



Solar Cooling Engineering

Ultra-Low Carbon Walk-In Cold Rooms

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Research & Development

Local manufacturing of solar cooling solutions (SelfChill Approach - DIY)
 Test and development of components
 Sizing methods and optimization tools



Consultancy

Access to cooling within agri-food value chains
 Detailed engineering for solar cooling projects
 Field testing of solar cold rooms, milk tanks and ice-makers (54 systems in 8 countries)

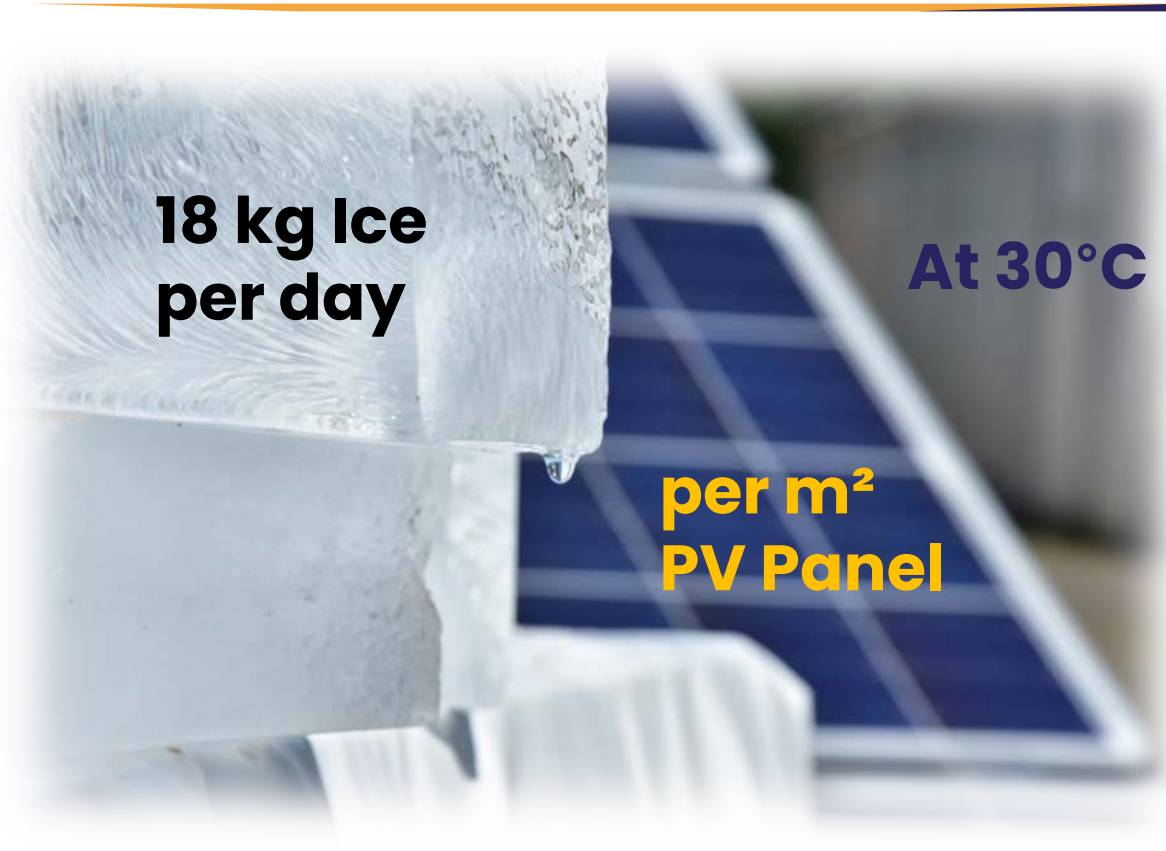


Capacity Building

Design of solar hybrid cooling solutions
 Operation and handling of cold rooms/milk tanks
 Business & Financial models



Solar powered Cooling is powerful and efficient!

