sun-ice energy

Reliable Cold Storage.

Zero Grid. Zero Carbon





Cold Room

The solar-powered chiller room with built-in thermal storage for 24/7 cooling

Sun Ice Energy uses PCM to store PV-generated cooling energy, enabling a zero-energy cold storage refrigeration system

Customizable temperature range: 2-6˚C

- Financial: Investment payback period as low as 3 years.
- Operational: 24/7 cooling all year round, automatic dehumidification, and stable environment.
- Environmental: Net positive energy output with drastically reduced carbon emissions.

Proven Performance: Shanghai Pilot

- **35 m³** cold storage room at **4˚C**
- Daily electricity savings: **40 kWh**
- Saving **€4500** in energy costs per year
- Achieves **off-grid** operation
- Investment payback period: **3 years**
- Reduces CO_2 emissions by **9 tonnes** per year

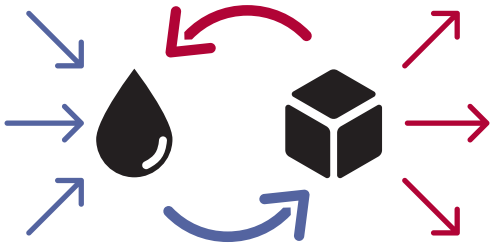
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Our solution centers around our patented ACTIVE PCM technology

Temperature Increases

PCM melts, absorbing heat energy from the environment



PCM solidifies, releasing heat energy to the environment

Temperature Decreases

Using integrated technology, captured **solar or other intermittent energy is stored in PCM**

PCM is a substance that releases/absorbs large amounts of latent energy through a phase change between liquid to solid



System Schematic:

