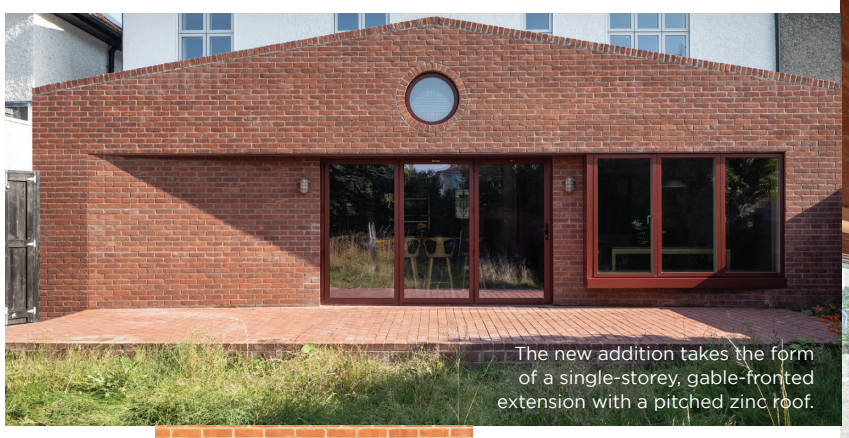
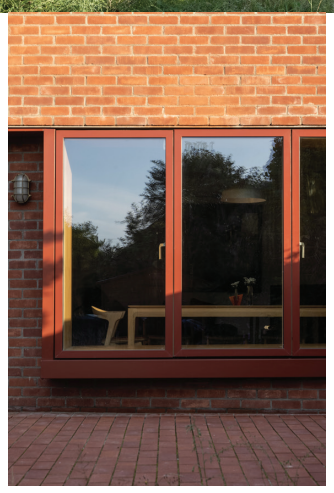
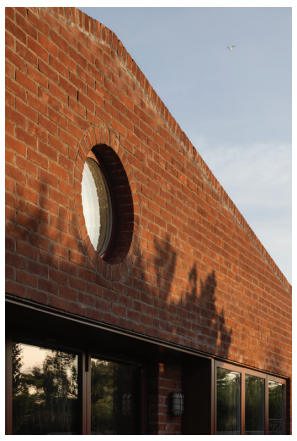


The new addition takes the form of a single-storey, gable-fronted extension with a pitched zinc roof.





High-performing triple-glazed windows are part of the overall energy strategy for this home.

Materials such as brick, and timber harvested from Irish forests, were chosen for their longevity and design flexibility as well as their sustainability credentials.

PROJECT 2

COMPACT LIVING

Architects: **Robert Bourke Architects**
Photography: **Ste Murray**

"Designing compact and efficient homes, which utilise all of the existing space available, is actually one of the most sustainable approaches to renovation," say Robert Bourke Architects who have noticed that their clients have become increasingly focused on climate change.

In the case of this 1930s semi-detached home for a father and his two growing sons, the new extension was carefully crafted to support and enhance the existing house and how the family use the space. The reconfigured ground floor now has a much better flow and accommodates a new kitchen, dining, and informal living space as well as a utility room. To find space for a new bedroom and the all-important home office, a slender two-storey volume was added to the side.

A high-level of energy efficiency was a priority for the owner. The architects achieved an impressive A3 BER rating by upgrading the thermal performance of the floors, walls and roof of the original house, building the extension to new build standards and installing a heat pump. Equally critical was the choice of materials (as they can have a big impact on the carbon footprint) in the form of embodied carbon. Brick was used here both inside and outside for its longevity. The roof structure is made from Irish spruce which contains stored carbon.

Renovating an older house is a balancing act between retaining character and achieving more energy efficiently. This home has achieved a perfect equilibrium.

Brick has high thermal mass capabilities, absorbing heat during the day and slowly releasing it at night.