



**CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD**

**Non-compulsory Clarification meeting on the tender documentation issued for
151S/2025/26**

Technical notes and publicly available data for bidders

Energy Directorate | 04 March 2026

Making progress possible. Together.

Data Sources Available



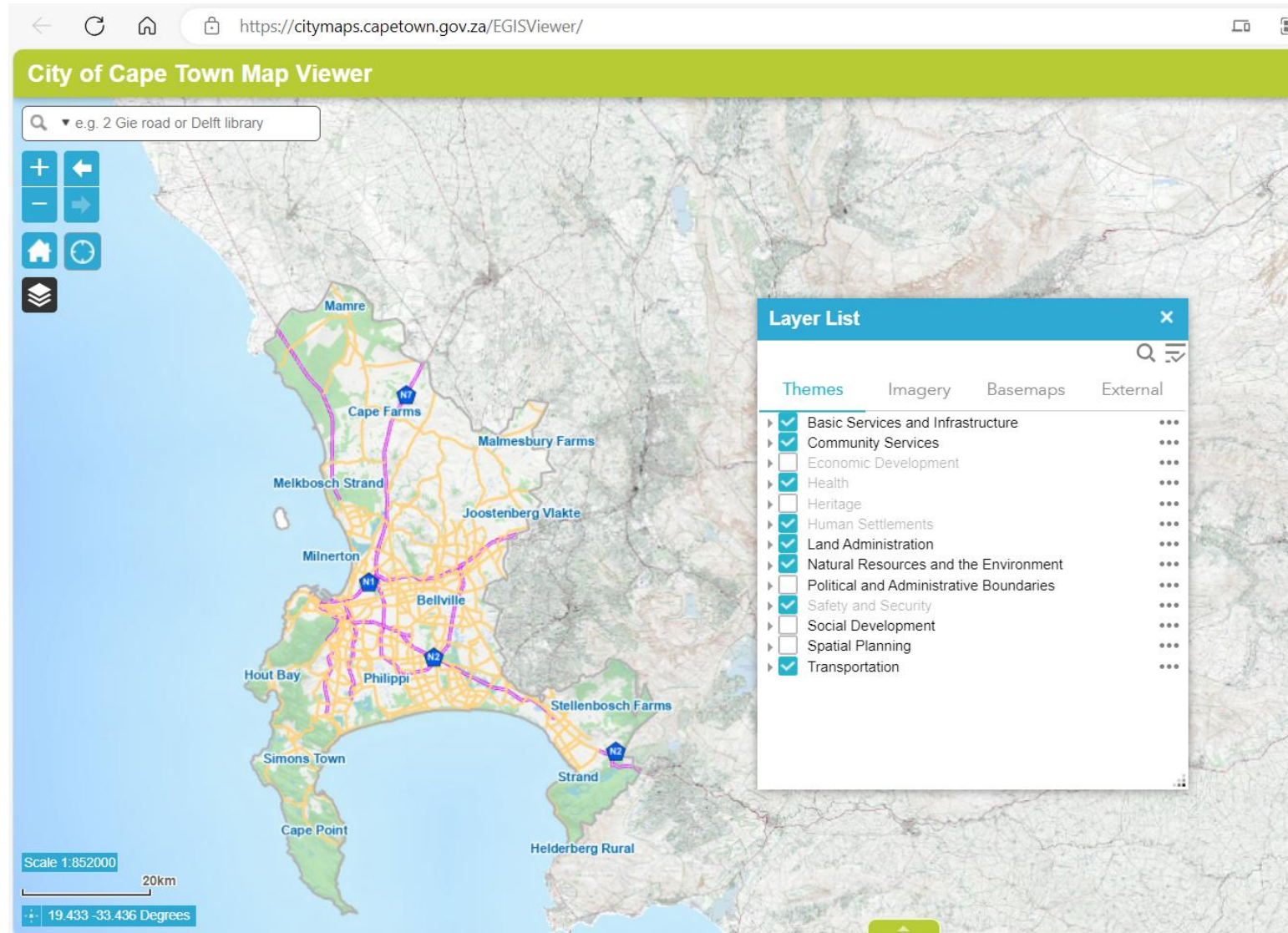
- IPP Website:
<https://www.capetown.gov.za/work%20and%20business/greener-business/cape-towns-green-future/independent-power-producers>
- Frequently Asked Questions
https://resource.capetown.gov.za/documentcentre/Documents/Procedures%2c%20guidelines%20and%20regulations/IPP_FAQs.pdf



INDEPENDENT POWER PRODUCER (IPP) PROCUREMENT PROGRAMME

Map Viewer:

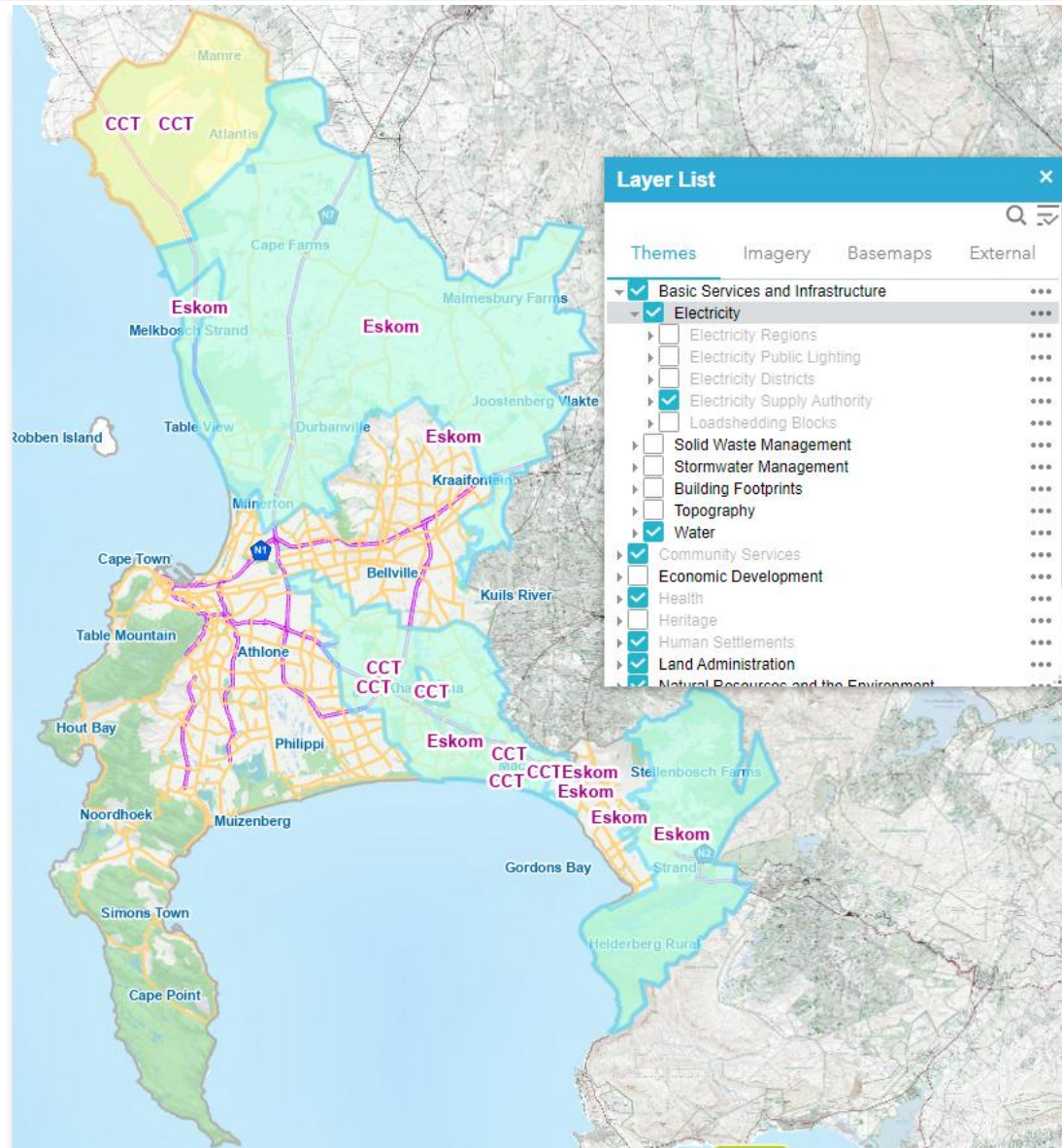
<https://citymaps.capetown.gov.za/egisviewer/>



Map Viewer: Supply authority map:

<https://citymaps.capetown.gov.za/egisviewer/>

Within City borders the City has the right of first refusal to own, operate, maintain electricity networks.



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Cape Town State of Energy and Carbon report

[https://resource.capetown.gov.za/documentcentre/Documents/City%20research%20reports%20and%20review/CT State of%20Energy and Carbon Report 2021.pdf](https://resource.capetown.gov.za/documentcentre/Documents/City%20research%20reports%20and%20review/CT%20State%20of%20Energy%20and%20Carbon%20Report%202021.pdf)



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CAPE TOWN STATE OF ENERGY AND CARBON 2021



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- Full data set available here:
<https://odp-cctegis.opendata.arcgis.com/content/46c2d508166042d0acac9ae87d528e9b/about>
- Latest version available 2nd half of year



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CPT State of Energy and Carbon



City of Cape Town Corporate GIS
City of Cape Town

Open Content

Download

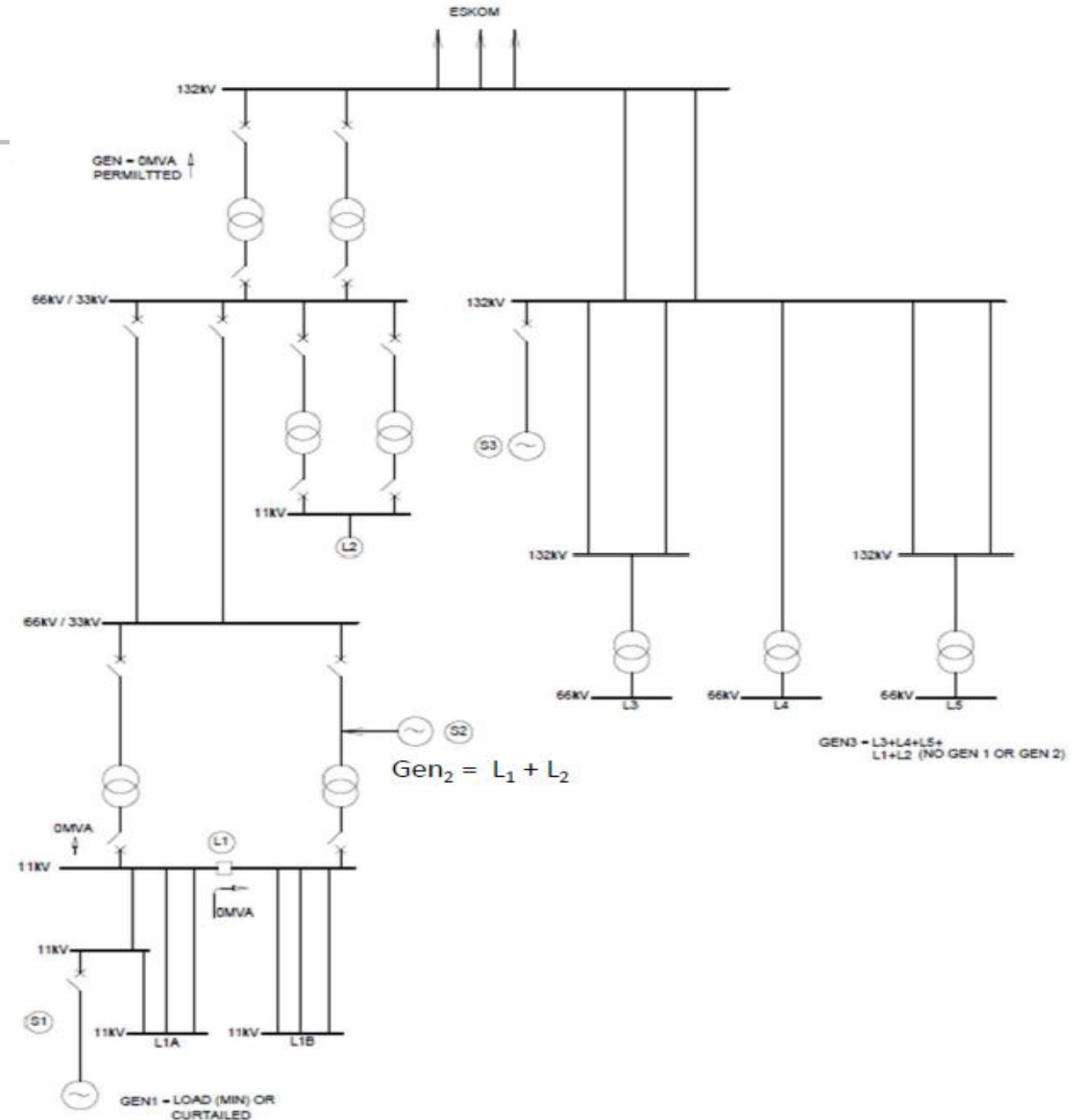
Summary

As accessed, refined and analyzed by the Sustainable Energy Markets Department, Energy and Climate Change Directorate. As at the time of analysis and may not reflect latest or later versions of data There may be lags in the data numbers and reporting. The data or analysis from it does not imply any City policy position

Latest Data: 2022 :The data comprises of raw and modelled data analyzed to produce energy and emissions time series from 2018-2021.The results were then packaged and formatted to produce the SOEC_2022 data annexures Historics Data: [2021](#); [2019](#); [2018](#). [read more](#)

Network Typology

- Eskom Intake point
- Switching Stations (SwStn)
- Main substations (MS)
- Primary networks (feeder groups)
- Primary substations (aka as brickbults).
- **No backfeeding allowed through b/s brk at MS, any trfr or Intake point**
- Be careful of the **11kV Intake points** (green triangles)
 - No 11kV MS busbar
 - accommodate applications at the nearest primary substations
 - 7 MVA (/multiples thereof)

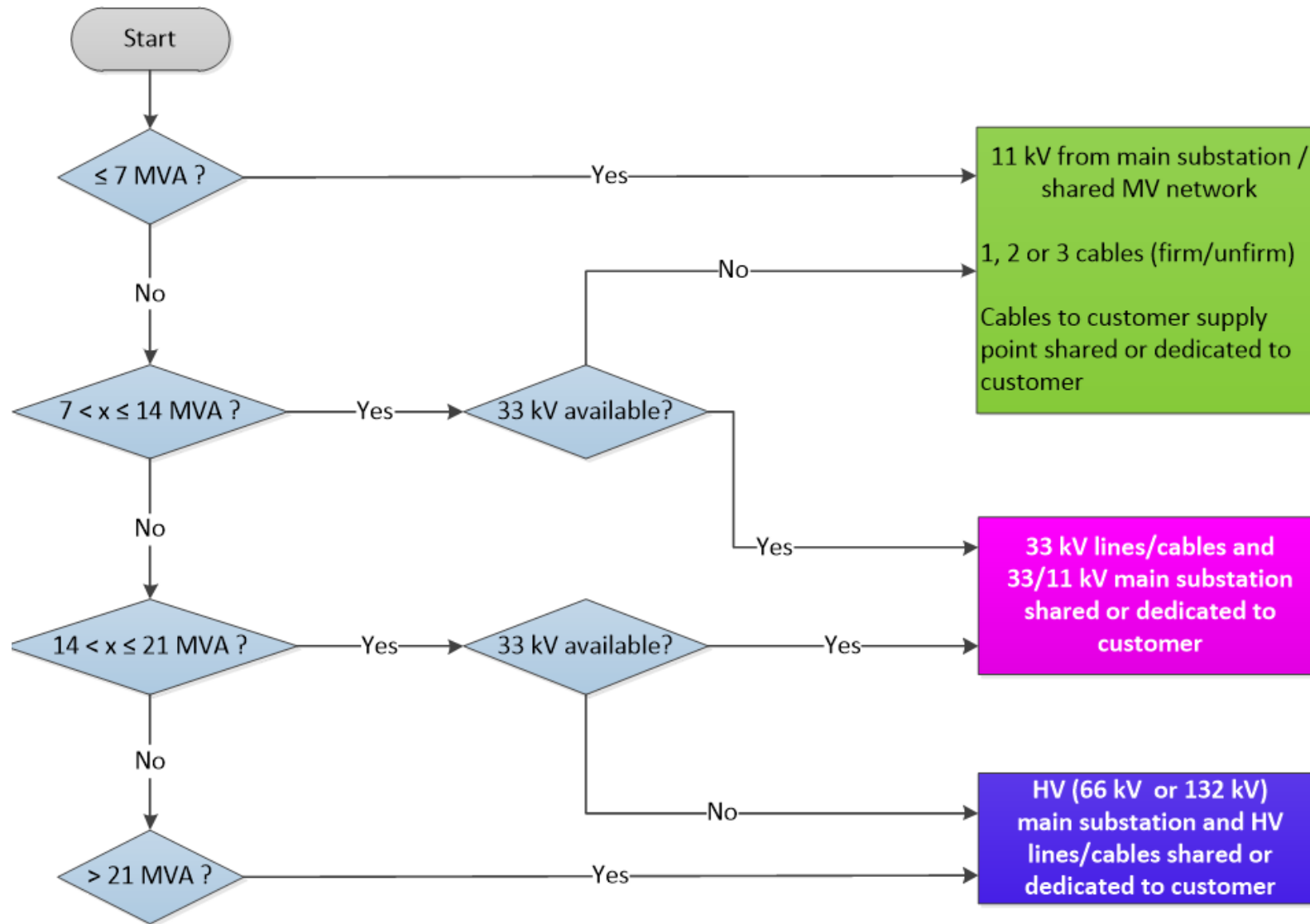


Geographical Locations

- Pls. note that this information is only available in pdf format due to safety reasons.
- The geographical locations of the possible HV switching connections are provided in the Technical Annexure (Annexure I).

