

Inspection Report Date:	03 November 2022
RMS EPC Inspector:	Lee Ferreira

**Certification Name:** University of Johannesburg\_APB Great Hall

**Client Information**

<b>Company Name:</b> University of Johannesburg
<b>Building Name:</b> APB Great Hall

**Building Location**

<b>Address 1:</b> 23 Annet Rd, Cottesloe, Johannesburg
<b>City:</b> Johannesburg
<b>Province:</b> Gauteng

**Client Representative**

<b>Name:</b> Masala Mbambeleli
<b>Contact Number:</b> (078) 667 1760
<b>E-mail Address:</b> mmasala@uj.ac.za

**Building Information (from SANS 10400-XA:2021)**

<b>Energy Zone:</b>	1
<b>Occupancy Class:</b>	A1
<b>Reference Energy Consumption:</b>	75

\*from SANS10400-XA : 2021

**Building Assessment Planning**

Has the Inspector identified the person who will assist the Inspector during the assessment?	Yes
Has the Inspector phoned the inspection assistant to inspection arrangements?	Yes
Did the Inspector share the Building Assessment Method Statement with the Building Representative?	Yes
Has the Inspector confirmed the site Health & Safety arrangements?	No

**Name and Surname of the person who represented the property owner during the site inspection:**

Masala Mbambeleli

<b>Date of the Inspection:</b>	2022/10/06
<b>Start Time:</b>	9:00 am
<b>Duration:</b>	30 minutes

**Details on when and how Building Assessment Method Statement was shared**

Shared by Nikhil Naidoo to the client rep

**Details on Health and Safety considerations**

General H&S considerations apply

**Confirmation by Building Representative:**

Year of Assessment Start	2021/01/01
Year of Assessment End	2021/12/31

**Building Operations**

During the Year of Assessment:

<b>Single or Multiple Tenants?</b>	Single
<b>Confirm Building Occupancy (%)</b>	100%

**Energy Carriers**

During the Year of Assessment:

Did the building use grid supplied electricity?	Yes
Did the building use solar PV electricity?	No
Did the building use diesel fuel?	Yes
Did the building use gas?	No
Did the building use any solid fuel for energy?	No
Was energy exported from the building?	No

**Building Operating Hours**

	Start	End	hours/day	hours/week
Mon to Thurs	07:00:00	18:00:00	11	44
Fridays	07:00:00	18:00:00	11	11
Saturdays	00:00:00	00:00:00	0	0
Sundays	00:00:00	00:00:00	0	0
			<b>Total</b>	<b>55</b>

**Net Floor Area (are these on the plans?)**

Building layout during the year of assessment	Yes
Store rooms?	Yes
Parking areas and basements?	No
Outside areas?	No
Vertical building elements?	Yes

**Any further actions regarding floor plans?**

No further action required
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**Energy Carrier:** Grid Supplied Electricity

**Consumption Source Data** Bulk check meter data

Validations Checks		
Confirm meter location with reticulation diagram	Yes	
Confirm meter existence and purpose with building rep	Yes	
Compare Serial numbers (data file vs reticulation)	Yes	
Check that data time-period is for Year of Assessment	Yes	
Check data completeness (identify estimates)	Yes	
Compare data with another data source	Yes	
Visually inspect meter on site	Yes	
Compare meter serial number (on meter) with other S/N	Yes	

Results		
Consumption Unit of Measure		kWh
Annual Consumption Value	145 048	
kWh per Annum	145 048	

**Describe any other validation methods used**

A sensitivity analysis was done to check the impact of deviating the figure by 10% on the building EPC grade. This was found to an impact on the EPC grade. The metering data had many buildings connected to one metering point, a pro-rata based on NFA had to be used. A fairly large deviation of 10% was used to account for the uncertainty, as mentioned this has an impact on the EPC grade, and the most conservative grade was selected.

**Inspector comments from site assessment**

**List any further actions that may be needed:**

No further action required

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**Energy Carrier:** Solar PV Supplied Electricity

**Consumption Source Data** Energy source not in building

**Validations Checks**

Confirm meter location with reticulation diagram
Confirm meter existence and purpose with building representative
Compare Serial numbers (data file vs reticulation)
Check that data time-period is for Year of Assessment
Check data completeness (identify estimates)
Compare data with another data source
Visually inspect meter on site
Compare meter serial number (on meter) with other S/N

**Results**

Consumption Unit of Measure	kWh
Annual Consumption Value (Raw)	0
kWh per Annum	0

**Describe any other validation methods used**

**Inspector comments from site assessment**

No diesel genset

**List any further actions that may be needed:**

No further action required

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**Energy Carrier: Diesel Fuel**

<b>Consumption Source Data</b>	Another source
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Validations Checks	
Confirm invoices/delivery notes are for this building location	No
Confirm invoices/delivery notes are for the Year of Assessment	No
Inspect generator or other diesel consuming equipment	Yes
Inspect diesel storage facilities	Yes
Confirm diesel refilling rules	Yes

Results	
Consumption Unit of Measure	kWh
Annual Consumption Value (Raw)	6 044
MI/ per unit of measure	39
GJ per annum	233
kWh per Annum	6 044

**Describe any other validation methods used**

**Inspector comments from site assessment**

An assumption was made that the diesel energy footprint accounts for 4% of the total energy footprint.

