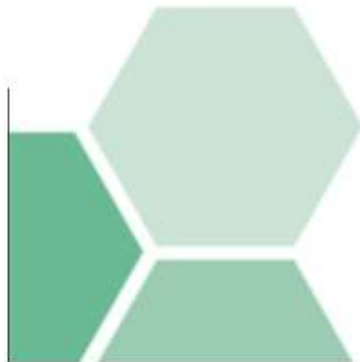




**REBUS Action Plan for Durham
County Council**

Phase 2: April 2019 – March 2021



European Union
European Regional
Development Fund



REBUS Action Plan for Durham County Council

Phase 2: April 2019 – March 2021

(Submitted 26th March 2019)

Part I – General information

Project	REBUS
Partner organisation	Durham County Council
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Part II - Purpose of This Action Plan

This action plan is the culmination of significant commitment by Durham County Council Officers and Elected Representatives to engage fully in the Interreg Europe funded REBUS Project. Durham County Council on 20th February declared a 'climate emergency' and has adopted a new target to reduce emissions by 60% by 2030, and has also agreed to explore what is required to become 100 percent carbon neutral by 2050.

Involvement in REBUS has stimulated and enhanced the good work that had been developed over many years by in particular the work of Durham's Carbon Management Programme and the Low Carbon Economy Team. This Action Plan sets out the vision for the next phase of the project which is to strategically drive forward a wide range of low carbon projects that will benefit County Durham

and its residents into the future. These projects will contribute to significantly reducing County Durham's carbon emissions, reducing its energy costs and providing economic, social and environmental benefits to the County and wider world.

Part III– Policy context

Name of the policy instrument addressed:

This Action Plan seeks to influence two policy instruments:

- **North East Local Enterprise Partnership European Structural and Investment Fund Strategy (ESIF) 2014-2020 Investment Priority 4c Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including public buildings and in the housing sector.**

The UK manages its ESIF funds through National Operational Programmes. The UK Government's Ministry for Housing, Communities and Local Government (MHCLG) oversees the ERDF element of the ESIF programme. It awards funding allocations to each Local Enterprise Partnership area which has a strategy that sets out how it proposes to use that funding. County Durham is covered by the North East Local Enterprise Partnership ESIF Strategy. This strategy covers two categories of regions; Northumberland and Tyne and Wear are classed as More Developed, while Durham is Transition. This means that Durham has a ring-fenced funding allocation with 60% intervention rate, requiring a minimum of 40% match. ESIF is governed by a National PMC, with local advice provided by LEP-level Sub Committees. REBUS has developed an excellent relationship with MHCLG's ERDF Sustainability Manager who leads on the ESIF Low Carbon PA4, and has involved them in developing this Action Plan. A number of REBUS stakeholders, including the County Durham Economic Partnership (CDEP) and the Voluntary Network for the North East (VONNE), sit on the North East LEP ESIF Sub-Committee, which helps enable us to influence this policy instrument. The County Durham Economic Partnership has also established an EU Funding Group to help develop and oversee projects seeking ESIF support.

At the end of January 2019, MHCLG advised us that, with only 10% of the budget committed, Durham is the worst spending ESIF transition region for PA4 (Low Carbon) in England. This Action Plan sets out how we intend to address this.

- **ECO₂ Smart Schools.**

This is the policy developed by Durham County Council to coordinate all energy efficiency and retrofit activities with schools across County Durham. It has been developed from the initial School Carbon Reduction Programme. Its' practice has been shared with all the REBUS Partners and in return Durham County Council has learnt from a number of the partners and their experiences of engaging schools. The policy has a target of achieving 45% reduction of CO₂ emissions by 2020 (based on 2008 baseline). This has been predominantly achieved

through behavior change and better estate management. From 2019 this will also include a significant LED retrofit project (Action 3), this is a new development for DCC policy (using external Salix finance) but it is hoped will significantly reduce emissions and costs for the schools involved.

