

# wondrwall<sup>®</sup>

SMART ENERGY





## Generate your own energy

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Energy is a fundamental part of our world and we have had little choice but to buy energy from energy suppliers who do little more than send us our monthly bill. The average domestic energy bill has risen from £500 in 2004 to £1300 in 2018, and that bill will continue to rise driven by the electrification of transport and heating. In parallel, fuel poverty has risen by 50% over the same period (from 4% to 6% of all households). Today things are changing, it is now possible through Wondrwall green energy and smart home technology to break away from these costs and create and manage your own energy.



## Creating a Gas-Free Net-Zero Home

Wondrwall enables your house to achieve “net zero” electricity use. Net Zero homes are like other homes – just better. They are homes that produce as much renewable energy as they consume over the course of a year, leaving the occupants with a net zero energy consumption from the grid. Combined with our space heating and water heating solutions, Wondrwall can convert today’s homes in to All-Electric, Gas-Free, Net-Zero homes for a fraction of the costs typically associated with these homes. Even better, these homes generate sufficient energy to be able to export energy during the year, creating a revenue stream.



## Wondrwall gives the home a brain and the intelligence to control itself

Make your life easier and more efficient without having to think about it.

Wondrwall is a pioneering intelligent living system that makes your home adapt to your needs and desires – automatically controlling heating, lighting, security and safety, with both voice control technology and mobile app to change any of the settings at any time.

Integrated with our gas-free heating and hot water technologies plus solar panels and battery storage, Wondrwall fully prepares your home for the low carbon transition. Wondrwall also reduces energy consumption by 40%, reduces your energy bill by 90% by maximising the use of renewable and off-peak energy and creates a revenue for you by selling surplus energy back to the grid.

Wondrwall learns and works around you, observing how you actually live, which rooms you spend the most time in and how you use heating and lighting. It seamlessly and intelligently supports and enhances your living environment and reduces energy consumption and costs without your input.

# The complete, intelligent home solution



The real power of Wondrwall lies in our light switch running its own advanced software and housing 13 different sensors that monitor your habitation patterns, as well as your home's overall efficiency and performance. Also integrated with Amazon's push-to-talk Alexa platform offers added functionality of voice control.

With Wondrwall technology, your home gains the intelligence and insights about your living patterns and how your home functions and behaves to control the heating, lighting, security and safety of your home exactly as you want them, without you having to tell it.

Every Wondrwall light switch contains 13 different sensors covering temperature, humidity, power, motion, luminosity and sound creating a sensory network of over 100 sensors through-out the home to truly understand living patterns and how the home performs.

Once installed, Wondrwall begins to build a detailed picture of exactly how you use your home. With a complex understanding of your habitation patterns, Wondrwall plots the optimal running of your home while making continual improvements. Using machine learning and predictive modelling to make intelligent decisions to control your home efficiently, save you money and make your home more comfortable and safe.

Wondrwall Smart Energy integrates seamlessly with the Wondrwall Home Automation system to provide a complete home solution that allows the home to generate energy, store it intelligently for later use, as well as capitalise on any surplus.



## Reduce energy consumption by 40%

Wondrwall reduces the total energy consumption of your home by intelligently controlling heating and lighting to avoid wasting energy on empty homes or the unused parts of the home. The Wondrwall home learns and works around you, automatically observing how you actually live, which rooms you spend the most time in and how you use heating and lighting. In doing so, Wondrwall seamlessly and intelligently supports and enhances your living environment and reduces energy consumption without you lifting a finger.

When combined with our Intelligent Infrared Heating and Intelligent Hot Water Cylinder, Wondrwall can reduce energy consumption further by a total of 40%.

