

69TH AMEU CONVENTION

1 - 4 October 2023

CSIR International Convention Centre

Confronting South Africa's Electricity Crisis in the context of a 'Balanced Just Energy Transition' (BJET) and the need for a reliable and resilient national electricity grid

The 'dying'? Municipal electricity business - Quo Vadis?

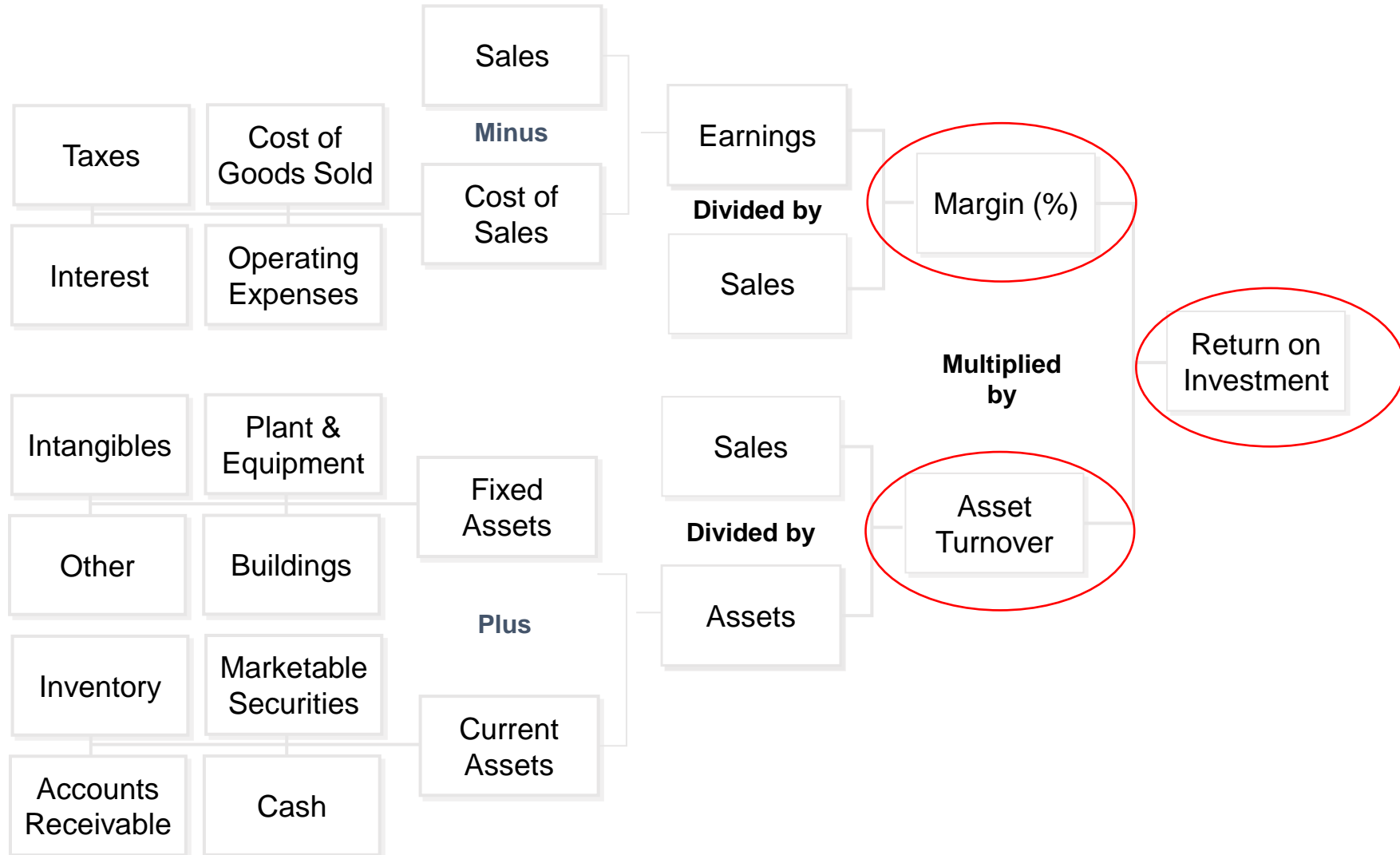
Presented by At van der Merwe

Energy Transaction Services

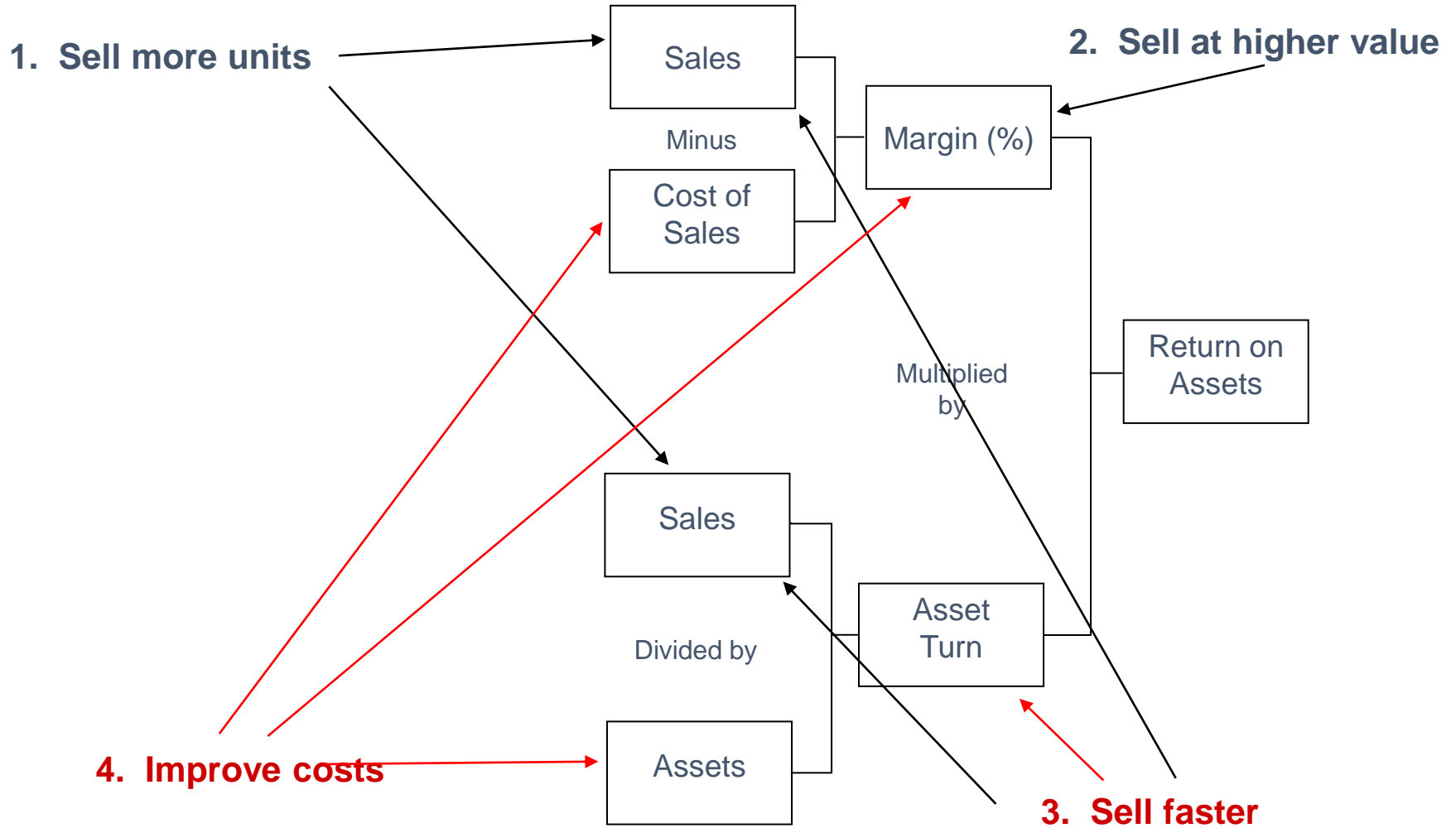
1. Analysis



Utility Sustainability analysis



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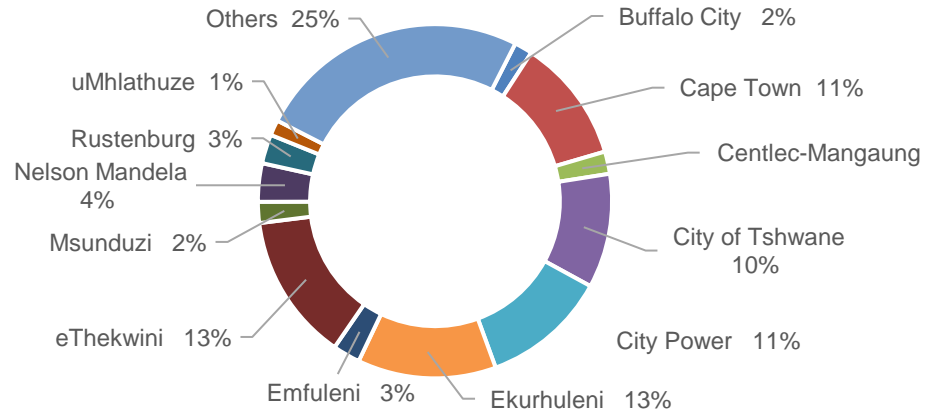


