



| Photo source [ARCbuild](#)

[Innovation](#) > [Property & Construction](#) > [Could steel off-grid homes solve affordable housing?](#)

## COULD STEEL OFF-GRID HOMES SOLVE AFFORDABLE HOUSING?



PROPERTY & CONSTRUCTION

### As well as being cheaper, the homes also only take 60-90 days to be built

**Spotted:** The UN Special Rapporteur on the Right to Housing, [Balakrishnan Rajagopal](#), highlighted that, in 2023, 1.6 billion people around the world lacked adequate housing and basic services. And that figure could rise to three billion by 2030. High construction costs, persistent labour shortages, and planning delays are all [playing a part](#) in the lack of sufficient, affordable homes, making it unlikely that any country will make up a significant amount of the shortfall.

In North America, ARCbuild, which stands for Affordable Residential (or Resilient) Communities, is working to change that with its off-grid, prefabricated homes that cut the cost of a new build by [20 to 50 per cent](#).

The company uses a suite of advanced sustainability measures to minimise the footprint of each structure as well as the entire construction process. Each home is completely off-grid and contains independent power and water supplies. Solar power and greywater recycling are integrated into the homes, which are so efficient that up to 40 per cent of the energy generated is excess and can be sold back to the grid.

ARCbuild homes are net zero, and up to 85 per cent of the construction of each home takes place in the factory, reducing construction waste and on-site time by 50 per cent. Processes occur simultaneously, with the foundations and utilities being built while the frames are constructed in the factory. The steel fabrication and modularity of the homes make them resistant to hurricanes, other high-power winds, and fires.

The company is currently working in Mexico and North America on more than 20 projects.

method for innovators to cut home building construction costs, s to help reduce waste. Examples in Springwise's Library include ninated [timber](#) being used for building materials.

Written By: Keely Khoury

12th February 2024

Website: [arcbuild.io](https://arcbuild.io)

[Download PDF](#)

### Takeaway:

The [World Green Building Council \(WGBC\)](#) states that the built environment is responsible for almost 40 per cent of the world's energy-related carbon emissions, with 28 per cent coming from operational emissions and the remaining 11 linked to materials and construction. There is a global shortage of affordable housing, but building in the same way we have been is not feasible in a world that needs to be more sustainable. Greener solutions like ARCbuild's affordable and climate-resilient homes are required, helping to bring homes quickly to communities that need them, without taking an undue toll on the planet.