

Hinkley Point C

Creating a positive
environmental impact



Foreword

“Hinkley Point C’s reliable low carbon electricity is needed to help Britain achieve net-zero and to avoid the worst environmental impacts of climate change. With wind and solar, it will allow Britain to electrify its transport, homes and businesses without depending on fossil fuels. All energy technologies create some carbon emissions in their operation and construction but new studies confirm that Hinkley Point C’s impact is even smaller than wind and solar. We are working to reduce that impact further and to help biodiversity thrive around our site. Investment in net-zero energy is good for people too. New skills, jobs and career opportunities are transforming lives and communities for the better, creating a legacy we can all be proud of.”

Stuart Crooks
Managing Director, Hinkley Point C



Hinkley Point C: Nuclear is essential for environmental protection

Nuclear power is part of the Government's future energy mix for good reasons. It produces a lot of reliable electricity in a small space. Available when it's needed most, Hinkley Point C will power around six million homes. In a future system powered mostly by wind, having nuclear in the mix makes the system more secure, more reliable, affordable and easier to achieve.

EDF is the largest producer of zero carbon electricity in Britain. It is investing in wind, solar and nuclear to create a reliable and affordable electricity supply which will allow the UK to cut its dependency on fossil fuels and meet soaring demand. EDF is also helping customers electrify more of their lives while saving energy at home and in business.



Hinkley Point C's **environmental contribution**

Hinkley Point C's contribution to fighting climate change means that during its 60 years of operation it will have a large, positive impact on the environment. Like all technologies, the construction and operation of nuclear creates some carbon dioxide emissions. Over Hinkley Point C's

lifetime, the impact will be even smaller than for wind and solar. Importantly all three technologies have emissions which are a just a fraction of gas and coal.

To put that into perspective, a gas power plant the size of Hinkley Point C would

emit as much CO₂ in just 60 days as Hinkley Point C produced during the entirety of its construction. Reducing emissions is a key challenge for the construction industry. Hinkley Point C is working to reduce its impact further with new techniques that could become standard in the future.

Sustainability and environmental protection are also key features in construction. Our 50 environmental specialists are helping to enhance local biodiversity and habitats, helping nature to thrive on land that had been intensively used in agriculture.



Over its life, the electricity produced by Hinkley Point C will generate **less CO₂ than wind or solar power**



The number of homes' **electricity supplied** by Hinkley Point C



Projected availability of the plant, including planned **maintenance periods**



The number of **lorry loads** removed from local roads thanks to the use of marine transport



Hinkley Point C's contribution to the **UK's electricity needs**



Tonnes of CO₂ avoided each year, compared to producing electricity with a gas power plant



The proportion of the **recycled steel** used in the power station's reinforcement



The number of **trees and shrubs** planted in and around the construction site to date

Nuclear's low carbon credentials

An analysis of Hinkley Point C's lifetime carbon emissions has confirmed that the overall carbon intensity of electricity generated will be even lower than wind and solar power.

Like renewables, nuclear power is 'zero-carbon' at the point of generation but, as with all electricity generation, CO₂ is released during construction, operation, and decommissioning.

Hinkley Point C's overall carbon dioxide emissions are likely to be 5.5g CO₂e/kWh. By comparison, the Intergovernmental Panel on Climate Change's estimate for offshore wind is 12g CO₂e/kWh and 48g CO₂e/kWh for large scale solar energy. All are a fraction of gas at 490g CO₂e/kWh, and coal at 820g CO₂e/kWh.

Avoiding future carbon emissions

The emissions generated through Hinkley Point C's construction are small compared to the huge amount that will be avoided over 60 years of operations. **Compared to burning gas, Hinkley Point C will take just 60 days to avoid the equivalent amount of carbon dioxide released during its 10-year build.**

How much carbon will Hinkley Point C avoid once operational?