Analysis of 167 Municipal Licensees

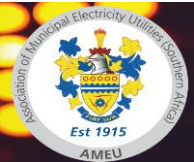
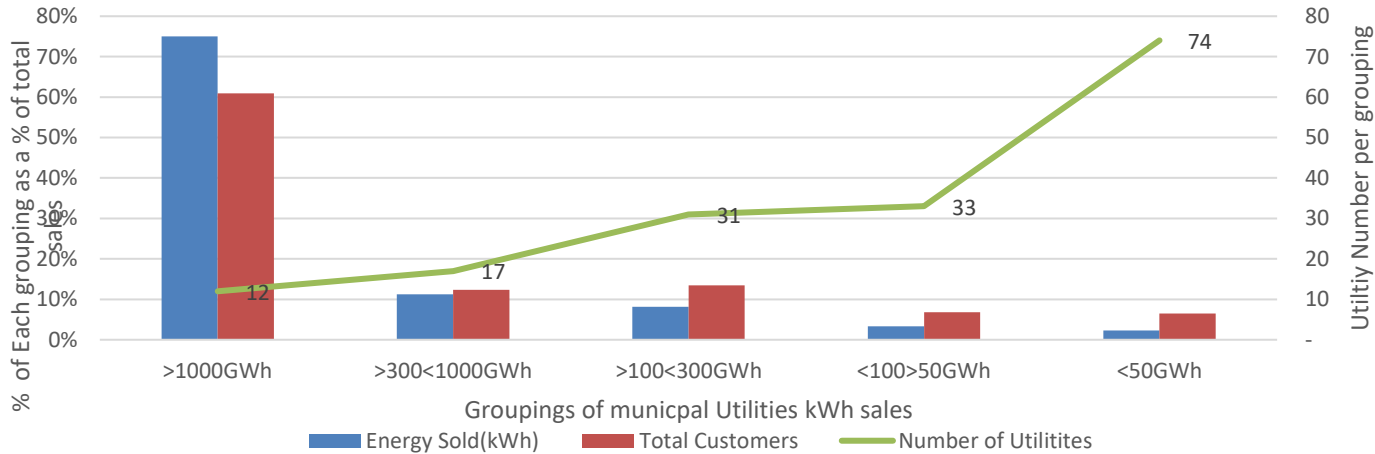
Municipal electricity - characteristics in 2020/21:

- Total kWh sold 71 GWh
- Value of sales R 122 bn (Avg R1.70 per kWh)
- Total Customers 7 369 794

