

How HVAC Energy Savings Are Delivered

Continuous optimisation reduces unnecessary HVAC operation while maintaining comfort and appropriate ventilation conditions.

Where do the energy savings come from?

Savings come from matching HVAC output to actual building demand.

EcoAI does not apply a fixed reduction. The optimisation layer continuously adjusts HVAC operation so airflow and conditioning can fall when demand is low - and rise again when conditions require it.

1 Reduce unnecessary airflow

When indoor temperature is stable and CO₂ remains low, airflow can operate below the reference level.

2 Reduce fan and conditioning demand

Lower airflow reduces fan demand and the volume of air that needs to be heated or cooled.

3 Keep comfort as the constraint

Airflow rises again whenever building demand, temperature or ventilation requirements change.

What the 30-day example shows

27% lower

average supply airflow

1,350 L/s optimised vs 1,850 L/s reference

22% lower

average extract airflow

1,831 L/s optimised vs 2,350 L/s reference

22.18°C

average indoor temperature

457 ppm

average CO₂

Lower airflow is achieved while indoor temperature remains stable and CO₂ stays low, supporting the ventilation and air-quality case.

Supporting engineering teams

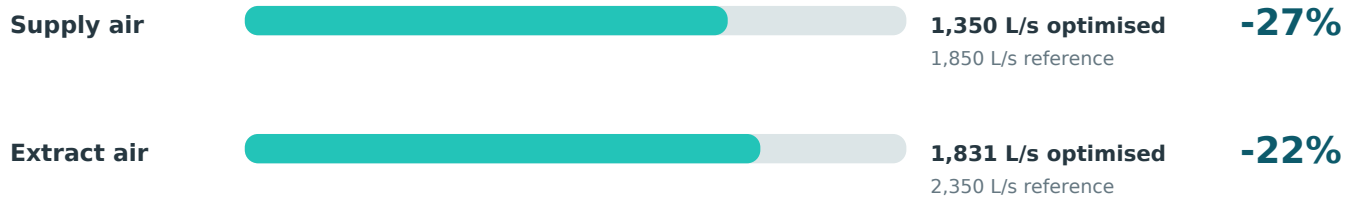
Continuous routine optimisation continues automatically in the background, allowing skilled BMS and estates teams to focus on faults, projects, commissioning, upgrades and work that genuinely requires engineering expertise.

BMS remains master - selected setpoints and offsets optimised every 15 minutes - agreed operating limits remain in place

AHU2: lower airflow, stable conditions

The 30-day view shows lower average supply and extract airflow against the reference signal, while indoor temperature remains stable and CO₂ remains low.