By avoiding the need to burn fossil fuels, Hinkley Point C will save:



9,000,000

tonnes of CO₂ emissions per year



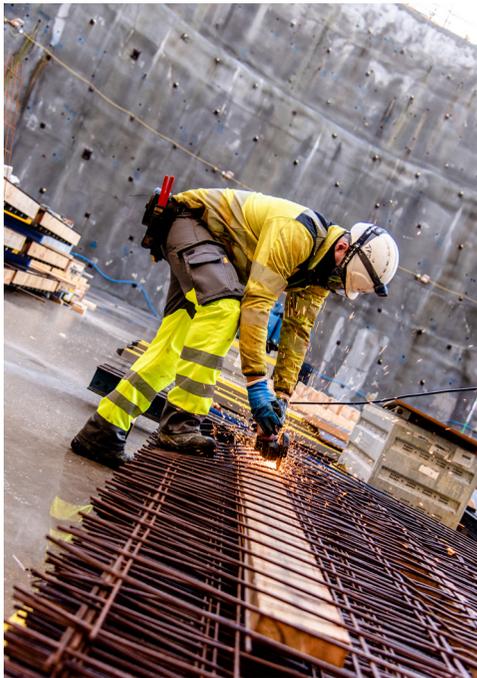
And around **600**

million tonnes of CO₂ over the course of its lifespan*

*Compared to the emissions generated by a gas-powered alternative.

Reducing the impact of construction

All construction projects, including wind and solar, involve the release of CO₂. Sustainable construction methods are already helping to cut emissions by reducing the amount of materials and water used, limiting the amount of waste created, and increasing local biodiversity. Lessons from across the construction sector are being used and tested at Hinkley Point C.



Recycled rebar

The new power station requires 280,000 tonnes of steel reinforcement known as rebar. Hinkley Point C's rebar is made from 98% recycled steel sourced in the UK. This means the CO₂ impact is around a quarter of using new imported steel.



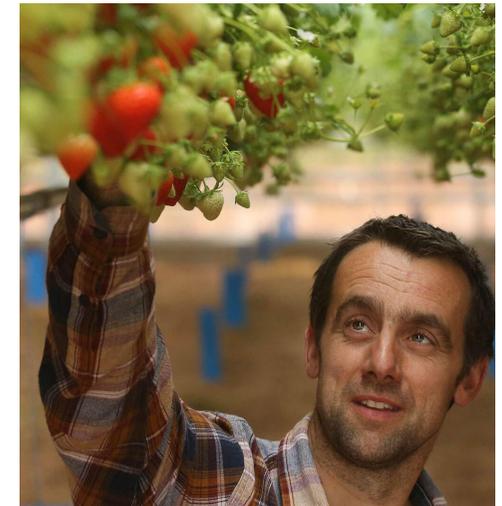
Reducing Single-use plastic

As Hinkley Point C's catering supplier, the locally based Somerset Larder is playing its own part in a sustainable project – sourcing local food and reducing plastic packaging.

95% of the packaging used by the Somerset Larder comes from sustainable sources, with almost no

single-use plastic. More than 75% of its plastic-free packaging and disposable cups are made from plant-based materials.

Any food waste generated at the central kitchen is taken to an anaerobic digester, providing power back into the National Grid.



Locally sourced food – from field to fork

Having now served their five-millionth meal to Hinkley Point C's workforce, Somerset Larder's focus on sourcing local ingredients is making a difference to the wider sustainability of the project. Meat is sourced from farms in Somerset and Devon, baked goods make their way across the county from Yeovil and milk is sourced from a dairy only 15 miles away. Even the coffee is freshly roasted locally in Bristol, Wellington and Minehead.



Carbon savings from our jetty

 **110**

Just **one delivery** will replace 110 lorries.

 **50%**

Using the jetty **cuts carbon emissions** for aggregate deliveries by 50%.

 **100,000**

100,000 lorry loads will be taken off local roads by **using ships**.

Reducing vehicle movements

100,000 lorry loads will be taken off local roads by using ships to deliver loads. It is made possible with a refurbished wharf for large components and a jetty at the site which handles 80% of the aggregates needed for construction. One of our main sources of stone in Somerset is linked to Bristol Port by rail.