Municipal Electricity Sales
12 Municipalities selling > 1000GWh



Overview of Utility Grouping in Sales and Customer numbers



Description of indices & benchmarks applied in the analysis

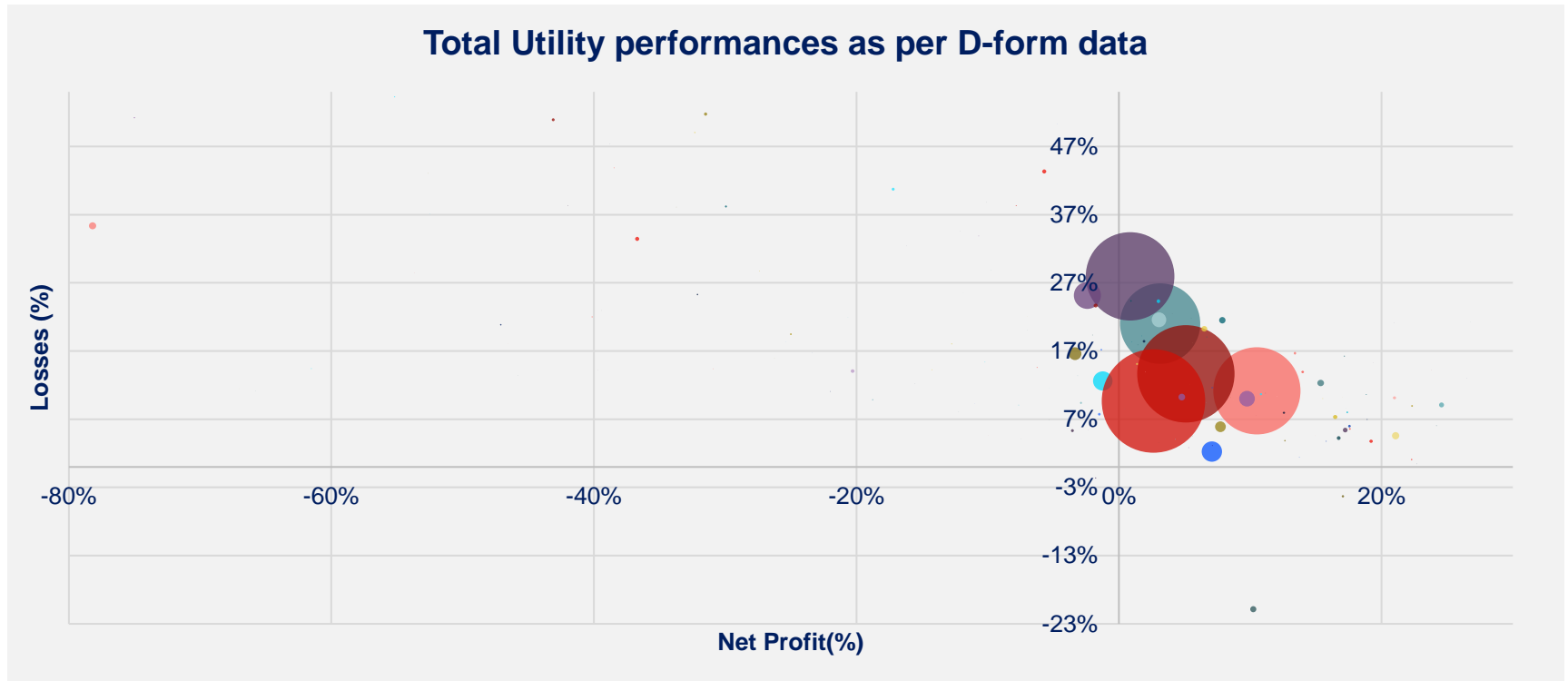
Indices	Description
1	Average selling rate (R/kWh) Total revenue / Units sold.
2	Billing Efficiency (%) Units sold / Total units purchased.
3	Manpower efficiency Number of customers / Number of employees.
4	Operating efficiency (R/kWh) Operating cost / Units sold.
5	Losses (Total kWh Purchases- Total kWh Sales)/ Total kWh Purchases.
6	Gross Profit (%) (Revenue from sales- Bulk purchase expense)/ Total Revenue from sales.
7	Net Profit (%) (Revenue from sales- Total expenditure)/ Total Revenue from sales.
8	Bulk Purchase % of Total Opex (%) Bulk Purchase cost/ Total Opex.

Financial Indicators (%)	Benchmark	Financial Benchmark Acceptable Range
Gross Profit Margin	58	58-62
Net Profit Margin	15	10-20
Percentage Power Cost	74	58-78
Technical Energy Losses	10	5-12
Revenue Collection Rate	95	85-100
Repair & Maintenance (Minimum Of 6% Of Revenue)	6	6

Source: NERSA 2022/23



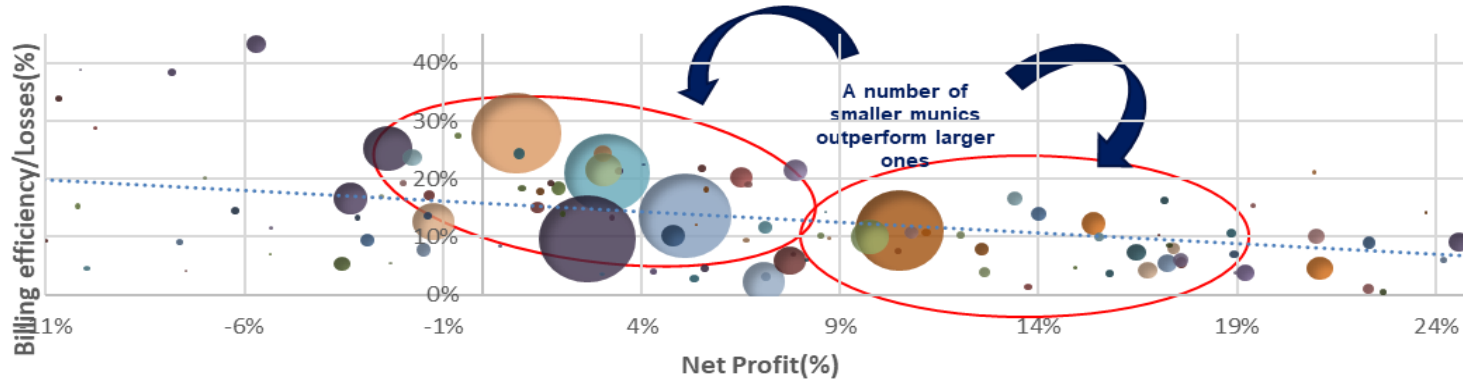
Analysis of all 167 Municipalities (D-form data)



