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TIPCHECK Survey – Boilers and Pipework (BS EN 17956)

ENERGY CENTRE BOILER HOUSE - KENT

Boiler & Pipework Energy Loss Analysis

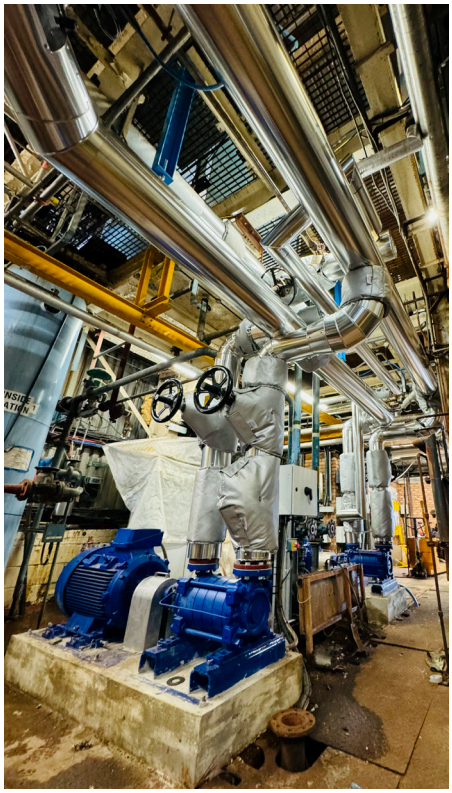
A TIPCHECK energy survey of a boiler house in Kent identified substantial heat loss across four identical boilers, associated pipework and ancillary systems, all operating with insulation removed. Thermal imaging recorded surface temperatures of up to 200°C on bare components, with heat being radiated directly into the boiler house rather than retained within the system.

Alltask was appointed directly by the client's site team to carry out the survey and produce a costed insulation proposal. The assessment was completed by Charlie Griffin-Jones, a certified EiiF TIPCHECK Expert, with each component measured and assessed against BS EN 17956 using the EiiF TIPCHECK tool.

Across the boiler house and associated pipework, the survey identified around 861,000 kWh per year of avoidable heat loss, equating to approximately £34,440 per year in wasted energy at the client's own rate of 4p/kWh.

The survey covered an energy centre boiler house serving a major UK manufacturing site in Kent. The scope included four identical boilers, all with insulation stripped off, alongside the associated pipework, steam lines and ancillary systems running through the boiler house on the gantry. Areas directly above the boilers were assessed separately.

The project was diagnostic rather than reactive. The client needed a measured understanding of how much energy was being lost before committing to re-insulation works. The outcome was a costed proposal for one representative boiler and a third of the associated pipework, allowing the client to scale the solution across the remaining boilers as required.



