
APPLICABLE PRICING SUPPLEMENT



GROWTHPOINT PROPERTIES LIMITED

(Incorporated with limited liability in the Republic of South Africa under registration number 1987/004988/06)

irrevocably and unconditionally guaranteed by

METBOARD PROPERTIES LIMITED

(Incorporated with limited liability in the Republic of South Africa under registration number 1998/005425/06)

and

PARAMOUNT PROPERTY FUND LIMITED

(Incorporated with limited liability in the Republic of South Africa under registration number 1945/019928/06)

Issue of ZAR650,000,000 Senior Unsecured Floating Rate Notes due 13 November 2033 under its ZAR30,000,000,000 Note Programme

This Applicable Pricing Supplement must be read in conjunction with the amended and restated Programme Memorandum, dated 25 October 2019, prepared by the Issuer in connection with the Growthpoint Properties Limited ZAR30,000,000,000 Note Programme, as amended and/or supplemented from time to time (the **Programme Memorandum**).

Any capitalised terms not defined in this Applicable Pricing Supplement shall have the meanings ascribed to them in the section of the Programme Memorandum headed "*Terms and Conditions of the Notes*".

This document constitutes the Applicable Pricing Supplement relating to the issue of Notes described herein. The Notes described herein are issued on and subject to the Terms and Conditions as amended and/or supplemented by the Terms and Conditions contained in this Applicable Pricing Supplement. To the extent that there is any conflict or inconsistency between the contents of this Applicable Pricing Supplement and the Programme Memorandum, the provisions of this Applicable Pricing Supplement shall prevail.

PARTIES

- | | | |
|----|--------------------|---|
| 1. | Issuer | Growthpoint Properties Limited |
| 2. | Guarantors | Metboard Properties Limited; and
Paramount Property Fund Limited |
| 3. | Dealer(s) | The Standard Bank of South Africa Limited,
acting through its Corporate and Investment
Banking division |
| | Registered Address | 30 Baker Street, Rosebank, 2196 |
| 4. | Manager(s) | N/A |
| | Registered Address | N/A |
| 5. | JSE Debt Sponsor | Absa Corporate & Investment Bank, a division of
Absa Bank Limited |
| | Registered Address | 15 Alice Lane, Sandton, 2196 |

6.	Paying Agent	Nedbank Investor Services, a division of Nedbank Limited
	Specified Address	Lakeview Campus, 16 Constantia Boulevard, Constantia Kloof, Roodepoort, 1709, South Africa
7.	Calculation Agent	Growthpoint Properties Limited
	Specified Address	The Place, 1 Sandton Drive, Sandton, 2196
8.	Transfer Agent	Growthpoint Properties Limited
	Specified Address	The Place, 1 Sandton Drive, Sandton, 2196
9.	Settlement Agent	Nedbank Investor Services, a division of Nedbank Limited
	Specified Address	Lakeview Campus, 16 Constantia Boulevard, Constantia Kloof, Roodepoort, 1709, South Africa
10.	Issuer Agent	Growthpoint Properties Limited
	Specified Address	The Place, 1 Sandton Drive, Sandton, 2196

PROVISIONS RELATING TO THE NOTES

11.	Status of Notes	Senior Unsecured
12.	Form of Notes	The Notes in this Tranche are listed Notes issued in uncertificated form and held by the CSD
13.	Series Number	84
14.	Tranche Number	1
15.	Aggregate Nominal Amount:	
	(a) Series	ZAR 650,000,000
	(b) Tranche	ZAR 650,000,000
16.	Interest	Interest-bearing
17.	Interest Payment Basis	Floating Rate
18.	Automatic/Optional Conversion from one Interest/Redemption/Payment Basis to another	N/A
19.	Issue Date	13 November 2023
20.	Nominal Amount per Note	ZAR1,000,000
21.	Specified Denomination	ZAR1,000,000
22.	Specified Currency	ZAR
23.	Issue Price	100%
24.	Interest Commencement Date	13 November 2023
25.	Maturity Date	13 November 2033
26.	Applicable Business Day Convention	Following Business Day
27.	Final Redemption Amount	100% of Nominal Amount

- | | | |
|-----|------------------------|---|
| 28. | Last Day to Register | By 17h00 on 2 February, 2 May, 2 August and 2 November or if such day is not a Business Day, the Business Day before each Books Closed Period, in each year until the Maturity Date or, if an early redemption occurs, 11 calendar days prior to the early Redemption Date |
| 29. | Books Closed Period(s) | The Register will be closed from 3 February to 12 February, 3 May to 12 May, 3 August to 12 August and 3 November to 12 November (all dates inclusive) in each year until the Maturity Date, or if any early redemption occurs, 10 calendar days prior to the early Redemption Date |
| 30. | Default Rate | Reference Rate plus Margin plus 2% |

FIXED RATE NOTES

N/A

FLOATING RATE NOTES

- | | | |
|-----|--|--|
| 31. | (a) Interest Payment Date(s) | 13 February, 13 May, 13 August and 13 November of each year until the Maturity Date (with the last Interest Payment Date being the Maturity Date) or, if such day is not a Business Day, the Business Day on which interest will be paid, as determined in accordance with the Applicable Business Day Convention (as specified in this Applicable Pricing Supplement) with the first Interest Payment Date being 13 February 2024, or, if such day is not a Business Day, the Business Day on which interest will be paid, as determined in accordance with the Applicable Business Day Convention (as specified in this Applicable Pricing Supplement) |
| | (b) Interest Period(s) | Each period, from and including, the applicable Interest Payment Date and ending on, but excluding the following Interest Payment Date, the first Interest Period commences on (and includes) the Interest Commencement Date and ends on (but excludes) the first Interest Payment Date (each Interest Payment Date is adjusted in accordance with the Applicable Business Day Convention, as specified in this Applicable Pricing Supplement) |
| | (c) Definition of Business Day (if different from that set out in Condition 1 (<i>Interpretation</i>)) | N/A |
| | (d) Minimum Rate of Interest | N/A |
| | (e) Maximum Rate of Interest | N/A |
| | (f) Other terms relating to the method of calculating interest (e.g. Day Count Fraction, rounding up provision/Base CPI) | Day Count Fraction: Actual/365 |
| 32. | Rate of Interest and the manner in which the Rate of Interest is to be determined | Screen Rate Determination |
| 33. | Margin | 190 basis points to be added to the Reference Rate |
| 34. | If ISDA Determination | N/A |