The policy instruments that the Action Plan aims to impact are:

Investment for Growth and Jobs programme	North East Local Enterprise Partnership European Structural and Investment Fund Strategy (ESIF) 2014-2020 Investment Priority 4c Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including public buildings and in the housing sector.
Other regional development policy instrument	Durham County Council's ECO₂ Smart Schools

Part IV – Details of the actions envisaged

ACTION 1 – Developing a Pipeline of Low Carbon Projects

1. Overall Topic and Description of the proposed Policy Improvement	
Overall Topic	Better matching of local strategies with the ESIF Regional Operational Programme by developing new projects (especially PA4c) through a new Local Carbon Strategy
Specific Description	Building on our existing Sustainable Energy Action Plan (SEAP) and Climate Change Strategy and Delivery Plan, Council Officers are assisting in the development of a new Regional Energy Strategy and a new Regional Low Carbon Strategy, working alongside our strategic partners to ensure these meet Durham's and the wider region's needs. Furthermore we are updating our own Climate Change Strategy to take into account these new regional strategies.

These strategies are of course being influenced and directed in part by the UK Government BEIS Clean Growth Strategy and the eligibility of funding. Durham will use the new strategy to encourage the identification and generation of Low Carbon projects, which will be developed to incorporate REBUS good practices and to address the current underspend in our ESIF PA4C budget.

We already have considerable experience in delivering a range of energy efficiency, renewable energy and energy behaviour projects in Council buildings and in our schools but we believe that more could be achieved by working in a more coordinated partnership.

We are keen to apply the learning that we have achieved through our own experience and what we have learned from our partners in the REBUS project.

We will also apply the benefits of behavioural change and the engagement of building users to ensure that energy retrofit projects achieve the maximum benefits.

Our aim is to establish a process that will enable the Council and its key partners across County Durham to reduce carbon emissions effectively in the long term.

2. Need addressed

The North East England ESIF funding programme has struggled to spend under Priority Axis 4 for a range of reasons including lack of match funding and difficulty in finding compliant projects. County Durham as a transition area is the worst in England in terms of committed spending. In linking with the Regional Energy Strategy, currently in development by the North East Local Enterprise Partnership, this regional approach could potentially help Durham County Council and others in the region, develop stronger projects with clearer business cases and funding packages. The strategy will provide a focus, and should help us prioritise and secure support for projects (particularly from senior management and politicians). It will be useful for the County Durham Economic Partnership's EU Investment Group (which supports the Policy Instrument), and will help inform Durham's own pipeline of projects, some of which may be submitted for funding. Durham is also working with the north east regional LEP Energy Lead Officer to investigate opportunities for large strategic regional projects.

We have learned that energy retrofit projects often fail to achieve their potential for two important reasons. One reason is because building users are not fully engaged and do not understand how they can save energy and carbon in the building, despite improvements that have been installed. The other reason is that projects are too often developed in isolation and different partners do not exchange experience and learn from each other to ensure best practice.

We are keen to ensure that grants and other funding mechanisms are used to the best possible advantage to maximize the public benefit and carbon savings.

3. Relevance to the project	
Details of proposed Policy improvement	Links with interregional input (including details of activities, good practices and knowledge shared)
<p>Better matching of local strategies with the ESIF Regional Operational Programme by developing new projects (especially PA4c)</p> <p>The new County Durham Low Carbon Strategy will provide a useful tool to support and enhance Durham’s Policy Instrument by encouraging and informing new projects (some of which will be influenced by learning achieved through the REBUS project).</p>	<p>The need for, and general purpose of the strategy has been informed by good practices from:</p> <ul style="list-style-type: none"> - SERDA Romania (SEAP of Buzau Municipality), with its emphasis on planning - City of Malmo’s Capacity Building (Environment Programme 2009-2020) as presented in the Durham Steering Group meeting (Sept 2018) <p>The strategy will also acknowledge and embed a key lesson we have taken from the REBUS partnership about the importance of undertaking energy efficiency training and encouraging behavior change. In general all the REBUS Partners have highlighted the potential impact of staff engagement and behaviour change to reducing carbon emissions.</p>

4. Specific Activities and TIMEFRAME		
Activity Number	Activity Description	Timing
1	We have successfully influenced an ESIF PA4C call which launched on 5th October 2018, and the national ESIF Low Carbon (Priority Axis 4) Guidance to reflect the importance of providing training and encouraging behaviour change in conjunction with energy efficiency capital works.	October 2018
2	Roll out of the successful Local Stakeholder group meetings by adding new key partner organisations to identify and align their priorities and interests to develop new low carbon projects.	From February 2019

