#ACCELERATING ELECTRIFICATION

beama
The trade association for energy infrastructure & systems

The smart energy supply chain: giving consumers access to clean power

Delivering smart, flexible products is essential for giving consumers the benefits of clean power, while making our energy system more cost-effective. The UK has a promising smart energy products industry, but more needs to be done – and quickly – to grow the market and seize the opportunities.

With innovation and strong product design, the UK is well-placed to lead in this growing market. Our members — the manufacturers behind these technologies – are ready to work with government and the wider supply chain to build real momentum.

QUICK GUIDE[1]

What is smart energy?

Smart means the ability of a device to respond in real time to communication signals, using digital technologies, to deliver a service.

Flexibility is the ability to shift in time or location the consumption or generation of energy.

A smart and flexible system is one which uses smart technologies to provide flexibility to the system, to balance supply and demand and manage constraints on the network.

How can it work in practice?

Devices capable of responding to signals from the clean power system are used in buildings, with billing arrangements that support this.

What can the impact of smart energy be?

For **consumers**, the potential to save money on their energy bills by using electricity when it is in less demand and therefore cheaper.

For the **energy system**, clean power is achievable more quickly and more affordably because less new generation and network infrastructure is needed, because peak demand is lower. In effect, flexible energy adds capacity to the system.

Where are we now?

- Energy costs remain high, and pricing doesn't yet reward flexibility.
- Smart meter benefits are underused – limited awareness and integration with tariffs.
- Very few incentives for clean heat options beyond heat pumps.
- Consumers lack clear guidance on what technology suits their home or lifestyle.

How do we bridge the gap?

- Reform electricity pricing to close the gap with gas and reward flexibility.
- Incentives on tax relief and grants for varied heat options, backed by an industrial strategy.
- Support scalable retrofit solutions and invest in skills and installer training.
- Share views and experience with government.
- Align policy timelines and guidance to support long-term investment.
- Complete smart meter rollout and deliver clear consumer guidance and choice.

Where could we be?

- Lower energy bills by using electricity at cheaper times through smart tariffs and flexible heating.
- Smart meters and connected tech help consumers manage energy use.
- A range of retrofit-friendly options for affordable clean heat solutions for different homes and budgets.
- Greater energy security – a more flexible grid means fewer disruptions and a more reliable supply.
- Enable a reliable, smart and fully integrated EV charging infrastructure for a flexible energy system.

[1] From the 2021 Smart Systems and Flexibility Plan

Our sector

UK TURNOVER **£14 BILLION**

90,000 PEOPLE EMPLOYED IN THE UK

EXPORTING **£5 BILLION** WORLDWIDE

Electricity demand could grow by **70% by 2035...**

...Resulting in a tenfold increase in product demand for some sectors

Net Zero could require private investment of up to **£50 billion** per year by **2030**

£1tn GLOBAL MARKET OPPORTUNITY

400,000 NEW UK JOBS NEEDED BY 2050

Delaying action by ten years could incur UK debt **23%** of GDP higher in **2050**

BEAMA Smart Buildings Group: who we are

The Smart Buildings Group (SBG) is an industry forum within BEAMA, representing UK manufacturers of Energy Smart Appliances, including EV charging equipment, the full range of electric heat and water products and essential smart home energy management systems. SBG unites these innovators to deliver connected, energy-efficient, and decarbonised homes, supporting the UK's Net Zero and clean power goals.

There are significant growth opportunities for UK manufacturers to boost flexible energy services, and deliver genuine value to consumers.

We need to back the solutions that can scale today – and then build on them with wider system changes to unlock even greater long-term benefits.

There is a need for clear, consistent policy and funding signals to plan product development, investment in smart technologies, and workforce support over the long term.

To seize this opportunity, we need to accelerate delivery and collaborate to align government policy.

We are bringing together essential stakeholders to galvanise momentum, ensure these policies deliver value for consumers, and help grow the market for smart, flexible products.

We have been working for a number of years on the development of international and UK standards for the smart buildings sector and were lead contributors to PAS 1878 and 1879. We are ready to work with government and the wider supply chain to build real momentum.

