



## East Midlands Energy Re-Generation (EMERGE) Centre

Updated December 2021

### Frequently Asked Questions

Uniper's plans to develop an energy recovery facility at the Ratcliffe-on-Soar power station site – known as the East Midlands Energy Re-Generation (EMERGE) Centre – recently received planning approval from Nottinghamshire County Council subject to completion of the Section 106 Agreement.

If you have any further questions, not included in these FAQs, please do get in touch with us on our Freephone line on **0800 169 5290** or by email at [EMERGE@Uniper.energy](mailto:EMERGE@Uniper.energy).

#### **Q. What is an energy recovery facility?**

**A.** An energy recovery facility takes non-hazardous domestic and commercial waste left over from the recycling process, that has no viable alternative use, and converts it into reliable and sustainable lower carbon energy, reducing the need for landfill. Energy recovery facilities play an important role in helping meet the UK's ambitions to effectively and efficiently reduce waste and manage its impact on the environment.

#### **Q. How much power will the EMERGE Centre produce?**

**A.** The EMERGE Centre will be designed to generate up to 49.9 megawatts (MW) of electricity – this is enough energy to power around 90,000 homes. It will be connected to the National Grid via the existing Ratcliffe 132 kV substation. The facility will help attract other businesses and institutions who could benefit from the availability of reliable, lower carbon heat and power generated on site, that would be distributed to industrial site consumers via on-site energy networks.

#### **Q. How many jobs will the proposal create?**

**A.** The EMERGE Centre will deliver a range of socio-economic benefits for Nottinghamshire during its construction and operation. This includes the potential to create up to 600 temporary construction jobs and around 45 jobs during the permanent operation of the facility. A further 100 jobs could be created or supported indirectly through the development of the EMERGE Centre, which has the potential to add an extra £3.7 million to the local economy each year.

#### **Q. What is the timeline for construction and the site being operational?**

**A.** Construction is expected to start in 2023 and will last for approximately 36 months. The facility is expected to be fully operational by 2026.



**Q. When will the existing coal-fired power station close and the cooling towers removed?**

- A.** The power station will close at the end of September 2024 in line with government policy to end coal-fired power generation. As part of the planning approval granted by Nottinghamshire County Council for the EMERGE Centre, there is a condition in place to demolish two of the power station's cooling towers by the end of 2030. No decision has been taken on the demolition of the wider power station site.

**Q. Why locate the EMERGE Centre at Ratcliffe-on-Soar?**

- A.** The EMERGE Centre is the first step towards creating a lower carbon future for the Ratcliffe-on-Soar power station site, and would help the East Midlands meet its landfill diversion targets.

When exploring redevelopment options for the site, Uniper identified a need for additional capacity to recover energy from waste within the region. Even with improvements in recycling rates, waste that cannot be reused or recycled continues to be produced, which is why facilities such as the EMERGE Centre can make better use of this waste by converting it into useable energy, helping avoid the need for landfill or export outside of the UK.

The site's central UK location makes Ratcliffe-on-Soar one of the UK's most important development sites, which has the potential to support continued economic growth in the East Midlands. Ratcliffe-on-Soar benefits from excellent transport links, including road and rail, as well as having existing energy infrastructure in place to allow the EMERGE Centre to connect to the National Grid. With this in mind, Uniper is working with a range of stakeholders, including the Midlands Engine, local councils, universities and Local Enterprise Partnerships, to deliver an employment site based around modern industrial and manufacturing uses.

The EMERGE Centre is a vital catalyst for this ambition and is central to Uniper's wider, medium-term ambition of delivering a zero carbon technology and energy hub at Ratcliffe. It is an initial project that would enable the wider redevelopment to be realised by securing reliable heat and electricity that would be distributed to industrial site consumers via on-site energy networks.

**Q. How much waste can be handled by the proposed facility?**

- A.** The EMERGE Centre would be capable of accepting around 500,000 tonnes of pre-treated residual waste per year. The waste delivered to site would initially be transported by road in enclosed vehicles / containers, but options are also being explored to utilise the existing railway line as well.

**Q. What type of waste will be received and processed at the EMERGE Centre?**

- A.** The EMERGE Centre will treat a wide range of non-recyclable wastes from both commercial and local authority sources. This includes the waste people put into their non-recyclable (usually black) wheelie bins. The facility will also have the ability to cope with any future changes in waste composition, for example, as a result of improved recycling, reduced plastic use, or separate collection of food wastes. The residual waste will arrive to site pre-sorted from local authority or commercial waste handling facilities.