- | | | |
|-----|---|---|
| 35. | If Screen Rate Determination: | |
| | (a) Reference Rate (including relevant period by reference to which the Rate of Interest is to be calculated) | 3 month ZAR-JIBAR |
| | (b) Interest Rate Determination Date(s) | 13 February, 13 May, 13 August and 13 November in each year until the Maturity Date (or if such day is not a Business Day, the following day that is a Business Day), with the first Interest Rate Determination Date being 8 November 2023 |
| | (c) Relevant Screen Page and Reference Code | ZAR-JIBAR-SAFEX |
| 36. | If Rate of Interest to be calculated otherwise than by ISDA Determination or Screen Rate Determination, insert basis for determining Rate of Interest/Margin/ Fallback provisions | N/A |
| 37. | Calculation Agent responsible for calculating amount of principal and interest | Growthpoint Properties Limited |

ZERO COUPON NOTES	N/A
PARTLY PAID NOTES	N/A
INSTALMENT NOTES	N/A
MIXED RATE NOTES	N/A
INDEX-LINKED NOTES	N/A
DUAL CURRENCY NOTES	N/A
EXCHANGEABLE NOTES	N/A
OTHER NOTES	N/A

PROVISIONS REGARDING REDEMPTION/MATURITY

- | | | |
|-----|---|-----|
| 38. | Redemption at the Option of the Issuer: | No |
| 39. | Redemption at the Option of the Senior Noteholders: | No |
| 40. | Redemption in the event of a Change of Control at the election of Noteholders pursuant to Condition 11.5 (<i>Redemption in the event of a Change of Control</i>) or any other terms applicable to a Change of Control | Yes |
| 41. | Redemption in the event of a failure to maintain JSE Listing and Rating at the election of Noteholders pursuant to Condition 11.6 (<i>Redemption in the event of a failure to maintain JSE Listing and Rating</i>) | Yes |
| 42. | Early Redemption Amount(s) payable on redemption for taxation reasons pursuant to Condition 11.2 | N/A |

(*Redemption for Tax Reasons*), on redemption at the option of the Issuer pursuant to Condition 11.3 (*Redemption at the Option of the Issuer*), on redemption at the option of the Senior Noteholders pursuant to Condition 11.4 (*Redemption at the Option of Senior Noteholders*), on an Event of Default pursuant to Condition 18 (*Events of Default*), on a Change of Control pursuant to Condition 11.5 (*Redemption in the event of a Change of Control*), in relation to a failure to maintain a JSE Listing and Rating pursuant to Condition 11.6 (*Redemption in the event of a failure to maintain JSE Listing and Rating*) if different from that set out in Condition 11.7 (*Early Redemption Amount*).

GENERAL

43.	Financial Exchange	Interest Rate Market of the JSE Limited
44.	Additional selling restrictions	N/A
45.	ISIN No.	ZAG000200767
46.	Bond Code	GRT60G
47.	Stabilising manager	N/A
48.	Provisions relating to stabilisation	N/A
49.	Method of distribution	Private Placement
50.	Rating assigned to the Issuer and Notes	Aa1.za (Moody's Long-term National Scale) and AAA(zaf) (Fitch's Long-Term National Scale)
51.	Applicable Rating Agency	Moody's Investor Services (Pty) Ltd Fitch Ratings Ltd
52.	Governing law (if the laws of South Africa are not applicable)	N/A
53.	Total nominal value of Notes in issue as at the Issue Date (exclusive of this issue and the issue of GRT59G Notes to be issued on the same Issue Date)	ZAR22,126,000,000
54.	Other provisions	See Appendix A " <i>Documents Incorporated by Reference</i> " attached hereto
55.	Independent External Reviewer	IBIS Environmental Social Governance Consulting Africa Proprietary Limited 1st Floor, Acacia House The Avenues Office Park, 45 Homestead Rd, Rivonia, Johannesburg, 2191 Tel: +27 10 020 7343 Email: petrus.gildenhuis@ibisconsulting.com Attention: Director - IBIS ESG Consulting Africa Proprietary Limited
	(a) Specified Office	
	(b) Contact Details	

DISCLOSURE REQUIREMENTS IN TERMS OF PARAGRAPH 3(5) OF THE COMMERCIAL PAPER REGULATIONS IN RELATION TO THIS ISSUE OF NOTES AS AT THE ISSUE DATE

56. Paragraph 3(5)(a)

The “ultimate borrower” (as defined in the Commercial Paper Regulations) is the Issuer.

57. Paragraph 3(5)(b)

The Issuer is a going concern and can in all circumstances be reasonably expected to meet its commitments under the Notes.

58. Paragraph 3(5)(c)

The auditor of the Issuer is Ernst & Young Incorporated.

59. Paragraph 3(5)(d)

As at the date of this issue:

- (i) the Issuer has ZAR22,126,000,000 (exclusive of this issue and the issue of GRT59G Notes to be issued on the same Issue Date), of Commercial Paper (as defined in the Commercial Paper Regulations); and
- (ii) the Issuer estimates that it will issue ZAR3,000,000,000 further Commercial Paper during the current financial year, ending 30 June 2024.

60. Paragraph 3(5)(e)

All information that may reasonably be necessary to enable the investor to ascertain the nature of the financial and commercial risk of its investment in the Notes is contained in the Programme Memorandum and the Applicable Pricing Supplement.

61. Paragraph 3(5)(f)

Since the date of its last audited financial statements, there has been no material adverse change in the Issuer’s financial position.

62. Paragraph 3(5)(g)

The Notes issued will be listed.

63. Paragraph 3(5)(h)

The funds to be raised through the issue of the Notes are to be used by the Issuer as set out in Appendix B “Growthpoint schedule of intended Use of Proceeds”.

64. Paragraph 3(5)(i)

The payment obligations of the Issuer in respect of the Notes are guaranteed in terms of the Guarantee provided by the Guarantors but are otherwise unsecured.

65. Paragraph 3(5)(j)

Ernst & Young Incorporated, the statutory Auditors of the Issuer, have confirmed that nothing has come to their attention to indicate that this issue of Notes issued under the Programme does not comply in all material respects with the relevant provisions of the Commercial Paper Regulations.

Responsibility:

The Issuer certifies that to the best of its knowledge and belief there are no facts that have been omitted from the Programme Memorandum or this Applicable Pricing Supplement which would make any statement false or misleading, that all reasonable enquiries to ascertain such facts have been made and that the Programme Memorandum together with this Applicable Pricing Supplement contain all information required by law and the Debt Listings Requirements of the JSE. The Issuer accepts full responsibility for the accuracy of the information contained in the Programme Memorandum, this Applicable Pricing Supplement and all documents incorporated by reference (see the section of the Programme Memorandum headed "*Documents Incorporated by Reference*"), except as otherwise stated therein.

