GM Wide Local Area Energy Plans

Economy Scrutiny
11th March 2022

GREATER MANCHESTER LOCAL ENERGY MARKET

DOING THINGS DIFFERENTLY FOR THE ENVIRONMENT

What is Local Area Energy Planning?

Local Area Energy Planning (LAEP) is a concept developed by the ESC to enable data-driven, spatial and collaborative planning, to help unlock investment and delivery of smart local energy systems – summarised by these 7 steps.

Each local area is different - its people, geography, building stock, energy networks and ambitions and priorities

Local Area Energy Planning provides a data driven, spatial and collaborative means, involving local government & network operators, of exploring a range of possible future local energy scenarios to cost-effectively decarbonise

Resulting in the identification of energy network and system choices to support carbon neutral aspirations - informing what local action is needed and where

GM LAEP: outputs

- Detailed outputs, with certain results down to postcode level
  - **What options, where and when are needed to decarbonise a local area.**
- Public consultation
- 10 x Local Area Energy Plan reports
  - **Vision for overall decarbonisation pathway**
  - **Key decision points**
  - **5 year low-regret opportunities and actions**
  - **Priority areas for technologies**
- Overarching GM regional report

The process

- National
- Regional
- Local

- Electricity/gas networks
- Generation
- Buildings
- Charge points

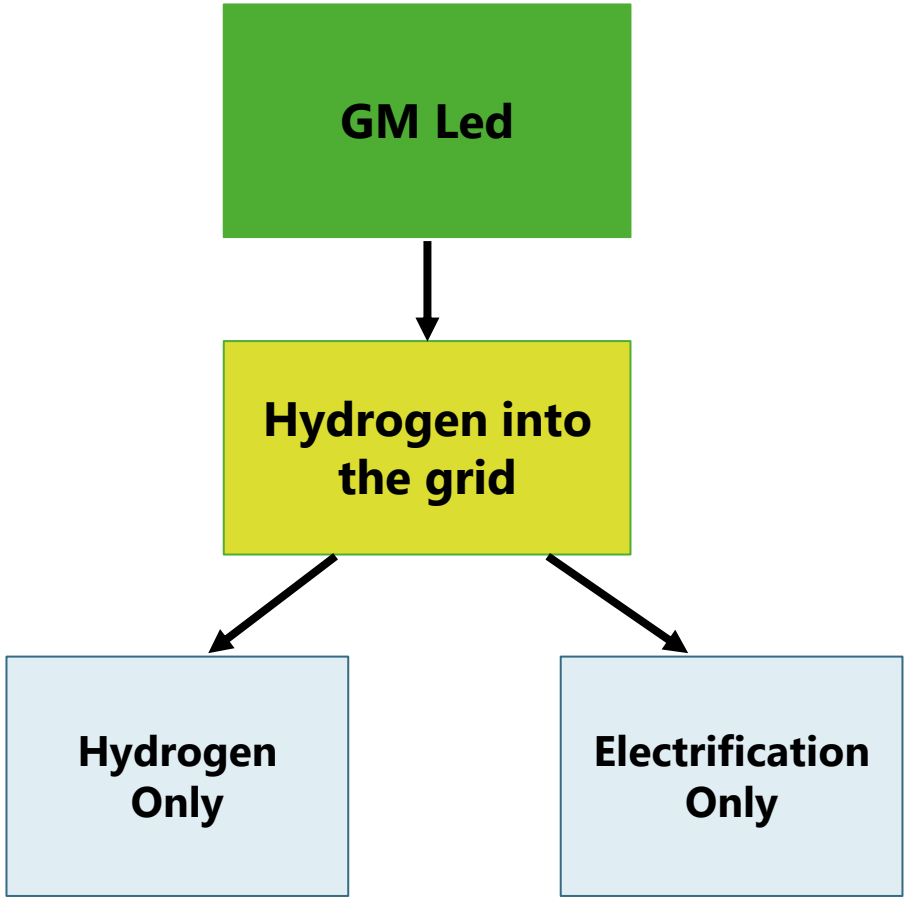
- Target & trajectory defined
- Consistent scenarios defined
- Run scenarios

- Renewable energy sites
- Social aspects
- Barriers & enablers
- Boundary factors

