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# Prospering from the Energy Revolution

# Greater Manchester Local Energy Market (GM LEM)

Project fact sheet

The core of the project is the development of a detailed design for a market platform, which included public engagement.



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/>

# Greater Manchester Local Energy Market (GM LEM)

<b>Dates:</b> July 2020 – June 2022	<b>Project partners:</b> Greater Manchester Combined Authority (lead) Regen Electricity North West Cadent Gas OVO Energy Hitachi Europe Bruntwood Estates Graham Oakes	The Society for the Reduction of Carbon, Cornwall Insight Group Daikin Airconditioning UK Ltd Northwards Housing Ltd
<b>UKRI funding:</b> £2.7m		<b>SLES components:</b> Local energy market Local area energy plans
<b>Link:</b> <a href="https://gmgreencity.com/projects-and-campaigns/local-energy-market/">https://gmgreencity.com/projects-and-campaigns/local-energy-market/</a>		

<b>What is the project?</b>	The core of the project is the development of a detailed design for a market platform – a market maker – that enhances how the energy market currently works by increasing visibility of energy activity and transactions, and lays the foundation for a full local energy market in future. It also develops a greater understanding of the area's energy system, including detailed local area energy plans for each borough of Greater Manchester, and business models which can deliver value to end consumers either as stand-alone products or in conjunction with the development of the GM LEM itself.
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<b>What has been delivered? What has been successful?</b>	<ul style="list-style-type: none"> <li>✓ LAEPS delivered for each borough of Greater Manchester and synthesised across the whole of the city showing pathways to deliver a net zero Greater Manchester by 2038.</li> <li>✓ Detailed LEM market maker platform design including three stages of development starting with a model deliverable within today's regulatory environment and potentially leading to £40m/year energy system benefit with the potential for greater benefit and a £1m/year revenue stream for the platform operator.</li> <li>✓ Three value sharing propositions demonstrated to be commercially viable including a commercial heat as a service model, EV charging model, and domestic 'type of use' heat pump tariff.</li> <li>✓ Roadmaps of regulatory and legislative change to deliver the upper end of LEM value.</li> </ul>
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## Barriers encountered and outcomes

<b>Barrier</b>	Current regulatory arrangements limit the ability of a LEM to deliver local value in the short term.
<b>Outcome</b>	A minimal phase 1 proposition has been developed which demonstrates functionality and allows some organisations already directly involved in wholesale electricity and flexibility markets to begin trading locally.
<b>Barrier</b>	The need for significant regulatory change in order to implement more advanced phases of GM LEM.
<b>Outcome</b>	The project has developed a number of options for each phase of the GM LEM along with the regulatory arrangements needed for each option.

<b>Impacts</b>	Forecast GHG savings in 2032:	8.5% (Range: 0.2% to 14.9%)
	Forecast energy and network savings in 2032:	£28.87m (Range: £20.20m to £37.80m)
	Match funding:	£2.5m

<b>Top lessons learnt</b>	<ol style="list-style-type: none"> <li>1. Delivering a carbon neutral GM by 2038 could lead to the doubling of electricity demand and the deployment of 1 million heat pumps, and 1 million EVs.</li> <li>2. By 2038, assuming delivery of the LAEP pathways and £1.9bn of capital investment the GM LEM could deliver at least £40m in energy system benefits per year.</li> <li>3. Four value streams have been identified: simple energy balancing, embedded flexibility, explicit flexibility, and participation and data sales. Of these, embedded flex – the system benefits deriving from the natural matching of supply and demand within a LEM – was the largest source of value for a LEM operator: likely 80% of potential revenue in 2038.</li> </ol>
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<b>What's next?</b>	<ul style="list-style-type: none"> <li>• Develop and roll out GM LEM over three phases with first phase starting in 2023.</li> <li>• Deliver value sharing propositions by rolling out offerings to customers.</li> <li>• Engage in detail with Ofgem, BEIS, Elexon, ENWL and others to develop and implement the significant levels of regulatory reform required for later phases of GM LEM.</li> <li>• Develop a strategic outline business case setting out the investment and approaches required to accelerate delivery of Net Zero and the controllable assets required to support a LEM.</li> </ul>
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