

Local Area Energy Plan (LAEP)

Environment, Climate Change and
Neighbourhoods Scrutiny Committee

July 2023



What is a LAEP?

Manchester Climate Change Framework states that 68% of direct CO₂ emissions arise from buildings and 32% from ground transport

LAEPs can help provide a roadmap for changes in green, clean energy infrastructure to meet 2038 carbon neutral targets and it does this in 4 main ways:

- Building fabric retrofit
- Heat Decarbonisation
- Local energy generation and storage
- Transport



LAEP – 4 Thematic Areas

Building Fabric Retrofit

- Increase comfort levels and reduce running costs by reducing energy consumption
- Tailored to the property but include:
 - Better insulation (cavity wall, loft, external / internal wall)
 - Triple glazing
- 33% of Manchester homes require retrofit (approx. 101,500 homes) at an average household investment of £18k

Heat Decarbonisation

- Installation of heat pumps (180,000 homes) - Heat pumps perform best in homes with good levels of insulation
- 95% of non-domestic buildings are considered suitable to transition to heat pumps
- District heat networks - 32,000 homes could cost effectively transition to district heating
- Use of hydrogen to replace natural gas for domestic boilers



LAEP – 4 Thematic Areas

Local Heat Generation and Storage

- Electricity demand is expected to grow (currently 2,480GWh per year to 4,930GWh per year by 2038)
- Increased importance of using low carbon electricity sources meaning more local generation of zero carbon energy
- Manchester has potential for:
 - Rooftop solar PV and the installation of battery storage (potentially 680MW domestic and 523MW non-domestic PV capacity)

Transport

- Expansion in EV ownership – 150,000 cars by 2038 – over 75% of total fleet
- Identifies the need for publicly accessible charging infrastructure - 72,000 home chargers
- Transition to ultra low emission across public transport, non-domestic trips and haulage
- Modal shift from using private cars to more active travel modes and public transport



The city is split into 8 areas to consider modelling and potential solutions

First Steps Priority



Retrofit priority



District heat priority area



Home EV charging priority area



Heat pump priority area



Solar PV priority



EV charging hub priority

Long-term Deployment Areas



Heat pump prevalent



Hydrogen for heat opportunity



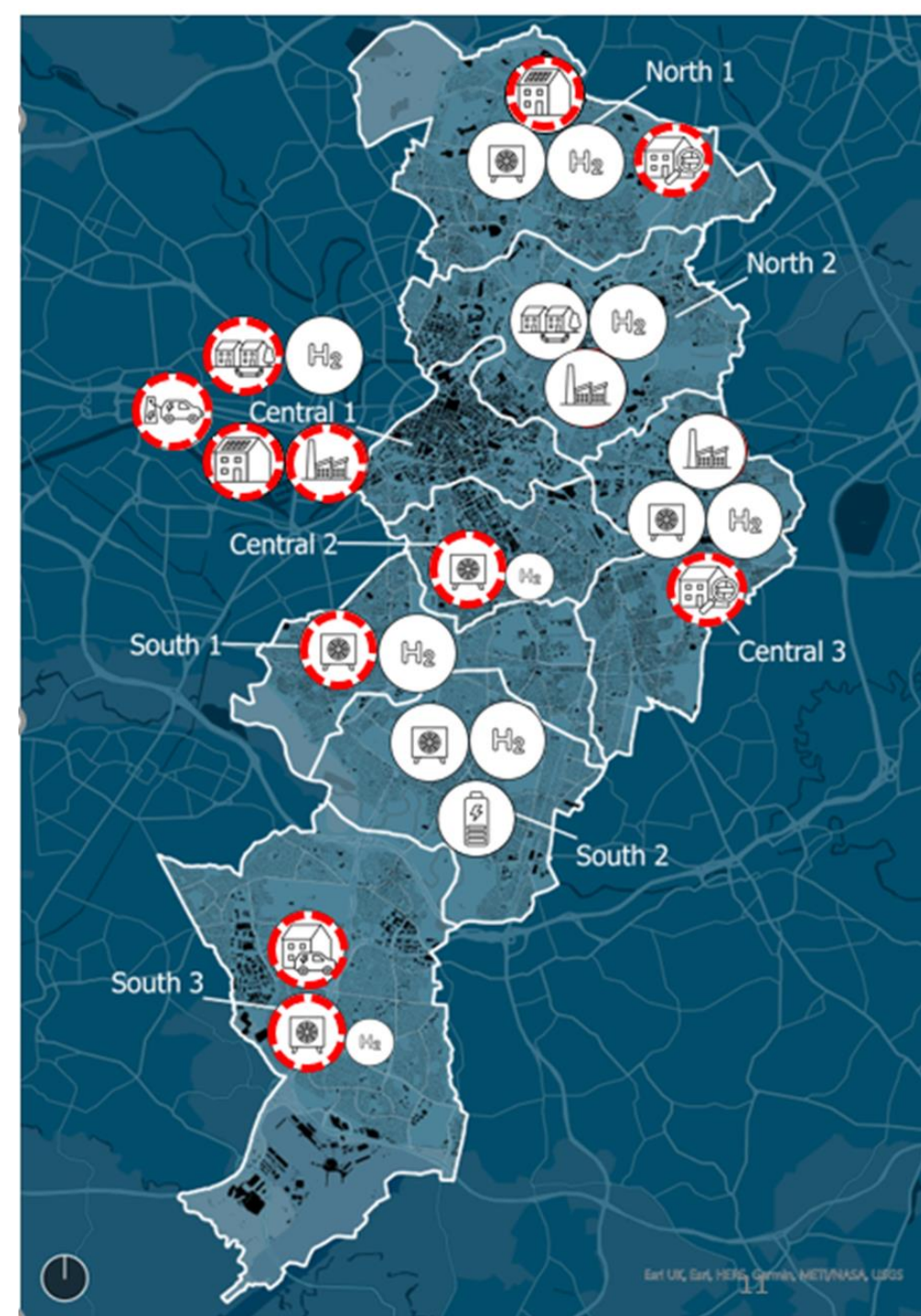
Non-domestic opportunity area



District heat prevalent zone



Flexibility & storage opportunity area



Challenges Proposed by the LAEP

For MCC:

- What is the route to delivery? How do we make this happen?
- How can work be co-ordinated internally across our own estate and fleet?
- How can we embed these actions and recommendations into MCC's work programmes and everyday thinking?

For Private Partners:

- Limited control over private property and owner behaviour that needs to be overcome – particularly difficult for leasehold properties and multiple parties
- High financial costs and long payback periods for homeowners and commercial enterprises with limited support and grant funding currently available
- How can MCC influence and enable third party action?

For ENWL:

- Significant increase to electricity demand in the city at a time when capacity is already exceeded/near its limit
- Additional generation from fluctuating ad hoc sources
- Opportunities like district heating will require co-operation and buy-in from various parties, significant investment and could present disruption if they are retrofitted

Thank you

