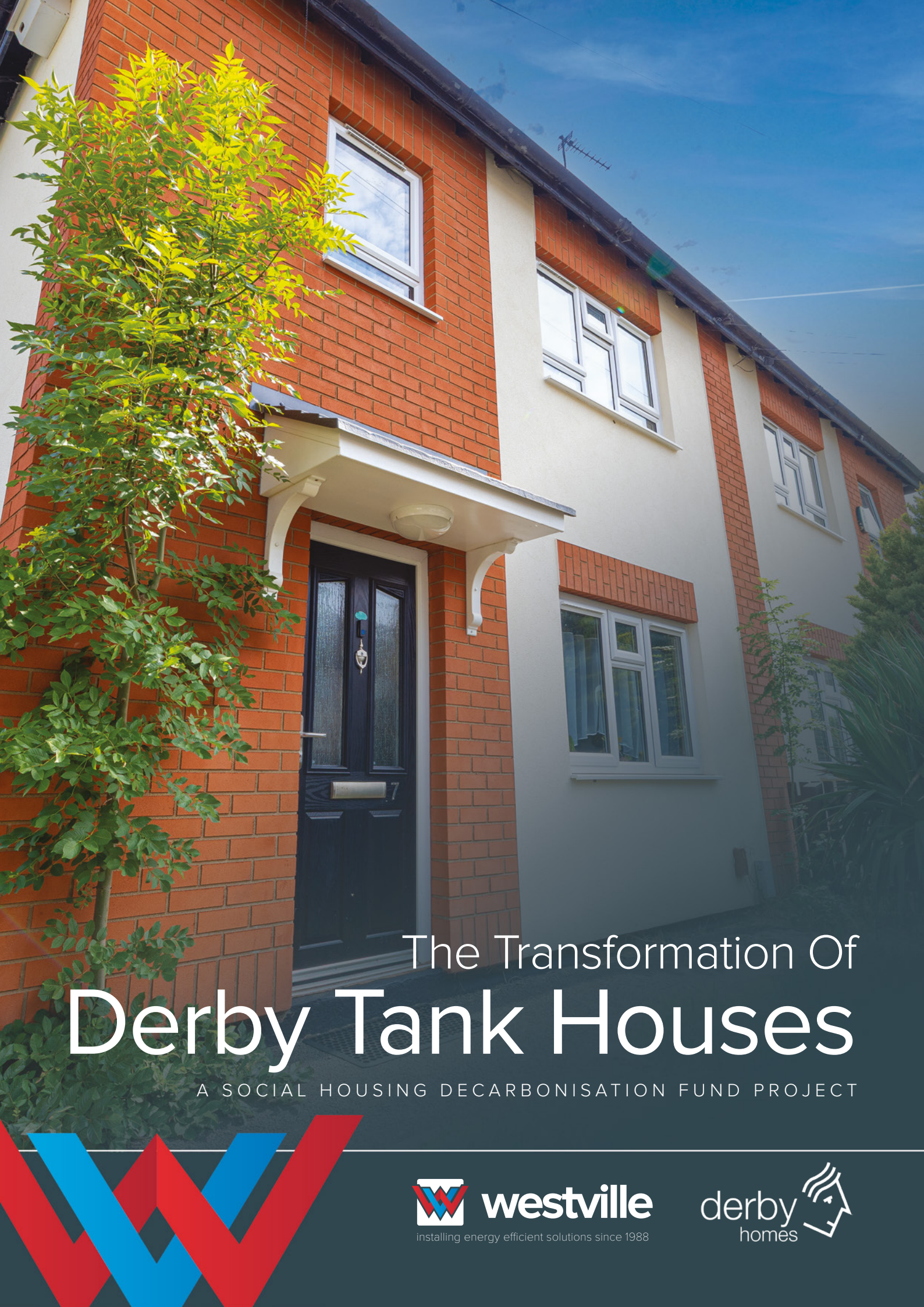




The Transformation Of Derby Tank Houses

A SOCIAL HOUSING DECARBONISATION FUND PROJECT



westville

installing energy efficient solutions since 1988





Built for post-war recovery, Reimagined for the future

Located in Allenton just off the ring road near Spider Island is one of Derby's oldest council estates known as 'Derby Tank Houses.' The estate of over 200 homes was built in the 1920's to address post war housing shortage. They were constructed using cast iron panels covered in cement-based enamel and were so nicknamed the 'tank houses'

