



# The Scottish Oceans Institute

AI-driven optimisation case study

<b>£14.4k</b>	<b>158 MWh</b>	<b>29.3 tCO2e</b>
<b>Measured gross financial benefit</b> Approx. £10k net after c£4k annual subscription	<b>Measured energy saving</b> April 2025 - April 2026	<b>Measured operational carbon reduction</b> April 2025 - April 2026

**Current performance: 207 MWh/year | £19.4k/year gross benefit | approx. £15k/year net after annual subscription | 38.4 tCO2e/year**

<b>21%</b>	<b>9%</b>
<b>HVAC electricity reduction</b>	<b>Heat reduction</b>
April 2025 - April 2026 weather-normalised baseline	April 2025 - April 2026 weather-normalised baseline

## Executive summary

The University of St Andrews is demonstrating how artificial intelligence can deliver measurable energy performance improvements in already well-performing buildings.

At the Scottish Oceans Institute (Gatty Marine Laboratory), **EcoAI's myCoreAI platform was deployed** as an AI-driven optimisation layer to support day-to-day HVAC optimisation and improve building performance.

Across the first April-to-April reporting period, myCoreAI delivered a **21% reduction in HVAC electricity consumption** and a **9% reduction in heat consumption**, measured against a **weather-normalised baseline**.

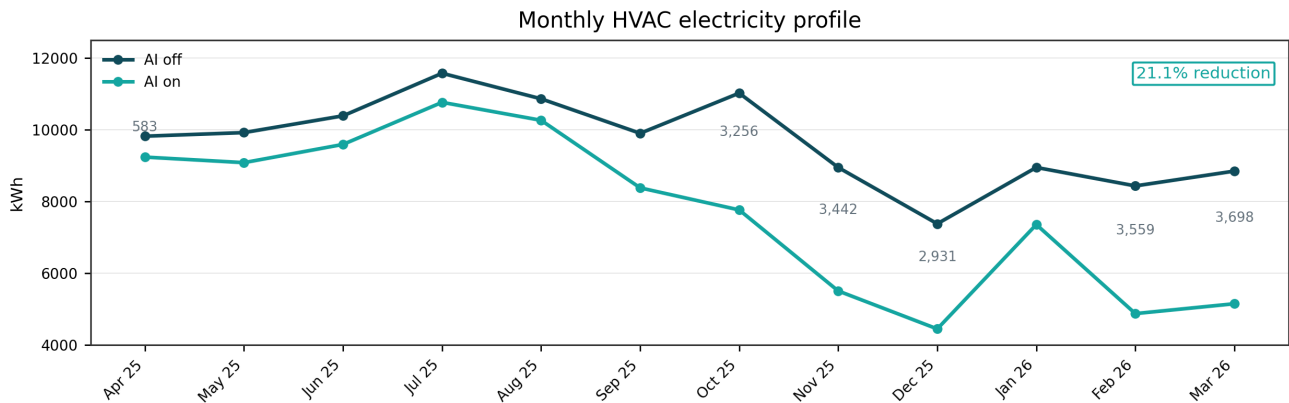
Measured savings over the period total approximately **158 MWh**, comprising **25,896 kWh** of HVAC electricity reduction and **132,218 kWh** of heat reduction. This equates to approximately **£14.4k** of gross financial benefit, or approximately **£10.4k net benefit** after the annual subscription of **c£4k**.

Now that myCoreAI has learned the building and full control has been established, performance has strengthened, providing a clearer indication of the ongoing level of savings expected from the system. Current performance is equivalent to approximately **207 MWh/year**, delivering around **£19.4k/year** of gross financial benefit and approximately **£15k/year net benefit** after annual subscription.

