

## Overarching Working Group – Meeting 9





# Greater Manchester decarbonisation pathway

Overarching working group meeting 9 Sep

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# Introduction and context



## Strong Ambition

- Greater Manchester Combined Authority (GMCA) has set itself an **ambitious target** of becoming fully decarbonised by 2038, 12 years ahead of the national target of 2050.
- It has set a carbon budget of **91m tCO<sub>2</sub>e** remaining before 2038



## Need for Action

- Reaching its target will require GMCA to trigger **monumental changes across all sections of society**.
- Triggering these changes **needs to start now**
- Given the limited timeframe, there is no time to hit Undo and Redo . GMCA needs to get it right the first time.



## Solid Foundation

- GMCA, as the governing body for the 10 districts making up Greater Manchester (GM), has already invested substantially in **research and strategy development** for meeting its carbon-neutrality goal.



## Role of Grid Companies

- Cadent Gas and ENWL are operators of **critical energy infrastructure and knowledge partners** for GMCA.
- Create a common view on how to reach carbon-neutrality by 2038



## Comprehensive Pathway

- Cadent and ENWL have engaged with Navigant, a Guidehouse company, to develop a **balanced** scenario and decarbonisation pathway to 2038 for Greater Manchester, based on Navigant's work leading to ENA's *Pathways to Net Zero* report.
- There is still large uncertainty on how **heat decarbonisation** will be delivered and therefore we have based our approach on the most likely outcome based on our experience and understanding of latest thinking.



# GREATER MANCHESTER DECARBONISATION PATHWAY TO 2038

Three tracks fuelled by seven priority actions for the Greater Manchester Combined Authority to start transforming the energy demand and supply now

## Kickstarting the transition

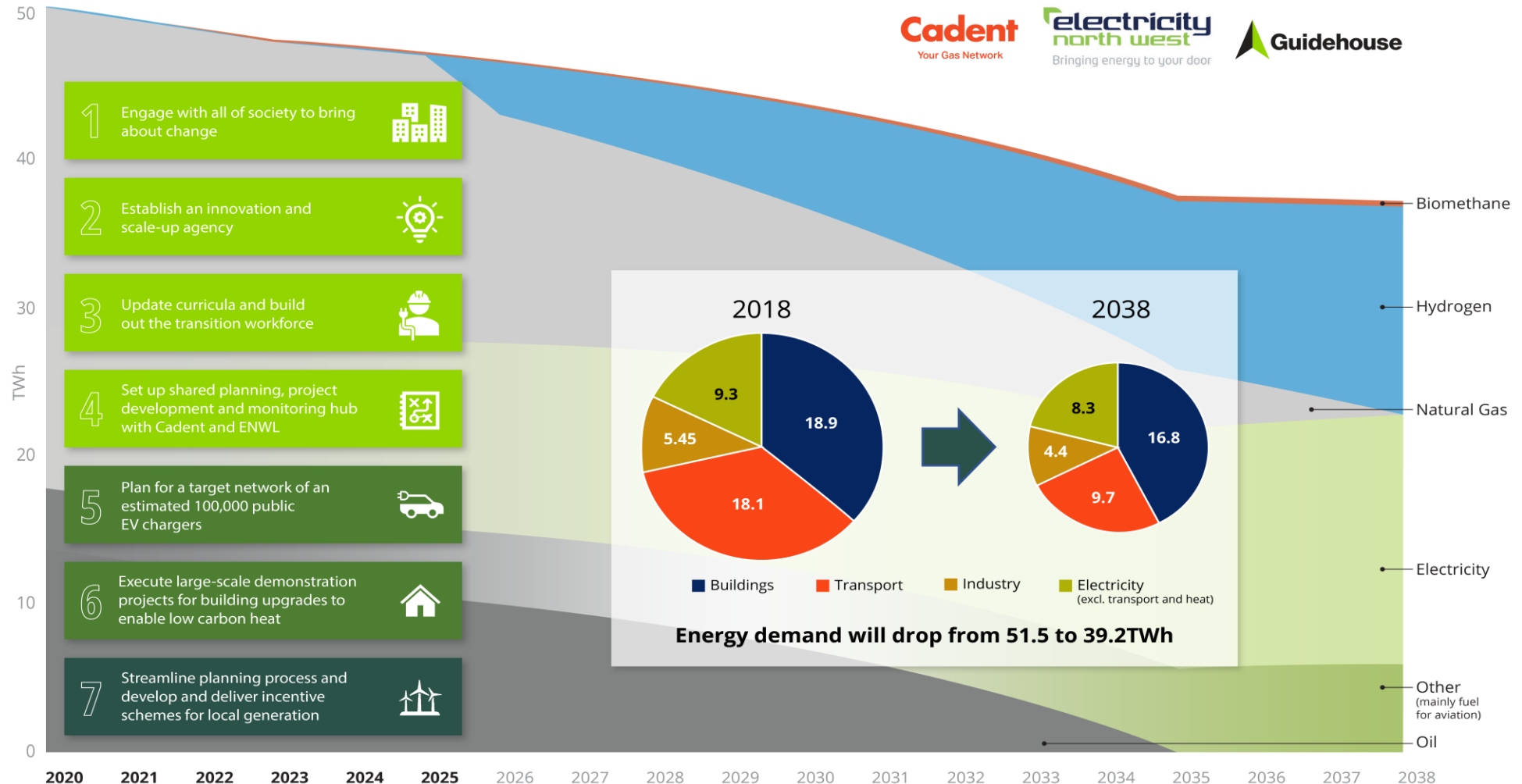
Create a shared sense of purpose, policy framework, detailed planning and upscaling abilities to fulfil the ambition.

## Transforming the demand base

Decarbonise across all sectors by switching to hydrogen, green electricity and biofuels.

## Securing low-carbon supply

Meet low-carbon demand through more local generation and distribution of clean energy.



# 62 actions for GMCA and its key stakeholders make up the Pathway



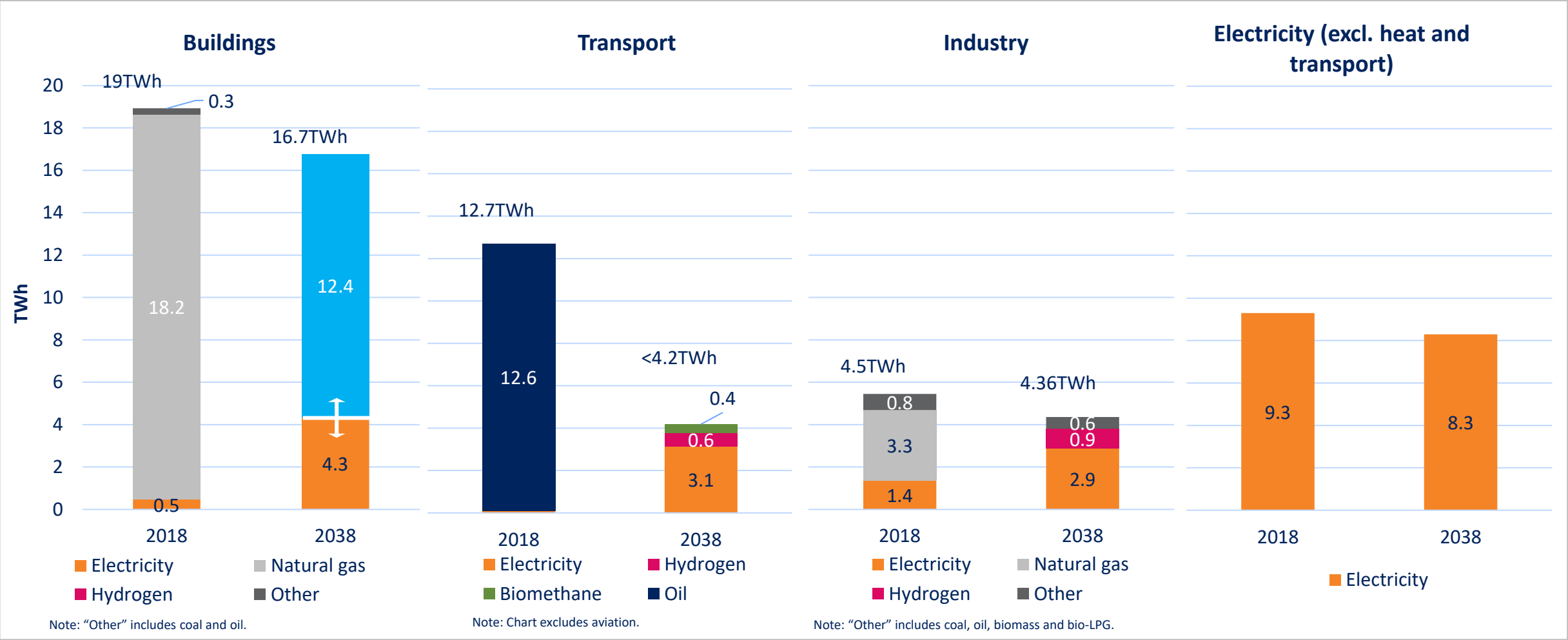
## Pathway actions illustrate the need to act now to achieve the 2038 decarbonisation target

|  |  |  |  |  |   |  |  |
|--|--|--|--|--|---|--|--|
|  | <b>S1:</b> Stimulate development of local renewables         |  | <b>S4:</b> Upscale incentivizing rooftop solar PV            |  | <b>S17:</b> Include H2 storage in spatial planning              |  | <b>S11:</b> Manage impact of NG imports                |
|  | <b>D25:</b> Create incentives for EE in industry             |  | <b>D18:</b> Stimulate shift to sustainable public transport  |  | <b>S8:</b> Assess options for offsetting NG imports             |  | <b>D24:</b> Apply the zero-emission zone to HGVs       |
|  | <b>D14:</b> Create incentives to switch buses to BEV         |  | <b>D5:</b> Enforce all-electric ready for new buildings      |  | <b>S7:</b> Realize full potential of local generation           |  |  |
|  | <b>D13:</b> Implement the Bee Network                        |  |  |  | <b>D21:</b> Introduce a scrappage scheme ICE vehicles           |  |  |
|  | <b>D2:</b> Incentivize and promote H2-ready devices          |  |  |  |   |  |  |
|  | <b>D1:</b> Enforce mandatory building codes                  |  |  |  |   |  |  |
|  | <b>K8:</b> Conduct detailed building stock inventory         |  |  |  |   |  |  |
|  | <b>K7:</b> Form a shared planning and monitoring hub         |  |  |  |   |  |  |
|  | <b>K3:</b> Leverage policy and regulation sandboxes          |  |  |  |   |  |  |
|  | <b>K2:</b> Decarbonise GMCA's own operations                 |  |  |  |   |  |  |
|  | <b>K1:</b> Engage with all of society to bring about change  |  |  |  |   |  |  |
|  | <b>K4:</b> Influence national policy development             |  | <b>K10:</b> Plan with BEIS for long-term supply of biofuels  |  | <b>D8:</b> Expand retrofitting of buildings for low-carbon heat |  | <b>D11:</b> Complete upgrading of building stock       |
|  | <b>K5:</b> Establish innovation and scale-up agency          |  | <b>D6:</b> Mainstream building retrofits for low-carbon heat |  | <b>D22:</b> Complete public EV charging network                 |  | <b>S12:</b> Accelerate conversion Carrington           |
|  | <b>K6:</b> Build-out transition workforce                    |  | <b>D19:</b> Expand the EV charging network                   |  | <b>D23:</b> Ensure whole bus fleet is decarbonised              |  | <b>D12:</b> Continue switching devices to 100% H2      |
|  | <b>K9:</b> Create detailed gas network planning for H2       |  | <b>D20:</b> Decarbonise at least 50% of bus fleet            |  | <b>S9:</b> Coordinate procurement of smart solutions            |  | <b>D33:</b> Capture remaining emissions from industry  |
|  | <b>D3:</b> Scale up building insulation and upgrading trials |  | <b>S5:</b> Expand behind-the-meter storage                   |  | <b>S18:</b> Coordinate H2 switching residential gas grid        |  | <b>S13:</b> Continue network reinforcement             |
|  | <b>D15:</b> Coordinate development of bus charging           |  | <b>S15:</b> Coordinate switching industry to H2              |  | <b>D9:</b> Start converting H2-ready devices to H2              |  | <b>S19:</b> Move green H2 production to demand centres |
|  | <b>D16:</b> Plan for network of 100K public EV chargers      |  | <b>S16:</b> Plan for H2 storage capacities                   |  | <b>D10:</b> Expand the use of demand side technologies          |  |  |
|  | <b>D17:</b> Create blueprint for HGV refuelling              |  | <b>D7:</b> Start deployment of B2G and V2G                   |  | <b>D31:</b> Accelerate H2 switching in industry                 |  |  |
|  | <b>S2:</b> Design and trial Local Energy Markets             |  | <b>D28:</b> Supply industry with H2 from HyNet               |  | <b>D32:</b> Continue industrial equipment replacement           |  |  |
|  | <b>S14:</b> Coordinate H2 supply with HyNet                  |  | <b>D29:</b> Make industry H2-ready                           |  | <b>S10:</b> Continue network reinforcement                      |  |  |
|  | <b>D4:</b> Pilot BEMS for in-home optimisation               |  | <b>D30:</b> Continue electrification in industry             |  |   |  |  |
|  | <b>D26:</b> Select decarbonisation options for industry      |  | <b>S6:</b> Enable Demand Response at scale                   |  |   |  |  |
|  | <b>D27:</b> Start electrification of industry                |  |  |  |   |  |  |
|  | <b>S3:</b> Expand LV monitoring                              |  |  |  |   |  |  |

