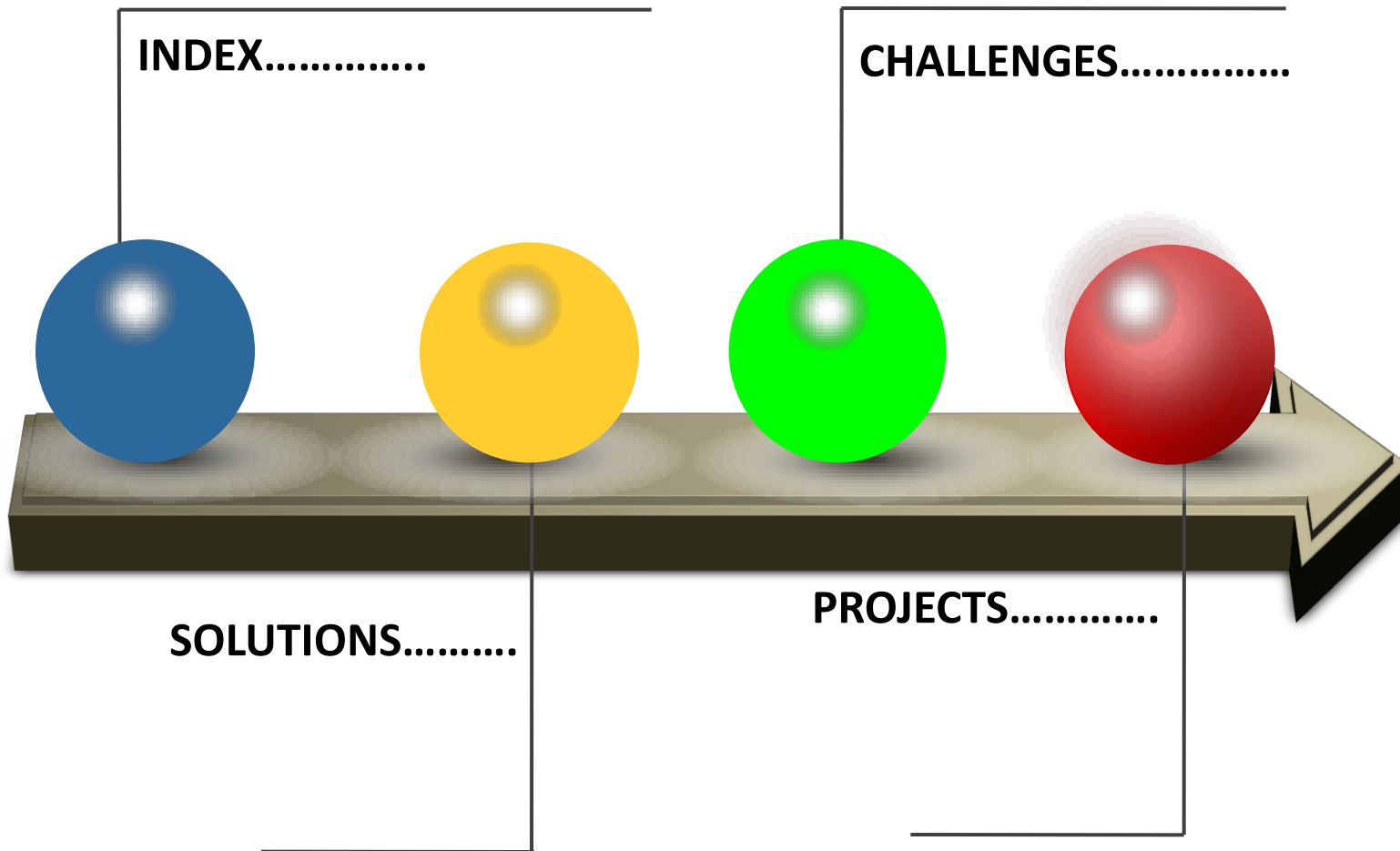


**CEDERBERG MUNICIPALITY /WESTERN  
CAPE PARLIAMENT ADD-HOCK  
COMMITTEE ON ENERGY CRISIS  
02 AUGUST 2023**



# Municipal Response to the Energy Crisis

# Presentations/ Focus Areas



**“From baseline to best practice”**



VISION

# THE HOME OF GOOD GOVERNANCE

*SERVICE EXCELLENCE & OPPORTUNITIES FOR ALL*

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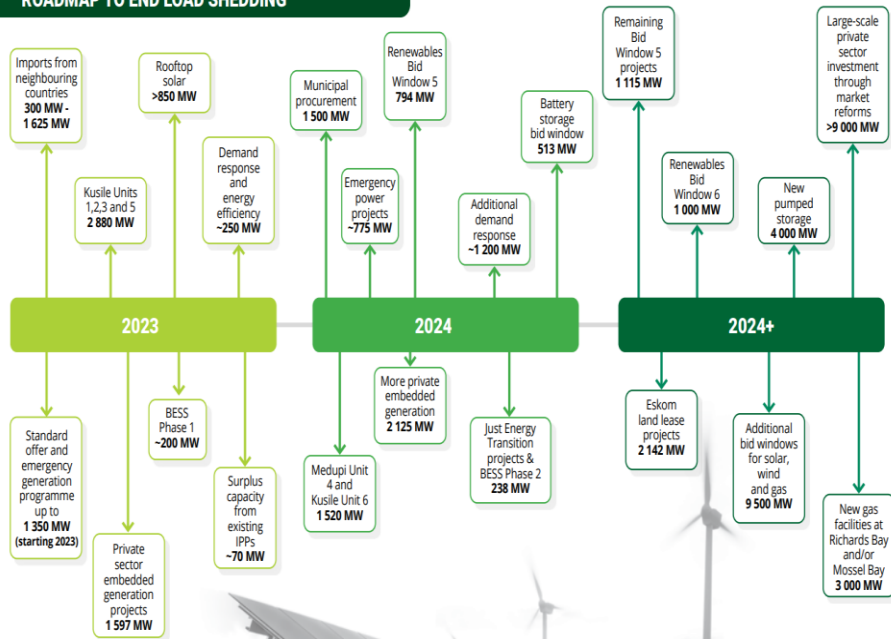
## Strategic Objectives

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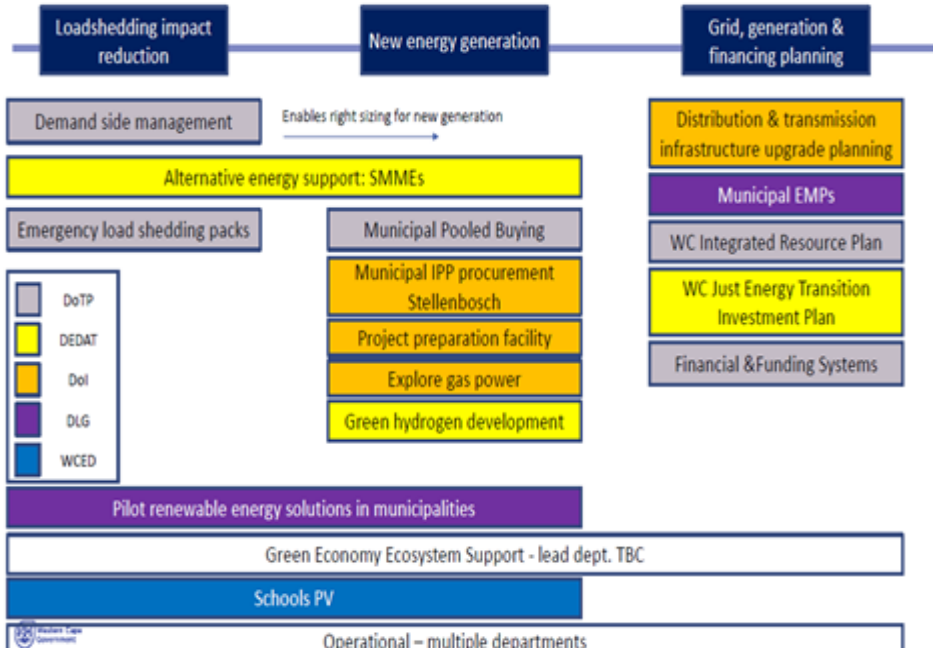
- To reduce the impacts of load shedding on businesses & citizens in the Western Cape
- To facilitate a lower level of reliance on Eskom in the Western Cape
  - Reduce off take between 500MW – 750MW by 2025 (Short Term)
  - Reduce off take between 750MW - 1800MW by 2027 (Medium Term)
  - Reduce off take between 1800MW - 5700MW by 2035 (Long Term)
- There are five things we need to focus on to achieve our objective
  - Load Shedding Relief Programme (LSRP)
  - Provincial Integrated Resource Plan (PIRP - Long Term Energy Plan)
  - Demand Side Management Programme (DSMP)
  - New Energy Generation Programme (NEGP)
  - Network Development Programme (NDP)