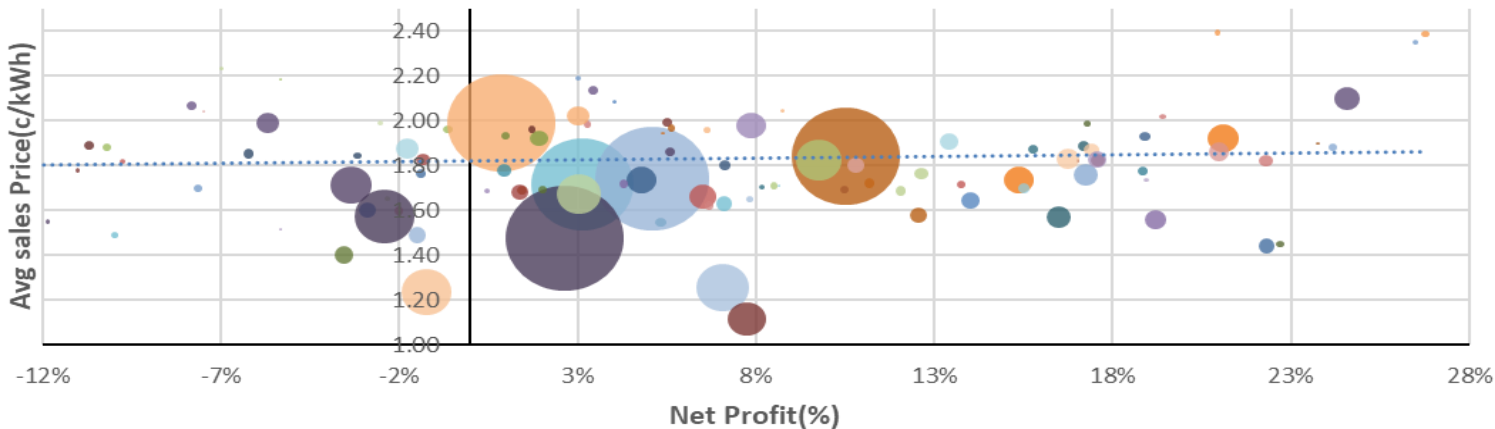
- The range of municipalities, as demonstrated by sales volume and performance, is very broad.
- Thirteen municipalities gross sales are lower than their gross purchases, resulting in a negative gross purchase value
- Some sell more than what they purchase
- About half of the municipalities (87 or 52%) have a negative net profit, i.e. $< 0\%$ [range from 417% to 27%] 8
- Three quarters of the municipalities (110 or 68%) have losses that exceeds the NERSA prescribed loss level of 10%
- Losses $> 10\%$ R7bn (expressed as avg purchase cost)

Overall view with removal of outliers and negative yield

Overall view with removal of outliers: Comparison of Utility size against Billing efficiency and Net Profit