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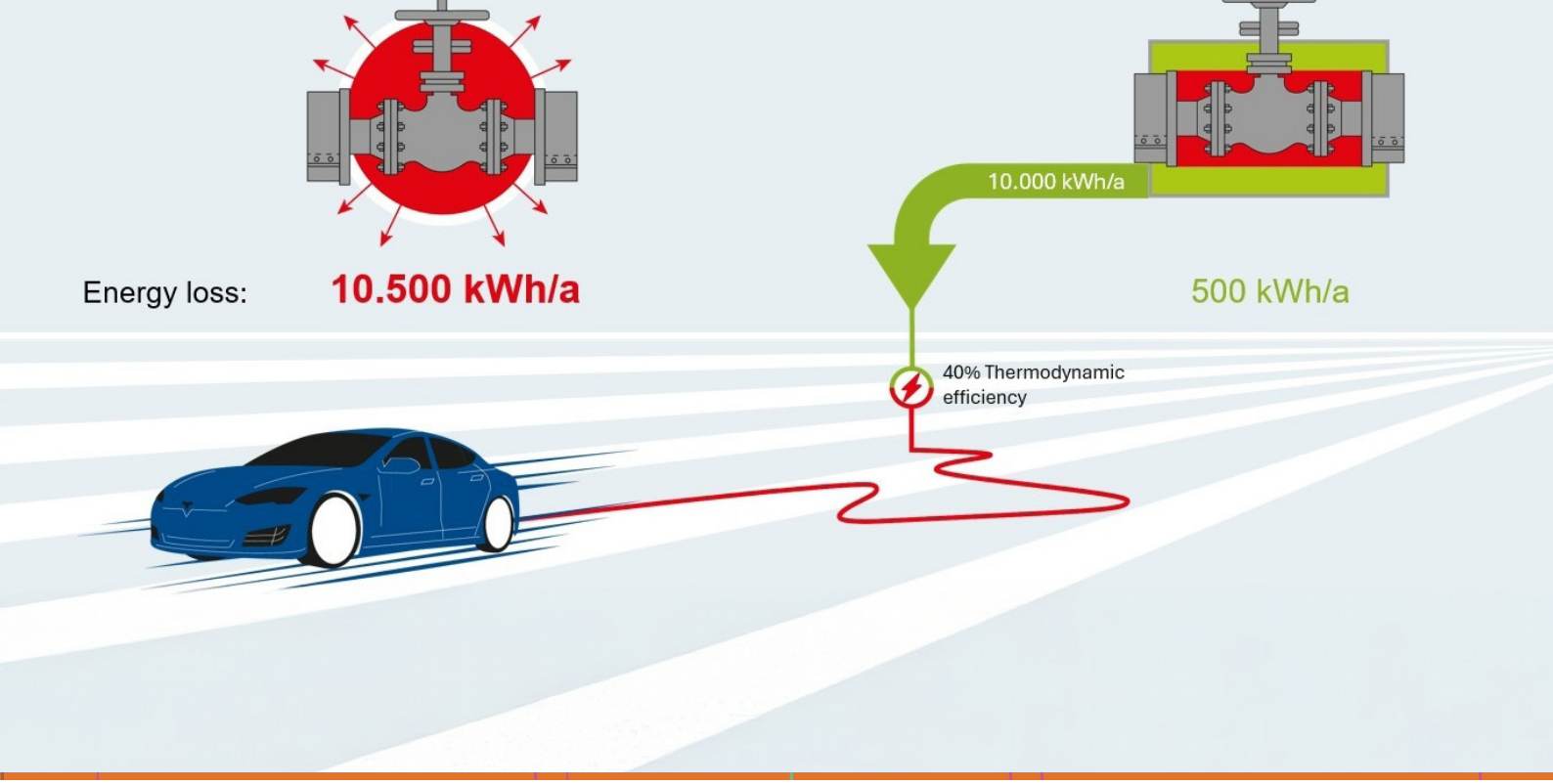

The Requirement
The site required a clear, measured understanding of energy loss before committing to re-insulation.

Using the TIPCHECK methodology, heat loss was calculated per component in line with ISO EN 12241, and each item assessed against BS EN 17956. The boiler house was assessed to Energy Class A and the associated pipework to Class C.

A representative solution was specified, including removable silicone jackets to valves and flanges, and insulated, clad pipework to the required standard.

Solution
Alltask carried out a full thermal survey, capturing temperatures, images and component data, before modelling heat loss and potential savings for each item.

Bare valves and flanges were recorded at temperatures up to 200°C against a 20°C ambient. The survey produced a per-component energy analysis and a costed proposal based on measured performance rather than assumption.

Delivery Challenges
The survey was completed on a live plant operating at high temperatures, with surfaces exceeding 190°C.

Thermal imaging was used to assess conditions safely from distance, supported by targeted verification readings where appropriate. No shutdown was required, and production remained uninterrupted throughout.

Results
The survey identified approximately 861,000 kWh per year of potential energy savings across the boiler house and pipework, equivalent to around £34,440 per year.

The cost for one representative boiler and a third of the associated pipeworkwas calculated at £17,819.45 plus VAT. These figures are engineering estimates based on TIPCHECK methodology against BS EN 17956.

Project Outcome
The project demonstrates the value of measuring insulation performance before undertaking works. Each component was assessed individually, providing a clear and evidence-based picture of energy loss and recovery potential.

The survey was completed without disruption, and the scoped approach allows the client to phase the works in line with operational and budget requirements.

Key Benefits
The project provided a measured assessment of insulation performance on a live boiler house, supported by thermal imaging and per-component calculations.

It delivered a clear, costed route to improvement, allowing the client to address energy loss in a controlled and scalable way.

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