

# Increasing frozen food temperature by 3°C could enhance global food chain sustainability, say experts

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Research involving Cranfield University's Dr. Natalia Falagan is proposing a measure to significantly reduce carbon emissions across the

frozen food industry.

In a new report called [Three Degrees of Change](#), the collaboration which involves DP World, a leading global logistics firm, and a team of international researchers, states that an adjustment to the standard [temperature](#) of frozen foods could yield remarkable environmental benefits, while maintaining the safety of the food product.

The academic research, involving the Paris-based International Institute of Refrigeration, Cranfield University, the University of Birmingham, London South Bank University, and Wageningen University in the Netherlands , proposes raising the temperature of frozen foods by 3 degrees from the long-standing standard of  $-18^{\circ}\text{C}$  to  $-15^{\circ}\text{C}$ .

The findings suggest that this change could result in an annual reduction in [carbon emissions](#) equivalent to taking 3.8 million cars off the road .

These findings will be discussed at an event at Cop28 later this month and will align with Food, Agriculture and Water day on December 10.

The report emphasizes the potential energy savings of approximately 25 terawatt-hours per year—equivalent to 8.63% of the U.K.'s annual energy consumption, showcasing the transformative impact of such a temperature adjustment on both environmental and economic fronts.

Experts say the proposed change would not compromise [food safety](#) or quality, opening the door for a shift in frozen food transportation and storage practices.

DP World has launched the "Join the Move to  $-15^{\circ}\text{C}$ " coalition to reconsider frozen food temperature standards on a global scale.

Dr. Natalia Falagan, senior lecturer in [food science](#) and technology at

Cranfield University, said, "Meeting the challenges within our global food supply chain demands innovative solutions that brings together environmental sustainability with food security.

"Cold chains stand as a critical pillar in guaranteeing access to safe and [nutritious food](#) and this initiative improves the resilience of food systems and contributes towards global [food](#) security, in addition to driving sustainability."

**More information:** Three Degrees of Change: Frozen Food in A Resilient and Sustainable Food System: [www.sustainablecooling.org/wp-...rt\\_November-2023.pdf](http://www.sustainablecooling.org/wp-content/uploads/2023/11/Three-Degrees-of-Change-Frozen-Food-in-A-Resilient-and-Sustainable-Food-System-rt-November-2023.pdf)

Provided by Cranfield University

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