**Q. Where will the waste come from?**

- A.** It is not possible to confirm exactly where future waste supplies will come from at this time, though it is expected that a significant amount of the waste will be sourced from Nottinghamshire and the surrounding counties of Derbyshire and Leicestershire. Due to limited processing capacity within the UK, waste transfer stations within a two-hour drive of Ratcliffe-on-Soar will also be considered.

**Q. Is there enough residual waste available to feed the EMERGE Centre?**

- A.** Whilst at this stage Uniper cannot confirm exactly where waste supplies will come from, there is a need to treat around 460,000 tonnes per annum (tpa) of waste leftover after recycling, which is forecast to be generated in the region in 2038. In addition, there will be 1.52 million tpa of residual waste generated within a two-hour drive time of the EMERGE Centre generated in 2035, which will require disposal. This facility would be well placed to treat this local source of residual waste, without having to rely on a large supply of waste from further afield.

**Q. Will waste be stored and sorted at site?**

- A.** The proposed EMERGE Centre would have enough waste storage capacity to operate the facility for five days at a time. All waste will be fully enclosed within the main building under negative pressure to ensure no odour escapes outside into the atmosphere. Our plans do not include separate waste sorting on site. The waste delivered to site will come pre-sorted from existing waste transfer stations. The EMERGE Centre will support the future addition of advanced recycling and reuse technologies, and options are being explored in this area.

**Q. Is the EMERGE Centre compatible with government recycling targets?**

- A.** The EMERGE Centre is compatible with the government's goal to recycle 65% of its waste by 2035. The facility would not be in competition with recycling targets, as it would process waste that would otherwise need to be disposed of lower down the waste hierarchy, such as in landfill. Evidence provided as part of Uniper's planning submission for the EMERGE Centre, demonstrates that even with improved



recycling rates and a reduction in waste generation, we estimate that around 7 million tpa of residual will need to be treated at facilities like the EMERGE Centre to avoid ending up in landfill or being exported abroad up to 2035.<sup>1</sup>

**Q. What level of emissions will be released by the EMERGE Centre? And how do you propose to minimise these emissions?**

- A.** The EMERGE Centre will be designed to treat non-hazardous waste only. Uniper's assessment of potential environmental effects relating to the construction and operation of the facility concluded that the EMERGE Centre would not have any significant environmental effects in relation to air quality, odour and human health. The design will comply with the requirements of the Industrial Emissions Directive and the Best Available Techniques (BAT) Conclusions regulating emissions limits for facilities like the EMERGE Centre.

A continuous emissions monitoring system (CEMS) would be installed at the EMERGE Centre to monitor the environmental performance of the facility once it becomes operational. This system, for example, would measure the concentration of gases emitted during the energy recovery process. The emissions data is collected, recorded and reported, to the Environment Agency to ensure compliance with the emissions limits set by the same body.

Public Health England (PHE) has reviewed the planning submission for the EMERGE Centre and has concluded that *"all emissions to air were considered insignificant [as defined within the Industrial Emissions Directive] in planning and environmental permitting guidance."*

PHE has reviewed research undertaken to examine the suggested links between emissions from municipal waste incinerators and effects on health.<sup>2</sup> PHE's risk assessment is, that modern, well run and regulated municipal waste incinerators are not a significant risk to public health.

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<sup>1</sup> The annual processing capacity of up to 20 mid-sized EfW facilities

<sup>2</sup> <https://www.gov.uk/government/publications/municipal-waste-incinerators-emissions-impact-on-health>

**Q. Will this proposal affect local air quality?**

**A.** Uniper has undertaken an Air Quality Assessment as part of the Environmental Impact Assessment (EIA) submitted with our planning application that has recently been approved by Nottinghamshire County Council. The EIA looked at all potential air quality impacts, including emissions from vehicles leaving and entering the site. The assessment concludes that there would be no significant adverse effects due to emissions on human health, air quality or ecology, including neighbouring Sites of Special Scientific Interest, Local Nature Reserves or Local Wildlife Sites. Once the facility becomes operational, emission levels would be continuously monitored to ensure it complies with the limits set by the Environment Agency.

**Q. Will the EMERGE Centre help to reduce greenhouse gas emissions?**

**A.** Yes. At the point the EMERGE Centre becomes operational, the facility would save greenhouse gas emissions equivalent to 106,000 tonnes of CO<sub>2</sub> a year compared to the alternative of landfilling the waste, which is the equivalent to heating 39,259 UK homes.<sup>3</sup>

**Q. Will the EMERGE Centre emit odour? And how will you control any odour produced by waste held at the site?**

**A.** Assessments carried out by Uniper to date, and submitted alongside our recently approved planning application, indicate that the operation of the EMERGE Centre is not expected to release any significant odour into the atmosphere. A detailed odour control plan has been included in the environmental permit application submitted to the Environmental Agency. It will set out the mitigation measures that will be implemented to eliminate any odour, with levels monitored to ensure they comply with the limits set by the Environment Agency.