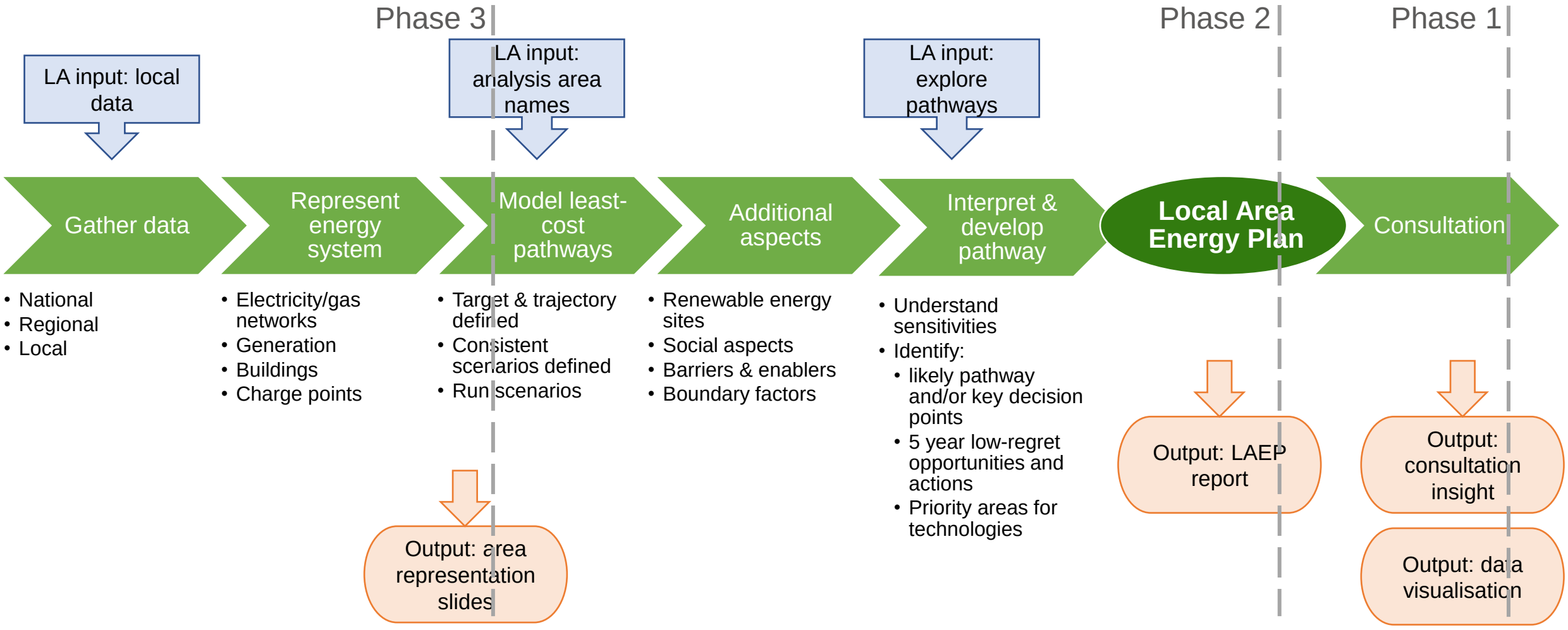
- Understand sensitivities
- Identify:
  - likely pathway and/or key decision points
  - 5 year low-regret opportunities and actions
  - Priority areas for technologies

Targets, Trajectories, Scenarios

- Greater Manchester has a target of net-zero emissions by 2038, **just 17 years from now.**
- To help achieve this a carbon budget of 71 million tonnes of CO2 has been set. **This means that from now, only 71MT CO2 may be emitted across ALL years.**
- The scenarios and pathways reflect this target and trajectory

