Office Energy Baseline & BMS Review

Padgate / Warrington - Open-plan multi-tenant office

Client report starter

TheBEMSGuy.com

Plain English purpose

We check how the building is actually running, compare it against a sensible office baseline and weather degree days, then show where BMS changes may cut waste without making occupants uncomfortable.

1. Quick client summary

EXPECTED OFFICE USE	EXAMPLE ACTUAL USE	AVOIDABLE ENERGY	INDICATIVE VALUE
613 MWh/yr	**744 MWh/yr**	**74-112 MWh/yr**	**£12k-£18k/yr**
baseline example	+21% above baseline	10-15% to prove	example at 16p/kWh

What we do

- Read daily or half-hourly meters.
- Check BMS timeclocks, overrides and plant run hours.
- Compare gas use against heating degree days.
- Check setpoints, deadbands and sensor accuracy.
- Ask occupants where areas are too hot or too cold.
- Give a short action list with saving potential.

What the client gets

- A simple report showing where energy is likely being wasted.
- Clear graphs, not pages of technical text.
- A list of changes to approve or investigate.
- A before/after evidence plan to prove savings.
- Space for engineer advice and agreed actions.

Example headline from this draft

Finding

The example office is above baseline. The first checks should be BMS schedules, out-of-hours plant, weekend baseload, heating/cooling overlap and suspect temperature sensors.

Illustrative starter report only - replace all demo values with authorised site meter/BMS data.

2. Building assumptions used in this starter draft

LOCATION	BUILDING TYPE	FLOOR AREA	NORMAL HOURS
Padgate / Warrington	**Open-plan office**	**2,850 m2**	**Mon-Fri 08:00-18:00**
nearest local weather profile	multi-tenant areas	replace with GIA/NIA	tenant occupied period

Information to collect during the visit

Check area	What to capture	Evidence
Meter data	Daily or half-hourly gas and electricity readings	Supplier portal, AMR, BMS meters or photos of manual reads
BMS schedules	Occupied periods, optimum start/stop, tenant overrides	Screenshots and trend logs
Weather data	Heating degree days, base 15.5C	Nearest reliable local station/export
Comfort evidence	Too hot / too cold areas and time of day	Walkaround notes and occupant feedback
Sensors / setpoints	Reference temperature vs BMS reading	Handheld calibrated thermometer and controller values
Plant evidence	AHUs, boilers, pumps, cooling, terminal units	Status, valve positions, alarms and run hours

