

ECO FRIENDLY SOLAR COLD STORAGE

FOR SUSTAINABLE DEVELOPMENT AND RURAL EMPOWERMENT

Corporate Profile

INTRODUCING ICE MAKE

Ice Make Refrigeration Limited ('Ice Make' or 'We' or 'The Company') is India's leading commercial and industrial refrigeration equipment manufacturer. We offer green and sustainable cooling solutions across the country.

The Company's product suite consists of a comprehensive and highly customized range of refrigeration products and solutions. Ice Make intends to create long-term value by offering high-quality products to its customers.



5

Robust Business Segments



GUJARAT AND CHENNAI

State-of-the-art Manufacturing Facilities



24+ COUNTRIES

Catered through Exports

Industry-wise Share



30-40%

Dairy and Ice Cream



15-20%

Food Processing
and Hospitality



15-20%

Pharma and
Chemicals



7-10%

E-Commerce



3-5%

Logistics



3 Decades

Promoters' Experience in the Cold Chain Industry



3

Manufacturing Plants



28,000+

Customers



50+

Product Baskets



65+

Business Associates



Our Presence

EXPANDING ACROSS GEOGRAPHIES

Over the years, we have expanded our footprint and widened our reach to cater to various industries. With the diversification of our offerings and a stronger network, Ice Make strives to tap opportunities and enhance its presence at a global level.





Applications: Industries such as



Total Cold Chain Solution



Business Segments





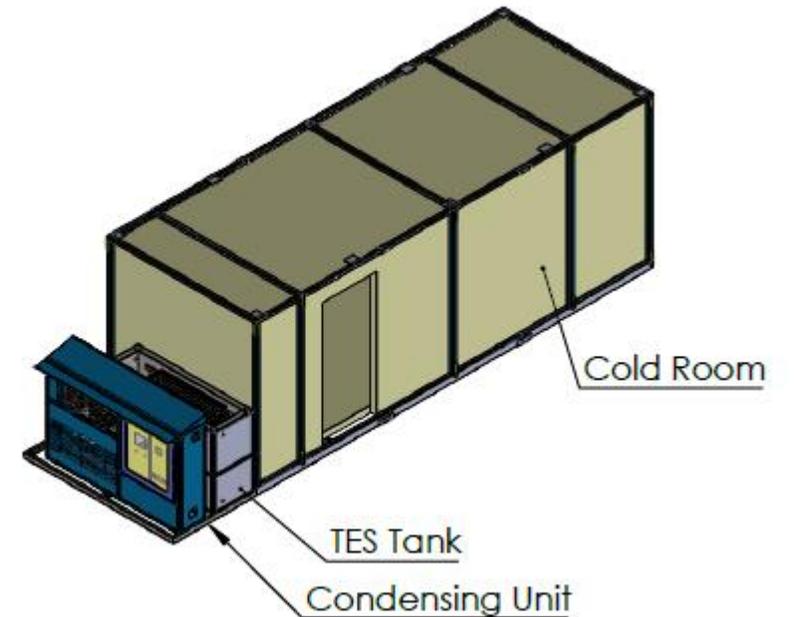
Ideal Solution to save Fruits & Vegetables from farm level wastages:

SOLAR POWERED COLD ROOM

AT FARM /MANDI



Applications:

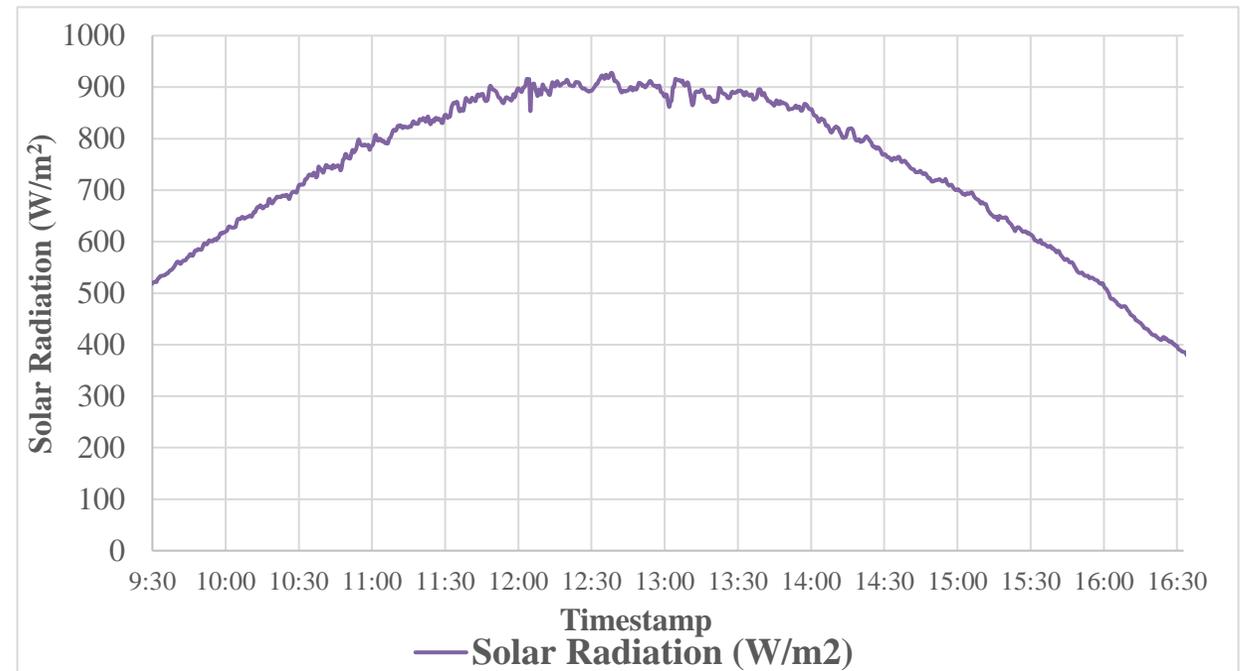
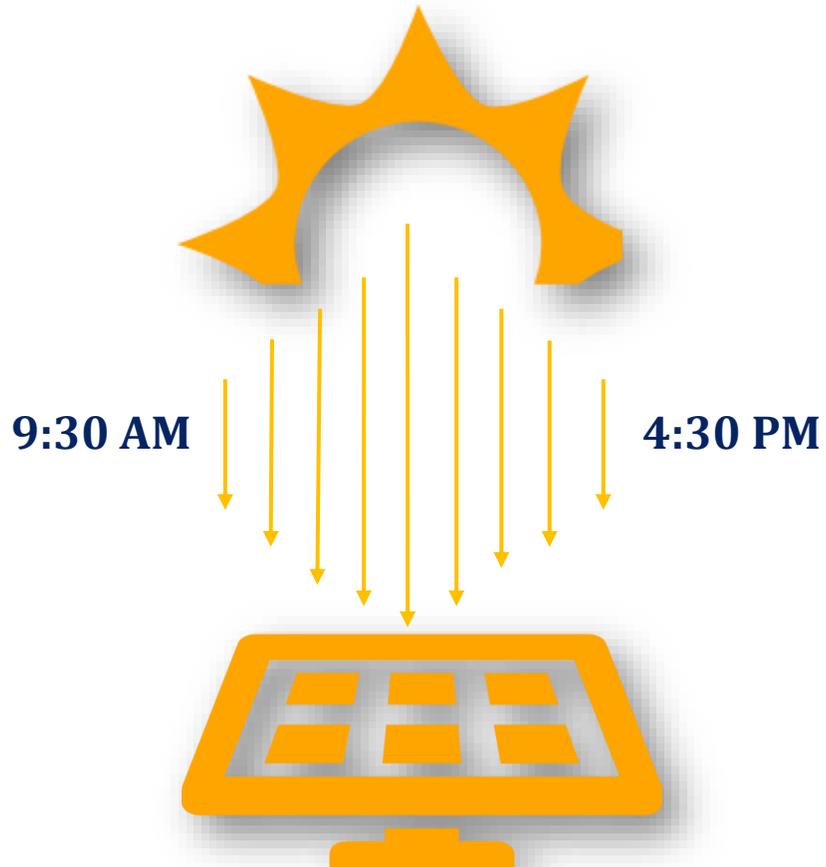






Variable Frequency Drive (VFD)

- As per the availability of Solar Radiation during sunshine hour's ,Ice Make's solar cold storage system works on VFD principle with a range of 30 Hz. To 80 Hz to run the refrigeration system of Solar Cold Room.



