

Dundee's Strategic Energy Planning and Route Map to Net Zero

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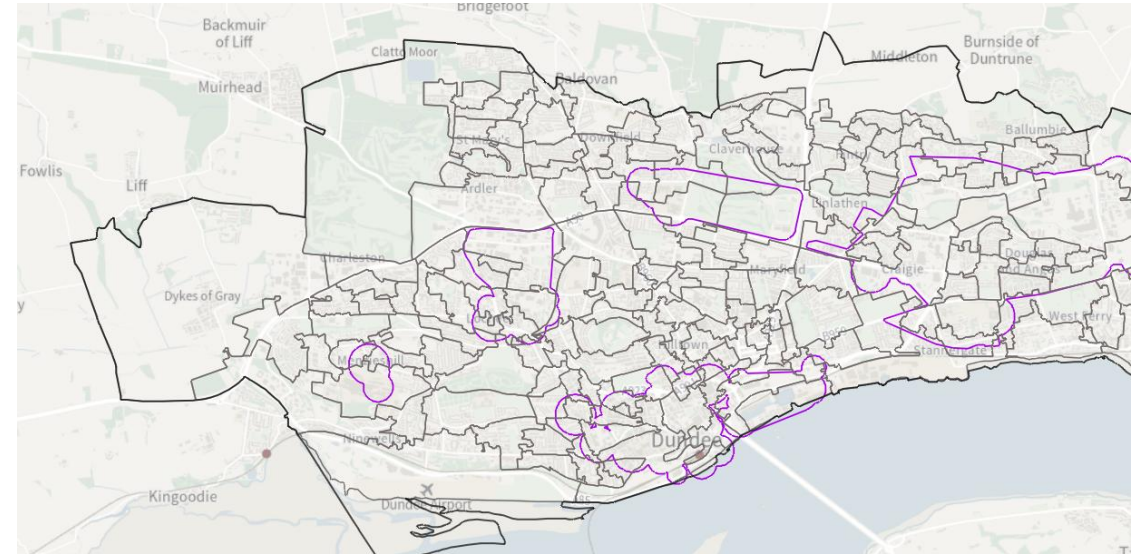
"Dundee will be Scotland's pioneering net zero city, establishing an energy system that drives innovation while ensuring accessible and affordable clean energy for all"



Local Heat & Energy Efficiency Strategy (LHEES)



- Strategy approved at Committee & published in April 2024
- Long-term plan for decarbonising heat in buildings & improving energy efficiency across the entire LA area
- Strategic approach for:
 - Improving buildings
 - Decarbonising heating systems
 - Removing poor energy efficiency as driver for fuel poverty
- Strategic zones highlight solutions
 - Heat network priority zones
 - Large-scale heat pump roll out

