 Increasing energy efficiency in Europe is vital to achieving a sustainable economy and tackling climate change. However, new research has shown that lack of capital and concerns about costs of disruption are major barriers to implementing energy efficiency measures in the foundry industry.

The EU aims to reduce energy consumption by 20% from 2005 levels by 2020, and targeting the industrial sector is particularly important as it is responsible for approximately a third of EU's energy consumption. In this study, conducted under the EU FoundryBench project, researchers focused on the foundry industry, an energy-intensive sector that accounts for about 4% of total EU energy consumption.

Questionnaires were sent out to 65 foundries in seven countries: Finland, France, Germany, Italy, Poland, Spain and Sweden. Respondents were asked to assess the relevance of 23 operational barriers to energy efficiency including 'lack of time or other priorities' or 'poor performance of new equipment'. Barriers were assessed using a relevance score from 1 ('not at all relevant') to 5 ('absolutely relevant'). Interviews were also conducted with individuals responsible for energy issues and the size of the foundry enterprise was recorded, along with whether it had undergone an energy audit in the past.

The researchers emphasise that the number of foundries contacted was relatively small (65, out of an approximate total of 2918) and therefore these foundries should be regarded as a series of case studies. However, they did identify generalities between responses that highlight important issues.

A lack of time, to research new technologies or conduct investment analyses, for example, combined with more pressing priorities was a common issue. Lack of capital, was also perceived as a problem, for example, 73% declared lack of funding as 'very' or 'absolutely' relevant. Finally, the cost of disruption to production and inconvenience of installing energy efficient measures was cited as being 'very' or 'absolutely' relevant in 72% of the foundries studied.

Representatives of smaller enterprises returned higher average relevance scores across all barriers, identifying more difficulties than larger sites. One issue of particular importance to smaller enterprises, as well as those mentioned above, was that fewer staff were available to research energy efficiencies.

Foundries which had undergone an energy audit were also more likely to view the operational barriers as highly relevant. This was a surprising finding, as previous research had suggested that energy audits serve to reduce perception of barriers in the industrial sector in general. However, the researchers highlight that, in contrast to earlier studies, this study was carried out on an energy-intensive industry where an energy audit may reveal unforeseen obstacles.

Finally, although a comparison across all countries was not possible, owing to the low number of foundries in each country contacted, the researchers did find substantial differences between two main groups in Germany (20 foundries) and Sweden (16 foundries). In Germany, foundries had a lower relevance score than the overall average, indicating that the barriers were generally perceived to be less of a problem than in other countries, while in Sweden the average score was higher, suggesting increased difficulty in implementing energy efficiencies in this country.

The study concludes that tailoring policies to account for enterprise size and providing capital support to foundries should be considered to encourage reductions in energy consumption in this industry.

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