Solar Radiation v/s. Time



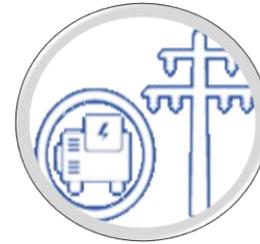
Up to 30 Hours Backup



Low Maintenance



Solar Powered Standalone



Grid & DG Set Hybrid



No Battery for Refrigeration



No Running Cost on Solar Supply



✓ Minimum weight loss of products



✓ No need to go daily in market which save daily transportation cost



✓ Can easily shift in different farm for seasonal products



✓ Can be given on rental to other farmer while not in use



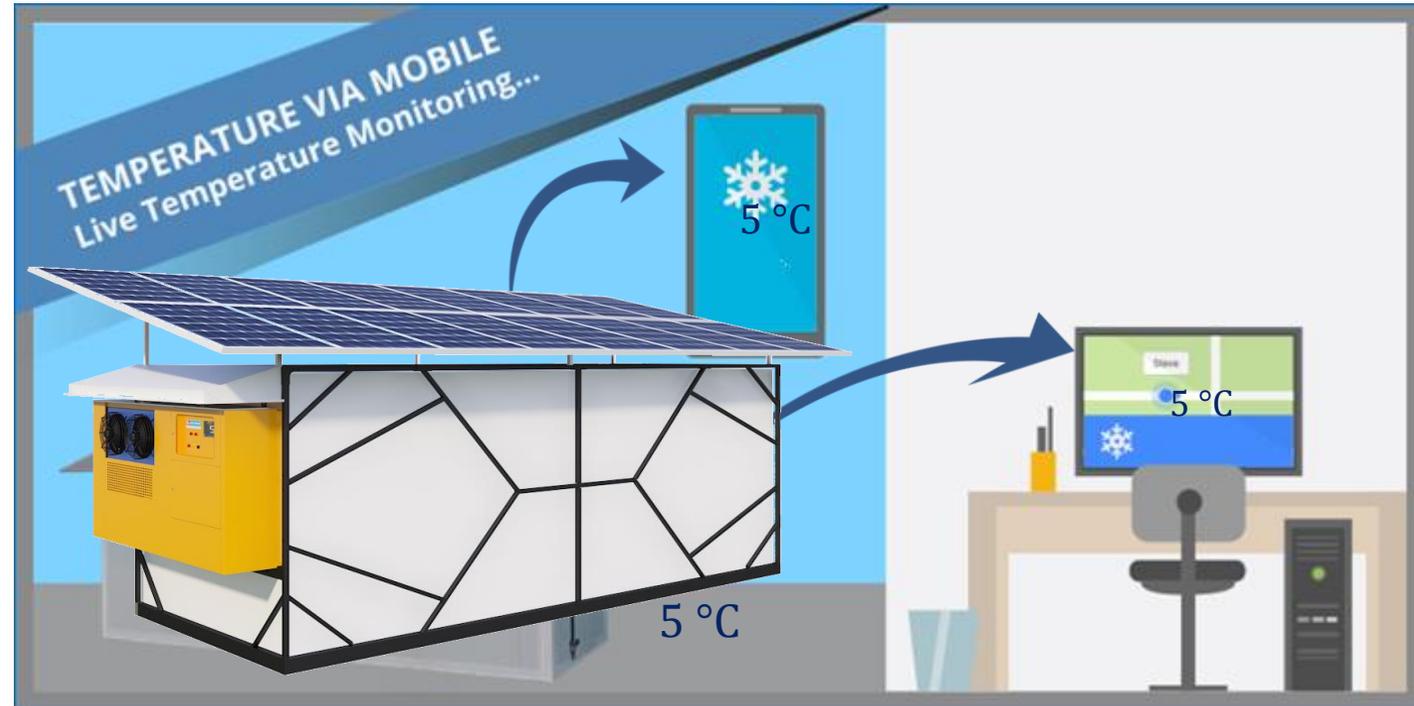
Portable-
Easy to Shift



- Anyone with access can view online monitoring system.

The interface displays the following data and controls:

- Time/Date:** 10:25:44, 20/12/2022
- Room Name:** SOLAR COLD ROOM
- System Status:** System Running
- Material:** Image of oranges
- Battery Voltage:** 27.02 V
- Temperature Readings:**
 - Ambient Temperature: 15.05 C
 - Room Temperature: 6.00 C (Set: 6.00 C)
 - Room Humidity: 83.75 % (Set: 85.00 %)
 - Coil Temperature: -1.55 C (Set: -5.00 C)
- Power Status:** Solar
- Control Buttons:** Door Close, Indoor Fan 2&4 (OFF), Indoor fan 1&3 (OFF), Compressor (ON), Humidifier (OFF)
- Navigation:** MENU, MATERIAL





Solar cold room

Can be installed any where

Conventional cold room

Installed where electricity is available





Solar cold room

Directly installed in farm that can result in saving in daily transportation cost



Conventional cold room

Daily Transportation cost to transport produce from commodity farm to city cold room





Solar cold room

Harvested produce can directly be stored in cold room so there is no weight loss and product retains its freshness

Conventional cold room

There will be weight loss and less freshness of produce because of the consumption of more time while transporting the produce to the city cold room



