



Nottingham
City Council

Energy
Services



Net Zero Retrofit at Nottingham City Council

Katie Greenhalgh
Energy Projects Manager



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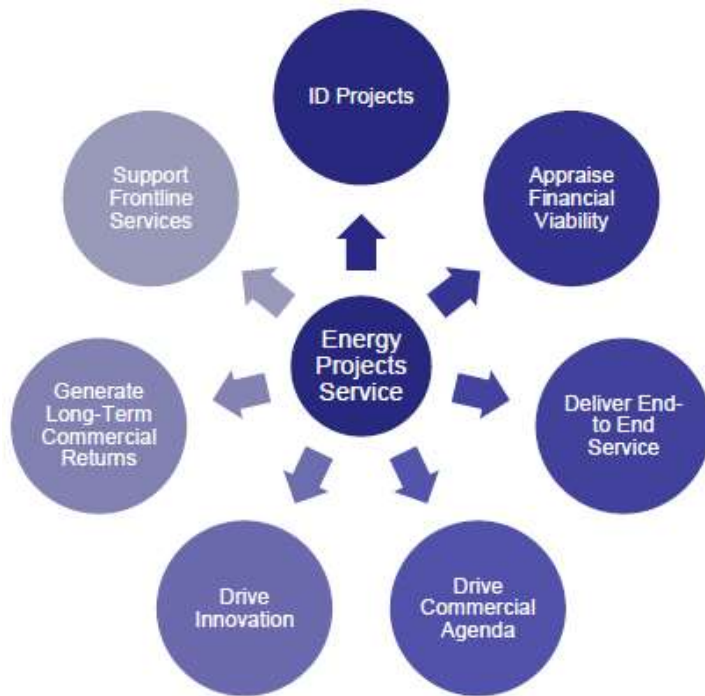
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1. Background – NCC, CN2028 and NCH
2. Our Approach - Energiesprong
3. Learnings from the Pilot Project
4. Scaling Up

Energy Projects at Nottingham City Council

Leading the way to a sustainable, low carbon future through support, collaboration and project delivery



Deliver a range of energy projects:

- Energy efficiency (253 Salix projects to date).
- Innovation trails (V2G, Battery, Fuel Cells).
- New business models (water self supply, SCATTER, CBA, JV, consultancy).

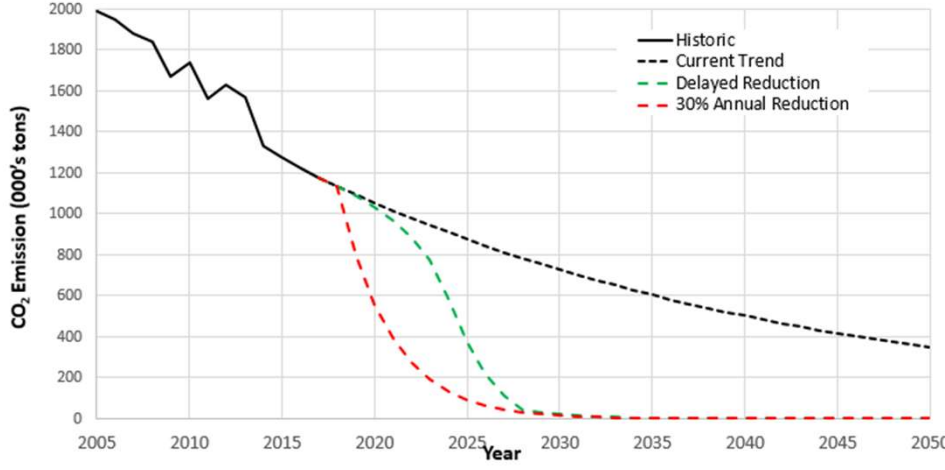
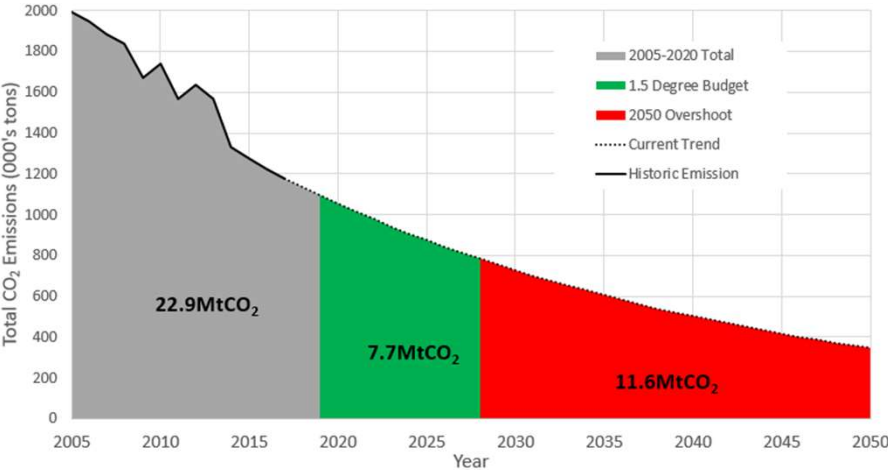
Generate a return for NCC:

- £1.2M in 2019/20.
- £1.4M in 2020/21.



