

Project Details

Project Name : HausBelo

Address Line1 : 40, Đường Đặng Dung, phường Tân Định, quận 1

Number of Distinct Buildings : 1

Address Line2 :

Number of EDGE Subproject(s) : 3
associated

City : Hồ Chí Minh

Total Project Floor Area : 102,383.82 m²

State/ Province :

Project Owner Name : CÔNG TY TNHH AHC BẢO MINH

Postal Code : 700000

Project Owner Email : info@ezland.vn

Country : Việt Nam

Project Owner Phone : Office 84-2835267777

Project Number : 1000384944

Share with investor(s) or bank(s)? : No

Associated Subproject(s)

MSA - 1PN (1+1PN), MSA - 2PN, MSA - 3PN

Subproject Details

Subproject Name : MSA - 3PN

Address Line1 : Phường Phú Hữu, Quận 9

House or Apartment Block Name : 1

Address Line2 :

Subproject Multiplier for the : 1
Project

City : Hồ Chí Minh

Certification Stage : Preliminary

State/ Province :

Status : Certificate Issued

Postal Code : 700000

Auditor : Hai Nguyen Hang

Country : Việt Nam

Certifier : SGS

Subproject Type : New Building

Location Data

Country : Vietnam

City : Ho Chi Minh

Income Category : Lower Middle



Building Data

Type of Unit : Flats/Apartments
Average Unit Area : 102.4 m²
Bedrooms/Unit : 3 no.
Floors : 15 no.
Units : 27 no.
Occupancy (People/Unit) : 5 no.

Area Details

	Default	User Entry
Bedroom :	38.7	31.5 m ²
Kitchen :	12.0	4.6 m ²
Living/Dining :	37.0	22.5 m ²
Bathroom :	7.1	6.4 m ²
Utility, Balcony, Service Shaft** :		37.40 m ²
Gross Internal Area :	102	m ²
External Wall Length m/Unit :	30.4	27.07 m
Roof Area/Unit :	6.8	m ²
Window to Floor Ratio :	23.8%	
Common Area/Unit :	26.6	28.10 m ²

**The Utility, Balcony, Service Shaft (m²) field is equal to the remaining space required to total the Gross Internal Area (m²).

Building Systems

Does the building design include an AC system? : No
Does the building design include a space heating system? : No

Key Assumptions for the Base Case

	Default	User Entry	Monthly Average Outdoor Temperature (deg.C)	
Fuel Used for Hot Water :	Electric Resistance	Electric Resistance		
Fuel Used for Space Heating :	Electricity	Electricity		
Cost of Electricity :	1,789.90	VND/kWh	Default	User Entry
Cost of Diesel Fuel :	22,427.60	VND/L	Jan :	26.0
Cost of LPG/Natural Gas :	41,404.80	VND/L	Feb :	26.8
Cost of Water :	12,680.22	VND/kL	Mar :	28.0
CO ₂ Emissions g/kWh of Electricity :	815	g/kWh	Apr :	29.2
Window to Wall Ratio :	30%	%	May :	28.8
Solar Reflectivity for Paint - Wall :	40%	%	Jun :	27.8
Solar Reflectivity for Paint - Roof :	30%	%	Jul :	27.5
Hot Water Boiler Efficiency :	80%	%	Aug :	27.4
Roof U-value :	1.73	W/m ² .K	Sep :	27.2
Wall U-value :	1.80	W/m ² .K	Oct :	27.0
Glass U-value :	5.40	W/m ² .K	Nov :	26.7
Glass SHGC :	0.57	Factor	Dec :	26.0
AC System Efficiency :	2.70	COP	Latitude :	11
				Deg