3	Develop new projects to meet the expected last ESIF call for UK projects. Timescale for this is not confirmed but likely to be late Spring 2019	May 2019
4	Use the learning from the programme of meetings, the knowledge gained from REBUS good practices and the information already collected for our SEAP and the regional Energy Strategy to write the County Durham Low Carbon Strategy.	From March 2019
5	Work with partners, with MP's, elected members and departments within the Council and across the region, to create the County Durham Strategy and agree an Implementation Plan	From April 2019
6	Review outline applications to Priority 4c from the North East LEP Area ESI Funds Sub-Committee to be able to report on the influence of REBUS on new project submissions. This may inform subsequent pipeline projects for County Durham.	October 2019
7	County Durham Low Carbon Strategy approved by Durham County Council and Partners	October 2019
8	Project proposals developed in line with the new strategy, and submitted for ESIF funding (if available) or other appropriate funding streams	April 2020
9	Monitor the impact of the change to the policy instrument, i.e. <ul style="list-style-type: none"> • monitoring of projects resulting from approved proposals • increased share of spent ESIF budget due the submitted and approved project proposals 	Beyond March 2021

5. Partners Involved

Name of Organisation	Role in Action Plan Implementation
Northumbrian Water Group	Regional Water company whose headquarters are in Durham City. They are investing in innovative low

	carbon investment projects and are a key partner of DCC.
Durham University	Durham Energy Institute are an existing LSG stakeholder. Their research, innovation and low carbon delivery initiatives are critical to new pipeline projects
Northern Powergrid	Power systems network expertise and a key partner for the transition to electric transport in the County.
Northern Gas Networks	Power systems network expertise and transition to renewable heat networks
The Coal Authority	Sustainable heat development lead partner – will advise on mine water heat project
Federation of Small Businesses	Will promote access to SME engagement and promote the wider economic benefits of low carbon transition and job creation.
Durham Community Action and Community Energy England	An existing LSG stakeholder who will ensure effective community and voluntary engagement
UK Government Department of Business, Energy and Industrial Strategy (BEIS)	Driving national best practice and guidance for local authorities and a potential funding source.
Local businesses	Key Partners for project delivery and potential innovation.
Area Action Partnerships	The democratic engagement routes at locality level for communities across County Durham
UK Government Ministry of Housing, Communities and Local Government	The Managing Authority for PA4 and provider of national best practice and advice. Key partners to collect data from national projects and conversely promote REBUS across England.
Voluntary Organisations' Network North East	Will engage and influence small voluntary sector organisations across the wider north east region with energy and low carbon projects. CEO attends the north east region ESIF sub-committee and member of REBUS LSG.
North East Combined Authority	Strategic oversight of the new Regional Low Carbon Strategy and Heat Networks.
North East Local Enterprise Partnership	Strategic development of the Regional Energy Strategy
The Environment Agency	Regulatory authority and lead for climate resilience activity which supports low carbon whole place solutions.

6. Risk and Contingency Plans		
Description of Risk	Level of probability (High, Medium, Low)	Description of Contingency Plan
Brexit	High	The decision of the UK to leave the EU is unprecedented. DCC is working closely with MHCLG and BEIS to influence the UK replacement for ERDF, the Shared Prosperity Fund (SPF). DCC is actively pursuing projects to spend existing ERDF allocation. At present there is minimal public detail on the SPF.
No further ESIF calls	High	If the UK leaves without an agreement on 29th March this will lead to significant uncertainty about future calls planned for Spring 2019.
Lack of political leadership	Medium	Through the REBUS project, DCC has re-engaged with local Councillors and has good input from the lead and support for economic development.
Lack of expert staff resource	Low	As the main cost is personnel, work will be funded from within local authority budgets. We will need to retain staff with policy and technical expertise.
Lack of buy-in from partners	Low	Durham County Council has an excellent record of partnership development throughout the REBUS project.

7. Costs
<p>Financial implementation costs are expected to be limited as they will be those costs connected to hosting meetings such as room hire, refreshments, handouts, etc.</p> <p>Considerable staff time will be required, both from Council officers and staff from partner organisations, to attend meetings, read and review documents and provide technical expertise. This will be taken from existing planned revenue budgets so is difficult to quantify but it will be valued in the tens of thousands of Euros.</p>

At present the anticipated capital costs of envisaged projects are:

Under 4C

Zero Carbon depot for DCC at Morrison Busty PA4C £1.5 million (€1.755M)

Chilton Project PA4C £900,000 (€1.05M)

Supplementary supporting low carbon projects in County Durham are expected to include:

Low Carbon transport hub under 4e covering the AQMA and including electric buses PA4E – £4 million (€4.68M)

BEEP2 PA4B £700,000 (€819,000)

8. Funding sources

The staff costs will be funded from within the Council’s existing revenue expenditure and from partner organisations involved for their staff engagement. These will be sourced from core funding.