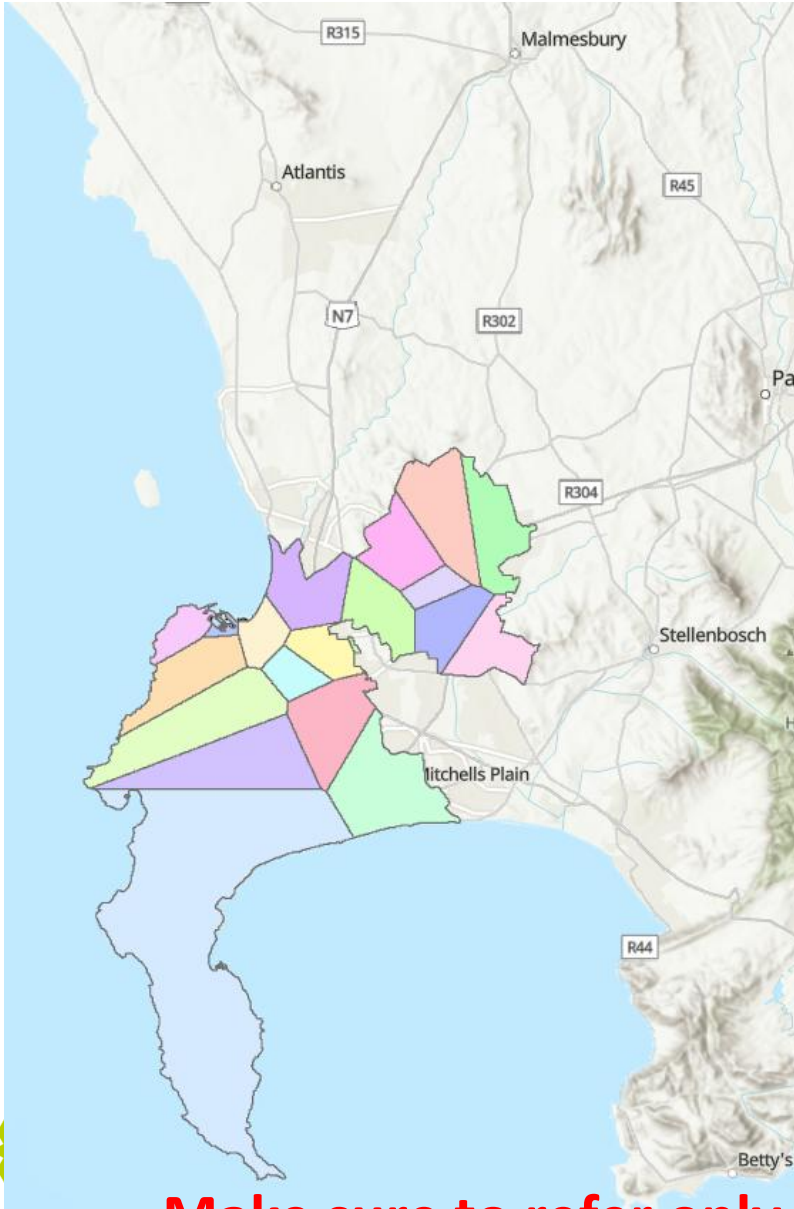


Decision tree for determining the standard connection voltage



Electricity Transmission Capacity: Switching Stations

<https://odp-cctegis.opendata.arcgis.com/search?q=load%20profile&tags=basic%2520services%2520and%2520infrastructure>

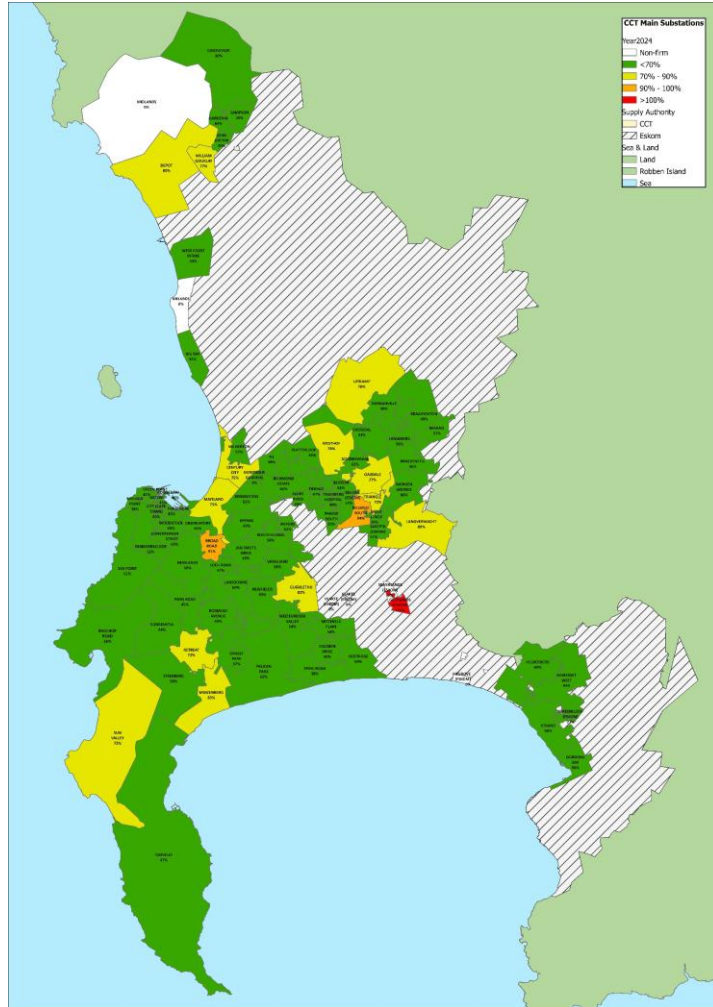


- **Indicates:** City's electrical supply area broken up in 1ha blocks accumulated to the nearest switching station.
- **Attributes:**
 - **Substation:** The name of the City's Switching Station.
 - **Status:**
 - CO: Commercial operation
 - UC: under construction
 - FP: Future planned
 - **Voltage_kV:** The voltage level of the switching station area in the unit of kiloVolt.
 - **Instld_MVA:** The installed network capacity in unit of MVA at the switching station.
 - **NumSpreBkr:** The total number of spare breakers at the switching station.