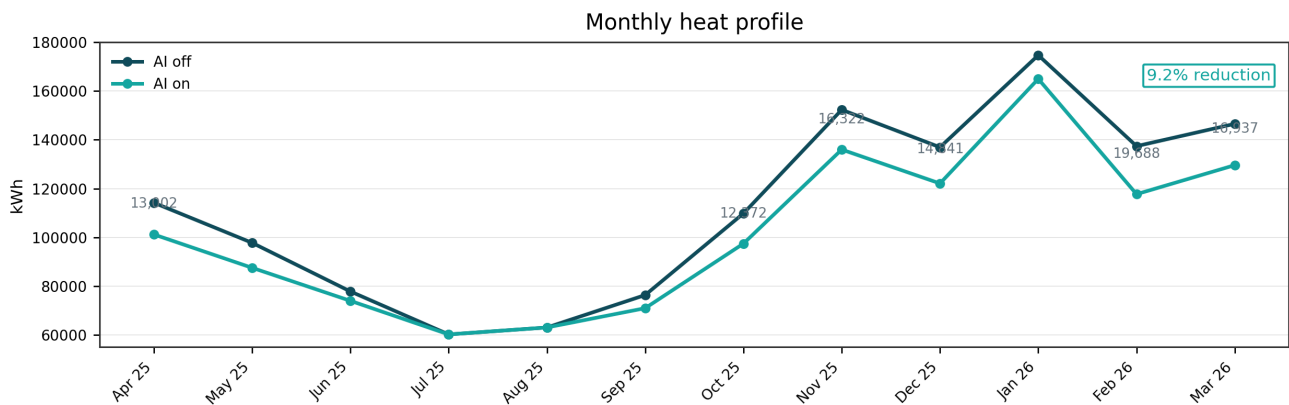
Savings were delivered **without sacrificing comfort or disrupting building operations**.

# Monthly AI on vs AI off profile

The charts below show monthly weather-normalised AI off and AI on values across the April 2025 - April 2026 reporting period. For a like-for-like visual comparison, the chart view shows complete months only; April 2026 month-to-date remains included in the result table below.



Monthly HVAC electricity profile showing weather-normalised AI off and AI on performance.



Monthly heat profile showing weather-normalised AI off and AI on performance.

**Note:** The January 2026 data includes a short period when AI optimisation was temporarily disabled, which provided an additional practical reference point alongside the weather-normalised analysis.

Result	April 2025 - April 2026 position
<b>HVAC electricity</b>	AI off: 122,937 kWh   AI on: 97,042 kWh   Saving: 25,896 kWh (21.1%)
<b>Heat</b>	AI off: 1,434,961 kWh   AI on: 1,302,742 kWh   Saving: 132,218 kWh (9.2%)
<b>Total measured saving</b>	158,114 kWh saved
<b>Measured gross benefit</b>	Approx. £14.4k over April 2025 - April 2026
<b>Measured net benefit</b>	Approx. £10.4k after c£4k annual subscription

## Background and deployment

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The Scottish Oceans Institute was selected as a live reference site to assess whether AI-driven optimisation could deliver measurable additional savings in an already well-performing building.

The building operates with an established Siemens Desigo CC Building Management System (BMS), providing a strong baseline from which to evaluate whether further improvement could be achieved without replacing existing infrastructure.

**myCoreAI** was deployed as an optimisation layer alongside the existing BMS. The Desigo system continued to control the mechanical plant, while myCoreAI adjusted operating setpoints through 15-minute optimisation cycles based on live building conditions and forecast demand.

Deployment was completed without disruption to building operations and without any requirement to replace existing infrastructure.

## Operational carbon reduction

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Using the current UK Government 2025 conversion factors for grid electricity and mains gas, measured savings to date equate to an estimated operational carbon reduction of **29.26 tCO<sub>2</sub>e**.

On the current annualised position, this rises to approximately **38.4 tCO<sub>2</sub>e/year**.

**Verification note.** All reported savings are based on weather-normalised site reporting and verified University of St Andrews meter data, not estimates or simulations.

## Leadership commentary

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### **Amanda Cook, BMS Manager**

As BMS Manager for a large university estate, I wanted to understand how myCoreAI could be applied within existing building infrastructure. It was implemented at the Scottish Oceans Institute to assess its impact on performance, focusing on strengthening the existing Desigo CC system rather than replacing it.

Since implementation, the results demonstrate measurable improvements in energy use and internal conditions, reinforcing the value of using AI to enhance an existing BMS rather than replace it.

### **Michal Rosa, BMS Project Engineer**

Being a BMS Project Engineer means looking at all stages of planning and deploying new operational technologies. Despite initial pushbacks from the IT Department, the process turned out to be straightforward and scalable.

Allowing AI models to assess our building from a broader perspective and optimise it using external influences such as local weather forecasts, usage patterns and building heat-retention characteristics is an exciting opportunity to drive energy savings and reduce operational carbon emissions.

## Next steps

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The year-one evidence base can now support rollout to other suitable buildings across the estate, using the same low-disruption deployment approach.

The monthly comparison view provides a clear and accessible way to demonstrate the value delivered by AI optimisation to both operational and financial stakeholders.