EEGA - Energy Efficiency Gap Analysis

Best Hotel Group

Commercial/Institutional - Lodging

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	1,925,064	129,346	393
Proposed case	1,372,120	83,492	273
Savings	552,944	45,854	120
%	28.7%	35.5%	30.5%

Location | Climate data

Location

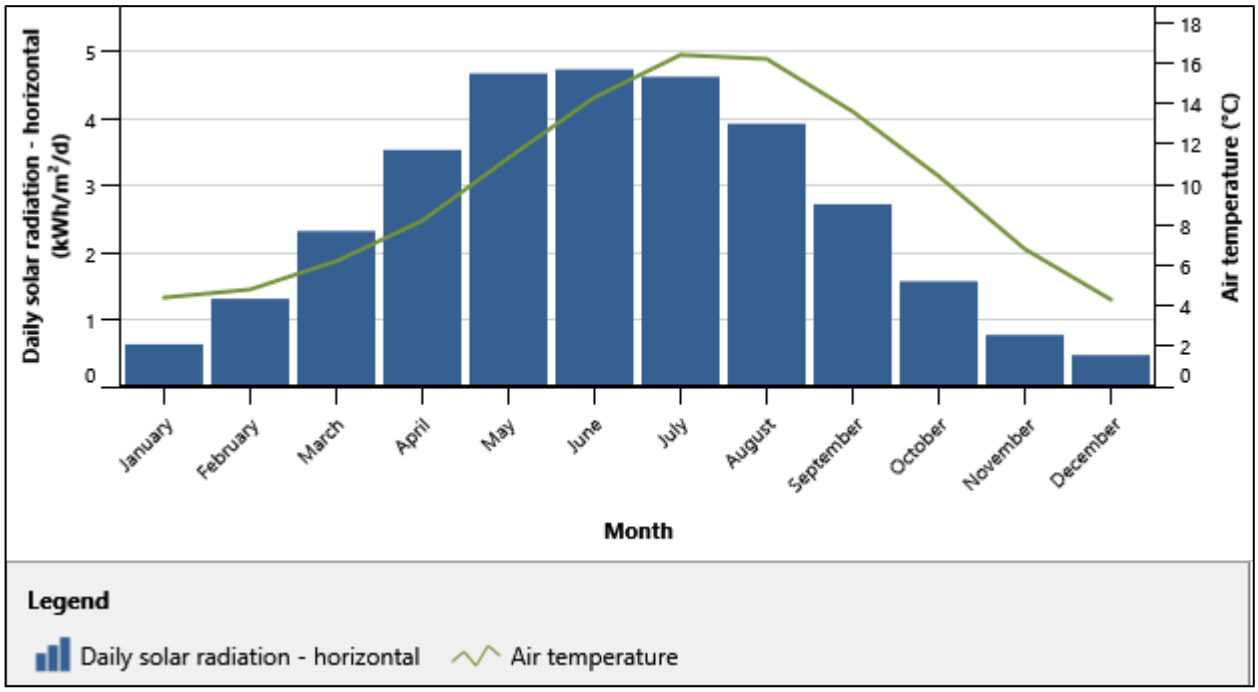
Legend

Facility location

Climate data location

	Unit	Climate data location	Facility location
Name		United Kingdom - Linton-On-Ouse RAF	United Kingdom - England - City Centre
Latitude	˚N	54.0	54.0
Longitude	˚E	-1.3	-1.1
Climate zone		5A - Cool - Humid	5A - Cool - Humid
Elevation	m	14	17

