

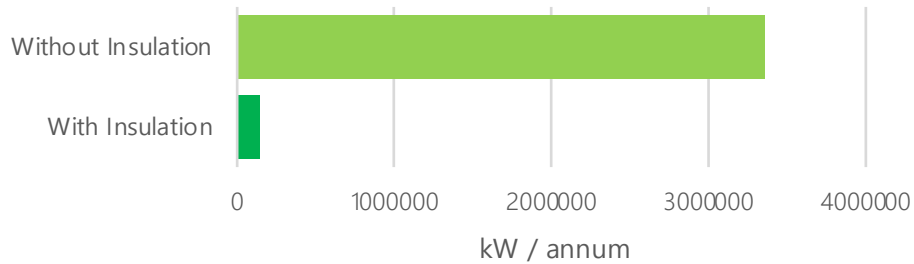


**PROJECT DETAILS**

Project Reference: A.N.Other      Survey Date: 28th January 2022  
Area Reference: Boilerhouse      Prepared by Richard Tippey

**OVERVIEW**

**ENERGY COMPARISON**



**ENERGY REDUCTION**

**96%**  
ANNUALY

**KEY FIGURES**

ENERGY SAVED	FUEL SAVED	FINANCIAL SAVING	CO2 SAVING
<b>3210174</b>	<b>3776676</b>	<b>£113,300.27</b>	<b>691.74</b>
kW/Year	kW/Year	Per Year	Tonnes Per Year

Service Type	Average Fuel Costs	Average System Efficiency	Savings	CO2 Savings (tonnes)
Hot Water	N/A p/kWh	N/A	£0.00	0.00
Steam	3 p/kWh	85%	£113,300.27	691.74
Chilled Water	N/A p/kWh	N/A	£0.00	0.00

Actual fuel costs and efficiencies per section can be seen in the detailed report.





## Emissivity Values

Surface Material	Emissivity Coefficient
	- ε -
Alloy 24ST Polished	0.09
Alumina, Flame sprayed	0.8
Aluminum Commercial sheet	0.09
Aluminum Foil	0.04
Aluminum Commercial Sheet	0.09
Aluminum Heavily Oxidized	0.2 - 0.31
Aluminum Highly Polished	0.039 - 0.057
Aluminum Anodized	0.77
Aluminum Rough	0.07
Aluminum paint	0.27 - 0.67
Antimony, polished	0.28 - 0.31
Asbestos board	0.96
Asbestos paper	0.93 - 0.945
Asphalt	0.93
Basalt	0.72
Beryllium	0.18
Beryllium, Anodized	0.9
Bismuth, bright	0.34
Black Body Matt	1
Black lacquer on iron	0.875
Black Parson Optical	0.95
Black Silicone Paint	0.93
Black Epoxy Paint	0.89
Black Enamel Paint	0.8
Brass Dull Plate	0.22
Brass Rolled Plate Natural Surface	0.06
Brass Polished	0.03
Brass Oxidized 600°C	0.6
Brick, red rough	0.93
Brick, fireclay	0.75
Cadmium	0.02
Carbon, not oxidized	0.81
Carbon filament	0.77
Carbon pressed filled surface	0.98
Cast Iron, newly turned	0.44
Cast Iron, turned and heated	0.60 - 0.70
Cement	0.54
Chromium polished	0.058
Clay	0.91
Coal	0.8
Concrete	0.85
Concrete, rough	0.94
Concrete tiles	0.63

Cotton cloth	0.77
Copper electroplated	0.03
Copper heated and covered with thick oxide layer	0.78
Copper Polished	0.023 - 0.052
Copper Nickel Alloy, polished	0.059
Glass smooth	0.92 - 0.94
Glass, pyrex	0.85 - 0.95
Gold not polished	0.47
Gold polished	0.025
Granite	0.45
Gravel	0.28
Gypsum	0.85
Ice smooth	0.966
Ice rough	0.985
Inconel X Oxidized	0.71
Iron polished	0.14 - 0.38
Iron, plate rusted red	0.61
Iron, dark gray surface	0.31
Iron, rough ingot	0.87 - 0.95
Lampblack paint	0.96
Lead pure unoxidized	0.057 - 0.075
Lead Oxidized	0.43
Limestone	0.90 - 0.93
Lime wash	0.91
Magnesia	0.72
Magnesite	0.38
Magnesium Oxide	0.20 - 0.55
Magnesium Polished	0.07 - 0.13
Marble White	0.95
Masonry Plastered	0.93
Mercury liquid	0.1
Mild Steel	0.20 - 0.32
Molybdenum polished	0.05 - 0.18
Mortar	0.87
Nickel, elctroplated	0.03
Nickel, polished	0.072
Nickel, oxidized	0.59 - 0.86
Nichrome wire, bright	0.65 - 0.79
Oak, planed	0.89
Oil paints, all colors	0.92 - 0.96
Paper offset	0.55
Plaster	0.98
Platinum, polished plate	0.054 - 0.104
Pine	0.84
Plaster board	0.91
Porcelain, glazed	0.92
Paint	0.96
Paper	0.93

Plaster, rough	0.91
Plastics	0.90 - 0.97
Polypropylene	0.97
Polytetrafluoroethylene (PTFE)	0.92
Porcelain glazed	0.93
Pyrex	0.92
PVC	0.91 - 0.93
Quartz glass	0.93
Roofing paper	0.91
Rubber, foam	0.9
Rubber, hard glossy plate	0.94
Rubber, natural hard	0.91
Rubber, natural oft	0.86
Salt	0.34
Sand	0.76
Sandstone	0.59
Sapphire	0.48
Sawdust	0.75
Silica	0.79
Silicon Carbide	0.83 - 0.96
Silver Polished	0.02 - 0.03
Soil	0.90 - 0.95
Steel Oxidized	0.79
Steel Polished	0.07
Stainless Steel, weathered	0.85
Stainless Steel, polished	0.075
Stainless Steel, type 301	0.54 - 0.63
Steel Galvanized Old	0.88
Steel Galvanized New	0.23
Thoria	0.28
Tile	0.97
Tin unoxidized	0.04
Titanium polished	0.19
Tungsten polished	0.04
Tungsten aged filament	0.032 - 0.35
Water	0.95 - 0.963
Wood Beech, planned	0.935
Wood Oak, planned	0.885
Wood, Pine	0.95
Wrought Iron	0.94
Zink Tarnished	0.25
Zink polished	0.045

**CO2 Factors**

<https://www.gov.uk/government/collections/government-conve>

Fuel	Unit	Conversion Factor
		kg CO2e
Natural Gas	kWh (Gross CV)	0.18316







[ersion-factors-for-company-reporting](#)