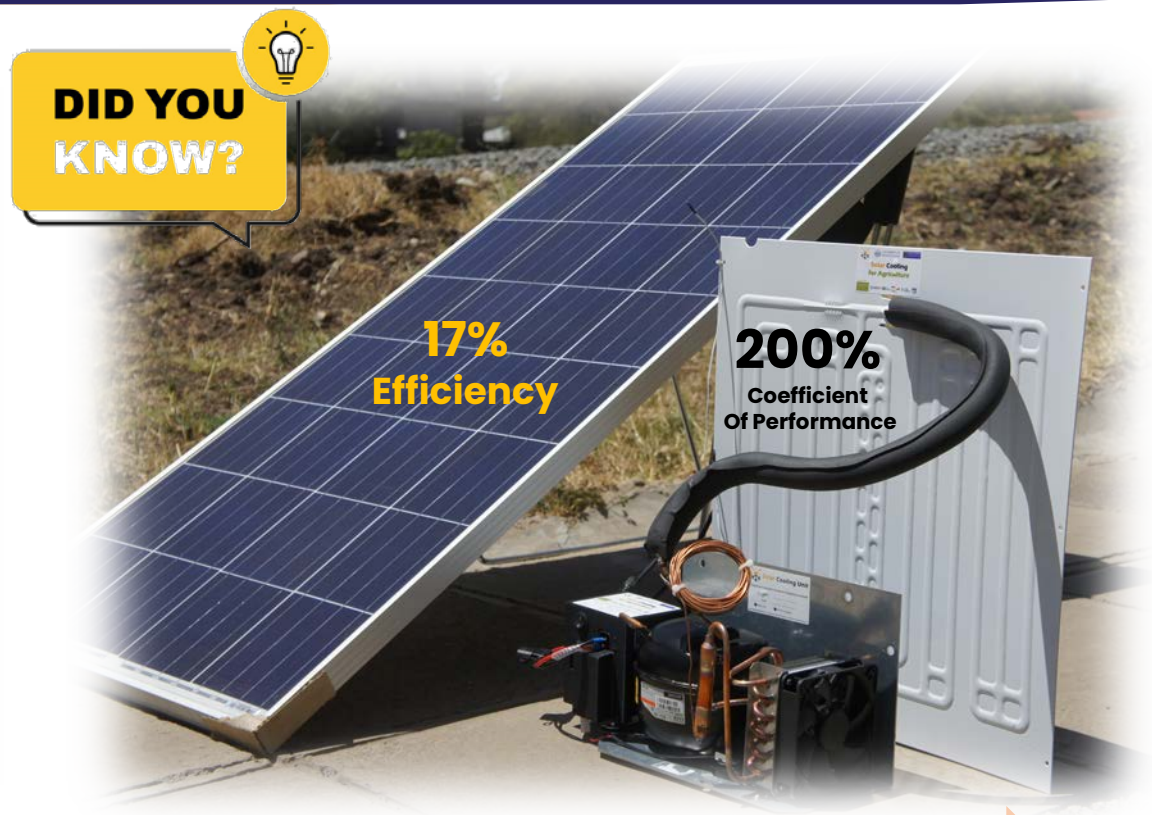



18 kg Ice per day

At 30°C

per m² PV Panel

18 kg Ice can cool down **100 kg food** from 30°C to 10°C



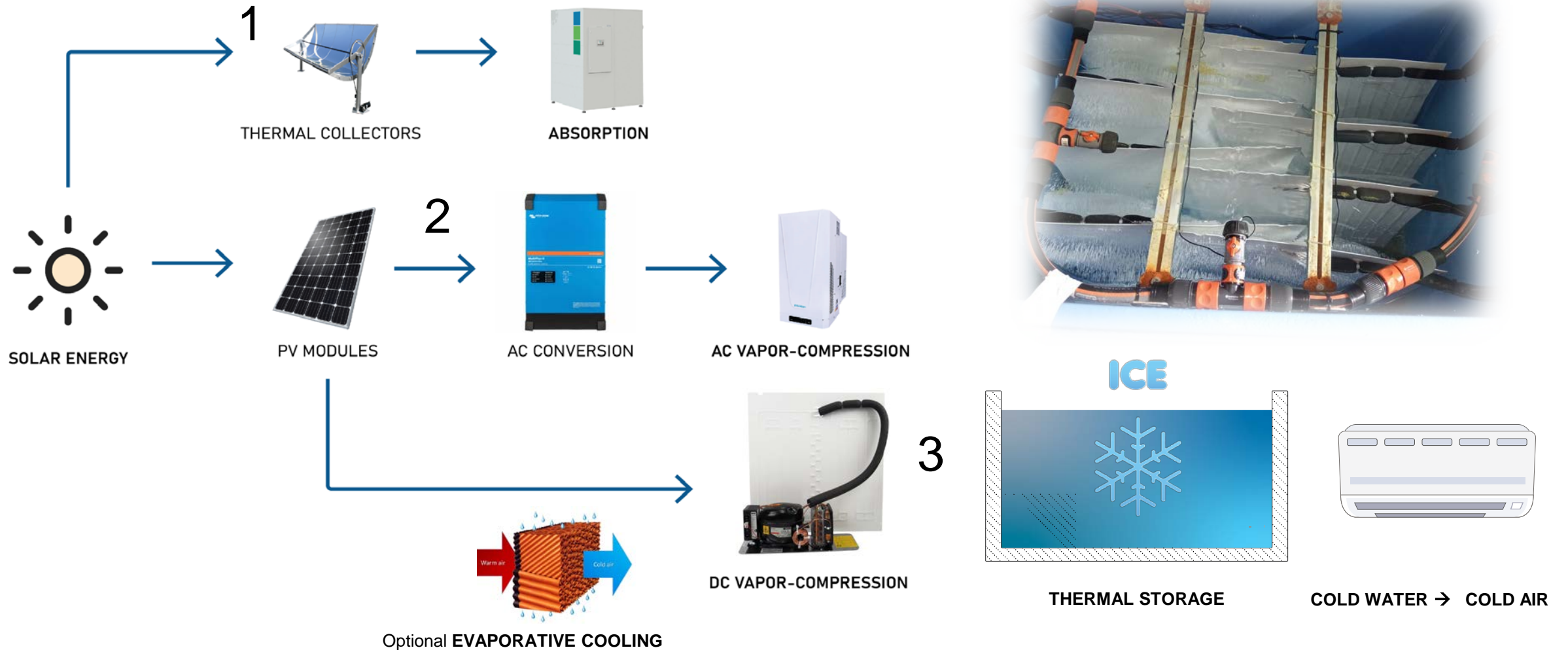
DID YOU KNOW?

