EEGA - Energy Efficiency Gap Analysis

Best Store Group

Commercial/Institutional - Food retail

Prepared for:

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Executive summary

This report was prepared by the Best.Energy Energy Saving Team (EST). These preliminary findings and recommendations are based on a desk-top study using the information provided. The objective of the Energy Efficiency Gap Analysis is to quantify energy use and carbon emissions arising from the site's energy systems and to compare these against benchmarks of similar sites with the same/similar activities to quantify the potential for energy savings and carbon reductions. The costs and benefits of actual energy efficiency actions have been used to quantify the savings. It is important to realise this Report is only an indication of possible savings – some actions may not be possible at your site. Where this Report indicates opportunities exist, the next step is a physical site survey to gather more detailed information for the generation of a Best.Energy ESOR: Energy Savings Opportunity Report.

Target

	Fuel consumption kWh	Fuel cost £	GHG emission tCO_2
Base case	2,081,154	185,838	1,408
Proposed case	1,079,153	107,494	258
Savings	1,002,002	78,344	1,150
%	48.1%	42.2%	81.7%

Location | Climate data

Location

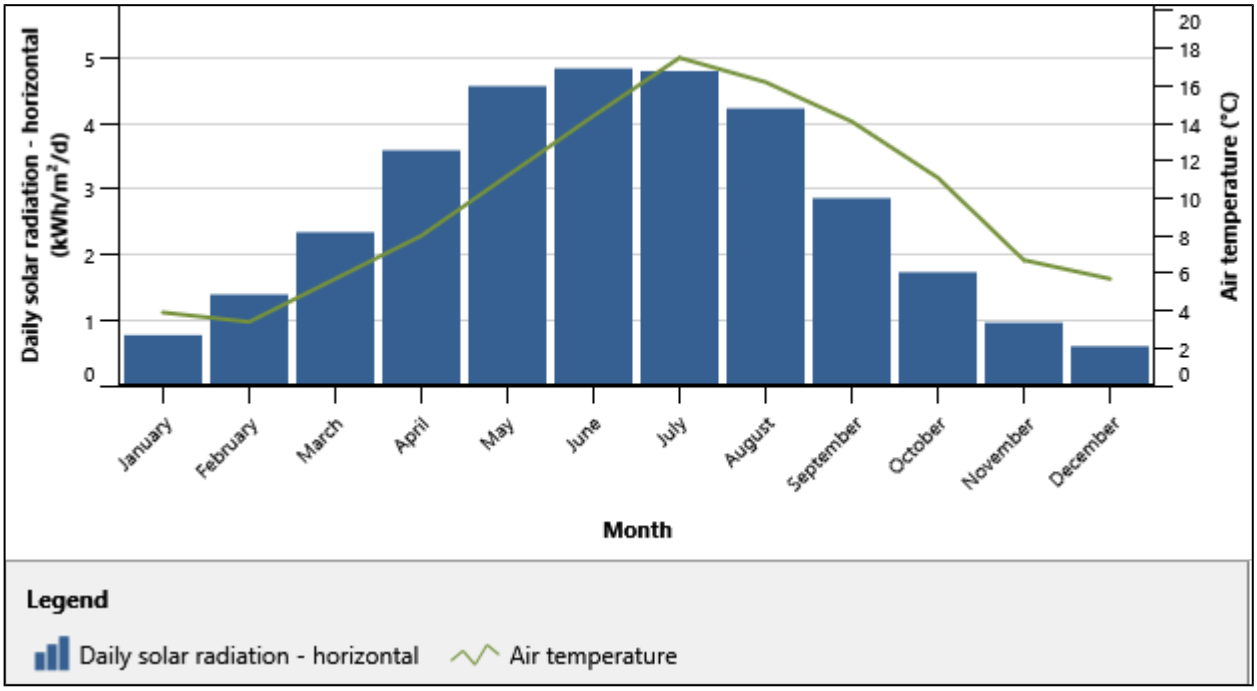
Legend

Facility location

Climate data location

	Unit	Climate data location	Facility location
Name		United Kingdom - Fairford RAF	United Kingdom - England - Swindon
Latitude	˚N	51.7	51.6
Longitude	˚E	-1.8	-1.8
Climate zone		4A - Mixed - Humid	4A - Mixed - Humid
Elevation	m	87	105