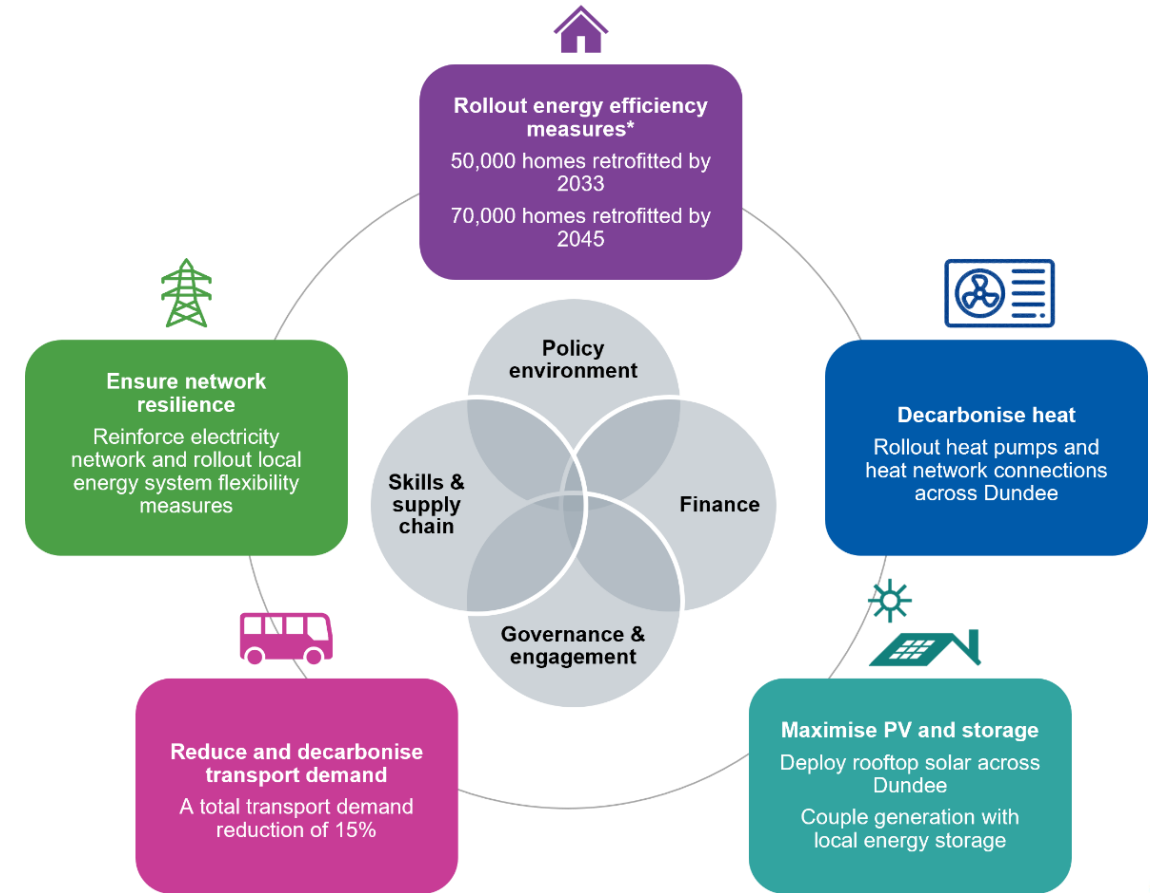


Heat Network Priority Zones

Local Area Energy Plan (LAEP)



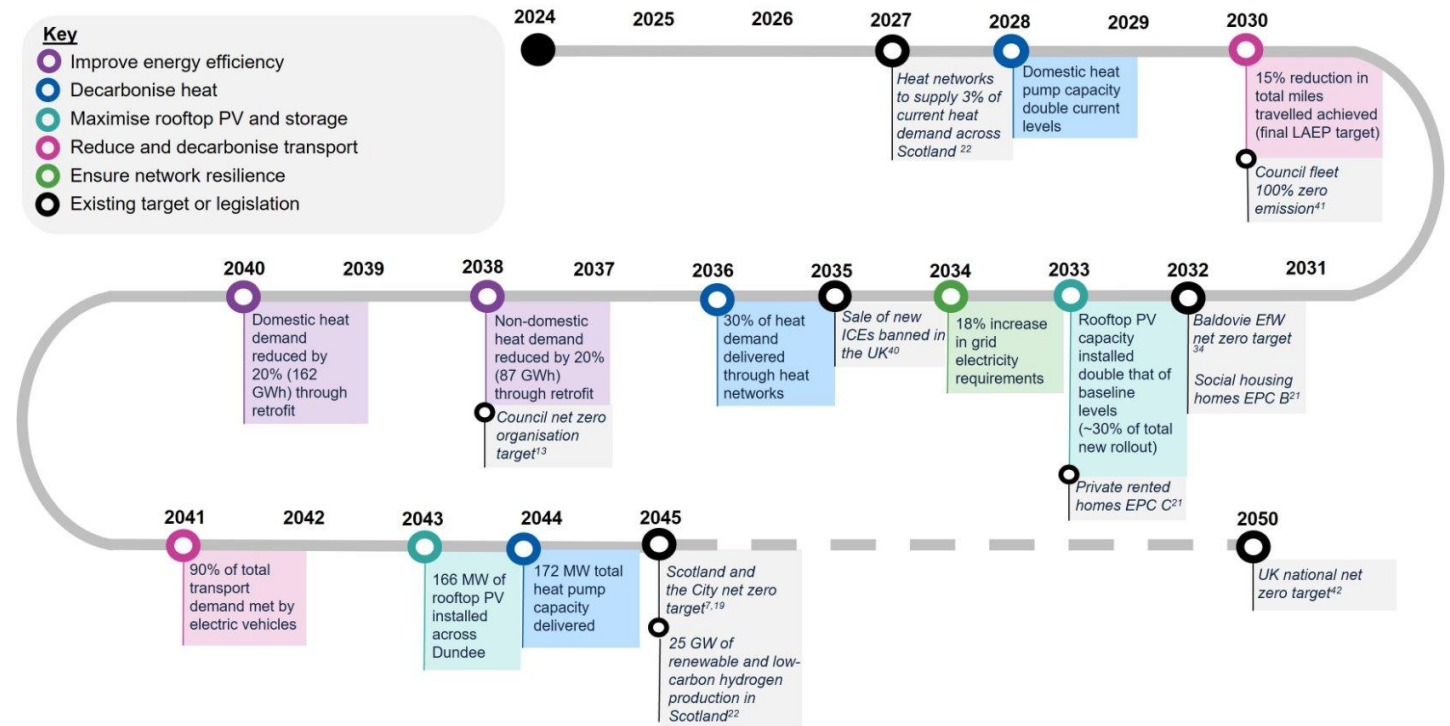
- Provides understanding of the nature, scale, rate & timing of changes needed for Dundee to transition to a net zero energy system by 2045
- Technical analysis and stakeholder views inform the LAEP's action plan:
 - The **Local Resilience** pathway to net zero will involve significant reductions in demand for heating, electricity & transport
 - **Priority intervention themes** are outlined to achieve the LAEP's objectives and underpin the actions within the LAEP



