suncool

Making a difference to your environment

Corey C. Blackman

Solar Heating & Cooling Collector (SunCool)

Heating

Cooling

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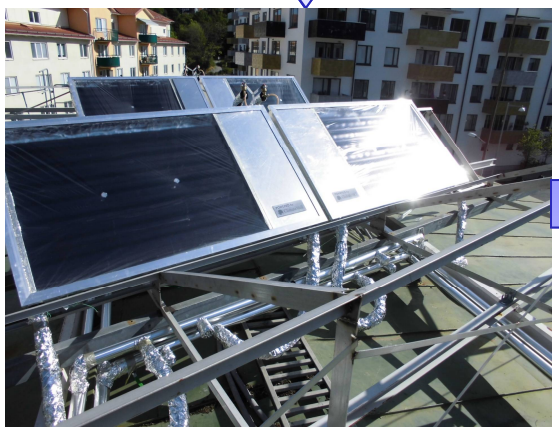
Development

Generation 0a – Single Collector (Fraunhofer ISE, Freiburg, 2012)



Generation 0b – 5.6 m^2 Collectors (Stockholm, 2013)

Development

Generation 1 – 180 m^2
Collectors – 40kW
[360 kWh/day]
(Karlstad, 2014)

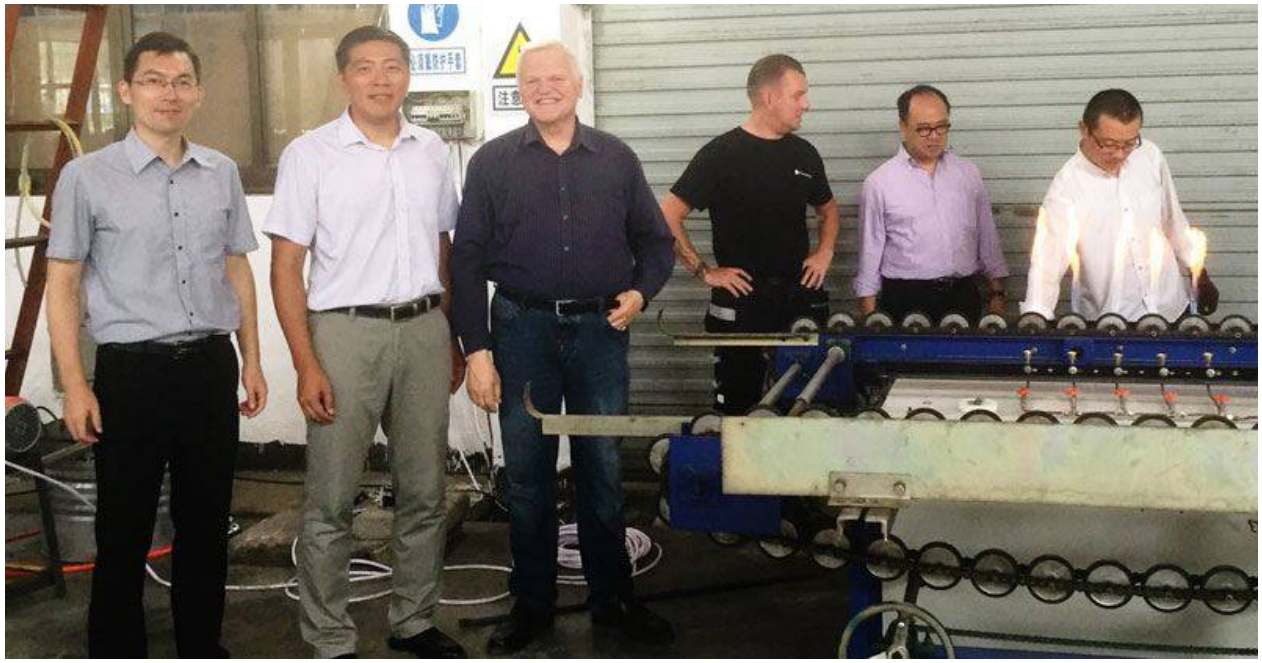
Further info in Activity A2

Development

Generation 2 (European Project A2PBEER) – 55m^2 Collectors
12 kW$_{cooling}$ [118 kWh$_{cooling}$/day] (Ankara, Turkey, Oct 2016)

Manufacturing in China

Zhong Fa Zhan Holdings Limited



http://corp.saltxtechnology.com/sv/press/nyheter-nyhetsbrev/details?releaseId=2297338

PhD Studies

The project seeks to optimise various possible configurations of a decentralised/distributed thermally driven heat pump as a complement to, or replacement of, district heating for space and/or water heating and/or cooling.

The following research questions have been answered thus far:

- ☑ What are the primary performance indicators for a sorption integrated solar heating and cooling system?
- ☑ What are the typical values of the performance indicators for a sorption integrated solar heating and cooling system?
- ☑ What are the potential energy and monetary savings of the system?

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Generation 3 (PhD Studies)

Objective:

- Increased Robustness of Sorption Module (optimised sorption module technology)
- Lower Cost (performance effect of cost reduction procedures)

Remaining Research:

- ☐ Development and validation of generic model of sorption module for coupling to various applications (solar cooling, energy storage, gas driven heat pumps, etc.)
- ☐ Simulation of sorption module for solar heating and cooling applications in multi-family buildings and/or hotels
- ☐ Benchmarking - comparison to other technologies: performance and cost

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Techno-economic System Comparison

A case study of various heating and cooling system scenarios will we used to compare systems on the basis of performance and cost.

Scenario	Solar	Heating System	DHW	Cooling System
1	SunCool	SunCool + Boiler	SunCool + Boiler	SunCool + Electric Chiller
2	PV	Reversible HP	Electric Resistance	Reversible HP
3	PV	Reversible HP	Reversible HP	Reversible HP
4	Solar Thermal + PV	PV + Reversible HP	Solar Thermal + Electric Resistance	Reversible HP

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