The strategy cuts congestion on roads and reduces carbon emissions by half compared to transporting freight only by road.

Increasing the use of electric vehicles

Bylor, the main civil engineering contractor, is operating electric vans. Somerset Passenger Solutions is using electric vehicles for the project's parking inspection team and big deliveries are now escorted by an electric vehicle. 80% of the equipment used in construction at Hinkley Point C is now powered by mains electricity rather than diesel generators – reducing emissions and improving air quality.



Reducing our waste, reducing our impact

In 2020, we opened a Waste Consolidation Centre on site to reduce the amount of waste sent to landfill. It's now processing more than 700 tonnes of material a month.



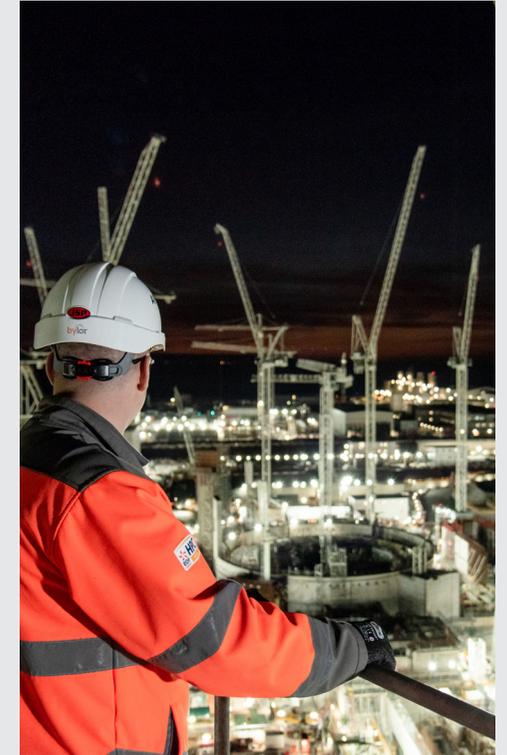


Learning and innovation

Teams from across the project continue to innovate in order to increase efficiency and increase carbon savings. Hinkley Point C is using a more sustainable cement substitute to reduce the environmental

impact of concrete production. The project has used 230,000 tonnes of recycled ground granulated blast furnace slag. Each tonne used cuts the CO₂ in the concrete by around 850kg, compared to using

Portland cement. An alternative design for sprayed concrete lining within the onshore tunnels has also led to a saving of 722 tonnes of CO₂ compared to the original design – a 21% reduction.



Sustainable lighting

The lighting on most major construction projects in the UK has traditionally been diesel driven. Hinkley Point C now operates 102 solar and hybrid tower lights on site, halving the use of diesel since the end of 2019, saving 500,000 litres of fuel and reducing noise pollution.

Creating a **high biodiversity** landscape

Around 50 environmental specialists are minimising Hinkley Point C's impact on the environment and helping increase biodiversity in nearby habitats. This includes the creation of a newly restored area for nature on the site's southern boundary and support for a new local wetland reserve.

The project has been monitoring birds on the River Parrett and on the coast close to the construction site. The monitoring is part of Hinkley Point C's link with the Wildfowl and Wetlands Trust at Steart Marshes, where the project funds a warden and has helped with the construction of new hides. The restoration of the salt marsh habitat is increasing bird numbers which are up from 19,000 birds and 29 species in 2014 to more than 30,000 birds and 53 species today.

Steart Marshes also has a critical role to play in carbon storage. The restored Saltmarsh stores as much carbon over four years as just over one million new trees grown for 10 years.

Hinkley Point C is also working closely with other environmental partners such as the Somerset Wildlife Trust. That partnership is protecting the coastal habitat close to Hinkley Point C with more than £150,000 in funding to support the Brilliant Coasts Project.



£540k

donated to **environmental projects.**



50

environment specialists
across the project.



4 Years

Steart Marshes stores as much
carbon over four years as one million
trees grown for 10 years.



edfenergy.com

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