# Europe’s largest low-carbon greenhouse in Essex to slash UK tomato imports and cut emissions



A significant step towards a more sustainable future in food production is set to unfold in Essex, where plans have been submitted for a 40-hectare low-carbon greenhouse complex, poised to become Europe’s largest of its kind. This innovative facility is designed to harness energy from incinerated household waste, aiming to produce around 30,000 tonnes of tomatoes annually—approximately 6% of the UK’s tomato supply—while potentially reshoring nearly 8% of the nation’s imports from countries such as Spain and Morocco. Scheduled to break ground in 2026, with the first planting anticipated between April and June 2027, this venture could also inject £300 million into the local economy and create over 400 full-time jobs.

The greenhouse, located at the Rivenhall site near Braintree, will utilise heat, power, and carbon dioxide sourced from a neighbouring energy-from-waste facility operated by Indaver. Gareth Jones, a representative from Indaver, described the waste-to-energy process as pivotal, stating, “The boiler produces steam, and some of that steam we’ll divert to our new heat exchanger to create hot water for the greenhouses.” This approach is not just economically beneficial; it is expected to reduce carbon emissions by 20% compared to traditional landfill practices, thereby contributing to the UK’s broader climate goals.

The Rivenhall facility exemplifies a strategic rethink of the UK’s heavily import-dependent tomato supply chain, which has raised environmental concerns due to associated transport emissions and the ecological toll of industrial farming in water-scarce regions. Ed Moorhouse, the project director, highlighted the urgency of this initiative, stating, “Water scarcity and extreme temperatures in regions like North Africa and southern Spain highlight the unsustainable nature of our current supply model.” In doing so, this development aims to mitigate not only the environmental footprint but also the soaring food prices associated with reliance on foreign produce.

Despite its promise, the project faces potential regulatory hurdles, particularly regarding the UK’s biodiversity net gain policy, which necessitates positive outcomes for nature in new developments. Martin Emmett, chair of the NFU’s Horticulture and Potatoes Board, expressed concerns that regulations might not fully account for the unique sustainability opportunities within horticulture, warning that innovative projects like Rivenhall could be impeded by inflexible policies.

This development arrives at a crucial time when the UK is striving to enhance its food security amidst increasing climate unpredictability and market volatility. The integration of advanced agricultural practices with waste management not only supports local economies but also establishes a model of circular economy that could influence future horticultural strategies on a national scale. Specifically, the Rivenhall project is hailed as a “template” for Essex County Council and Braintree District Council’s climate change strategies, potentially setting new benchmarks for agricultural sustainability.

As public consultations surrounding the planning application unfold, stakeholders are engaging with local communities to address concerns while underscoring the project's potential benefits. The juxtaposition of environmental innovation and regulatory frameworks will likely shape the discourse surrounding future agricultural developments in the UK, positioning Rivenhall as a critical case study.

### 📌 Reference Map:

* Paragraph 1 – [[1]](https://esgnews.com/europes-largest-low-carbon-greenhouse-breaks-ground-in-essex/), [[4]](https://www.fpcfreshtalkdaily.co.uk/post/plans-submitted-for-150m-essex-greenhouse-aimed-at-boosting-uk-tomato-production)
* Paragraph 2 – [[1]](https://esgnews.com/europes-largest-low-carbon-greenhouse-breaks-ground-in-essex/), [[2]](https://www.rivenhallgreenhouse.co.uk/about/), [[5]](https://www.fruitnet.com/fresh-produce-journal/major-new-essex-glasshouse-will-replace-tomato-imports/266613.article)
* Paragraph 3 – [[3]](https://indaver.com/news/single/press-release-indaver-announces-decarbonisation-project-in-essex), [[6]](https://www.fwi.co.uk/news/mega-greenhouse-could-be-major-boost-to-uk-food-security)
* Paragraph 4 – [[1]](https://esgnews.com/europes-largest-low-carbon-greenhouse-breaks-ground-in-essex/), [[3]](https://indaver.com/news/single/press-release-indaver-announces-decarbonisation-project-in-essex)
* Paragraph 5 – [[1]](https://esgnews.com/europes-largest-low-carbon-greenhouse-breaks-ground-in-essex/), [[4]](https://www.fpcfreshtalkdaily.co.uk/post/plans-submitted-for-150m-essex-greenhouse-aimed-at-boosting-uk-tomato-production)

