

Case Study Solar Thermal Air Conditioning

Solar thermal assisted compression technologies providing effective and efficient process cooling.

SolarCool Technology considerably increased the efficiency of the air conditioning within a Pizza Hut franchise. Our product is an innovative, combined technology designed to harvest the free energy from the sun, thus creating thermal energy to better assist the refrigerant compression process.

Customer Situation

A substantially sized Pizza Hut franchise utilising several applications, each consuming large amounts of electricity including: process cooling, freezing, refrigeration and comfort cooling throughout.

Problem: existing cooling systems failing to achieve temperatures below 82°F

Solution

Replace the existing 10-ton system with the SolarCool equivalent 10-ton system.

Used for comfort cooling; with a target temperature of 77°F

Benefits

- *Reduced electricity overheads *Reduced ongoing equipment maintenance costs
- *Extended equipment lifespan
- *Reduced CO2 production
- *Improved working temperatures *Increase in staff and customer comfort



Air conditioning constitutes one of the largest overhead costs facing a broad spectrum of businesses today, regardless of location and/or industry.

Prior to the installation of SolarCool's innovative system, the kitchen was running at 82°F. This was significantly reduced to temperatures between 74°F and 75°, far surpassing the initial target.

Not only has this achieved a more comfortable working environment, the running costs of the air conditioning have been drastically reduced in the process along with CO2 production levels.

The reduction of CO2 production is of paramount importance if Europe is to achieve its ambitious emission reductions, decrease the excessive reliance on imported energy and reduce costs to business and industry.

A further aspect adding the commercial viability of SolarCool's pioneering technology is the ROI timeframes. Considerably lower than most renewable energies, SolarCool boasts ROI's up to 10-times lower than that of PV & Wind for example.

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Project Partners

- Pizza Hut
- SolarCool International
- Chief Engineer, Francisco Vadillo
- SolarCool South America

SOLAR COOL Heating and Coolina

Energy earns, or simply burns...the choice is yours

Ribble Court Business Centre, 1 Mead Way, Shuttleworth Mead, Lancashire, BB12 7NG Phone: 0844 33 00 321 Email: <u>becky.barr@solarcoolenergy.com</u> Web: www.solarcoolenergy.com The existing kitchen 10-ton system was substituted along with the 2 x 5-ton systems situated in the restaurant.

A monitoring energy circuit marker recorded readings before and after the installation; the results are displayed on the graph below.



"At the time the ambient temperature begins to warm up, around 8:00am the power of the machine starts a surprising decline into a 6kW position, remaining there throughout the day's hottest phase."...

... "When the sun is in the sky, the compressor in these machines basically acts as a pump, moving the refrigerant throughout the components. In our view, these systems are optimal in this type of application above any other."

-Francisco Javier Vadillo – Pizza Hut.

To find out more...

If you'd like to know more about this project, please email becky.barr@solarcoolenergy.com or call 0844 33 00 321

www.solarcoolenergy.com