Carbon Neutral 2028

- Declared a climate and ecological emergency.
- Ambition to become the UK's first Carbon Neutral City by 2028.



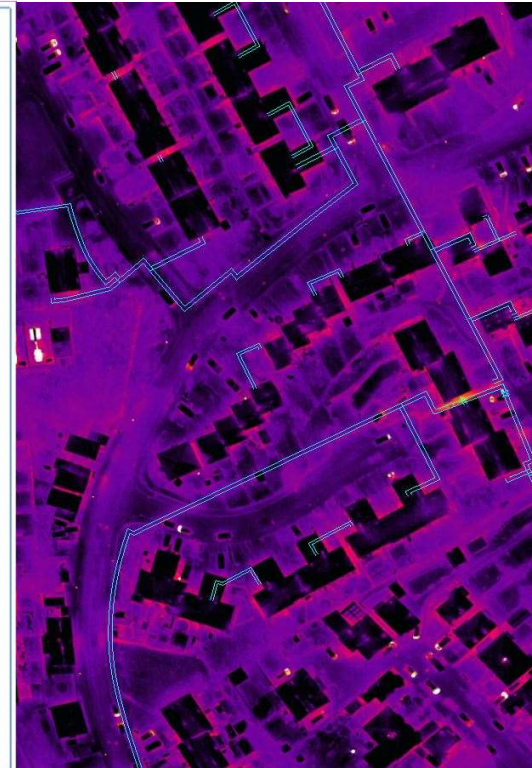
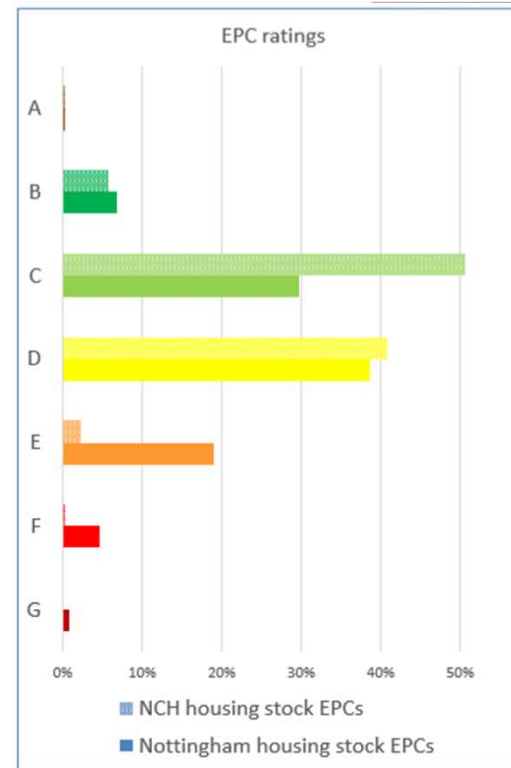
@CN2028
www.nottinghamcity.gov.uk/cn2028

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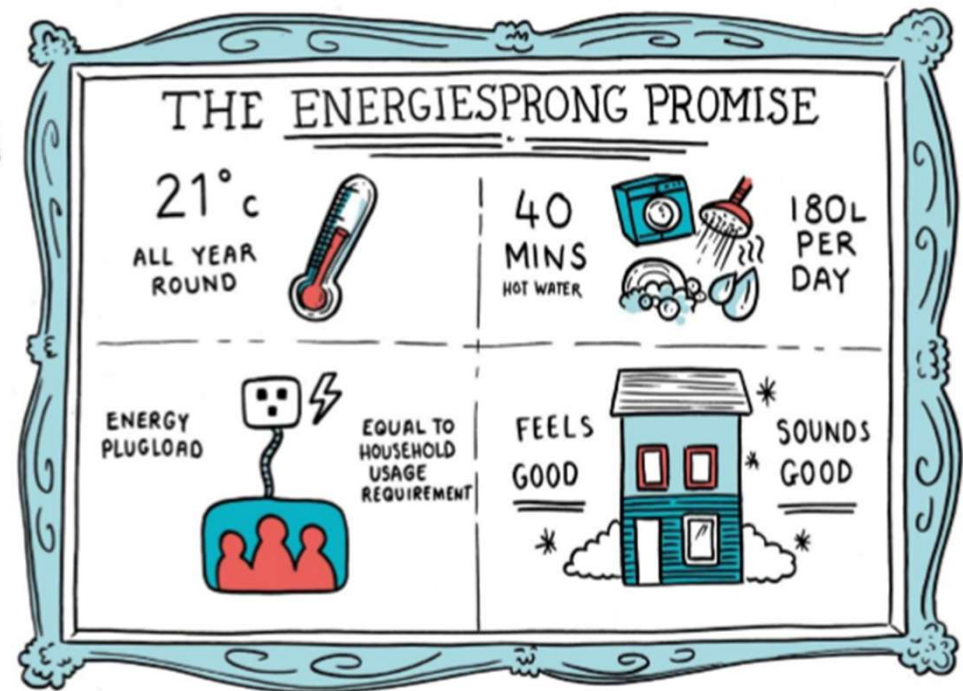
Housing in Nottingham

