

Commercial/Institutional - Lodging

Prepared for:

Prepared by:

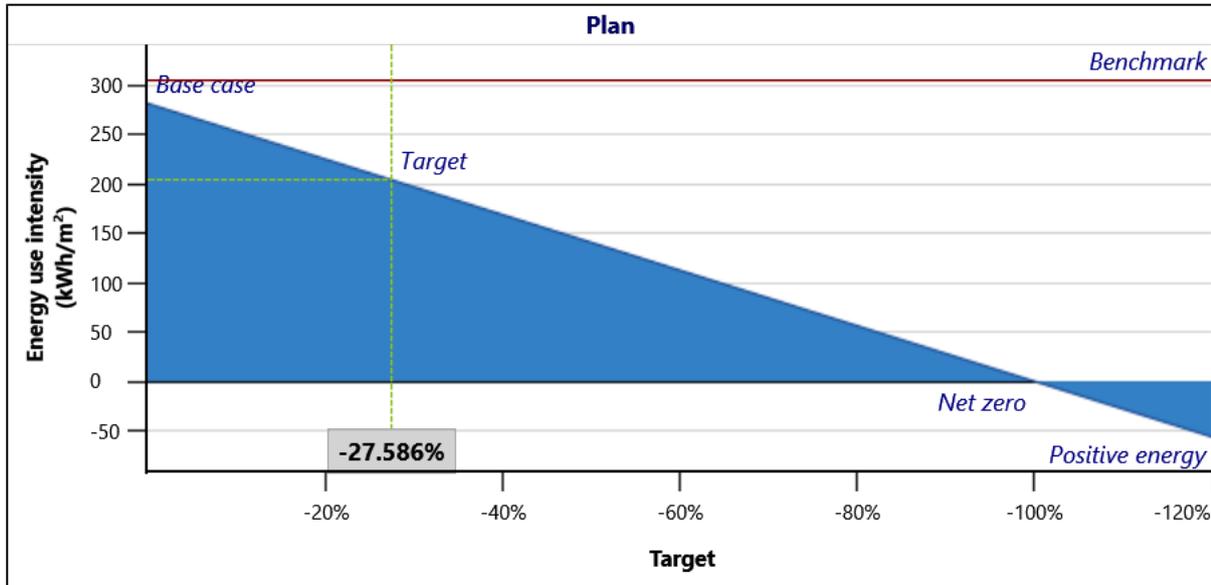
Pete Mackarel
Best.Energy
Energy Services Team
United Kingdom
E-mail: pete.mackarel@best.energy



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.

Benchmark - Fuel consumption



IMPORTANT NOTE:

Where annual energy consumption has been provided the Benchmark is a comparison of the site's actual energy use compared with the Benchmark value for the type of site. If no annual energy consumption has been provided then the Benchmark is indicative for the type of site. Indicative savings are shown where possible. The indicative savings are based on the results of actual surveys at similar sites to the Benchmark site. If unit rates for energy have been provided they are used to quantify the savings - if no unit rates for energy have been provided then default values are used

IMPORTANT NOTICE

Whilst reasonable steps have been taken to ensure that the information contained within this Savings Report is correct, you should be aware that the information contained within it may be incomplete, inaccurate or may have become out of date. Accordingly, Best.Energy, its agents, contractors and sub-contractors make no warranties or representations of any kind as to the content of this Report or its accuracy and, to the maximum extent permitted by law, accept no liability whatsoever for the same including without limit, for direct, indirect or consequential loss, business interruption, loss of profits, production, contracts, goodwill or anticipated savings. Any person making use of this Report does so at their own risk.