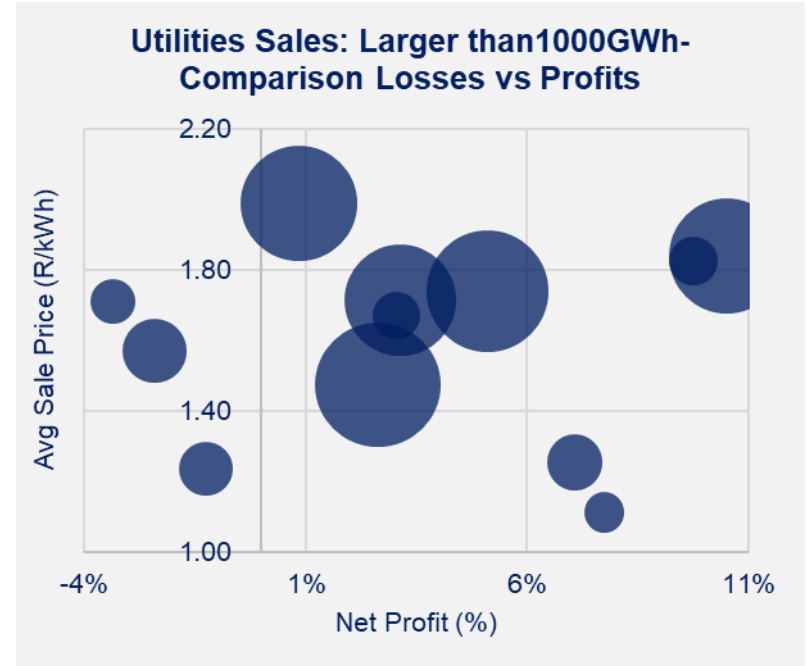
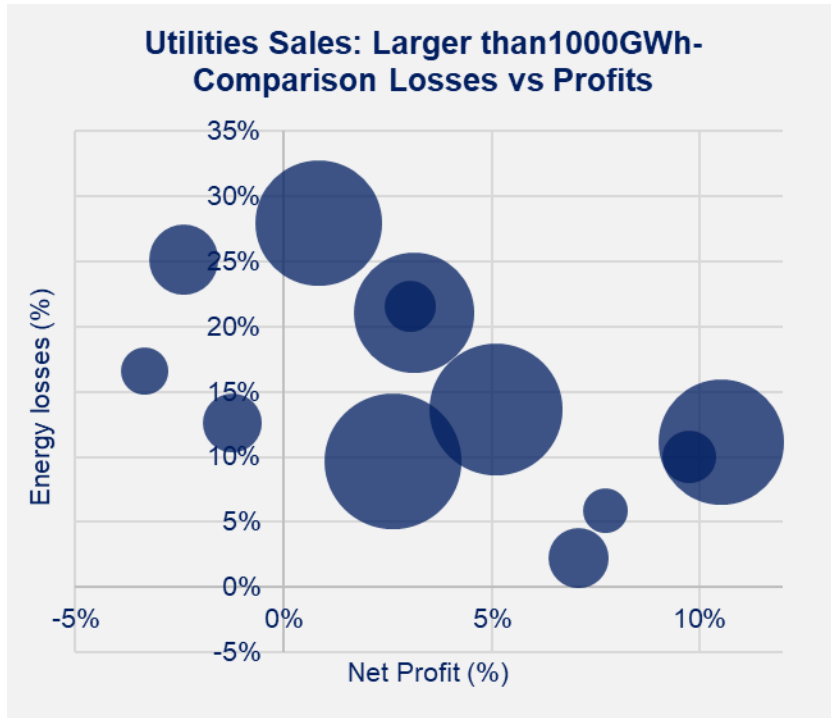


Overall View with removal of outliers: Comparison of Utility size against Avg sale Price and Net Profit

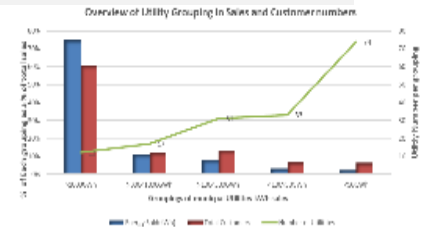


- Net Profit Performance - A statistically significant number of smaller municipalities outperform larger municipalities.
- The net profit performance of these smaller municipalities is not achieved by escalating the sales price – strong correlation to average sales price.

Comparison of Importance of utility size (economy of scale, better customer mix) in relation to Net Profit (Surplus) vs Avg Utility Sale Price and energy losses