In 2022 Derby City Council was awarded funding from the Social Housing Decarbonisation Fund (SHDF) to transform some of its housing to be more energy efficient, reducing carbon emissions and so help reduce energy costs for tenants.



These major upgrades were to include External Wall Insulation, alongside new windows and doors and ventilation.

The project

Due to the number of houses involved, the project was split into three distinct phases:

Phase 1 - 78 houses

Phase 2 - 76 houses

Phase 3 - 71 houses

Derby Homes procured their chosen contractors for the works which included:

- Westville Group
- Tersus Group Analytical and Surveying Services
- European Asbestos Services
- Nationwide Windows & Doors
- RAUK Scaffolding Ltd.



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The specifications

- **Wetherby Epsiwall External Wall Insulation System**
- **Finish Coats - WBS Heck Silicone 1.5mm Textured Finish / WBS brick effect render finish**
- **90 mm Enhanced EPS Insulation Boards**

The U-Value of the properties was 1.10 post insulation and is now 0.27 after EWI Installed.

Interstitial Condensation and Evaporation was above 210 per month GC during the winter months and is now 0.00 after EWI Installed.

A method of fixing through the 10mm cast iron had to be devised. This was done by pre-drilling a pilot hole through the Cast iron and then inserting a self-tapping fixing through the EPS Insulation board into the pilot hole.



When the insulation was installed a layer of Alkali resistant scrim cloth was incorporated into Heck K&A Scrim adhesive. A second layer of scrim adhesive was then applied and smoothed off to achieve a smooth and flat surface ready to receive the finish coat of 1.5mm texture.

Feature areas were finished using brick effect render to achieve a pleasing contrast to the texture finish areas.

The challenges

1. Cast Iron Wall Construction

Fixing into the 10mm cast iron walls was a significant challenge. Westville overcame it by pre-drilling pilot holes and inserting adapted self-tapping fixings through the EPS insulation boards. These aligned with the pilot holes to create a secure fit. Over 4,000 drill bits were used in the process.



2. Asbestos Contamination

Given the age and materials of these properties, asbestos posed a major risk. Before work commenced, trials were carried out on 2 properties to ensure tenant safety when exposing asbestos when the windows were replaced, prior to the External Wall Insulation.

3. Nesting Swifts

Nesting swifts were discovered early in the project. In consultation with the Swifts Society, bird boxes were built into the render and roof trims extended, ensuring the birds could return safely each season.



Resident Spotlight Fisher Street

"I think my house looks beautiful, the whole area has been updated. I noticed how much warmer my home was during last winter."



Key findings

At the start of the project each contractor established their own work process. This meant contractors sourced their own scaffold and removed it once their work was complete, meaning the next contractor needed to erect a new one.

To address this issue, Derby Homes agreed to arrange the scaffold and agreed to adjust the height and design to suit all areas of work. This provided a smoother transition of work and generated a cost saving.

Whilst preparing for the third phase of the programme, it was noticed the external lights had some water ingress in the first phase of the project.

To prevent this from happening again, the lights were installed in a different location on the remaining houses.



Resident delight is our **delight**

“Very impressed with the communication from the office, scheduling around my work commitments.”
Turner Street Resident

“I’m amazed at the difference in how my house looks and have noticed it’s warmer.”
Upper Moor Road Resident

“Looks lovely, so much better. I feel proud to be living here and in the area.”
Turner Street Resident

“Delighted. My electric bill has been reduced by £4 per day!”
Mellor Street Resident

“Very happy with insulation”
Upper Moor Road Resident

“There’s no condensation and I use the kitchen fan when cooking.”
Harvey Road Resident

“Property feels warmer since the installation”
Whitehurst Street Resident

“Very happy with everything. Not had his heating on since Feb, and house definitely warmer since installation”
Rowland Street Resident



“ Looks a lot better and cleaner. I feel proud to live in the area and receive comments from family & friends on how good the area looks now.”