## Reduce electricity bills by 90%

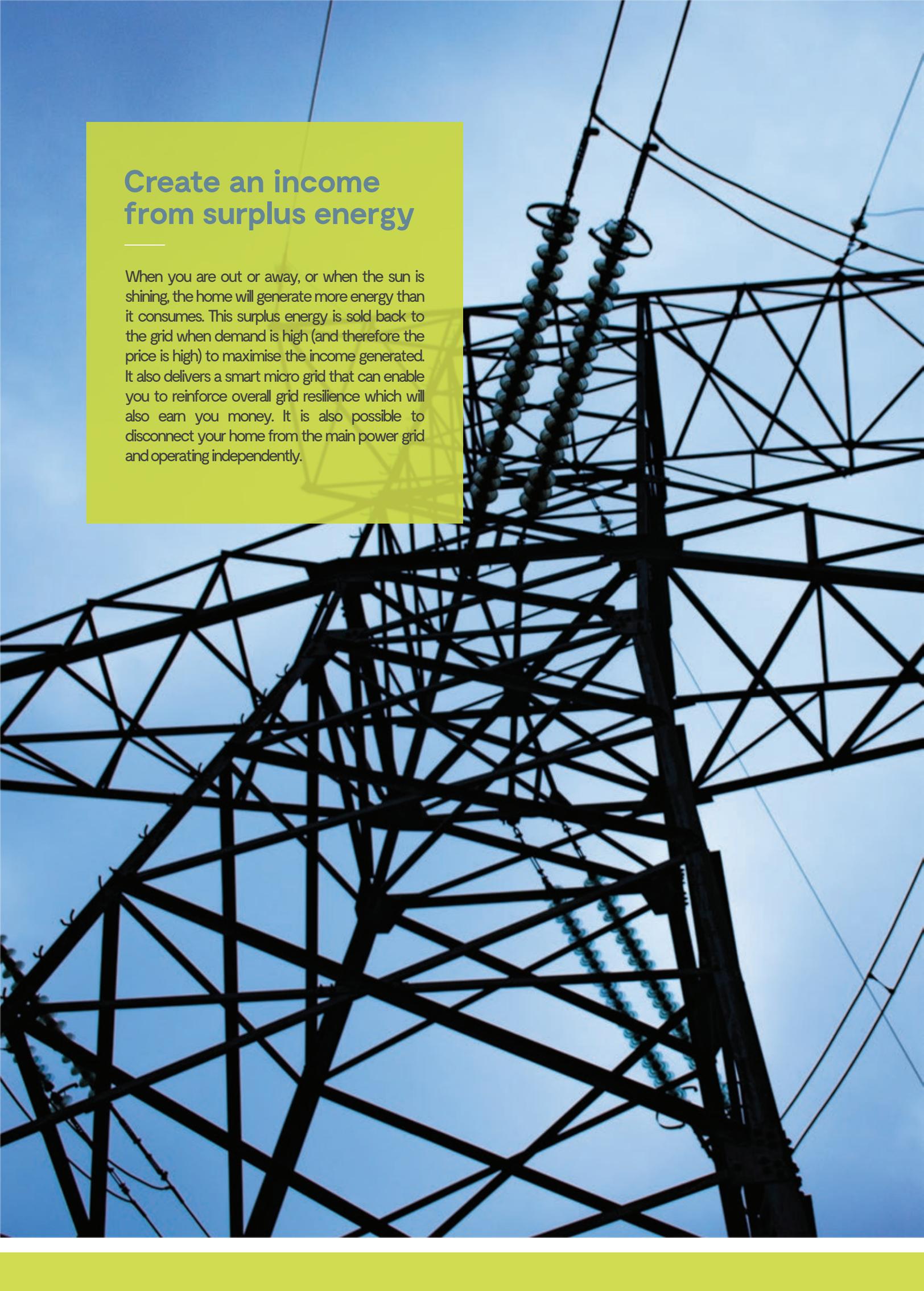
Wondrwall solar panels installed on the home generate their own renewable energy. Solar is sized to power all the appliances and supply 100% of the annual requirements of the home. Using our battery storage, Wondrwall automatically and invisibly “time shifts” consumption to use the stored renewable energy. In winter, Wondrwall automatically “tops up” the battery with low-cost off-peak energy; in summer, the excess of renewable energy is sold back to the grid for the highest price. In doing so, Wondrwall dramatically reduces the energy costs of the home



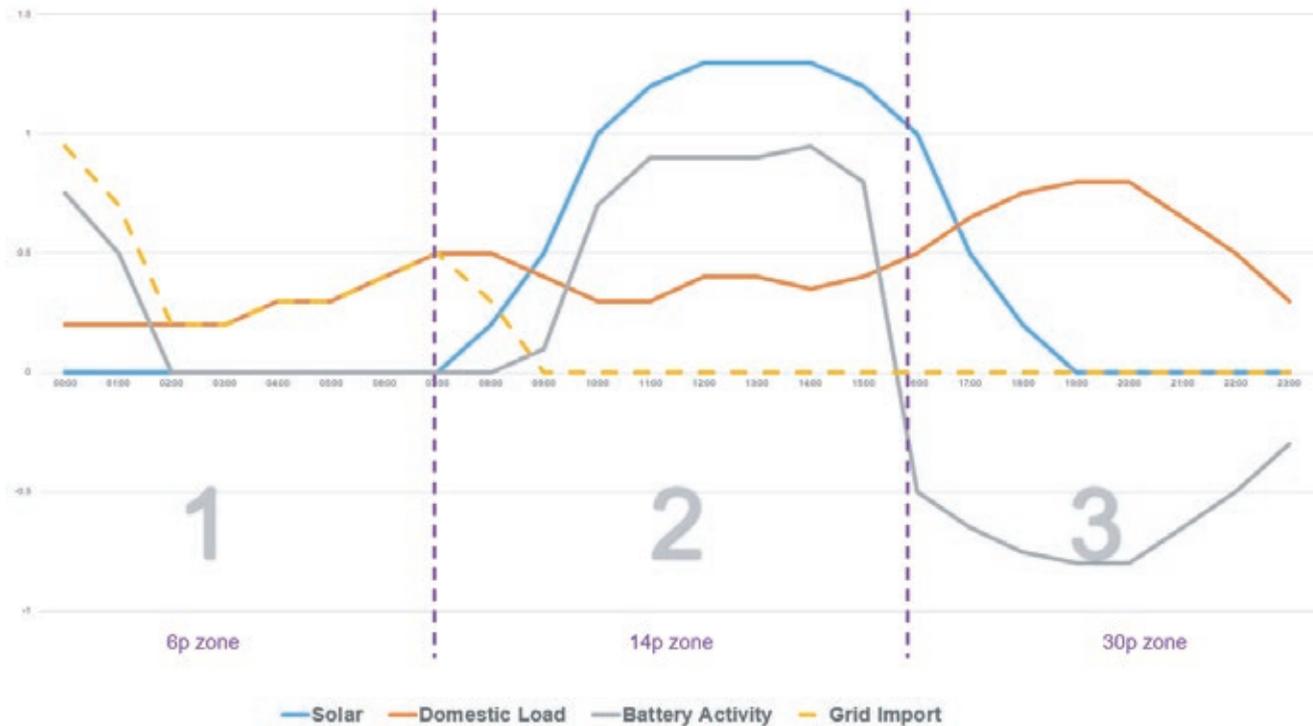
## Create an income from surplus energy

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When you are out or away, or when the sun is shining, the home will generate more energy than it consumes. This surplus energy is sold back to the grid when demand is high (and therefore the price is high) to maximise the income generated. It also delivers a smart micro grid that can enable you to reinforce overall grid resilience which will also earn you money. It is also possible to disconnect your home from the main power grid and operating independently.



## How does it work?



1. When required, Wondrwall partially charges the battery during the low-cost energy periods, automatically predicting domestic consumption and solar generation for the following day.
2. Wondrwall runs the home and completes charging the battery from solar generation during the day.
3. Wondrwall powers the entire home using stored energy during the peak cost period avoiding peak consumption costs and earning the highest return for surplus energy returned to the grid.