**List any further actions that may be needed:**

No further action required

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**Energy Carrier:** Gas

**Consumption Source Data** Energy source not in building

Validations Checks
Confirm invoices/delivery notes are for this building location
Confirm invoices/delivery notes are for the Year of Assessment
Inspect gas consuming equipment
Inspect gas storage facilities
Confirm gas refilling rules

Results	
Consumption Unit of Measure	kWH
Annual Consumption Value (Raw)	0
MI/ per unit of measure	46.1
GJ per annum	0
kWh per Annum	0

**Describe any other validation methods used**

**Inspector comments from site assessment**

**List any further actions that may be needed:**  
No further action required

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**Energy Carrier: Solid Fuel**

<b>Consumption Source Data</b>	Energy source not in building
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**Validations Checks**

Confirm invoices/delivery notes are for this building location
Confirm invoices/delivery notes are for the Year of Assessment
Inspect generator or other diesel consuming equipment
Inspect storage facilities
Confirm refilling rules

**Results**

Consumption Unit of Measure	kg
Annual Consumption Value (Raw)	0
MI/ per unit of measure	0.0
GI per annum	0
kWh per Annum	0

**Describe any other validation methods used**

[Empty green box for validation methods]

**Inspector comments from site assessment**

[Empty green box for inspector comments]

**List any further actions that may be needed:**

No further action required

[Empty green box for further actions]

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**Energy Carrier:** Export Energy

**Consumption Source Data** Energy source not in building

**Validations Checks**

Confirm invoices/delivery notes are for this building location
Confirm invoices/delivery notes are for the Year of Assessment
Check whether readings are actual and not estimates
Inspect storage facilities
Check data against another source

**Results**

Consumption Unit of Measure	kg
Annual Consumption Value (Raw)	0
MI/ per unit of measure	0.0
GJ per annum	0
kWh per Annum	0

**Describe any other validation methods used**

**Inspector comments from site assessment**

**List any further actions that may be needed:**

No further action required

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**Exclusions**

**Store Rooms**

Not applicable

**Garages/Basement Parking**

Yes, the floor plan shows all the parking areas

**Outside Areas**

No. The floor plan does not show all the outside areas

**Net Floor Area Report Findings**

Construction Area:	3 451
Store Rooms Total	236
Outside Areas Total	0
Parking Area Total	0
Vertical Elements	0
Excluded Areas Total	236
Net Floor Area	3 214
Excluded Area %	6.8%

**Exclusion Comments**

No further action required

Load Type	Qty	Wattage	Hours/Week	Wh/Week	Wks/Yr	kWh/Year
			84			
<b>Excluded Areas Total kWh per Year</b>						-
<b>Excluded Area Energy as % of Total</b>						0%

Excluded Energy is less than 10% of total building energy consumption and does not have to be shown on the certificate



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**Building Details**

Building Name	APB Great Hall
Energy Zone	1
Reference Energy Consumption (kWh/m2.annum)	75
Year of Assessment Start	01 January 2021
Year of Assessment End	31 December 2021
Occupancy Class	A1
Occupancy Rate	100%

**Energy Carriers**

<b>Total Energy Consumption (kWh)</b>	<b>151 092</b>
Grid Electricity (kWh):	145 048
Solar PV Electricity (kWh):	0
Diesel Fuel (kWh):	6 044
Gas (kWh):	0
Solid Fuel (kWh):	0
Export Energy (kWh):	0

**Building Energy Performance**

Energy per Unadjusted Net Floor Area (kWh/m2.annum):	47
Energy per Adjusted Net Floor Area (kWh/m2.annum):	47

**Building Performance**

Building Performance Scale (from SANS 1544)  
 Rating A: energy performance < 0.3Ereference  
 Rating B: 0.3Ereference <= energy performance < 0.6Ereference  
 Rating C: 0.6Ereference <= energy performance < 0.9Ereference  
 Rating D: 0.9Ereference <= energy performance < 1.1Ereference  
 Rating E: 1.1Ereference <= energy performance < 1.4Ereference  
 Rating F: 1.4Ereference <= energy performance < 1.7Ereference  
 Rating G: energy performance >= 1.7Ereference

**Additional Information**

No of floors (excl parking):	4
Year of Construction:	>2 years
Year of Renovation:	Within the past 2 years
Date of Approved Plans:	>2 years
Cadastral (Erf no) Info:	

Signature: Inspector

**Net Floor Area**

<b>Total Net Floor Area</b>	<b>3 214</b>
Excluded Area	236
Excluded Area % of Total	7%

**Excluded Area Energy Consumption**

<b>Total Excluded Area Energy Consumption (kWh)</b>	<b>0</b>
Net Energy = Total Energy - Exclusions = 151 092 - 0	
Equals (kWh)	151 092
Excluded Area Energy as % of Total	0%

