

Construction Leadership Council **RMI Working Group**

Russell Smith for the STBA
24th March 2021
(updated v4)

A National Retrofit Strategy

Net Zero Carbon at Net Zero Cost

A National Retrofit Programme

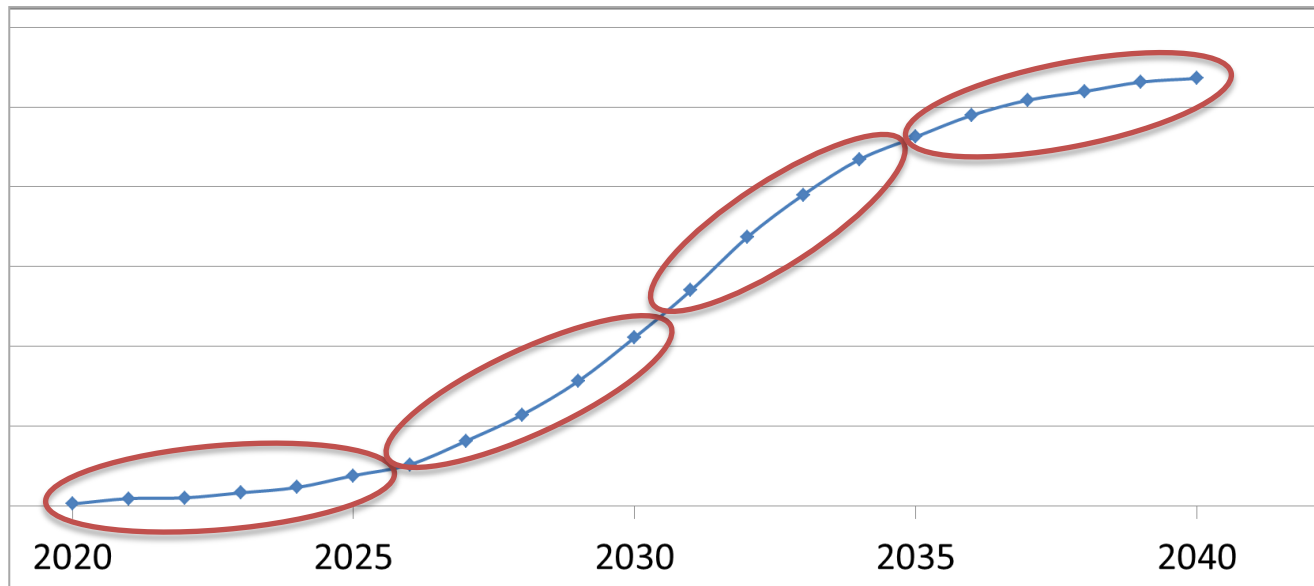
1. Upgrading approx. 27 million homes in the UK with energy efficiency retrofit measures to meet the 2050 Net Zero Carbon targets – **by 2040**
2. Government is the key in the lock – industry can deliver
3. A **training and development programme** at its heart that will provide 400,000 skilled tradespeople to undertake the work across the UK.
4. Impacts every part of the UK, driving local economies everywhere.
5. Central agency akin to the Olympic Delivery Authority to lead and inspire householders and practitioners – enabling locally led (place based) delivery.
6. 120,000 (direct and indirect) new jobs created in Year 1.
7. 520,000 (direct and indirect) jobs created by Year 5.
8. CO₂ savings of **21%** on 2019 emissions from UK homes by 2030.
9. CO₂ savings of **90%** by 2040.