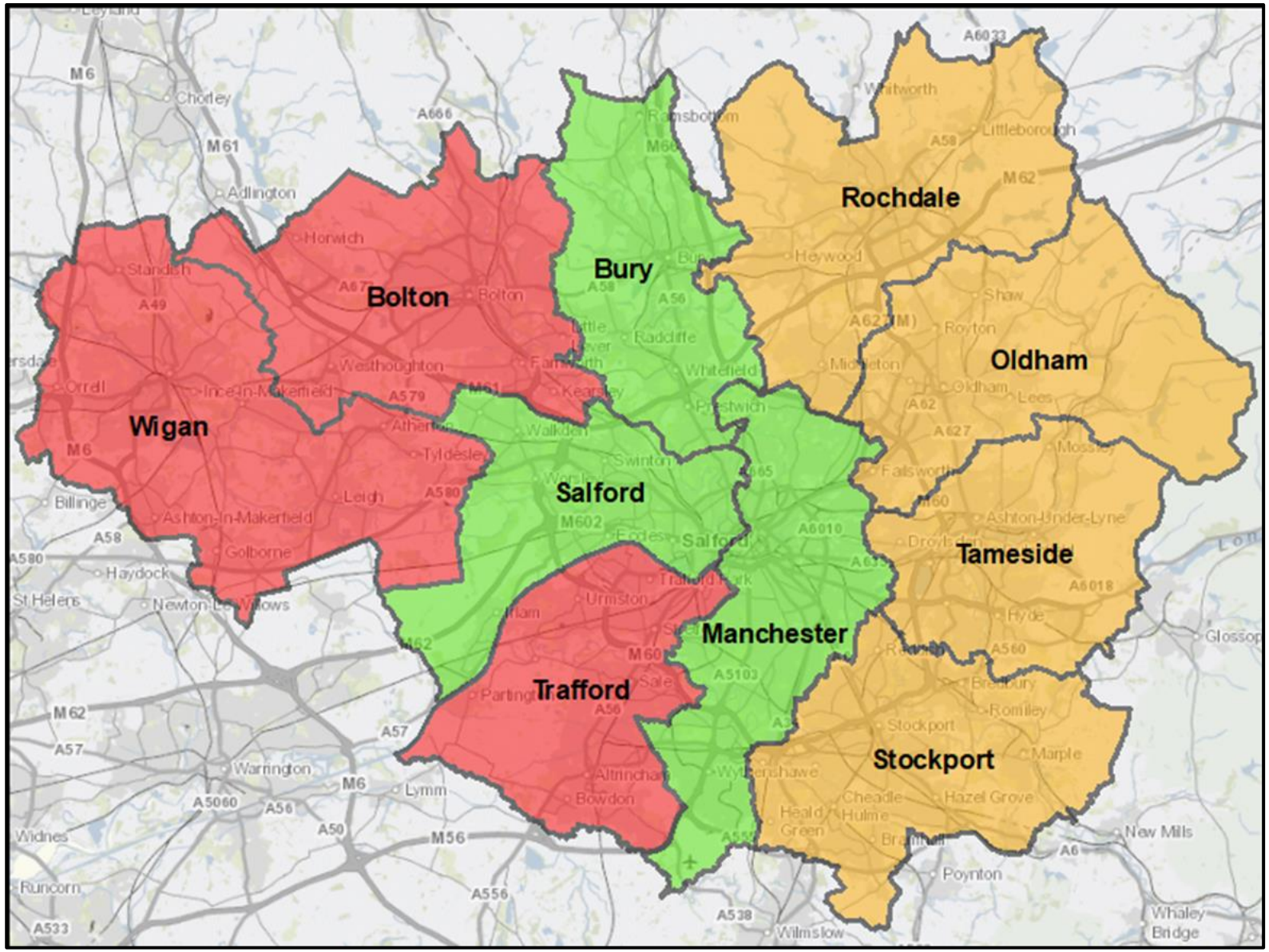


Progress



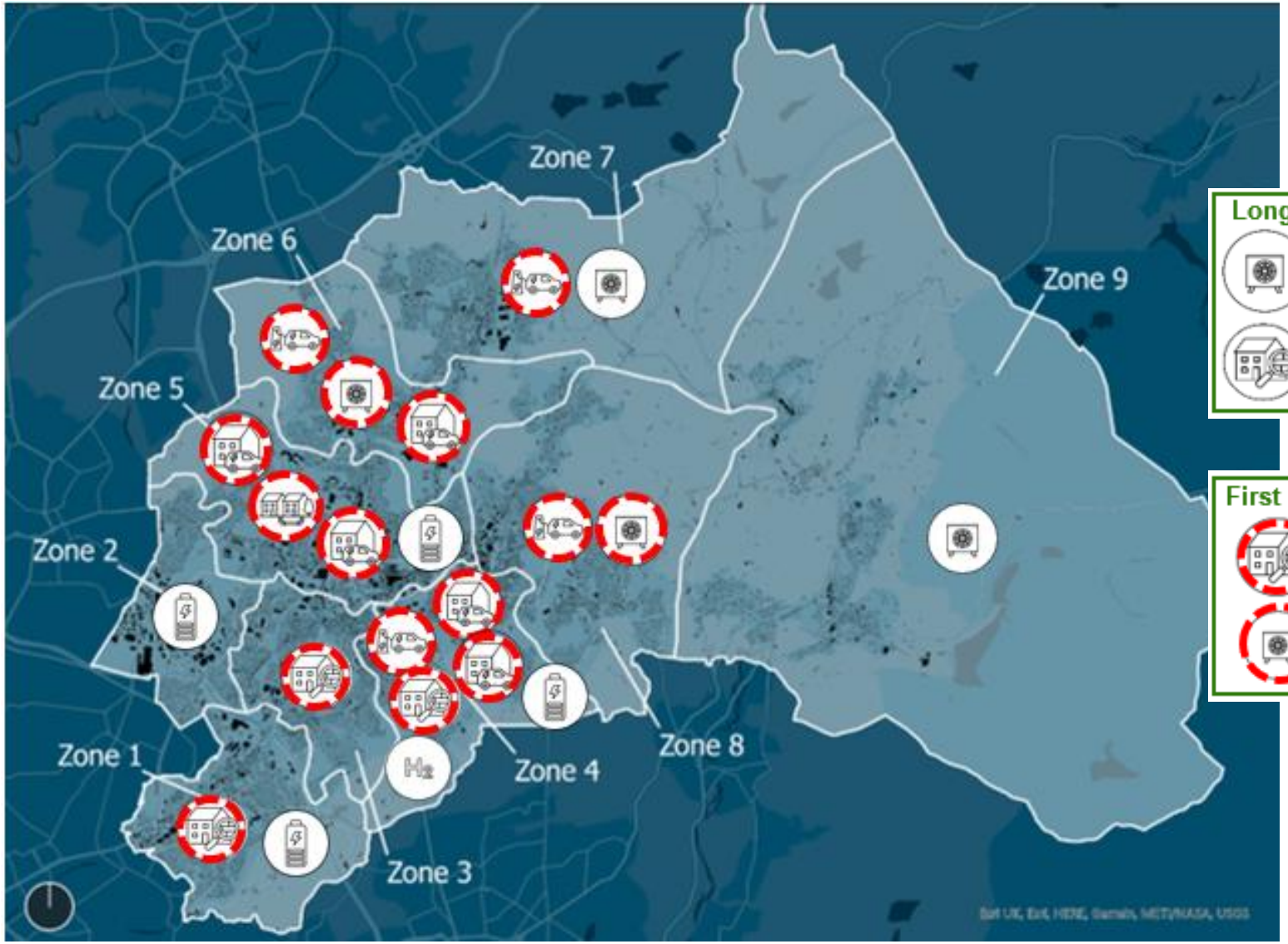
Progress

- Completed Phase 1 areas in green – Bury, Greater Manchester and Salford
- Phase 2 yellow areas complete or near complete
- Phase 3 red modelling underway



Phase 2 emerging LAEPs