# Energy Resilience Programme

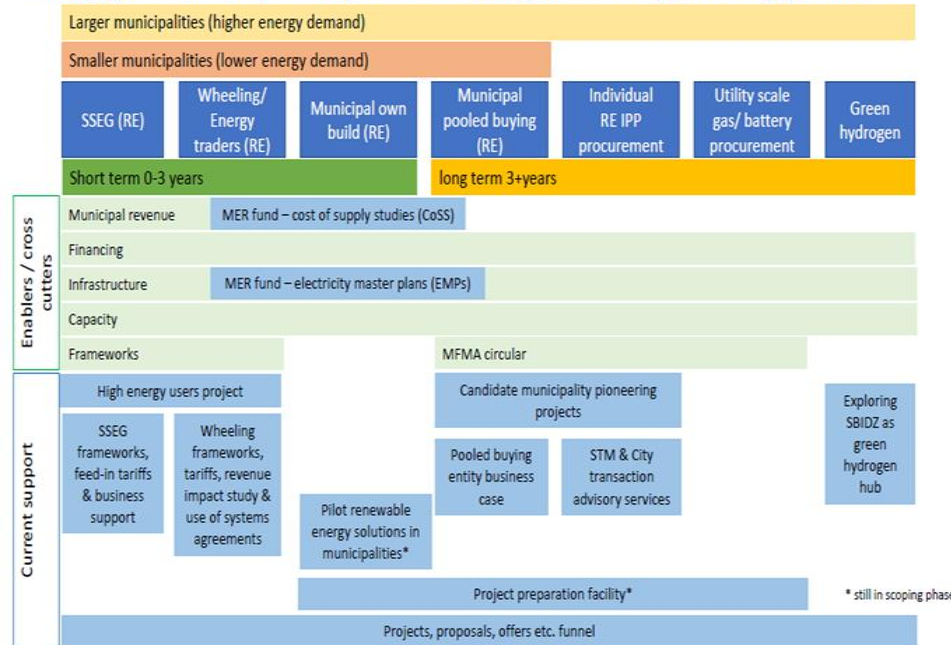
# ROADMAP TO END LOAD SHEDDING



## WC Energy Resilience Programme – 2023/24 budgeted projects / programmes



## Energy generation response options for municipalities & support being provided



## Western Cape Government commits R1.1 billion towards Energy...



# MUNICIPAL REALITY.....

Sources Google Earth & Cape Times

Land  
invasion