The interlocking components

Leadership and Communications	Performance Standards	Ensuring homes perform as promised. (Energy and Water!)
A Retrofit Delivery Agency akin to the stature of the Olympics Delivery Authority will be needed to oversee the communications and leadership aspects of the programme to ensure that all stakeholders are fully enfranchised and that standards are high.	Finance and Grants	Financial support in a variety of ways to suit homeowners.
Supportive transition periods and a research and innovation culture	Training and Accreditation	Building up an army of professionals and trades that can do the work fully and well
Provide a safe development environment for new entrants and existing organisations so that they grow to meet the new demands as well as extending in capability.	Materials & Equipment	Scaling up the supply of materials and equipment
	Creating Customer Demand	A comprehensive approach to giving every homeowner a vision of what their home needs, the belief that it is needed and a route to achieving the change.
	Compliance and Quality regime	Creating an industry culture that ensures all jobs are done to the set standards.

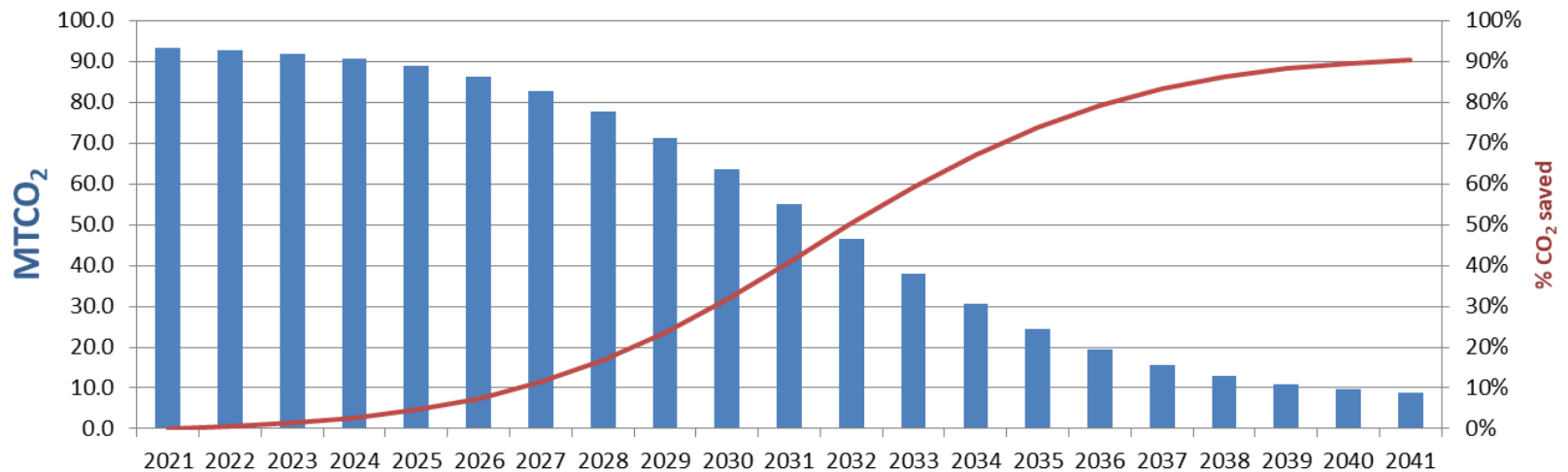
Building the capability

- Phase 1** Underpin capability
- Phase 2** Build output
- Phase 3** Maximum speed
- Phase 4** Final push



