

Case Study: Butterfield and Vallis uses PCM thermal storage to cut refrigeration costs

Butterfield and Vallis, a leading food distributor in Bermuda, is saving over 40% of their electricity consumption using Viking Cold's Thermal Energy Storage Solution. Viking Cold's patented thermal energy cells were installed in the ceiling of Butterfield and Vallis' 10,000-square-foot warehouse freezer in 2015. The Thermal Energy Storage System absorbs heat, allowing the chillers to run less frequently and keeping the warehouse within a few degrees of -18° Celsius.

Viking Cold's Thermal Energy Storage Systems address two major price concerns in the island: the soaring costs of both electricity and food.

“We can confirm that we are saving 40 per cent of our refrigeration costs, which represent 50 per cent of the facility's power consumption,” said Mr Butterfield. The company has invested heavily in new customer services, but the power savings help avoid passing on that cost to consumers, he said. “We determined 2½ years ago to run with it — it is large scale, but we have the largest freezers on the Island.”



Cold storage facilities are benefitting from the usage Viking Cold's Thermal Energy Storage System to shed or shift electricity load. Viking Cold's patented system provides many benefits:

Intelligent energy use

Thermal Energy Storage solutions store refrigeration when electricity costs are lowest and deploys it when electricity costs are highest. Thermal Energy Storage can offset a significant portion of expensive on-peak demand charges, up to 90%.

Built to last and simple to install

Thermal Energy Storage Cells are built to last more than 20 years. Installation is simple, the Thermal Energy Storage System installs alongside your current refrigeration system.

Vital protection during power outages

The Thermal Energy Storage solution features backup cooling that helps protect food from spoilage during power outages. Mitigating costly product loss is crucial, particularly when insurance coverage often takes 24 hours to take effect.

Measurement, Reporting and Predictive Capability

The monitoring and reporting system uses performance data with alarms to provide early warning when refrigeration issues arise. The system has predictive capabilities to tell when your equipment begins to degrade, providing early warning before expensive problems arise.

Butterfield and Vallis's Thermal Energy Storage System is among 22 built and installed by Viking Cold in cold storage warehouses in Puerto Rico, Bermuda, St. Thomas, California, New Mexico and Texas. Collin Coker, Viking Cold's vice president for sales and marketing, said his company is currently working on grocery store installations in Texas and California.

