

CASE STUDY

ZECK
Zero Carbon Thermal Technology

CATTS Process Pipe Heating
at  **Kinnerton**
Confectionery Ltd

Hot water jacketing has been used within confectionery manufacturers for many decades. Whilst effective, it brings many challenges for the user. As the pipework is generally not insulated (as potential leaking water contamination would provide an unhygienic scenario) the energy used is enormous.

ZECK was challenged by Kinnerton Confectionery (part of the Zertus Group) to solve the above issue and reduce the energy use for the manufacturing process

In addition, hot water is generated by burning gas, a practice most manufacturers would like an alternative to. Switching to electric heating from gas also allows the user to become zero carbon if a renewable form of electricity is used.

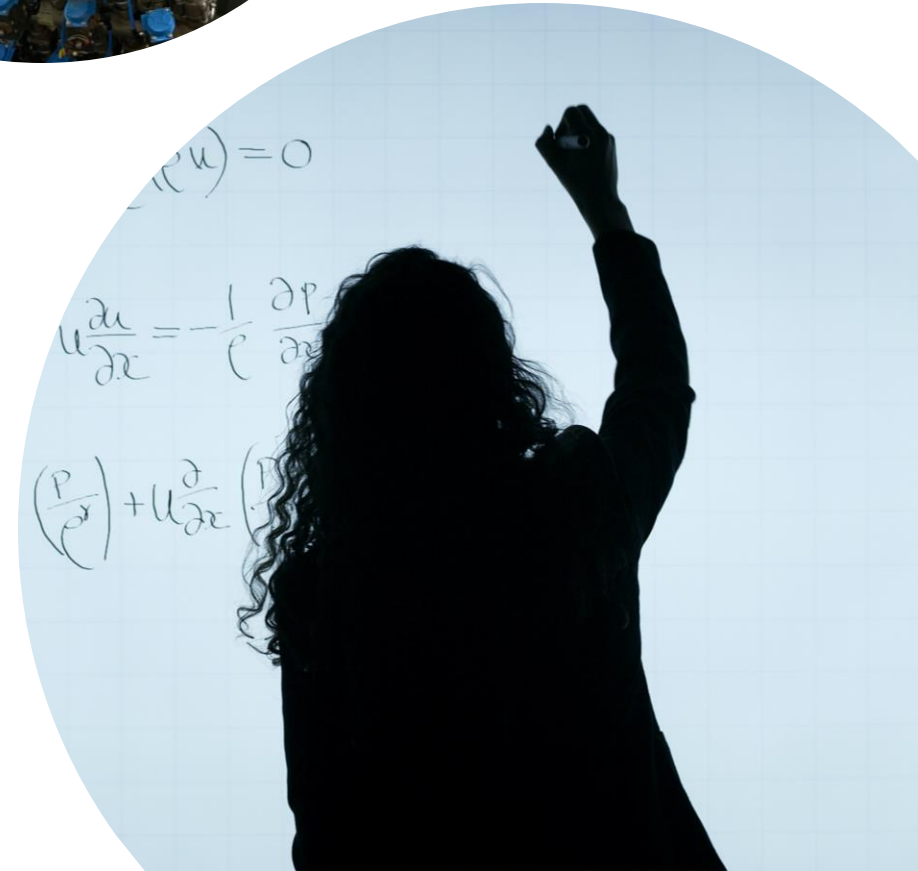
ZECK

Just 15m of jacketed pipe uses the same amount of energy in a year as the average 3-bedroom house!

The Challenge

The Solution

- In a new installation, ZECK supplied single-wall pipe with its digital, homogenous heating system. This was developed in association with the National Centre of Excellence for Food Engineering (NCEFE) at Sheffield Hallam University and Siemens.
- The installation had to maintain chocolate supplied from a day tank at $45^{\circ}\text{C} \pm 1^{\circ}\text{C}$ to the tempering process. The energy used was monitored and compared to the energy used by hot water jacketed pipe.



The Result

The energy used by CATTs was

95% less

than the hot water system and has brought the benefit of zero carbon, zero chance of water contamination and full digital monitoring and control of each pipe spool.

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Verification

Professor Martin Howarth, Director at NCEFE, concluded:

“We at NCEFE have concluded that the ZECK CATTS system is a highly effective, homogenous heating system which cuts energy usage by 95% and gives a zero-carbon profile when compared to traditional hot water jacket heating, whilst eradicating the potential for product contamination.”

Head of Operational Transformation at Kinnerton,
Ramos Asier commented:

“At Kinnerton we take our environmental consideration seriously and we are always looking to reduce our carbon footprint. The ZECK system has reduced our carbon emissions by 95% for the heating of bulk transfer chocolate pipes, a result we are delighted with.”