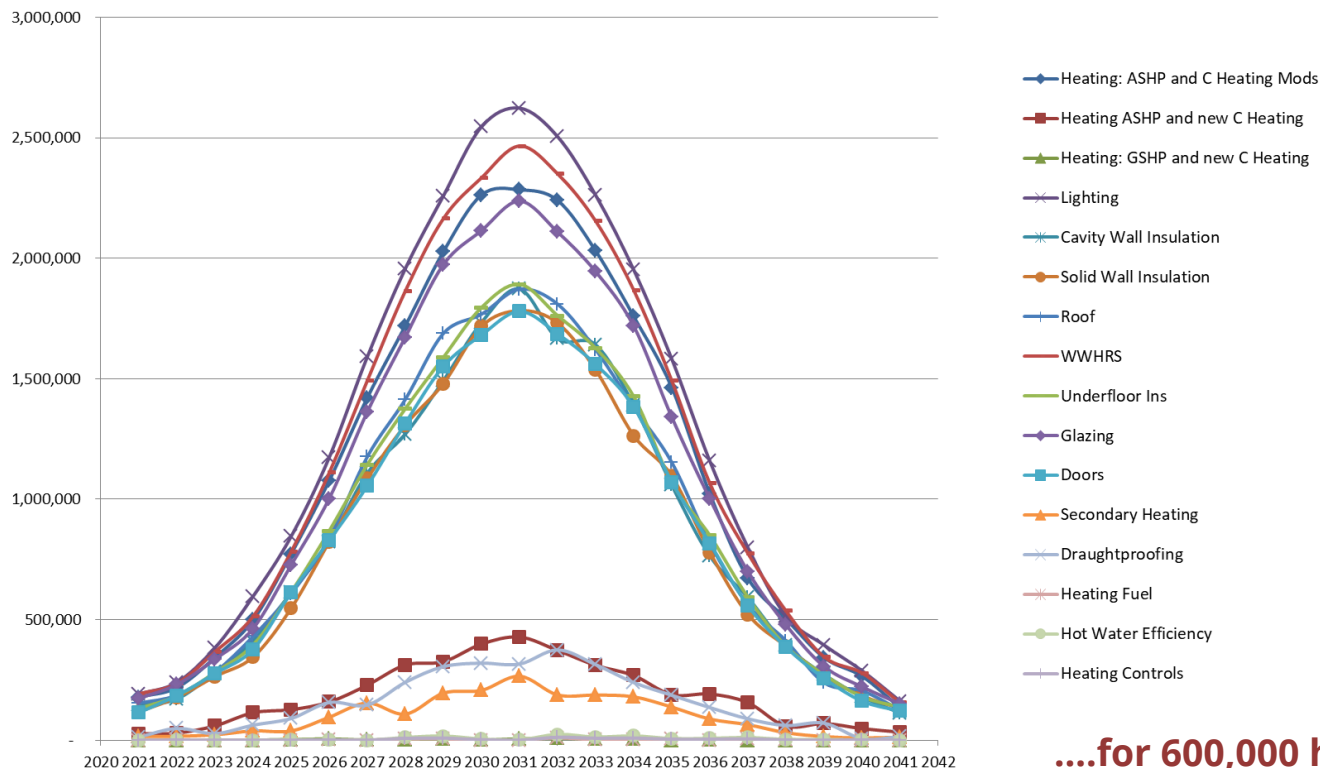
The CO₂

Annual CO₂ emissions in existing UK housing as NRP is implemented using 2038 carbon factors