How to use this template

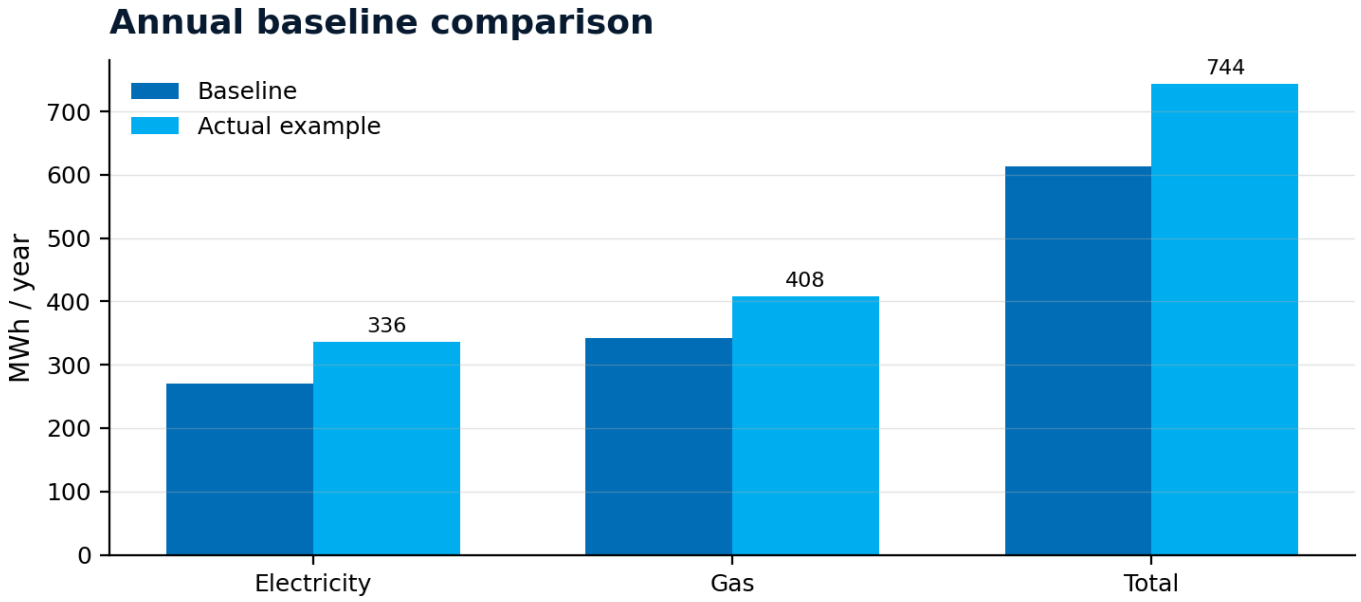
Fill-in rule

Keep the report short. Use the charts to prove the issue, then add only the advice needed to agree the next action and saving check.

Illustrative starter report only - replace all demo values with authorised site meter/BMS data.

3. Annual energy position

ELECTRICITY BASELINE	ELECTRICITY ACTUAL	GAS BASELINE	GAS ACTUAL
271 MWh/yr	336 MWh/yr	342 MWh/yr	408 MWh/yr
expected office use	+24%	weather-related expected	+19%

