KENDRA



How Kendra helped an NHS Trust rack up big energy savings with 100% ROI in less than a year

In March 2024, Surrey and Borders Partnership NHS Trust brought Kendra Energy Solutions onboard to address performance concerns at Gatton Place. The Trust's main administrative building for patient advice and consultancy for mental health, wellbeing and drug and alcohol services.

This followed a benchmarking exercise (using energy consumption and building data) to understand the energy intensity of all 30 of the Trust's buildings. Based on the results, a performance league table was created. It flagged Gatton Place as one of the highest energy users across the Trust's portfolio.

Until Surrey and Borders inherited the building seven years ago, it was a multi-tenanted administrative building for a bank. The plant hadn't been well maintained and NHS staff soon noticed temperature control issues. For the Trust, this raised concerns about the health and comfort of building occupants and prompted a deep dive into Gatton place's energy management practices.

Areas that required attention

Kendra helped identify various problem areas, including:

- **Outdated infrastructure**
  The plant room at Gatton Place needed modernisation. Key assets, including the chiller, weren't operational and system controls were either outdated or non-functional.
- **Comfort management**
  The building has air conditioning via a centralised air handling unit (AHU) and approximately 20 local fan coil units per floor. However, a lot of it wasn't working as it should and differing temperature preferences among staff made it difficult to maintain a consistent environment, leading to frequent complaints.
- **No visibility of plant**
  With a scheduled maintenance approach and no visibility of building performance, it was difficult to detect and respond to specific performance issues.
- **Faulty building energy management system (BEMS)**
  Not only had the BEMS not been installed properly but it didn't turn anything off, so the whole plant was running 24/7. Resulting in enormous operational costs.

Hitting goals

The Trust enlisted Kendra's help to:

- Establish whether current energy use was justified or excessive.
- Evaluate and reduce energy consumption.
- Claw back on any unnecessary spending.
- Restore comfortable, consistent environmental conditions for occupants.
- Lay the groundwork for smarter facilities management across the wider estate.
- Switch from reactive to condition-based maintenance. By September 2024, Kendra signed a service contract for ongoing monitoring and optimisation support.

Solutions: equipment and software

To help the Trust improve the running of its building, Kendra installed:

- **PROActiv Analyics:** Kendra's in-depth analytical insights and reporting software. A 'virtual engineer' that sits on top of the BEMS and provides real-time site monitoring.
- **PROActiv Energy:** Kendra's smart metering platform. It pinpoints exactly how much energy buildings are using and how much could be saved.
- **BEMS and plant equipment:** Kendra refitted the BEMS, installed a new control panel, upgraded an air handling unit and introduced submetering. Next, they carried out floor by floor improvement works - installing additional control variable sensing to give end users HMI air quality interfacing for monitoring their own environment.

Solutions: targeting problem areas

Plant visibility

Kendra liaised with the Trust's IT department to set PROActiv Analytics up remotely, with building operators having full access to real-time operational data. It installed IQvision on the remote server and provided a full digital twin of the building.

Prior to this, the Trust had no plant visibility and the only performance feedback it had was through complaints. Eventually, Kendra will look to migrate all contracted buildings to its PROActiv platform for complete plant visability.



Condition-based monitoring

Thanks to PROActiv, the Trust now have targeted condition-based maintenance. Before, they'd have to wait until a chiller tripped out or a pump failed before they knew there was an issue that needed fixing. Now, building performance is closely monitored.

Temperature control/indoor environment improvements

To maintain comfort and reduce waste, Kendra set floor temperatures in line with energy efficiency guidelines. Visible setpoint adjustors were installed for staff to allow them to monitor temperatures, while allowing limited user control functions.

For healthier, more efficient indoor environments, Kendra changed the AHU to work with fresh air control. On top of this, PROActiv Analytics identified and highlighted numerous fan coil units weren't operating correctly; many units had the respective heating and cooling motorised actuators incorrectly configured.

Results

Although a full Measurement & Verification (MV) phase is still to come, early improvements have been clear.

Savings: Based on estimated savings (which are likely to reflect actual savings when the figures come in), the outlook is positive. Surrey and Borders invested £97,000 and the savings forecast is £110,000 for the first year. That's a 100% payback in less than eleven months and at year end.

Resolved issues (off the back of PROActiv Analytics) are delivering further savings of over £22,000 per year, with an another £12,500 per year identified, bringing projected annual savings to £34,500 on top of the original install.

Reduced complaints: Now Gatton Place is energy efficient, reports of discomfort have significantly decreased. Direct engagement with staff at Gatton Place allowed Kendra to take their concerns onboard, which ultimately helped shape the solutions put in place. It was an important step that added to the success of the optimisation works.

Greater efficiency: The facilities team now has access to real-time system data, allowing issues to be identified and resolved before they can escalate.

The move from SFG20 to condition-based maintenance has changed how the team operates. Now, during service visits, engineers can assess how the building's performing and only target problem areas to save time, costs and resources. Making informed decisions, planning proactively and improving service delivery.

Ongoing

Savings the Trust has made through improving its energy efficiency is being reinvested into further works. Moving forward, Kendra will continue to carry out optimisation works across other buildings in the estate. Gaining better visibility of plant performance, helping to improve comfort conditions and making sizable savings.

How did it go?

"Gatton Place has historically been one of the Trust's most problematic sites, from both an energy consumption and environmental control point of view.

Since the engagement of Kendra Energy Solutions to work in partnership with the Trust, we've received key advice on solutions for Gatton Place. We've been impressed with the detail and quality of reports and proposals, and the capability of the Projects Teams to carry out the installation and upgrade works with minimal disruption onsite.

The end result? A building that now operates under close environmental control, with a consequent significant improvement in energy consumption. Kendra's PROActiv Analytics platform gives the Trust immediate access to any control issues and is now fundamental to our site operations.

Now, the Trust teams based at Gatton are very happy with the environmental conditions onsite. We look forward to continuing our partnership with the Kendra team and the real benefits it brings."

Derek Harrington, Associate Director - Property Services
Surrey & Borders Partnership NHS Foundation Trust

"The great results we've achieved at Gatton Place boils down to the client's investment and trust in us. They were quick to share their concerns and get us onboard. And I think it's because we're very much aligned with our core values and way of working. We have a great relationship with the team at the Trust and both sides are invested in continual improvement. And it's great to able to demonstrate the value of what we've done through PROActiv Analytics".

Martin Edmonson, Energy Solutions Architect
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