

# Exploring the UK's progress towards net zero

## Key issues and challenges



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### **The UK's sustainability journey so far**

The UK is amid a green revolution, but how are we doing so far? Once considered a niche topic in the early 2000s, sustainability gained more mainstream attention in the early 2010s, starting with the so-called 'solar-coaster', where the Feed-in Tariffs (FIT) scheme was launched to accelerate investment in renewable energy technologies by offering long-term contracts to renewable energy producers. As FIT rates fell over the years, so did interest in solar for the home. These FITs, as well as Renewables Obligation Certificates (ROCs) for large-scale solar deployment, formed part of the first wave of the rise in sustainability, reducing over time and eventually being phased out in 2019. This shift towards sustainability was initially set up by the Labour government in the late 2000s but was dismantled by the Conservative party in 2015, resurfacing around 2019 when Boris Johnson's government introduced policies and funding that supported sustainability. BEIS introduced the Smart Export Guarantee (SEG)<sup>1</sup> in 2020,

a new initiative that rewards solar generators for electricity exported to the grid. However, the COVID-19 pandemic slowed down progress.

### **The importance of net zero and the shift towards sustainability**

The good news is that net zero is now back on the agenda, which brings with it many benefits. Firstly, it is important to prevent further damage to the environment caused by traditional energy sources. Secondly, people are concerned about high energy bills. Thirdly, there is a fear of energy insecurity since traditional sources will eventually run out. The more controversial fracking is not a viable option in the UK, but solar, wind, and nuclear energy are. Additionally, the EU's net zero goal by 2050 has influenced the shift towards sustainability. We are on a journey towards this goal, with new building regulations for both residential and commercial buildings, and a plan to phase out gas boilers in favour of electric vehicles by the 2030s. There is no denying that the transition to sustainable energy is necessary and inevitable.

<sup>1</sup>Ofgem (no date) Smart Export Guarantee (SEG) (2019). Available at: <https://www.ofgem.gov.uk/publications/smart-export-guarantee-seg>

## Taking a measured approach

The key to achieving steady sustainability is not to do too much at once. The government should be responsible for setting the stage and providing some financial support. However, the government should not accelerate the transition to new energy sources too quickly, as this may create more problems than solutions. The government is already taking action with the gas ban, but their messaging needs to be more consistent and clearer to help people understand what is being done. As the recent Skidmore Report<sup>2</sup> has outlined, there is need for a measured approach to sustainability that is guided by the government.

## Facilitating sustainable projects

Despite a historic lack in consistency, the government's strengths lie in setting up conditions that enable these projects to succeed, such as enforcing building regulations, and creating opportunities for startups in the green sector<sup>3</sup>. Over the years, local governments have struggled with setting up large-scale energy projects like wind and solar farms, and energy efficiency schemes like the Green Homes Grant<sup>4</sup>. The local government's primary responsibility is to create a supportive environment for people to work in, and to ensure

that the right conditions are in place for individuals and businesses to take action. By facilitating, rather than doing, the government can play an important role in enabling sustainable projects to take off and thrive, while avoiding the pitfalls that have plagued some local and national government initiatives in the past.

## The effects of Part L on new builds

With Part L set to come into full effect this year, we will start to see its full impact by the third quarter of this year. During the 12-month transition period for Part L regulations, planning and building warrants that have been submitted for a specific plot by June 2022 allow construction under the old regulations for a year. Also, if construction on a plot began before June 15, 2023, it can also be completed to the old standard, but after that date, every plot must adhere to the new standard. As a result, starting from around July to September, all new constructions will have to comply with the new standard, meaning approximately all houses in England (and slightly later in Wales) will be affected. This change has already been implemented in Scotland. We are already seeing positive changes; new build houses save homeowners over £3,100 a year on fuel bills as homebuyers increasingly prioritise

<sup>2</sup>Department for Business, Energy & Industrial Strategy (2022) Chris Skidmore launches net zero review. Available at: <https://www.gov.uk/government/news/chris-skidmore-launches-net-zero-review>

<sup>3</sup>Department for Business, Energy & Industrial Strategy (2023) Next generation innovators powering UK towards net zero to get £24 million cash boost. Available at: <https://www.gov.uk/government/news/next-generation-innovators-powering-uk-towards-net-zero-to-get-24-million-cash-boost>