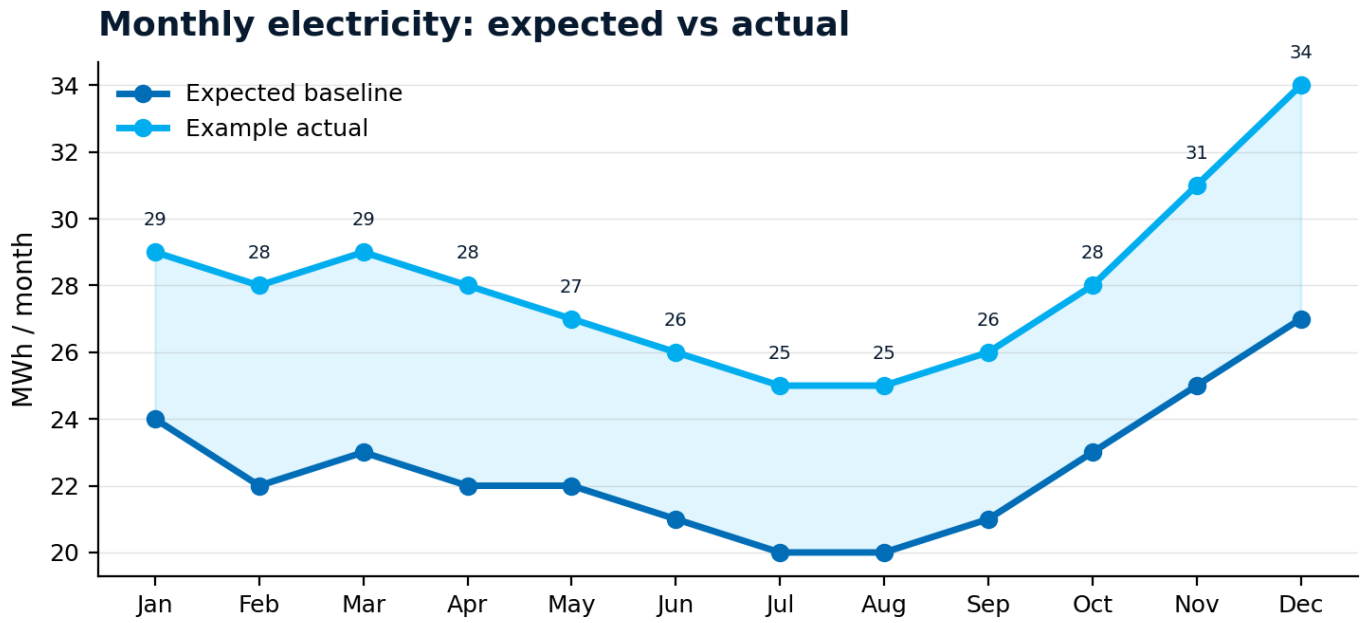


Potential saving to confirm

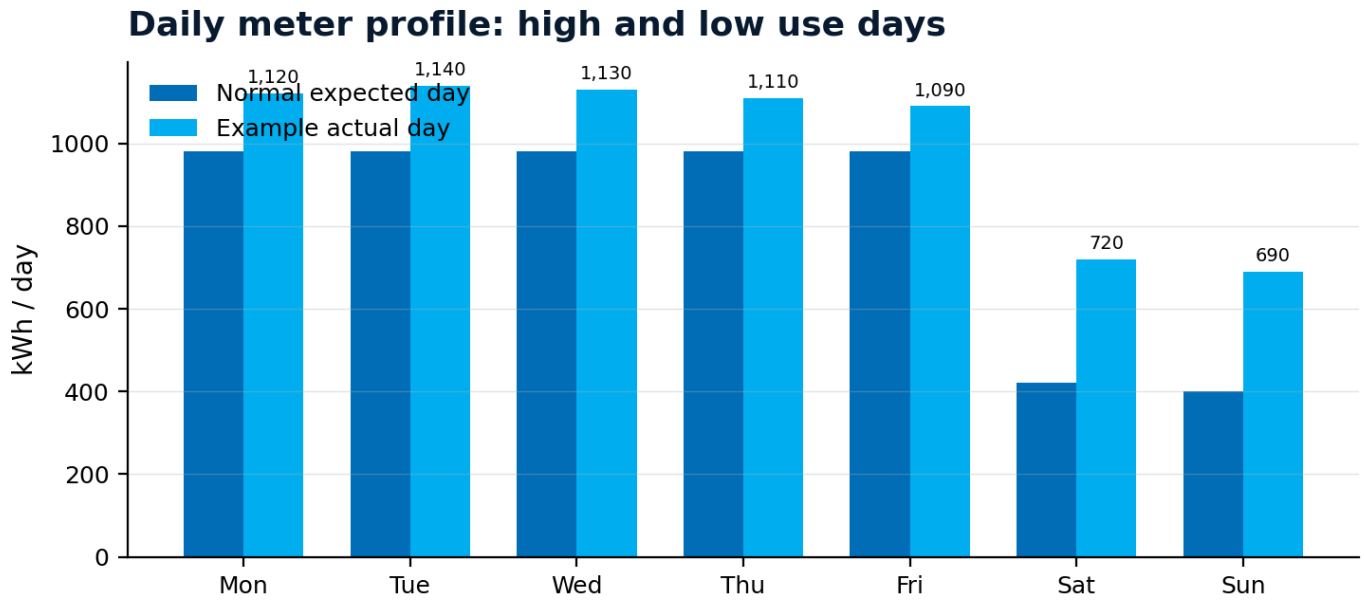
Item	Value	Note
Current example use	744 MWh/year	Demo value - replace with real annualised meter data
First saving target	10-15%	Only claim once proven by trends and meter data
Avoidable energy range	74-112 MWh/year	Calculated from example use
Money saving	Add client tariff	Formula: avoidable kWh x actual unit rate
Main risk if ignored	Continued waste	Plant running early/late and poor comfort control

Illustrative starter report only - replace all demo values with authorised site meter/BMS data.