Funding for capital costs developed for the pipeline projects are expected to come from a variety of sources including Durham County Council’s capital allocation, ESIF, the UK Department for Business, Energy and Industrial Strategy, and Innovate UK.

9. Monitoring

Monitoring tools	The strategy will be monitored through one of the County Durham Partnership Boards. The process/ systems for this are well embedded in our corporate systems.
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Indicators	target amounts	Means of Verification
1 Partner organisations involved	15	Minutes from meetings/ questionnaires with partners
2 Establish the expanded strategic group as a roll out from the previous REBUS Local Stakeholder Group	1	Agendas and minutes of meetings
3 Strategy written and approved by Durham County Council and supported by other partner	1	Strategy produced and approved

	organisations as members of the expanded strategic group		
4	Increased spent ESIF budget due the submitted and approved project proposals	£1.5M	Value of ESIF PA4C projects developed through the Action Plan
5	Decrease of annual primary energy consumption of public buildings (ROP indicator) measured in KWh/year	250,000	This strategy will ultimately lead to a significant decrease in KWh/ year primary energy consumption in Durham, however this data not be available until after the end of Phase 2. The wider benefits through changing the policy instrument are difficult to obtain nationally through the MA but results will be achieved at a later date.
6	Reduction in annual greenhouse gas emissions (KgCO ₂ e per year)	57,500	See above

ACTION 2 – Unlocking Renewable Heat Across County Durham

1. Overall Topic and Description of the proposed Policy Improvement	
Overall Topic	Unlocking renewable heat as a potential Low Carbon energy source for public infrastructure in County Durham, informed by a pilot project at the Louisa Centre, Stanley.
Specific Description	The Coal Authority (UK) is working with Durham County Council as a strategic partner, providing its expert knowledge of the Durham Coalfields to demonstrate the potential of minewater as a sustainable heat source, which can be rolled out across substantial areas of the UK. Experts from Brit Geothermal and Durham University are advising on innovative technologies and providing and promoting the learning opportunities around renewable heat. Learning from Heerlen will be used to inform projects across the council’s land and building portfolio, and seek to influence the ESIF PA4 Policy Instrument and Managing Authority to enable such projects to occur.

2. Need addressed
<p>The transition away from natural gas to forms of renewable heat is a huge challenge for County Durham and the UK. In February 2019 Durham County Council agreed a new target of 60% of CO₂ emissions from its own operations by 2030. A transition incorporating low carbon heat initiatives will be required to meet this target.</p> <p>The Louisa Centre, situated in Stanley, Northwest Durham, is a late 1970s building, wholly owned by Durham County Council and well used by the local community. It incorporates both leisure and social facilities, including a swimming pool and sports facilities, a public library and the Council’s ‘One Point’ public access hub. The building currently has a very poor energy rating (D rated DEC, E rated EPC) resulting in high carbon emissions and poor thermal comfort. The project will substantially reduce heat and energy wastage, by improving insulation levels,</p>

replacing gas with heat from minewater, introducing Variable Speed Drives and LED lighting, supported by solar panels and battery storage.

It has been identified that the current boilers, heating distribution, and ventilation system within the Louisa centre need replacing. The project will deliver an extremely innovative low carbon retrofit to a public building, incorporating a minewater heating system that will be the first of its kind in the UK. Building on the learning from an innovative minewater project in Heerlen in the Netherlands, the range of technologies implemented will turn this old public building into one of the most energy efficient buildings in the County.

Like in Heerlen, mining was the main source of employment in Stanley for over a century and the Louisa Centre project will enable local residents to benefit from their mining legacy with a warmer, lower cost leisure centre and public access point. This project enables us to once again use the vast resource that has been left to us by Stanley’s mining heritage.

There is a significant underspend on the North East Local Enterprise Partnership European Structural and Investment Fund Strategy 2014-2020 Investment Priority Axis 4c. The opportunity exists to develop a research and development project under Priority Axis 4f to understand the feasibility of exploiting these reserves to decarbonise heat.