Poverty  
Drugs  
& Crime

**LOAD  
SHEDDING**

*Civil unrest*

Dirty

*Disease*

*Property values  
Disinvestment*

Informal trading

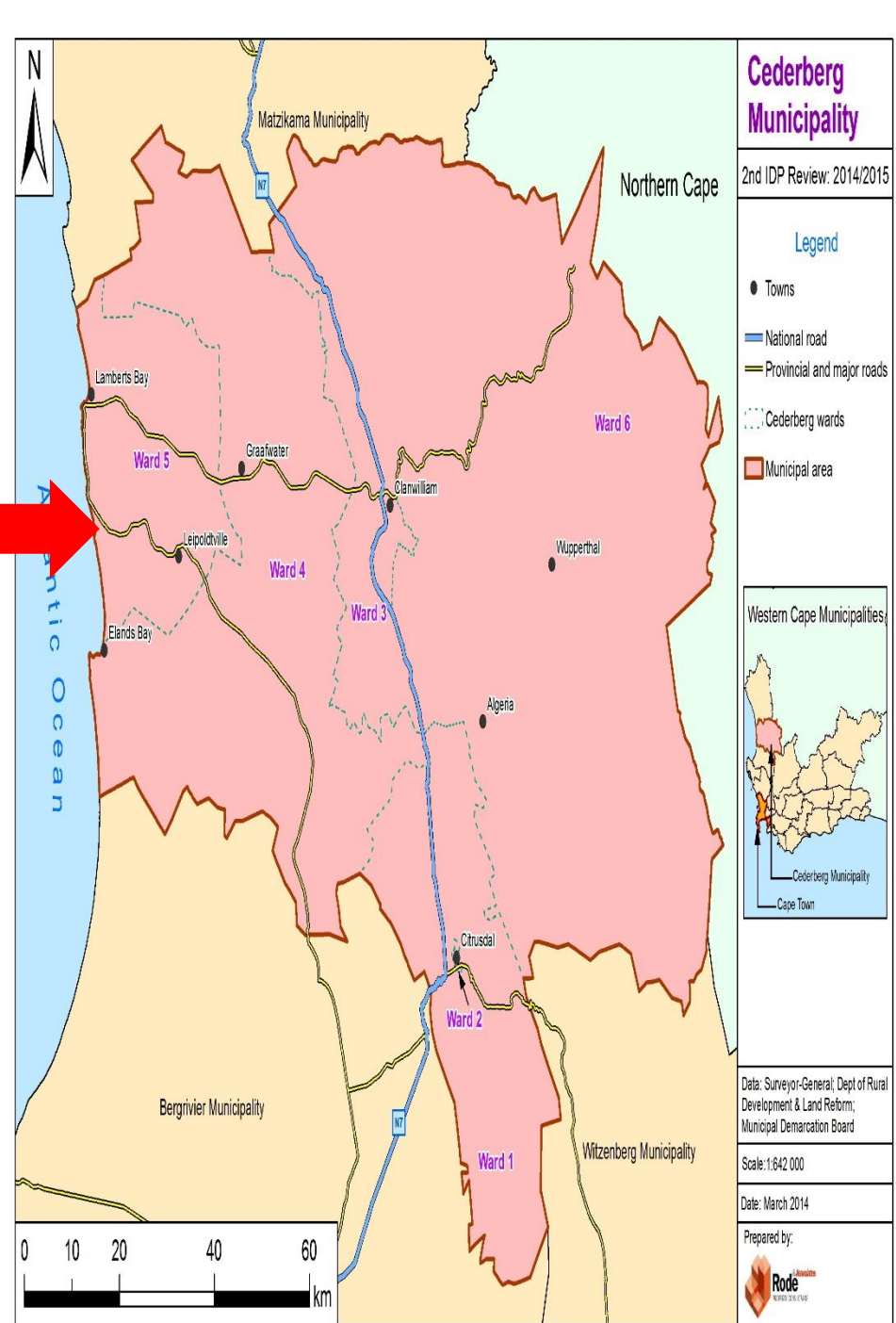
Urban decay

# INTRODUCTION



- Cederberg Municipality is part of the West Coast District Municipality
- Covers a total area of 8 007 square kilometres, stretching from the Atlantic Ocean in the west to the Doring River in the east