Turner Street Resident

“I quite like it and the area looks a lot better than it used to. My bills have reduced and I don't have to put the heating on much.”

Harvey Road Resident

“I'm really pleased with the outcome of the house, it looks really good. I was very happy with the installers always having a conversation with them.”

Whitehurst Street Resident

“Noticed that the property warmer, don't have the heating on as much and keeps warmer for longer.”

Whitehurst Street Resident

“I'm very happy with the insulation.”

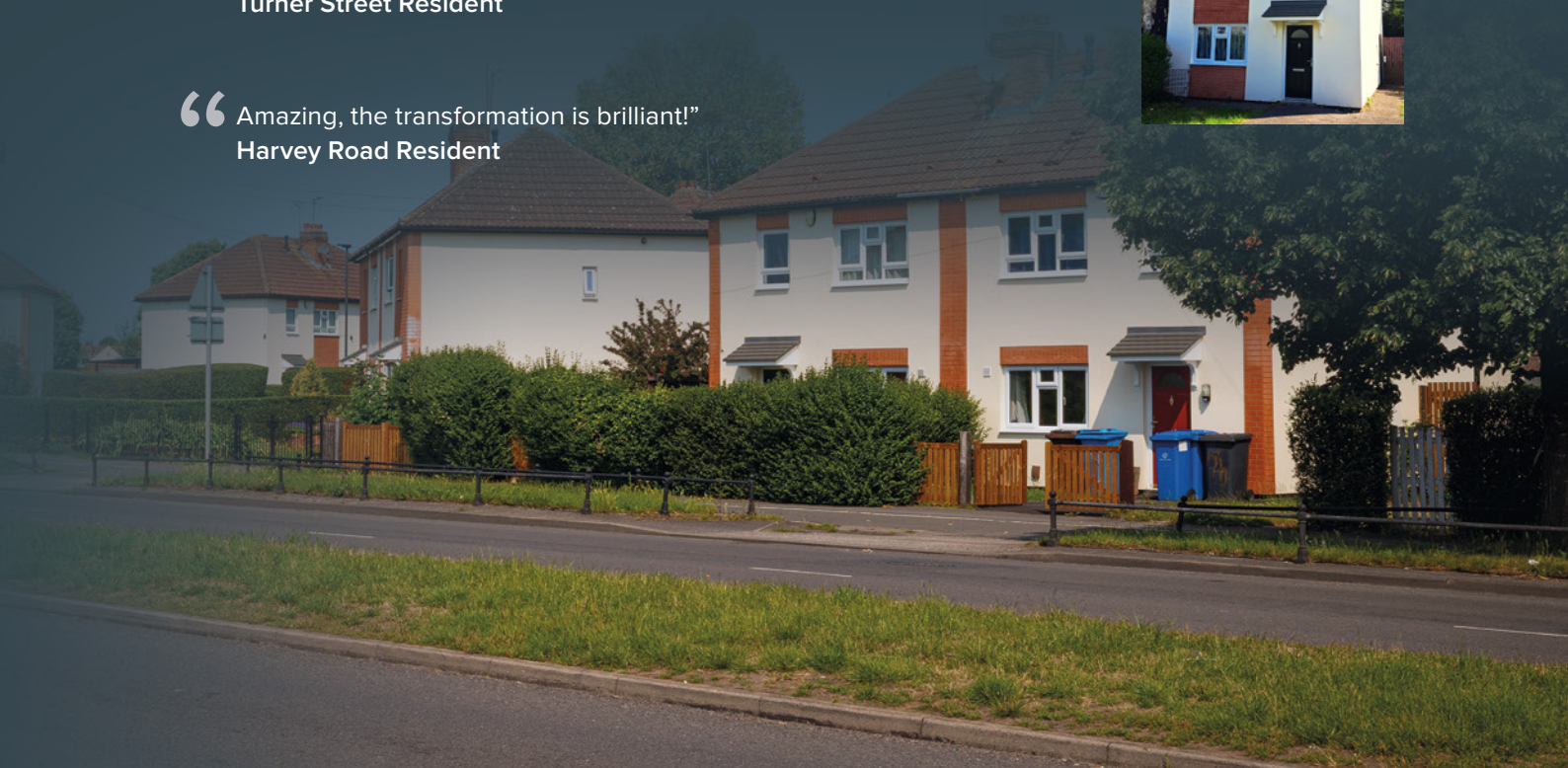
Cockayne Street Resident

“The house is warm during the winter and keeps the heat. I haven't had to put the heating on so much. During summer the house is cool.”

Turner Street Resident

“ Amazing, the transformation is brilliant!”

Harvey Road Resident





Resident Spotlight Turner Street

"The improvements have made a lot of difference, our home is warmer in winter, cooler in summer, no longer draughty and the condensation in the kitchen has cleared.

The heating doesn't need to be on for as long in the winter, so we've seen a big change in our bills. Previously we paid £60 per week on prepayment meters, now it's £50 per month!"



The impact

The success of this project very much revolved around the collaborated efforts of all parties. This unique scheme needed specialist expertise and an exceptional team with a natural desire to work together.

What they collectively achieved was special, so special in fact that it warranted interest from ITV News!

However, the real winners here were the residents. They were over the moon with the visual transformation of their homes, warmer living spaces and reduced energy bills, all apparent in their glowing testimonials.

Each dwelling now has an EPC rating two levels higher than the previous, making each property substantially more energy efficient.

Everyone was proud of what was collectively achieved. New techniques were learned, and experiences were enhanced, all in time for the next phase of this continued collaboration.





Resident Spotlight Rowland Street

"The service was brilliant and the results are amazing. I have no damp, mould or draughts anymore, my house is warmer in winter, cooler in summer and has improved sound proofing. I am saving approx. £300 of my energy bills so am delighted with that!"





