

Thermal Energy Storage Solutions

Pioneering cleaner and more efficient energy production.

As we move towards 2050, the use of low carbon energy generation is increasing as part of our efforts to reduce CO2 emissions.

Energy storage will play an essential role in the transition to a low-carbon energy system and help solve the challenge around power and production intermittency.

Heat transfer technology is a critical component within an energy storage system which can store energy from any source, in any location, for several days.



Heat Transfer Solutions Partner

Glacier Energy is a leading International provider of specialist products, services, & engineering solutions for new and existing infrastructure. We have an established track record across the wider energy sector including alternative energy, where we see significant growth potential.

Our heat transfer division are renowned specialists in the provision of high pressure, high temperature equipment solutions. We offer a full turnkey service comprising the design, manufacture, repair and maintenance of heat transfer equipment, including full failure analysis to help restore assets to optimal working condition, saving significant time and money.

We provide standardised off-the-shelf equipment, pioneering & bespoke new-build solutions and the reverse engineering for obsolete units, to meet exact technical specifications. As one of the only dedicated design & manufacturing companies in the UK with specialist thermal and mechanical engineering capabilities, we support clients across the entire energy sector including renewables and alternative energy.

Thermal energy storage will play an important role in the energy transition as it has the potential to dramatically improve power grid stability and resilience.

Our Energy Storage Expertise

As a proactive participant in the energy transition and to help achieve the industry's net-zero ambition by 2050, we have been working with **Innovate UK** to support the energy storage requirements of several new and progressive energy service partners and university R&D departments.

Winning this work is testament to Glacier Energy's thermal mechanical engineering expertise as all the heat transfer units require unique and specialist designs that have yet to be introduced to the market.

Case Studies

Client Case 1:

Our client is currently developing technology that takes excess electricity that is not required by the grid and would normally be wasted and stored in a compressed state. It will fundamentally be an energy storage pilot plant that works by compressing & decompressing the air, producing heat and pressure, which is then converted back into electricity by using the energy to drive a turbine when the requirement arises in a reverse process.

Solution

Glacier Energy is developing three stainless steel shell and tube Heat Exchangers designed and manufactured in accordance with ASME VIII

Div. I&II. They will use compressed air as the working fluid to produce heat and pressure which is then converted back into electricity.

Client Case 2:

With around 30% of compressed gas in the UK wasted, our client is developing a device that sits on the back of a gas compression train to capture compressed gas and saving it as thermal storage. This can then be used to create electricity

Solution

Glacier Energy is developing three stainless steel Heat Exchanger vessels designed and manufactured in

accordance with British standard PD5500:2018+A2:2019 Cat 2.

Client Case 3:

Our client aims to reduce waste heat by creating a storage device that uses heat exchangers that can work in reverse to re-use the electricity.

Solution

Glacier Energy is developing two stainless steel ammonia 2-pass Heat Exchangers designed and manufactured to ASME VIII Div II 2019 edition.



Fully integrated partner

Glacier Energy's heat transfer solutions capability complements our broad portfolio of additional on-site technical services including NDT & inspection, machining and welding solutions which are all delivered on-site or from one of our dedicated workshops. This unique blend of value-added services ensures our clients' engineering & construction, integrity, and life extension projects can be delivered more efficiently and effectively, through a single-source provider.



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