Climate data

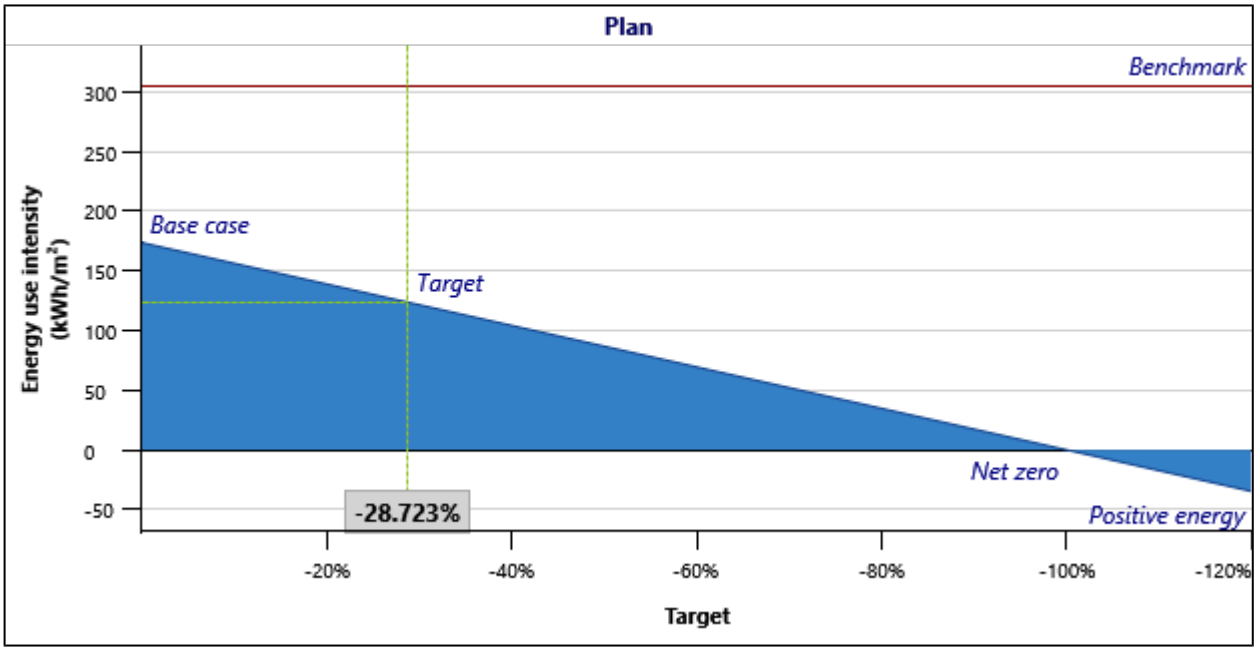


Heating design temperature	-2.3
Cooling design temperature	23.8
Earth temperature amplitude	9.9

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	4.4	85.2%	62.31	0.63	100.0	4.4	2.7	422	0
February	4.8	80.0%	46.20	1.31	100.2	4.8	3.1	370	0
March	6.2	77.6%	49.29	2.32	100.1	4.4	4.9	366	0
April	8.2	75.1%	58.80	3.53	100.1	4.0	7.3	294	0
May	11.3	73.7%	52.39	4.67	100.3	3.8	10.6	208	40
June	14.3	74.5%	68.70	4.73	100.3	3.5	13.5	111	129
July	16.4	74.1%	67.27	4.62	100.2	3.3	15.5	50	198
August	16.2	75.8%	74.40	3.92	100.2	3.1	15.2	56	192
September	13.6	79.0%	63.30	2.72	100.2	3.4	12.6	132	108
October	10.4	82.3%	73.16	1.57	99.9	3.9	9.3	236	12
November	6.8	86.1%	70.80	0.77	99.9	3.8	5.7	336	0
December	4.3	86.6%	66.03	0.47	100.0	4.0	3.4	425	0
Annual	9.8	79.2%	752.65	2.61	100.1	3.9	8.7	3,003	680

