## Frequently Asked Questions

**September 2022**

TEES VALLEY
ENERGY RECOVERY FACILITY

## INTRODUCTION

The Tees Valley Energy Recovery Facility (TV ERF) is an important infrastructure project for the North-East which will allow the seven participating councils (Darlington, Durham, Hartlepool, Middlesbrough, Newcastle, Redcar & Cleveland and Stockton) to have full control over the management of waste from across the region that is left over after recycling (know as “residual waste”) - ensuring it is managed locally, sustainably and safely over the long term.

Please note that all information in this document is correct at the time of publication (July 2022) but may be subject to change as the project progresses.

## FREQUENTLY ASKED QUESTIONS

**What is it the Tees Valley Energy Recovery Facility (TV ERF)?**

The TV ERF is a critical and essential piece of infrastructure for the North-East and will provide a local, secure, reliable and affordable treatment solution for “residual” waste (the rubbish left over after recycling) from 2026 – helping move towards the goal of sending zero waste to landfill.

**Where will it be located?**

The facility will be located at the *Teesworks* site in Redcar on the former British Steel works at Grangetown and will support the regeneration of the local area – creating hundreds of jobs during the construction period and up to 40 permanent positions once operational.

**Why this location?**

This site is allocated for waste management infrastructure in the local development plan and has excellent connections to both the National Grid and the local road network. This location also offers potential for the TV ERF to export heat, as well as electricity, to future nearby users and the possibility of connecting to the Northern Endurance Partnership carbon capture and storage (CCS) infrastructure being developed as part of the government-backed East Coast Cluster.

**Who will the facility serve?**

The TV ERF will serve more than one and a half million residents living in Newcastle, Durham and the Tees Valley by generating energy from the rubbish left over after people have recycled all they can. This leftover rubbish is known as “residual waste”.

**How much residual waste will the facility treat each year?**

Each year, it is envisaged that the new facility will process up to 450,000 tonnes of residual waste from the region and use it to generate up to 49.9MW of electricity – enough to power the equivalent of 60,000 homes.

**What stage is the project at?**

A two-stage competitive dialogue tender process is underway to find an experienced operator to design, build, finance and operate the TV ERF – overseen by a governance board representing all seven partner councils. Three bidders have been shortlisted and final tenders are expected in 2022 with a preferred bidder announced thereafter.

**How is this facility being procured?**

Seven local authorities (Darlington, Durham, Hartlepool, Middlesbrough, Newcastle, Redcar & Cleveland and Stockton) are working in partnership to deliver this facility and are currently selecting a partner to build and operate the TV ERF through a competitive tender process. The selected operator will be awarded a 29-year contract to design, build and operate the facility, with the potential to extend by a further eleven years.

The existing residual waste treatment solutions of the seven partner authorities are all due to expire in 2025/2026 and this provides an excellent opportunity for the joint procurement of a new, long-term, resilient, solution within the full control of the partner authorities that will deliver economies of scale to each of the partners.

Hartlepool Borough Council is leading the tender process and this work is being overseen by a governance board representing all seven councils.

**Who are the bidders for the contract to Design, Build, Finance and Operate the facility?**

The three short-listed bidders are Viridor, SUEZ and Green Recovery Projects Ltd – a company formed by FCC and Icon Infrastructure. All are experienced energy recovery facility developers and operators.

**Why can't waste going to the TV ERF be recycled?**

The TV ERF is designed to only treat the waste left over after recycling has taken place or, in other words, everything discarded as general rubbish. Even under the most ambitious future local recycling performance scenarios there will still be a proportion of left-over "residual" waste that needs to be treated through energy recovery – which provides a more sustainable alternative to landfill. The partner authorities will continue to help residents recycle all they can, but everyone has a role to play to help recycle more, including manufacturers, consumers, local authorities and the recycling sector.

**What are the wider benefits of the facility to the area?**

In addition to providing an essential sanitation service and a sustainable means of treating the region's residual waste, the TV ERF project will contribute towards the regeneration and development of the local area.

The specific section of the site allocated for the TV ERF is a 22-acre plot known as Grangetown Prairie 2 and the Tees Valley Combined Authority has ambitious plans for the economic regeneration of the whole site. Locating the facility here, alongside other new

circular-economy infrastructure, will contribute to the regeneration and development of both the site and the local economy.

The TV ERF project will also create hundreds of jobs during the construction period and up to 40 permanent positions once operational.

**How will the project deliver value to the local area?**

In addition to creating employment opportunities, and of course providing an essential public sanitation service, it is anticipated that the plant's ability to export heat and electricity to the wider Teesworks site could serve as a catalyst for attracting other operators to the site.

