

Date: 31 January 2020

Subject: Local Energy Market – Detailed Design

Report of: Cllr Andrew Western, Green City Region Portfolio Lead & Eamonn Boylan,
Green City Region Chief Executive

PURPOSE OF REPORT

The purpose of this paper is to seek GMCA approval to accept a £6m Innovate UK grant funded opportunity for a 'Greater Manchester Local Energy Market (Detailed Design)' project across the 10 Districts of Greater Manchester.

This proposal aims to support GM's target for the City Region to be carbon neutral by 2038, through the development of Local Area Energy Master Planning, design of new services and optimization of current and future energy assets. If agreed, the project will provide a significant step in supporting Greater Manchester Authorities and partners to deliver our carbon reduction ambitions.

This proposal will support two of the GM 5 Year Environment Plan actions to:

- Seek funding to rollout Local Area Energy Planning across GM to identify which heating solutions are best suited to which areas of the city region; and
- Encourage innovation and support new technologies.

RECOMMENDATIONS:

GMCA is requested to:

1. Note the contents of the paper.
2. Delegate authority to the Chief Executive and GMCA Monitoring Officer, in consultation with the Portfolio Lead, to finalise the collaboration agreement, commencing with the Detailed Design project in February 2020 and to agree the terms of the grant from the funding provider (Innovate UK) to deliver this opportunity.

CONTACT OFFICERS:

<u>BOLTON</u>	<u>MANCHESTER</u>	<u>ROCHDALE</u>	<u>STOCKPORT</u>	<u>TRAFFORD</u>
<u>BURY</u>	<u>OLDHAM</u>	<u>SALFORD</u>	<u>TAMESIDE</u>	<u>WIGAN</u>

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Equalities Implications:

The project will particularly take account of the need to deliver a fair and just transition towards a low carbon economy. This will include understanding and evaluating the impact of any resulting proposals on communities `ability to pay`. Consideration will also be given as to how best to communicate the outcomes of the work to a diverse audience.

Climate Change Impact Assessment and Mitigation Measures:

1. *It is expected that you will have already embedded measures into this proposal to reduce the carbon emissions resulting from the activities/recommendations proposed. What further actions could be taken to minimize emissions (e.g. towards carbon neutral) from this proposition?*
 - a. *The value propositions developed as part of this project could be delivered at greater scale*
 - b. *All work programme meetings could take place virtually to reduce travel based emissions.*
2. *What is your justification for NOT undertaking the additional actions listed above?*
 - a. *This is not within the scope of the funding provided by the funder for this project. However, should viable value propositions be developed, they would help accelerate future decarbonisation.*
 - b. *Whilst many of the required meetings will be undertaken virtually, it is likely that some meetings will need to be held face to face, particularly in the initial stages to build consensus.*

Risk Management:

See Section 5 - Availability of staff resource presents a short term risk, while the GM Environment team completes fixed term recruitment to allow a project team to be established. To mitigate any risk to delivery, the GM Regional Development Lead will co-ordinate consortia partners to ensure GMCA and funding provider requirements are met.

Legal Considerations:

See Section 4 - It is proposed consortia partners will all enter into a collaboration agreement with GMCA, which will contain the funding provider's terms and conditions, and all relevant programme plans. This is commonly used for projects of this nature and recognized by funding provider, Innovate UK.

Financial Consequences – Revenue: The overall grant funding is cr£6.2m, with GMCA receiving cr£900,000 directly to support primarily programme management functions which, if not provided, would otherwise have prevented this proposal from being achieved. The funding criteria for the

project required a minimum 50% match funding, which has been supported by the consortia, enabling GMCA to be 97% funded, with the remainder coming in the form of 'in kind' core funded officer time.

Number of attachments to the report:? None

Comments/recommendations from Overview & Scrutiny Committee

TBC - GMCA was advise of being successful in this bid at the very end of October and there is a requirement to complete due diligence by early December. The proposal has therefore not yet been to Scrutiny.

