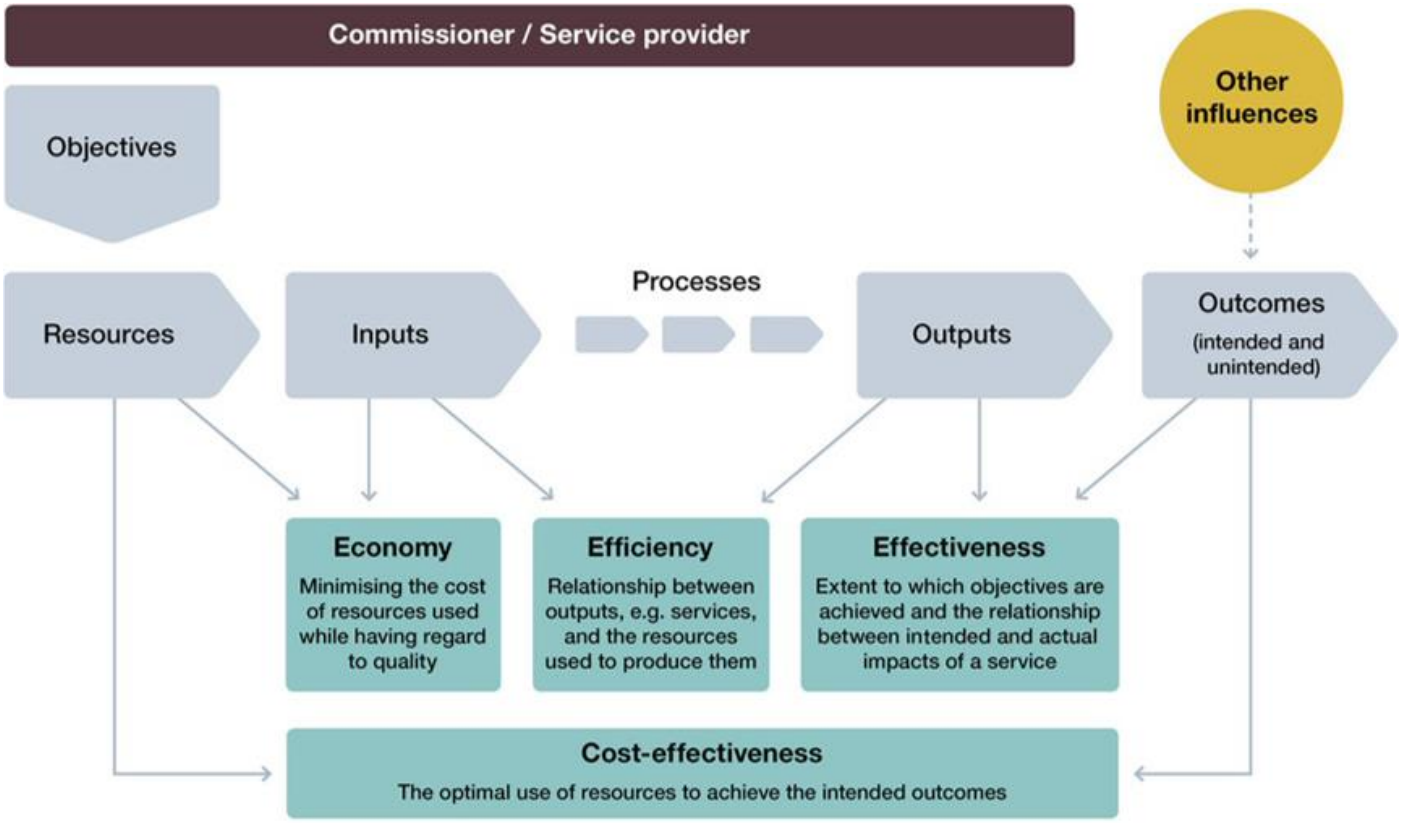
The programme has contributed to the LEP's strategic focus on building an evidence base to guide work to decarbonise the area. Whilst the Local Government re-organisation work which ran in parallel with the programme resulted in capacity challenges, ultimately the programme is informing the focus of the new North Yorkshire Council.