Potential applicants are experiencing difficulties in developing ESIF PA4c projects, and getting them from Expression of Interest stage to Full Application. Such difficulties relate to initial design costs, match funding requirements, and exploitation risks, some of which are associated with the RIBA Stage 3 design readiness level requirements stipulated in the ESIF programme guidance. Which organisation is willing to carry the financial risk at this design stage is a key challenge. This is a real opportunity for ERDF as the funder of last resort to support and unlock large scale low carbon innovative renewable heat opportunities.

3. Relevance to the project	
Details of proposed Policy improvement	Links with interregional input (including details of activities, good practices and knowledge shared)
<p>Query design readiness levels required (RIBA Stage 3), which has significant budget implications for the ESIF applicant, with the national MA.</p> <p>In addition, we want to encourage a shift (within DCC</p>	<p>As a former coal mining area, with seemingly similar socio-economic circumstances as Heerlen, County Durham has a good supply of minewater with potential to generate heat, which it has aspirations to explore and exploit. This was acknowledged at the REBUS Local Stakeholder Group meeting held on 6th July 2018. At this meeting, stakeholders discussed various project ideas that could potentially be developed</p>

and MHCLG) from looking at a project primarily from the perspective of the immediate economic case, to giving greater consideration to the social and longer term benefits.

under Durham's Policy Instrument, and identified minewater as one area they were keen to explore further, particularly regarding Durham's Louisa Centre Minewater project. Unfortunately none of the REBUS partners had appropriate expertise to share within this field and Durham County Council was fortunate to be allowed to undertake a staff exchange with Heerlen in the Netherlands as part of REBUS, even though they aren't a REBUS partner. This was exceptional and Durham is grateful to the Joint Secretariat that this was approved.

The Heerlen Minewater project, which Durham first became aware of through the Interreg North West Europe programme, has helped to inspire the Louisa Centre Minewater project from an early stage.

The REBUS staff exchange to Heerlen on 21st/ 22nd November 2018 has helped us further improve knowledge and understanding both of the technology and the process whilst identifying and mitigating risks and uncertainties previously not identified. It has provided us with a better understanding in terms of carbon emissions and enabled us to see how the technology could potentially be expanded to provide heat across a wider area.

Heerlen's Mijnwater project demonstrates the benefits of public sector funding being initially invested in innovation, and the work then scaled up. Heerlen treats Mijnwater as a demonstration project providing a long term Low Carbon Innovation Solution to show what is possible, and to influence decision makers.

Heerlen accepted that the Mijnwater project was not the cheapest option if costs and the payback periods were determined using traditional methods. However, when costing the project, they did not compare against fossil fuels. Instead they used next renewable energy costs and acknowledged that costs associated with fossil fuels would leave the region, whereas trying to anchor knowledge in the region and enhance the local renewable energy economy would have significant local economic benefits and help energy security. We are eager to encourage a shift to this mindset in Durham.

We have also learned how Heerlen make the best of the resources they have in the area, particularly from the mining legacy. We are now working to do the same here in Durham, and capitalize on our;

- extensive mine network
- the older generation with knowledge & links to mines;
- towns linked to the mining industry;
- the Coal Authority with comprehensive mapping of mines & underground water flow, and active pumping out;
- national leaders (Brit Geothermal at Durham University).

Durham originally submitted an Outline Application for the Louisa Centre to the ESIF programme in 2018, but experienced difficulties in developing the Full Application due to RIBA Stage 3 design readiness level requirements and associated costs, potential risks and payback periods. Learning through the REBUS project has enabled officers to address these issues and provide senior managers and politicians with the reassurances required in order for the project to continue. The REBUS mid-term event and LSG meetings have also been invaluable in continuing to build momentum for this work to help unlock renewable heat as a potential Low Carbon energy source for public infrastructure, and more widely, in County Durham.

A new and improved Outline Application for the Louisa Centre will be submitted under the next Priority Axis 4 Low Carbon call. Subject to the approval of this Outline Application, we will then develop a Full Application. Once approved, the project will deliver outputs relating to the reduction in annual primary energy consumption of public buildings, which will result in lower energy bills for the County Council; and will reduce greenhouse gas emissions.