BACKGROUND PAPERS:

TRACKING/PROCESS		
Does this report relate to a major strategic decision, as set out in the GMCA Constitution		Yes
EXEMPTION FROM CALL IN		
Are there any aspects in this report which means it should be considered to be exempt from call in by the relevant Scrutiny Committee on the grounds of urgency?		No
GM Transport Cttee	Overview & Scrutiny Committee	Green City Region Partnership
		18 th October 2019

1. BACKGROUND

- 1.1. The 5 Year Environment Plan for Greater Manchester sets out the City Region's target to be carbon neutral by 2038 and details what is needed from the region over the next 5 years. The section 'Our Energy Supply', under Priority 2, states the need to 'Decarbonise how buildings are heated, adding at least 10.2TWh of low carbon heating by 2024' and under Priority 3 the need to 'increase the diversity and flexibility of our supply, adding at least a further 45MW of diverse load and flexible load by 2024'.
- 1.2. A range of approaches are required to achieve this as part of the region's drive to meet the challenge outlined within the Plan, including leadership through our own estates, commercial, industrial and domestic properties. GM has now been successful in attracting £6m of Innovate UK funding to: increase Local Area Energy Planning; develop new energy services and value propositions; and develop an energy aggregation and optimization platform across the city region – all of which will significantly support GM Districts in achieving their immediate low carbon ambitions.
- 1.3. As of 2019, an initial pilot has been completed, the Local Area Energy Planning study in Bury, which focused on decarbonised heat only. As GM seeks to transition to a carbon neutral future, the need to make informed local decisions on heat and power, stimulate growth through new services and optimize our controllable assets, recognises the key role for the GMCA and the District Councils to support this.
- 1.4. In January 2019, GM (GMCA, Electricity Northwest Ltd and partners) successfully applied to Innovate UK's 'Prospering from the Energy Revolution' funding stream for Phase 1 Concept Design of a Local Energy Market. Utilising learning from the concept design phase, GMCA with the consortia partners were invited to apply for Phase 2 funding and have now been invited to contract for delivery of the Phase 2 programme.
- 1.5. GM will be the first region in the UK to undertake such an ambitious and innovative project at this scale, combining informed forward planning with new services, which are optimized and validated. This will support all 10 districts, domestic (RSL), commercial and public estates to better predict future energy supply and demand at very local level, define innovative energy services and models to support the low carbon transition and scope a local platform which may enable these new services to be viably delivered

2. PROPOSAL

- 2.1. It is proposed that GMCA leads a consortia of 13 partners, commencing in January 2020 and finishing in December 2021, to design an informed, validated and optimised local energy market, across the 10 districts. This would provide the city region and each Local Authority with the following opportunities:

- 2.1.1. To increase our Local Area Energy Planning from one pilot area, to a comprehensive individual district and regional scale;
 - 2.1.2. Develop new domestic and commercial value sharing propositions, services, which will encourage the wider uptake of generation, storage, decarbonised heat and flexibility; validated through the control and optimization of existing and future controllable energy assets.
 - 2.1.3. Supported by and optimised through smart cloud based aggregation and optimisation dispatch platform, responding to market signals, from local and national network operators.
- 2.2. This £6m project will provide primarily revenue funding for research, model and platform development. It will deliver the following outputs:

- 10 district level local area energy plans, which provide geographical resources identifying areas suitable for:
 - Solar PV deployment (domestic, non-domestic)
 - Battery storage
 - Low carbon heating solutions
 - EV deployment (public and private)

which will support future local investment and planning decisions, while providing market confidence in the form of an open source geo spatial energy plan for each district.

- Utilise mainly existing assets (battery, demand side response and vehicle to grid connectors) to deploy optimized systems in GM:
 - Cr1000 existing heat pumps optimised
 - Cr new 10 Vehicle to grid chargers installed for fleet users (these could be LA, NHS and/or private)
 - Ability to facilitate the optimisation and trade of new and existing generation, cooling and heating assets to provide revenue generation and cost avoidance streams
 - A designed, locally optimised, Energy Management Platform capable of facilitating the uptake of new services for grid connected assets and deployment of a pilot Local Energy Market platform by a local provider
- 2.3. The project partners are: GMCA, ENWL, Cadent, Hitachi, Bruntwood, Upside Energy, Bristol Energy, Daikin Europe, Northwards Housing, Carbon Coop, Regen SW, Cornwall Insights and Graham Oakes Consulting. In addition, there is interest and collaboration from Bristol CC, Nottingham CC, and Eko Kumppanit (Danish energy Co) as pioneer/follower cities. The

consortia has been constructed based on expertise, knowledge and strengths, ability to deliver (good track record) and finally, ability to provide the required State Aid match funding.