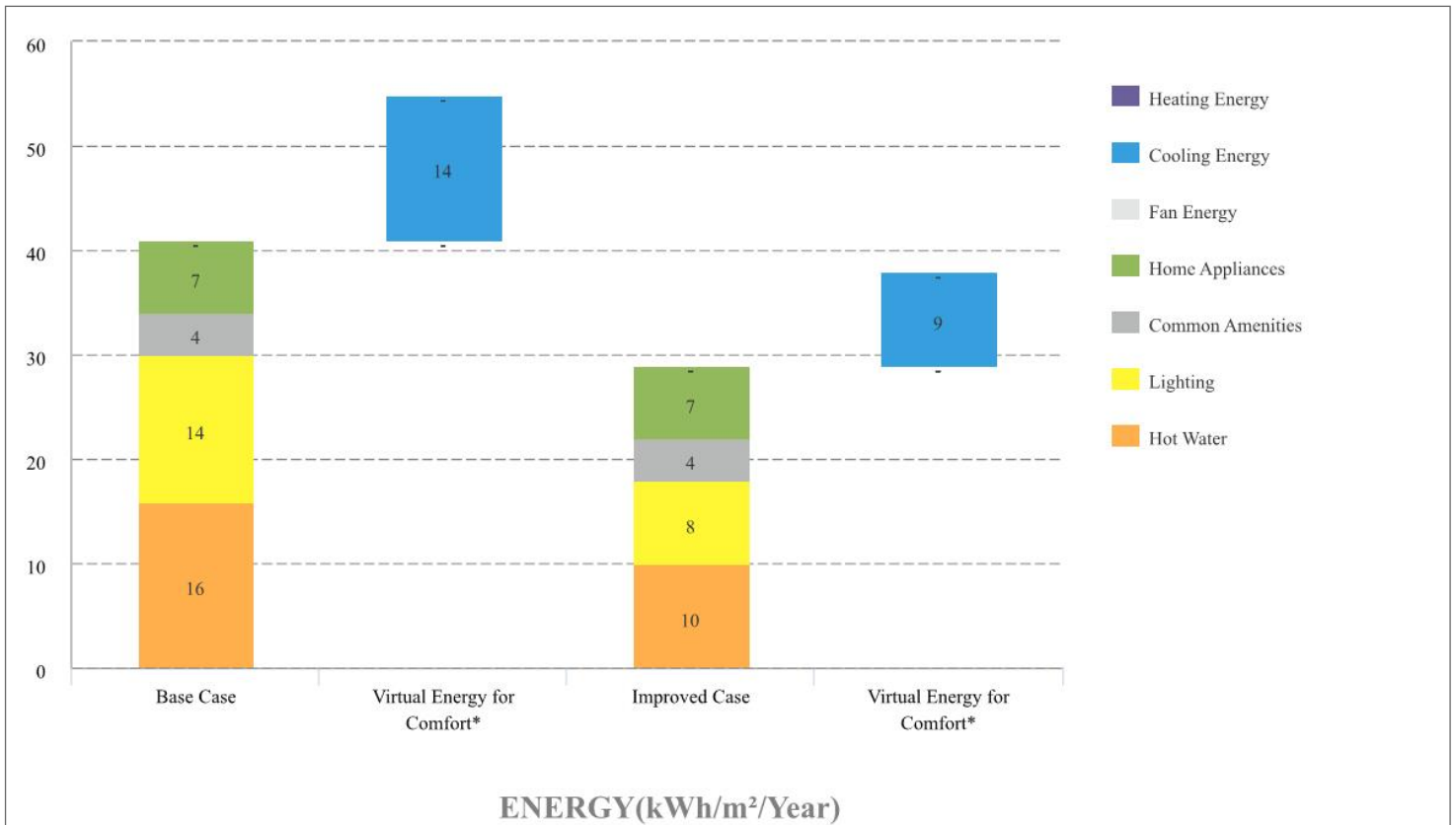
RESULTS

Final Energy Use : 246.86 kWh/Month/Unit	Operational CO ₂ Savings : 1.00 tCO ₂ /Year/Unit
Final Water Use : 13.27 kL/Month/Unit	Embodied Energy Savings : 154281.57 MJ/Unit
Base Case Utility Cost : 875184.24 VND/Month/Unit	Incremental Cost : 34,724,797.30 VND/Unit
Utility Cost Reduction : 265,045.47 VND/Month/Unit	Payback in Years : 10.92 Yrs.
Energy Savings : 45.31 MWh/Year	Water Savings : 2096.16 m ³ /Year
Embodied Energy in Materials : 4165.60 GJ Savings	Aggregate Floor Space : 3523.50 m ² Including Multiplier