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## Bibliography

1. <https://esgnews.com/europes-largest-low-carbon-greenhouse-breaks-ground-in-essex/> - Please view link - unable to able to access data
2. <https://www.rivenhallgreenhouse.co.uk/about/> - The Rivenhall Low Carbon Greenhouse project plans to develop a 40-hectare series of greenhouses on previously quarried land at Bradwell, east of Braintree, Essex. The initiative aims to produce approximately 28,194 tonnes of tomatoes annually, offsetting 7.1% of UK tomato imports from Southern Spain, Morocco, and the Netherlands. The project is expected to create over 420 full-time and 80 part-time jobs, injecting around £300 million into the Braintree economy over the first 20 years of operation. The greenhouses will utilise waste heat and CO₂ from a neighbouring energy-from-waste facility operated by Indaver, exemplifying a symbiotic relationship between industry and agriculture. Planning applications are underway, with construction anticipated to commence in 2026, and the first planting scheduled between April and June 2027. The development is described as an 'operational blueprint' for Essex County Council and Braintree District Council’s respective climate change strategies.
3. <https://indaver.com/news/single/press-release-indaver-announces-decarbonisation-project-in-essex> - Indaver has announced an ambitious decarbonisation project at the Rivenhall Integrated Waste Management Facility (IWMF) in Essex. The project involves developing a carbon capture plant to capture thousands of tonnes of carbon emissions annually. In collaboration with Oasthouse Ventures, the captured heat, electricity, and CO₂ will be utilised to power and feed cutting-edge greenhouses adjacent to the IWMF site, exemplifying a symbiotic relationship between industry and agriculture. The remainder of the captured CO₂ will be transported to other destinations for additional sustainable applications, including the transformation of CO₂ through hydrogen integration to yield e-methanol, a fuel source poised to propel eco-friendly practices within maritime transport. Planning applications are underway, with submissions to the Planning Authority in Essex expected by early 2025.
4. <https://www.fpcfreshtalkdaily.co.uk/post/plans-submitted-for-150m-essex-greenhouse-aimed-at-boosting-uk-tomato-production> - A planning application has been submitted for a £150 million greenhouse complex in Rivenhall, Essex, which could become one of the UK's largest horticultural facilities. The 40-hectare site is designed to produce up to 30,000 tonnes of tomatoes annually, potentially reducing the nation's reliance on imports from countries like Spain, Morocco, and the Netherlands. The project, led by Rivenhall Greenhouse Ltd and spearheaded by Ed Moorhouse, proposes utilising heat, electricity, and carbon dioxide from a neighbouring energy-from-waste facility operated by Dutch firm Indaver. This integration aims to provide stable energy prices for a decade, shielding the operation from future gas price fluctuations. If approved, the greenhouse would be the UK's most significant new horticultural development since 2009. The facility plans to feature four greenhouse blocks, some reaching up to 8 metres in height, with 13 hectares equipped with artificial lighting to enable year-round cultivation. Construction could commence in 2026, with the first planting scheduled between April and June 2027. The initiative is expected to create approximately 500 jobs and contribute to the revitalisation of the UK's horticultural sector, which has faced challenges due to cheap imports and rising energy costs. Moorhouse emphasises the project's potential to enhance food security and reduce the environmental impact associated with long-distance transportation of produce. However, the scale of the development has raised concerns among local officials. James Abbott, Green Party councillor for Silver End and Cressing, expressed apprehension about the cumulative impact of large-scale projects in the rural area, including the proposed greenhouse, incinerator, and new housing developments. A public consultation on the proposal began in early May 2025. The developers are engaging with stakeholders to address concerns and highlight the project's benefits to the local economy and national food supply chain.
5. <https://www.fruitnet.com/fresh-produce-journal/major-new-essex-glasshouse-will-replace-tomato-imports/266613.article> - A 40-hectare low-carbon series of glasshouses in Essex is out for consultation as developers say it will provide climate-resilient tomato production and replace imports from Holland, Morocco, and Spain. A new 40-hectare glasshouse development in Essex that is designed to produce almost 30,000 tonnes of tomatoes a year has entered planning stages. Rivenhall Greenhouse, near Braintree, will include a vertical farm in a nearby former RAF hangar and is expected to displace 7.1 per cent of current tomato imports from countries including Spain, Morocco, and Holland. Its vertical farm will produce 375 tonnes of leafy greens in a former RAF Rivenhall hangar, according to documents. Described as low carbon and with a ‘unique’ location on a former quarry, the site will use waste heat and CO₂ from a new waste management facility due to be constructed nearby. It is being developed by low-carbon greenhouse firm Oasthouse Ventures, which has already built around 70 acres of low-carbon greenhouse in East Anglia in partnership with water company Anglian Water. The firm sees sustainable UK production as a counter to the threat of climate change in southern Europe, which is affecting cost of production due to water shortages and droughts, as well as a security against gas price spikes affecting Dutch greenhouse production. Once operational, Rivenhall is expecting to spend around £600,000 per year with local agriculture supply businesses and provide 420 full-time jobs and 80 part-time jobs to the local area. With planning applications having been submitted to Essex County Council, the development is being described as an “operational blueprint” for Essex County Council and Braintree District Council’s respective climate change strategies. The site was chosen for its proximity to waste firm Indaver and Wren Renewables, as well as the high levels of sunshine in the area. According to the development brochure, Braintree receives 1,611 hours of sunshine annually, compared to the Dutch horticultural areas of the ‘Westland’, which receives 1,624 hours annually. The application is now out for consultation until the closing date of 1 June.
6. <https://www.fwi.co.uk/news/mega-greenhouse-could-be-major-boost-to-uk-food-security> - Plans have been submitted to Essex County Council for a new 40ha glasshouse complex which, the developers say, will be the second largest in the country, able to produce some 30,000t of tomatoes a year. The project, led by Rivenhall Greenhouse, involves siting the mega-glasshouse on reclaimed land beside a new waste recycling plant in north Essex. This plant is currently being built by waste management company Indaver, and it is envisioned that it will provide all the heat, carbon dioxide, and electricity needed for significant food production. Project director Ed Moorhouse says the Rivenhall development, if approved by planners, will “set a new benchmark for UK horticulture, reinforcing UK food security in an increasingly uncertain world”. He anticipates the first vine crops – including tomatoes, cucumbers, peppers, and chillies – could be harvested within three years. An adjacent vertical farm would also produce 375t of lettuce a year.