Committed to protecting our planet



Following the work in Allenton, residents are set to save an estimated £74,250 annually on their energy bills. This SHDF project will also prevent over 202 tonnes of CO₂ from entering the atmosphere each year — that's the equivalent of preventing 42 houses from using the national grid for electricity every year.***

Over the last 37 years, Westville's range of insulation services has been estimated to have saved more than 5 million tonnes of carbon emissions from entering the atmosphere. That's the equivalent of 1.2 million flying hours of a typical commercial jet. Westville is committed to supporting all aspects of greenhouse gas reduction, and this is reflected in the products we choose and our insulation processes.

We also demonstrate our mission in-house with business practices that save paper by continuously developing automation. We save fuel by using electric vehicles where possible and switching to online meetings when practical. All staff in both the office and warehouse facilities are encouraged to reuse plastics when possible and only use water that is necessary.

We continue to spread the environmental word by educating customers about small daily changes that make a difference and engaging children with school visits and presentations.

Figures displayed have been calculated from the following sources:

**Energy Savings Trust Figures: <https://energysavingtrust.org.uk/>*

***Greenhouse Gas Equivalencies Calculator:*

<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>



planet protect

Together we can make a difference.

Here are just a few of the goals Westville are working towards to make our planet a better, more sustainable place to live:



Reducing our carbon emissions



Reducing our air & emission pollution



Keeping more of our materials in the economy to help reduce landfill



Conserving more water



Providing up-cycling solutions where possible



Contributing towards cleaner oceans by limiting the amount of plastics we use

multi award
winning...



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derby
homes The logo features a stylized white outline of a house with three wavy lines above it representing smoke or steam.

Providing solutions for rising energy costs & climate change!