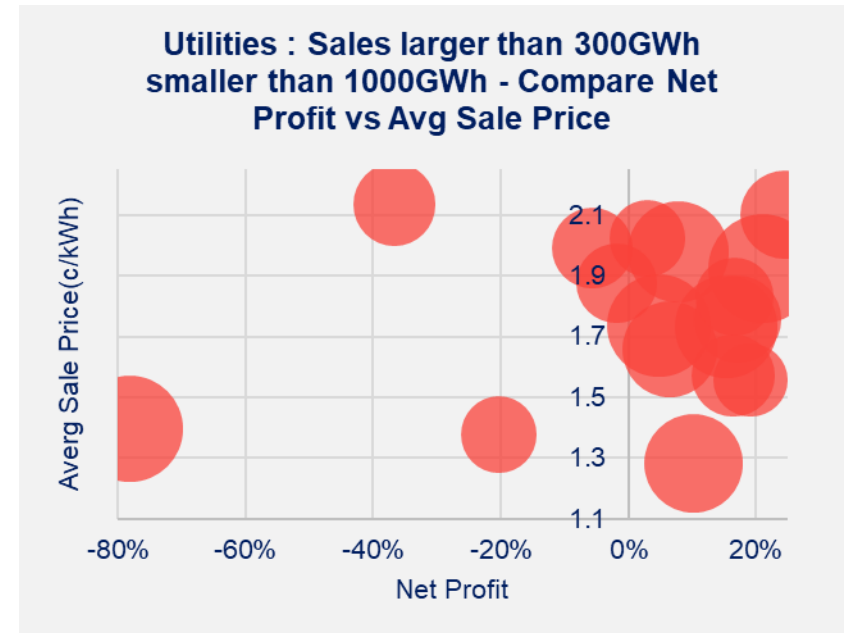
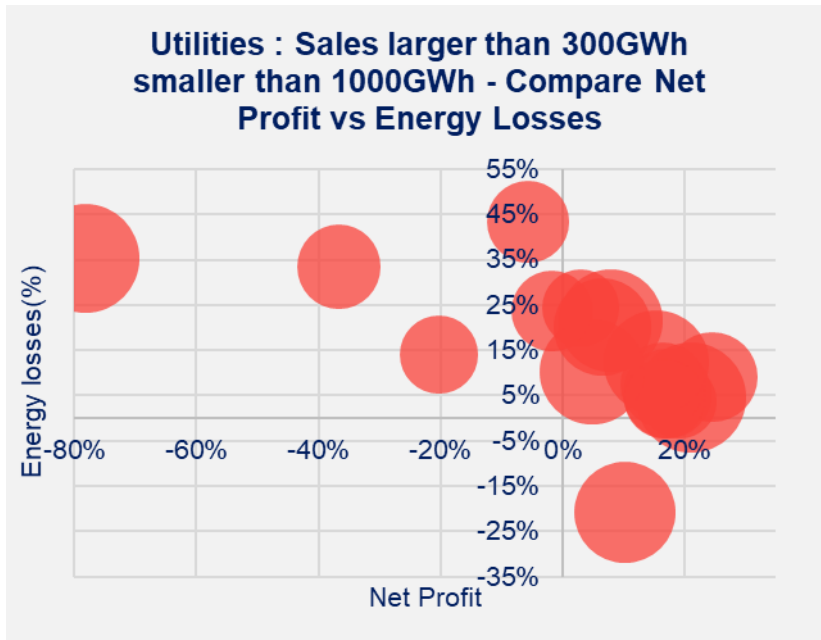


- Not all large utilities perform well – several have a low or negative return, even with a high average tariff.
- All large utilities with high losses show lower net profit levels than their peers.

