

## Case Study

# Collective Energy Efficiency Technologies

Solar thermal assisted compression technologies providing effective and efficient process cooling

SolarCool technologies markedly increase the efficiency of the whole building within this Kay Group - Texaco and Spar Convenience Store in Lancashire, UK. Our system is an innovative, combined technology designed for commercial business including harvesting the free energy from the sun, thus creating thermal energy to better assist the refrigerant compression process.

### Customer Situation

Over recent years energy prices have continued to rise at a rate in excess of 8% per annum.

This can have a severe impact on overall site profitability, with electricity now being the second largest overhead in this multisite business.

### Solution

Provide a turnkey solution with the goal of producing the most energy efficient fuel site in the UK

Challenge: any additional capital expenditure involved in the whole installation must have a Return on Investment for the Group of no more than 3-years

### Benefits

- \*Reduced electricity overhead
- \*Reduced ongoing equipment maintenance costs
- \*Extended lifespan of equipment
- \*Reduced CO2 production



For every other refrigeration system on the planet, the sun is effectively the enemy...with SolarCool however, the hotter it gets, the more efficient it becomes; reducing overall energy consumption by up to 60% when the sun is in the sky.

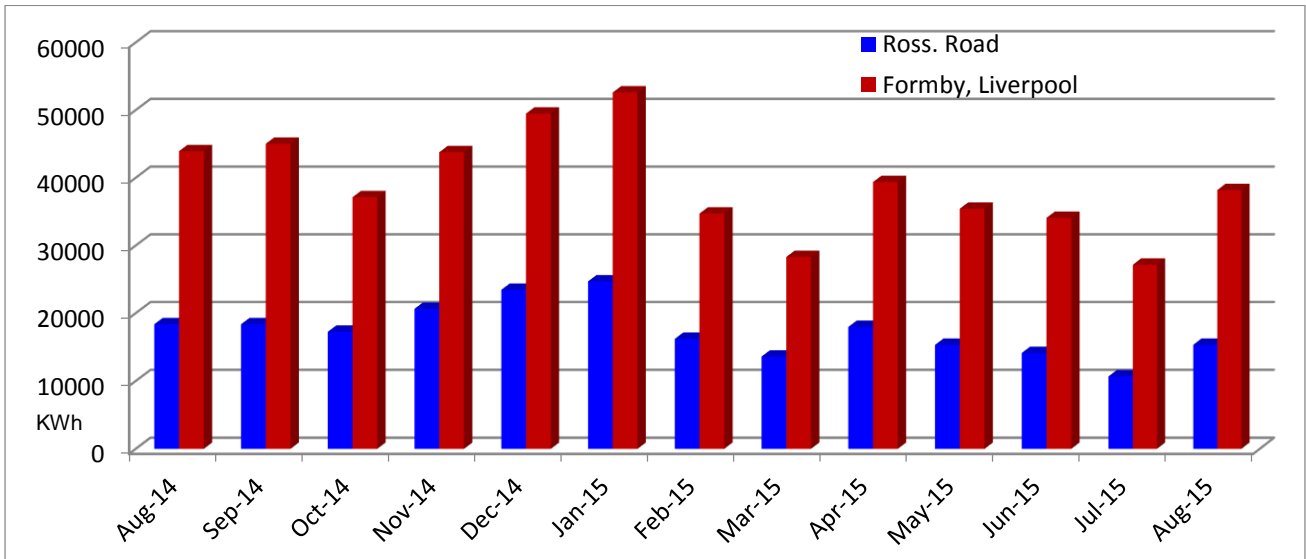
*"The UK benefits from between 1,400 and 1,900hrs of unbroken sunshine every year, at such a small comparative additional cost there are no reasons why any business would not take advantage of this free energy on their cooling & heating systems". - Chris Micallef, Technical Director, SolarCool.*



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

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## Solar Thermal Refrigeration & Air Conditioning



The above graph illustrates the KWh usage of the whole site in comparison to an exact blue print site within the same group.

**Formby, Liverpool** – this site was built around 2-years prior by a competing company. The red bars above show the average monthly energy consumption illustrated above in KWh.

**Rossendale Rd** – this site was constructed in July 2014. At this point we installed a number of efficiency technologies which included – LED lighting, voltage optimisation and SolarCool on both refrigeration and air conditioning (heating & cooling).

In comparison to the exact replica site, in total the efficiencies installed in Rossendale Rd reduced the energy consumption by **56%**.

### Project Partners

- The Kay Group
- Spar
- Modern Refrigeration UK Ltd
- SolarCool Energy Ltd
- Diverse Cooling Ltd

*“After retrofitting seven of our sites, they collectively reduced the energy consumption by **36%**, therefore they were clearly the right partner for this new build project. So far they are producing results that are in line with their own projections and therefore well in line with our expectations”.*

Richard Cox, MD of The Kay Group



The readings tell the story - resulting in an unrivalled ROI of only 18-months.

If you'd like to know more about this project, please email [info@fusionofpower.com](mailto:info@fusionofpower.com) or call **01803 428263**

[www.fusionofpower.com](http://www.fusionofpower.com)

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