# INTRODUCTION

- Cederberg Municipality is part of the West Coast District Municipality
- Covers a total area of 8 007 square kilometres, stretching from the Atlantic Ocean in the west to the Doring River in the east.
- The principal towns are Clanwilliam (capital) and Citrusdal in the Olifants River valley, and Lambert's Bay on the Coastline
- Smaller agricultural settlements at Graafwater and Leipoldville, and a coastal village at Elands bay
- The electricity demand in all the towns are within the available capacity, except Clanwilliam where the Notified Maximum Demand is exceeded regularly



# CHALLENGES FACED BY CEDERBERG MUNICIPALITY RELATED TO ENERGY

- Ageing electricity infrastructure
- Electricity supply capacity and network capability constraints due to increasing population and new developments
- Lack of supply capacity in Clanwilliam, hampering growth in the town
- Maintaining quality of supply and quality of services to all electricity customers
- Electricity grid readiness for renewable energy penetration
- Funding for large network upgrading and system betterment projects
- Load shedding

# CHALLENGES RELATED TO LOADSHEDDING

- Funding for load shedding mitigation – procurement of renewable energy, battery storage systems etc
- Funding for procurement of standby generators for all critical plant
- Increase in operational expenses due to cost of fuel and hiring of generators
- Fuel and diesel cost for the 2022/23 financial year was R1 137 055.43 and Repairs amounts to R123 587.64
- Hiring of generators, maintenance thereof and fuel for 2022/23 is R950 188.00
- Fuel budgeted for the year 2023/2024 amounts to R1 800 000.00

# CHALLENGES RELATED TO LOADSHEDDING - CONSEQUENTIAL

- Low water levels due to no pumping during loadshedding
- Increasing risk of sewerage spills due to loadshedding
- Disruption in telecoms, IT systems and general administrative functioning of the municipality
- Cable theft and vandalism when networks are switched off
- Nuisance tripping and increased breakdowns of equipment due to higher loads during cold pick-up after load shedding
- Loss in revenue
- More consumers are installing inverters and batteries that will be recharged after load shedding – further increase in demand – might result in exceeding the Eskom NMD

# Emergency Load Shedding Relief Grant



- R1 600 00 was received from Western Cape Provincial Government in April 2023 for back-up electricity generators
- A tender was advertised on 06 April 2023 and closed on 28 April 2023 :Purchasing of 7 generators
- The evaluation processes were completed early in May 2023 but due to a challenge to compose a quorum for a Bid Adjudication Committee, the final BAC was only done late in June 2023
- The award of the tender was put on hold until approval for roll-over of the funds is received from Province
- The delivery and installation of the generators will be managed as a high priority project

# Emergency Load Shedding Relief Grant

- Once the roll-over application is approved the BAC will convene and decide on the appraisal
- The generators will then be installed at the following locations as per indication in our business plan to WCPG:
  - Citrusdal Wastewater Treatment Works.
  - Citrusdal Boreholes
  - Clanwilliam Water Pumpstation
  - Milner Street Sewerage Pumpstation in Clanwilliam
  - Graaf water Water Works

# Additional Generators

- Eskom is currently implementing higher load shedding stages and we therefor were forced to procure emergency standby generators
- A public tender was advertised late in 2022 for the procurement of emergency standby generators
- These generators were funded through own Municipal funding at a cost of R911 501,50
- We were able to procure 3 x standby generators, i.e 1x30kVA and 2x100kVA units, all mobile type.