The JSE takes no responsibility for the contents of the Programme Memorandum, the published integrated annual reports, which include the published audited annual financial statements and this Applicable Pricing Supplement of the Issuer and any amendments or supplements to the aforementioned documents. The JSE makes no representation as to the accuracy or completeness of the Programme Memorandum, the published integrated annual reports, which include the published audited annual financial statements and this Applicable Pricing Supplement of the Issuer and any amendments or supplements to the aforementioned documents and expressly disclaims any liability for any loss arising from or in reliance upon the whole or any part of the aforementioned documents. The JSE's approval of the registration of the Programme Memorandum and listing of the Notes is not to be taken in any way as an indication of the merits of the Issuer or of the Notes and that, to the extent permitted by law, the JSE will not be liable for any claim whatsoever.

The Dealer(s), acts in a number of different capacities in relation to the Issuer and the transaction described herein. The Dealer(s) and its affiliates may have a lending relationship with any entity in the Growthpoint Group and their respective affiliates and from time to time may have performed, and in the future may perform, banking, investment banking, advisory, consulting and other financial services for any such parties and/or entities, for which the Dealer and its affiliates may receive customary advisory and transaction fees and expenses reimbursement.

In addition, in the ordinary course of its business activities, the Dealer and its affiliates may make loans or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such loans, investments and securities activities may involve securities and/or instruments of the Issuer and/or any entity in the Growthpoint Group or their respective affiliates (including the Notes). The Dealer and its affiliates may hedge their credit exposure to the Issuer and/or any entity in the Growthpoint Group or their respective affiliates in a manner consistent with their customary risk management policies.

Material Change:

As at the date of this Applicable Pricing Supplement, and after due and careful enquiry, there has been no material change in the financial or trading position of the Issuer and its Subsidiaries since the date of publication of the Issuer's latest audited annual financial statements. As at the date of this Applicable Pricing Supplement, there has been no involvement by Ernst & Young Incorporated in making the aforementioned statement.

Programme Amount:

As at the date of this Applicable Pricing Supplement, the Issuer confirms that the authorised Programme Amount of ZAR30,000,000,000 has not been exceeded.

Listing:

Application is hereby made to list this issue of Notes on 13 November 2023.

SIGNED at 1 Sandton Drive on this 8th day of November 2023

For and on behalf of
GROWTHPOINT PROPERTIES LIMITED



Name: Estienne de Klerk
Capacity: Director
Who warrants his/her authority hereto



Name: Gerald Völkel
Capacity: Director
Who warrants his/her authority hereto

Appendix A

Documents Incorporated by Reference

The following are additional documents incorporated by reference which apply to the GRT60G Notes.

1. The Green Bond Framework dated 1 November 2022; and
2. The Independent Advisor's pre issuance Second Party Opinion ("**SPO**") report to confirm the alignment of Growthpoint's Green Bond Framework dated 1 November 2022 with the International Capital Markets Association Green Bond Principles,

available on the Issuer's website: <https://www.growthpoint.co.za/investor-relations/credit-information/#green-bond>.

Appendix B
Growthpoint Schedule of intended Use of Proceeds

The Issuer has established the “Green Bond Framework dated 1 November 2022” (as opposed to the inaugural Growthpoint Green Bond Framework established in 2018) which sets out the criteria and process for the identification and assessment of the eligibility of properties and projects to be financed through the proceeds of green bonds. Using this framework the Issuer has identified the following properties as eligible projects to be financed and re-financed with the proceeds of the GRT59G Notes and GRT60G Notes (which are to be issued on the same Issue Date):

Building number	Property	Green Project Category	Historical/Development Cost	Proceeds allocated
1878	36 Hans Strijdom	Green Buildings	R360 000 000	R320 000 000
New build	Arterial Industrial Estate	Green Buildings	R240 000 000	R240 000 000
Various	Various	Renewable Energy*	To be advised	R440 000 000
	TOTAL			R1 000 000 000

*This will be spent on capital expenditure for the installation of rooftop solar panels and batteries

Appendix C
Fact Sheets of Green Properties

ESKOM MINIFLEX SOLAR PV ENERGY TARIFF COST ANALYSIS



DATE: 5-Oct-23
PROJECT REFERENCE: 23064

1 EXECUTIVE SUMMARY

The electrical energy produced by a solar PV plant will result in a calculated blended rate of **R 2,370 /kWh** of Solar PV energy generated.

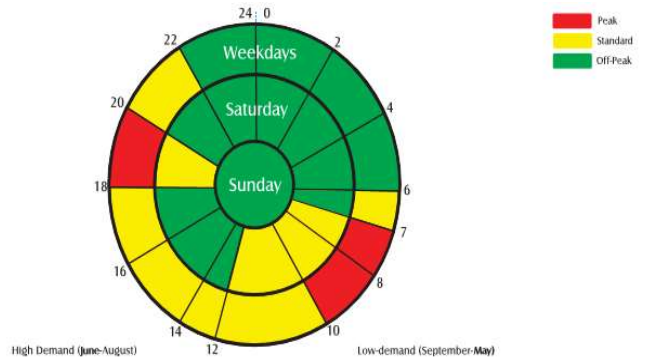
The R/kWh rate is irrespective of the size of the solar PV plant & the cost of the solar PV plant. The main influencing factors affecting the rate are the energy tariff. This calculation does not take into account potential kVA demand savings that may be experienced.

2 ELECTRICITY TARIFF - ESKOM MINIFLEX NON LOCAL AUTHORITY <=300KM, <500V, TARIFFS (2023/2024)

TIME OF USE TABLE

2,1 Tarrif Structure:	ESKOM MINIFLEX NON LOCAL AUTHORITY >=500V, < 66kV; >300km, <=600km	
2,2 Admin Charge	R 32,20	x No. days in Monday
2,3 Network Capacity Charge	R 42,60	/kVA NMD
2,4 Ancillary Service Charge	R 0,7000	/kWh
2,5 Affordability Subsidy Charge	R 0,0737	/kWh
2,6 Electrification and Rural Subsidy	R 0,1380	/kWh
2,7 Network Demand Charge	R 0,1202	/kWh

Peak & Std



Energy Charge Low Season (Summer)

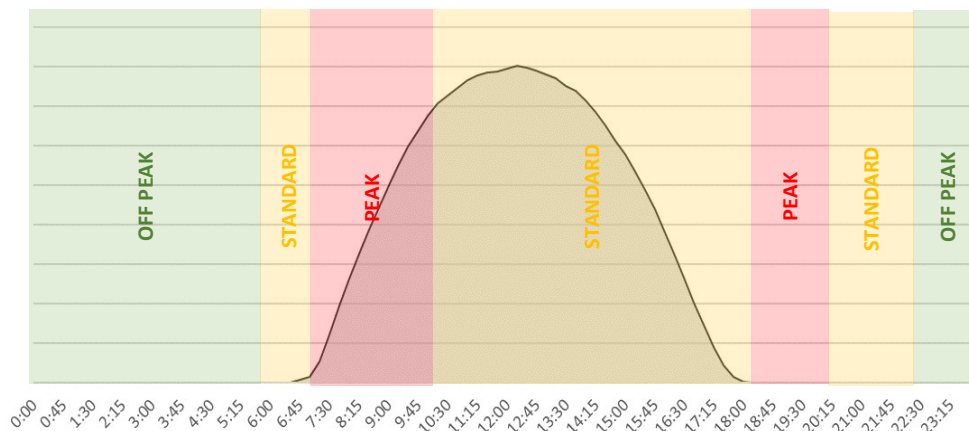
2,8 Peak	R 1,7605	/kWh
2,9 Standard	R 1,2114	/kWh
2,10 Off-Peak	R 0,7685	/kWh

Energy Charge High Season (Winter)

2,11 Peak	R 5,3960	/kWh
2,12 Standard	R 1,6345	/kWh
2,13 Off-Peak	R 0,8876	/kWh

3 TYPICAL SOLAR PV GENERATION CURVE

Solar power is typically generated between 06H00 and 18H00 during daylight hours. The energy produced during daylight hours typically occurs during Standard and Peak times which enhances the Solar PV feasibility as the R/kWh saving. The graph below highlights the solar PV energy being produced during a typical week day.



SOLAR PV CURVE INDICATING TOU (WEEK DAY, LOW SEASON)

ESKOM MINIFLEX
SOLAR PV ENERGY TARIFF COST ANALYSIS

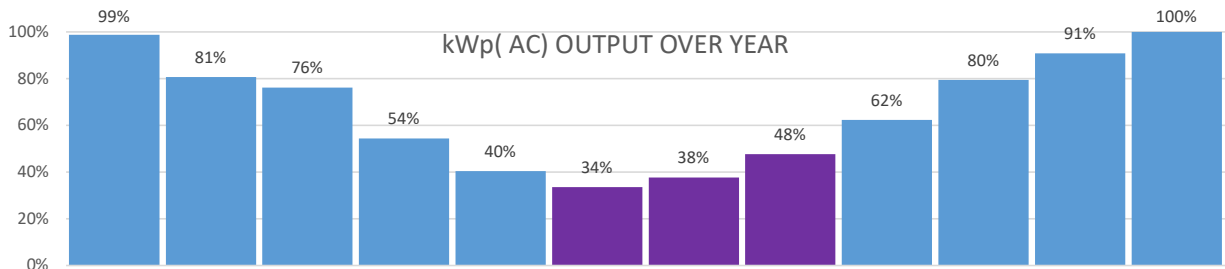


4 SOLAR PV BLENDED R/kWh RATE SAVING

Solar energy is being produced when the cost of energy from the Supply Authority is typically in the Peak and Standard times. This calculation works out the blended R/kWh saving that a Solar PV plant would produce over a year taking into account the 'Low Season' & 'High Season' tariff changes and Time of Use rates between Weekdays & Weekends as well as the variation in energy production between Winter & Summer months.

For a total sample kWh/year of Solar: **100 000 kWh**

	LOW SEASON					HIGH SEASON			LOW SEASON				TOTAL
	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEPT	OCT	NOV	DEC	
% OF ANNUAL kWh PRODUCTION	12,3%	10,1%	9,5%	6,8%	5,0%	4,2%	4,7%	5,9%	7,8%	9,9%	11,3%	12,5%	100%
MONTHLY kWh PRODUCTION	12 315	10 065	9 502	6 781	5 033	4 192	4 702	5 936	7 767	9 913	11 324	12 469	100 000



PORTION OF MONTHLY SOLAR PV kWh ALLOCATED TO PEAK, STANDARD & OFF PEAK												
PEAK	20,3%	20,3%	20,3%	20,3%	20,3%	20,3%	20,3%	20,3%	20,3%	20,3%	20,3%	20,3%
STANDARD	59,8%	59,8%	59,8%	59,8%	59,8%	59,8%	59,8%	59,8%	59,8%	59,8%	59,8%	59,8%
OFF PEAK	19,9%	19,9%	19,9%	19,9%	19,9%	19,9%	19,9%	19,9%	19,9%	19,9%	19,9%	19,9%

MONTHLY SOLAR PV kWh ALLOCATED TO PEAK, STANDARD & OFF PEAK													
PEAK	2 495	2 039	1 925	1 374	1 020	849	953	1 203	1 574	2 009	2 294	2 526	
STANDARD	7 367	6 021	5 684	4 056	3 011	2 507	2 813	3 551	4 646	5 930	6 774	7 459	
OFF PEAK	2 453	2 005	1 893	1 351	1 003	835	937	1 183	1 547	1 975	2 256	2 484	
TOTAL	12 315	10 065	9 502	6 781	5 033	4 192	4 702	5 936	7 767	9 913	11 324	12 469	100 000

APPLICABLE TARIFF												
PEAK	R 1,761	R 1,761	R 1,761	R 1,761	R 1,761	R 5,396	R 5,396	R 5,396	R 1,761	R 1,761	R 1,761	R 1,761
STANDARD	R 1,211	R 1,211	R 1,211	R 1,211	R 1,211	R 1,635	R 1,635	R 1,635	R 1,211	R 1,211	R 1,211	R 1,211
OFF PEAK	R 0,769	R 0,769	R 0,769	R 0,769	R 0,769	R 0,888	R 0,888	R 0,888	R 0,769	R 0,769	R 0,769	R 0,769
Ancillary Charge	R 0,7000	R 0,7000	R 0,7000	R 0,7000	R 0,7000	R 0,7000	R 0,7000	R 0,7000	R 0,7000	R 0,7000	R 0,7000	R 0,7000
Affordability Subsidy	R 0,0737	R 0,0737	R 0,0737	R 0,0737	R 0,0737	R 0,0737	R 0,0737	R 0,0737	R 0,0737	R 0,0737	R 0,0737	R 0,0737
Electrification and Rural Network Demand	R 0,1380	R 0,1380	R 0,1380	R 0,1380	R 0,1380	R 0,138	R 0,138	R 0,138	R 0,1380	R 0,1380	R 0,1380	R 0,1380
	R 0,0924	R 0,0924	R 0,0924	R 0,0924	R 0,0924	R 0,0924	R 0,0924	R 0,0924	R 0,0924	R 0,0924	R 0,0924	R 0,0924

