

## CASE STUDY: Sabic UK

### SABIC UK PETROCHEMICALS PREPARES FOR NEXT 20YRS OF LOW ENERGY BILLS AND CARBON EMISSIONS

Location:	Wilton
Equipment:	3 x Azanechillers
Refrigerant:	Ammonia / Glycol
Capacity	580kW
Temperature	- 9°C to -14°C

As Europe's leading producer of petrochemicals, SABIC UK demands the highest quality equipment on the market. This ensures that the product is of exceptional quality, as well as enforcing the safety of staff and site visitors. The RBS Butadiene Plant in Wilton is one of SABIC's 13 world class petrochemical production sites. The company's existing refrigeration plant is 35 years old and in order to replace and bring it into line with the R22 phase out, which came into force January 2015- SABIC recruited Star Refrigeration.

After preliminary consultancy work with STS a plan was developed to install a bespoke system which completely replaced the existing R22 plant. However, when the total project costs were evaluated, a fully bespoke scheme proved expensive. Star Refrigeration embarked on a mission to produce a lower cost solution using modular package design chillers to meet the process cooling requirements. SABIC trusted Star to keep costs to a minimum and ensure a smooth

## PROJECT: Azanechiller

transition to efficient and low carbon refrigeration systems.

Jon Hetherington, SABIC Project Group Manager said, "After reviewing the initial total replacement plan, we decided that the costs were simply too high. We started to look for alternative solutions and Star's modular package project looked attractive. As well as using premium quality equipment the company enjoys a strong industry reputation which gave us confidence that we were working with one of the most reliable suppliers in the business".



Star's air-cooled Azanechillers on site

As part of the upgrade, Star installed 3 off 193kW Ammonia Azanechillers to cool 40% w/w Ethylene Glycol from -9C to -14C. The air-cooled Azanechillers are configured to operate in series for maximum efficiency, actively cooling the glycol supplied to the butadiene process heat exchangers.

For SABIC, this innovative approach represented a range of benefits. One of the major benefits was the significantly lower cost compared to initial quotes for a fully customised system. The new modular design of the Azanechiller offer improved efficiency and reliability while the first rate equipment immediately boosts the longevity of the plant as does the low charge ammonia technology employed.

The use of natural refrigerant ammonia has also future proofed the Wilton RBS Butadiene Plant and brought it into line with governmental law. The conscientious decision of using natural refrigerants cements the company's status as a responsible manufacturer of "the chemistry that makes things possible".

While this particular project was unique, it wasn't the first time that Star has worked with SABIC. The leading industrial refrigeration and heating supplier has previously supplied a propylene refrigeration system for the SABIC Ethylene Liquefaction plant at North Tees. The project was a great success which gave SABIC reassurance that they were enlisting the help of a tried and tested company.

Star is currently offereing SABIC a three year maintenance contract which will ensure that the

new modular design Azanechiller system continues to perform at its best.

In the future, Star hopes to continue to work with SABIC UK Petrochemicals and help the company to maintain its status as Europe's leading Polyethylene and Polypropylene business.

**For more information, phone Star Refrigeration on 0141 638 7916, email [star@star-ref.co.uk](mailto:star@star-ref.co.uk) or visit [www.star-ref.co.uk](http://www.star-ref.co.uk). Star Refrigeration, Thornliebank Industrial Estate, Glasgow G46 8JW.**

 Thornliebank Ind Est Glasgow UK G46 8JW  T: +44 (0)141 638 7916 E: <a href="mailto:star@star-ref.co.uk">star@star-ref.co.uk</a> W: <a href="http://www.star-ref.co.uk">www.star-ref.co.uk</a>	 Thornliebank Ind Est Glasgow UK G46 8JW  T: +44 (0)141 638 7916 E: <a href="mailto:dblackhurst@star-ts.co.uk">dblackhurst@star-ts.co.uk</a> W: <a href="http://www.star-ts.co.uk">www.star-ts.co.uk</a>	 Wincanton Close Ascot Drive Derby DE24 8NB  T: +44 (0)1332 861370 E: <a href="mailto:info@star-mesolutions.co.uk">info@star-mesolutions.co.uk</a> W: <a href="http://www.star-mesolutions.co.uk">www.star-mesolutions.co.uk</a>	 Thornliebank Ind Est Glasgow UK G46 8JW  T: +44 (0)141 638 7916 E: <a href="mailto:info@i-know.com">info@i-know.com</a> W: <a href="http://www.i-know.com">www.i-know.com</a>	 Craftsman's Way Lowestoft Suffolk NR32 3LQ  T: +44 (0)1502 562206 E: <a href="mailto:info@star-frost.co.uk">info@star-frost.co.uk</a> W: <a href="http://www.star-frost.co.uk">www.star-frost.co.uk</a>
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**Case Study:**

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