Climate data

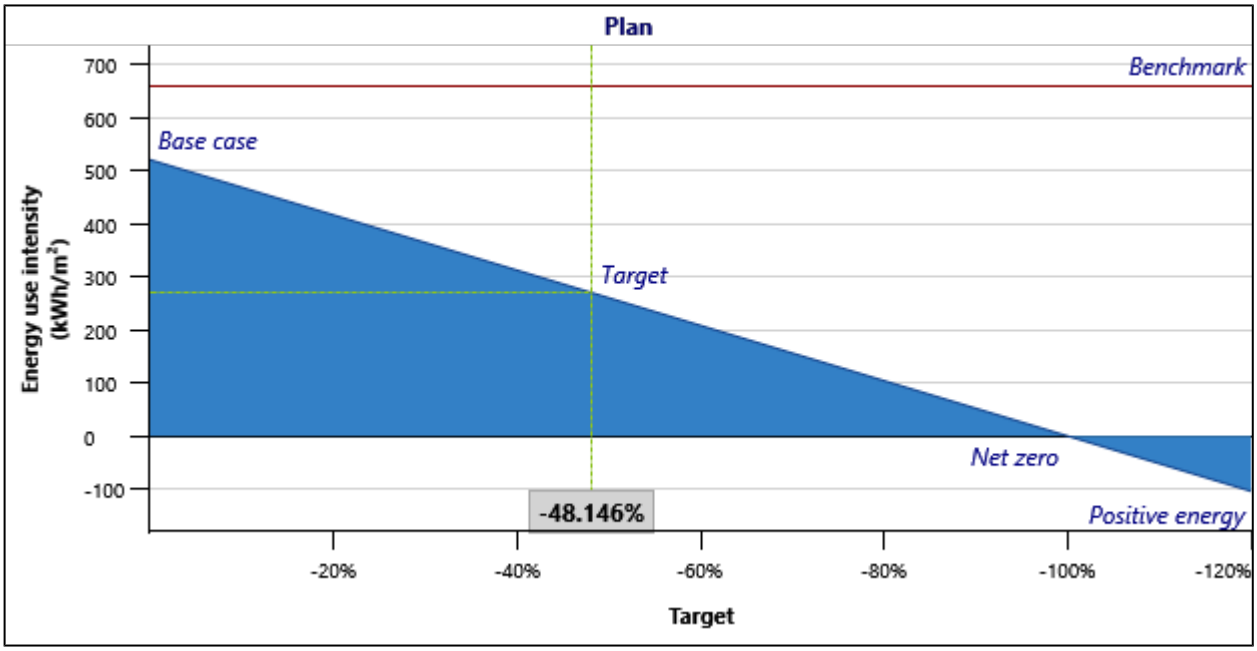


Heating design temperature	-4.0
Cooling design temperature	24.9
Earth temperature amplitude	15.0

Month	Air temperature	Relative humidity	Precipitation	Daily solar radiation - horizontal	Atmospheric pressure	Wind speed	Earth temperature	Heating degree-days	Cooling degree-days
	°C	%	mm	kWh/m²/d	kPa	m/s	°C	°C-d	°C-d
January	3.9	81.3%	73.16	0.77	100.1	4.4	3.0	437	0
February	3.4	75.3%	52.08	1.39	100.2	4.4	3.2	409	0
March	5.7	73.9%	52.70	2.34	100.1	4.4	5.5	381	0
April	8.0	74.3%	58.20	3.59	99.9	3.7	8.0	300	0
May	11.2	75.9%	57.66	4.57	100.1	3.7	11.6	211	37
June	14.4	76.2%	60.90	4.84	100.2	3.4	14.7	108	132
July	17.5	71.2%	59.52	4.80	100.2	3.3	17.2	16	233
August	16.2	71.7%	62.00	4.23	100.1	3.2	17.0	56	192
September	14.1	76.6%	59.70	2.86	100.2	3.2	13.9	117	123
October	11.1	82.3%	79.98	1.73	99.9	3.7	10.1	214	34
November	6.7	84.1%	76.20	0.96	99.9	3.6	6.0	339	0
December	5.7	83.9%	77.19	0.60	100.0	4.2	3.7	381	0
Annual	9.9	77.2%	769.29	2.73	100.1	3.8	9.5	2,969	751