# OTHER MAJOR ELECTRICITY RELATED PROJECTS

## 1. Clanwilliam 66/11kV Substation

- INEP( Integrated National Electrification Programme) Funding received to create additional electricity supply capacity in Clanwilliam
- Project include the construction of a 66kV overhead line from Graafwater to Clanwilliam over a distance of 30km,
  - And a new 66/11kV 10MVA Substation in Clanwilliam
- The construction of the 66kV overhead line is underway and will be finished by the end of October 2023

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- The construction of the 66kV overhead line is underway and will be finished by the end of October 2023
- The Construction of the new 66/11kV 10MVA substation will commence in August 2023
- The total project is planned to be fully completed late in 2024

# OTHER MAJOR ELECTRICITY RELATED PROJECTS

## 2. Graafwater & Paleisheuwel Battery Energy Storage System

- Eskom to install a Battery Energy Storage System (BESS) at the Graafwater 66/11kV Substation
- Total cost unknown: R600 million (?)
- Planned capacity unknown : 5 MVA (?)
- Paleisheuwel 9MW
- Graafwater 5MW

# OTHER MAJOR ELECTRICITY RELATED PROJECTS

## 3. RFP for Renewable Energy

- A Request for Proposal for renewable energy was advertised on 19 May 2023
- Tender to close on 28 July 2023
- RFP based on request for 3-5MVA in Clanwilliam, and 1-3MVA in Lamberts Bay
- Tender based on price for energy, c/kWh, coupled to the relevant Eskom energy tariff for each town
- Anticipated 20 year power purchase agreement to be signed with the successful tenderer

# OTHER ELECTRICITY SUSTAINABILITY PROJECTS/INITIATIVES

- SSEG Policy ,SOP and implemented
- Demand side management initiatives : Municipal facilities etc
- Hydro electricity generation : Clanwilliam dam wall project
- Smart electrical meters in communities : Additional R9 million
- Alignment with Green agenda ie.Housing projects etc
- PT – Escom debt relief application /agreement : CRR

# OTHER FACTORS IMPACTING ON OUR ENERGY SECURITY

## Floods:

- Major flooding occurred in Cederberg Municipality after heavy rains that started on Thursday, 15 June until Monday, 19 June 2023
- Electrical infrastructure were destroyed and some totally washed away.
- The towns of Citrusdal and Clanwilliam, Wupperthal and Algeria were left without power for extensive periods
- The Eskom and Municipal infrastructure were inaccessible for days on end
- Citrusdal town was without power for 3 days( 60 hours)
- The Farms surrounding Citrusdal were without power for 8 days ( 192 hours )
- Clanwilliam was without power for 2 days ( 46 hours)

# OTHER FACTORS IMPACTING ON OUR ENERGY SECURITY



## Floods:





# SA NAVI ASSISTED WITH AIRLIFTING ESKOM TEAMS TO AREAS IN CITRUSDAL TO DO ELECTRICAL REPAIRS





ZT-RAI

CALL SIGN  
"CHOPPER"



RESCUE

RESTRICTED

MEDIUM  
Quality Safety  
Equipment  
Powerlines R44  
12700





# OTHER FACTORS IMPACTING ON OUR ENERGY SECURITY

## Eskom

- In addition to the severe load shedding Cederberg Municipality also suffers from an unreliable Eskom feeder that feeds the biggest part of Clanwilliam, i.e the Zandberg Farmers 3 22kV overhead
- Any light rain or thunderstorms causes the Zandberg feeder to trip out and restoration time easily can take anything between 16-48 hours to repair
- This is impacting service delivery on all levels, and we are constantly facing a public crisis due to this

## Notified Maximum Demand per Town

- Citrusdal- 5MVA
- Clanwilliam- 4.7MVA and are being exceeded constantly
- Graafwater- 0.75MVA being exceeded but an application for NMD increase is in process
- Lamberts Bay- 2.7MVA and is now also being monitored
- Elands Bay- 1MVA

# Impact of Electricity Crisis....



**THANK YOU FOR LISTENING !**

