# East Anglia identified as UK’s geological ‘super region’ to unlock £40bn clean energy investment



New research by the British Geological Survey (BGS) has identified the East Anglia region as a geological "super region" uniquely suited to underpinning the UK's clean energy transition. This designation reflects the area's favourable subsurface conditions, which could unlock around £40 billion in annual investment, driving job creation and economic growth while advancing the government’s target of net-zero carbon emissions by 2050.

The BGS study highlights eight such geological super regions across the UK, defined by their formations and subterranean conditions optimal for a variety of energy-transition technologies. East Anglia stands out for the significant potential of its sedimentary basins, which offer fertile ground for geothermal energy production through deep aquifer systems. This renewable heat source could contribute substantially to low-carbon heating solutions in the region. Additionally, the subsurface in East Anglia is well-suited for carbon capture and storage (CCS), a crucial technology aimed at capturing industrial carbon emissions and storing them underground to prevent atmospheric release.

Recent practical steps underscore this potential. Earlier this year, oil and gas company Perenco successfully injected carbon dioxide into a depleted natural gas reservoir in the Leman gas field beneath the North Sea, about 30 miles offshore from Great Yarmouth. This project reflects the technical feasibility of CCS in the region and its growing role in the UK’s decarbonisation pathway.

East Anglia also benefits from its proximity to the North Sea, supporting not only CCS but emerging hydrogen production and storage initiatives considering offshore infrastructure. The region's subsurface and coastal geography provide the geological foundation needed for both onshore and offshore renewable projects, including wind farms. In fact, East Anglia’s coastline is increasingly pivotal as the UK accelerates offshore wind deployment to meet its renewable energy targets.

Complementing these geological insights, the BGS recently published the first detailed seabed map of the East Anglian coast in 25 years. This map offers vital data on the region’s geological history and seabed features, enabling better planning and development of offshore renewable energy projects while ensuring marine ecosystem protection. Understanding the geological evolution, including impacts from past glaciations, is crucial for infrastructure stability and environmental safeguarding.

The renewable energy potential in East Anglia is striking. Regional projections indicate a 175% rise in clean energy generation by 2035, spanning offshore wind, new nuclear, hydrogen, solar, and battery storage. These advancements could provide enough power for around 20 million homes, approximately two-thirds of the UK's housing stock. Solar energy, in particular, is gaining traction, with local levels of sunshine and solar radiation among the highest in the UK, supporting rapid growth in installations across Norfolk, Suffolk, and Cambridgeshire.

However, harnessing this potential is not without challenges. Key barriers facing renewable development in East Anglia include limited government support, infrastructure capacity constraints, complex planning processes, and gaps in investment. Addressing these hurdles is essential to unlock the full economic and environmental benefits the region offers.

Beyond generation, the role of subsurface geology in energy storage is a vital piece of the transition puzzle. Geological formations such as halite beds can serve as natural reservoirs for compressed air energy storage, a method to store excess wind and solar power and release it as needed, compensating for their intermittency. This underground energy storage capability is a promising technology for achieving a stable, low-carbon energy system.

Overall, the convergence of favourable geological conditions, strategic location, and advancing technologies marks East Anglia as a cornerstone in the UK’s quest for clean energy resilience and economic renewal. Realising this potential will require coordinated policy, investment, and infrastructure development, but the foundations beneath East Anglia are proving to be a "goldilocks zone"—not too hot, not too cold, but just right for the UK's energy future.

