



The University
Of Sheffield.
**Energy
Institute.**

Translational
Energy
Research
Centre.

Reducing energy consumption for a Sheffield-based knife manufacturer

A case study

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As well as providing a state-of-the-art facility for research and development, the Translational Energy Research Centre hosts a team of academics and professionals providing dedicated support and resources for SMEs in the Sheffield City Region.

Supporting A. Wright & Sons

Since 1947, Arthur Wright & Sons has been traditionally handcrafting pen knives and pocket knives in Sheffield. Today, they maintain their traditional approach, individually manufacturing each knife and carrying out each and every process in-house. From blanking out the blades and springs, hardening and tempering, assembly, grinding and glazing right up to the final polishing, A. Wright & Sons use methods passed down from generation to generation.

However, those who started the traditions did not have the same climate concerns we have now. Conscious of their environmental impact, the company hold an ambition to drive down their energy consumption and update their workshop. A Wright & Sons approached us to find out how to improve the environmental impact throughout their manufacturing process.

Carrying out an energy audit

Following an initial telephone consultation regarding the businesses premises and processes, the Translational Energy Research Centre team visited the A. Wright & Sons workshop to conduct an energy audit.

Using guidelines from the Carbon Trust, the team surveyed the building and its manufacturing processes, gathering data on energy consumption, utilisation and efficiency. Drawing on the cutting-edge expertise in energy innovation within the project team, they carried out a detailed analysis of the potential energy savings. This allowed a tailored report to be drawn up which presented A. Wright & Sons with bespoke energy-saving opportunities for their business.

Identifying areas to improve

The bespoke report identified a series of energy reduction opportunities which can lead to significant financial savings for the business. The team looked at a range of general areas where changes might need to be made: heating, insulation, lighting and behavioural controls. Areas specific to the A. Wright & Sons workshop were also considered: the Variable Speed Drive fan control and the enclosing of the emissions source.

The main concern was the heat losses incurred as a result of the continuous exhaust ventilation in the grinding workshop. The report highlighted a number of tailored solutions to this challenging source of wasted energy.

Providing expertise and resources for further investment

The support provided by the Translational Energy Research Centre team has directly enabled a small family business within the Sheffield City Region to understand their energy consumption profile and the environmental impact of their operations. The series of energy reduction opportunities presented by the academic experts in the team will mean financial savings for the business, with a more modern approach to energy usage and reduced environmental impact for the future. The report also detailed a series of pathways to potential capital investment sources to enable A. Wright & Sons to identify a clear path to greater energy savings and reduced operating costs.

Director of A Wright and Sons, Michael Harrison commented: "The support from the Translational Energy Research Centre has been really useful. The guidance we received has helped us to look at what we can do to make a change now, and how we can potentially deliver a positive environmental impact by making further upgrades to our machinery and services.

"We're looking forward to continuing to work with the team."

Get in touch

If you are a start-up or SME in the Sheffield City Region working on an energy-related field or wanting to learn more about your energy usage, you can email the team on terc@sheffield.ac.uk.



Get in touch:

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