|  |   |
|--|---|
|  | Led by, or under the responsibility of, GMCA        |
|  | GMCA to influence/collaborate with key stakeholders |
|  | GMCA to monitor/be aware of                         |

\*) Descriptions of pathway actions have been shortened. See full report for more details.

# Evolution of demand - overview



## Areas of overlap between OAWG and Cost Assessment WG



| Date                       | Working Group | Proposed Agenda   |
|----------------------------|---------------|---|
| 3 <sup>rd</sup> September  | CAWG          | 1) SSMC clarifications and options discussions<br>2) RPEs and OE<br>3) DD clarifications and learning     |
| 15 <sup>th</sup> September | CAWG - CBA    | 1) Interactions (ED2 core/CNAIM/WS1a)<br>2) Parameters<br>3) Probabilities<br>4) When to produce CBAs     |
| 1 <sup>st</sup> October    | CAWG          | 1) Post-DDs discussions<br>2) Uncertainty Mechanisms<br>3) Forecasting & Scenarios<br>4) Any other issues |
| 22 <sup>nd</sup> October   | CAWG          | 1) Totex models<br>2) Data (RIGs returns and findings)<br>3) Interaction with BPDT                        |
| 3 <sup>rd</sup> November   | CAWG - CBA    | 1) Parameters<br>2) Probabilities   |
| 19 <sup>th</sup> November  | CAWG          | 1) Middle models<br>2) Disaggregated models   |

- Currently under review



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**We do this by:**

- **working with Government, industry and consumer groups to deliver a net zero economy at the lowest cost to consumers.**
- **stamping out sharp and bad practice, ensuring fair treatment for all consumers, especially the vulnerable.**
- **enabling competition and innovation, which drives down prices and results in new products and services for consumers.**