4. Monthly electricity use



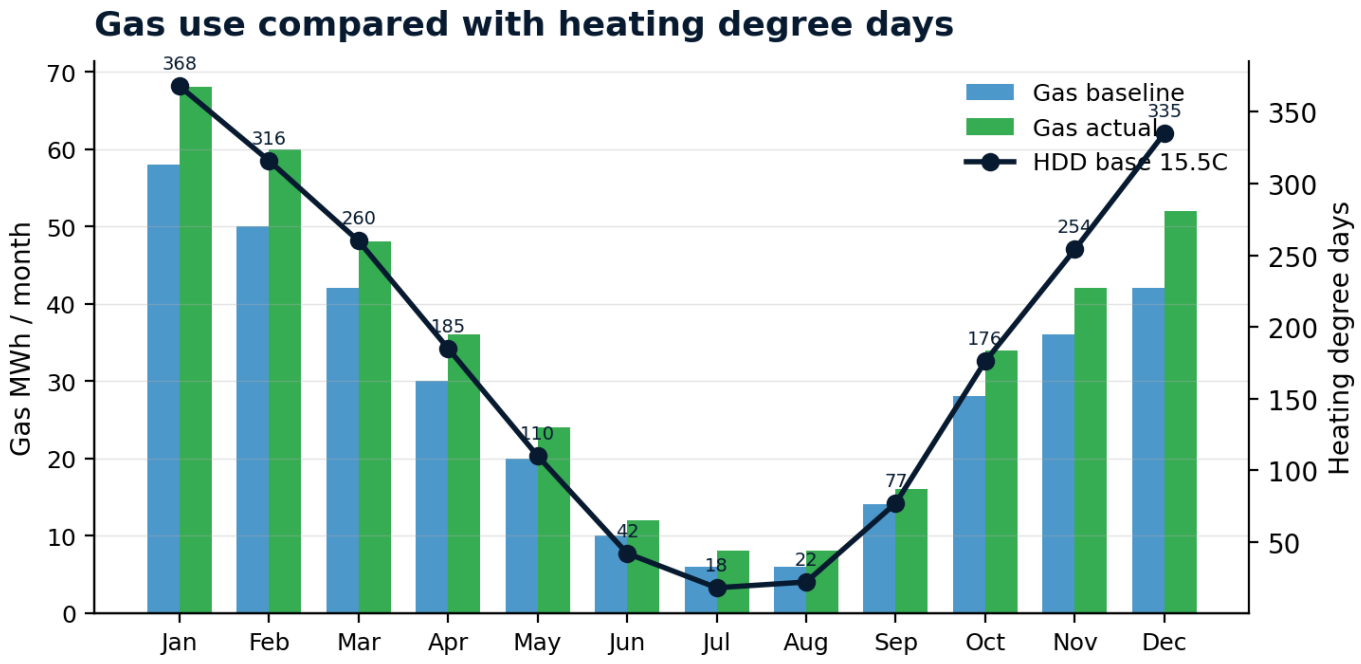
Daily meter profile



What this means

Weekend and low-occupancy days should drop. If they remain high, check landlord plant, AHUs, pumps, lighting, comms rooms, tenant equipment and override timers.