17% Efficiency

200% Coefficient Of Performance

34 % of total solar irradiation converted into cooling Energy

Technologies available for solar powered cooling





www.selfchill.org



Ice Storage



Learn more at 12:24 by Ms. Géraldine Quelle, Research & Innovation, Phaesun GmbH



Mali
Nigeria
Tanzania
Zambia
Togo

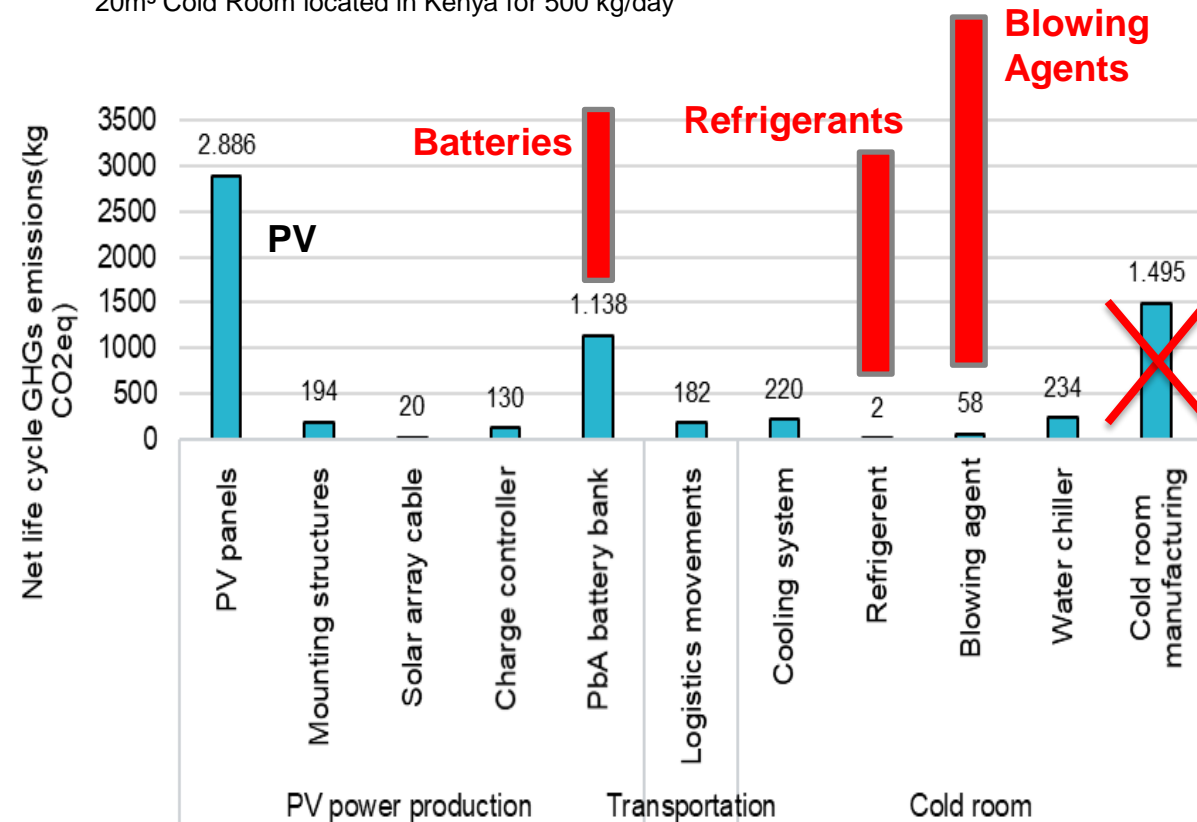


Carbon Net-Zero approach for solar powered cold rooms



NET ZERO

20m³ Cold Room located in Kenya for 500 kg/day



Biogenic insulation