### 📌 Reference Map:

* Paragraph 1 – [[1]](https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss), [[6]](https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss)
* Paragraph 2 – [[1]](https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss), [[6]](https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss)
* Paragraph 3 – [[1]](https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss), [[6]](https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss)
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* Paragraph 5 – [[3]](https://www.edp24.co.uk/news/23066663.infographic-reveals-east-englands-energy-production-potential/), [[7]](https://www.digitaljournal.com/tech-science/uks-renewable-energy-hot-spots-identified/article), [[1]](https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss)
* Paragraph 6 – [[5]](https://www.edp24.co.uk/news/23813443.four-challenges-renewable-energy-east-anglia/), [[1]](https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss)
* Paragraph 7 – [[4]](https://www.bgs.ac.uk/news/underground-energy-storage-supporting-the-transition-to-net-zero-carbon-emissions/), [[1]](https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss)
* Paragraph 8 – [[1]](https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss), [[6]](https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss)

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

## Bibliography

1. <https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss> - Please view link - unable to able to access data
2. <https://www.bgs.ac.uk/news/new-research-reveals-the-secrets-of-the-seabed-off-the-east-anglian-coast/> - The British Geological Survey (BGS) has released a detailed geological map of the East Anglian seabed, the first in 25 years. This map offers crucial insights into the region's geological features, aiding in the development of offshore renewable energy projects while ensuring the protection of marine ecosystems. The study highlights the area's geological evolution and the impact of past glaciation, providing valuable data for future energy initiatives. ([bgs.ac.uk](https://www.bgs.ac.uk/news/new-research-reveals-the-secrets-of-the-seabed-off-the-east-anglian-coast/?utm_source=openai))
3. <https://www.edp24.co.uk/news/23066663.infographic-reveals-east-englands-energy-production-potential/> - An infographic from the Eastern Daily Press illustrates the East of England's substantial potential for renewable energy production. By 2035, the region is projected to increase its clean energy output by over 175%, encompassing offshore wind, new nuclear, hydrogen, solar, and battery storage. Collectively, these developments could supply enough energy to power 20 million homes, representing 67% of the UK's housing stock. ([edp24.co.uk](https://www.edp24.co.uk/news/23066663.infographic-reveals-east-englands-energy-production-potential/?utm_source=openai))
4. <https://www.bgs.ac.uk/news/underground-energy-storage-supporting-the-transition-to-net-zero-carbon-emissions/> - The British Geological Survey discusses the role of underground energy storage in facilitating the UK's transition to net-zero carbon emissions. As renewable energy sources like wind and solar are intermittent, storing excess energy is challenging. Geological formations, such as halite beds, can be utilised for compressed air energy storage, offering a sustainable solution to store and release energy, thereby supporting decarbonisation efforts. ([bgs.ac.uk](https://www.bgs.ac.uk/news/underground-energy-storage-supporting-the-transition-to-net-zero-carbon-emissions/?utm_source=openai))
5. <https://www.edp24.co.uk/news/23813443.four-challenges-renewable-energy-east-anglia/> - The Eastern Daily Press outlines four key challenges facing renewable energy development in East Anglia. These include insufficient government support, limited infrastructure capacity, planning permission barriers, and a lack of investment. The article highlights the need for policy adjustments and infrastructure improvements to realise the region's renewable energy potential. ([edp24.co.uk](https://www.edp24.co.uk/news/23813443.four-challenges-renewable-energy-east-anglia/?utm_source=openai))
6. <https://www.edp24.co.uk/news/25237486.east-anglia-goldilocks-zone-energy-projects/?ref=rss> - New research by the British Geological Survey identifies East Anglia as a 'geological super region' with optimal conditions for various energy technologies. The region's subsurface is suitable for geothermal energy, carbon capture and storage (CCS), and hydrogen production. These findings position East Anglia as a key player in the UK's transition to clean energy and its goal of achieving net-zero emissions by 2050.
7. <https://www.digitaljournal.com/tech-science/uks-renewable-energy-hot-spots-identified/article> - Digital Journal reports on the UK's renewable energy hotspots, highlighting the East of England's significant potential. The region boasts an average monthly surface solar radiation of 240.85 W/m² and has seen a 221% year-on-year increase in solar installations. Areas like Norfolk, Suffolk, and Cambridgeshire, with approximately 1,638 hours of sunshine annually, are well-suited for solar energy production. ([digitaljournal.com](https://www.digitaljournal.com/tech-science/uks-renewable-energy-hot-spots-identified/article?utm_source=openai))