<sup>4</sup>UK Parliament (2021) Energy Efficiency of Existing Homes. Available at: <https://committees.parliament.uk/publications/5171/documents/52521/default/>

energy efficiency<sup>5</sup>. Compared with older properties, new build properties require significantly less energy use, with 85% having an A or B (EPC) rating, compared with only 4% for existing dwellings. It's great to see homeowners being encouraged to buy with energy efficiency as a main driving factor, with 53% of respondents to a recent survey stating that lower utility bills and running costs would influence their decision<sup>6</sup>. Following the full introduction of the new Building Regulations Part L this year, these savings will improve by a further 30%.

### **Improving older homes, net positive properties and collaborative energy storage**

Not all homes in the UK can be made zero carbon due to the difficulty of retrofitting many older properties, with most homes in England and Wales most commonly built between 1930 and 1982<sup>7</sup>. Instead, efforts will focus on improving older homes with measures such as insulation and solar panels. Housebuilding industry leaders recognise that new homes will aim to not only be net zero but also net positive, producing more energy than they use; to compensate for the difficulties in retrofitting older homes effectively. This is achievable for new properties with high insulation and a low demand for energy. These properties can become "prosumers,"

producing excess energy and feeding it back into the grid, which can then help subsidise the energy needs of other properties that cannot generate their own energy. Different types of properties, entities and businesses can work together to produce and store their energy differently. A house, a housing estate, a village, a car, and a factory can each produce their own energy and sell or share it with each other. However, there is work to be done in terms of technology and regulation to make this possible, as Ofgem currently restricts selling energy to neighbouring properties.

### **The Future Homes Standard**

In 2022, the Future Homes Hub held a pre-consultation with key stakeholders, including major house builders and suppliers, to discuss the scope and implications of new regulations for future homes, to be implemented in the form of the Future Homes Standard in 2025. The discussion covered topics such as the impact on consumers, the grid, and heating and hot water systems. The findings from this pre-consultation, has been used to help shape the recently released Future Homes Hub report on building zero carbon ready homes at scale. This report will be used to guide the government in implementing its 2025 Future Homes Standard (FHS) recommendations, such as

<sup>5</sup> Home Builders Federation (2023) New build houses to save homeowners over £3,100 a year on fuel bills as homebuyers increasingly prioritise energy efficiency. Available at: [https://www.hbf.co.uk/newsletter/view/6009?pk\\_campaign=newsletter\\_6009](https://www.hbf.co.uk/newsletter/view/6009?pk_campaign=newsletter_6009)

<sup>6</sup> Home Builders Federation (2023) New build houses to save homeowners over £3,100 a year on fuel bills as homebuyers increasingly prioritise energy efficiency. Available at: [https://www.hbf.co.uk/newsletter/view/6009?pk\\_campaign=newsletter\\_6009](https://www.hbf.co.uk/newsletter/view/6009?pk_campaign=newsletter_6009)

<sup>7</sup> ONS (2022) Age of the property is the biggest single factor in energy efficiency of homes - Office for National Statistics. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/ageofthepropertyisthebiggestsinglefactorinenergyefficiencyofhomes/2021-11-01>

ensuring the government collaborates with the housebuilding industry and providing transitional arrangements essential for the industry's transition to net zero. The consultation process has involved six contenders with varying building specifications, including Passivhaus standard, with solar PV featuring in all but one of the Contender Specifications.

Legislation will be passed in 2024, and will be implemented in 2025, probably with a transition period until the third quarter of 2026. The new regulations will aim to be 70 to 80% better in terms of emissions (compared with Part L's 31%) and will ban the use of fossil fuels in homes, requiring the use of low gas or hydrogen boilers, electric heating, or heat pumps instead. Heat pumps are expected to be the primary heating source for around 80% of newly built properties by 2026.

### **Industry challenges and opportunities to implementing energy efficiency**

The implementation of energy efficiency measures presents both opportunities and challenges. One of the main opportunities is the potential for significant cost reductions in the long term. However, there are several challenges that must be overcome in order to realise these benefits.