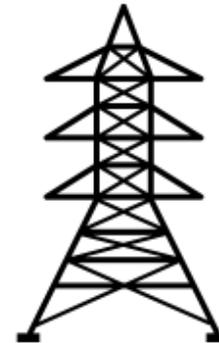
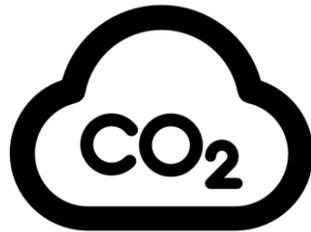
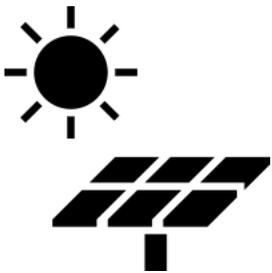


Solar cold room	Conventional cold room
No Running cost due to run by solar	Running cost due to run by electricity





Solar cold room	Conventional cold room
No carbon Emission due to run by renewable energy (Solar)	Carbon Emission due to run by Non Renewable energy





Test Report No.: CSC-308/1/2023-LAB

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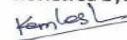
राष्ट्रीय सौर ऊर्जा संस्थान
(नवीन और नवीकरणीय ऊर्जा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान)
National Institute of Solar Energy
(An Autonomous Institute of the Ministry of New and Renewable Energy, Govt. of India)
गुरुग्राम फरीदाबाद मार्ग - ग्वाल पहाड़ी, गुरुग्राम 122003 - हरियाणा, भारत
Gurugram - Faridabad Road, Gwal Pahari, Gurugram - 122003, Haryana, India
ई-मेल / Email: csc@nise.res.in दूरभाष Phone: 0124-2853110

1.	Service Request No.	CSC-308/1/2023-LAB
2.	Requested By (Name & Address of the organization)	M/s. Ice Make Refrigeration Limited Address: 226,227, Dantali Industrial Estate, Gota Vadsar Road, At-Dantali, Gandhinagar, Gujarat, 382721.
3.	Details of the test item	
	a) Nomenclature	Solar Cold Storage with Thermal Energy Storage
	b) Capacity/Rating	5 MT Capacity / 5.5 kWp Solar
	c) Manufactured By	M/s. Ice Make Refrigeration Limited
	d) Model / Type No.	5 MT
	e) Serial No.	221-2210 (Cold Room)
	f) Trademark	 Trusted Cooling Partner
	g) Testing Procedure & Testing Parameters	The testing of solar cold storage with thermal energy storage has been carried out as per the draft MNRE testing protocols for solar cold storage with thermal energy storage. The following parameters are tested: <ul style="list-style-type: none"> ✓ Storage Capacity of Thermal Energy Storage System ✓ Cooling capacity of the System ✓ Cooling Rates and minimum achievable temperature inside the cold storage ✓ Power requirement of a uxiliary load ✓ Solar Component and Operational Testing
4.	Date of receipt of sample	19/09/2023
5.	Condition of samples on receipt	Good
6.	Start of Test	2 nd Nov 2023
7.	End of Test	20 th Dec 2023
8.	Place of Testing	Solar Thermal Lab, National Institute of Solar Energy, Gurugram
9.	Date of Issue of Report	08/01/2024

Tested and Prepared by:

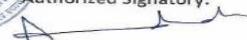

Siddharth Saroha & Vikrant Yadav

Reviewed by:


Dr. Kamlesh Yadav



Authorized Signatory:


Dr. Avadhesh Yadav



CAGR 13% or More for Solar Cold Rooms for next 5 Years

Main Stakeholders –1. Govt. Bodies Central & State Govt. 2. Farmers 3. NGO's 4. Solar Cold Room Solution Providers

Solar Cold Room Projects Executed in Indian States

1. Jharkhand
2. Odisha
3. Bihar
4. Madhya Pradesh
5. Uttar Pradesh
6. Goa
7. Tripura
8. Meghalaya

Solar Cold Room Projects Executed for

1. UNDP
2. WFP
3. JSPLS/JICA
4. IIT Delhi
5. State /Centre -Agriculture /Horticulture Boards
6. State Govt. Agencies
7. NGO's



Sponsor agencies i.e. Govt. Private or NGO's should focus on the connectivity of Such Solar Cold Room Storage Facilities based at Farm level

- To guide them in more details under POST HARVEST MANAGEMENT.
- To connect them to Mandi's or to Whole Sellers to increase the sustainability of such Eco-Friendly /Farmers Friendly Projects.
- Continuous Monitoring & upgrading the skills of end users.

THANK YOU

With Regards
Yogesh Sangwan
Sr. Manager-Sales
PAN India Incharge (Solar Cold Room)
Ice Make Refrigeration Limited



Trusted Cooling Partner

ICE MAKE REFRIGERATION LIMITED

PLANT AND CORPORATE OFFICE

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