Oldham – local priorities & measures



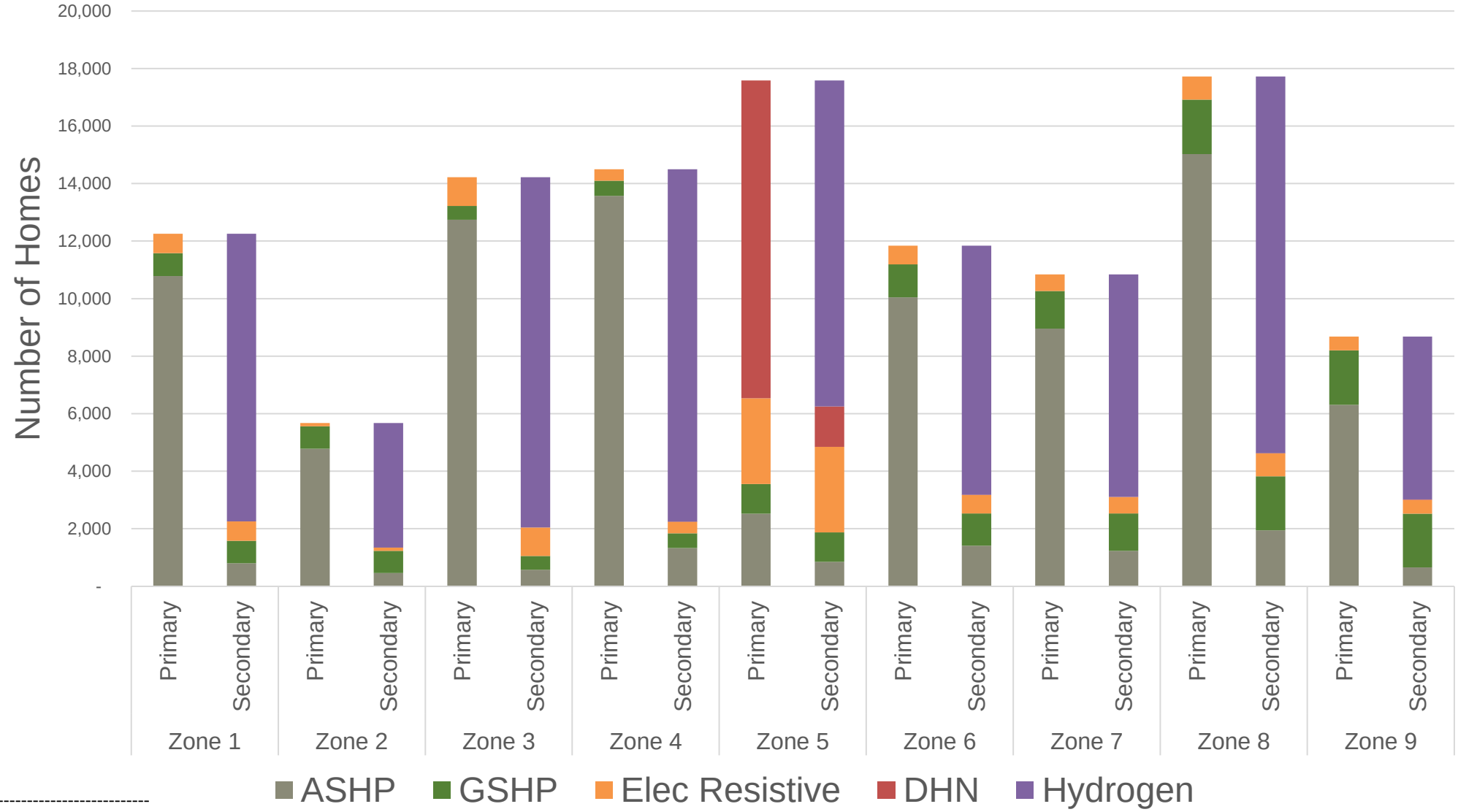
Long-term Deployment Areas

- Heat pump prevalent zone
- Hydrogen for heat opportunity area
- Non-domestic opportunity area
- District heat prevalent zone
- Flexibility & storage opportunity area

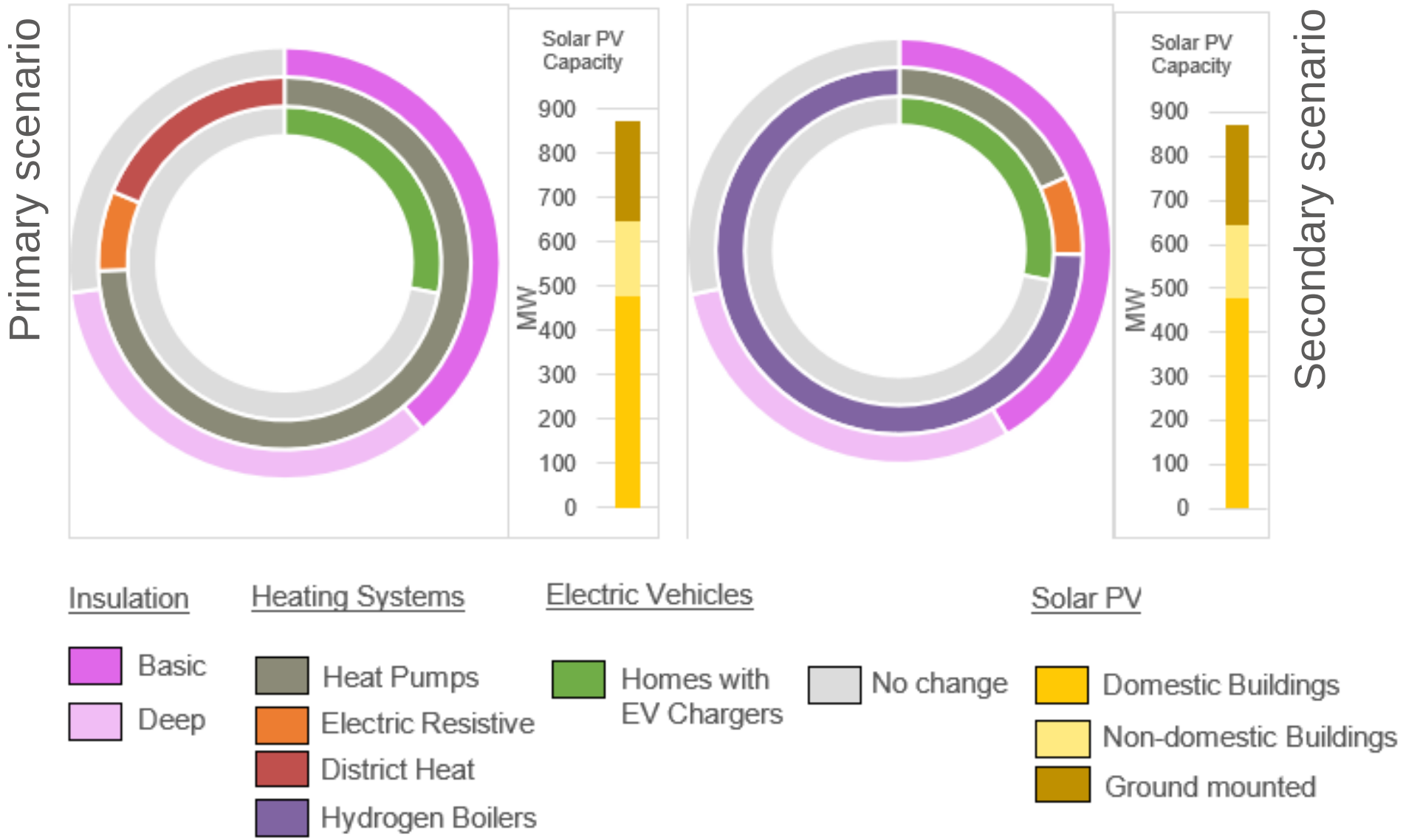
First Steps Priority Areas

- Retrofit priority area
- District heat priority area
- Home EV charging priority area
- Heat pump priority area
- Solar PV priority area
- EV charging hub priority area