One major obstacle is the shortage of skilled labour, which is impeding the installation of new energy-efficient products such as heat pumps.

This shortage of workers, coupled with a green energy skills gap of around 200,000 workers is hindering progress towards achieving net zero emissions goals. Rising labour costs and capital expenses also make it difficult to achieve significant cost reductions in the short term.

Furthermore, supply chain issues and national security concerns limit the availability of products like heat pumps, so efforts are being made to increase local manufacturing of solar and energy storage products to overcome this.

There is also a need to make existing properties more sustainable, such as rental properties. This would require a change in precedent, and there is uncertainty around the implementation of such changes due to regulations and the need for a trigger point to ensure action is taken. Nevertheless, there are opportunities for businesses and property owners to make changes that support the transition to net zero, and this should be a priority for all stakeholders involved.

Despite these challenges, significant changes in business models could support the transition to net zero. However, addressing the challenges facing the implementation of energy efficiency measures will require a concerted effort from all stakeholders; including policymakers, industry, financial institutions and the workforce.

<sup>8</sup> ONS (2022) Age of the property is the biggest single factor in energy efficiency of homes - Office for IEMA (2022) UK facing green skills gap of 200,000 workers - IEMA. Available at: <https://www.iema.net/articles/uk-facing-green-skills-gap-of-200-000-workers>

<sup>9</sup> Kennedy, R. (2023) Global trends for solar in 2023. Available at: <https://www.pv-magazine.com/2023/02/17/global-trends-for-solar-in-2023/>

## Challenges and opportunities facing homeowners in the shift towards sustainability

So, where do homeowners stand in this shift towards sustainability? While many homeowners desire green homes and lower energy bills, finding a home in a desired location and price range is often prioritised over specific green features. However, there is a growing trend towards homeowners becoming more aware of the benefits of sustainable living. A recent survey found that 82% of respondents want an energy-efficient house and would be willing to pay more for it<sup>10</sup>, indicating a shift towards homeowners valuing sustainable options more highly, with a report finding that the value of solar property increased from 0.9% - 2%<sup>11</sup>.

Additionally, with the ongoing cost-of-living crisis, many homeowners are increasingly choosing to stay put rather than move to new homes<sup>12</sup>. Retrofitting existing homes, cars, and services with sustainable alternatives presents a significant opportunity to homeowners, but consumers must be willing to make sacrifices in the short term and pay the price for greener options, as it will ultimately benefit them and the environment. Take the transition to electric cars, for example, where despite efforts to transition to electric vehicles, the majority of cars on the road are still petrol or diesel, and the electric vehicle

network is still in need of improvement. Consumers need encouraging with new technology and government incentives to make their homes more energy-efficient, such as installing solar panels or upgrading insulation. It is important for homeowners to stay informed and engaged in the ongoing transition to a more sustainable future.

## Conclusion

To sum up, the UK is making substantial progress towards its goal of achieving net zero emissions by 2050. The transition to sustainable energy is necessary and inevitable, and the government is taking steps to enable this transition by introducing policies and funding that support sustainability. The recent introduction of Part L regulations for new buildings will have a significant impact on energy efficiency, and homeowners are increasingly prioritising energy efficiency when purchasing a property. However, the government needs to provide clear and consistent messaging on sustainability and take a measured approach to the transition to ensure it becomes the new “business as usual”. Ultimately, the UK’s journey towards net zero will require collaboration and innovation from all sources to reach that impending target date.

For more information, visit [www.eco2solar.co.uk](http://www.eco2solar.co.uk)

<sup>10</sup> Marmox (no date) Demand for sustainable homes “massively underestimated” says survey. Available at: <https://www.marmox.co.uk/marmox-news/demand-for-sustainable-homes-massively-underestimated-says-survey>

<sup>11</sup> Solar Energy UK (2021) The Value of Solar Property. Available at: <https://solarenergyuk.org/resource/the-value-of-solar-property-report/>

<sup>12</sup> Shaw, N. (2022) Home buying and selling priorities have changed due to cost of living crisis. Available at: <https://www.getsurrey.co.uk/news/property-news/home-buying-selling-priorities-changed-25749922>