5. Degree day comparison



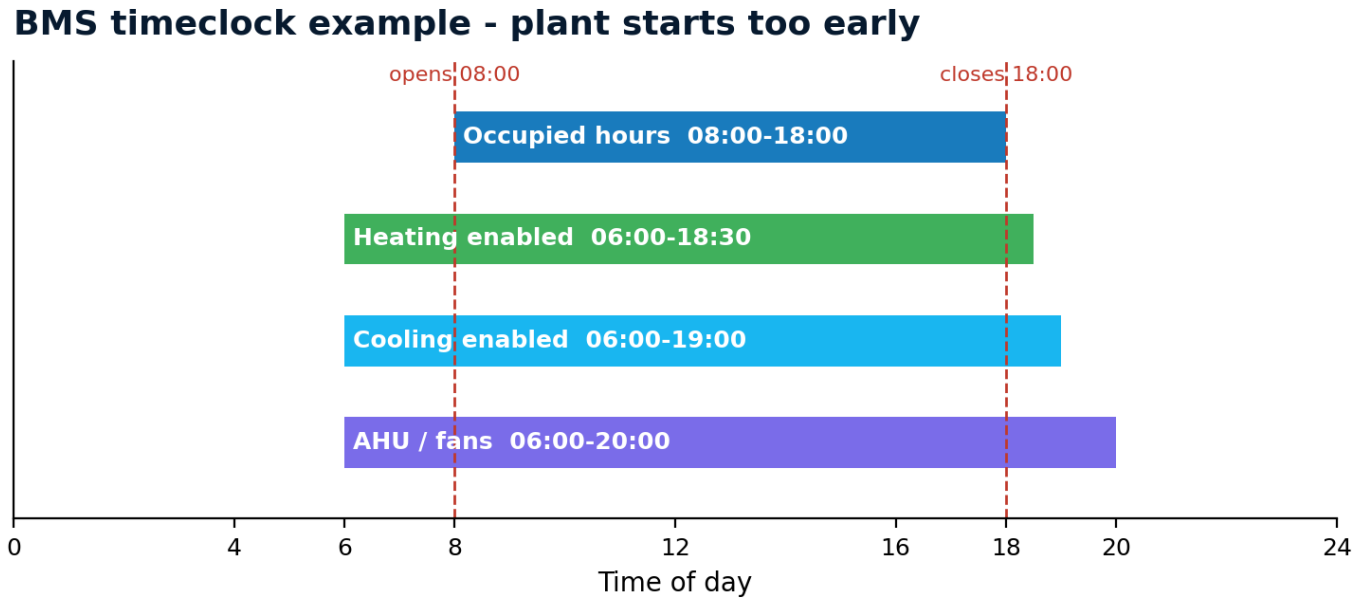
Checks to make on site

Pattern found	Likely checks
Gas remains high when HDD drops	Boiler schedule, frost protection, DHW, tenant overrides, stuck valves
Gas spikes without weather reason	Plant override, failed sensor, heating setpoint change, manual operation
Gas tracks HDD but above baseline	Flow temperatures, weather compensation, poor zoning, heat loss
Gas does not match occupancy	Plant serving empty areas or excessive pre-heat period

Degree-day note

Use the nearest reliable Padgate/Warrington weather source for the live report. This starter uses a base 15.5C HDD profile as a demonstration only.