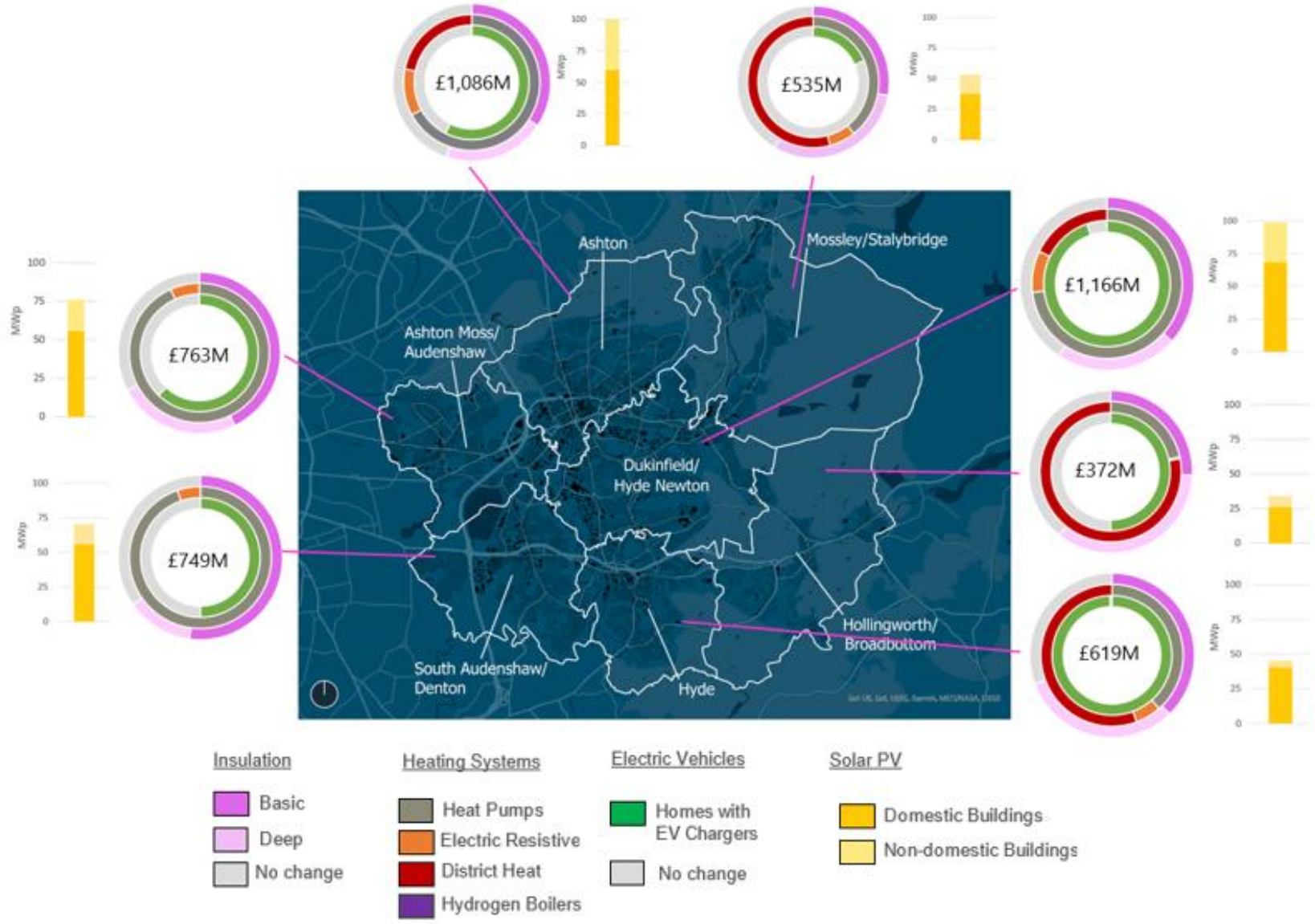
Oldham – heating systems



Stockport – scenarios summary



Tameside – summary by zone



Findings so far

Common findings reinforced in phase 2

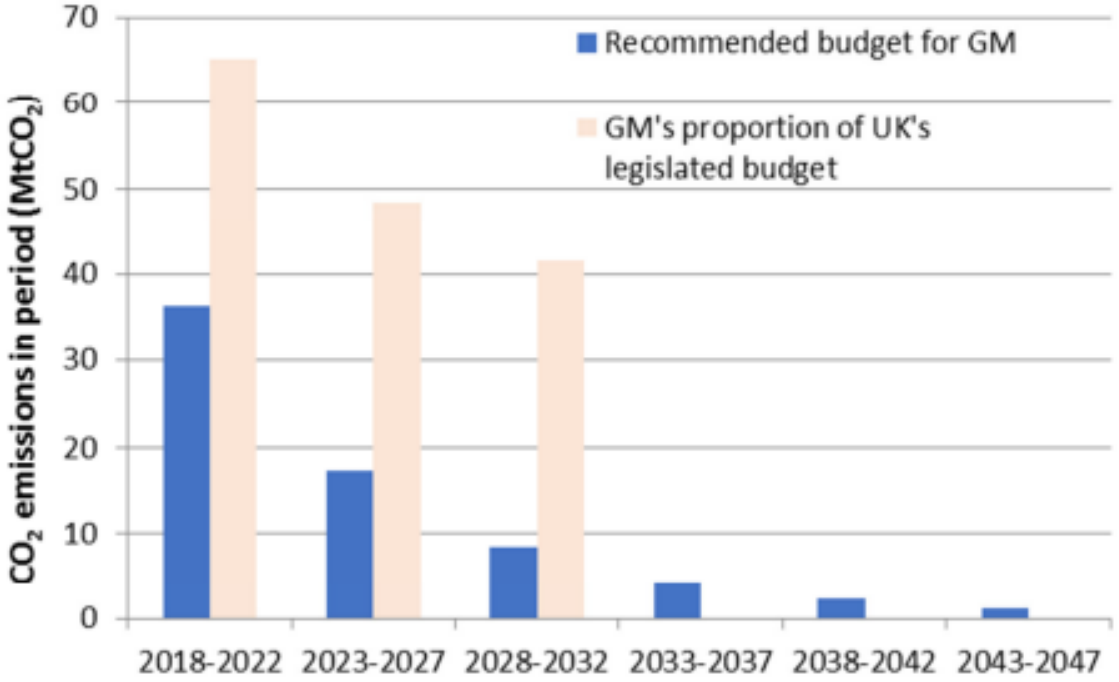
- Significant and rapid change required to meet carbon budget
- Increased local low carbon generation and storage will help
- Largest investment required in homes and non-domestic buildings