TOTAL COST (R)												
PEAK	R 4 393	R 3 590	R 3 389	R 2 419	R 1 795	R 4 583	R 5 141	R 6 490	R 2 771	R 3 536	R 4 039	R 4 448
STANDARD	R 8 924	R 7 294	R 6 885	R 4 914	R 3 647	R 4 099	R 4 597	R 5 804	R 5 629	R 7 184	R 8 206	R 9 036
OFF PEAK	R 1 885	R 1 541	R 1 455	R 1 038	R 770	R 741	R 831	R 1 050	R 1 189	R 1 518	R 1 734	R 1 909
Ancillary Charge	R 8 620,42	R 7 045,44	R 6 651,11	R 4 746,60	R 3 523,06	R 2 934,26	R 3 291,41	R 4 155,47	R 5 437,17	R 6 939,42	R 7 927,09	R 8 728,54
Affordability Subsidy	R 907,61	R 741,78	R 700,27	R 499,75	R 370,93	R 308,94	R 346,54	R 437,51	R 572,46	R 730,62	R 834,61	R 918,99
Electrification and Rural Subsidy	R 1 699	R 1 389	R 1 311	R 936	R 695	R 578	R 649	R 819	R 1 072	R 1 368	R 1 563	R 1 721

**ESKOM MINIFLEX
SOLAR PV ENERGY TARIFF COST ANALYSIS**



Network Demand Charge	R 911	R 745	R 703	R 502	R 372	R 310	R 348	R 439	R 575	R 734	R 838	R 923	
TOTAL	R 27 341	R 22 345	R 21 095	R 15 054	R 11 174	R 13 554	R 15 204	R 19 195	R 17 245	R 22 009	R 25 142	R 27 683	R237 041

TOTAL COST (R) OF 100 000 kWh or energy is = R 237 041

TOTAL BLENDED COST (R) PER kWh is = R 2,37 /kWh



ANDERSON
CONSULTING ENGINEERS



Solar PV Concept Report

GROWTHPOINT INDUSTRIAL

Growthpoint Industrial – Arterial Industrial Estate **Solar PV Concept & Feasibility Report**

GROWTHPOINT
PROPERTIES



DATE: 05/10/2023
REVISION: 0

Client:

Growthpoint Properties
1 Sandton Dr
Sandhurst
Sandton
2196
South Africa

**Electrical Consultant:**

Anderson Consulting Engineers
150 Bryanston Drive
Office Block 2, Ground Floor
Bryanston, Sandton, RSA
Tel: +27 (0)10 593 4470
Fax: 086 208 9467
www.aceng.co.za

**CONTENTS**

.....	1
1. EXECUTIVE SUMMARY.....	2
2. SOLAR PV SIZING REVIEW.....	2
2.1 LOAD CALCULATIONS.....	2
2.2 SOLAR PV SIZING.....	3
2.3 TARIFF FOR SITE.....	4
3. BUDGET & FEASIBILITY INFORMATION.....	5

1. EXECUTIVE SUMMARY

This report provides the following for the **Arterial Industrial Estate** development in **Cape Town**:

- a) Solar System Sizing Review based off load calculations received
- b) Concept Solar PV design including energy simulation
- c) Blended tariff calculation
- d) Project Solar PV Budget

2. SOLAR PV SIZING REVIEW

The following section reviews the:

- a) Load calculations
- b) Solar PV Sizing for the site
- c) Tariff for the site

2.1 LOAD CALCULATIONS

The information received from the electrical consultant engineers (Sutherland) was an allowance of 85W/m² for office areas and 60W/m² for the warehouse areas.

Based on various warehouse and distribution park data the estimated operating load is assumed to be around 150kW daily with load loads expected over weekends and during the evenings.

The graphs below indicate what the load profile is assumed to look like.



Graph: Site Load Data for a year

Based on the load data received the following summary is provided:

- a) Base load of approximately: 20 kW (Daily after working hours)
- b) Peak load of: 155 kW
- c) Annual kWh Consumption: 463 123 kWh
- d) The load profile indicates a typical weekday operation with smaller operations over weekends.

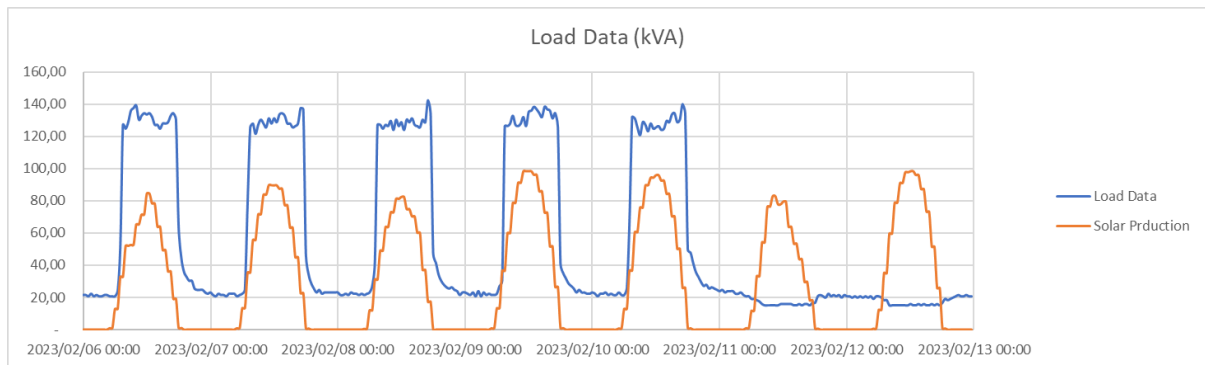
2.2 SOLAR PV SIZING

Based on the above load data, an estimated solar PV size of:

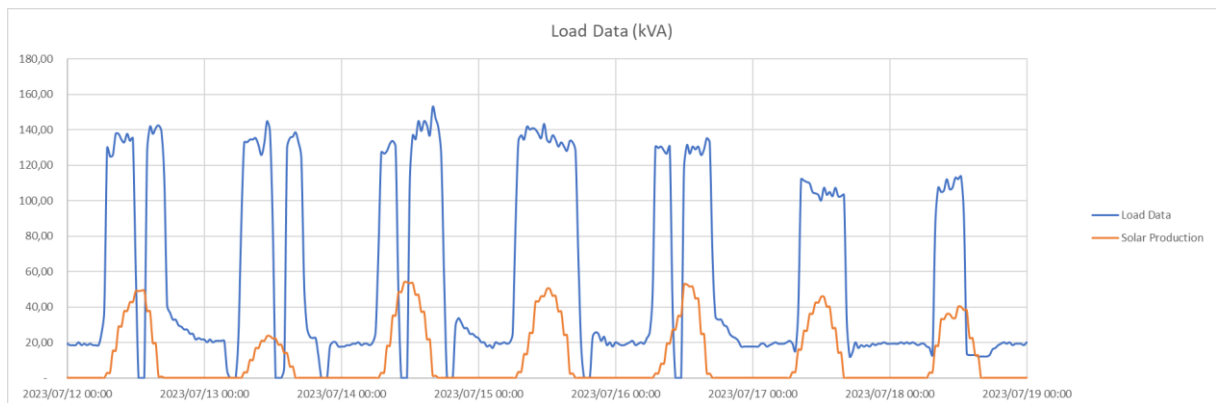
- 160kWp (DC) / 125kW (AC)

Has been recommended for the site. The size is based on commonly available inverter sizes to not only best fit the maximum daily demand but also limit overproduction.

Based on this size the following typically applies (example figure of a similar sized site):



Graph: Typical Week in February (Summer)



Graph: Typical Week in July (Winter):

The overproduced energy on industrial parks is generally found to be +/- 15% when the system is sized for maximum consumption during the weekday. This based off a 5-day work week with little to no operations over 3 of 4 weekends in a month.

2.3 TARIFF FOR SITE

The tariff for the site is:

- Eskom Miniflex (>500V & < 66kV; >300km & < 600km assumed)

A conservative 9% electricity escalation has been included for 2024/2025 although Nersa has approved a 12,4% increase in tariffs for the same period.

3. BUDGET & FEASIBILITY INFORMATION

SOLAR PV - BUDGET SUMMARY



ARTERIAL INDUSTRIAL ESTATE - SOLAR PV

BUDGET REVISION:

0

DATE:

05-Oct-23

BUDGET ROE:

R19,50 /\$
R20,50 /EUR

BUDGET SOLAR PV SIZE:

125 kW (AC)
160 kWp (DC)

SOLAR PV SYSTEM BUDGET:

COST:

TOTALS:

1	Solar PV Budget	R 12,9/Wp	R	2 070 922,86
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SOLAR PV SYSTEM CONTINGENCIES:

2	Solar PV Contingency	3,0%	R	62 127,69
3	Sub-Total		R	62 127,69

SOLAR PV PROFESSIONAL FEES:

4	Electrical Engineering & Principal Agent Fee	6,00%	R	124 255,37
5	Structural Engineers Fee		R	-
6	Architects Fee		R	-
7	Health & Safety Consultants Fee	2 m	R	24 000,00 Allowance
8	Sub-Total		R	148 255,37

SOLAR PV ROOF STRUCTURAL REMEDIATIONS:

9	Structural Remediation Allowance (PV Only):	R 150/m2	R	- N/A
10	Roof Sheeting Painting Allowance (PV areas Only):	R 0/m2	R	- N/A
11	Professional Fee's			Incl
12	Sub-Total		R	-

TOTAL: SOLAR PV PROJECT COST ESTIMATE:

	R 14,3/Wp	R	2 281 305,91
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SOLAR PV O&M (OPEX COST):

13	Year 1: O&M & Yield Guarantee		R	18 924,72	(included)
14	Year 2: O&M & Yield Guarantee		R	20 154,83	6,1%
15	Year 3: O&M & Yield Guarantee		R	21 464,89	6,1%
16	Sub-Total		R	41 619,72	

SOLAR PV - FEASIBILITY



ARTERIAL INDUSTRIAL ESTATE - SOLAR PV

FINANCIAL SOLAR PV FEASIBILITY STUDY

DATE:

2023/10/05

REVISION:

0

PAYBACK

				YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	YEAR 11	YEAR 12	YEAR 13	YEAR 14	YEAR 15	YEAR 16	YEAR 17	YEAR 18	YEAR 19	YEAR 20		
				2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042		
1 MACRO ECONOMIC ASSUMPTIONS																										
a	CPI (SA)	%			5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	
b	CPI (SA) Multiplication			1	1,06	1,11	1,17	1,24	1,31	1,38	1,45	1,53	1,62	1,71	1,80	1,90	2,01	2,12	2,23	2,36	2,48	2,62	2,77	2,92		
c	Labour Escalation	%			6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	
d	Labour Multiplication			1	1,06	1,12	1,19	1,26	1,34	1,42	1,50	1,59	1,69	1,79	1,90	2,01	2,13	2,26	2,40	2,54	2,69	2,85	3,03	3,21		
e	Electricity Price Escalation	%			9,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	
f	Electricity Price (Blend as per Calc)	R/kWh	2,370	2,370	2,583	2,74	2,90	3,08	3,26	3,46	3,66	3,88	4,12	4,36	4,63	4,90	5,20	5,51	5,84	6,19	6,56	6,96	7,37	7,82		
g	Electricity Demand Price	R/kVA	42,60	42,6	46,4	49	52	55	59	62	66	70	74	78	83	88	93	99	105	111	118	125	133	140		
h	O&M Rate Price	R/kWp	118	118	125	133	141	149	158	168	178	189	200	212	225	238	252	267	283	300	318	338	358	379		
i	Insurance Premium Price	R/kWp	10	10	10,55	11,13	11,74	12,39	13,07	13,79	14,55	15,35	16,19	17,08	18,02	19,01	20,06	21,16	22,32	23,55	24,85	26,21	27,66	29,18		
2 TECHNICAL ASSUMPTIONS																										
a	System Capacity	kWp (DC)	160		160,0	156,0	154,8	153,5	152,3	151,1	149,9	148,7	147,5	146,3	145,1	144,0	142,8	141,7	140,5	139,4	138,3	137,2	136,1	135,0		
b	Specific Energy Yield	kWh/kWp/yr	1380																							
c	Degradation Rate	%/yr	0,8%		2,50%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	0,80%	
d	Availability (Estimated downtime/Yr)	%	85%		85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
e	Energy Yield	kWh/yr		3 425 118	187 680	182 988	181 524	180 072	178 631	177 202	175 785	174 378	172 983	171 599	170 227	168 865	167 514	166 174	164 844	163 526	162 217	160 920	159 632	158 355		
f	Demand Saving (% of optimum estimated)	%	5%																							
g	Demand Saving	kVA/Month			8,0	7,8	7,7	7,7	7,6	7,6	7,5	7,4	7,4	7,3	7,3	7,2	7,1	7,1	7,0	7,0	6,9	6,9	6,8	6,8		
3 NOMINAL VALUES																										
3,1 Revenue / Savings																										
a	Revenue / Generation (kWh)	R		R 16 020 575,68	R 484 834	R 501 076	R 526 891	R 554 037	R 582 580	R 612 595	R 644 156	R 677 343	R 712 240	R 748 934	R 787 519	R 828 092	R 870 756	R 915 617	R 962 789	R 1 012 392	R 1 064 551	R 1 119 396	R 1 177 068	R 1 237 710		
b	Revenue / Savings (kVA)	R		R 147 296,56	R 4 458	R 4 607	R 4 844	R 5 094	R 5 356	R 5 632	R 5 923	R 6 228	R 6 548	R 6 886	R 7 241	R 7 614	R 8 006	R 8 418	R 8 852	R 9 308	R 9 788	R 10 292	R 10 822	R 11 380		
c	Other Revenue	R		R -																						
3,2 Operational Costs																										
a	Operational & Maintenance Costs (O&M)	R	R 18 925	R 696 157,01	R 18 925	R 20 060	R 21 264	R 22 540	R 23 892	R 25 326	R 26 845	R 28 456	R 30 163	R 31 973	R 33 891	R 35 925	R 38 080	R 40 365	R 42 787	R 45 354	R 48 075	R 50 960	R 54 018	R 57 259		
b	Insurance Premiums	R	R 1 600,00		R 1 600	R 1 688	R 1 781	R 1 879	R 1 982	R 2 091	R 2 206	R 2 327	R 2 455	R 2 591	R 2 733	R 2 883	R 3 042	R 3 209	R 3 386	R 3 572	R 3 768	R 3 976	R 4 194	R 4 425		
3,3 Capital																										
a	Project Capital (PV Only)	R	R 2 281 305,91	R 2 281 305,91	R 2 281 306																					
b	Solar PV Budget	R	R 239 537,12	R 239 537,12													R 239 537									
4 CASHFLOW																										
4,1 Nominal Values																										
a	Revenue (NOMINAL)	R		R 16 167 872,25	R -	R 489 291	R 505 683	R 531 735	R 559 130	R 587 937	R 618 227	R 650 078	R 683 570	R 718 788	R 755 820	R 794 760	R 835 706	R 878 761	R 924 035	R 971 642	R 1 021 700	R 1 074 338	R 1 129 688	R 1 187 890	R 1 249 090	
b	Total Cost (NOMINAL)	R		R 3 272 789,36	R 2 281 306	R 20 525	R 21 748	R 23 045	R 24 418	R 25 874	R 27 417	R 29 051	R 30 783	R 32 619	R 34 563	R 36 611	R 38 808	R 41 122	R 43 574	R 46 173	R 48 926	R 51 844	R 54 936	R 58 212	R 61 684	
c	Cash Flow Before Tax (NOMINAL)	R		R 12 895 082,89	R -2 281 306	R 468 767	R 483 934	R 508 691	R 534 712	R 562 063	R 590 811	R 621 027	R 652 787	R 686 169	R 721 257	R 758 598	R 796 898	R 837 639	R 880 461	R 925 469	R 972 774	R 1 022 495	R 1 074 753	R 1 129 678	R 1 187 406	
d	Cumulative (NOMINAL)	R			R -1 812 539	R -1 328 605	R -819 914	R -285 202	R 276 861	R 867 671	R 1 488 699	R 2 141 486	R 2 827 655	R 3 548 912	R 4 307 510	R 5 104 408	R 5 940 047	R 6 815 508	R 7 730 977	R 8 687 551	R 9 685 346	R 10 724 474	R 11 805 056	R 12 927 292	R 14 091 186	
4,2 Real Values																										
a	Revenue (REAL)	R		R 8 844 546,44	R -	R 463 783	R 454 332	R 452 833	R 451 339	R 449 851	R 448 367	R 446 888	R 445 414	R 443 945	R 442 480	R 441 021	R 439 566	R 438 116	R 436 671	R 435 230	R 433 795	R 432 364	R 430 938	R 429 516	R 428 099	
b	Total Cost (REAL)	R		R 2 824 721,98	R 2 281 306	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	R 20 525	
c	Cash Flow Before Tax (REAL)	R		R 6 019 824,46	R -2 281 306	R 443 259	R 433 807	R 432 308	R 430 815	R 429 326	R 427 842	R 426 363	R 424 889	R 423 420	R 421 955	R 420 501	R 419 051	R 417 606	R 416 166	R 414 731	R 413 300	R 411 874	R 410 453	R 409 037	R 407 625	
5 VALUATION																										
5,1 IRR (NOMINAL)																										
a	IRR Before Tax	%		24,48%	1ST YR YIELD = 20,55%		Payback Period = 4,87 Yrs																			
5,2 IRR (REAL)																										
a	IRR Before Tax	%		17,96%																						
5,3 NPV (REAL)																										
a	NPV at 5% Before Tax	R	5,0%	R 2 788 594,15																						
b	NPV at 7.5% Before Tax	R	7,5%	R 1 856 495,34																						
c	NPV at 10% Before Tax	R	10,0%	R 1 184 906,43																						

Building Name	Total GLA (m2)	Green Star rating	Date of certification	EPC rating
36 Hans Strijdom	12836	None	N/A	G 273 kWh/m ²

36 Hans Strijdom - Targeted Post Redevelopment - 01 July 2025

36 Hans Strijdom 12836 5 Star tbc

Other key redevelopment interventions

- 1 Carbon emission related to the reuse of existing structure of the building
- 2 Displacement ventilation HVAC system with economy cycle and CO2 mon
- 3 High performance façade
- 4 Energy efficient lighting and occupancy sensing
- 5 Solar installation on roof
- 6 Comprehensive commissioning and building tuning
- 7 Comprehensive metering of energy and water
- 8 A project specific Environmental Management Plan will be implemented
- 9 70% of the construction waste will be diverted from landfill by means of
- 10 A dedicated space for recycling waste storage will be provided
- 11 The building will provide parking for fuel efficient / electric vehicles and 1
- 12 Concrete and steel will be specified with reduced embodied carbon
- 13 Refrigerants will have no Ozone Depleting Potential (ODP)
- 14 Smart monitoring systems

Date of certification	Total emissions (tCO2)	CO2e intensity per m2	Total Electricity (kwh)
#####	4052.91	0.32	3 895 211.00

1 540 320

; 7672tCo2e. This equals the emissions of operations of a typical Green Star building of over 4.2 years of monitoring

re-cycling or re-use

facilities for cyclists to encourage use of alternative transport

Electricity Intensity (kwh/m2)	Total Water (kl)	Water Intensity (m3/m2)	Total Waste (kg)
303.46	2 040.00	0.16	-

120


expected to be similar to current

ars, which is calculated at 1848tCO2e.

