



Green Britain: looking back from 2030

Executive summary

In 2030 we live in Green Britain. We're by no means completely carbon free, but decarbonised to an extent that many in 2015 would have found hard to believe. Over 80% of our electricity is generated from renewable sources, and this electricity powers the cars we drive and the trains we ride. The way we think about what we eat and its impact on the environment has been overhauled, as has our attitude to the waste we generate. Needless to say, there were critics and sceptics, but in the end a combination of personal commitment and political will means that Britain in 2030 is a Green Britain. This is how we got there.

Energy

It was the government's 2016 Green Britain legislative package, which really sparked the revolution in energy that spread from the Big 6 down to British families. The ambitious legislation set a 2030 decarbonisation target for the power sector, banned new coal-fired power generation from 2020, promised to phase out subsidies for fossil fuels by 2025, and scrapped VAT on electric vehicles. It was accompanied by the appointment of Britain's first minister for carbon, working close to the prime minister to ensure the government is doing all it can to cut carbon.

The government also decided that it was ultimately fairer to move the cost of social and environmental levies off energy bills, where the rich and the poor pay the same, and into means-tested general taxation. The package was backed up by the Bank of England decision to begin what the press labelled 'quantitative greening'. This programme of buying up bonds issued by the Green Investment Bank was the result of a considered decision that financing investment in new green infrastructure, bringing jobs and long-term benefit to the real economy, was a better way of boosting growth than funnelling more money to the banks.

The result is that in 2030 almost half of Britain's electricity is provided by offshore wind, with onshore and biomass providing an additional 25%. The power sector met the government's tough decarbonisation target of 50gCO₂/kWh in 2029, and the renewables industry alone has created almost 150,000

new jobs in engineering and over 2 million jobs in the wider green economy.

R&D partnerships between government, industry and universities have made Britain a world leader in wind and marine renewable technologies. Critically, the government decided in 2025 to move to the Integrated Net Cost of Electricity (INCOE) which for each technology measures all additional costs and benefits including among others: health impacts, job creation and economic value added. When the INCOE showed offshore wind to have a lower net cost than coal, the prospects for renewables were transformed.

Renewables dominate the power mix, although there are still some gas-fired power plants online for back-up. After the successful challenge of the government's subsidy deal for Hinkley Point C, it became clear that Britain wouldn't be building new nuclear power plants, and the last plant was switched off in 2025, a year after the last coal-fired power plant was also taken offline.

The government hesitated on shale gas, but eventually the downturn in the global gas price, continued local opposition and bottom line costs meant that companies simply decided that it was not commercially worth the headache.

British consumers have played their part in the revolution too, and moving way beyond the Big 6. There has been a proliferation of new energy companies who are using technology to improve their products and customer service, using the smart electricity and gas meters which shortly after 2020 were already in over 80% of Britain's 30 million households.

Smart meters which 'talk' back to supply companies allow households to both buy and sell electricity from the grid, contributing to Britain's sustainable supply, as well as shrinking bills. Overall investment in the national 'Smart Grid' has given us a decentralised 'intelligent power' model with house generation and storage part of an interdependent and symbiotic relationship between the national grid and people's homes.

Transport

By 2030 the contribution of domestic transport to Britain's carbon footprint has fallen by around 40%, including a halving of carbon emissions from passenger cars and vans, as well as an 80% reduction in NOx and a 90% reduction in particulates generating an estimated £1.2 billion saving to the economy in health benefits.

In 2030 all new cars are either electric or plug-in hybrids, with over five million fully electric vehicles (EVs) on the road, as well as over 11 million hybrid (HEV) or

plug-in hybrid vehicles (PHEV) – together far outnumbering the 12 million petrol and diesel cars still in the fleet. As a result Britain's annual oil import bill has been halved, a saving of almost £9 billion. Not only is the country saving money, but so are British drivers. Compared to the average spend on fuel of £1190 in 2014, electric vehicle owners in 2030 pay on average just £254 for a year's travel.

People have also changed how they travel, walking and cycling more, and using our upgraded public transport network. Big data is making our cities more mobile, smarter and cleaner - rerouting buses to match our travel patterns, allowing traffic lights to react to traffic congestion, and cutting journeys through lift-sharing apps.

We have also changed how we move things around, taking HGVs off diesel fuel and onto less polluting gas, electrifying the rail network and moving more freight off roads and onto the rails. Overall change in the way we travel has made Britain less dependent on foreign oil, less congested, and less polluted.

Food

Changing the way Britain feeds itself and the waste it generates has proved to be one of the most difficult but important challenges. Education on the carbon footprint of our diets made a strong impact and the 'eco-sensitive shopper' has turned out to be a real enough feature of the British high street, actively choosing products with kitemarks certifying the producers are taking action on their carbon footprint.

Most controversially, the introduction of the 'Cow Tax' in 2025, which established a range of duties on both British and imported meat and dairy products based on their environmental impact, has led to a significant change in people's diets.

We have also been successful in reducing food waste which in 2030 is half what it was in 2015. In part this has been achieved simply by changing attitudes, being less literal about use-by dates and cooking up leftovers, tackling the 'food perfection' for fruit and veg that drove huge amounts of waste. Beyond the family kitchen the Courthald 2025 process has also led to major cuts in waste from the retail and hospitality sectors.

After a concerted campaign, the British government decided in 2016 to adopt the Circular Economy Britain package with four headline targets: increasing packaging recycling to 80% by 2030; a ban on sending anything recyclable to

landfill by 2025; a reduction in food waste of 30% by 2025; and requiring 100% of all plastic packaging to be recyclable by 2025.

Key in meeting these targets was an idea piloted across Asia requiring people to purchase bags to throw away waste, while keeping recycling free. Initially unpopular, the 'pay-as-you-throw' scheme was rolled out across Britain in 2020 and led to significant changes in behaviour by people who recycled more and wasted less, and businesses who realised that shoppers were actively choosing products with less packaging. As a result, Britain hit all of its waste targets, including meeting its 2025 food waste reduction target three years early.

Timeline of Ecotricity's 2030 Vision (for a Green Britain)

