



# Prospering from the Energy Revolution

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# West Midlands Regional Energy System Operator (RESO)

Project fact sheet



The RESO project has explored giving cities and localities a stronger role within the UK's established model of energy market regulation.

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/>

# West Midlands Regional Energy System Operator (RESO)

<b>Dates:</b> January 2020 – December 2021	<b>Project partners:</b> Energy Capital (Part of West Midlands Combined Authority) (lead) Coventry City Council University of Birmingham University of Warwick ENZEN Global Electron Camirus	National Grid Electricity Distribution (formerly Western Power Distribution) Cadent Gas Places in Common  <b>SLES components:</b> Energy System Operator Local energy markets Local area energy planning
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**What is the project?** The RESO project has developed and explored the hypothesis that giving cities and localities a stronger role within the UK's established model of energy market regulation offers significant potential for releasing additional value, particularly given the need to transition the UK economy to net zero. In doing so it has developed an innovative system operator framework with a strong regional focus capable of combining the planning and development of the energy system and the wider local planning and service-delivery roles of local authorities.

- What has been delivered? What has been successful?**
- ✓ A clear, deliverable, and well-articulated framework for developing the RESO concept.
  - ✓ A cost benefit analysis for a RESO in Coventry which estimates its present value at £721m over the next 30 years.
  - ✓ Four detailed Coventry Future Energy Scenarios (CFES), covering electricity, heat, and transport.
  - ✓ RESO market design which identifies nine individual markets and explores three in detail – a market for helping avoid electricity network reinforcement costs, a market for trading electricity connection rights, and a local hydrogen procurement market.

## Barriers encountered and outcomes

<b>Barrier</b>	Local authorities are historically under-resourced and are not immediately credible homes for the kind of specialist functionalities required by a RESO.
<b>Outcome</b>	The need to develop new areas of expertise across local public sector organisations is a compelling argument to deliver a pilot RESO properly, in full, and with the right resourcing and skillsets and as part of a Future Systems Operator model.
<b>Barrier</b>	Today's public and private sector investment models do not facilitate place-based investment or returns that underpin a RESO.
<b>Outcome</b>	Through financial modelling, RESO has provided greater levels of clarity around the net present value of a SLES and its components, and has collaborated with the Zero Carbon Rugeley project to develop a proposed financing framework.
<b>Barrier</b>	Market design and modelling revealed data gaps, regulatory barriers and structural misalignments that obstruct the efficient operation of local energy markets.
<b>Outcome</b>	The proposed RESO model shows the value of a whole system perspective, detailed knowledge of local energy infrastructure and accountability to local stakeholders.

<b>Impacts</b>	Forecast net present value for a RESO in Coventry:	£721m over 30 years
	Cost of delivering a SLES design across Coventry:	£3.8bn (achieves EPC-C for all domestic properties by 2032)
	Match funding:	£1.1m

- Top lessons learnt**
1. A progressive, least-regrets pathway to RESO implementation is possible, starting with data governance and whole system planning.
  2. Benefits of delivering RESO go beyond reduction of energy costs and include wider societal and economic benefits such as a stronger local economy (estimated at £144m over the next decade).
  3. The RESO proposals are entirely consistent with current Ofgem/BEIS proposals for a national Future System Operator (FSO) and could potentially reduce implementation cost.

- What's next?**
- Test a prototype RESO in action. Work closely with government, Ofgem and the network operators to develop, test and implement a RESO within the context of an FSO .
  - Build wider public sector support for whole systems energy planning undertaken locally, through active participation of local authorities, the M10 group (representing Metropolitan Mayors) and other public bodies.
  - Support future projects to develop the proposed financial framework.