We have built in the appropriate mitigations into the building design to eliminate odour including:

- Waste being delivered to the site in enclosed vehicles (or containers) and tipped inside the building
- Systems put in place inside the tipping and boiler halls to prevent odours, dust or litter from escaping from the building
- Conditions within the refuse bunker, which could cause odour, would be prevented by regular mixing of the waste by crane operators.

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<sup>3</sup> <https://citu.co.uk/citu-live/what-is-the-carbon-footprint-of-a-house>

**Q. Will I be able to hear any noise from the facility?**

- A. The EMERGE Centre building will be designed to reduce noise, for example, through the use of construction materials and technology installed inside the facility. Assessments submitted as part of our recently approved planning application, conclude that the operation of the EMERGE Centre will result in no significant noise impacts.

**Q. How will the EMERGE Centre impact traffic? How will the site be accessed, at what times and by how many vehicles?**

- A. Uniper's preferred road access to and from the site during construction and operation would be via the power station HGV entrance located off the A453 onto Barton Lane. A transport assessment has been carried out as part of our Environmental Impact Assessment (EIA) and submitted alongside our planning application, which was recently approved by Nottinghamshire County Council. This assessment looked at any likely impacts from traffic during both the construction and operation of the facility.

Planning permission has been granted, allowing for waste deliveries to be undertaken 24 hours a day, 365 days per year. During operation, we anticipate that the vast majority of deliveries to site would take place Monday to Friday, between the hours of 07.00 and 19.00, with only a limited number of movements occurring outside of these times.

We have estimated that there would be approximately 155 HGVs coming to the site on weekdays, which equates to around 309 additional two-way HGV movements on the local highway (an increase of less than 7% on existing HGV levels). Weekday car trips for staff and visitors are estimated at 50 (i.e. 100 two-way car movements).

**Q. Will the EMERGE Centre utilise its rail connections as a method of delivering waste to the site?**

- A. The residual waste delivered to site will initially be transported by road in enclosed vehicles / containers. Options are being explored to use the existing railway line to accept deliveries of residual waste to the site.

**Q. What impact will the EMERGE Centre have on local wildlife?**

- A. The EMERGE Centre will be located on previously developed land within the perimeter of the existing power station site, that has been in operation for over 50 years. Assessments submitted as part of Uniper's planning application, which was recently approved by Nottinghamshire County Council conclude, that there would be no effect on ecology resulting from the proposed development. The location of the EMERGE Centre consists of hardstanding and has been assessed as having no potential to support protected species. During the construction and operation of the EMERGE Centre, our assessments indicate there would be no significant environmental effects on surrounding conservation areas.



**Q. Will the EMERGE centre have any community support funds available for local organisations?**

- A. Ratcliffe-on-Soar power station has supported many local community groups and initiatives for over 50 years. We will continue to work with local authorities and other key stakeholders to understand how the Ratcliffe-on-Soar site could continue to play a key role within the local community by identifying the most appropriate ways the project could help to support local organisations potentially impacted by the EMERGE Centre proposals. To put forward your suggestions, please contact [emerge@uniper.energy](mailto:emerge@uniper.energy).

**Q. How does the EMERGE Centre respond to the UK's Net Zero target?**

- A. Uniper fully supports the energy transition. As a business we have set our own ambitious target for our European power generation portfolio (including the UK) to become carbon neutral by 2035. Options we are actively exploring to do this include power-to-gas, that is utilising electricity generated by renewables for the production and storage of green hydrogen. We are also looking at technologies such as carbon recycling and producing synthetic carbon-neutral fuels and chemicals that would enable companies in other sectors to decarbonise. The EMERGE Centre forms part of a wider vision for the Ratcliffe-on-Soar site. It is the first step towards our vision to create a lower carbon future for the site and would become the enabling project for a zero-carbon technology and energy hub for the East Midlands.

We have set out in the planning submission a detailed sustainability assessment which demonstrates how the EMERGE Centre could be compatible with net zero by 2050.

The assessment shows that the EMERGE Centre would contribute to a reduction in greenhouse gas emissions from its first day of operations. Further CO<sub>2</sub> savings could be achieved via changes to the fuel composition and other low carbon technologies being deployed at Ratcliffe-on-Soar in the future.

At the point the EMERGE Centre becomes operational, the facility would save greenhouse gas emissions equivalent to 106,000 tonnes of CO<sub>2</sub> a year compared to the alternative of landfilling the waste, which is the equivalent to heating 39,259 UK homes<sup>4</sup>.

