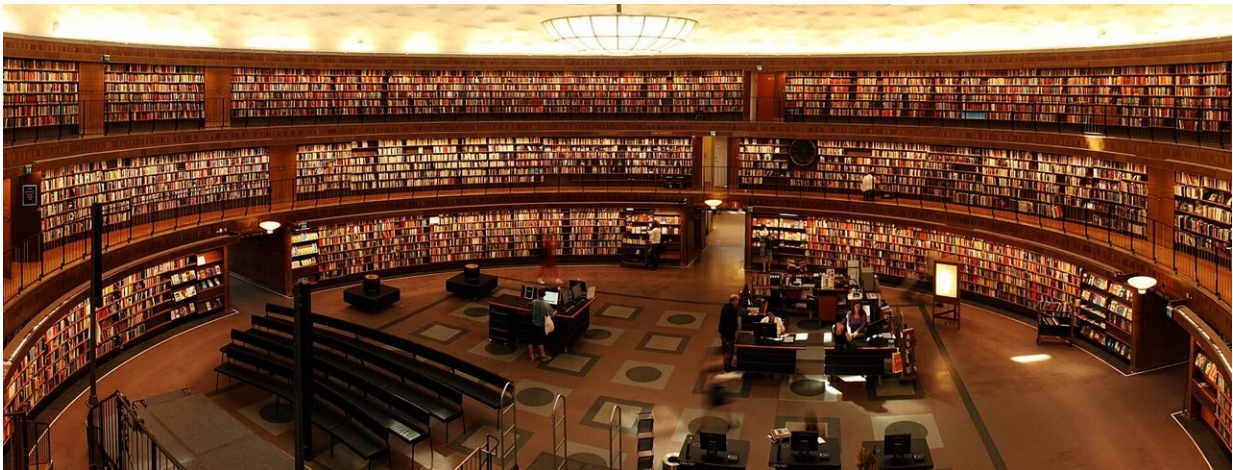


# UK university can reduce CO<sub>2</sub> emissions by 4% with shorter winter semesters

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Researchers at the University of Edinburgh in the UK, reporting in the journal *iScience* on December 8, found that shifting learning weeks to the summer term and extending the winter vacation period can reduce the university's yearly CO<sub>2</sub> emissions by more than 4%.

While strategies to reduce [carbon emissions](#) normally require significant time and financial investment, the authors say that this kind of schedule change could offer a simple and low-cost way to reduce carbon emissions. "This approach does not really require any significant investment," says Wei Sun, an [energy](#) system researcher and Chancellor's

Fellow at the University of Edinburgh and author on the paper. "We just need willingness from staff and students to be open to the changes in semester dates."

Sun and his colleagues monitored how more than 20 universities are currently managing their energy consumptions on campus, including their semester schedules. Then, the team looked at heat and [energy usage](#) for the University of Edinburgh, where some of them work, over the course of the year. This helped them propose the most environmentally friendly semester schedule for the university.

They found that by starting a new semester on the second week of September, followed by a 12-week winter learning semester and a 5-week winter holiday, they could reduce CO<sub>2</sub> emissions by 167 tonnes, 4.2% of the university's total.

"This would mean there was an extended period off during the winter period, and in turn, longer summer semesters. This could contribute to lower heating costs during the [winter](#) period and a decrease in emissions overall," says Sun.

Other universities could adopt a similar approach but timings would need to vary based on where they are located, he says. "In future studies, it would be useful to adapt our approach to compare the energy consumptions of universities under different climate zones to see what impact our approach would have globally. But for UK universities, it's clear that changing semester times could reduce emissions," says Sun.

This study was conducted before the pandemic, and Sun and his colleagues would like to explore how hybrid learning would affect their recommendations. "In a post-pandemic world, we will be looking into other strategies to reduce emissions," he says. "We saw a huge carbon reduction during the pandemic and now things are slowly getting back to

normal, so we'd like to see if emissions continue to drop with lectures now online and less physical attendance in person."

**More information:** Wei Sun, Arranging university semester date to minimize annual CO2 emission: a UK university case study, *iScience* (2021). DOI: [10.1016/j.isci.2021.103414](https://doi.org/10.1016/j.isci.2021.103414).  
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