The measures

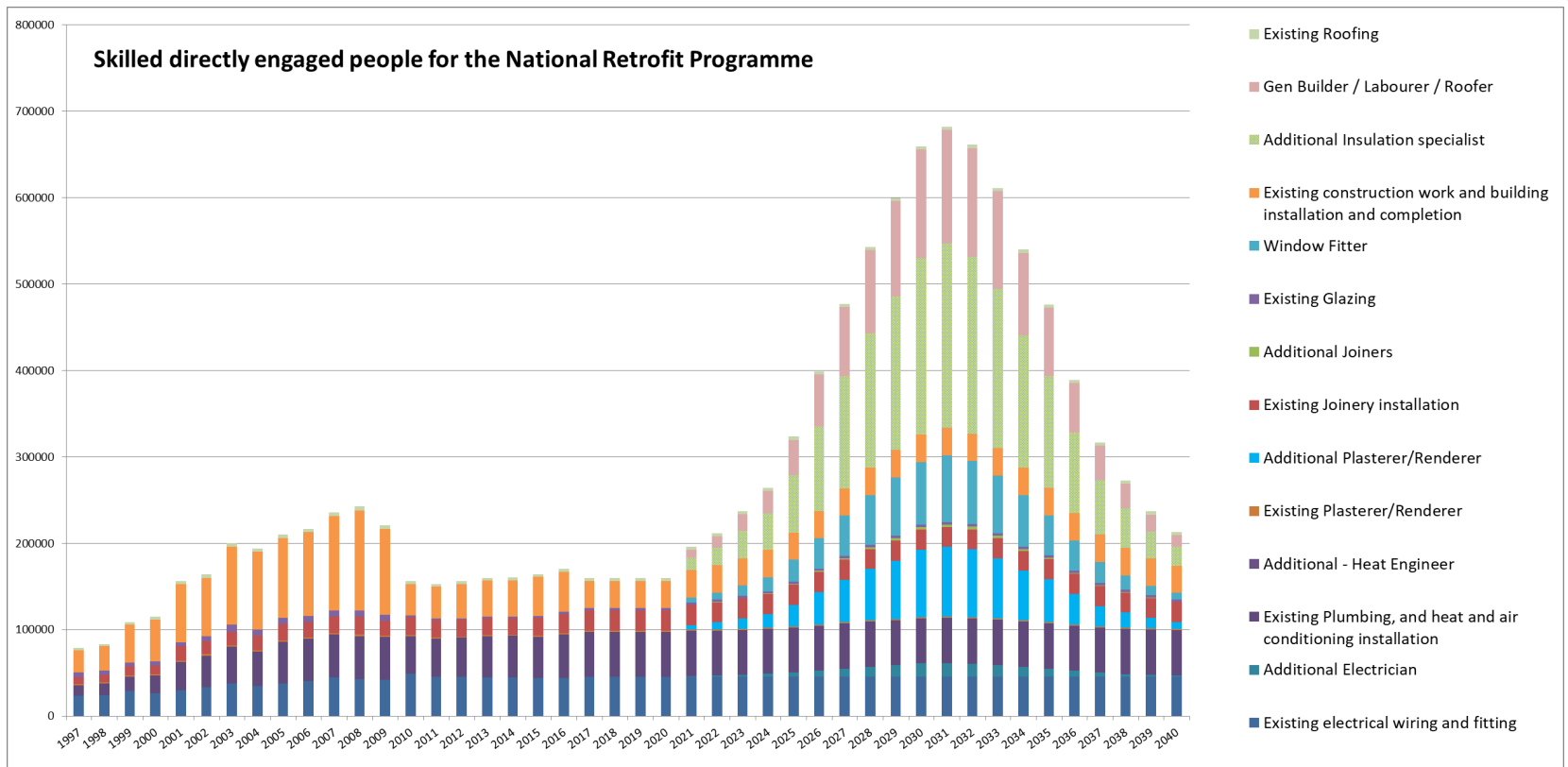
Number of measures intalled per year, per category



Total Measures Deployment to Net Zero	
Heating: ASHP and C Heating Mods	23,237,867
Heating ASHP and new C Heating	3,901,538
Heating: GSHP and new C Heating	41,931
Lighting	26,025,699
Cavity Wall Insulation	17,994,913
Solid Wall Insulation	17,554,312
Roof	18,744,590
WWHRS	24,543,136
Underfloor Ins	18,581,195
Glazing	22,266,419
Doors	17,778,424
Secondary Heating	2,065,607
Draughtproofing	3,212,868
Heating Fuel	35,801
Hot Water Efficiency	126,615
Heating Controls	62,347

...for 600,000 heat pumps per annum: at least 400,000 homes need insulating to support that

The jobs



Retrofit: the business case

- all figures are cumulative:

	Financial input	Finance return	Additionality	
Year 1 200,000 homes	£3.64bn programme Government invests £1.16bn Private capital, £2.5bn	Govt revenue £2.69bn Tax benefit per £, £1.36	47,000 jobs sustained Health benefits, £316m Additional GDP, £4.76bn	Avoided CO₂ emissions: 0.532Mt
Parliamentary period 855,000 homes	£16.8bn programme Government invests £5.3bn Private capital, £11.4bn	Govt revenue £12.4bn Tax benefit per £, £1.84	100,000 jobs sustained Health benefits, £1.4bn Additional GDP, £21.9bn	2.53Mt
By 2030 12,300,000 homes	£235.7bn programme Government invests £75.4bn Private capital, £160.2bn	Govt revenue £174.4bn Tax benefit per £, £1.58	640,000 jobs sustained Health benefits, £22.1bn Additional GDP, £308.7bn	46.8Mt
Net Zero 27,300,000 homes	£523.7bn programme Government invests £167.6bn Private capital, £356.1bn	Govt revenue £387.6bn Tax benefit per £, £1.84	Jobs sustained 70,000 Health benefits, £55.9bn Additional GDP, £686.1bn	84.9Mt
Leeds University, Parity Projects				Residual 8.9Mt

Retrofit: the business case

- all figures are cumulative:

	Financial input	Breakdown		Govt. planned spend
Year 1 200,000 homes	£3.64bn programme Government invests £1.16bn Private capital, £2.5bn	Variable Stamp Duty	Rev. neutral	Green Homes Grant, £2bn HUG, £2.5bn
		National Retrofit body	£6.4m	
		Supply Chain Innovation	£250m	
Parliamentary period 855,000 homes	£16.8bn programme Government invests £5.3bn Private capital, £11.4bn	Skills and training	£200m	
		Local Authority area-based programme	£216m	
		Property passports and smart EPCs	£585m	
		Capital works*:	£4.04bn	
By 2030 12,300,000 homes	£235.7bn programme Government invests £75.4bn Private capital, £160.2bn	* Work on homes for those that cannot pay for it or access finance. Also on financial incentives e.g. paying for finance costs in early year finance trials.		
Net Zero 27,300,000 homes	£523.7bn programme Government invests £167.6bn Private capital, £356.1bn			

Leeds University, Parity Projects

Multiple benefits to UK Plc

- **Every** community benefits.
- Not limited to single sector, includes manufacturing, labour market etc.)
- Increase government tax revenues by £174Bn by 2030
- Net Govt. surplus of ~£100Bn by 2030.
- Programme delivers cumulative benefits of
 - avoided CO₂e (£11.4Bn)
 - improved health (£15.2Bn)
 - comfort (£15.1Bn)
 - air quality (£13.9Bn)
- A cumulative ~298MtCO₂e, or 36% of the savings are required for the 4th and 5th carbon budgets.