- In all regions we have identified
  - **Long term deployment areas for different technologies**
  - **Priority areas best suited for deployment in the near term**

- Future of gas grid and role of hydrogen uncertain at this point, **but…**
- **Low regret options** in all three areas to **progress now**

Carbon budgets drive change

- Carbon budget is a huge challenge
- Cutting early strongly shapes the plans
- Interventions may not be financially viable currently
- So policy/other support needed



Local low carbon generation

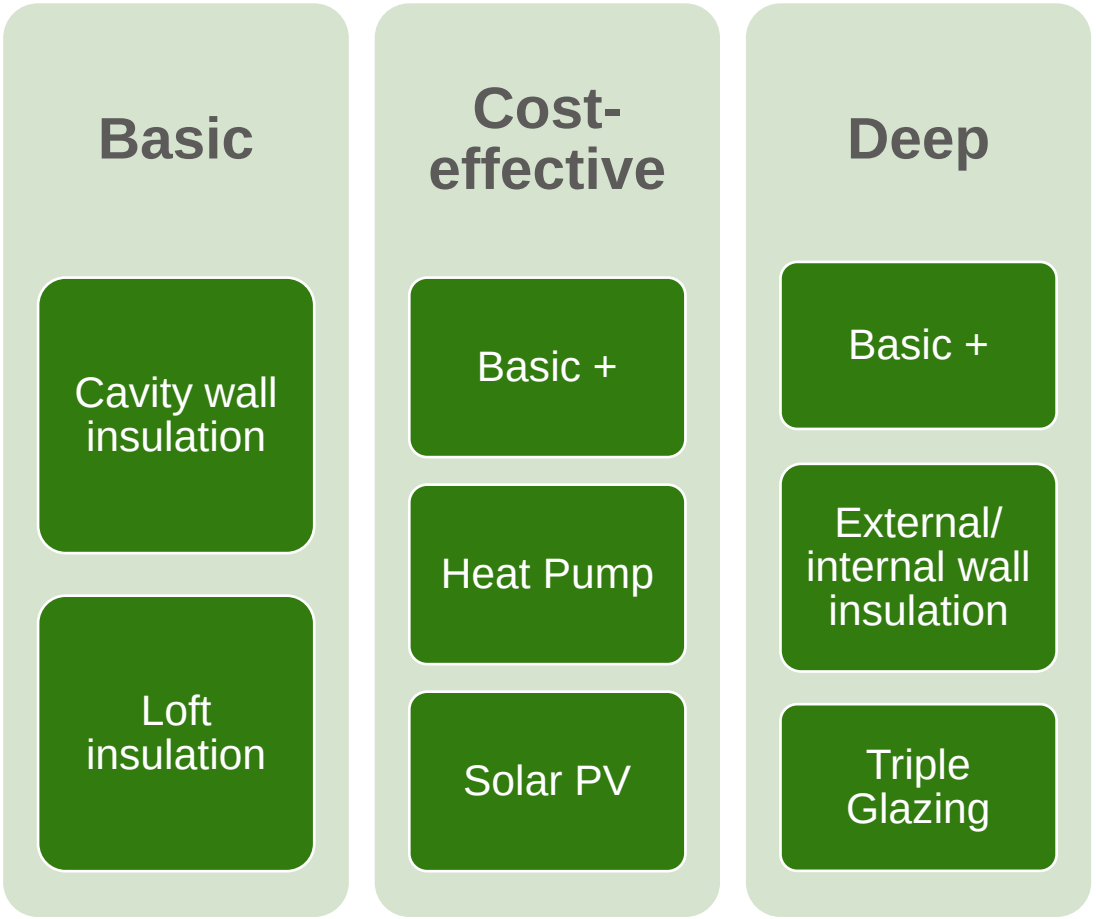
- Lots of scope, especially for PV…
- But far short of the increased electricity that will be required…
- So still dependent on national grid decarbonising

Hydrogen

- Hydrogen decisions are extremely sensitive to the timing of low carbon hydrogen availability for heating
- Lots of areas ***could*** use it, but supply quantity is unclear – enough for all?
- And other sectors also need H2 – e.g. transport

How to prioritise different areas within GMCA?