Electricity Transmis...n Capacity 2024									
Field: Add Calculate Selection: Select By Attributes Zoom To Switch Clear Delete Copy									
	FID	Shape *	Shape_Leng	Shape_Area	Substation	Status	Voltage_kV	Instld_MVA	NumSpreBkr
1	0	Polygon	23000	16170000	Athlone	CO	132	0	0
2	13	Polygon	35600	35030000	Doordakraal	CO	66	0	0
3	4	Polygon	26600	19980000	Epping	CO	132	0	0
4	14	Polygon	98800	137290000	Eversdal	CO	66	0	0
5	5	Polygon	22000	3230000	Foreshore	CO	132	0	1
6	15	Polygon	44800	40180000	Langeberg	CO	66	0	0
7	16	Polygon	126400	96730000	Langverwacht	CO	66	0	0
8	1	Polygon	22400	17690000	Maitland	CO	132	0	2

Make sure to refer only to the Connection points as indicated in Annexure I

Heat map



- Heatmap is from a loading perspective.
- Indicates the peak main substation load expressed as a % of **firm** (trfr) capacity
- IPPs have access to the underlying information:
- Combination of two sources
 - a) Electricity Distribution Capacity**
 - b) Electricity load profiles**

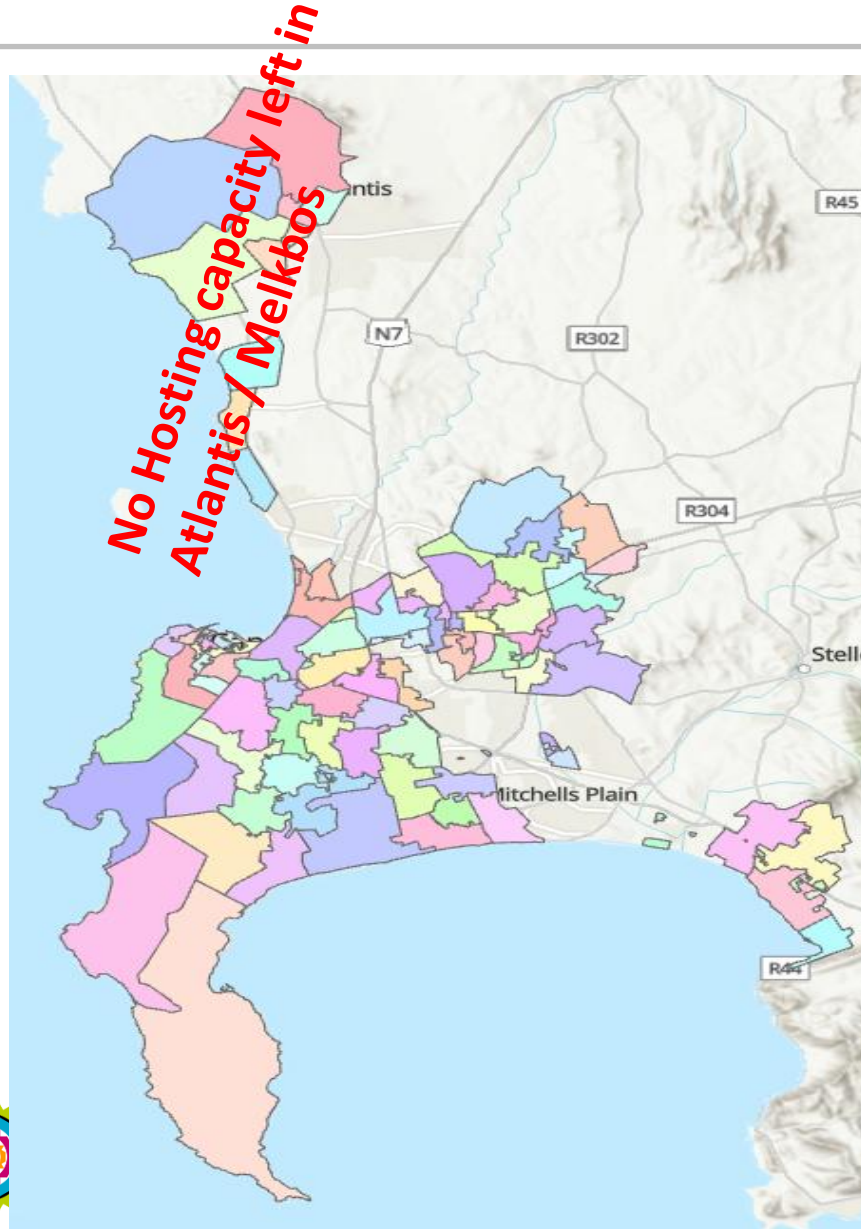
Heatmap is available in the Cape Town State of Energy and Carbon report as well as City's annual Infrastructure reports:

- [capetown.gov.za/Family and home/Meet-the-City/city-reports/infrastructure-reports](https://capetown.gov.za/Family%20and%20home/Meet-the-City/city-reports/infrastructure-reports)
- Latest one will be released on 13 March 2026.