CONFIDENTIALITY

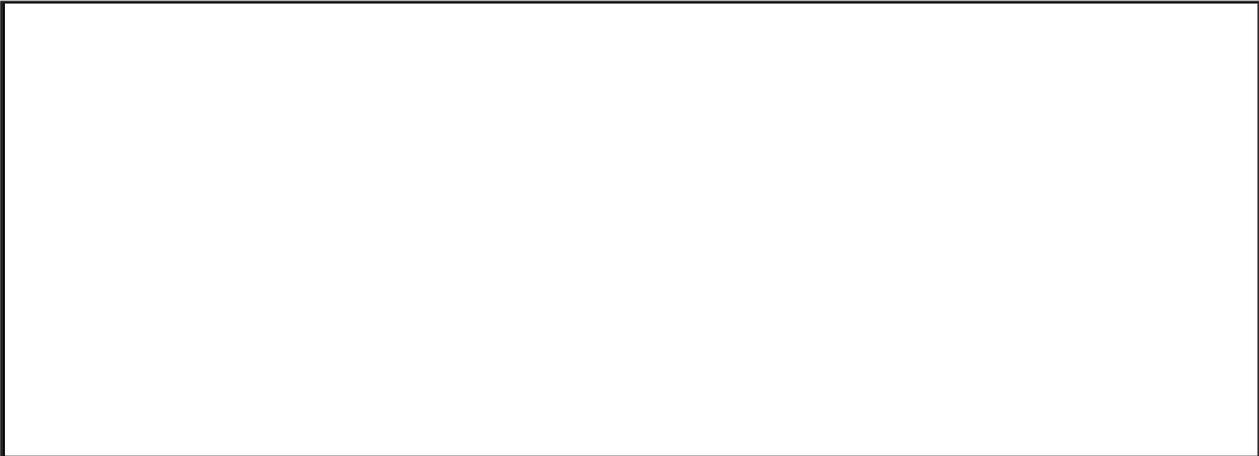
As part of energy consulting work Best.Energy may have access to client information which may be of a confidential or sensitive nature. Such information is treated in the strictest confidence and will not be communicated or otherwise transmitted to a third party unless expressly authorised to do so by the Client.

COPYRIGHT

All rights reserved. The information contained in this document is confidential. It may also be proprietary to the client. Without the prior written approval of Best.Energy, no part of this document may be reproduced or transmitted in any form by any means, including, but not limited to electronic, mechanical, photocopying or recording or stored in any retrieval system of whatever nature, although copyright is waived to the extent that they may be copied for use by the managers and employees of the client. Use of any copyright notice does not imply unrestricted public access to any part of this document.

