

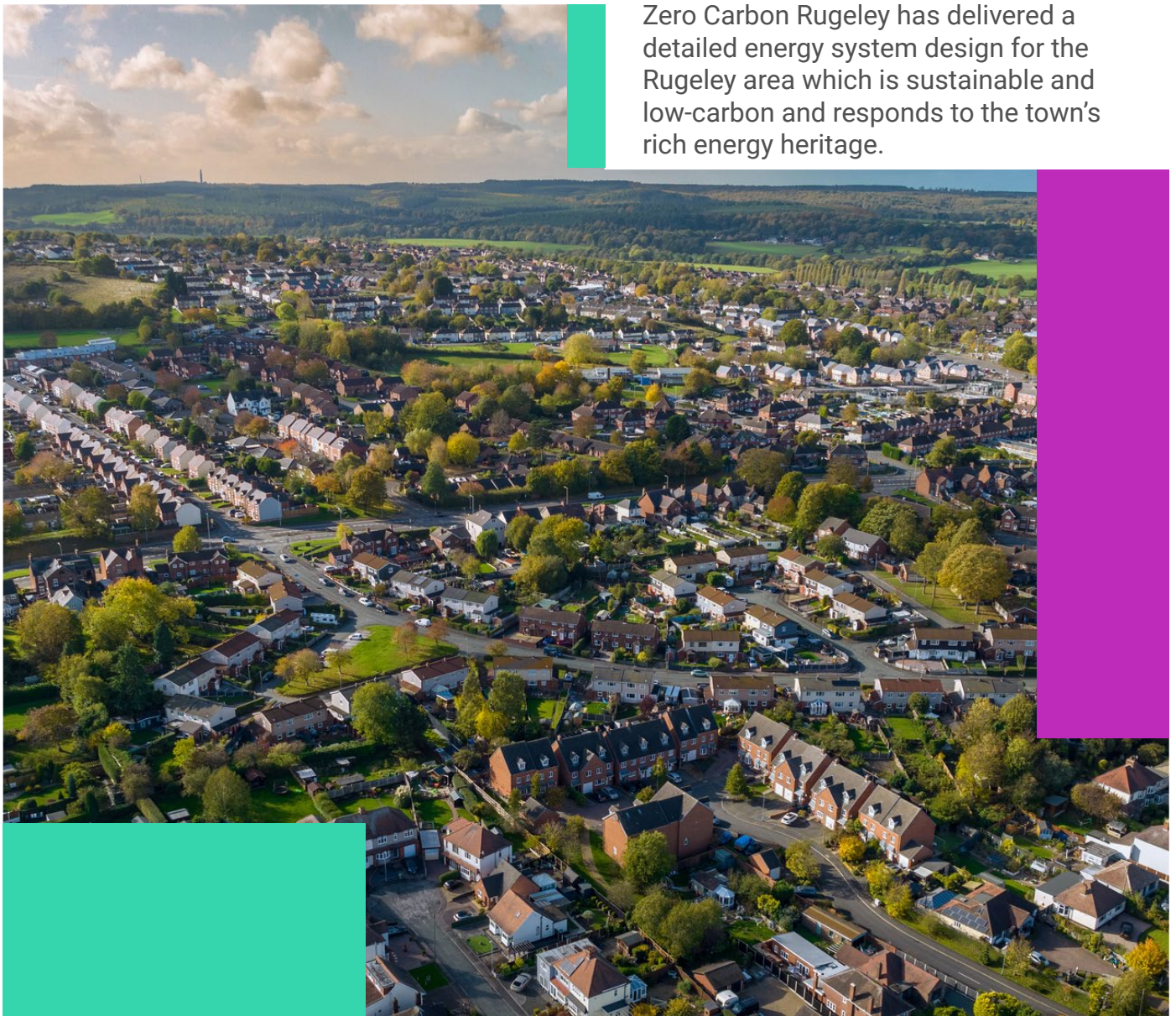


Delivered by  
Innovate UK and EPSRC

# Prospering from the Energy Revolution

# Zero Carbon Rugeley (ZCR)

Project fact sheet



Zero Carbon Rugeley has delivered a detailed energy system design for the Rugeley area which is sustainable and low-carbon and responds to the town's rich energy heritage.

