

New Way to Freeze Food Could Dramatically Cut Carbon Emissions

Detail Introduction :

Freezing is a relatively cost-effective way to preserve nutrition and flavor, but unfortunately, it comes with a huge energy and carbon emissions. Researchers have now devised an entirely new method of freezing food that could reduce global energy consumption by as much as 6.5 billion kilowatt-hours a year. These 4 billion kilograms of carbon emissions are equivalent to about 1 million cars.



In addition, the technology considerably improves the quality of food and can be preserved for longer than traditional freezing methods.

The technique, called isovolumetric freezing, relies on storing food in rigid, airtight containers made of plastic or metal filled with liquids such as water, which are then placed in the refrigerator. While traditional freezing involves exposing food to air and freezing it into a solid at sub-zero temperatures, the new method doesn't turn food into a solid.

Instead, only about 10 percent of the water in the container is frozen, and the pressure of space prevents ice from expanding. "The energy savings come from not having to freeze food completely, which is energy intensive," Bilbao-Sainz told anthropocenemagazine.org.