Location | Climate data

Location



Legend

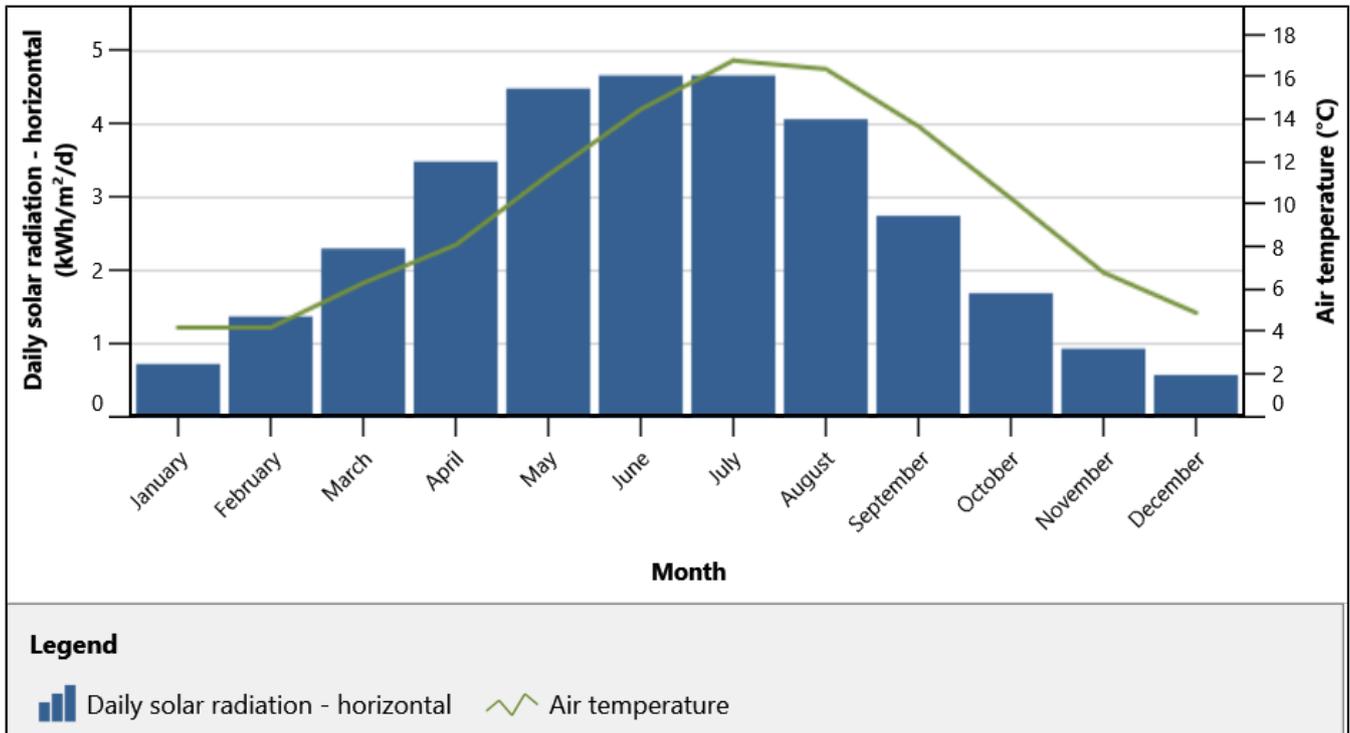


Facility location



Climate data location

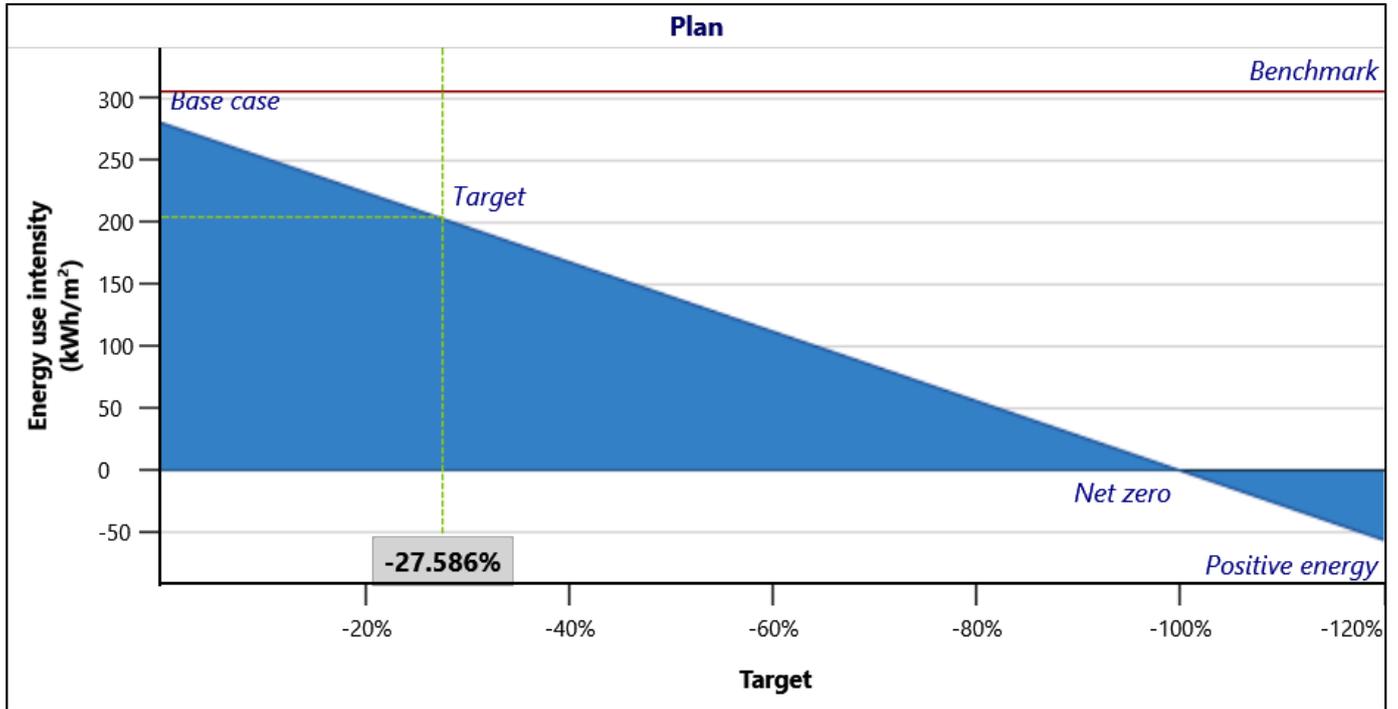
	Unit	Climate data location	Facility location
Name		United Kingdom - Birmingham	
Latitude	°N	52.5	
Longitude	°E	-1.7	
Climate zone		4A - Mixed - Humid	
Elevation	m	99	



