

Inspection Report Date: 03 November 2022
 RMS EPC Inspector: Nikhil Naidoo

Certification Name: University of Johannesburg_TW Khambule

Client Information

Company Name: University of Johannesburg
 Building Name: TW Khambule

Building Location

Address 1: 326 Chris Hani Road, Soweto
 City: Johannesburg
 Province: Gauteng

Client Representative

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

Building Information (from SANS 10400-XA:2021)

Energy Zone: 1
 Occupancy Class: A3
 Reference Energy Consumption: 110 *
 *from SANS10400-XA : 2021

Building Assessment Planning

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

Masala Mbambeleli

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

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:

Single or Multiple Tenants? Single
 Confirm Building Occupancy (%) 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
			Total	55

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



Report Date	03 November 2022
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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	78 772
kWh per Annum	78 772

Describe any other validation methods used

A sensitivity analysis was done to check the impact of deviating the figure by 2% on the building EPC grade. This was found to have no impact on the EPC grade.

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

[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: Diesel Fuel

Consumption Source Data	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	<i>kWh</i>
Annual Consumption Value (Raw)	3 282
MI/ per unit of measure	39
GJ per annum	127
kWh per Annum	3 282

Describe any other validation methods used

Diesel invoices were not available. An assumption was used that the diesel footprint was 4% of the total energy footprint. This figure was then deviated by 2% in a sensitivity analysis to test the impact on the grade, it was found to have no impact.

Inspector comments from site assessment

List any further actions that may be needed:

No further action required

Report Date	03 November 2022
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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

[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: Solid Fuel

Consumption Source Data	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
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Net Floor Area Report Findings

Construction Area:	2 603
Store Rooms Total	0
Outside Areas Total	0
Parking Area Total	0
Vertical Elements	0
Excluded Areas Total	0
Net Floor Area	2 603
Excluded Area %	0.0%

Exclusion Comments

No further action required

Load Type	Qty	Wattage	Hours/Week	Wh/Week	Wks/Yr	kWh/Year
2-globe cannister	8		12	84	8 064	419
square wall light	25		10	84	21 000	1 092
lantern pole	12		50	84	50 400	2 621
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						-
Excluded Areas Total kWh per Year						4 132
Excluded Area Energy as % of Total						5%

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	TW Khambule
Energy Zone	1
Reference Energy Consumption (kWh/m2.annum)	110
Year of Assessment Start	01 January 2021
Year of Assessment End	31 December 2021
Occupancy Class	A3
Occupancy Rate	100%

Energy Carriers

Total Energy Consumption (kWh)	82 055
Grid Electricity (kWh):	78 772
Solar PV Electricity (kWh):	0
Diesel Fuel (kWh):	3 282
Gas (kWh):	0
Solid Fuel (kWh):	0
Export Energy (kWh):	0

Building Energy Performance

Energy per Unadjusted Net Floor Area (kWh/m2.annum):	30
Energy per Adjusted Net Floor Area (kWh/m2.annum):	30

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):	2
Year of Construction:	>2 years
Year of Renovation:	Within the past 2 years
Date of Approved Plans:	>2 years
Cadastral (Erf no) Info:	MANOR MP1&2 11KV WOODLANDS DRIVE

Signature: Inspector

Net Floor Area

Total Net Floor Area	2 603
Excluded Area	0
Excluded Area % of Total	0%

Excluded Area Energy Consumption

Total Excluded Area Energy Consumption (kWh)	4 132
Net Energy = Total Energy - Exclusions = 82 055 - 4 132	
Equals (kWh)	77 922
Excluded Area Energy as % of Total	5%

Building EPC Calculation

Reference Energy (kWh/m2.annum):	110
(from SANS 10400-XA:2021)	
Variance = 30 - 110	
Equals (kWh/m2.annum):	-80
Actual/Reference Energy = 30 / 110	
Equals:	0.27
Provisional Building Rating:	A

Signature: Client

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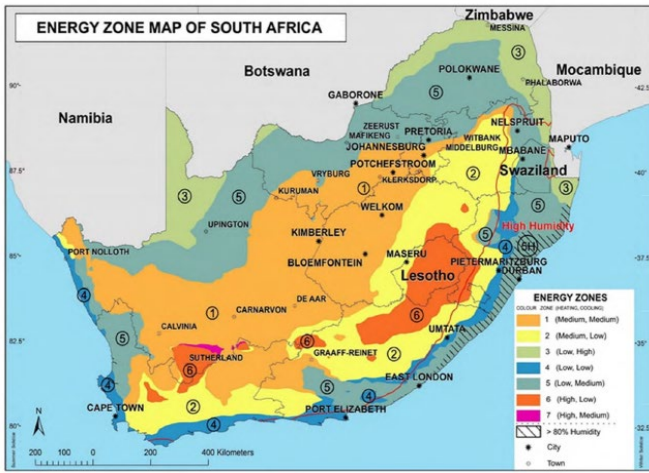


Table 1 — Maximum annual energy consumption per building classification for each energy zone (kWh/m²/a) (Energy zones as shown in figure 1 and annex C)

1 Class of occupancy	2 Energy zones							
	1	2	3	4	5	5H	6	7
A1 Entertainment and public assembly Occupancy where persons gather to eat, drink, dance or participate in other recreation.	75	75	95	70	95	95	80	80
A2 Theatrical and indoor sport Occupancy where persons gather for the viewing of theatrical, operatic, orchestral, choral, cinematographical or sport performances.	95	95	110	90	110	110	105	105
A3 Places of instruction 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	120
A3 Places of instruction Occupancy where school children assemble for the purpose of tuition or learning	60	65	65	60	65	60	65	65
A4 Worship Occupancy where persons assemble for the purpose of worshipping.	70	45	45	40	50	40	70	70
E2 Hospital 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	345
E3 Other institutional (residential) 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	130
F1 Large shop Occupancy where merchandise is displayed and offered for sale to the public and the floor area exceeds 250 m ² .	125	200	155	180	185	150	125	125
F2 Small shop Occupancy where merchandise is displayed and offered for sale to the public and the floor area does not exceed 250 m ² .	75	150	100	125	130	95	80	80

Table 1 (concluded)

1 Class of occupancy	2 Energy zones							
	1	2	3	4	5	5H	6	7
F3 Wholesaler's store 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	125
G1 Offices 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	100
G1 Offices Stand-alone blocks and / or campus of buildings that form an office park but operate separately	70	150	190	145	180	165	75	75
H1 Hotel Occupancy where persons rent furnished rooms, not being dwelling units.	125	130	100	115	125	95	140	140
H2 Dormitory Occupancy where groups of people are accommodated in one room	155	170	160	175	160	160	180	180
H3 Domestic residence Occupancy consisting of two or more dwelling units on a single site.	90	100	50	80	85	60	110	110
H4 Dwelling house 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	110
H5 Hospitality 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	135