CASE STUDY UK

Long Shop Museum

Sustainable heat pump upgrade for Suffolk's Historic Long Shop Museum

The Long Shop Museum in Leiston, Suffolk, is a unique heritage site housed in one of the country's earliest purpose-built industrial buildings. Dating back to 1852, it was originally part of Richard Garrett & Sons' engineering works and became the first flow-line assembly building for steam engines. Today, the museum preserves a rich industrial legacy and showcases historic locomotives, fire engines, and engineering artefacts.

With deep community roots and volunteer-led operations, the museum is committed to conservation, both of historical objects and environmental impact, making it the perfect setting for a sustainable energy transformation. Fraser Hale, Director of the Long Shop Museum, had a clear goal when he took over the running of the museum nearly five years ago: replace the inefficient and underperforming gas boiler with a system that delivered comfort, control, and sustainability.

PUBLIC BUILDING

Underfloor heating, under-performing

The existing heating setup - an ageing boiler serving underfloor heating - simply wasn't up to the job. "The underfloor heating was retrofitted, but the boiler wasn't designed to run at the low temperatures needed," Fraser explains. "We had to turn it down so much that it operated outside its sweet spot - constantly cycling, inefficient, and unreliable."

Worse still, the system couldn't provide a stable environment for the museum's historic records. "It was a poor solution in every way," says Fraser. "It was either too cold, too expensive, or a fire risk. We needed an alternative."

Community-driven decarbonisation

The project took shape as part of EDF's Leiston Net Zero initiative, a community-focused effort to promote clean, energy-efficient technologies in the local area. EDF offered a full grant for the heat pump installation at the museum. "It was a fantastic opportunity," Fraser explains. "We knew we wanted to move away from gas, and the funding meant we could take action without delay."

EDF directed Fraser to Clima-Tech, a Daikin D1 Business Partner. Installer Ashley Shemmings surveyed the site and quickly identified Daikin's Monobloc air-to-water heat pump as the ideal solution. "The museum needed quiet operation, a compact unit, and compatibility with the existing underfloor system," Ashey explains. "The EDLA model ticked all the boxes - low noise, small footprint, and designed for low-temperature systems."

Precision meets preservation

.Located in a residential area, the project required a noise survey and strict compliance with local regulations. "The Daikin Altherma Monobloc came in well below the noise threshold," says Ashley. "Other heat pumps were simply too large or too loud."
Space constraints also made the Daikin Altherma Monobloc the right choice, explains Ashley. "There was no room for a large unit, and minimal disruption was a priority. We installed the new system using hydraulic separation, meaning we could retain the original pipework, controls, and underfloor setup, saving time, cost, and complexity."

"The heat pump is far more efficient, and the control system means we only use what we need, when we need it."

Fraser Hale, Director
Long Shop Museum

Installation without interruption

The project was completed in just two working days. "Clima-Tech were fantastic," says Fraser. "They planned thoroughly and made sure everything was done right the first time. Once the install began, it was quick, clean, and seamless. The system was up and running immediately."

From an operational perspective, the upgrade made a huge difference, particularly for the museum's record storage room, which now maintains a consistent, safe temperature year-round, as Fraser notes. "In the past, it was either too cold or too hot, and we worried about damaging delicate documents. Now, with the steady low heat from the Daikin system, we have the stability we need, without the risk or high costs."

Smarter control for volunteer-run spaces

As a volunteer-led organisation, flexibility and remote management were crucial. The new Daikin system is app-enabled with the Daikin Onecta App, meaning volunteers can turn on the heating from home before school visits or public events. "It's brilliant," Fraser says. "We don't have to be on-site to prepare the space. It's more convenient and very energy-efficient."

Convenient connectivity is a key part of any Daikin system, and Daikin's Onecta App combines remote control, voice activation, and advanced energy management in an intuitive sleek interface. It easily connects to the users' account, and can manage multiple systems, set up schedules or holiday modes, and monitor daily usage. Compatible with both Google Assistant and Amazon Alexa, it also integrates with the MMI or Madoka controller for unified access and total control.
During the 2023 winter season, the system really proved its worth. A major gallery decant meant valuable objects were relocated to the heated space. "Volunteers spent the whole winter cataloguing and restoring artefacts," Fraser explains. "That work simply wouldn't have been possible without the comfort and reliability of the Daikin heat pump."

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Ashley Hemmings
Clima-Tech

Substantial energy savings

While hard numbers are still being compiled, Fraser estimates a 60% reduction in energy use compared to the old gas setup. "It's not just about cost savings," he adds. "It's about energy input. The heat pump is far more efficient, and the control system means we only use what we need, when we need it."
Ashley from Clima-Tech agrees: "This project proves how well heat pumps can work in heritage properties. It's a clean, future-proof solution that didn't compromise the museum's infrastructure or valued, and in some case valuable, collections."

Kit List

Model	Description	No of units
EDLA08EV3	Daikin Altherma low capacity Monobloc	1

For further details visit our website:

https://www.daikin.co.uk/en_GB/about/case-studies/long-shop-museum.html

A trusted team and technology

Fraser credits the success of the project to two things: a trusted installer and a proven product. "I already knew Clima-Tech from a previous role, so I trusted them. Daikin's reputation speaks for itself. Together, they delivered exactly what we needed."

Would he recommend Daikin to others? "Absolutely. If a property suits a heat pump - and many do - there's no reason not to make the switch. For a museum dedicated to industrial progress, the move to sustainable heating is another chapter in innovation." Thanks to the partnership between Daikin, Clima-Tech, and with EDF's grant, the Long Shop Museum is now warmer, greener, and better equipped to showcase the past, while helping to shape a low-carbon future in Leiston.

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