Furthermore, through the procurement process, the partner authorities have asked the three short-listed bidders to consider how their specific proposals will contribute towards social value, sustainability and regeneration for the seven partner authorities. This has been given a significant weighting in the decision-making process and will likely to be a key differentiating factor between bidders.

**Will the ERF require planning permission?**

Outline planning permission for the TV ERF has already been granted, but bidders will be required to obtain full planning consent from Redcar and Cleveland Borough Council (as the relevant planning authority) for some "reserved matters" prior to the contract being awarded. The planning process for outline permission for the TV ERF was subject to public and statutory consultation.

**How does this facility fit within the seven Councils' individual waste strategies?**

The TV ERF is a critical and essential part of the waste management strategies of the partner authorities and will provide a local, secure, reliable and affordable residual waste treatment solution from 2026 – ultimately contributing towards the councils' shared long-term goal of sending zero waste to landfill.

Prior to initiating the tender process, the respective waste strategies for the Tees Valley authorities, Newcastle City Council and Durham County Council were subject to consultation – both with the public and statutory consultees.

**Will recovering energy from waste prevent further recycling by the seven Councils?**

Recovering energy from waste only takes place after recycling and is an important component of the waste hierarchy – the policy framework which determines the best environmental solution for dealing with waste. It is therefore complementary to efforts to recycle, re-use and reduce as much as possible.

**What is 'residual' waste?**

Residual waste is the waste left over after residents and businesses have separated all they can for recycling (through their kerbside collection services and household waste recycling centres for example), so this is typically anything which goes in the general rubbish bin. The waste hierarchy determines that it is preferable, from an environmental perspective, to treat this residual waste by generating energy from it instead of disposing of it in landfill.

**Is recycling important to the seven Councils?**

Improving recycling performance and championing waste avoidance are key priorities of the partner local authorities involved in the TV ERF procurement and these services are operated individually by each local authority. The partner authorities anticipate that recycling

rates will continue to improve in the region as new national and local policies are introduced, so the TV ERF will not impact upon the pursuit of this higher recycling performance – indeed this has been factored in when specifying the capacity of the new facility.

**Why can't more waste be recycled now?**

Improving recycling performance to minimise the volume of residual waste is a complex task and everyone has a part to play in achieving this – from manufacturers to retailers, consumers, local authorities and waste management companies. New national measures introduced under the Environment Act and the Government's Resources & Waste Strategy are likely to result in significant changes to all council recycling and waste management services over the next decade with the aim of getting to a national average municipal recycling rate of 65% by 2035.

Not everything can be recycled though and, even under the most ambitious future local recycling scenarios, there will still be a proportion of residual waste that needs to be treated through energy recovery.

**Will the facility emit carbon dioxide?**

Waste treatment and disposal is vital for maintaining a sanitary environment and protecting public health but treating residual waste, like most industrial processes, does create greenhouse gas emissions. These are very challenging emissions to avoid but, as part of the tender specification, the bidders are required to demonstrate how they will reduce carbon emissions from this operation year-on-year over the duration of the contract.

Overall, on average, recovering energy from residual waste produces less Greenhouse Gas than landfill, which is the alternative. The partner authorities are also actively pursuing the utilisation of Carbon Capture and Storage (CCS) at the facility, with the potential to connect the TV ERF to the Northern Endurance Partnership (NEP) offshore carbon storage solution as part of the East Coast Cluster (ECC).

The Government department for Business, Energy and Industrial Strategy (BEIS) announced in October 2021 its decision to fund two of the UK's first Carbon Capture, Usage and Storage (CCUS) Clusters following the submission of bids under Track 1 Phase 1 of its Carbon Capture Funding Programme. The East Coast Cluster (which is a collaboration between Net Zero Teesside, Zero Carbon Humber and Northern Endurance Partnership NEP) was named as one of these and aims to remove nearly 50% of all UK Industrial cluster CO2 emissions between 2023 and 2050. Northern Endurance Partnership have committed to the delivery of the infrastructure from 2026 which would allow the TV ERF to connect to it.

The TV ERF subsequently has the potential to be among the first purpose-built facilities that incorporates Carbon Capture and Storage technology in the UK and the aim is to deliver the TV ERF (with Carbon Capture and Storage technology in place and operational) before the end of 2027. Since up to 50% of the CO2 that will be emitted from the TV ERF is derived from biogenic (non-fossil fuel) sources (the remaining being derived from anthropogenic – fossil fuel sources), this will mean that the facility could in fact become a negative CO2 emitter which will contribute significantly to the ambitions of the Council to be carbon neutral by 2030.