Reviewed 30-day average airflow



22.18°C

average indoor temperature

Stable despite changing outdoor conditions

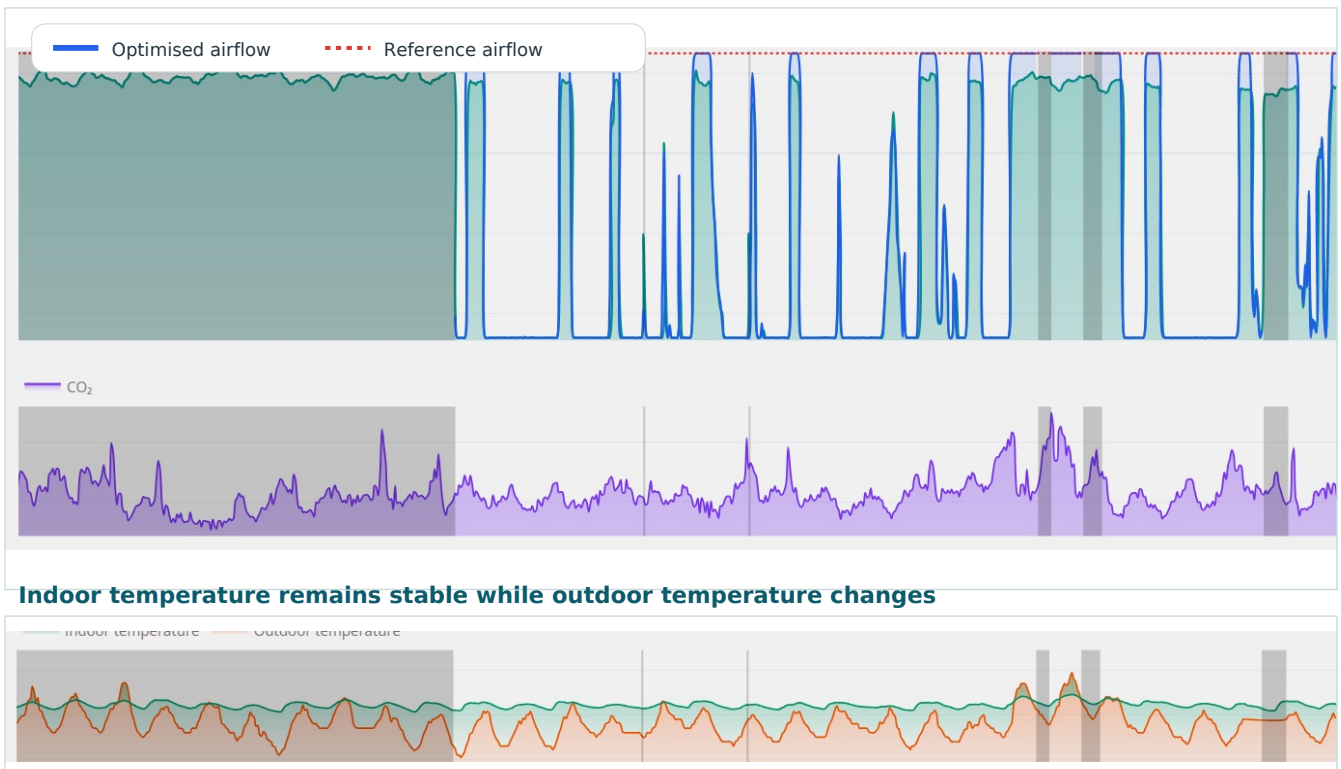
457 ppm

average CO₂

Remained low, supporting the ventilation case

Dynamic response

The airflow trace repeatedly rises again automatically when conditions require it - evidence that the system is responding to demand rather than applying a fixed reduction.



Reference = dashboard baseline/reference signal representing non-optimised operation.

Grey bands indicate periods when optimisation was paused (AI off) in the dashboard.

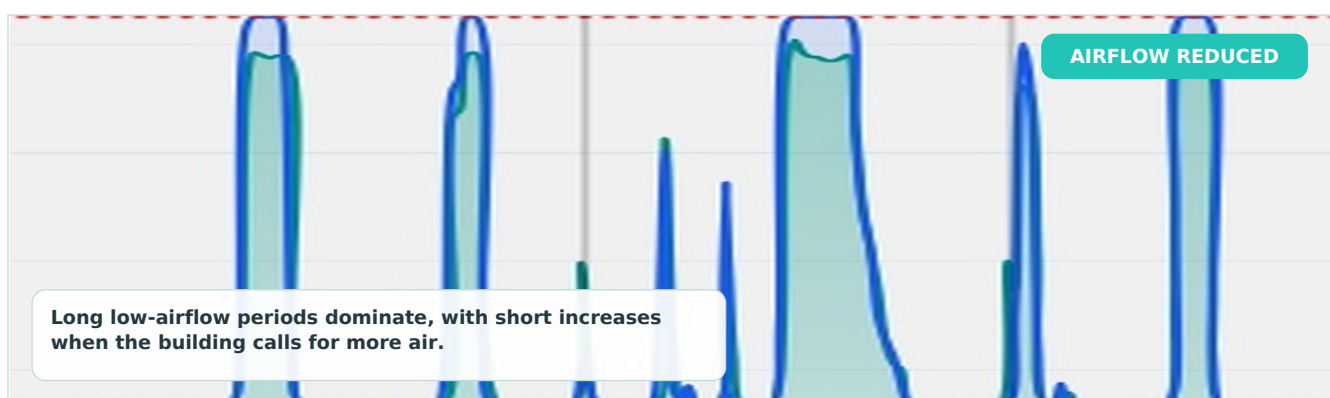
Example shown is based on AHU2 dashboard data for the reviewed period and should not be read as a whole-building annual saving.

One week in detail

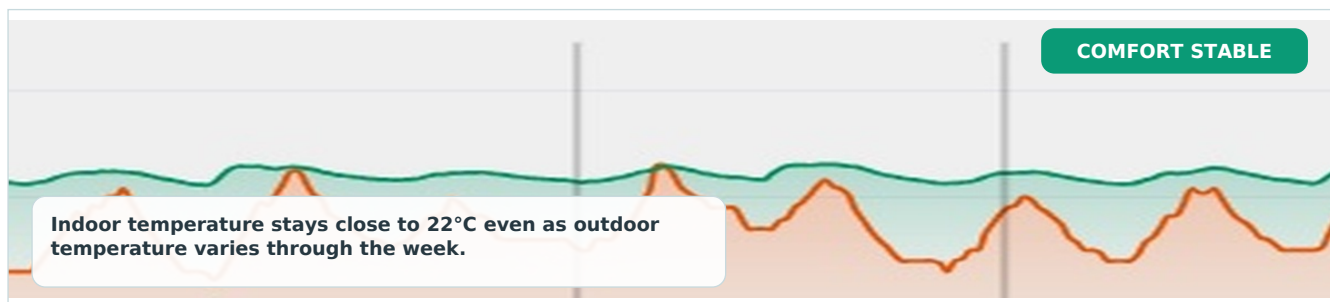
Airflow falls. Comfort holds. The zoomed view shows long periods at lower airflow, brief increases when demand changes, stable indoor temperature and low CO₂.

What to look for The optimisation is dynamic: airflow reduces when conditions allow and rises again when the building calls for more air.

1. Supply airflow



2. Indoor temperature



3. CO₂ / ventilation indicator



Less unnecessary airflow. Stable temperature. Low CO₂. That is where the HVAC energy savings come from.