# UK moves closer to harnessing Severn Estuary’s tidal power for reliable renewable energy



Tidal range energy is increasingly being recognised as a vital component in the UK’s transition towards a sustainable energy future. Recent discussions at the UK's Energy Security and Net Zero Select Committee have spotlighted the Severn Estuary as an untapped source of renewable energy that could address the country’s growing electricity demands. During these hearings, experts shared insights suggesting that harnessing the tidal forces of the estuary could significantly contribute to the nation's energy mix, potentially supplying 2-3% of the UK's total energy needs through a proposed tidal lagoon project.

The Severn Estuary Commission, which has engaged with over 500 stakeholders over the past year, advocates for the development of this tidal lagoon. The commission’s Chair, Dr Andrew Garrad CBE, expressed gratitude for the committee's engagement, underscoring the commission's thorough approach, which has set it apart from previous studies. Dr Garrad’s comments reflected a sense of urgency, highlighting the anticipated surge in electricity demand, projected to double by 2050, and calling for immediate investment to capitalise on the estuary’s impressive tidal range, which boasts a difference of 14 metres between low and high tide at its peak.

In advocating for this venture, experts articulated the dual benefits of renewable energy generation and economic growth. Sarah Williams-Gardener, Chair of the Western Gateway, noted the pressing need for the government to take action and harness the Severn Estuary's natural energy resources, particularly amid rising sea levels and the urgent requirement for localised low-carbon energy solutions. According to recommendations, the lagoon project could not only enhance energy security but also foster job creation within the region.

Tidal energy is characterised by its predictability, a stark contrast to the variability associated with wind and solar power. As noted by the Severn Estuary Commission, a tidal lagoon could deliver reliable and consistent energy. However, the past proposal for a tidal barrage met with substantial opposition from major environmental groups due to its detrimental impact on local ecosystems, particularly those unique wetland habitats which are home to a variety of wildlife. The RSPB has championed a "nature positive" approach, urging that any development in the estuary should balance energy generation with environmental considerations. Their advocacy shoots down previous projects that could harm biodiversity, emphasising the need for new solutions that respect ecological integrity.

Supporting these initiatives, the UK government has stepped up its investment in renewable technologies. Recently, a £20 million annual budget for tidal stream electricity was announced as part of a broader £1.5 billion allocation aimed at diversifying the renewable electricity supply. This is part of a growing recognition that extensive investment in various renewable energy sources, including tidal, is essential for the UK to meet its decarbonisation targets by 2030.

The commitment to these technologies reflects both a strategic necessity and a political imperative to meet rising energy demands while fostering local economies. The ambitious plans for expanding the UK's clean energy infrastructure must emphasize not just quantity but also sustainability, ensuring that environmental impacts are part of the consideration in all future projects.

As the potential for tidal range energy becomes clearer, the call for decisive action is louder than ever, echoing through discussions at energy forums nationwide. Harnessing the intrinsic power of the Severn Estuary may prove to be an integral piece of the puzzle in the UK’s pursuit of a cleaner, more sustainable energy future.

### Reference Map

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Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://businessnewswales.com/tidal-range-could-be-the-missing-part-of-the-jigsaw-on-clean-energy/> - Please view link - unable to able to access data
2. <https://www.severncommission.co.uk/commission-recommends-uk-government-act-now-to-harness-tidal-energy/> - An independent commission of experts has recommended that the UK government urgently harness the Severn Estuary's tidal range energy. The commission, comprising engineers, scientists, and financiers, engaged with over 500 individuals and 200 organizations to assess the feasibility of utilizing the estuary's tidal power. They concluded that tidal range energy is viable and could provide predictable, renewable electricity, emphasizing the need for immediate investment to meet the UK's growing electricity demand, projected to more than double by 2050. The commission advocates for the development of a tidal lagoon as a commercial demonstration project to generate low-carbon electricity and stimulate economic growth.
3. <https://www.gov.uk/government/news/uk-government-announces-biggest-investment-into-britains-tidal-power> - The UK government has announced a £20 million annual investment in tidal stream electricity as part of its renewable energy auction scheme. This funding aims to support the development of marine technologies, potentially benefiting the entire UK. The investment is part of the fourth allocation round of the Contracts for Difference Scheme, which opens next month, bringing the total funding for this round to £285 million per year. The initiative seeks to strengthen energy security by diversifying the renewable electricity supply and creating jobs across the UK.
4. <https://www.reuters.com/world/uk/britain-ups-renewable-power-auction-budget-15-bln-pounds-2024-07-30/> - Britain has increased the budget for its annual renewable power auction by 50%, reaching £1.5 billion. This move aims to decarbonize the electricity sector by 2030 and enhance investment in renewable energy sources like wind and solar power. The additional £500 million will allow more projects to be selected under Contracts for Difference (CfDs), ensuring minimum price guarantees for electricity produced. The budget allocation includes £1.1 billion for offshore wind, £185 million for onshore wind and solar, and £270 million for emerging technologies such as floating offshore wind and tidal power.
5. <https://www.ft.com/content/c0ca95ce-ffcf-4c10-b789-174e359e16ef> - The UK has secured 131 clean energy projects in a record state auction, aiming to supply electricity to 11 million homes. This round includes a total of 9.6 gigawatts of projects, over 5GW of which are offshore wind. However, this is still short of the government's target to quadruple offshore wind capacity by 2030. Developers rebid 29% of the offshore wind capacity to secure higher prices. The rebidding could cost consumers around £252 million more. The auction underscores the Labour government's renewed strategy to support renewable energy amidst rising costs, reflecting higher guaranteed electricity prices.
6. <https://www.theguardian.com/environment/2008/jun/12/conservation.wildlife1> - Britain's largest environmental groups have strongly opposed plans for a £15 billion tidal barrage across the Severn Estuary, which would provide about 5% of the UK's annual electricity demand. The coalition, including the National Trust, RSPB, and WWF, argues that the barrage would destroy nearly 86,486 acres of highly protected wetlands and that more power could be generated more cheaply by using other green technologies. They challenge the economic viability and environmental impact of the proposed scheme.
7. <https://www.bbc.com/news/uk-england-gloucestershire-68575182> - The Royal Society for the Protection of Birds (RSPB) has emphasized the need for Severn Estuary tidal power plans to be 'nature positive.' The estuary is home to a wide variety of bird and other animal species, as well as unique wetland habitats. The RSPB stresses the importance of balancing energy development with environmental protection to preserve the estuary's biodiversity and natural habitats.