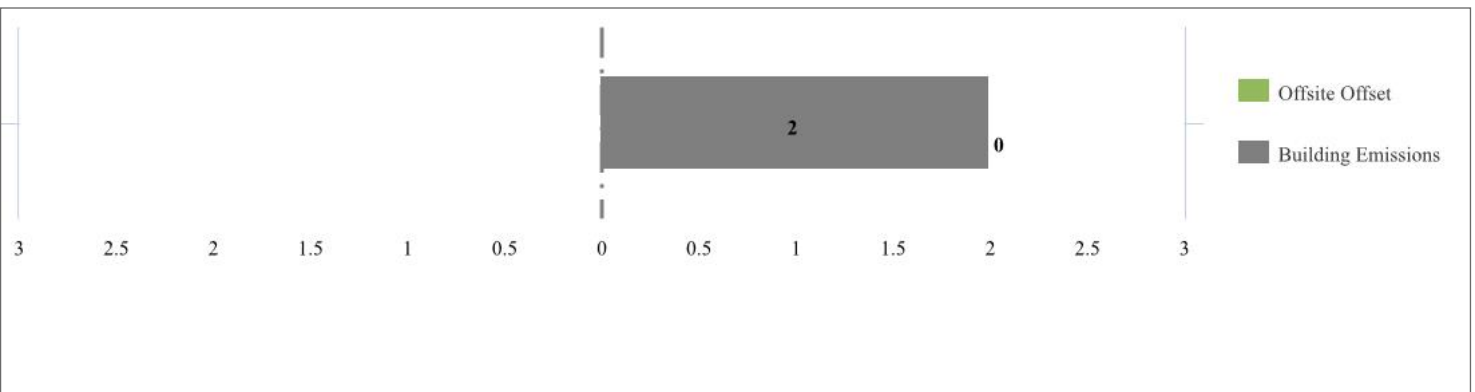
Energy Efficiency Measures 29.81%

ENERGY SAVINGS

Meets EDGE Energy Standard



CARBON EMISSIONS: 2.42 tCO₂/Year/Unit

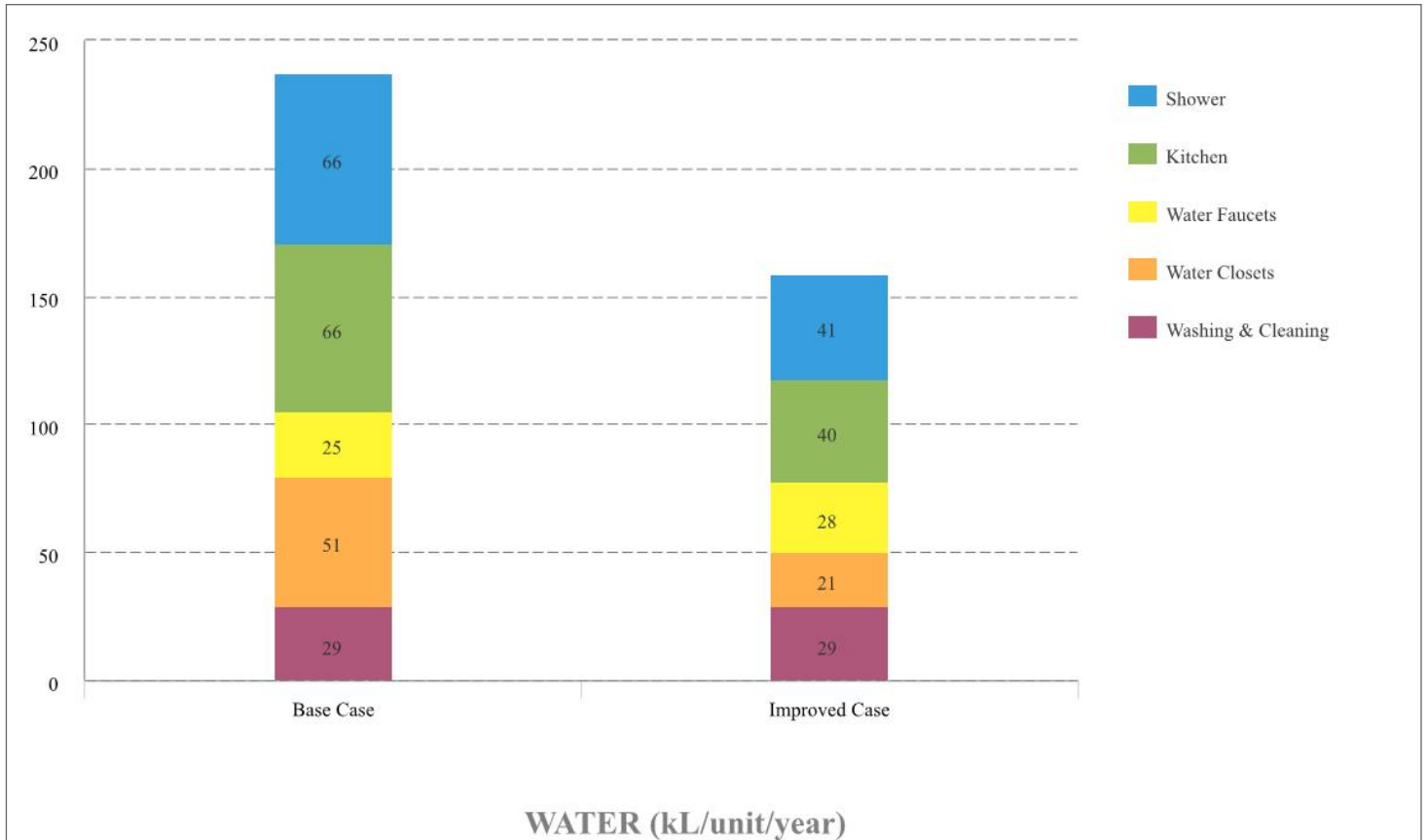


Yes	HME01 Reduced Window to Wall Ratio - WWR of 23.34%	WWR %	23.34
Yes	HME02 Reflective Paint/Tiles for Roof - Solar Reflectivity (albedo) of 0.33	SR	0.33
Yes	HME03 Reflective Paint for External Walls - Solar Reflectivity (albedo) of 0.71	SR	0.71
Yes	HME04 External Shading Devices - Annual Average Shading Factor (AASF) of 0.45	AASF	0.45
Yes	HME05 Insulation of Roof : U-value of 0.92		0.92
Yes	HME06 Insulation of External Walls : U-value of 2.2		2.20
No	HME07 Low-E Coated Glass : U-value of 3 W/m ² .K and SHGC of 0.45	SHGC	
No	HME08 Higher Thermal Performance Glass : U-value of 1.9 W/m ² .K and SHGC of 0.28	SHGC	
No	HME09 Natural Ventilation		
No	HME10 Ceiling Fans in All Habitable Rooms		
No	HME11 Air Conditioning System - COP of 3.5	COP	