The three LAEPs cover the whole area of the new North Yorkshire Council, and an additional City of York LAEP was commissioned separately but developed in parallel,. These documents provide a framework for the decarbonisation of the whole energy system in York & North Yorkshire and will therefore play a key role in meeting the local ambition of becoming a carbon negative area.

CHAPTER 5 – Value for money

The National Audit Office uses three criteria to assess the value for money of government spending:

- Economy: minimising the cost of resources used or required (inputs) – spending less;
- Efficiency: the relationship between the output from goods or services and the resources to produce them – spending well; and
- Effectiveness: the relationship between the intended and actual results of public spending (outcomes) – spending wisely.



Firstly, in relation to **economy** the project secured a grant of £753,800. As detailed throughout this report the public funding has been used to complete a wide range of studies which will accelerate York and North Yorkshire's progression towards net zero status by 2034 and carbon negative status by 2040. The programme has delivered effectively against a wide range of objectives which include:

- Engaging communities and stakeholders across North Yorkshire in developing long-term strategic approaches to decarbonise the area's energy system.
- Identifying how to treat hard-to-decarbonise homes and community buildings.
- Accelerating the development of schemes by bringing communities and partners together and through feasibility assessments and the development of business cases.

The majority of the studies were tendered openly and doing so tested the market and helped the delivery partners secure the best price. However, the LAEPs which count for a significant proportion of total spend were commissioned through a consultancy framework (Consultancy+) and awarded to the Energy System Catapult (ESC). There is therefore a possibility that a better

price could have been achieved, but there was an imperative to commission the work quickly given the original timetable was particularly challenging. We conclude that the cost of inputs has been effectively minimised especially compared to the ambitious objectives.

The concept of **efficiency** tests whether the project has converted inputs into outputs in a manner that represents good value. The programme spend of £745,439 of public funding has led to the delivery of the outputs listed in the table below:

Output	Contractual target	Actual
Public sector organisations involved	13	41
Private sector organisations involved	19	35
Voluntary Sector organisations involved	30	58

Given the over-performance on a number of outputs, the unit costs forecast have been exceeded. The table below shows the outputs where the unit costs have improved.

Output	Unit cost based on contractual target	Actual unit cost achieved
Public sector organisations involved	£57,341	£18,181
Private sector organisations involved	£39,234	£21,298
Voluntary Sector organisations involved	£24,848	£12,852

The unit cost for the outputs, based on the contractual targets ranged from £24,848 to £57,341 but based on the actual performance the range drops to £12,852 to £21,298. The evaluation team conclude that the project has indeed spent well given the balance of inputs to outputs.

Finally, considering **effectiveness** we conclude that each of the programme objectives outlined in the logic model have been met. The money saved by the A&EV project was used to extend a number of individual schemes enabling their impact to be enhanced. For example, extension funding for the Decarbonising Community Buildings scheme enabled a further round of applications, to which 47 organisations responded, and a further 20 groups across North Yorkshire benefitted from a bespoke energy audit with detailed recommendations.

CHAPTER 6 – Lessons learnt

6.1 – Lessons for delivery organisations:

This section sets out lessons for York & North Yorkshire LEP, the delivery partners across the whole programme, and organisations planning similar activity.