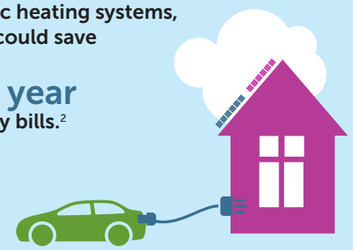
In order for the CCC 7th Carbon Budget to be met they are projecting that the flexibility requirement from all thermal energy storage systems has to be 9.3GW by 2030

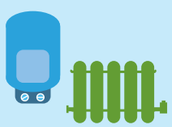
The combined flexibility potential of all thermal energy storage systems available by 2030 is 10GW

The Clean Power 2030 pathway assumes demand flexibility of 4GW from storage heating currently

The average household with flexible technologies such as electric heating systems, battery or EV could save

£115 a year
on their energy bills.[2]





Yet, just 5% of homes currently use low carbon heating. That's a clear gap – and a big opportunity.[3]

The National Infrastructure Commission adds weight to this. It says the UK will need

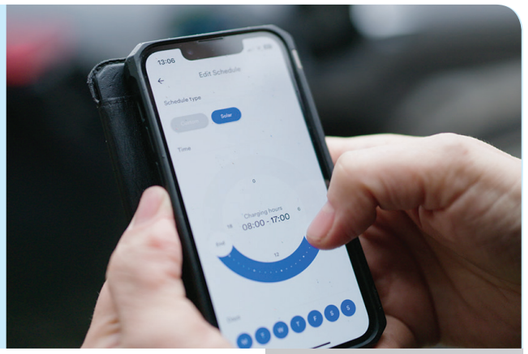
£37–50 billion of investment in electricity distribution by 2050 to deliver flexibility.[4]

How to seize the opportunities

Innovation and growth thrive on a clear market framework. That clarity is what drives progress — and unlocks the next wave of smart energy opportunities.

BEAMA's guiding principles – customer first

1. Normalise electrification through the provision of clear guidance and customer choice.
2. Incentivise flexibility across all aspects of energy policy.
3. Boost customer confidence through high standards for safety and consumer protection.



Key Policy Landscape

Our work supports and informs key government initiatives, including **Smart Secure Electricity Systems (SSES)** programme, **Warm Homes Plan, Boiler Upgrade Scheme, Smart Metering Implementation Plan, EPC Smart Readiness Indicator, Home Energy Model,** and **Clean Power by 2030**. All of these aim to accelerate clean heat, smarter energy use, and greater grid flexibility.

Our recommendations for delivery

We need a joined-up delivery plan that brings energy, housing, industry, and consumer policy under one strategy for net zero homes. This will ensure that the multiple strands of government policies are tied up together. The upcoming Low Carbon Flexibility Roadmap is an opportunity to help achieve this.

Our SBG can contribute to a standing industry-government forum that delivers that strategy structured engagement with manufacturers, installers, and consumer groups to troubleshoot policy gaps, share insights, and steer delivery.

[2] Cornwall Insight (2023), *The power of flex: Rewarding smarter energy usage*
[3] Energy Systems Catapult, *A Guide to the Decarbonisation of Heat in the UK*, 10 January 2025
[4] *National Infrastructure Commission's report on electricity distribution networks*, February 2025

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Our members

Aclara
ABB
aico
ideal HEATING
CHAMELEON TECHNOLOGY
Drayton by Schneider Electric
emlite
Dimplex
geo
hager
Honeywell
iskraemeco BY ELSEWEDY ELECTRIC
Itron
KAIFA
KRAKEN PART OF THE octopus energy GROUP
mercury
Landis+Gyr
legrand
MITSUBISHI ELECTRIC
mixergy
myenergi
Schneider Electric
SECURE
SIEMENS
Data Communications Company
SMS
Sunamp
tepeo
TOSHIBA
TREND
Vaillant
VIESMANN
WORCESTER Bosch Group

Further reading

Recent publications include:

- Market Pulse – a health check for our industry with key indicators on commercial views and performance
- Industrial Strategy White Paper – ways our sector and Government can collaborate to grow our industry
- What Should I do? – a paper setting out views on electric heating and flexibility with consumer choice
- Forthcoming publication – BEAMA Heat Flexibility Policy and Market Matrix

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