Benchmark

Fuel consumption



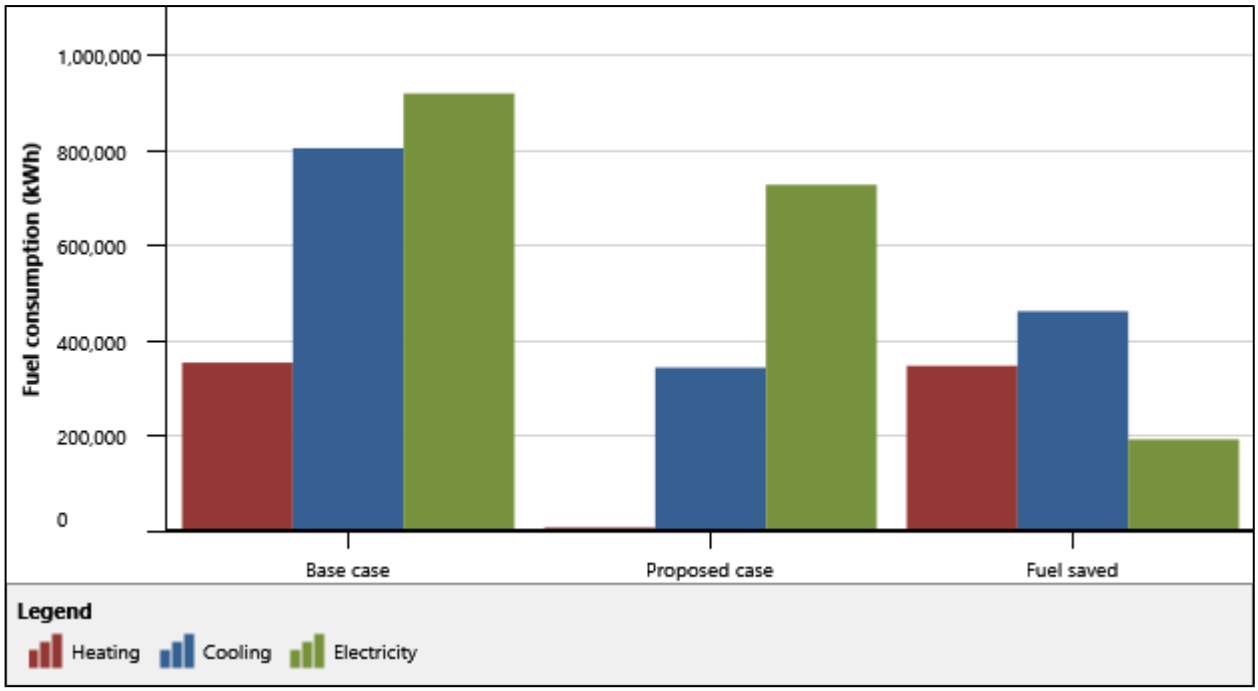
Facility size	4,000	m²
Benchmark	660	kWh/m²
Minimum - average	194	kWh/m²
Maximum - average	1,439	kWh/m²
Base case	520	kWh/m²
Reference year		
Set target	Target	
Year		
Target	-48.1%	
Proposed case	270	kWh/m²

Facility - Plan

Fuel consumption	Annual	
Base case	2,081,154	kWh
Proposed case	1,079,153	kWh
Fuel saved	1,002,002	kWh