Waste Intensity kg/m2

-

Energy Performance Certificate:



Energy Performance Certificate for Buildings

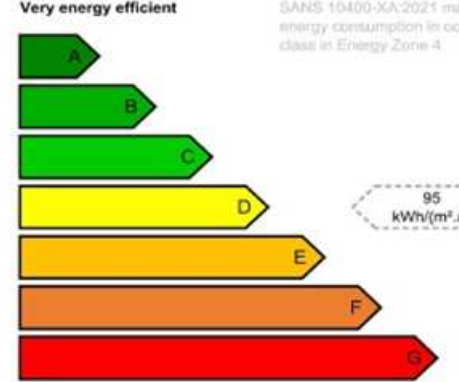
36 Hans Strijdom
 36 Hans Strijdom Avenue
 Foreshore, Cape Town
 8001
 Western Cape

Certificate Number: EPC-SA 00019-2023

This certificate is issued in terms of SANS 1544:2014, Energy performance certificates for buildings, and indicates how much energy is being used to operate this building. The energy performance of the building is based on measured energy performance and is compared to the maximum energy consumption provided for in SANS 10400 XA:2021.

Energy Performance Certificate

Very energy efficient



Not energy efficient

SANS 10400-XA:2021 maximum energy consumption in occupancy class in Energy Zone 4

Energy performance of your building


263
kWh/(m².a)

Energy excluded (outside net floor area) 2 kWh/(m².a)


Building Information:
 Owner: Growthpoint Properties
 Occupancy class/es: G1
 Number of floors: 6
 Net floor area: 12836
 Year of construction: Not Available
 Building plan approval: Not Available
 Occupancy certificate: Not Available
 Year of last major renovation: Not Available
 Energy zone: 4
 Cadastral information: 155345

Administrative Information:
 Accredited body: Remote Metering Solutions (Pty) Ltd
 Accreditation nr: EPC0009
 Assessor name: Claudia Hedley
 Date of issue: 2023-01-26
 Valid until: 2028-01-25
 Record nr: RMS_REC_7.4c_Final Certificate (NN)_v06r00_36 Hans Strijdom


Carrier	Type	From (date)	To (date)	Energy [kWh]	Net Floor Area	Performance [kWh/m²]	Exclusions Performance [kWh/m²]
Electricity	Grid	2021-01-01	2021-12-31	3 393 684	12 836	263	2
Liquid Fuel	Diesel	2021-01-01	2021-12-31	135 747	12 836	10	



Technical Signatory: Nikhil Naidoo



Nikhil Naidoo (2023-01-27, 2023-08-27 GMT+2)



Carbon Emissions:

GHG Inventory (tCO ₂ e) - for all Reporting Sites							
	Scopes		Category	FY19	FY20	FY22	FY23
Scope 1, 2 & 3	Scope 1 & 2	Scope 2	Purchased Electricity			0.000	0.000
			Total			0.000	0.000
		Total				0.000	0.000
Scope 3	Scope 3	Scope 3	Downstream Leased Assets: Purchased Electricity	4 052 440	3 972 559	4 069 752	4 051 020
			Purchased Goods & Services: Water	0.032	0.000	1.267	1.887
			Total	4 052 472	3 972 559	4 071 019	4 052 907
	Total	4 052 472	3 972 559	4 071 019	4 052 907		
Total			4 052 472	3 972 559	4 071 019	4 052 907	

Electricity (Kwh):

Asset List							
Sector	Sub_Sector	REGION	Property Name	QUANTITY all	Property Count	Reporting Props	Month Rep
Total				3,895,211 kWh	1	1	1
Office	High Rise - Investec	Cape Town	Total	3,895,211 kWh	1	1	1
			36 HANS STRUDOM (1878)	3,895,211 kWh	1	✓	

Water (l):

Asset List							
Sector	Sub_Sector	REGION	Property Name	QUANTITY all	Property Count	Reporting Props	Month Rep
Total				2,040 KL	1	1	1
Office	High Rise - Investec	Cape Town	Total	2,040 KL	1	1	1
			36 HANS STRUDOM (1878)	2,040 KL	1	✓	

Waste (kg):

Months Data Reported	GLA (m ²)	GLA (Annualised)
12	12,836	154,032
12	12,836	154,032
12	12,836	154,032

Months Data Reported	GLA (m ²)	GLA (Annualised)
12	12,836	154,032
12	12,836	154,032
12	12,836	154,032

Building Name

Arterial Industrial Estate - Phase 1

Total GLA (m2)

36130

Green Star rating
4 Star Custom Industrial - design

Date of certification
March 2024 - design

Total emissions (tCO2)
330.53

CO2e intensity per m2
9.15

Total Electricity (kwh)
463 123.00

Electricity Intensity (kwh/m2)
12.82

Total Water (kl)
1 471 786

Water Intensity (m3/m2)

0.04

Total Waste (kg)

39 562.35

Waste Intensity kg/m2

1.10

Green Building Certification:

Carbon Emissions:

Load	Renewable	Grid	Factor			
kWh/m2/a	offset	kWh/m2/a	kgCO2e/kWh	kgCO2e/m2/a	tCO2e/m2/a	
12.8182397	5.1945751	7.62366454	1.2	9.148397454	330.5316	

Electricity (Kwh):

Area	kWh/a	kWh/m2/a	PV kWh/a	PV kWh/m2/a
36130	463123	12.8182397	187680	5.194575145

Water (l):

area	people	toilet/a	taps /a	litres/annum	litres/m2/day	irrigation area
36130	344	688000	132000	820000	22.70	500

Waste (kg):

Area	factor	kg/day	kg/year	kg/m2/yr
36130	0.30%	108.39	39562.35	1.095

mm/week	litres/day	irr	litres/anr	litres/year	kL
25	1786	651786	1471786	0.040736	