- Nottingham has 135,000 homes with 9,400 more expected to be built by 2028.
- 35% of city Carbon emissions.
- Of these, 26,000 are council homes owned by Nottingham City Council and managed by Nottingham City Homes.
- The efficiency of these is improving with 51% EPC C rated and 41% D rated – we have installed 40,000 energy efficiency measures to date and 4,000 PV systems.
- To reach Carbon Neutral by 2028 there's a lot more to do!



Our Approach: Energiesprong

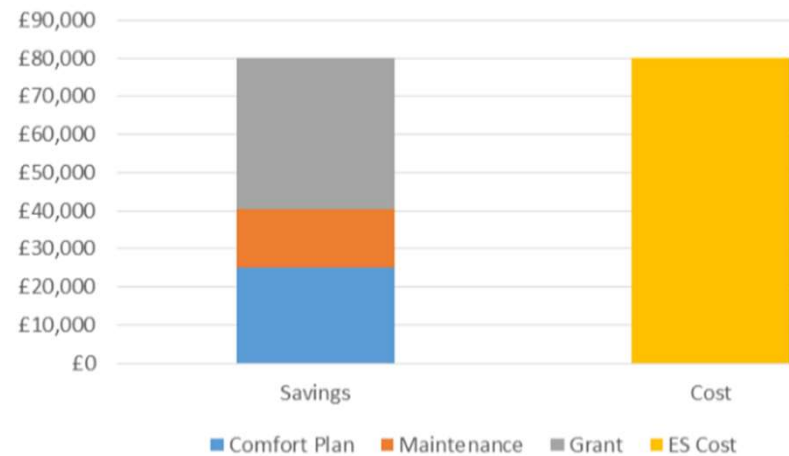
- Aim to reach “2050” net zero carbon standards today.
- Heavily focused on people and tackling fuel poverty:
 - Guaranteed comfort.
 - Fixed monthly cost.
 - Outcome not output.



Our Approach: Energiesprong

Property	Performance Level
Thermal performance	<30 kWh/m2
Hot Water	140 litre @ 45°C
Heating Levels	21°C/18°C
Net Consumption	Zero to 1,500 kWh
kWh Allowance	2,300 kWh
Noise in-property services	<30dBA
Noise outside	<42dBA
Summer overheating	26°C bedrooms < 300 hours per year 28°C living room < 300 hours per year
Monitoring	Live/historical temperature, hot water and electricity consumption
Humidity & CO2	New build ACH rate
Installation time	<10 days

- Performance specification, guaranteed by the contractor.
- Procure performance, not measures.
- Monitored, not modelled.
- Over 30 years.
- Uses a funding envelope (inc. FiT, RHI, ECO etc.).



The Pilot: Remourban

- Energy efficiency – prefab panels, windows and doors, roof insulation.
- Low temp communal heating from GSHP.
- Private wire electricity.
- Solar PV.
- Storage (thermal and electrical).



The Pilot: Remourban

- Calculated energy costs c. £1800 per year.
- Typical energy spend c. £600.
- Fuel Poverty; cold, draughty homes; vulnerable tenants.
- Currently pay c. £500 per year for all energy and the guaranteed comfort plan.

- Improved public realm.
- Tenants love their homes!

- Tenant engagement vital.
- Iterative (sometimes experimental) process with contractor and supply chain.



Next Steps: Scale Up

Project	Grant Source	Project Cost	Grant Value	No. Houses
E=0	Interreg NWE	£1,350,000.00	£810,000.00	17
DREeM	ERDF	£11,134,986.00	£5,567,493.00	138
Whole House Retrofit	BEIS	£7,917,148.86	£3,166,859.55	74 - Energiesprong 96 – Destination Zero
MUSTBEO	Interreg NWE	£6,250,000.00	£1,500,000.00	100
MUSTBEO (Design Competition)	Interreg NWE, ESUK	-	-	2
Total		£26,652,134.86	£11,044,352.55	427

- Achieving volume to reduce costs.
- Nottingham offsite manufacturing factory.
- Delivery without subsidy.
- DZ packaged approach to net zero.
- Applying the model to a school.
- Innovation - DSR, minewater.





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