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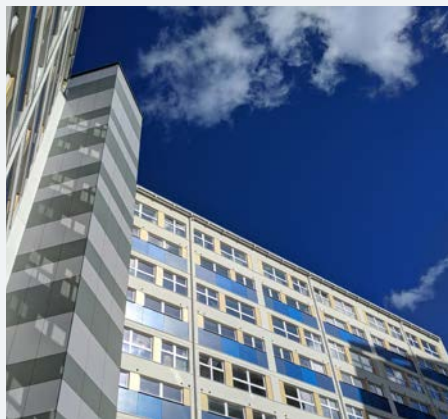


Sustainability Winner 2018

Wilmcote House

The Judges say...

This flagship scheme is already a catalyst for change and provides national and international reference for high-quality, large-scale refurbishment.



Contract value: £13m **Approx** 14,547m² **Type of work:** Refurbishment

Wilmcote House is a leading example of a sustainable low energy refurbishment built to meet the stringent EnerPHit standard, the refurbishment equivalent of Passivhaus. This 11-storey residential development in Portsmouth was built in 1968. The original structure comprised of large, poorly insulated concrete panels with pre-cast concrete elements that significantly bridged the thermal envelope, leading to high heat losses, internal condensation risk, mould growth and low internal comfort. Portsmouth City Council’s business case identified that over 30 years, a deep, low energy refurbishment scheme was more economical than decanting, demolishing and rebuilding the existing 107 units. ECD Architects were commissioned to design and deliver a regeneration scheme with residents in occupation.

The project team secured ECO funding and is the only UK case study for the PassivHaus Institute’s Europhit programme and the largest EnerPHit project in the world.

Actions

- Adopted a low embodied energy approach with careful selection of building products. Visual transformation was also a key aspiration.
- Homes super insulated and extended, the walkways enclosed, four new homes created, new entrances and improved communal areas.
- During construction: waste logged/ segregated/recycled, and energy usage recorded with PV panels used to power site containers and offices.
- Independent monitoring undertaken by the University of Southampton.
- Variety of community activities including school engagement, DIY skills and back to work training programmes for residents.

Impact

- Financial viability assessment demonstrates payback and positive net present value (NPV) being reached after 19 years with NPV at the end of 30-year life calculated to be £413,200.

- Annual heating costs for residents reduced by 90%, saving more than £1,000 per dwelling per year.
- Taking residents out of fuel poverty means they are now more able to pay their rent, reducing rent arrears.
- Residents enjoy improved thermal comfort, nicer living conditions and a better quality of life.

Lessons learned

The funding from the EuroPHit programme was a great enabler. It helped to fund intensive training for both the consultant and the contractor supply chain in Passivhaus methodology. The design team subsequently provided training sessions to the wider project team and their achievements have been disseminated through seminars/lectures at industry events and workshops. Other local authorities have been able to visit and learn about this innovative scheme.