Dundee LAEP Priority intervention themes

LAEP Routemap

- **Routemap** developed –
What action should be taken when and by whom?
- Proposed targets mapped according to their associated priority interventions
- Recommendations rather than definitive requirements

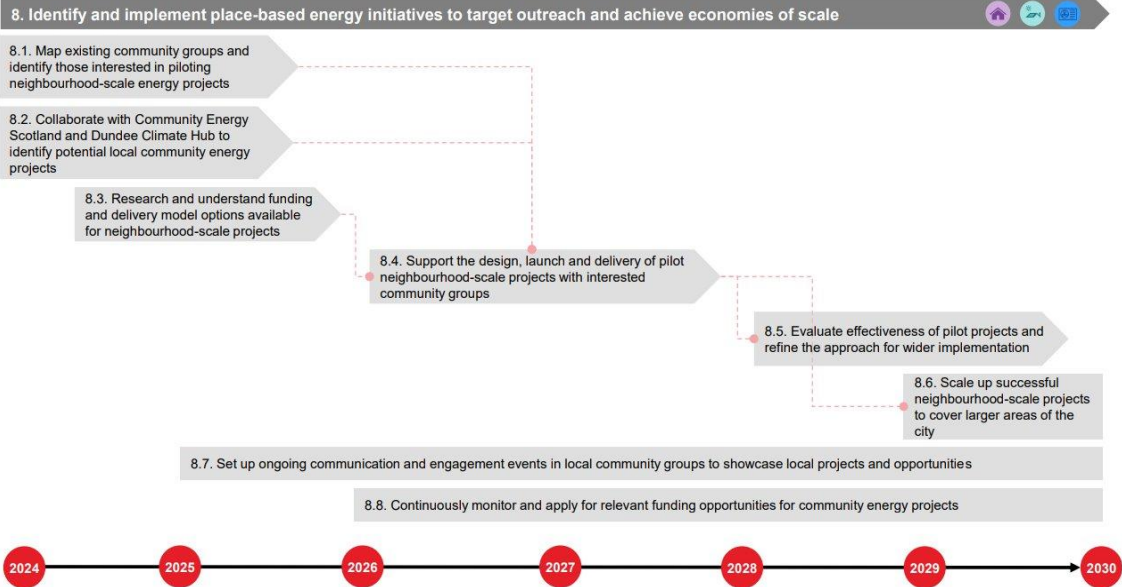


Dundee's long-term routemap of targets

Overarching Actions

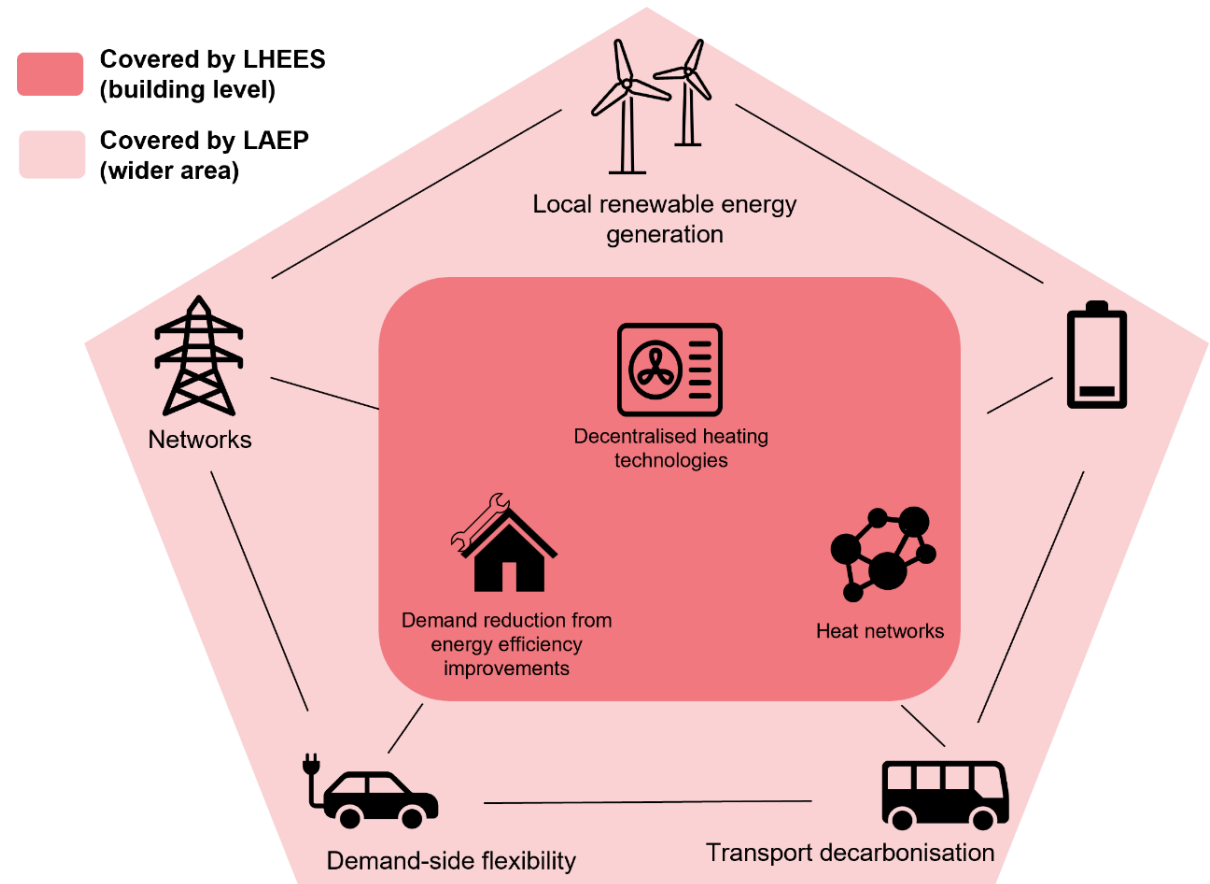


1. Deliver decarbonisation measures in Council-owned building stock to provide 'success stories' and boost supply chain	  	More Council control
2. Foster coordination and collaboration with other local authorities	  	
3. Continue to collaborate with network operators to inform energy planning		
4. Develop heat networks within Dundee		
5. Implement a strategy to reduce transport demand and encourage sustainable travel		
6. Promote the growth of the supply chain and foster confidence in local suppliers	  	Less Council control
7. Raise awareness of grid flexibility opportunities to households and businesses		
8. Identify and implement place-based energy initiatives to target outreach and achieve economies of scale	  	
9. Promote advice service for homeowners and business	  	
10. Deliver infrastructure to support a decarbonised transport system		



LHEES & LAEP Integration

- LAEP has directly incorporated LHEES outputs into whole systems energy modelling & has captured non-LHEES components like power, transport, energy distribution systems & storage
- Outputs from LHEES integrate with LAEP for example:
 - Post-retrofit building demands
 - Potential heat networks
 - Suitability for heat pumps