A National Retrofit Programme



BEIS Supply Chain Pilots



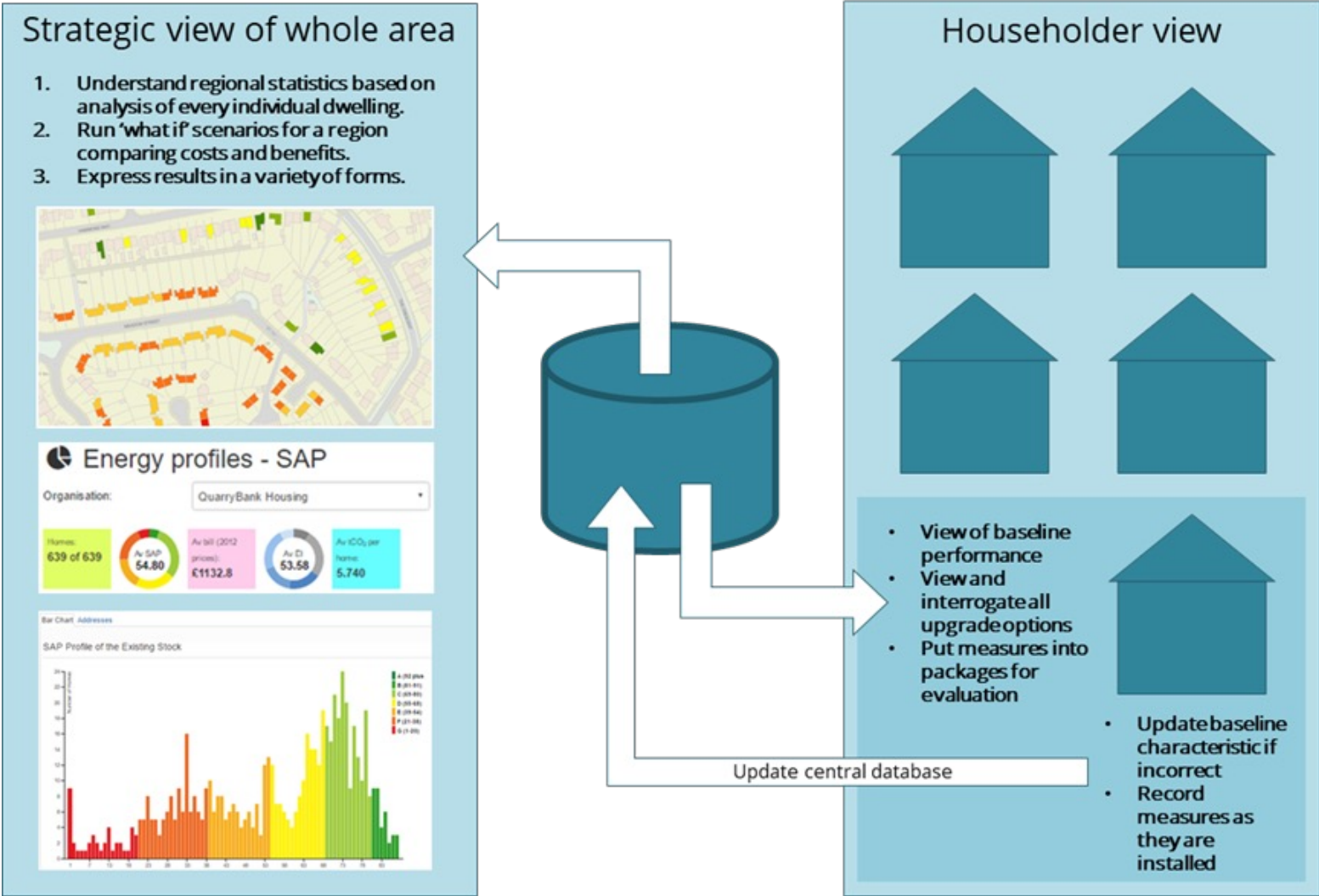
Introduction to

warmer




sussex 

Smart Marketing (1)



Smart Marketing (2)



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Home Info

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Build Plan

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Our info about 3 East A


Where do we get this data from?

We'll use this data to recommend improvements to your home, so do [edit the data](#) if it doesn't look right.


You need to be logged in to edit the property data. You can [log in](#) or [create a new account](#).

**Basics**
A late 20th century detached house ([more...](#))


Edit

**Roof**
Loft with 100mm (4") loft insulation ([more...](#))


Edit

**Walls & Floor**
Cavity walls (probably brick) with a fair amount of insulation that was built in when the walls were new, uninsulated suspended concrete floors ([more...](#))


Edit

**Windows & Doors**
100% of windows are double glazing (unknown age) ([more...](#))


Edit

**Heating**
Gas boiler (C rated) ([more...](#))

Edit

**Renewables**
No photovoltaic solar panels, but there is a roof which may be suitable ([more...](#))

Edit

**Others**
10% of lights are low energy (LED or CFL), there are no open fireplaces, the electricity meter type is not known, and mains gas is available ([more...](#))

Edit

Build your Warmer Sussex plan

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Construction Leadership Council

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<https://www.constructionleadershipcouncil.co.uk/news/national-retrofit-strategy-consultative-document/>

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