Electricity Distribution Capacity: Main substations & 11kV intakes

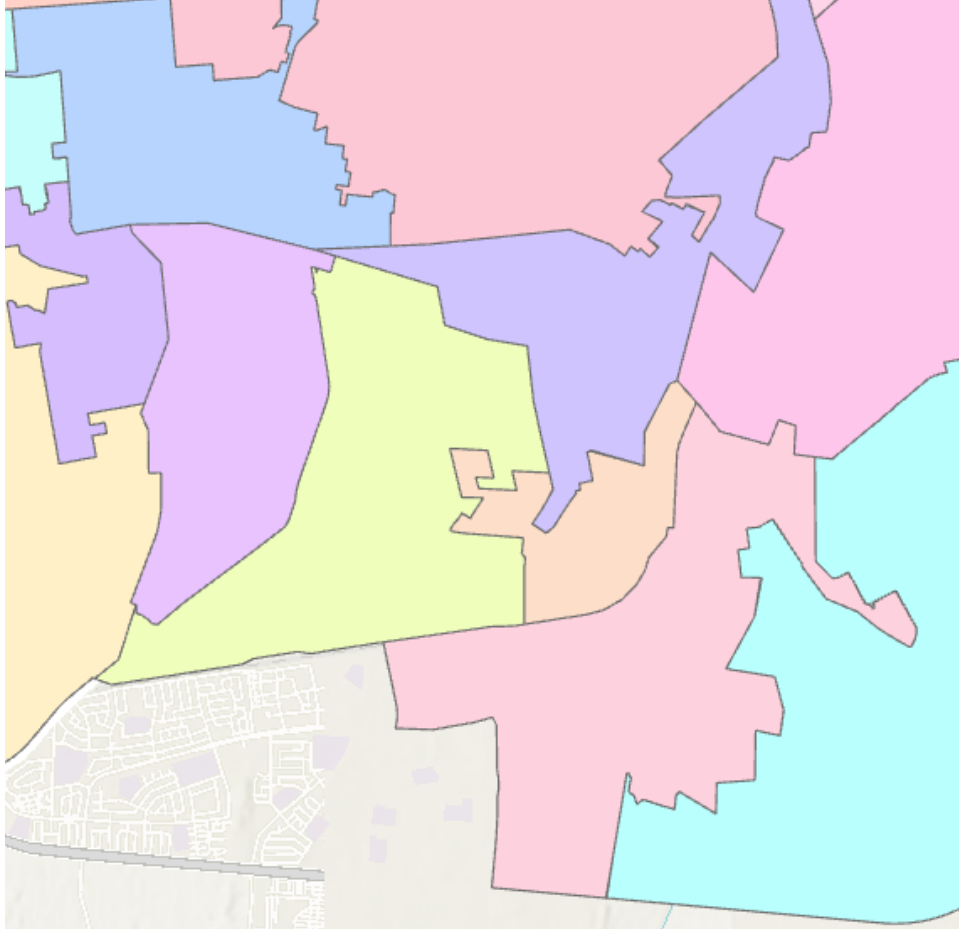
<https://odp-cctegis.opendata.arcgis.com/search?q=load%20profile&tags=basic%2520services%2520and%2520infrastructure>



- **Indicates:** City's main substation and 11kV intake point supply areas
- **Attributes:**
 - **MAINSUBSTA:** The name of the City's main substation or 11kV intake point supply area.
 - **Voltage_kV:** 11kV
 - **InstId_MVA:** The installed network capacity in MVA.
 - **FirmCapMVA:** The theoretical firm network capacity in MVA.
 - **NumSpreBkr:**
Total number of spare breakers at the 11kV connection point.
Sum of SprebkrBBA, SprebkrBBB and SprebkrBBC.
 - **SprebkrBBA:** The number of spare breakers on Busbar A.
 - **SprebkrBBB:** The number of spare breakers on Busbar B.
 - **SprebkrBBC:** The number of spare breakers on Busbar C.
 - **3ph_kA existing:** existing 3-phase fault level in kA
 - **1ph_kA existing:** existing single-phase fault level in kA
 - **3ph_kA future:** future 3-phase fault level in kA
 - **1ph_kA future:** future 1-phase fault level in kA
 - **BS1:** state of bus-section breaker 1, open or close
 - **BS2:** state of bus-section breaker 1, open or close

Electricity Distribution Capacity													
Field: Add Calculate Selection: Select By Attributes Zoom To Switch Clear Delete Copy													
	OBJECTID *	MAINSUBSTATION	VOLTAGE	InstId_MVA	Firm_MVA	NumSpreBkr	SprebkrBBA	SprebkrBBB	SprebkrBBC	3ph_kA_existing	1ph_kA_existing	3ph_kA_future	1ph_kA_future
1	173	BELHAR (ESKOM)	11.5	13.35	6.67	0	0	0	0	0	0	0	0
2	101	BELLVILLE SOUTH	11.5	100	50	0	0	0	0	24.58	1.75	24.65	1.75
3	93	BIG BAY	11.5	20.32	13.54	0	0	0	0	13.28	1.66	13.28	1.66
4	97	BISSCHOP ROAD	11.66	80	40	0	0	0	0	13.14	1.76	13.04	1.76
5	172	BOFORS	11.66	100	50	1	0	1	0	12.51	1.79	12.41	1.78
6	129	BONTEHEUWEL	11.66	80	40	3	0	3	0	16.61	1.77	16.67	1.77
7	174	BOSTON	11.5	60	30	1	1	0	0	7.11	1.72	12.66	1.74
8	118	BRACKENFELL	11.5	80	40	3	0	3	0	20.98	1.72	21.02	1.72
9	148	BROAD ROAD	11.66	80	40	0	0	0	0	26.13	3.08	26.24	3.08
10	141	CENTURY CITY	11.66	100	50	2	0	2	0	12.33	1.78	12.36	1.78
11	167	CITY (CAPE TOWN)	11.66	120	80	0	0	0	0	9.9	1.76	9.92	1.76
12	149	CLOVELLY	11.66	80	40	0	0	0	0	13.83	1.78	13.64	1.78

Electricity Distribution Capacity: Notes



- 0 spare breakers is not a deterrent.
- Just means larger upfront capital required / longer lead time:
 - Space for panel extension
 - Building renovation
 - Second nearest connection point /
 - Different voltage level
 - Create a new connection point. Building/land parcel might be required



Premium Connections not available here:

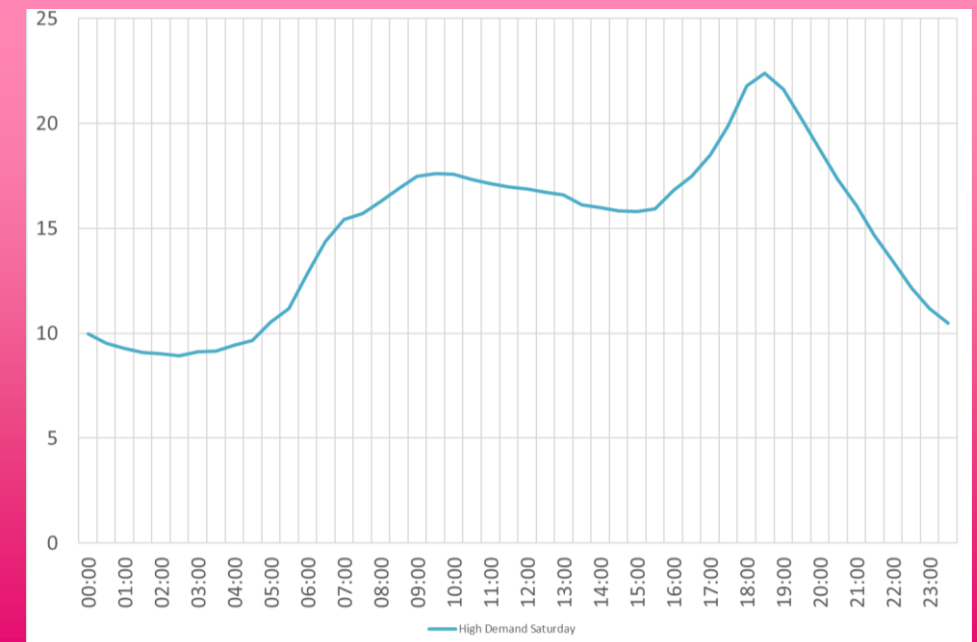
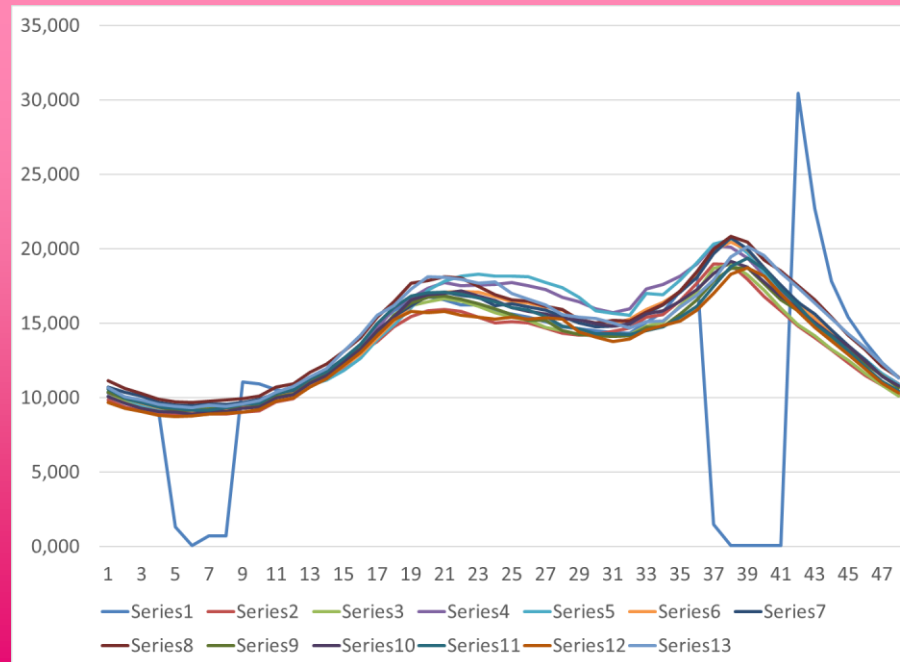
- Langverwacht
- Marais
- Gordon's Bay
- Melkbos (single upstream Eskom trfr)
- West Coast (single upstream Eskom trfr)
- Midlands

Load Profiles

Standard Profiles

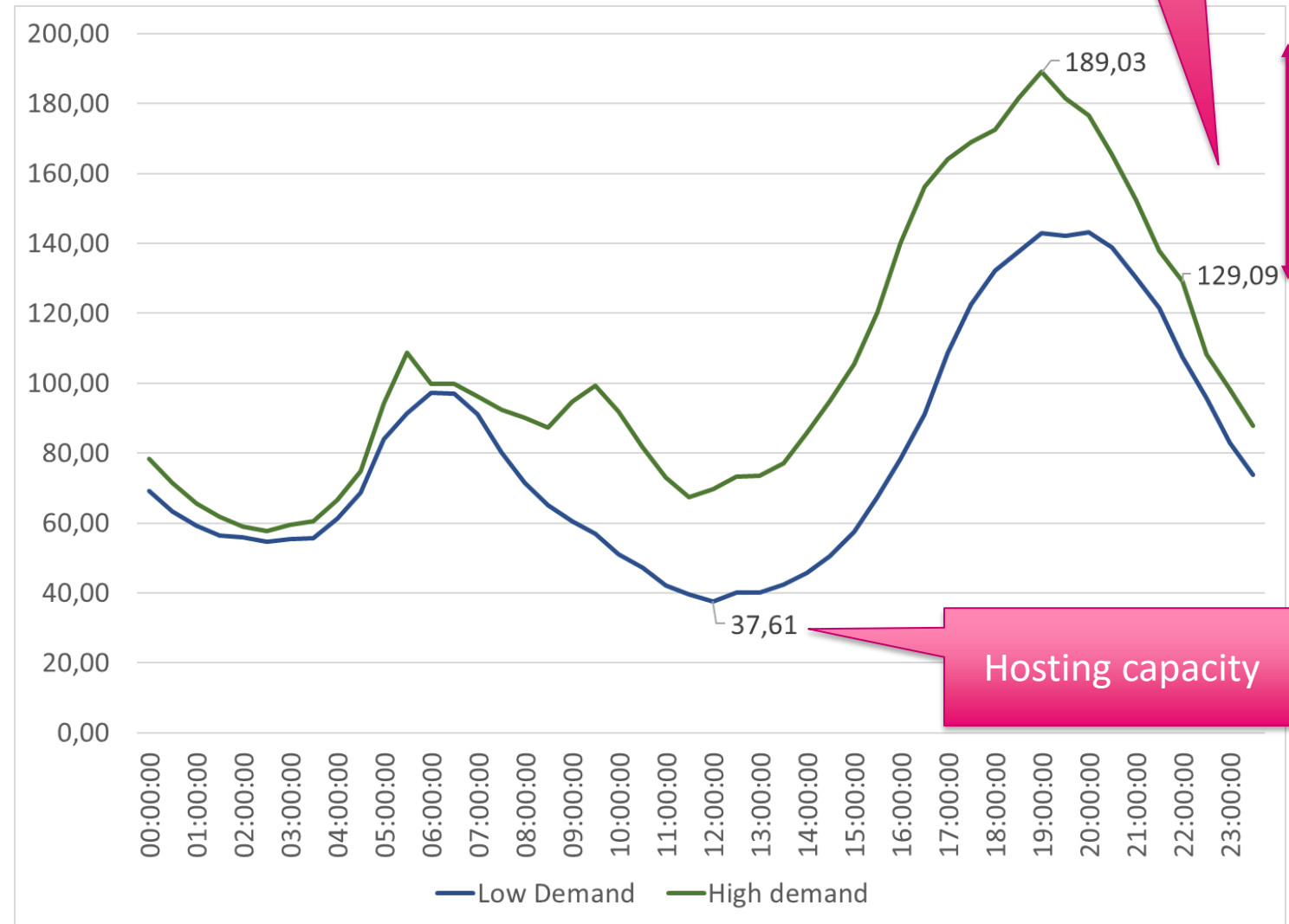
- Load data provided for HV connections in Annexure I
- A Standard load profile span 48 half-hours, making up a single day, each day commencing at 00:00.
- For each connection point a Standard load profile is provided for both the high demand season (June - August) and the low-demand season (September - May) as per Eskom's Schedule for Standard Prices.
- Standard load profiles are derived from 2024 electricity demand data and considers the average weekday demand at each half hour
- Not adjusted for any future forecasting: Take note of the City's diminishing annual peak electricity demand in City-supply areas.

