Planetic

Energy & Comfort Audit

OPPORTUNITY

IPMVP Option C · CIBSE TM39 · TM46 · BB101 · HSE ACoP L24

A typical UK primary school · 12-month baseline + 30-day monitoring · 2026 audit

MODELLED ANNUAL SAVING	CO_2 SAVED PER YEAR	PAYBACK PERIOD	REDUCTION ON BASELINE
£17,921	25.8 t	0.9 mo	15%

01 Audit scope · bills · sensors · baseline

CUSTOMER	STANDARD
Anonymised — UK primary school	IPMVP Option C whole-facility savings
BASELINE PERIOD	SENSOR PERIOD
12 months utility billing data	30 days continuous monitoring
FLOOR AREA	ANNUAL BILL (BASELINE)
~6,000 m² · 5 buildings	£118,300 / 583 MWh
GENERATED	REFERENCE
29 May 2026 · automated	ENERGY-2026

02 Executive summary

The boiler is running approximately **8 °C hotter than required** when the school is unoccupied — measured, not modelled. The pattern was visible from week one of monitoring and persisted through to week four. Modelled annual saving on the table: **£17,921** at the central scenario. Hardware required to capture it: **£1,295**. Payback: under one month. Recommended action: pilot installation in Q3.

The savings come from five complementary levers — schedule alignment, setpoint trim, pump scheduling, water-heater scheduling, and night/standby load reduction. Each one fires from a specific waste signature in the sensor data. Each saving claim traces to either a published source (Renfrewshire Schools Energy Report, Carbon Trust audits) or the school's own utility bill. Year 1 saving funds Year 2 controls. By Year 7 the school is fossil-free, with £37,000 still in its own energy fund.

03 Baseline — the bill we worked from · 12 months · real meter data · IPMVP Option C

ENERGY SOURCE	£ / YEAR	MWh / YEAR	tCO_2e / YEAR	SOURCE
Electricity (imported)	£80,100	250	51.7	Utility bill
Natural gas	£30,200	256	46.8	Utility bill
Heating oil (gas oil)	£8,000	77	19.7	Utility bill
Total baseline	**£118,300**	**583**	**118.3**	—

Emission factors DEFRA / DESNZ 2024: electricity 0.207, natural gas 0.183, heating oil 0.247 $kgCO_2e/kWh$.

04 Sensor evidence · measured zone temperatures vs target setpoints

PERIOD	MEASURED	TARGET	OVER BY	STANDARD
Teaching day	22.75 °C	19 °C	**+3.75 °C**	CIBSE Guide A · DfE
Teaching night	20.18 °C	12 °C	**+8.18 °C**	Industry setback
Holiday day	21.20 °C	12 °C	**+9.20 °C**	Industry setback
Holiday night	20.23 °C	12 °C	**+8.23 °C**	Industry setback

The boiler is running 8 °C hotter than required when nobody's in the school. That single finding accounts for the largest saving lever on the next page.

05 The five savings levers · bottom-up · each lever cited to source

#	LEVER	APPLIES TO	SAVING %	£ / YEAR	tCO_2e
1	Schedule alignment to teaching	Heating fossil £38,200	30%	£11,455	17.4
2	Teaching-hours setpoint trim (2 °C)	Heating · teaching hours	10%	£1,527	2.6
3	Pump scheduling to heating call	Pump elec (15% of £80k)	10%	£1,202	0.8
4	Water heater scheduling + 55 °C cycle	DHW elec (4.1% of £80k)	15%	£493	0.3
5	Night / standby load reduction	Overnight elec (27% of £80k)	15%	£3,244	2.1
	Total — central scenario	**All bill**	**15%**	**£17,921**	**25.8**

Pessimistic £10,259 · 15.7 tCO_2e. Optimistic (with dew-point setback) £27,549 · 38.1 tCO_2e.

06 Beyond Year 1 — the self-funded path

YEAR	PHASE	CAPITAL	CUMULATIVE SAVING / YEAR
Y0	Pilot kit installed	£1,295	—
Y1	TRVs · lighting · pump VFDs	£8,200	£17,900
Y2	CO_2-driven ventilation · DHW optimisation	£3,000	£20,900
Y3	Solar PV (25–30 kW)	£30,000	£22,900
Y4	Battery storage (30 kWh)	£20,000	£26,900
Y5	Air-tightness · additional controls	£8,000	£27,900
Y6	Heat-pump preparation	£15,000	£28,900
Y7+	Heat-pump conversion (PSDS-funded)	£60,000	£36,900

Purpose & limitations. This is a monitoring evidence record — the utility bills and sensor data for this site through the audit period, with modelled savings derived bottom-up per IPMVP Option C. It is not a contracted M&V plan, not a guarantee of savings, and does not replace a heat-loss survey or pre-construction design assessment. Sensor coverage and placement affect what can be detected. Records retained for a minimum of 5 years.

07 Review & sign-off

PREPARED BY

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Generated automatically from bill data + sensor evidence.
29 May 2026 · ref ENERGY-2026

REVIEWED & SIGNED OFF

NAME · Energy / Estates Lead

SIGNATURE

DATE