

Three homes that had electricity during the 2025 blackout

On 28 April 2025 a blackout cut power to millions of homes across the Iberian Peninsula. Three houses built by PAPIK Group kept their lights on, independent of the grid.

On 28 April 2025, a power cut left millions of homes across the Iberian Peninsula without supply. For hours, uncertainty spread through cities and towns, revealing just how fully daily life depends on a centralised system that, when it fails, stops everything at once.

Not everything went dark. In the middle of the energy silence, three houses built by PAPIK Group kept their lights on, with hot water and thermal comfort. They do not rely on the electricity network to function: they operate autonomously, every day and throughout the year, including on days like that one.

What happened on 28 April is not a fortunate exception. It is the result of well-resolved architecture, designed around efficiency and sustainability from the first drawing. The protagonists are three homes with different histories and one shared principle.

K-Llavaneres (2014): where it all began

In Sant Andreu de Llavaneres, this house marked a turning point. Built more than a decade ago, at a time when talk of a self-sufficient home sounded like an exception, K-Llavaneres proved that living without a grid connection was possible.

With 198 m² of usable floor area, it is designed to the principles of the Passivhaus standard and built with the Eskimohaus system, which retains heat in winter and coolness in summer with minimal consumption. It runs on solar panels and a battery system that stores enough energy for the full day. It still works today exactly as it did on the first day.

K-Codines (2019): urban self-sufficiency

Located in Sant Feliu de Codines, this 212.75 m² house sits within the urban core yet operates entirely independently. Its bioclimatic design, south orientation, overhangs, adjustable shutters and high-efficiency insulation maintain excellent thermal comfort without conventional climate control.

Its most distinctive feature is the batteries. Instead of lithium, K-Codines uses lead batteries: bulkier, but far more recyclable and free of rare earths and toxic components that are difficult to process. It is a deliberate choice showing that sustainability is also decided in the technical details.

K-Valld'Or (2023): a present already living in the future

The most recent house is, arguably, the most advanced. Located in Valldoreix, within the municipality of Sant Cugat del Vallès, it is a 280 m² home surrounded by vegetation, designed to generate zero emissions and be fully autonomous.

It incorporates aerothermal systems for climate control, mechanical ventilation with heat recovery, latest-generation batteries and an architectural design that combines energy performance with spatial quality. Every window, every shadow and every centimetre of insulation is calculated so the whole works in harmony. The result is a house that not only withstands a blackout but sustains the wellbeing of those who live in it.

Beyond architecture: a new energy model

At PAPIK Group we do not simply build houses; we design homes that shield against what happens outside, that consume less and produce more, and that are prepared for a shifting energy context. This model is neither exclusive nor out of reach: it can be applied to any new construction and adapted to different budgets. The technology already exists; what is needed is the will to do things well.

The same approach can be brought to existing homes through a well-planned energy retrofit, so that autonomy is not reserved for new build alone.

What if the future starts at home?

The 28 April blackout was a reminder of the real scale of our energy dependence and, at the same time, a demonstration that another way of living exists. Homes can be self-sufficient today, without waiting two more decades to build the way we should already have started. Readers who want to explore the underlying logic will find context in the ecological footprint of construction.

A well-designed home does more than survive the day the grid fails: it keeps daily life intact precisely because it never fully depended on it.