

Meeting tomorrow's Sustainability Agenda today while delivering significant operational savings to NHS hospitals.

Small scale, highly efficient and low emission waste-to-energy facilities, uniquely suited to reducing the carbon footprint of the NHS.

Proprietary UK system for dealing with non-recyclable medical waste which delivers the optimum solution to the hospital sector facing the triple challenge of:

- (1) rising Gate Fees for disposal of medical waste**
- (2) PPE protocols multiplying hospital waste up to twice pre-pandemic levels**
- (3) energy costs rising 2 to 3 times.**

“4.8.20 Disposal of waste is becoming an increasing problem, and landfill disposal costs are set to rise as taxes increase and the UK runs out of space for landfill. Incineration of waste is not viewed with approval by local authorities or the public. Gasification is a much more efficient and low emission process.”

Health Technical Memorandum
2015 Making Energy Work in Healthcare

Developed over ten years and successfully operated for five years CTEC has created an innovative and proven turn-key solution for converting non-recyclable clinical waste into electric and thermal energy. Its advanced gasification system meets and exceeds the most stringent of UK, European and COP26 emission standards. Traditionally, non-recyclable waste is dumped in landfills or incinerated with high carbon emissions. CTEC diverts significant levels of non-recyclable waste from landfill, generating full 'circular economy' value. The Company has operated its pilot plant at the Newhaven Port for the last three years, delivering proven results with full certification, showcasing its capabilities to process all clinical waste streams transforming it into the lowest carbon sustainable energy.

“Healthcare facility managers and staff have an important role to play in advocating for, planning, implementing and maintaining safer and more sustainable healthcare waste treatment technologies.”

WHO report from Feb 2022 on Global Analysis of healthcare waste in the context of COVID-19

- Local and decentralised energy supply
- Ultra low emission levels and meet carbon reduction objectives
- Reduce energy bills and earn rental income
- A British company dedicated to helping the NHS become sustainable

The NHS is the largest single user of energy in the UK Public Sector

In England alone, the NHS spent £671 million on 11,000 GWh of energy last year and this could triple by the end of 2022.

Many hospitals are near their capacity for electrical supply and future demand is growing due to the widening use of more sophisticated diagnostic and treatment equipment, as well as inevitable electrification of vehicles including ambulances.

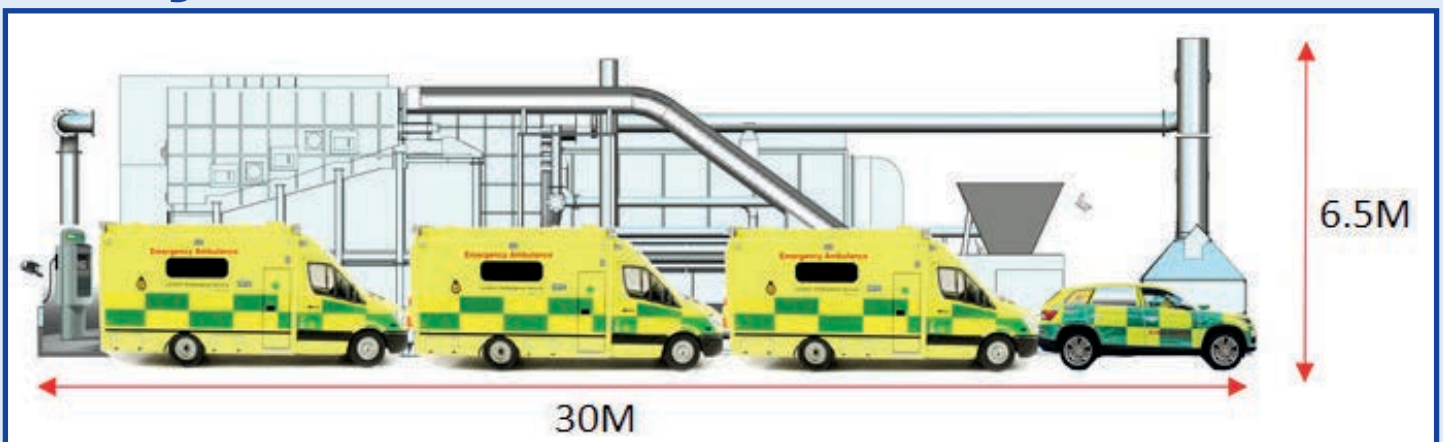
The NHS in England generated more than 250,000 tonnes of clinical waste in 2019/20 and spent £68 million disposing of it, with the vast majority requiring thermal treatment incineration with only a limited amount of energy recovery.

The carbon footprint last year from NHS Hospitals in England was 3.8 million tonnes of CO₂ from energy consumption and waste alone.

CTEC's cogeneration system uses medical and or nonrecyclable plastic waste as a fuel to produce electrical energy onsite. CTEC uses an advanced form of combustion with a patented heat exchanger and steam turbine.

In addition to electricity, CTECs system generates superheated steam, saturated steam, 'regular' hot water or air conditioning, depending on the hospitals requirements.

Small footprint and operational one year from order



Indicative NHS hospital use case

Hospital generates
4,000 tonnes
of waste annually

Saving
~£1.4m
in gate fees
*(assuming blend of hazardous
and other waste
with average gate fee of £340)*

Generates up to
2.8MW electricity
>£650k
saving at
current pricing
and saves
carbon taxes

Up to
22MW heat energy
representing
>£1.2m
saving at
current pricing
and saves
carbon taxes

CTEC Unit1:
£4.5 million
installed cost to NHS

Representing exceptional
ROI 2 years

**Delivering potential annual financial
benefit of approximately £3 million
for standard 20 year operating period**

Please get in touch to discuss how together we can make a significant reduction in your Hospital's carbon footprint.



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CTEC is a British company, dedicated to helping the public and private sectors become more sustainable. CTEC specialises in the development of small scale energy from waste recovery schemes. Drawing on its ten year R&D experience plus 5 years of operations, CTEC works in partnership with industry, hospitals and local authorities from conception, through build and operation of its units.



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Gentian has been developing infrastructure for the NHS for over 20 years such as new main entrances, clinical space, car parking and staff accommodation. With over 25 contracts with NHS Trusts, Gentian also manages around 100 tenants in NHS Hospitals and is a regular contributor to NHS charitable causes.