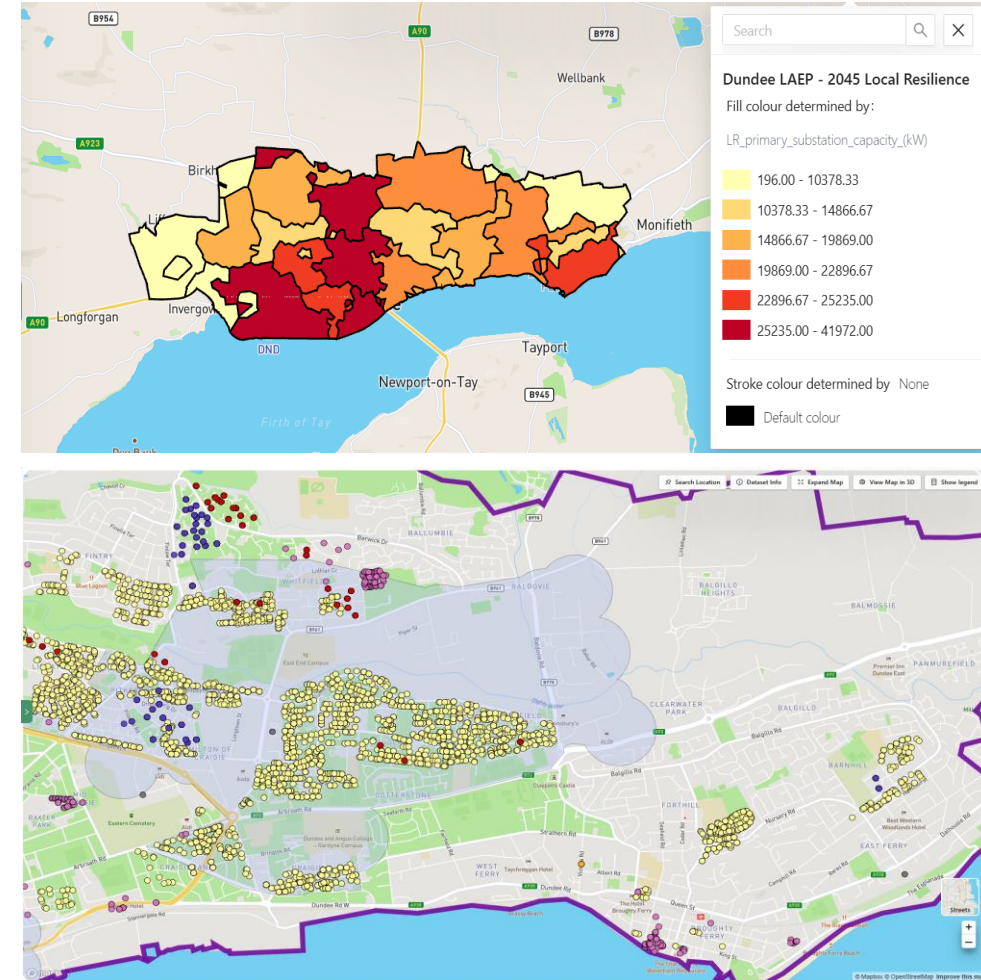


Local Energy Net Zero Accelerator (LENZA)

