

# Denton Park House & Hilltop House

## Ground Source Heat Pump installation

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# Content

- Background – Climate change agenda, stock profile, current heating system and issues
- Proposal – solution including benefits/challenges
- Customer Consultation
- Delivery – Timescales/Issues
- Training
- Learning – Next Steps
- Questions

## Background – Climate Change Strategy

- Policy - Newcastle Net Zero Action 2030, HRA Assets Management Plan (2020)
- Newcastle Housing stock 136,000 properties, 24,000 Council owned properties
- Estimated to cost to reach Net Zero £4.1bn
- Council owned stock £434m to reach Net Zero Carbon – reducing carbon emissions by 92% by 2030
- Fabric First....
- Resident engagement
- Build capacity



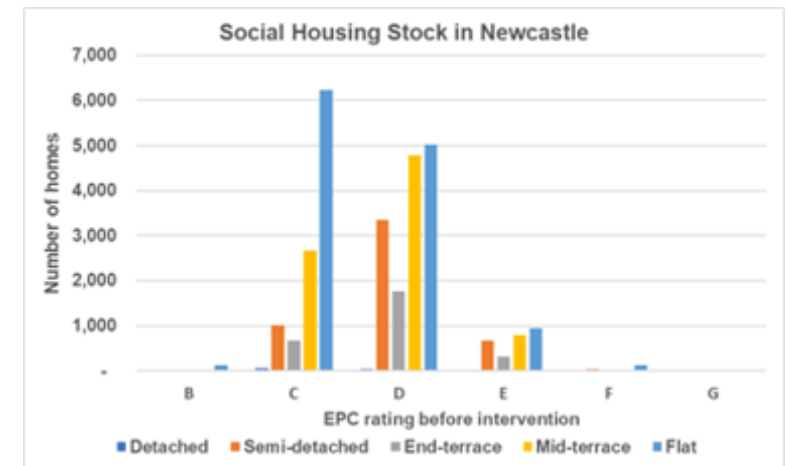
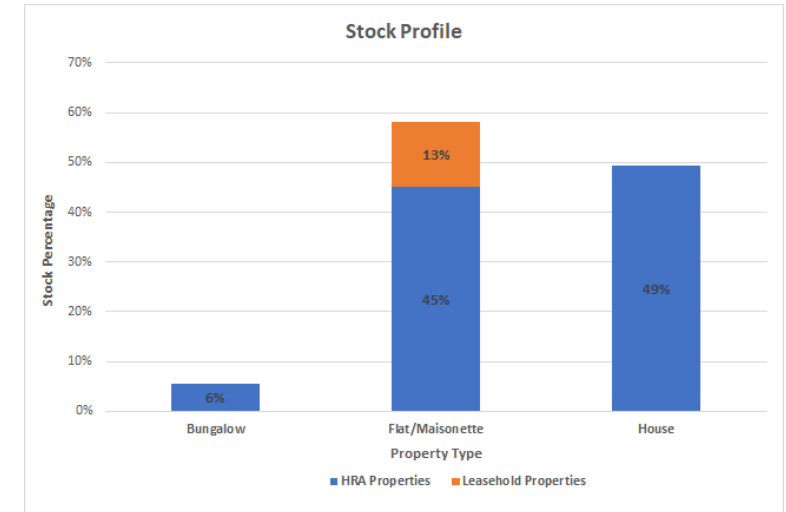
# Stock Profile

Approx 25,000 HRA properties

- 67% HRA Properties are EPC C+
- 83% HRA stock have gas boilers
- 13% of flat accommodation are leaseholders

## Mix of construction types

- 90% of the stock is traditional construction
- 10% are made up of various types including Nofine, BISF, Duoslab & Unity





## Denton Park House & Hilltop House



### High Rise Accommodation

- 35 High Rise blocks, 13 were gas
- 3,128 flats of which 38 are leaseholders

## Background

- Climate Emergency & Decarbonisation – **2030**
- Tenant profile - Over 55s...
- Increasing cost of tenant heating - **Fuel Poverty**
- Lack of thermal comfort, under heating, health issues
- Boiler Failures/Excessive Repairs, service and repairs
- Customer Choice & Satisfaction



# Project Proposal

- Cavity Wall Insulation (ECO funding)
- Shared Ground Source Heat Pump (loop) System (25 bore holes) (492kWth) (COP 3.84)
- Individual property “Shoebox ground source heat pumps (3kW and 6kW units)
- Sun-Amp hot water battery
- Switchee Smart Thermostat
- Degas the building
- New central meter room
- DNO electric supply upgrade
- 34 week delivery programme Aug 2021 – April 2022
- £5.2m project
- £1.6m Renewal Heat Incentive





# Customer Consultation

- Complex installation process, multiple trades
- Internal and external works
- Different type of heating system
- Dedicated YHN and Contactor customer engagement team
- Engagement during design phase (Switchee thermostat)
- Regular programme updates and property visits
- Ongoing support understanding heating system use
- Support community activities





# Customer Feedback

## Positive

"fabulous service and you've sorted out our heating system"

"hot water is brilliant"

"happy with work and glad to have heating"

"heating is great"

"10 out of 10 for the heating"

## Negative

"not happy on timescale"

"it's taking a long time to get the gas disconnected and the electric supply connected"

"happy with the work but the delays are a problem"

## Delivery – Timescales/Issues

- Original construction phase 7 months (RHI funding deadline)
- 3 months additional ancillary works
- Boreholes drilling - water supply
- Main supply pipework – core drilling
- Coordination of subcontractor – in flats
- Switchee thermostat connection
- DNO supply upgrade
- Degassing building – gas cooker swap
- Actual construction phase 17 months



## Maintenance and Training

- Early engagement with the repairs and maintenance team at design stage.
- Ground Source Heat Array – minimum requirements check anti-freeze, pressure levels.
- Shoebox and Sunamp - plug and play – training on understanding fault codes
- Switchee Thermostats – training for housing and maintenance staff – opportunity to access system information remotely to identify user of system fault.
- Tenant training – focused on heating controls



## Learning/Next Steps

- Design phase - include full range of surveys to de-risk
- Key design KPI – running costs
- Expensive moving from 30 year to 60 year life cycle model
- Early engagement with DNOs and utility companies
- Resource customer support – joint responsibility
- Training and engagement for maintenance and housing teams
- SHDF2.1 bid for 4 tower blocks
  - Fabric and heating upgrades
  - Communal ASHP system & high efficiency electric heating

Thank You

Questions  
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