Benchmark

Fuel consumption

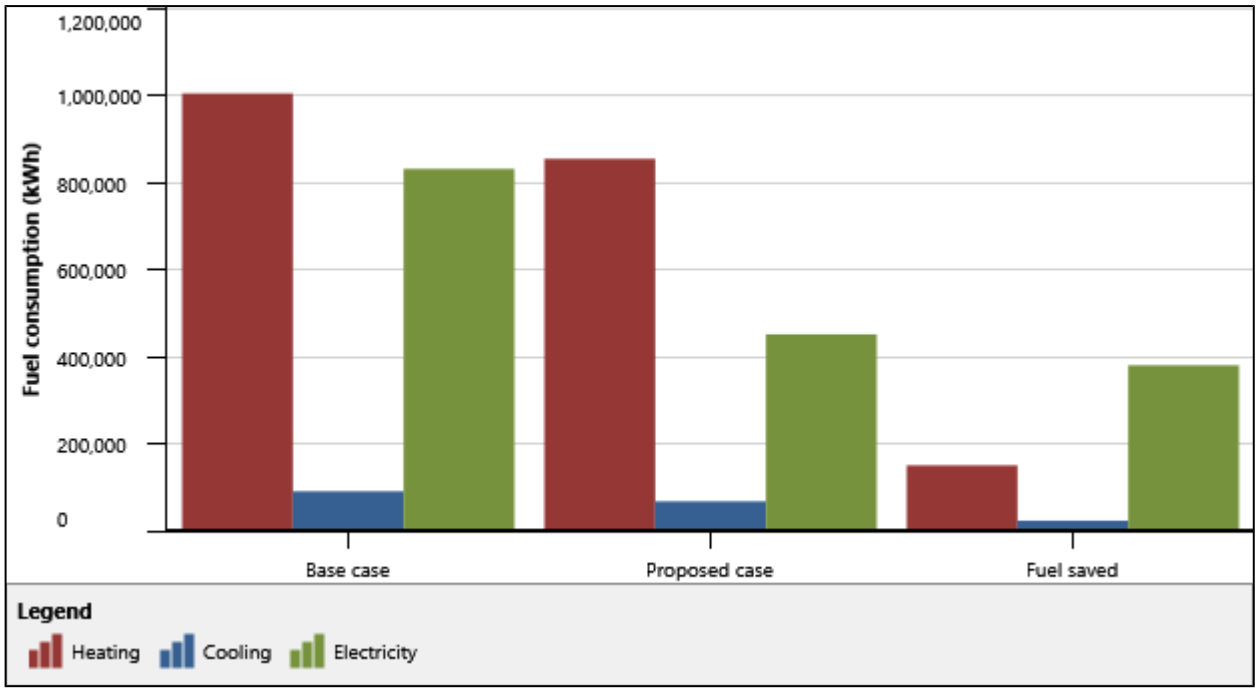


Facility size	11,100	m²
Benchmark	305	kWh/m²
Minimum - average	183	kWh/m²
Maximum - average	431	kWh/m²
Base case	173	kWh/m²
Reference year		
Set target	Target	
Year		
Target	-28.7%	
Proposed case	124	kWh/m²

Facility - Plan		
Fuel consumption	Annual	
Base case	1,925,064	kWh
Proposed case	1,372,120	kWh
Fuel saved	552,944	kWh