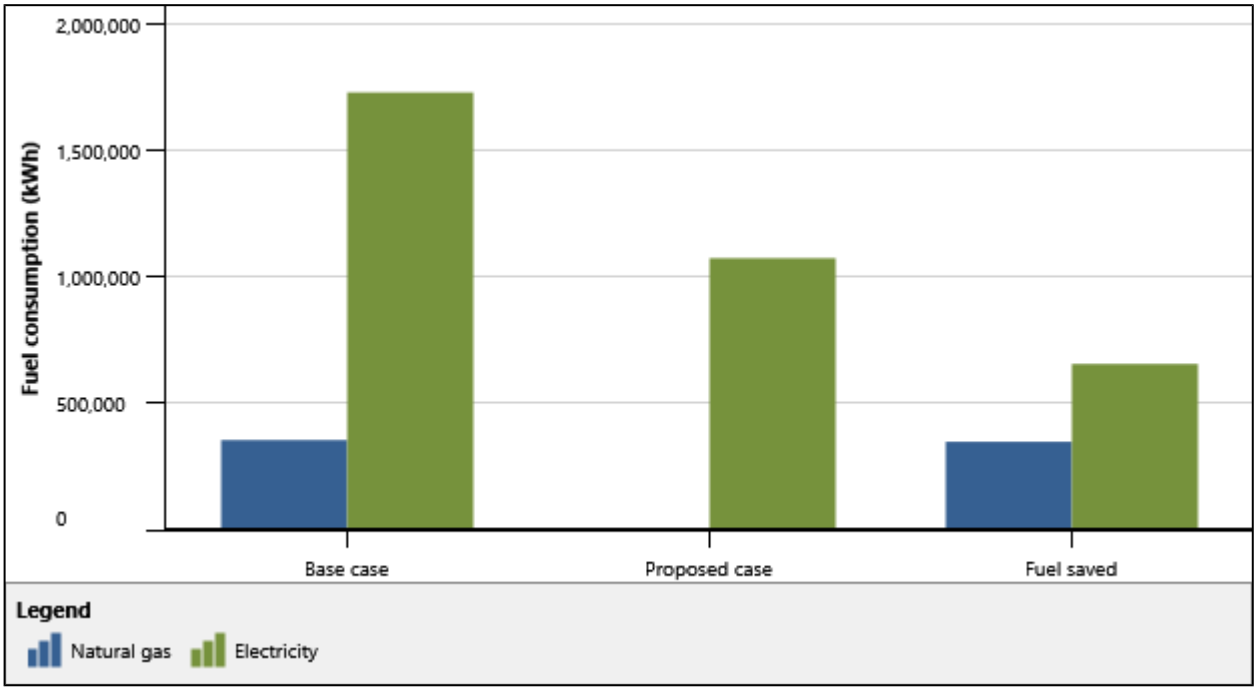
Energy savings | Fuel summary

Energy savings



Fuel consumption	Heating kWh	Cooling kWh	Electricity kWh	Total kWh
Base case	354,078	805,913	921,163	2,081,154
Proposed case	6,702	343,660	728,790	1,079,153
Fuel saved	347,376	462,253	192,373	1,002,002
Fuel saved - percent	98.1%	57.4%	20.9%	48.1%

Fuel summary

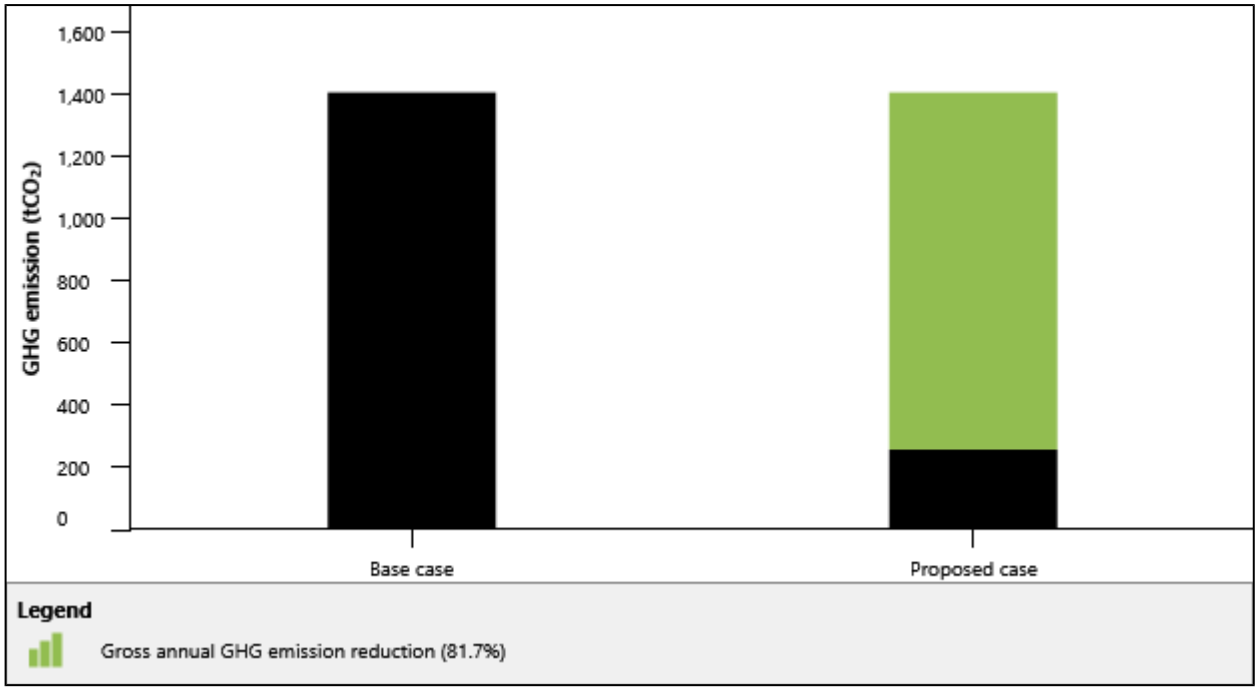


Fuel type	Fuel Unit	Base case Fuel consumption	Proposed case Fuel consumption	Savings Fuel saved
Natural gas	m³	37,515	710	36,805
Electricity	kWh	1,727,076	1,072,450	654,626

Fuel type	Fuel Fuel rate	Base case Fuel cost	Proposed case Fuel cost	Savings Savings
Natural gas	0.35 £/m³	£ 13,130	£ 249	£ 12,882
Electricity	0.10 £/kWh	£ 172,708	£ 107,245	£ 65,463
Total		£ 185,838	£ 107,494	£ 78,344

GHG emission

GHG emission



GHG equivalence

1,150.1 tCO_2 is equivalent to 261.4

Acres of forest absorbing carbon

GHG emission		
Base case	1,408.3	tCO_2
Proposed case	258.2	tCO_2
Gross annual GHG emission reduction	1,150.1	tCO_2