No	HME12 High-Efficiency Boiler for Space Heating - Efficiency of 95%	% Eff.	
No	HME13 High-Efficiency Boiler for Hot Water - Efficiency of 95%	% Eff.	
No	HME14 Heat Pump for Hot Water - COP of 3	COP	
No	HME15 Energy-Efficient Refrigerators and Clothes Washing Machines		
Yes	HME16 Energy-Saving Light Bulbs - Internal Spaces		
Yes	HME17 Energy-Saving Light Bulbs - Common Areas and External Spaces		
Yes	HME18 Lighting Controls for Common Areas and Outdoors		
No	HME19 Solar Hot Water Collectors - 50% of Hot Water Demand	% Hot Water Collector Area (m ²)/Unit	-
No	HME20 Solar Photovoltaics - 25% of Total Energy Demand	% of Annual Electricity Use Capacity kWp/Unit	-
No	HME21 Smart Meters		
No	HME22 Other Renewable Energy for Electricity Generation	Source Type % of Annual Electricity Use	Biomass -
No	HME23 Offsite Renewable Energy Procurement - Equal to 100% of Total Operational CO2	% Annual Operational CO2 kWh/Year	-
No	HME24 Carbon Offset - 100% of Total CO2	% Annual Operational CO2 tCO2/Year/Unit	-