In January 2022, the TV ERF project partners submitted a bid into Phase Two of the Government's Cluster Sequencing Process and, in August 2022, the TV ERF project was shortlisted to participate in a final due-diligence stage. Subject to due diligence and final Government approval later this year, the TV ERF will be eligible to receive government business model support, and further investment, that would make the deployment of CCS a reality.

**Is energy recovery a sustainable source of energy compared with other sources?**

The carbon intensity of energy produced by plants like the TV ERF cannot be fairly compared with other forms of energy generation, such as wind or solar power, since the essential primary purpose of energy recovery is to treat waste material – which other forms of energy generation do not do. The greenhouse gas (GHG) emissions of landfill therefore provide a more accurate basis for comparison since both are designed to treat residual waste.

**How do the greenhouse gas emissions of energy recovery process compare with the alternatives (ie landfill)?**

Energy recovery is a lower carbon solution for the treatment of residual waste compared with landfill and, for context, approximately 200kg of CO2e (carbon dioxide equivalent) on average is saved for every tonne of residual waste sent to energy recovery instead of landfill – although the relative performance can vary within a range depending on specific local circumstances.

**Can the facility's future carbon impact be further reduced?**

In future, potentially exporting heat as well as electricity from the TV ERF will increase the plant's efficiency, further improving its performance compared with landfill, while carbon capture and storage technology holds the potential to mitigate remaining net emissions in future.

Removing as many plastic-based materials as possible from the residual waste steam will also help to reduce carbon emissions from energy recovery and this will most effectively be achieved through greater waste-avoidance and improved recycling performance – which residents will play a significant role in helping to deliver.

**What emissions are produced by an energy recovery facility?**

Like any other source of energy generation based on the combustion of solid or liquid fuels, the energy recovery process produces emissions. These emissions are predominantly steam, oxygen, nitrogen and carbon dioxide along with very small quantities of pollutants.

**How are energy recovery facilities regulated?**

Modern energy recovery facilities are among the most heavily regulated industrial installations in the world and must meet strict environmental standards. The TV ERF will use mature, proven and reliable technology to process waste and treat flue gases. In practice, these facilities often operate at just a fraction of permitted emissions levels and, as a result, make only a small, if detectable, contribution to local concentrations of pollutants such that any impact on health from reduced air quality is negligible.

They are regulated and closely monitored by the Environment Agency and their use is approved by the UK Health Security Agency (formerly Public Health England).

**What control measures will the TV ERF use to minimise pollution?**

The TV ERF will employ a range of industry-standard flue-gas treatment technologies to remove pollutants and particulate matter from the gases produced during the combustion process, before they are dispersed through the stack. These technologies will separate and capture particulate matter and pollutants by filtering them from the gases. The substance left over from this filtration process is known as Air Pollution Control residue (APCr) – which itself can be treated and recycled through specialist processes.

Once the flue gases have been treated, those that are released through the stack are dispersed at height to ensure they are not concentrated at ground level and they are constantly monitored – with strict safety controls in place. The TV ERF will be regulated and closely monitored by the Environment Agency, which will only grant an environmental permit for the facility to the chosen operators if it is satisfied that the plant can operate within the stringent regulations.

**Do energy recovery facilities represent a public health risk?**

The use of energy recovery in England is approved by the UK Health Security Agency (previously Public Health England) and the Environment Agency. The findings of a recent study by Imperial College London, commissioned by Public Health England in 2019, found that modern, well-run, energy recovery facilities do not pose a significant risk to public health.

**How will waste material be delivered to the facility?**

It is anticipated that the facility will accept waste material six days a week and this waste will be delivered via road by both heavy goods vehicles and refuse collection vehicles. This site is well served by arterial routes away from residential areas and these waste transport vehicles are already on the regional road network delivering material to multiple processing sites.

**What is the anticipated impact of vehicles delivering waste to the facility on the local road network?**

The number and frequency of deliveries to the TV ERF will not have any significant impact upon congestion and a transport impact assessment was carried out as part of the planning application. Furthermore, the transport plans and impact assessment were scrutinised and consulted on as part of the planning process and no issues or objections were raised, nor were any operational conditions imposed.

From a sustainability perspective, there will be significant advances to de-carbonise road transport well within the lifetime of the TV ERF in line with Government targets. This will likely include a transition to electric or hydrogen fuelled refuse collection and heavy-goods vehicles, so transport by road will increasingly offer a more sustainable logistics solution.

## CONTACT

More information about the TV ERF project can be found online at www.tverf.co.uk

If you have any further questions not addressed by the website or this document, please use the contact form at www.tverf.co.uk to get in touch with the project team and we will ensure that you receive a response.