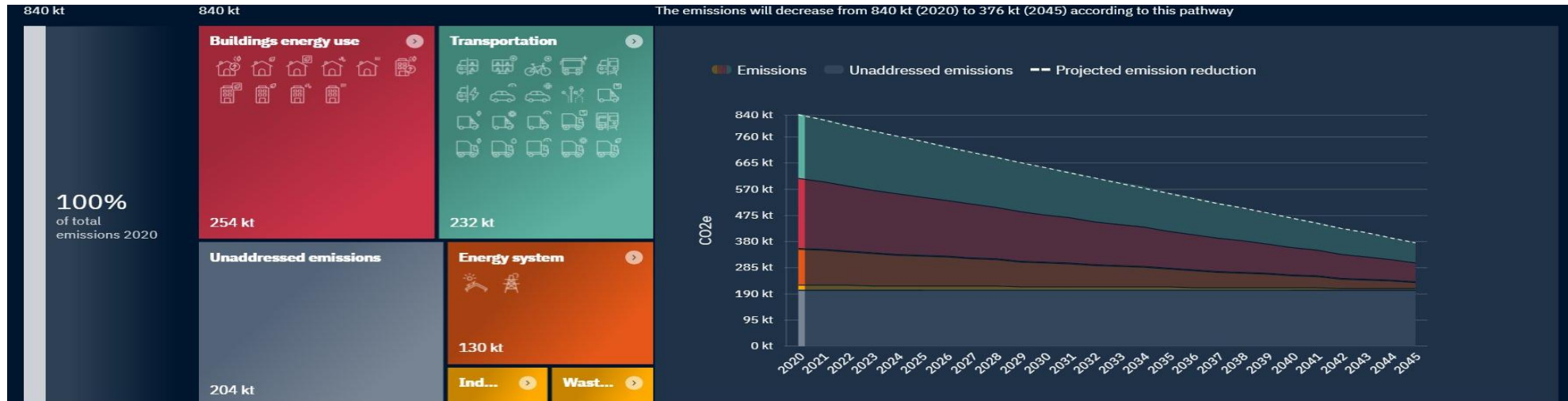


LENZA enables the Council and partners to:

- Map energy demand, generation and network capacity
- Identify suitable locations for heat pumps, solar PV, battery storage and EV infrastructure
- Assess future energy scenarios
- Support business cases and funding applications
- Reduce the time and cost associated with traditional feasibility studies
- Improve collaboration between local authorities, network operators and stakeholders



ClimateView



- Emissions dashboard, published on Sustainable Dundee website in 2022 updated and re-published 2026
- Data Visualisation tool used to communicate & present our climate actions in terms of the emissions they can (potentially) reduce, looking at the carbon savings of transition
- Integrates M&E and data into strategic plans
- Input actual numbers into platforms to monitor
- Set targets & select & monitor transition KPIs (interventions)
- Will be able to integrate ClimateView interventions with scenarios on LENZA

Caird Park Energy Hub



The energy hub combines several technologies:

- A **600 kW Ground Source Heat Pump** system
- **116 boreholes**, mainly 200 metres deep, extracting heat from the ground
- **Solar thermal panels** for hot water generation
- **Solar PV panels** for electricity generation
- **Combined Heat and Power (CHP)** technology to support efficient operation of the heat pumps
- Back-up gas boilers for peak demand periods

The project is recognised as a key step in Dundee's wider ambition to develop **large-scale district heating networks**, helping to:

- Reduce carbon emissions
- Tackle fuel poverty
- Create local economic opportunities and jobs
- Support the transition to affordable, low-carbon heat



Clepington Road Rapid Charging Hub



- **Accessible design:** Wide charging bays (3.6m × 6m), level access, no kerbs, raised plinths or bollards.
- **Improved manoeuvrability:** Clear space around charge points and colour-contrasting wheel stops to maintain safe access routes.
- **Enhanced usability:** Longer charging cables, cable retention systems and high-visibility cable markings to reduce trip hazards and accommodate different vehicle types.
- **Better accessibility information:** Improved signage and online access to site accessibility details before visiting.
- **Safer and more comfortable environment:** Good lighting, improved shelter, and a rest area with seating.
- **User-led design:** Features developed in consultation with disabled drivers to remove barriers to EV charging and support inclusive access.



Linlathen Deep Retrofit Project



Retrofit measures include:

- Structural external wall insulation (EWI)
- Loft and underfloor insulation
- New windows and doors
- Solar PV and battery storage
- Roof replacements

Expected outcomes:

- Significant improvements in energy efficiency
- Lower carbon emissions
- Reduced fuel poverty
- Improved tenant comfort and health
- Reduced future maintenance requirements
- A replicable model for future net zero housing retrofit projects across Dundee

Linlathen Retrofit Upgrades Phase 1



Opportunities & Challenges

Opportunities

- Strategic Energy Planning
- Heat Decarbonisation
- Large-scale Retrofit Programmes
- Renewable Energy, Battery Storage & EV Infrastructure
- Economic Growth & a Just Transition

Challenges

- Network Constraints
- Resource & Capacity Pressures
- Complex stakeholder Coordination
- Policy & Technology Uncertainty
- Data Gaps & Delivery at Scale

Future Areas of Focus



Looking ahead, Dundee's priorities include:

- Delivering the LAEP action plan and its route map to 2045
- Accelerating domestic and non-domestic retrofit programmes
- Advancing heat network development and low-carbon heat deployment
- Increasing local renewable energy generation and battery storage
- Supporting community energy projects and place-based initiatives
- Integrating LAEP outputs with emerging Regional Energy Strategic Planning (RESP) processes
- Using LENZA and ClimateView to continually refine investment priorities
- Maintaining a strong focus on a just transition, ensuring all communities benefit from the move to net zero

Thank you!

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