Programme design

- The programme had a clear overall objective to '*accelerate York and North Yorkshire's progression towards net zero status by 2034 and carbon negative status by 2040.*' The programme also had clear specific objectives. The programme was designed effectively and built on existing research. Organisations planning similar work should take note of the length of time it took to deliver studies and ensure that a similar, or longer time frame is planned.
- The programme sought to address clear market failures centred around imperfect information, and the nature of decarbonisation schemes as a source of public good. The programme was designed with a wide scope and adopted an effective partnership approach. Organisations planning similar work should be mindful of the considerable work involved in managing a wide range of partners and ensure that programme management tasks including co-ordination and monitoring work are budgeted for adequately.
- The programme was appropriately designed to achieve its objectives. The initial delivery period for CRF set by Government was highly challenging and the programme's focus on completing studies to address information failures was more realistic than seeking to deliver capital projects focussed on decarbonisation. Organisations bidding for funding with a very short delivery timetable would be advised to adopt a similar approach.
- The targets were realistic and achievable, though there were some key changes in context during delivery which exerted pressure on the delivery partners. Organisations planning similar work should seek to develop similarly appropriate targets, as setting targets too high can generate considerable pressure.
- Whilst the LEP and delivery partners had no control over the CRF delivery period defined by Government, it was perhaps unrealistic to seek to deliver 3 Local Area Energy Plans in a 6 month period. Ideally greater time would be made available for the following tasks in particular: Steering Group to review outputs; and, wider stakeholder mapping and engagement.
- Overall a slightly longer timescale would have allowed for more flexibility throughout the LAEP process to "adjust the mark" throughout as necessary in response to external changes and internal reviews of findings.

Programme delivery

- There were delays at the start of the programme resulting from the decision on the CRF application being conveyed by Government to the LEP later than planned. Some scheme Project Managers reported that it took longer than forecast for the Local Enteprise Partnership to agree contracts with each individual scheme due to capacity of legal teams across organisations. Organisations planning similar work should seek to set realistic timescales for the contracting stage that reflect the complexity of passing on Funding Agreement terms to a wide range of project partners.

- Many of the individual schemes experienced challenges in procuring suppliers. Risks around procurement were identified in the original CRF application. Organisations planning similar work should endeavour to deliver market engagement work before formally issuing tenders, to test and increase appetite amongst potential suppliers.
- The LAEP schemes and a number of other schemes experienced delays in the data gathering stage. The Centre for Sustainable Energy find that this is common to LAEP-type work. More regular check-ins and updates (e.g. for the non-technical analysis) would have improved the process.
- Local Authority delivery partners highlighted that their organisations' capacity was reduced by Local Government re-organisation. When the CRF application was submitted it was uncertain what form a new Council for North Yorkshire would take, but it was clear that there would be new structures. The risk that this would reduce focus and capacity within Local Authorities was not identified in the risk register in the original CRF application. Whilst these set of circumstances are largely unique, organisations planning similar work should try and identify any planned organisational re-structure programmes and determine the likely risk of disruption.
- In relation to the LAEP schemes, it would have been advantageous to have had greater clarity on where the plans would sit within the local governance structure. However, it is acknowledged that the Local Government re-organisation made this much more challenging.

6.2 – Feedback and lessons for policy makers:

This section considers lessons for policy makers and funding organisations.

- Carefully test the internal coherence of funding programmes and determine whether the funding parameters (including budget and delivery timescales) are appropriate given the funding obectives. It was stated that learning from projects supported by the Community Renewal Fund (CRF) would inform the Shared Prosperity Fund (SPF). However, the extent to which this occurred in practice has been limited due to the timing of the launch of SPF occurring whilst CRF schemes are still in delivery. It was also expected that CRF projects would be preparing capital projects that could be funded by SPF, however the vast majority of SPF is now revenue funding, reducing the potential for the capital-ready CRF outputs to be delivered via this follow-on fund.
- Evaluation work should ideally be completed once schemes have concluded and sufficient time has passed for outputs and outcomes to have occurred in full. The requirement for this evaluation to be completed whilst CRF schemes were still being completed has limited the extent to which impacts can be identified.
- Schemes that support voluntary organisations to complete energy audits could usefully include a small capital funding pot to then assist them to undertake initial work thereby maintaining momentum. The Decarbonising Community Buildings scheme would have benefitted from this approach, and the end of the feasibility study work can appear as a cliff edge to voluntary groups and there is a risk that momentum is lost.
- Governance structures for the LAEPs need to be thought through and set out explicitly from the outset, so that it is clear where these plans sit within the relevant local authorities and how they integrate/interact with other policies and strategies. This will be crucial to enable the timely implementation of the plans and reduce the risk that roles and responsibilities become unclear once the plans are produced.