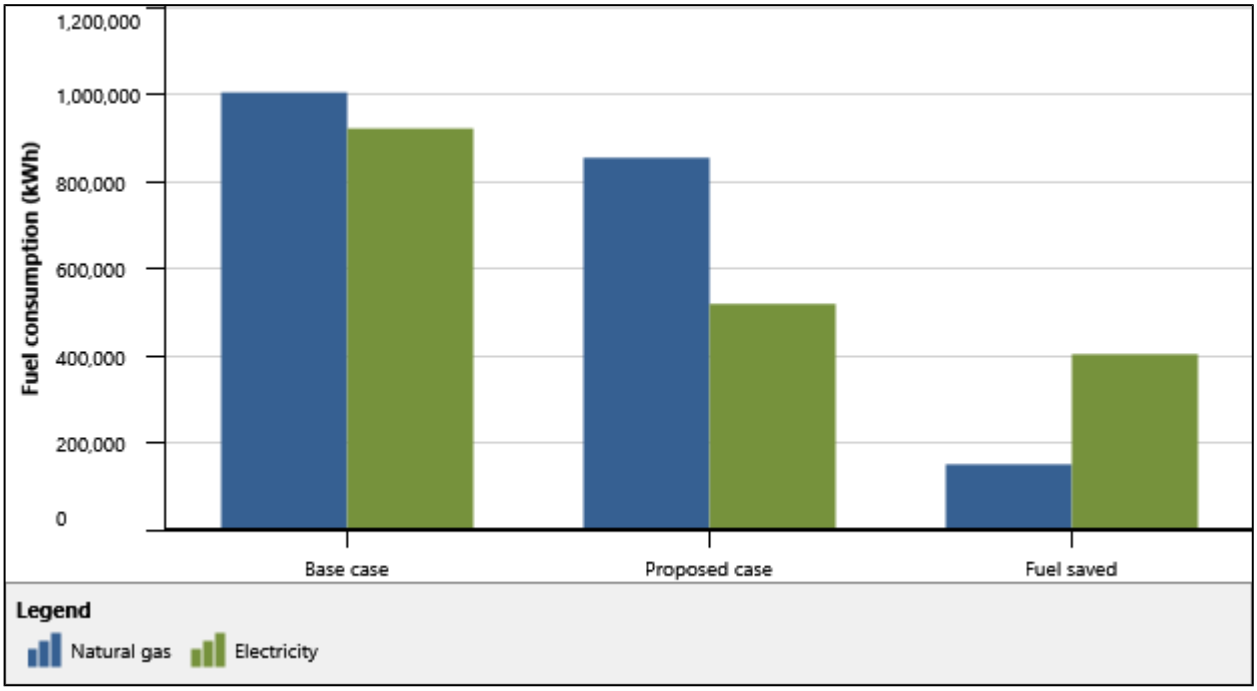
Energy savings | Fuel summary

Energy savings



Fuel consumption	Heating kWh	Cooling kWh	Electricity kWh	Total kWh
Base case	1,003,863	90,509	830,692	1,925,064
Proposed case	853,820	67,412	450,888	1,372,120
Fuel saved	150,043	23,097	379,804	552,944
Fuel saved - percent	14.9%	25.5%	45.7%	28.7%

Fuel summary

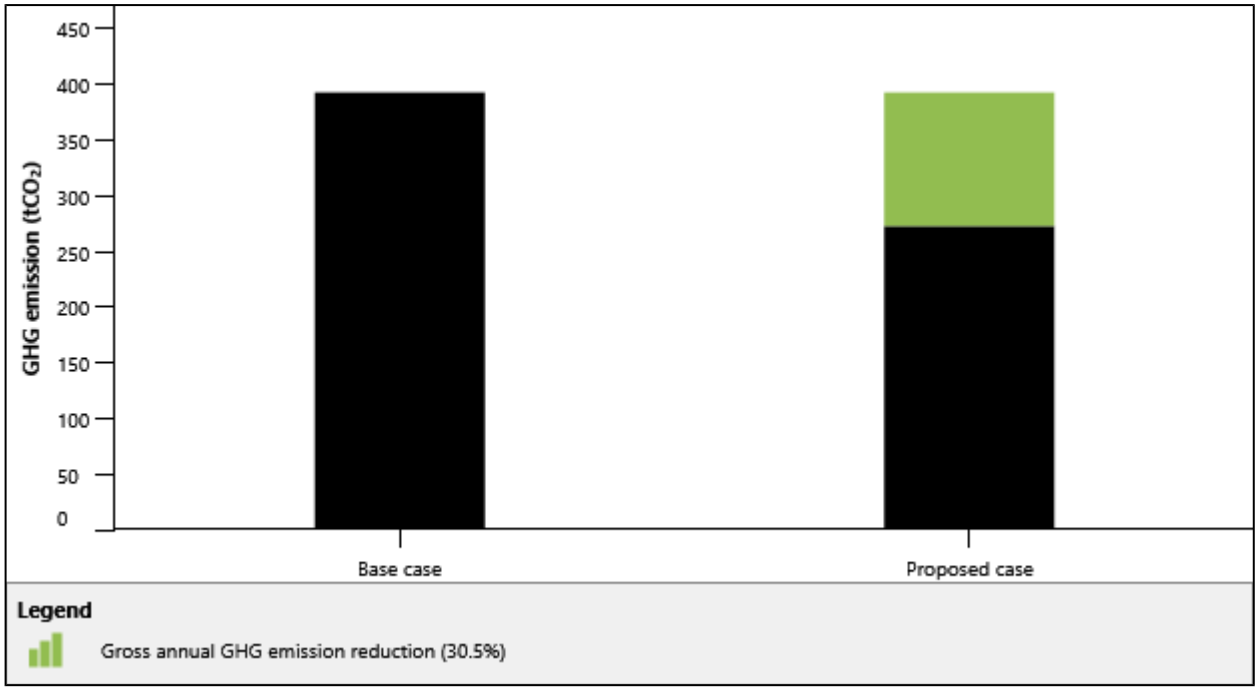


Fuel type	Fuel Unit	Base case Fuel consumption	Proposed case Fuel consumption	Savings Fuel saved
Natural gas	m³	106,361	90,464	15,897
Electricity	kWh	921,201	518,300	402,901

Fuel type	Fuel Fuel rate	Base case Fuel cost	Proposed case Fuel cost	Savings Savings
Natural gas	0.35 £/m³	£ 37,226	£ 31,662	£ 5,564
Electricity	0.10 £/kWh	£ 92,120	£ 51,830	£ 40,290
Total		£ 129,346	£ 83,492	£ 45,854

GHG emission

GHG emission



GHG equivalence

120 tCO_2 is equivalent to 27.3

Acres of forest absorbing carbon

GHG emission		
Base case	393	tCO_2
Proposed case	273	tCO_2
Gross annual GHG emission reduction	120	tCO_2