Water Efficiency Measures 32.77%

WATER SAVINGS

Meets EDGE Water Standard



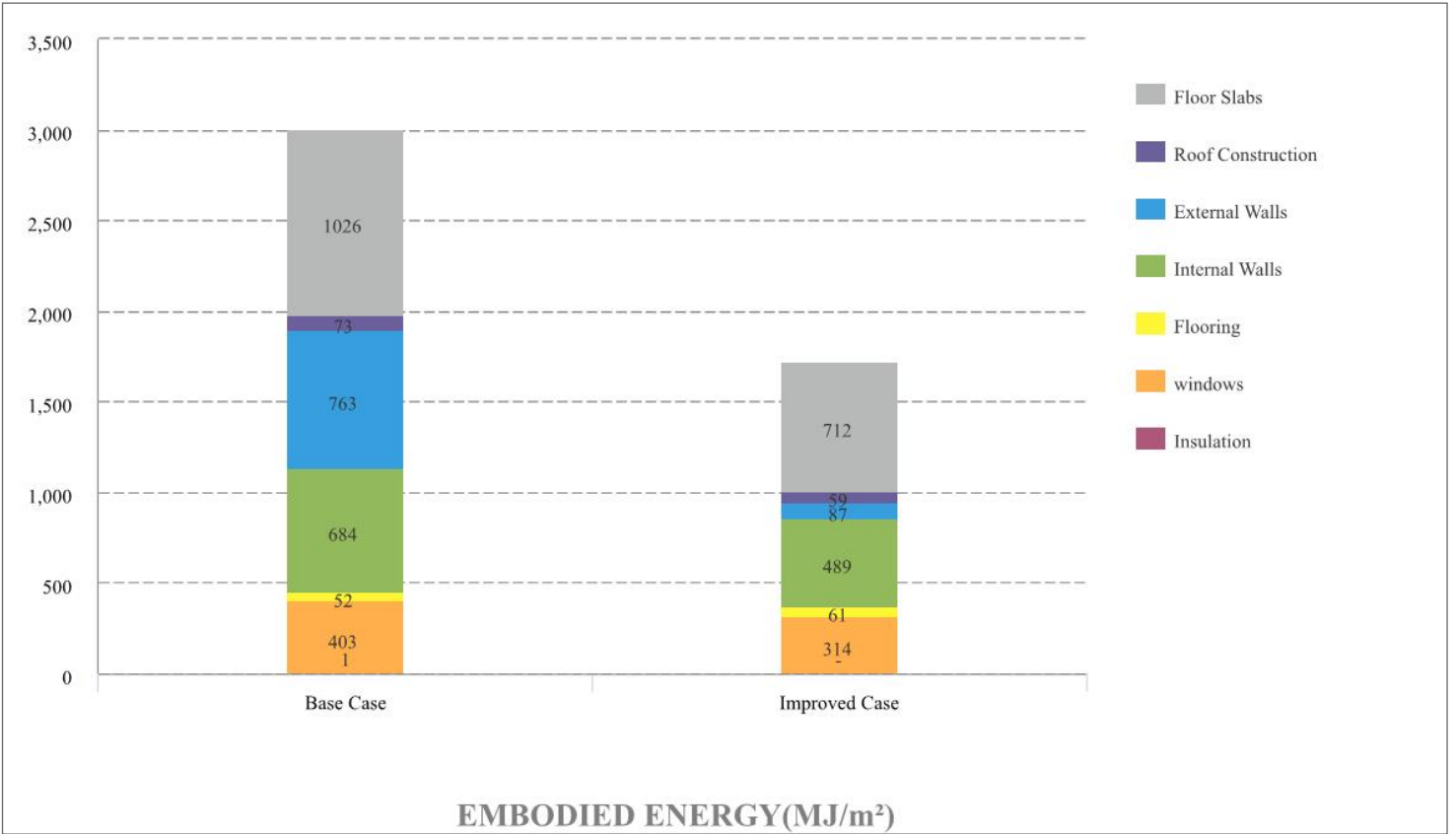
WATER (kL/unit/year)