4. Specific Activities and TIMEFRAME

Activity Number	Activity Description	Timing (with details)
1	Project development involving the Coal Authority and the DCC Carbon Management Board for the Louisa Centre pilot	March 2019
2	Implementation of final feasibility study by independent consultants funded by Durham County Council to include drilling of a test bore hole and assessment of final costs and return on investment. Approved by DCC Carbon Capital Board.	April -May 2019
3	Submit Outline Application for the Louisa Centre pilot to the anticipated ESIF call (PA4c)	May/ June 2019 (Calls are normally open for 7 weeks)
4	Subject to Outline Application being approved, submit Full Application, usually 6 months later	December 2019
5	In parallel to developing (and eventually implementing) the pilot, DCC and partners to begin writing the renewable heat elements of the County Durham Low Carbon Strategy	From May 2019
6	County Durham Low Carbon Strategy approved by Durham County Council and Partners	October 2019
7	Implement Louisa Centre pilot project	February/ March 2020 to March 2022
8	Monitor the impact of the change to the policy instrument	Beyond March 2021

5. Partners Involved

Name of Organisation	Role in Action Plan Implementation
The Coal Authority	Strategic partner, providing its expert knowledge of the Durham Coalfields to demonstrate the potential of mine water as a sustainable heat source and give permission to access the network, which can

	be rolled out across substantial areas of the UK.
Durham University Energy Institute	Undertaken substantial background research around capacity and availability of minewater heat across County Durham. Also providing learning opportunities and further research as required.
Brit Geothermal	Technical Advisor on innovative mine water exploration in the UK
MHCLG	Managing Authority for ESIF ERDF in UK, able to disseminate the findings from pilot project and link DCC with other authorities working on minewater heat in the UK.
BEIS	Promoting sustainable energy and sustainable heat initiatives – funding & policy
The Water Hub	The expansion and commercial application of the research, linking with relevant local SME's to mainstream the technologies within the sectors and the region.

6. Risk and Contingency Plans

Description of Risk	Level of probability (High, Medium, Low)	Description of Contingency Plan
Brexit	High	If necessary, we may need to shift the focus from ESIF PA4 to other funds available in the UK that could potentially fund renewable heat projects, e.g. the Shared Prosperity Fund which is due to replace ESIF after Brexit
No further ESIF calls	High	If the UK leaves without an agreement on 29th March this will lead to significant uncertainty about future calls planned for Spring 2019.
Failure of bore hole test for Louisa Centre	Low	Significant academic research and site tests already undertaken by partners.

Lack of political and senior officer leadership and support	Medium	<p>Through the REBUS project, DCC has re-engaged with local Councillors and MPs, particularly the lead and support Cabinet Members for Economic Development.</p> <p>The Coal Authority and Durham Energy Institute are leading a workshop for senior officers and politicians at Durham to help them better understand the mine water project potential in the county in April 2019.</p>
Inability to secure revenue funding	Low	Revenue costs will be funded from within existing local authority staffing budgets.
Inability to secure capital funding	Medium-High	There is a considerable amount of capital funding remaining in our ESIF PA4 programme if it can be matched and is still available to bid to.

7. Costs

Revenue costs – DCC staff time to undertake the development of the pilot project and subsequent strategy development is already committed by Durham County Council.

Capital costs will be required to implement a mine water project (or projects). Typical drilling costs are £1000/m and two wells would need to be drilled. There is risk associated with each well, as it is only after the first well is dug that the extent of the heat resource can be measured. A tender is being prepared for the drilling of the first of the two wells, which will allow for the necessary testing of the resource after the first well has been dug.

Louisa Centre PA4C £1.5 million (€1.755M)

Match funding for ERDF is from DCC capital repairs and maintenance budgets that already are secured (€936,000)

8. Funding sources

All Revenue costs associated with implementing this action will be funded using Durham County Council existing staff resources.

Any capital funding required will likely be sourced from ESIF PA4 (60% max) and other appropriate capital funding sources available in the UK. Match funding for the Louisa Centre will be provided through Durham County Council’s Capital Allocation and Energy Efficiency budgets, which are elements of the Carbon Management Capital Programme and already committed to the project.

9. Monitoring

Monitoring tools The MHCLG ESIF Programme PA4 national monitoring process will capture the ROP indicator information which will be relayed to us via the North East ESIF Sub-committee.