The Prospering from the Energy Revolution challenge programme ran from 2018 to 2023.  
For more in-depth information on the programme and the projects see:  
<https://www.ukri.org/what-we-offer/browse-our-areas-of-investment-and-support/prospering-from-the-energy-revolution/>

# Zero Carbon Rugeley (ZCR)

<b>Dates:</b> March 2020 – February 2022	<b>Project partners:</b> Equans (lead) Conigital Keele University Cadent Gas Regen Opus One Solutions Connected Places Catapult West Midlands Combined Authority SHAP (Sustainable Housing Action Partnership) New Vic Borderlines Chase Community Solar	<b>SLES components:</b> Community engagement Retrofit Mobility as a service Active transport Energy optimisation and management Business models Finance and investment
<b>UKRI funding:</b> £1.4m		
<b>Link:</b> <a href="https://www.equans.co.uk/zero-carbon-rugeley">https://www.equans.co.uk/zero-carbon-rugeley</a>		

<b>What is the project?</b>	Zero Carbon Rugeley has delivered a detailed energy system design for the Rugeley area which is sustainable, low carbon, and helps to drive the regeneration of the town and local energy infrastructure while offering additional services and value to residents and businesses. The project has put the involvement of the local community at its heart, working actively and creatively with local groups to identify what those living and working in Rugeley want from a future energy system. It responds to the town's rich energy heritage and encompasses redevelopment of a coal power station site which closed in 2016. ZCR complements other PFER projects by exploring the challenges and opportunities for SLES in a market-town environment.
-----------------------------	---

<b>What has been delivered? What has been successful?</b>	<ul style="list-style-type: none"><li>✓ <b>Overarching SLES-ready development framework for the Rugeley area:</b> based on planned interventions across electricity, heat, and mobility in the existing community and across new developments in the area. This includes how the former power station site may help catalyse investment in low carbon and electricity infrastructure.</li><li>✓ <b>Community engagement through the user centric design process:</b> engagement with local residents, businesses, and stakeholders significantly shaped the final ZCR model.</li><li>✓ <b>Technology building-blocks:</b> including energy efficiency retrofit pathways, active transport, mobility as a service, automated vehicles, and energy-system management and optimisation including in-home control and SLES-wide optimisation.</li><li>✓ <b>Inspired local authorities to support a pilot Local Area Energy Plan (LAEP):</b> Cannock, Lichfield and Stafford Borough local authorities have been inspired to support the development of a LAEP in response to ZCR.</li></ul>
---	---

## Barriers encountered and outcomes

<b>Barrier</b>	Significant challenges accessing data on Rugeley's energy system.
<b>Outcome</b>	Pressure from across the sector, to which ZCR has contributed, is driving change in the way energy data is made available. The sector is developing standardised approaches to share data openly, significantly improving the ability of future SLES projects to take a data driven approach.
<b>Barrier</b>	The policy environment at both a national and local level has yet to respond to the need for a joined-up whole system approach both on the energy and financial side.
<b>Outcome</b>	The lack of an appropriate national framework has led ZCR to adjust its ambition from designing a fully-functional SLES that is ready for deployment, towards ensuring that Rugeley is SLES ready.
<b>Barrier</b>	Local authorities hold many of the important levers for energy-system change, but do not have in-depth understanding, resources and experience of the energy system
<b>Outcome</b>	ZCR built a reputation for a comprehensive understanding of energy within the local area. It has supported local authorities to develop their own understanding and grow their interest in SLES.

<b>Impacts</b>	Forecast carbon saving in 2032:	67.6% (Range: 65.0% to 96.0%)
	Forecast cost reduction in 2032:	£4.08m (Range: £3.59m to £4.57m)
	Match funding:	£0.7m

<b>Top lessons learnt</b>	<ol style="list-style-type: none"><li>1. Creative engagement with communities and stakeholders needs to be at the heart of SLES. It should engage with the heritage, history and sense of place in which the SLES is embedded.</li><li>2. A successful SLES model involves balancing multiple costs and benefits, it is important to take an iterative approach to balancing these tensions and opportunities.</li><li>3. Attracting private investment to SLES means finding ways to manage complexity and help investors understand the risks and opportunities inherent in integrated energy projects.</li></ol>
---------------------------	---

<b>What's next?</b>	<ul style="list-style-type: none"><li>• ZCR's user centric design is a central feature of several developing projects with funding decisions expected soon.</li><li>• Establishment of a structure to deliver photovoltaic and solar on an ability to pay basis with a community fund at its heart.</li></ul>
---------------------	---