CHAPTER 7 – Conclusions

The 'Delivering a Carbon Negative Energy System in North Yorkshire' programme supported the decarbonisation of the energy system, building on the regional research into Carbon Abatement Pathways and the local priorities identified in partners' climate action plans. The programme secured £753,800 from the Community Renewal Fund and had forecast match-funding of £40,923, taking the total cost to £794,723.

As detailed in the programme's logic model the programme's overall objective was to '*accelerate York and North Yorkshire's progression towards net zero status by 2034 and carbon negative status by 2040.*' The programme had a number of specific objectives including to:

- Engage communities and stakeholders across North Yorkshire in developing long-term strategic approaches to decarbonise the area's energy system.
- Bring partners together to assess how to accelerate the uptake of electric transport options through the development of hubs and charging infrastructure at specific sites.
- Identify how to treat hard-to-decarbonise homes and community buildings.

This evaluation report concludes that the programme delivered effectively against the overall objective, and the specific objectives outlined in the logic model. The programme spent of £745,439 of the £753,800 awarded by the CRF and in doing so exceeded each of the output targets and one of the outcome targets as shown in the table below.

CRF Outputs	**Target**	**Actual performance**	**Difference (count)**	**Difference (%)**
Public sector organisations involved	13	41	+28	+215%
Private sector organisations involved	19	35	+16	+84%
Voluntary Sector organisations involved	30	58	+28	+93%
CRF Outcomes	**Target**	**Actual performance**	**Difference (count)**	**Difference (%)**
Decarbonisation plans developed as a result of support	27	40	13	+48%
Innovation plans developed as a result of support	1	0	-1	N/A
Organisations engaged in knowledge transfer activity following support	53	52	-1	-2%

*1: Please note that the figure of 53 in the application was an error and should have been 51. However, the figure of 53 is used here as it ws including in the funding contract.

As a result of exceeding the output forecasts, the unit costs dropped considerably, enhancing the programme's value for money. For example, the cost for a single public sector organisation involved at programme level dropped from £57,341 (based on the contractual target) to just £12,635. Similarly on outcomes the unit cost of decarbonisation plans dropped from £27,609 (based on the contractual target) to £19,617.

In terms of deliverables, the programme has delivered a series of studies which partners are already using to inform funding bids and guide action to reduce energy consumption in community and commercial settings. The evaluation team are strongly of the view that the programme has acted as a focus and catalyst and will assist partners to design and deliver schemes which

address the call to actions outlined in the Local Enterprise Partnership's Carbon Abatements Pathway research.

Appendix 1 – CRF outcome definitions

Outcome 1 - Decarbonisation plans developed as a result of support:

Unit of measurement	Definition	Evidence
Number of Plans	An organisation as a result of support produces or enhances an existing decarbonisation plan.	• Copy of the decarbonisation plan

Outcome 2 - Innovation plans developed as a result of support:

Unit of measurement	Definition	Evidence
Number of Plans	An organisation as a result of support produces or enhances an existing innovation plan.	• Copy of the innovation plan

Outcome 3 - Organisations engaged in knowledge transfer activity following support:

Unit of measurement	Definition	Evidence
Number of Organisations	This focuses on collaborations which are about transferring good ideas, research results and skills between the knowledge base and business to enable innovative new products and services to be developed and includes but is not exclusively limited to: • Research collaborations and free dissemination of research. • Joint and long-term development of new business or services. • Formation of joint ventures and spin-out companies.	• Confirmation from support provider of the total number of organisations engaged in knowledge transfer activity following support. • Letter or other form of agreement (e.g. a memorandum of understanding (MOU) or a contract), which explains what each party's role is in the collaboration, including shared objective and aims. Name, registered address including post code, and if applicable company registration number (CRN) for each organisation involved