Yes	HMW01	Low-Flow Showerheads - 5.67 L/min	L/min	5.67
Yes	HMW02	Low-Flow Faucets for Kitchen Sinks - 8 L/min	L/min	8.00
Yes	HMW03	Low-Flow Faucets in All Bathrooms - 6.6 L/min	L/min	6.60
Yes	HMW04	Dual Flush for Water Closets in All Bathrooms - 6 L/first flush and 3 L/second flush	1st - L/flush 2nd - L/flush	6 3
No	HMW05	Single Flush for Water Closets - 6 L/flush	L/flush	
No	HMW06	Rainwater Harvesting System - 50% of Roof Area Used for Rainwater Collection	% of Roof Area Used	
No	HMW07	Recycled Grey Water for Flushing		
No	HMW08	Recycled Black Water for Flushing		

Materials Efficiency Measures 42.67%

Embodied Energy Savings

Meets EDGE Materials Standard



EMBODIED ENERGY(MJ/m²)

HMM	Component	Type	Material	Proportion %	Thickness	Steel Rebar
HMM01	Floor Slabs		In-Situ Reinforced Concrete Slab		202.96 mm	23.14 kg/m²
			In-Situ Reinforced Concrete Slab			
			300 mm			
			Steel : 33 kg/m²			
HMM02	Roof Construction		In-Situ Reinforced Concrete Slab	100%	257.7 mm	23.61 kg/m²
		Type 1	In-Situ Reinforced Concrete Slab			
			300 mm			
			Steel : 33 kg/m²			
HMM03	External Walls		Common Brick Wall with Internal & External Plaster			
		Type 1	Medium Weight Hollow Concrete Blocks	42.90%	200 mm	
		Type 2	Medium Weight Hollow Concrete Blocks	57.1%	90 mm	
			200 mm			

			<i>Proportion %</i>	<i>Thickness</i>
HMM04	Internal Walls			
	Common Brick Wall with Plaster on Both Sides	Type 1 Precast Concrete Panels	100%	100 mm
	100 mm			
HMM05	Flooring			
	Ceramic Tile	Type 1 Laminated Wooden Flooring	43.75%	
		Type 2 Ceramic Tile	56.25%	
HMM06	Window Frames			
	Aluminium	Type 1 Aluminium	100%	Single Glazing
	Single Glazing			
HMM07	Wall Insulation			
	Polystyrene	No Insulation		
	U : ~ 1 W/m ² k			
HMM08	Roof Insulation			
	Polystyrene	Air Gap <100mm Wide		55 mm
	U : ~ 4 W/m ² k			