Indicators		target amounts	Means of Verification
1	Decrease of annual primary energy consumption of public buildings (ROP indicator) measured in kWh/year	<i>1,500,000</i>	The pilot project may not be finished within the Phase 2 timescale although this programme will lead to significant kWh/ year and CO ₂ reductions once fully operational.
2	Reduction in annual greenhouse gas emissions (KgCO ₂ e per year)	<i>280,000</i>	See above
3	Partner organisations engaged with the project	<i>10</i>	Minutes of meetings and reports
4	Detailed development report produced for pilot project	<i>1</i>	Report produced and uploaded to Lin A

ACTION 3 – Enlighten –a new approach to retrofitting lighting in schools

1. Overall Topic and Description of the proposed Policy Improvement

Overall Topic Introduce a new holistic schools LED lighting retrofit solution into the ECO₂ Smart Schools programme

Specific Description

This coordinated initiative as part of ECO₂ Smart Schools (formerly School Carbon Reduction Programme) will provide a structured programme of support, project management and access to funding to enable schools to effectively retrofit their building with LED Lighting. This programme will be developed with learning from the school/ LED experiences of Malmo and taking inspiration from the 50/50 Good Practices from PNEC, Poland and Region of Crete.

2. Need addressed

Durham County Council has a large school estate (over 270 schools). Within that total there are over 230 schools involved with a Service Level Agreement (SLA) for Energy Management provided by Durham's Low Carbon Economy Team. The County Council has a target to reduce CO₂ emissions from schools and has achieved well against this through the ECO₂ Smart Schools, which since 2011 has provided dedicated in-school energy efficiency support as well as advice and guidance with regards to billing/ account queries and online energy monitoring etc.

While significant carbon reduction has been achieved through the ECO₂ Smart Schools behavior programme, the weakness has been the limited access to capital finance to enable effective retrofit technologies. Due to council policy, limited support has been available through the capital maintenance budget, what has been funded has been on emergency repairs or replacing like with like and not enabled substantial investment in new technologies.

Some success was achieved through working with an external partner organization to undertake some large scale solar PV systems from 2014 to present. This was successful to a point and has meant that more than 10 schools are now benefitting from large scale renewable energy generation at a cheaper cost than grid electricity for the next 20 to 25 years. Durham has learnt from this initiative in terms of how to promote to schools which will influence this new Enlighten Project.

According to UK Carbon Trust data from 2012, lighting costs approx. 20% of a typical schools energy budget. Therefore any savings made from lighting will have a significant impact on a schools overall energy spend.

Durham has a wide variety of school building types across its estate, which makes any roll out across schools complicated, it will need to be flexible to meet school needs.

3. Relevance to the project

Details of proposed Policy improvement	Links with interregional input (including details of activities, good practices and knowledge shared)
<p><i>Introduce a new holistic schools LED lighting retrofit solution into the Eco2 Smart Schools programme</i></p>	<p>The experience of the REBUS project partners from the City of Malmo and their 'Innovative lighting of school environment' good practice highlighted the possibilities of not only reducing energy use significantly but also improving the internal environment for learning and wider wellbeing of pupils and staff through the retrofitting of LED lighting.</p> <p>Retrofitting of lighting to LED is not new but Durham will develop a comprehensive coordinated approach involving colleagues from School Funding; Low Carbon; Technical Services and Education to ensure maximum engagement and 'buy in' to the project for all applicable schools.</p> <p>We believe this approach will be appropriate to all municipalities with responsibility for their school estate and replicable.</p>

4. Specific Activities and TIMEFRAME		
Activity Number	Activity Description	Timing (with details)
1	Learn from pilot project with a small number of Durham schools (already identified) and initiated in Spring 2019	April to December 2019
2	Recruit future phases of schools through DCC Energy Management Service Level Agreement schools (in parallel with reviewing outcomes)	From March 2020
3	Review the results from the pilot, engagement and impact of project in terms of CO ₂ reductions, kW hours and cost to schools.	March 2020
4	Share learning experiences through the England MHCLG ESIF Sustainable Growth and Development Group to be shared with government departments	Autumn 2020

5.	Produce and circulate guidance to be shared across Interreg Europe and UK partners once impact of the project has been fully evaluated.	Summer 2021
6.	Continue to monitor the project and the financial benefits to schools involved. Ensure effective return on investment for Salix Finance	From Autumn 2021

