

Utility Management Consulting MasterPlanning



Electrification Prioritisation Tool

Prioritisation of un-electrified settlements in a rational accountable manner is a key requirement to all utilities world wide.

The main driver behind electrification is of a socio-economic nature trying to maximise the investment made while focusing on electrification of infrastructure important to the economic growth and well-being of the community.

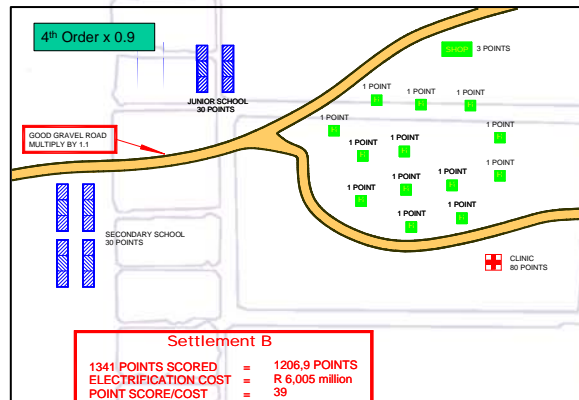
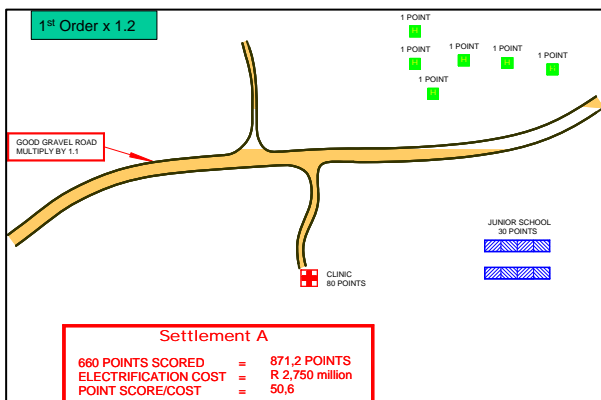
The **Electrification Prioritisation Tool** was developed by NETGroup and is used extensively in house and by our clients locally and internationally.

The **Electrification Prioritisation Tool** forms part of a range of software developed and being refined by NETGroup to complement electrical engineering functions in the Power System Industry.

System Features:

The **Electrification Prioritisation Tool** provides the following functionality:

- Link to GIS (ArcGIS) system where un-electrified settlements and required electrical infrastructure are represented.
- A customisable point scoring system to allocate 'value' of electrification to specific infrastructure.
- A cost allocation system to calculate the cost of electrification for un-electrified settlements including bulk line, spur line and reticulation cost.
- A prioritisation algorithm prioritising settlements for electrification on the basis of cost per point or points only.
- The cost per point prioritisation algorithm ensures that the most suitable settlements are electrified first in terms of social and economic considerations.
- Grouping of settlements into clusters to ensure bulk line construction costs are shared between settlements in close proximity for electrification prioritisation.
- Allocation of electrification budget. This budget is used to compile an electrification plan.
- If study area consist of smaller regions a function exist to fairly distribute funds among regions based on either the total electrification points within a region or based upon the effectiveness of applying funds for electrification within a region.



RANKING TABLE

Settlement Name	Point Score	Electrification Cost	Total Point Score	Cost/Point	Ranking
A	871.2	R 2,750,000	50.6	R 54,347.83	2
B	9.0	R 6,005,000	1206.9	R 4,975.56	1

frmLocalities : Form

Settlement Information: GA-KAMA

Name: GA-KAMA Lookup: E+04

Load Zone: boy_BKN01 Buy-down: R 0.00

Settlement Points: Electrified: Buy-down description:

Settlement Cost: R 5,397,801 Electrification Year: 1999 Customised

Points: Costing | Hierarchy

RDP Standard
Reticulated to RDP Standard: = 0

Health Facilities
Health Facilities: 0 X 80 = 0

Schools
Schools: 5 X 30 = 150

Other Large Power Users
Other Large Power Users: 0 X 25 = 0

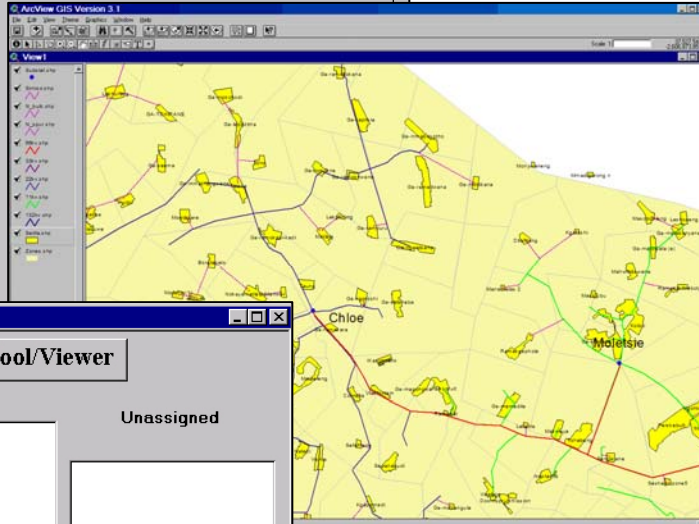
Households
Households to connect: 1076 X 1 = 1076

Sub Total Points: = 1226

Settlement Order: 3rd Order Settle: X =

Road Access: Good X 1.1 =

Total Points: =



Network Assignment Tool/View

Layout: Refresh

Unassigned

- Lebowak-gomo
 - Gompies
 - Government Sub
 - Habakuk
 - hab_HM01
 - hab_HMR01
 - hab_HMR02
 - hab_HMR03
 - DITHABANENG
 - Makurung
 - hab_HMR04
 - hab_HMR05
 - Lebowa
 - Mphalele
 - Seleteng
 - Strydkraal
 - Thabamopo
 - Veeplaas
- Mankweng
- Pietersburg
- Seshego

Region Constituency Cluster Le

Unassigned: 0 3

Regional Electrification Plan

Seshego

Type	Name	Cost	Cost/Point	Cluster	Prerequisite Cluster	Electrification Year
Locality	Pintie	R 1,199,220.29	R 4,500.70	chl_CRB16		2003
Locality	Ga-sebotse	R 2,276,536.34	R 4,582.70	chl_CRB16		2003
Locality	AURORA	R 472,299.38	R 5,435.00	chl_CRB26		2003
Locality	Ga-ravesho	R 1,170,000.00	R 4,545.50	chl_CRB26		2003
Electrification Cost :2003		R 18,763,489.88				
2004						
Locality	GAMONARE	R 910,000.00	R 3,133.60	chl_CRB66		2004
Locality	MONGATANE	R 595,688.00	R 3,843.10	chl_CRB67		2004
Locality	SENITA	R 809,583.17	R 4,007.80	chl_CRB60		2004
Locality	GA-RAPADI	R 925,000.00	R 3,460.50	chl_CRB67		2004
Electrification Cost :2004		R 3,240,271.18				
2005						
Cluster	chl_CRB07	R 0.00	R 381.90			2005
Locality	PHAFULA	R 22,916.26	R 381.90	chl_CRB07		2005
Cluster	chl_CRB38	R 0.00	R 830.00			2005
Locality	SEKHMBIDLING	R 44,820.60	R 830.00	chl_CRB38		2005
Cluster	chl_CRB37	R 62,689.93	R 1,584.80			2005
Locality	MMAKALA	R 13,000.00	R 216.70	chl_CRB37		2005
Cluster	chl_CRB20	R 112,197.39	R 2,262.30			2005
Cluster	chl_CRB22	R 69,266.86	R 2,321.70			2005

Products:

- PowerBASE
- PowerREFURB
- PowerRETIC
- PowerCAPEX
- PowerLV
- Electrification Prioritisation Tool
- PSS/E & PSS/Adept
- TPLAN

Client Base:

- Swaziland Electricity Board
- NamPower Rural Electricity Distribution Master Plan
- Oshakati Master Plan
- Eskom Northern Region
- Various Local Municipalities