Source: <https://efficiencyforaccess.org/publications/life-cycle-greenhouse-gas-emissions-assessment-of-off-and-weak-grid-refrigeration-technologies/>

Biogenic insulation instead of PU Sandwich panels

Production of the elements



Mockup testing in Kisumu, Kenya 6 Months – 5 different configurations



Selected type



First pilot with biogenic insulation comming soon!

Installation planed
for July 2024
at a marketplace
in Homa Bay, Kenya

Operated By:



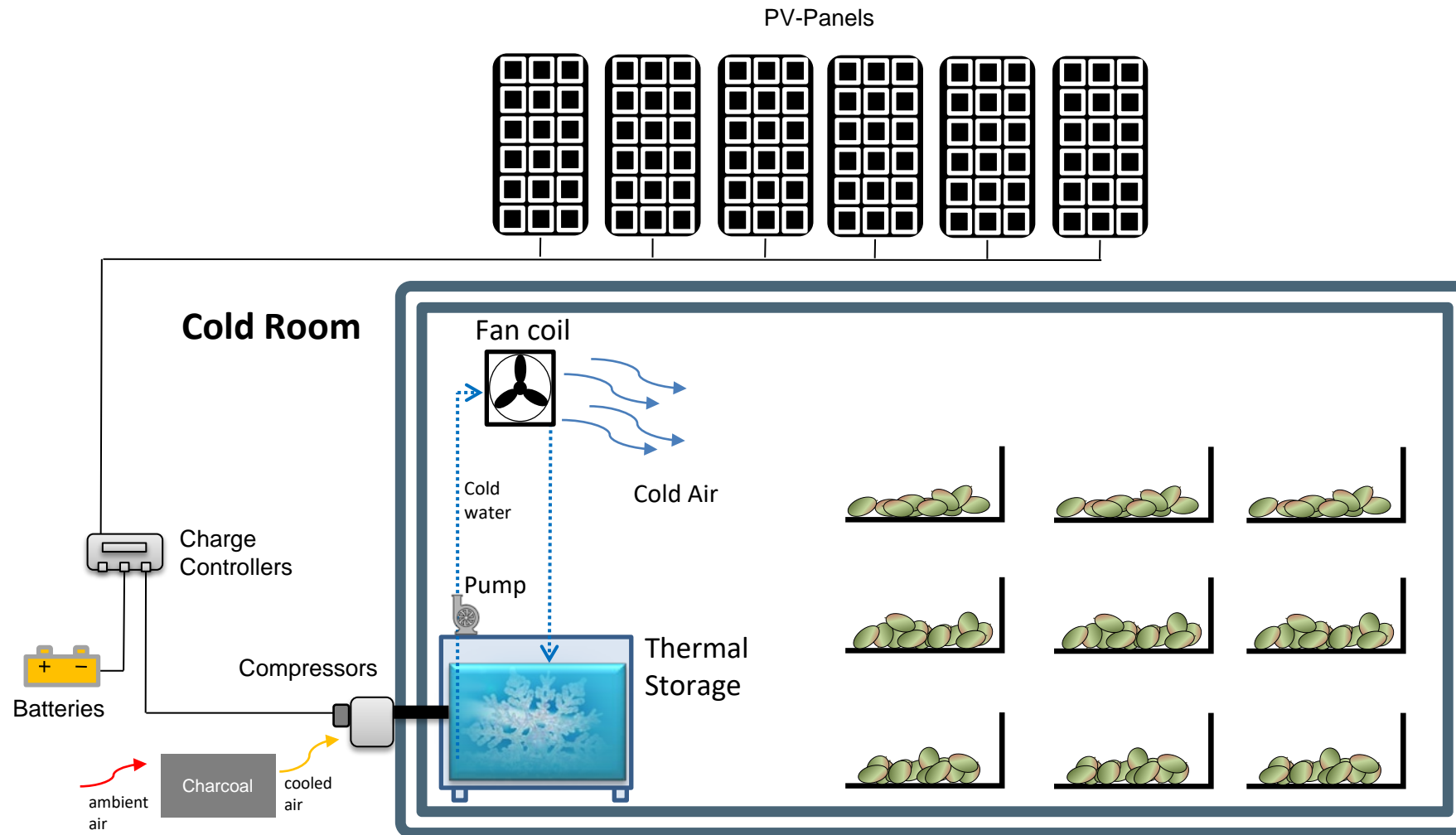
<https://wetu.co.ke/wecool>

Financial model:

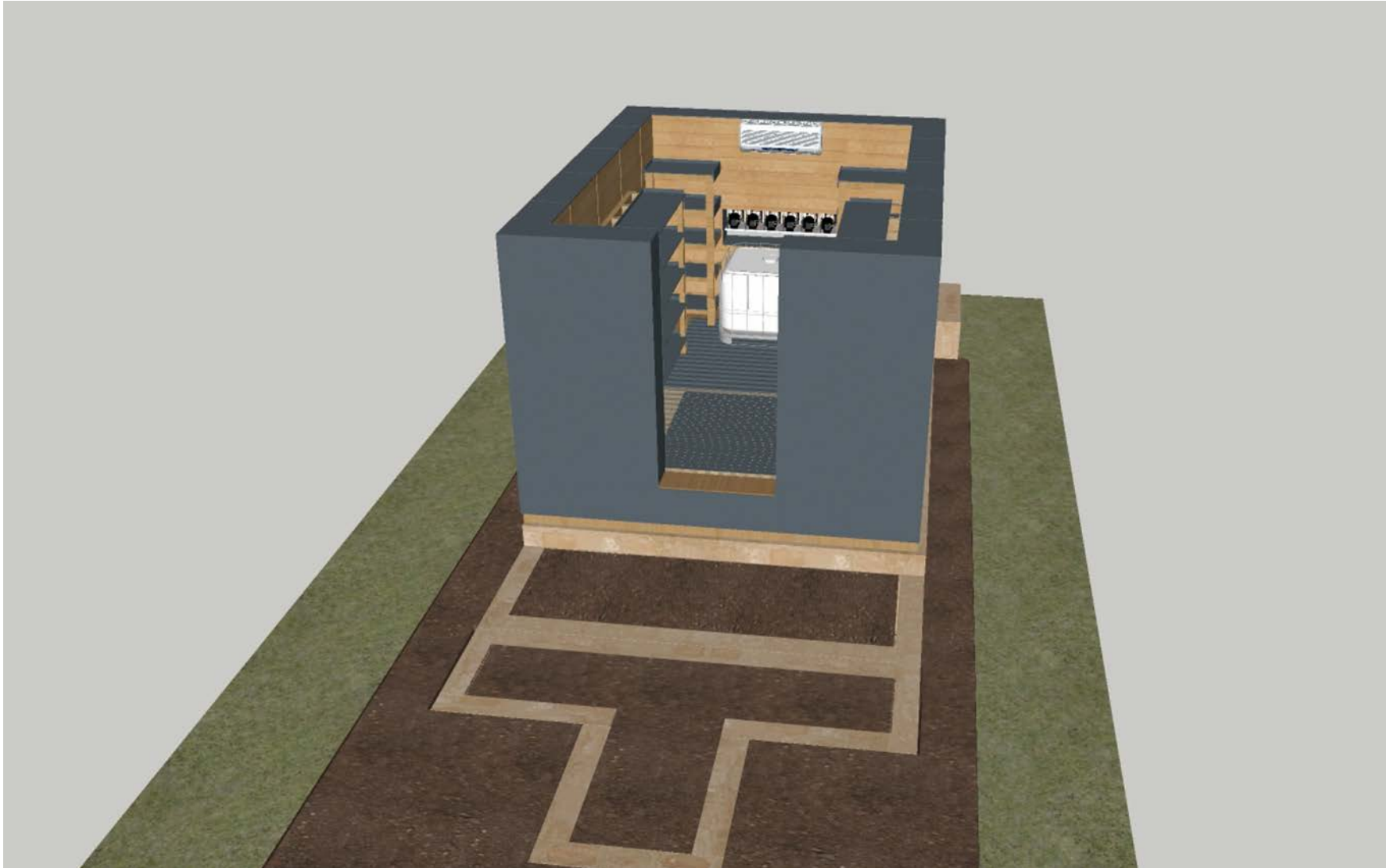
Cooling -as-a-Service



Function principle of the solar cooling system



Animation of construction process





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Thank you for your attention

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