5. Partners Involved

Name of Organisation	Role in Action Plan Implementation
County Durham School Business Managers Forum	A key organisation to engage school business managers who administer school budgets on behalf of their schools
SALIX Finance	UK Fund manager & technical support/ expertise
UK Government Ministry of Housing, Communities and Local Government	Managing Authority for ESIF and providers of national best practice and advice across England
County Durham Climate Change Partnership	Multi agency partnership that disseminates good practice across County Durham and helps influence future policy
Association for Public Service Excellence Energy (APSE Energy)	UK National public sector member organisation that helps share good practice amongst energy officers and elected officials

6. Risk and Contingency Plans

Description of Risk	Level of probability (High, Medium, Low)	Description of Contingency Plan
Viability of business and financial model	Medium	The full package offer will be managed tightly to ensure costs remain competitive
Limited funding for implementation	Low	Expected to use UK Government backed Salix funding which is not anticipated to be withdrawn.

Lack of buy-in from schools	Medium	Durham County Council has an excellent record of engaging schools through the Good Practice 'ECO ₂ Smart Schools project'
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7. Costs

The staff costs to develop this programme are included within the existing Energy Management Service Level Agreement that most schools in County Durham buy into. This programme will only be developed for them in the first instance.

The installation costs (in each school) will be determined as the programme rolls out on an individual school basis. Each school will be responsible for paying for the LED retrofit, either through its own budget or more likely through the national Salix Energy Efficiency Loans Scheme (SEELS). The expectation is that the savings made by installing the LED lighting will be adequate to repay the loan (up to a maximum of 8 years). Capital investment loan amounts per school are expected to range between €20,000 and €120,000 depending on the size of the school.

8. Funding sources

Salix energy efficiency loans programme (SEELS) (<https://www.salixfinance.co.uk/loans/schools-loans>) will provide the capital investment (if the school doesn't have any budget available).


The revenue costs for the support from the ECO₂ Smart Schools Programme will come from the schools continuing to buy into the Energy Management SLA provided by Durham County Council.

9. Monitoring

Monitoring tools	Will be monitored through Durham County Council's Carbon Capital Board using data from the Durham Energy Manager Live portal (powered by Systemslink). The Board meets every 4-6 weeks to review all capital carbon related projects led by DCC through update reports and data analysis.	
Indicators	target amounts	Means of Verification

1	<i>Decrease of annual primary energy consumption of public buildings (ROP indicator) measured in kWh/year</i>	650,000 kWh/hr per year	DCC Energy Manager Live Web Portal We estimate a pilot project with 5 schools will achieve c100,000 kWh/ year. Therefore between 30 and 40 schools need to engage with the project to achieve this target. We hope however that all applicable schools will engage.
2	Schools Involved	40	Attendance at programme events. Contracts signed.
3	Loan investment brought into County Durham (over the length of the programme)	£750,000 (€877,500)	Individual contracts to be signed with Salix Finance by each school
4	Number of light fittings retrofitted with LED bulbs	5000	From the Installation contracts
5	Partner organisations engaged	5	Through reports and meeting notes
6	People with increased professional capacity	30	Via questionnaires

Part IV – Official Signature(s)

Date:	24/5/19
Name	Mr Oliver Sherratt, Head of Environment, Durham County Council
Signature	

Managing Authority letter of support is supplied below.



Rich Hurst
REBUS Manager/ Education Development Advisor – Sustainability Education
Durham County Council
Children and Young People's Services
Education Durham/Oases
County Hall
DH1 5UJ

13 February 2019

Dear Mr Hurst

Rebus Action Plan

Following the meeting we had in Durham regarding the proposed Rebus Action Plan, I'm writing to provide a letter of support for the Action Plan in relation to the delivery of ERDF Priority Axis 4. REBUS has already been successfully working with the Managing Authority to influence the national guidance to incorporate stronger behaviour change activity in projects delivering energy efficiency, a key area of the programme and this has been adopted into the Priority Axis 4 Guidance.

In addition to the work undertaken in Action 1 as detailed above, we also support the work being undertaken in Action 2, particularly the work being undertaken on the potential of heat from mine water. The work being undertaken in Durham around heat from mine water is very innovative in the UK and has huge potential to supply low carbon heat. Through the ERDF Call process MHCLG would welcome compliant projects in these areas to demonstrate the effectiveness of the potential low carbon resource to enable learning from this can be used in other areas of the country.

Yours sincerely

Mark Joslyn

ERDF Sustainability Manager