For illustration purposes



Standard Profiles [2]

- Annexure I also indicates 2 values: Hosting Capacity and BESS network charging Capacity
 - Hosting Capacity:** the Hosting capacity is the **lowest daytime demand** between 06:00 – 22:00 per annum (so considering both high-demand and low-demand seasons).
 - The demand may be significantly higher than the hosting capacity stated: Bidder to analyse the load data provided in Annexure I and the raw load data available on Open Data portal.
 - BESS network charging Capacity:** This figure is the **difference between the daytime maximum demand** (between 06:00 – 22:00) and the **nighttime maximum demand** (between 22:00 – 06:00) per annum.
 - Indicative figure of possible BESS charging that can be accommodated without major upstream network reinforcements and NMD increases.



Electricity load profiles [2022 - 2024]

<https://odp-cctegis.opendata.arcgis.com/search?q=load%20profile&tags=basic%2520services%2520and%2520infrastructure>

- MVA measured every half an hour
- 2022-2024
- CSV Format
- Raw data includes loadshedding periods
- Be careful with comeback load



Dataset

Switching Substation Load Profile

City of Cape Town

A load profile illustrates the variation in electrical demand expressed in the unit of apparent power (Mega Volt-Ampere, MVA) measured every half an hour for the 2022 to 2024 period at each of the City's Switching...

Type: Feature Service

Date updated: 3/2/2026

Tags: Electricity Load Profile, profile, electricity, Load profile,... Date created: 2/28/2026



Dataset

Main Substations Load Profiles

City of Cape Town

A load profile illustrates the variation in electrical demand expressed in the unit of apparent power (MVA) or current (amps) measured every half an hour at each of our main substations.

Type: Feature Service

Date updated: 3/2/2026

Tags: Electricity Load Profile, Switching Substation Load Prof... Date created: 2/28/2026

Electricity load profiles [2015 - 2021]

<https://odp-cctegis.opendata.arcgis.com/documents/a76655bb11574816b7387309d87ba3a1/about>

- MVA measured every half an hour
- 2015 – 2021
- CSV Format & HTML graphs
- Raw data includes loadshedding periods
- Be careful with comeback load
- Download a zip file containing:
 - Main substations
 - Switching Stations
 - Intake points

Electricity Load Profile

City of Cape Town Corporate GIS

Summary

A load profile illustrates the variation in electrical demand expressed in the unit of apparent power (MVA) or current (amps) measured every half an hour at each of our main substations.

A load profile is a chart illustrating the variation in electrical demand or electrical load (either expressed in the unit of apparent power (MVA) or current (amps)) over a specific time. The apparent power or current is measured every half an hour at each of our [main substations](#), [switching stations](#) or [intake points](#) and plotted against the time when the measurements were taken to produce a load profile. Electricity load profiles, for City of Cape Town main substations, switching stations or intake points from Eskom, in units of either apparent power (MVA) or current (amps). [Queries.](#) [read more](#)

Other resources

Standard for the interconnection of Embedded Generation

https://www.capetown.gov.za/Work_and_business/Commercial-utilityservices/Commercial-electricity-services/Electricity-application-forms

CITY OF CAPE TOWN		ENERGY DIRECTORATE	
Document Type	TECHNICAL STANDARD	Document Number	EEB 705
Title	Standard for the Interconnection of Embedded Generation	Reference Numbers	EEB 705
Responsible Section	Engineering: Service Connection Planning Protection	Document Status	Current
Technical Reference	Ryno van der Riet	Revision	2
	Head: Protection, Telecoms & SCADA	Review Date	Feb 2026
Compiled	Ryno van der Riet		
	Head: Protection, Telecoms & SCADA		
Supported	Manager: Engineering		
	Manager: Infrastructure Operations		
	Manager: Enterprise Asset Management		
	Manager: Distribution System Operator		
	Manager: Enterprise Retail Management		
	Head: Generation		
Approved	Dr. Leslie Rencontre		
	Director: Electricity Generation and Distribution		



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Technical Standard for the Interconnection of Embedded Generation

March 2024



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Notes / Resources on land matters

- City has an electronic Wayleave Management System
- Sign-up and submit applications on <https://wayleave.capetown.gov.za>
- Kindly contact the Wayleave Centre on wayleaves@capetown.gov.za for queries or further information.

- Resources:
 - [Wayleaves-Policy.pdf \(capetown.gov.za\)](#)
 - [Wayleaves-By-law.pdf \(capetown.gov.za\)](#)
 - [RIM Wayleave Standards \(capetown.gov.za\)](#)

- This team will not get involved in the process where the bidder intends to buy or lease City land.
 - See: [PropertyManagement Applying to buy or lease land.pdf \(capetown.gov.za\)](#)

Lessons Learnt

Lessons learnt

- Don't underestimate the cost of the connection infrastructure.
- The route plan influences the cost.
 - Land Matters, space, servitudes.
- The technology influences the cost.
 - OHL vs. Cable
 - AIS vs. GIS
 - Buildings
 - TRFRs
- Take note of the standards/specifications shared.
- **When in doubt, query and clarify with us.**





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Thank You

Making progress possible. Together.