## You don't have to be an expert

Time of use tariffs are a new concept, designed to incentivise customers to use more energy at off-peak times. These tariffs charge cheaper rates at certain times of night or day, when demand is at its lowest, and higher rates at popular times. Wondrwall Energy has been created to learn how your home uses energy and optimise it automatically, invisibly sourcing power from the cheapest source to power and heat your home at a fraction of the cost of traditional grid supplies. It achieves the maximum possible savings without your active involvement. No need to schedule your washing machine to run in the middle of the night to get the lowest price, you don't even have to programme your thermostat! Wondrwall takes care of everything for you.

# What is Wondrwall Energy?

Wondrwall Energy is a complete system that can be added to new build homes and as part of a refurbishment of existing properties. Wondrwall supplies all necessary components for the system.

Wondrwall Energy comes in two configurations. The first delivers a full electric, Gas- & Carbon-free home at a lower cost than current solutions. The second delivers an affordable Net-Zero and Gas- & Carbon-free home at a cost that enables volume roll-out.

## Gas- & Carbon-Free Home

By integrating our home automation platform with our space heating and water heating solutions, Wondrwall delivers a Zero-Carbon, 100% electric home with totally optimised energy usage, room by room, minute by minute resulting in up to a 40% reduction in annual energy consumption.

### Home Automation

Intelligent full home automation is built-in as standard. The Wondrwall intelligent home automation system makes your home adapt to your needs and desires – automatically controlling heating, lighting, security, safety and music, as well as the generation and storage of energy, with integrated Amazon Alexa voice control technology.



### Infrared Electric Heating

Wondrwall Infrared Panels deliver heating in a stylish, comfortable, energy efficient and highly controllable way, creating a drier, warmer, healthier home while reducing energy consumption. Wondrwall automatically heats the rooms you are in while avoiding to heat empty rooms and homes, reducing the energy usage for heating of the home by up to 50% while ensuring you are always comfortable.

### Intelligent Hot Water Cylinder

The Wondrwall Hot Water Cylinder is an energy-efficient and cost-effective hot water tank for the home. It works both day and night, all year round, whatever the weather, to provide hot water using roughly half the energy typically required. Wondrwall's cylinder learns how much hot water you use and only heats what you need, dramatically reducing energy consumption. In addition, the cylinder acts as a thermal battery, further reducing hot water energy costs.



# Net-Zero, Gas- & Carbon-Free Home

Installing Wondrwall solar panels, inverter and battery can convert today's new build homes in to All-Electric, Gas- and Carbon-Free, Net-Zero homes for a fraction of the costs typically associated with Net-Zero homes. Homes that generate as much energy as they consume and time shift energy from when generated to when it is needed resulting in an up to 90% reduction in annual energy costs.



## Solar Panels

Ultra-high efficiency Wondrwall solar modules generate electricity to meet all the energy requirements of your home. Solar generation is matched to the electricity load of the home to ensure that your homes generates as much energy in a year as it consumes, delivering a Net-Zero home. The Wondrwall panels blend into the design of the roof and can optionally be mounted in-roof to deliver an aesthetically pleasing look and design.

## Hybrid Inverter

The Wondrwall intelligent hybrid inverter combines a solar inverter, charger and battery inverter into a single unit to deliver the most efficient use of your available energy. It synchronises energy production and consumption. The Wondrwall Hybrid Inverter connects wirelessly to the Home Automation to ensure optimum control of the generation, storage and consumption of energy resulting in lower energy consumption and reduced energy bills.



## Battery

The Wondrwall battery is a high capacity battery that stores free solar energy generated during the day and low-cost off-peak electricity for use at peak times, reducing electricity costs and reducing the load on the grid. The Wondrwall battery will also provide a backup power supply for your home in the event of a power outage.

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## Contact Us

If you are interested in adding Wondrwall Energy to your home or would like to find out more, get in touch today or visit our website for more details.



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