EDGE Certification Checklist

Building Type	Certification Stage	Subproject Name
Homes	Preliminary	MSA - 3PN
Energy Measures		Preliminary Audit Requirements
HME01	Reduced Window to Wall Ratio	<ul style="list-style-type: none"> > Calculation of "Glazing Area" and "Gross Exterior Wall Area" for each façade of the building and the average building area weighted WWR using the WWR calculator > All façade elevation drawings showing glazing dimensions and general building dimensions.
HME02	Reflective Paint/Tiles for Roof	<ul style="list-style-type: none"> > Building design drawings showing the roof material and roof finish. > Roof specification with solar reflectivity of the roof surface indicated. > Bill of quantities with the roof finish clearly marked.
HME03	Reflective Paint for External Walls	<ul style="list-style-type: none"> > Building design drawings showing the wall finish. > Wall specification with solar reflectivity of the wall's surface indicated. > Bill of quantities with the wall finish clearly marked.
HME04	External Shading Devices	<ul style="list-style-type: none"> > All façade elevation drawings highlighting the provision of horizontal and vertical shading devices. > Window details clearly showing the depth of the shading device and the calculation of the proportion. > If vertical and horizontal shading are not provided on all windows, the design team will need to provide the output from the solar shading design software.
HME05	Insulation of Roof	<ul style="list-style-type: none"> > A roof construction detail drawing showing the type and thickness of insulation material. Ideally the roof detail drawing should be annotated with the U Value of the roof. > Calculations of U value either using the formula or U value calculators. > Manufacturer's data sheet of specified insulation material for the roof.
HME06	Insulation of External Walls	<ul style="list-style-type: none"> > External walls construction detail drawing showing the type and thickness of the insulation material. Ideally the external walls detail drawing should be annotated with the U Value of the external walls. > Calculations of U value either using the formula or U value calculators. > Manufacturer's data sheet of specified insulation material for the external walls.
HME16	Energy-Saving Light Bulbs - Internal Spaces	<ul style="list-style-type: none"> > Lighting schedule listing type and number of bulbs specified. > Electrical layout drawings showing the location and type of all installed bulbs.
HME17	Energy-Saving Light Bulbs - External Spaces	<ul style="list-style-type: none"> > Lighting schedule listing type and number of bulbs specified. > Electrical layout drawings showing the location and type of all installed bulbs.
HME18	Lighting Controls for Corridors and Staircases	<ul style="list-style-type: none"> > Electrical layout drawings showing type and location of sensors/controls. > Specification of the sensors/controls from manufacturer.
Water Measures		Preliminary Audit Requirements
HMW01	Low-Flow Showerheads	<ul style="list-style-type: none"> > Plumbing drawings/specifications including make, model, and flow rate of the showerhead(s). > Manufacturer's data sheet for the showerhead(s) confirming the flow rate at 3 bar.
HMW02	Low-Flow Faucets for Kitchen Sinks	<ul style="list-style-type: none"> > Plumbing drawings/specifications including make, model, and flow rate of kitchen(s) faucet(s) or flow restrictor(s). > Manufacturer's data sheet for faucet(s)/flow restrictor(s) confirming the flow rate at 3 bar.
HMW03	Low-Flow Faucets for Washbasins	<ul style="list-style-type: none"> > Plumbing drawings/specifications including make, model, and flow rate of the washbasin faucet(s) or flow restrictor(s). > Manufacturer's data sheet for faucet(s)/flow restrictor(s) confirming the flow rate at 3 bar.
HMW04	Dual Flush for Water Closets	<ul style="list-style-type: none"> > Plumbing drawings/specifications including make, model, and flush volumes of water closet(s). > Manufacturer's data sheet for water closet(s) with information on the flush volume of the main and reduced flushes.
Material Measures		Preliminary Audit Requirements
HMM01	Floor Slabs	<ul style="list-style-type: none"> > Floor sections showing build-up of the floor; or > Manufacturer's data sheet for specified building material if applicable; or > Bill of quantities with the floor slab specification clearly highlighted.

HMM02	Roof Construction	<ul style="list-style-type: none"> > A section drawing of roof showing the materials and thicknesses; or > Manufacturer's data sheet for specified building material; or > Bill of quantities with the materials used for roof construction clearly highlighted.
HMM03	External Walls	<ul style="list-style-type: none"> > Façade drawings clearly marking the external wall specification selected; and > Drawings of the external wall sections; or > Manufacturer's data sheet for specified building material; or > Bill of quantities with the materials used for the external wall clearly highlighted.
HMM04	Internal Walls	<ul style="list-style-type: none"> > Drawings of the internal wall sections; or > Manufacturer's data sheet for building materials used for internal wall specifications if available; or > Bill of quantities with the materials used for the internal wall clearly highlighted.
HMM05	Flooring	<ul style="list-style-type: none"> > Drawings clearly marking the flooring specification selected; or > Manufacturer's data sheet for building materials used for floor specifications; or > Bill of quantities with the materials used for the flooring clearly highlighted.
HMM06	Window Frames	<ul style="list-style-type: none"> > Façade drawings clearly marking the window frame(s) specification; or > Manufacturer's data sheet for glazing specified; or > Bill of quantities with the windows/window frames clearly highlighted.
HMM08	Roof Insulation	<ul style="list-style-type: none"> > Drawings clearly marking the insulation specification selected; or > Manufacturer's data sheet for insulation specified; or > Bill of quantities with the insulation materials clearly highlighted.