

Wind, hydrogen, no demolitions

([Phillip Inman](#) and [Alex Lawson](#) - The Guardian)

Labour and the Liberal Democrats are pressing ahead with announcing the investments they would make to achieve net zero by 2050.

A new prime minister could do worse than crack on with some of the plans in Johnson's 10-point programme, announced to great fanfare in 2020. The plans are behind schedule and several of the ideas are considered by experts to be dead ends.

The CBI has accused the government of relying too heavily on private-sector investment, which it blames for Britain falling behind Europe and the US. The Biden administration is [poised to pass a near \\$370bn bill](#) to promote climate-friendly infrastructure. Johnson's 10-point plan committed the government to spending £12bn. The government's own adviser, the Climate Change Committee, said the money on offer needed to be closer to £50bn to make a difference.

Nevertheless, piecing together the ideas and investment needed to create a zero-carbon economy is achievable and could create more sustainable jobs, if the new regime can decide what it wants to do.

Offshore wind

The offshore wind industry has put the UK in the front rank of countries managing the switch away from fossil fuels. More arrays in the sea are planned on the east and west coast.

Official figures show that meeting net zero targets would mean cutting gas use by 65% by 2035, and almost 100% by 2050. At the moment gas accounts for about 90% of home heating and 40% of electricity generation. At 37%, heating accounts for the largest proportion of UK greenhouse gas emissions.

Kwasi Kwarteng, a chief ally of Truss's, said this year he [would expand onshore wind](#), helping speed up the transition. While the UK has only limited capacity to make wind turbines, and the number of jobs created by businesses servicing windfarms is small in relation to the size of the investment, the employment is highly skilled and expert firms could export their knowhow.

Sunak said at a recent hustings that regulations governing offshore wind, rooftop solar and nuclear would be overhauled to scale up supply, despite the critics arguing that solar is held back by a lack of power storage facilities and all renewables are at the mercy of an electricity grid in desperate need of an upgrade to cope with a coal, oil and gas-free world.

Low-carbon hydrogen

The UK's ambition for hydrogen production was recently doubled to 10 gigawatts by 2030. [Green hydrogen](#) is produced by using renewable electricity to drive an electrolyser that splits water into hydrogen and oxygen. The gas is burned to produce power, emitting only water vapour and warm air, and no greenhouse gases. A favourite of the Tees Valley mayor, Ben Houchen, hydrogen is also seen as the green fuel of the future by the car company Toyota and the Spanish energy firm Iberdrola, which owns Europe's largest production site for green hydrogen for industrial use, at Puertollano in Spain.

Iberdrola's subsidiary Scottish Power plans to use government subsidies to build a [100 megawatt plant at Felixstowe](#) to provide enough fuel to power 1,300 hydrogen trucks operating inside the port from 2026. Hydrogen cells could take over from diesel to power trucks, farm equipment and diggers, but there would need to be significant funding to create a UK industry.

Nuclear power

There is a new power station taking shape at Hinkley Point in Somerset and the government has approved another at [the Sizewell site in Suffolk](#) at an expected cost of £20bn. Both built by EDF.

The Sizewell C site could be challenged if local people pursue an appeal over the next few weeks. The CBI has urged the government to push on with the investment, and Sunak has promised to go ahead should he become leader, presumably whatever challenges lie ahead.

Delays and cost overruns are likely and could help Rolls-Royce, which expects to have a series of [mini-nuclear power stations](#) ready by the end of the decade, though these have faced their own time and cost overruns. The cost of all nuclear options is many times the alternatives.

Zero-emission vehicles

Britain spends about £27bn on new roads but very little on subsidising electric car production or the infrastructure of charging points that supports electric vehicles.

Car firms, almost all of them foreign-owned, have complained that subsidies for UK production are small. Car parts suppliers have little incentive to adapt to electric cars. The [battery maker BritishVolt](#) is on “life support” as it wrestles with funding problems.

Green public transport, cycling and walking

Public transport is becoming green as electric buses become more popular. Electric cycles and scooters are being adopted at a rapid pace in some towns and cities. Cars are being forced to lower their speed in built-up areas. But pedestrians are being left out of schemes to create more livable cities, persuading families to stick with the suburbs and new housing estates that rely on private car travel.

More investment in electric-powered trains would create jobs and make links across the railway network more reliable. There are plans to electrify the Midland mainline and the Transpennine route and upgrade the east coast mainline, but with HS2 likely to be stopped at Manchester, the spur to Leeds abandoned and HS3 across the northern cities scrapped, the opportunities to revive the push for electrification are many.

The payback from integrating cycling, walking and public transport will be significant, as the Netherlands and Denmark have found.

Greener buildings

A building with solid walls built before the second world war costs about £20,000 to insulate and between £10,000 and £20,000 for a heat pump. There are about 8m of these homes.

Even the best-insulated homes gain a category B certificate when an A is needed to meet zero carbon targets. It means even those built or refurbished in the last 30 years will need another facelift.

And before embarking on this investment, ministers must stop developers checking their own homework. There are concerns that builders are cutting corners knowing local authorities lack the staff to check on them.

Sunak or Truss could also put a moratorium on the demolition of commercial and residential buildings. The UK would put itself at the forefront of a global construction industry that focuses on refurbishing existing structures to make them low-carbon. Most architects and developers remain attached to the idea of constructing new buildings, but western countries have most of what they need if the current stock is upgraded and empty homes are brought back into use.

Natural environment

Protecting nature has obvious benefits. Sunak commissioned a 360-page report from the eminent Cambridge economist Partha Dasgupta detailing how the economy will suffer unless we protect the natural environment, but didn't say what action he would take.

Chancellors always delay taking action because while they understand investments create jobs and save the exchequer money in the future from flooding and drought, it is less clear how it creates businesses that generate tax income or export cash.