**Building EPC Calculation**

<b>Reference Energy (kWh/m2.annum):</b>	<b>75</b>
(from SANS 10400-XA:2021)	
<b>Variance = 47 - 75</b>	
<b>Equals (kWh/m2.annum):</b>	<b>-28</b>
<b>Actual/Reference Energy = 47 / 75</b>	
Equals:	0.63
<b>Provisional Building Rating:</b>	<b>C</b>

Signature: Client

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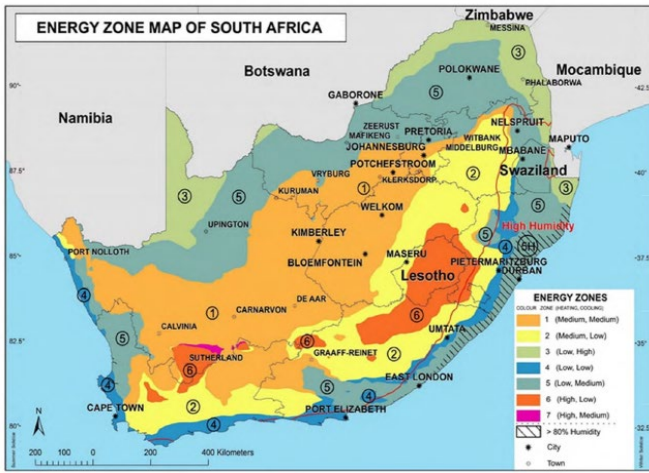


Table 1 — Maximum annual energy consumption per building classification for each energy zone (kWh/m<sup>2</sup>/a) (Energy zones as shown in figure 1 and annex C)

1 Class of occupancy	2 Energy zones						
	1	2	3	4	5	5H	7
<b>A1</b> <b>Entertainment and public assembly</b> Occupancy where persons gather to eat, drink, dance or participate in other recreation.	75	75	95	70	95	95	80
<b>A2</b> <b>Theatrical and indoor sport</b> Occupancy where persons gather for the viewing of theatrical, operatic, orchestral, choral, cinematographical or sport performances.	95	95	110	90	110	110	105
<b>A3</b> <b>Places of instruction</b> Occupancy other than primary or secondary schools, where students or other persons assemble for the purpose of tuition or learning.	110	155	110	125	140	140	120
<b>A3</b> <b>Places of instruction</b> Occupancy where school children assemble for the purpose of tuition or learning	60	65	65	60	65	60	65
<b>A4</b> <b>Worship</b> Occupancy where persons assemble for the purpose of worshipping.	70	45	45	40	50	40	70
<b>E2</b> <b>Hospital</b> Occupancy where people are cared for or treated because of physical or mental disabilities and where they are generally bed-ridden.	325	335	225	295	295	230	345
<b>E3</b> <b>Other institutional (residential)</b> Occupancy where groups of people who either are not fully fit, or who are restricted in their movements or their ability to make decisions, reside and are cared for	120	95	90	90	100	80	130
<b>F1</b> <b>Large shop</b> Occupancy where merchandise is displayed and offered for sale to the public and the floor area exceeds 250 m <sup>2</sup> .	125	200	155	180	185	150	125
<b>F2</b> <b>Small shop</b> Occupancy where merchandise is displayed and offered for sale to the public and the floor area does not exceed 250 m <sup>2</sup> .	75	150	100	125	130	95	80

Table 1 (concluded)

1 Class of occupancy	2 Energy zones						
	1	2	3	4	5	5H	7
<b>F3</b> <b>Wholesaler's store</b> Occupancy where goods are displayed and stored and where only a limited selected group of persons is present at any one time.	125	200	155	180	185	150	125
<b>G1</b> <b>Offices</b> Large multi-storey office buildings, banks, consulting rooms and similar uses with lifts and energy consuming services that operate on a typical daytime occupancy.	90	105	110	95	110	95	100
<b>G1</b> <b>Offices</b> Stand-alone blocks and / or campus of buildings that form an office park but operate separately	70	150	190	145	180	165	75
<b>H1</b> <b>Hotel</b> Occupancy where persons rent furnished rooms, not being dwelling units.	125	130	100	115	125	95	140
<b>H2</b> <b>Dormitory</b> Occupancy where groups of people are accommodated in one room	155	170	160	175	160	160	180
<b>H3</b> <b>Domestic residence</b> Occupancy consisting of two or more dwelling units on a single site.	90	100	50	80	85	60	110
<b>H4</b> <b>Dwelling house</b> Occupancy consisting of a dwelling unit on its own site, including a garage and other domestic outbuilding, if any.	95	100	50	80	85	60	110
<b>H5</b> <b>Hospitality</b> Occupancy where unrelated persons rent furnished rooms on a transient basis within a dwelling house or domestic residence with sleeping accommodation for not more than 10 persons within a dwelling unit	120	130	110	120	115	135	135