ProGen | GREENS OF SOHAM

Bespoke Chilled Glycol System

ProGen was commissioned to deliver a comprehensive, full turn-key refrigeration, mechanical, and electrical (M&E) installation for the farming and fresh produce enterprise, Greens of Soham in Cambridgeshire.

This project centred on designing and installing a bespoke 250kW chilled glycol system to provide high-efficiency temperature control essential for both rapid cooling and long-term, quality-controlled storage of their fresh produce.

Client	Project Value	Project Type	Location
Greens of Soham	£345,000	Industrial/Farming	Soham, Cambridgeshire

Background

Greens of Soham, a prominent farming and fresh produce enterprise, required a critical upgrade to their temperature control infrastructure. The existing system needed replacing with a modern, high-capacity solution capable of managing the cooling and storage requirements for their crops, particularly beetroot. ProGen was engaged to provide a turn-key solution, managing all aspects of the refrigeration, mechanical, and electrical installation.

Key Challenges

The primary goal was to implement a refrigeration system that maximised produce quality and longevity while adhering to stringent energy efficiency targets.

Minimising Crop Dehydration: The system needed to achieve optimal cooling temperatures without drawing excessive moisture from the produce, which is crucial for maintaining the quality and appearance of fresh items like beetroot during long-term storage.

Comprehensive M&E Requirement: Providing a full suite of M&E systems for the newly formed areas, including power and HVAC systems.

Critical Time Constraint: The entire project, from order to commissioning, had to be completed within 11 weeks to be fully operational before the start of the client's harvesting season. This was a key factor in ProGen winning the project.

Long Lead-Time Equipment: The primary challenge was integrating the required capex equipment, which had an 8-week lead time, into the accelerated 11-week total delivery schedule.

The Solution

ProGen designed and implemented a bespoke 250kW chilled glycol system, integrating cutting-edge refrigeration and M&E technology to address the client's needs for quality control and efficiency. Key elements of the solution included:

Glycol System: Installation of a system rated at 250kW, providing reliable, powerful cooling for the storage facilities.

Low-Impact Cooling Design: The incorporation of large, low TD, floor-mounted coolers specifically designed to minimise crop dehydration by maintaining a closer temperature difference between the air and the refrigerant.

Advanced Defrost Technology: Utilising Warm Glycol Defrost to ensure minimal energy usage and faster defrost times compared to traditional electric heating methods, contributing significantly to overall system efficiency.

Execution

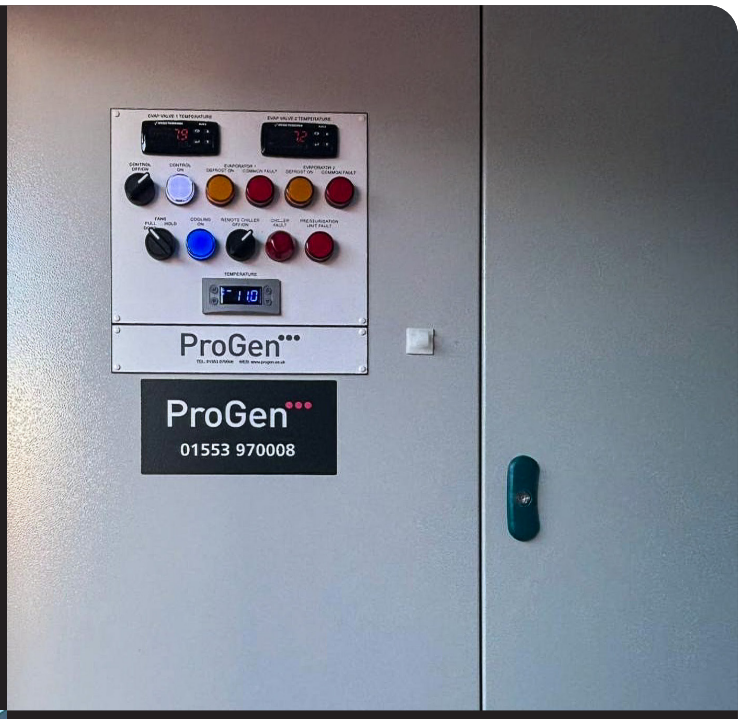
The project involved coordination with key manufacturing partners to deliver a high-specification, integrated system:

- Installation of a high-efficiency Trane UK chiller unit featuring low-GWP refrigerant, low-noise operation, Microchannel condensers, and energy-efficient EC Fan technology to reduce environmental impact and running costs.
- Installation of bespoke, purpose-built control panels and valve station housings to ensure seamless, reliable operation and multi-mode fan control.
- Detailed installation of the glycol piping and integration of coolers, ensuring optimal thermal transfer and robust infrastructure for the long-term facility operation.

Results

The completion of the turn-key project successfully delivered a refrigeration solution that is a game-changer for Greens of Soham.

The new system provides reliable and efficient temperature control, significantly enhancing the quality and longevity of their produce. The implementation of low TD coolers and advanced controls ensures the beetroot is kept at its best, supporting increased operational efficiency and reduced product loss.



Lessons Learned

Early collaboration with specialist suppliers was key to successfully engineering a complex 250kW bespoke system. The focus on design-to-efficiency—specifically incorporating Warm Glycol Defrost and low TD coolers—demonstrates the critical value of pairing M&E expertise with detailed agricultural requirements to achieve significant long-term energy savings and superior produce quality control.

Conclusion

The Greens of Soham project demonstrates ProGen's expertise in delivering significant, high-specification turn-key refrigeration and M&E solutions within the industrial and agricultural sectors. By executing a precise, energy-conscious plan, ProGen has provided a modern, highly efficient infrastructure that sets a new benchmark for fresh produce storage and temperature control.