2.4. The project will be delivered through 10 inter-linked Work Packages(WP) , led by each of the key consortia partners:

WP	Title	Partner
1	Project Management	GMCA
2	Local Area Energy Planning (subcontract)	GMCA
3	Commercial – Value Sharing Propostions	Bruntwood
4	Domestic – Value Sharing Propostions (inc reconnection to existing equipment e.g. NEDO)	Bristol Energy
5	Customer Centred Design and Engagement	Carbon Coop
6	Platform Design and Developemnt	Upside Energy
7	LEM Validation	Upside Energy
8	Investment Ready Business Model Design and Development	Regen SW
9	Regulatory Review and Policy Development	Cornwall Energy
10	Communication, Dissemination and Exploitation	GMCA / All

3. FUNDING

- 3.1. The overall grant funding is cr£6.2m, with GMCA receiving cr£900,000 directly to support programme management, engagement with the 10 GM LAs and communication & dissemination functions which, if not provided, would otherwise have prevented this proposal from being achieved. The CA will use existing and bespoke engagement mechanisms to work with appropriate colleagues in each of our 10 Local Authorities.
- 3.2. GMCA will recruit 3 new, fixed term, posts to deliver this project which includes centralized support each Local Authority to realise the Local Area Energy Plans. However, Districts will be requested to provide data and ground truthing of the Plans as they develop to ensure that the Plans meet the District’s strategic needs.
- 3.3. The funding criteria for the project required a minimum 50% match funding, which has been supported by the consortia, enabling GMCA to be 97% funded, with the remainder coming in the form of ‘in kind’ core funded officer time.

3.4. The table below provides a breakdown of the total project funding by partner.

Partner	Total (£)	Labour (£)	Overhead costs (£)	Material Costs (£)	Capital usage (£)	Sub Contacting (£)	Travel Subsistence (£)	Other costs (£)
GMCA	909,631	190,276	38,055	2,000	0	662,500	16,800	0
Partners	5,186,068	1,944,173	384,035	211,500	1,893,921	453,000	97,240	202,200
Total	6,095,699	2,134,449	422,090	213,500	1,893,921	1,115,500	114,040	202,200

3.5. The table below provides a breakdown of the match funding by partner

Partner	Total (£)	Average Funding level	Funding sought (£)	Other Public Funding (£)	Match Contribution to project (£)
GMCA	909,631	97%	882,342	0	27,289
Partners	5,187,068	52%	2,184,881	0	3,021,188
Total	6,095,699		3,047,223	0	3,048,477

3.6. The funding provider will conduct financial due diligence on each partner prior to issuing the grant offer letter to GMCA.

4. LEGAL

- 4.1. GMCA is required to act as the lead partner for the project, providing strategic co-ordination, programme management, specialist subcontracting, marketing and communication for the programme.
- 4.2. Consortia partners will enter into a collaboration agreement with GMCA, which contains the funding provider's terms and conditions, including their liability for the funding they receive, and all relevant programme plans. This is commonly used for projects of this nature and recognized by the funding provider, Innovate UK.
- 4.3. GMCA will, as the lead partner, sign a grant offer letter with Innovate UK, on behalf of the consortia. All partners will draw down their funding allocation directly from innovate UK, via an online portal, thus removing the need for any additional financial defrayment by GMCA.

5. RISK

- 5.1. Availability of staff resource presents a short term risk, while the GM Environment team completes fixed term recruitment to allow a project team to be established. To mitigate any risk to delivery, the GM Regional Energy Development Lead will co-ordinate consortia partners to ensure GMCA and the funding provider's requirements are met.
- 5.2. The programme has been designed and enabled through a modular process with stage gates to ensure delivery is managed and risks mitigated appropriately.
- 5.3. Programme delivery risks will be monitored through the use of robust and recognised project management and risk management processes.