Low regret - retrofit

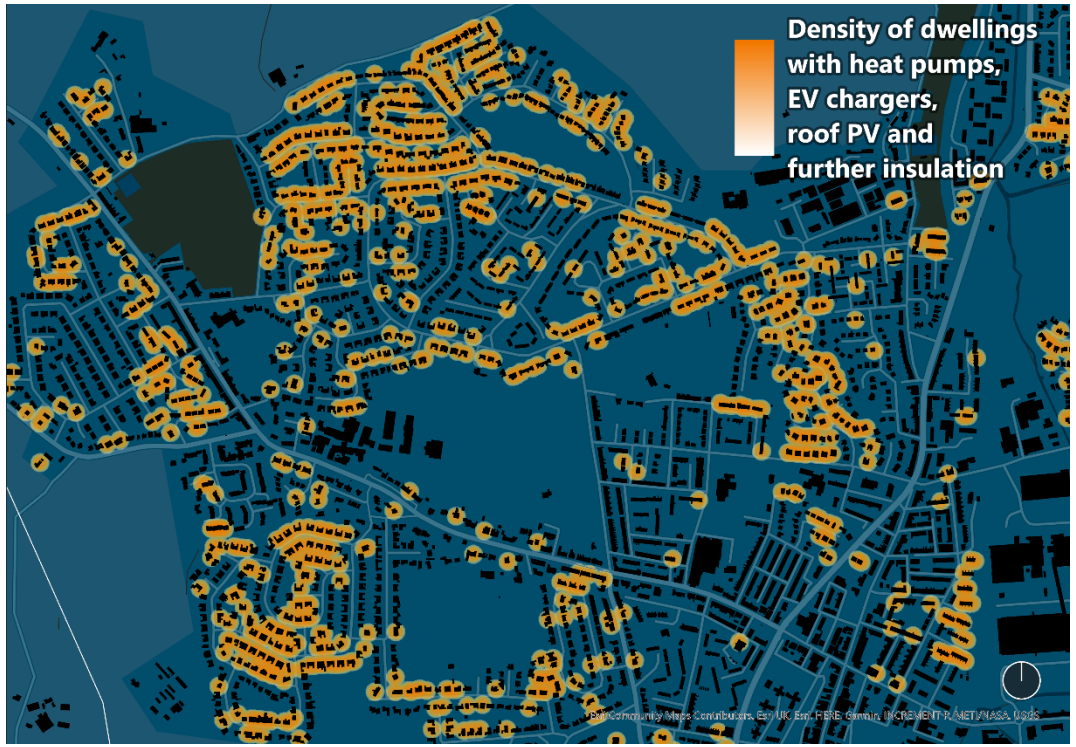


- Low regret priority areas for retrofit and insulation across all the LAs
- Insulation still needed in H2 scenarios to cut carbon early
- Opportunity to progress even where there is uncertainty on H2

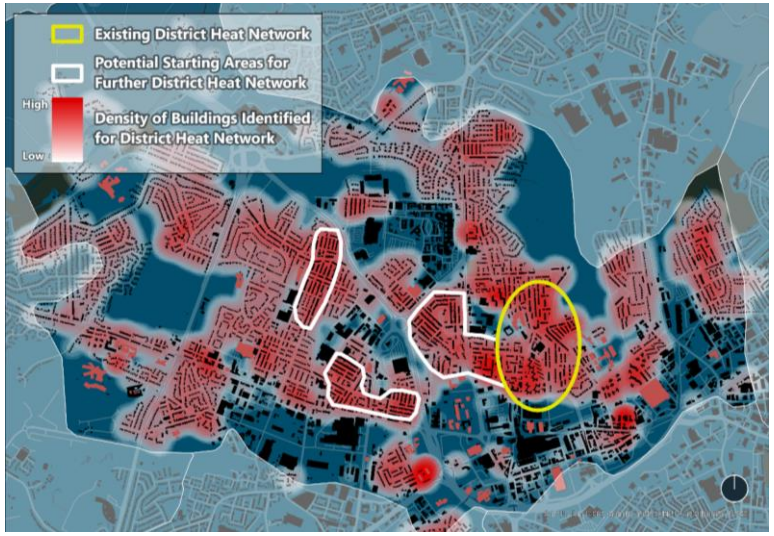
Cost-effective combinations

- Many homes with multiple interventions
- Coordinated roll-out could minimise cost and disruption
- Battery opportunities: flexibility benefits

Will this be enduring?



District heat – joining the dots



- Initial suggestions of how schemes might be achieved with localised examples.
- Sets groundwork for further detailed studies.

LAEP

Cost optimised across district

CDDP

Feasibility; heat sources

Zoning

Designate & deploy

Viable near-term opportunities to deploy LCT shouldn't be ignored because they aren't in the LAEP

Next Steps

- Phase 1: completed
- Phase 2: review/comment
- Phase 3:
  - **representation complete**
  - **scenario modelling underway**
  - **target for completion: end March**

Questions?

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