Whilst we cannot predict what technologies will be available in thirty years' time, a road map is being developed to set out a journey to achieve a net zero future at Ratcliffe-on-Soar.

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<sup>4</sup> <https://citu.co.uk/citu-live/what-is-the-carbon-footprint-of-a-house>



This journey is likely to feature a mix of the technologies that Uniper is exploring across the business, for example:

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|------------------------------------|--|
| Day 1 of Operations<br>(2025)      | <ul style="list-style-type: none"><li>• EMERGE Centre will recover energy from waste left over from the recycling process, reducing greenhouse gas emissions by helping avoid the need for landfill or export abroad</li><br/><li>• EMERGE Centre is designed to treat a wide range of non-recyclable wastes, allowing for fuel flexibility should the nature of the incoming waste composition change over time, for example, as a result of improved recycling</li></ul>   |
| Short-Mid Term<br>(2025 – 2035)    | <ul style="list-style-type: none"><li>• EMERGE Centre is designed to be 'CHP ready' for connection to a district heating scheme, with industrial users or manufacturers who choose to locate to the site in the future, able to access lower carbon energy and heat generated by the facility</li><br/><li>• Changes to the composition of the fuel mix to reduce the non-biogenic carbon (e.g. rubber and plastic) contained in the incoming waste stream driven by Government policy on recycling</li><br/><li>• Potential co-location of an advanced recycling facility to recycle or reuse products extracted from the incoming waste stream</li></ul>           |
| Mid - Longer Term<br>(2030 – 2050) | <ul style="list-style-type: none"><li>• Change in fuel stock to 100% biomass waste (e.g. agricultural and construction industry wastes)</li><br/><li>• Carbon Capture and Use (and potentially storage) – taking the CO<sub>2</sub> produced from the use of fossil fuels in electricity generation and industrial processes, preventing it from entering the atmosphere</li><br/><li>• Using market arrangements to offset overall CO<sub>2</sub> emissions with bioenergy crops with carbon capture and storage (BECCS) – the process of extracting bioenergy from biomass and capturing and storing the carbon, thereby removing it from the atmosphere</li></ul> |





**Q. Does the EMERGE Centre comply with the Nottinghamshire Waste Core Strategy (WCS)?**

- A.** The EMERGE Centre is fully compliant with the Nottinghamshire WCS as it would divert waste that would otherwise need to be disposed of lower down the waste hierarchy, such as landfill. Despite ambitions within the WCS for Nottinghamshire County Council and Nottinghamshire City Council to achieve a 70% recycling target for all wastes by 2025, recycling rates within the city of Nottingham have fallen between 2013 and 2018. In addition, the emerging WCS assumes a recycling rate below 70% for all wastes until 2038 meaning more waste processing capacity is required.

Analysis contained within the Planning Statement submitted by Uniper for the EMERGE Centre forecasts there to be a 1.52 million tpa residual waste treatment capacity gap in 2035, within a 2-hour drive time radius of the site. Without further capacity to treat residual waste in the region, increasing volumes of waste will have to be disposed of via landfill or exported abroad.

**Q. How do the EMERGE Centre plans relate to the Local Development Order proposals for the future redevelopment of the Ratcliffe site, currently being consulted on by Rushcliffe Borough Council?**

- A.** Uniper submitted a detailed application for our EMERGE Centre plans in 2020. The application was granted planning approval on 22nd July 2021, subject to the completion of a Section 106 legal agreement. The application was determined by Nottinghamshire County Council, which is the planning authority for waste management related development.

Rushcliffe Borough Council is working with Uniper to explore options for the future redevelopment of the site. The emerging vision for the Ratcliffe site is to move towards becoming a zero carbon technology and energy hub for the East Midlands, supporting continued economic growth, and helping to meet the region's decarbonisation goals.

The Council has invited local residents to have their say on the site proposals and a Local Development Order (LDO) that could grant planning permission for a range of modern industrial uses on the redeveloped site, including advanced manufacturing, low-carbon energy production, battery production, energy storage, logistics, and research and development.

Local Development Orders do not supersede any planning permissions that have already been granted in the area, nor do they stop the implementation of development that is covered by other planning consents or permitted development rights. Therefore, the EMERGE



Centre plans can continue to be implemented while the LDO is being prepared. Its cumulative impact will be taken into account in the LDO plans included in the masterplanning work, and in any cumulative assessments required to support the Environmental Impact Assessment and Transport Assessment. Further information can be found at **[rushcliffe.ratcliffeLDO.com](http://rushcliffe.ratcliffeLDO.com)**.