Heating design temperature	-3.4								
Cooling design temperature	24.5								
Earth temperature amplitude	14.8								
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/m ² /d	kPa	m/s	°C	°C-d	°C-d
January	4.2	85.2%	69.13	0.72	100.1	4.5	2.8	428	0
February	4.2	81.7%	49.00	1.37	100.2	4.6	3.1	386	0
March	6.3	78.2%	51.15	2.30	100.2	4.4	5.4	363	0
April	8.1	75.6%	57.30	3.49	100.0	4.1	8.0	297	0
May	11.4	74.7%	57.97	4.49	100.2	3.9	11.5	205	43
June	14.5	74.2%	64.20	4.67	100.3	3.7	14.5	105	135
July	16.8	72.4%	61.69	4.67	100.2	3.6	16.7	37	211
August	16.4	74.2%	64.17	4.07	100.2	3.5	16.4	50	198
September	13.7	78.4%	59.10	2.75	100.2	3.6	13.5	129	111
October	10.3	83.4%	77.81	1.69	100.0	3.9	9.8	239	9
November	6.8	86.8%	72.30	0.93	99.9	3.8	5.8	336	0
December	4.9	86.9%	71.61	0.57	100.1	4.2	3.4	406	0
Annual	9.8	79.3%	755.43	2.65	100.1	4.0	9.3	2,980	708

Benchmark

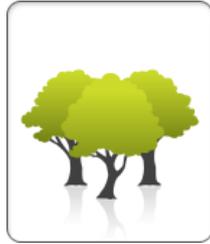
Fuel consumption



Facility size	8,100	m ²
Benchmark	305	kWh/m ²
Minimum - average	183	kWh/m ²
Maximum - average	431	kWh/m ²
Base case	281	kWh/m ²
Reference year		
Set target	Target	
Year		
Target	-27.6%	
Proposed case	204	kWh/m ²
Facility - Plan		
Fuel consumption	Annual	
Base case	2,279,178	kWh
Proposed case	1,650,433	kWh
Fuel saved	628,745	kWh

GHG emission

GHG equivalence



142.2 tCO₂ is equivalent to 32.3
Acres of forest absorbing carbon

GHG emission

GHG emission

Base case	526.5	tCO ₂
Proposed case	384.3	tCO ₂
<hr/>		
Gross annual GHG emission reduction	142.2	tCO ₂