6. Timeclock comparison



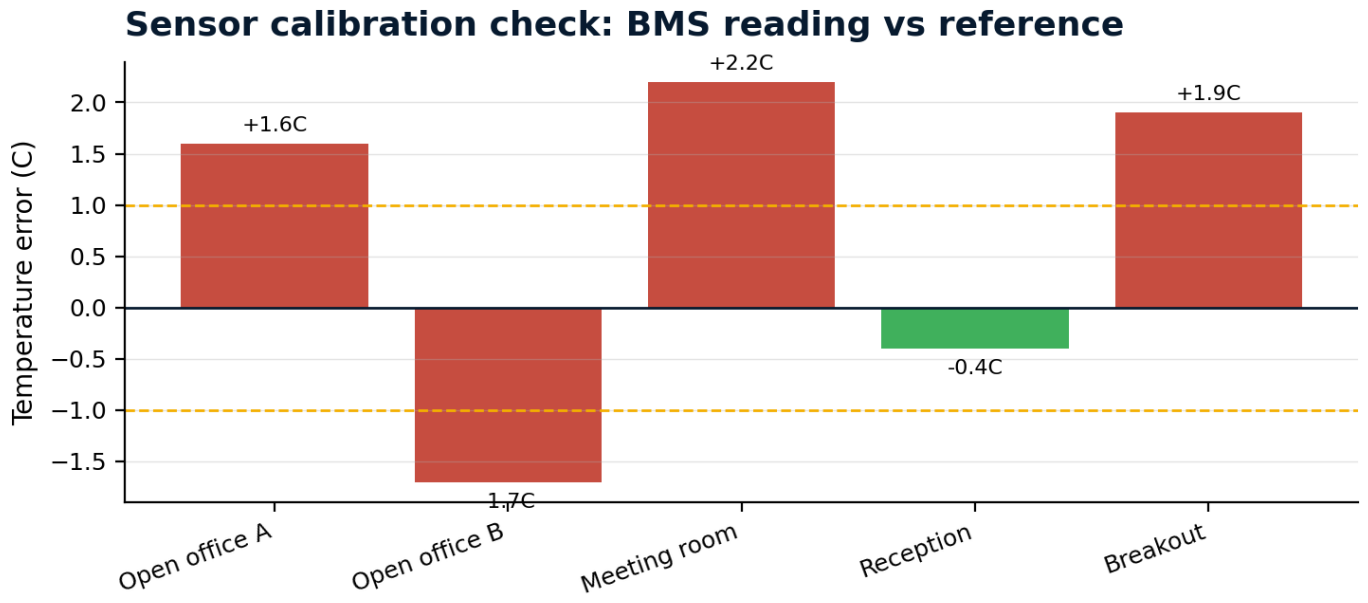
Schedule findings to confirm

Plant / period	Example setting found	Action needed
Occupied hours	08:00-18:00	Known client operating period
Heating enabled	06:00-18:30	Starts 2 hours early; stops 30 minutes late
Cooling enabled	06:00-19:00	Starts 2 hours early; stops 1 hour late
AHU / fans	06:00-20:00	Long run period - check tenant needs and actual occupancy
Weekend operation	Elevated	Check cleaning/security/tenant override or failed time schedule

Simple client explanation

If plant starts before people arrive or runs after they leave, energy is used when there is little or no benefit. Correcting schedules is usually the first low-disruption saving.

7. Sensor calibration example



Setpoint and comfort checks

Check	Good target	Example found	Why it matters
Heating setpoint	Target 20-21C	Example found 23C in some zones	Can increase gas use and overheating
Cooling setpoint	Target 23-24C	Example found 21C in some zones	Can increase electricity use and cause cold complaints
Deadband	Aim 2-3C separation	Example found 1C	Risk of heating and cooling fighting
Open office A sensor	Reference 22.0C	BMS 23.6C	Sensor may be reading +1.6C high
Meeting room sensor	Reference 21.8C	BMS 24.0C	Calibrate or replace sensor / check location

Occupant feedback to record

Ask simple questions: Which area is too hot or too cold? What time? Every day or only certain days? This helps link comfort complaints to schedules, sensors and setpoints.

8. Action register

No.	Recommended change	Priority	Why	Notes to fill in
1	Correct BMS schedules to match Mon-Fri 08:00-18:00	High	Immediate low-cost change	Engineer to confirm tenant exceptions
2	Reduce overnight and weekend baseload	High	Trend meters and plant status	Identify landlord vs tenant loads
3	Review heating/cooling deadband and setpoints	High	Prevent plant fighting itself	Agree comfort range with client
4	Calibrate or replace suspect sensors	Medium	Stop false hot/cold calls	Use reference thermometer evidence
5	Trend gas against HDD after changes	Medium	Prove weather-adjusted saving	Use same HDD source each month
6	Improve sub-metering split	Medium	Separate landlord and tenant use	Needed for fair reporting

Client approval / engineer advice area

Add final advice, agreed actions, expected saving range, tariff-based value and follow-up date here.

Proof plan

Do not overclaim. Save the current meter/BMS trends, apply agreed changes, then compare the next 4-8 weeks against occupancy and degree days.

9. Quick survey checklist

Check	What to look at	Status	Notes
Meter readings taken	Electricity / Gas / sub-meters	Yes / No / N/A	
BMS schedules captured	Occupied, heating, cooling, AHU, pumps	Yes / No / N/A	
Out-of-hours trend checked	Night, weekend, bank holiday	Yes / No / N/A	
Setpoints reviewed	Heating, cooling, deadband	Yes / No / N/A	
Sensors checked	Reference temp vs BMS value	Yes / No / N/A	
Occupants asked	Too hot / too cold / time of issue	Yes / No / N/A	
Overrides checked	Manual, tenant, holiday, boost	Yes / No / N/A	
Alarms reviewed	Plant, sensor, comms, valve/damper	Yes / No / N/A	
Photos/screenshots saved	Meters, BMS pages, trend graphs	Yes / No / N/A	

Final message for the client

Report conclusion wording

This review is designed to highlight energy waste that can be corrected through BMS scheduling, controls setup, sensor accuracy and plant operation. Savings should be confirmed using meter trends, occupancy and degree days after changes are made.