

Welcome outdoors



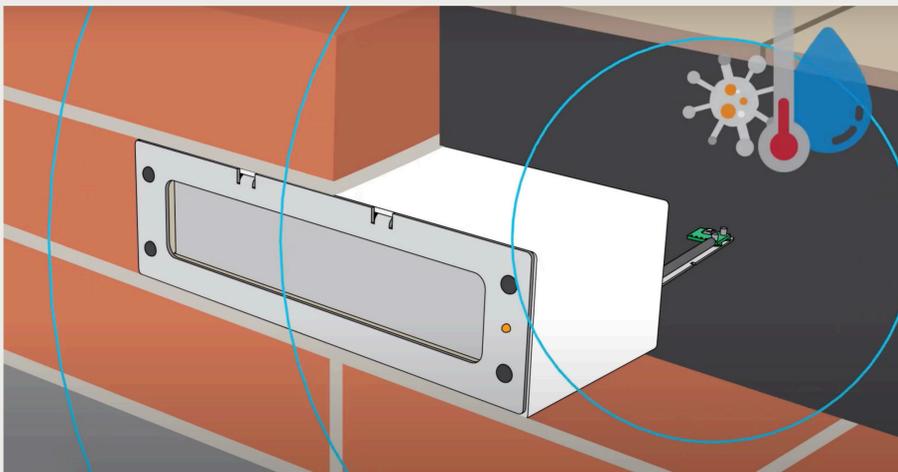
Smart air bricks

Stroll around the back of the house and at ground level you will spot what we call air bricks. Air bricks are essential to ensuring a flow of fresh air beneath the floorboards, preventing the build-up of damp, which can be hazardous to resident health. Modern technology has brought these devices into the 21st century, enabling them to open and close based on weather conditions. This can aid a property's energy efficiency, using **10 to 15% less energy**, trapping warm air beneath the floor, providing additional insulation.

We installed AirEx smart air bricks as part of the whole-house retrofit. These internet connected, battery-powered devices replace static air bricks,

using sensors to measure temperature, humidity and air quality. Smart algorithms enable automatic airflow regulation while taking into account local weather and air quality data.

They open to reduce underfloor humidity, and close to reduce heat loss and improve comfort, all without compromising on air quality in the home. With low maintenance operation, they're ideal for rental properties. The batteries cleverly sit behind the air brick and can be replaced when they lose charge (typically after two years). The air vent just needs to be gently removed from its slot in the wall and the battery replaced.



Smart air bricks located at the property.



Solar PV panels

£12,294

Cost (will vary by property)

£609

Savings per year

853kg

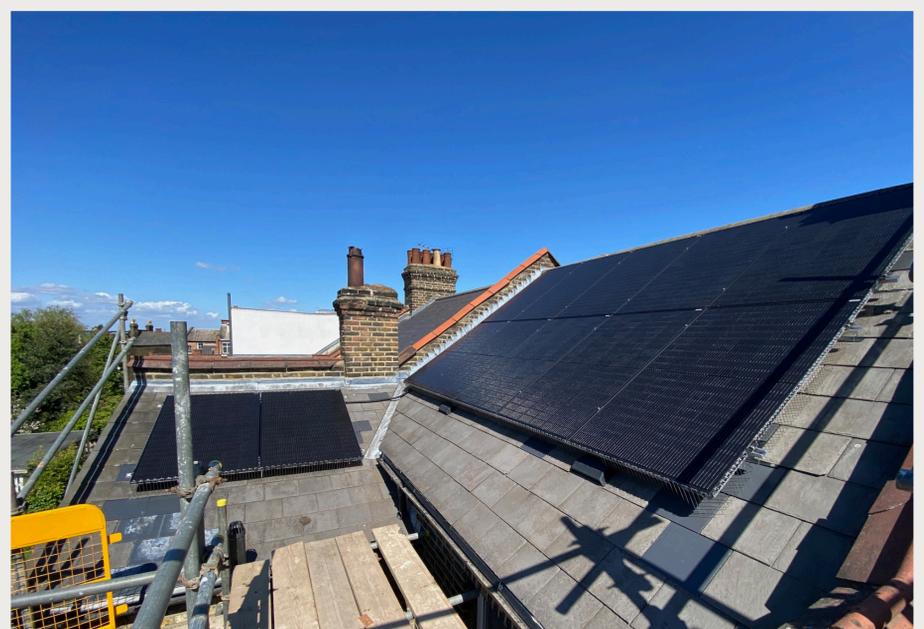
CO₂ savings

Now looking to the sky, we installed photovoltaic (PV) solar panels at the property, with battery storage, allowing the property to generate its own electricity from solar energy.

The south-facing system was made up of 12 panels, each with solar edge optimisers. The all-black panels are more aesthetically pleasing than other types, while also delivering greater efficiency than standard blue panels. Each one is capable of delivering **325 watts** of power. Combined, the system has a total size of 3.9 kW, which is enough to fully charge a Nissan Leaf 100 times per year. It also reduces annual household carbon dioxide emissions by approximately 853kg.

The inclusion of a battery allows power to be stored for overnight use – any excess is then sold back to the grid. The size of the battery required careful consideration by the team. If it was either too large or too small, the battery lifecycle could be drastically reduced.

As a result, an Alpha Smile-B3 AC coupled system was installed with 11.6kWh of battery storage (4 x 2.9kWh batteries) and housed within a specially built cupboard with a SolarEdge SE3680H inverter, fitted with optimisers behind each panel. The battery is located on the ground floor, it features ventilation and a smoke alarm, to ensure both accessibility and fire safety.



Installation of 12 photovoltaic solar panels.



Find out more →

walthamforest.gov.uk/ecohome