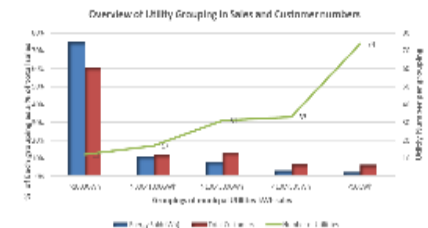


Utilities larger than 300GWh and Smaller than 1000 GWh

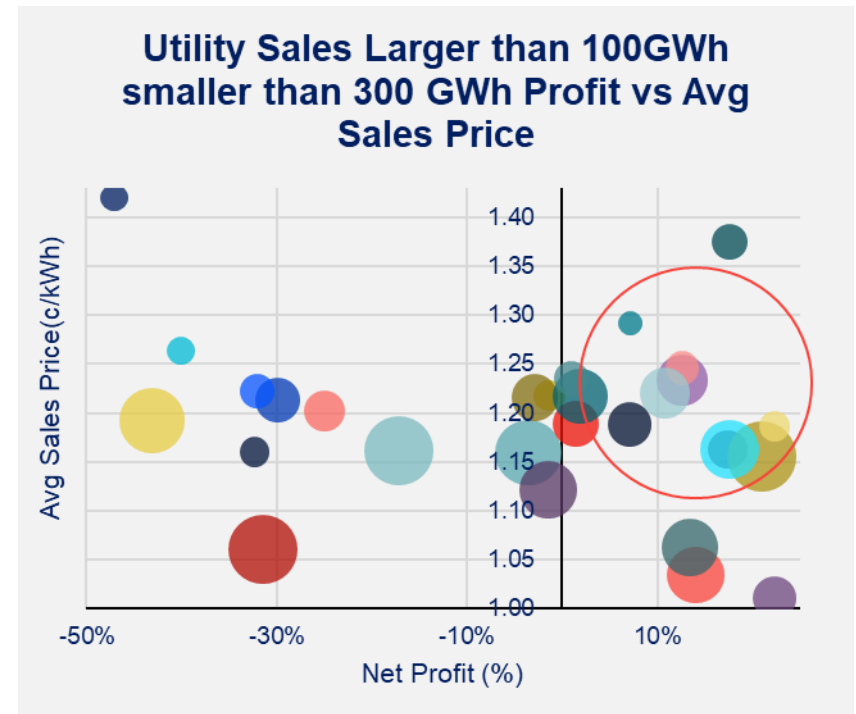
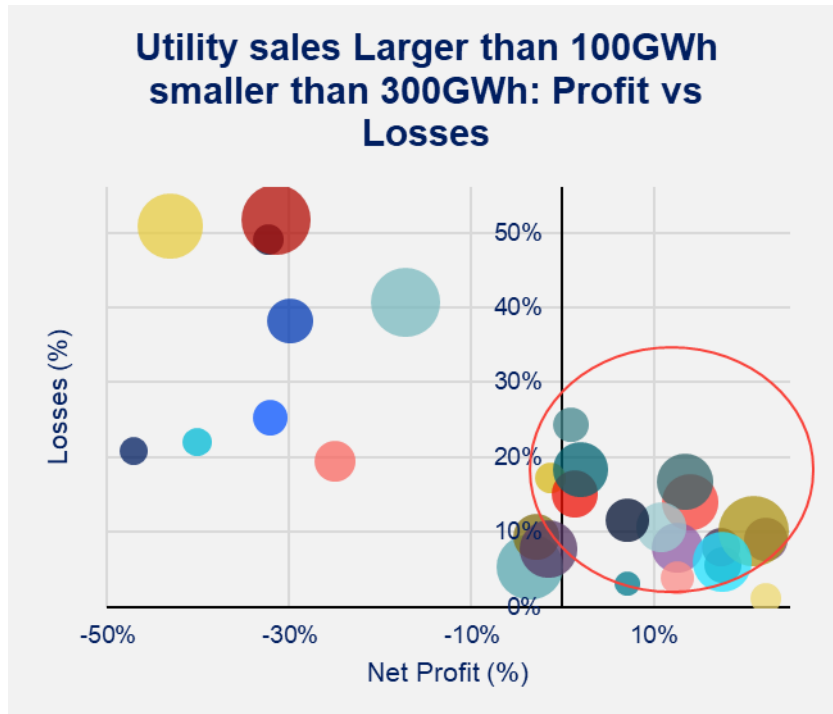
Net Profit vs Sales price and Losses



- Number of Utilities still perform in the negative
- Clustering around 20% losses and 10% net profit.
- Average sales price around R1.85 for the 10% net return.



Utilities larger than 100GWh and Smaller than 300GWh



- Net Profit Performance - A statistically significant number of medium sized municipalities seems to outperform larger municipalities.
- It appears that this group has achieved good net profit performance, and low loss levels, while keeping tariffs on average at a lower level than that larger municipalities.
- For some it appears that tariffs levels are just too low.

Sustainability ranking & analysis: >20% Net Profit

No	Province	Losses %	Avg Purchase rate (c/kWh)	Avg selling rate (R/kWh)	Net Profit	Operating efficiency (c/kWh)	%Bulk/Total
1	Northern Cape	21%	1.34	2.39	21%	0.19	90%
2	North West	21%	0.96	2.39	27%	0.53	70%
3	KwaZulu-Natal	13%	1.16	2.35	26%	0.39	77%
4	North West	9%	1.16	2.10	25%	0.30	81%
5	Western Cape	5%	1.15	1.92	21%	0.32	79%
6	KwaZulu-Natal	14%	1.10	1.90	24%	0.16	89%
7	Free State	6%	1.18	1.88	24%	0.17	88%
8	Western Cape	10%	1.16	1.86	21%	0.18	87%
9	Mpumalanga	1%	1.19	1.82	22%	0.22	85%
10	Limpopo	0%	0.97	1.45	23%	0.14	87%
11	Northern Cape	9%	1.01	1.44	22%	0.01	99%

Ranking of largest to least profit categories	
>20%	1
<20%=>10%	2
<10%=>5%	3
>0%<5%	4
<0%	5

Performance indicators	Benchmark	Acceptable range
Electricity Price margin (%)	60	58-62
Bulk purchase cost / total expenditure (%)	75	58-78
Energy Losses (%)	10	5-12
Revenue collection rate (%)	95	95
Repairs & Maintenance (% of revenue)	6	6-15
Net Surplus Margin (%)	15	10-20

Table 21: Performance Indicators

- Comparing Losses, Avg Purchase and Selling rates, Operating efficiency & % Bulk of Total Cost.
- High Profit is not always an indicator of sustainability:
 - Due to Tariff some 30% higher than industry benchmark and/or
 - No ops spend or large Ops spend
 - Losses (too) low
- Compared to NERSA benchmarks of Losses, Ops spend & tariffs – possible candidates for sustainability are marked green.

Sustainability analysis- takeaways

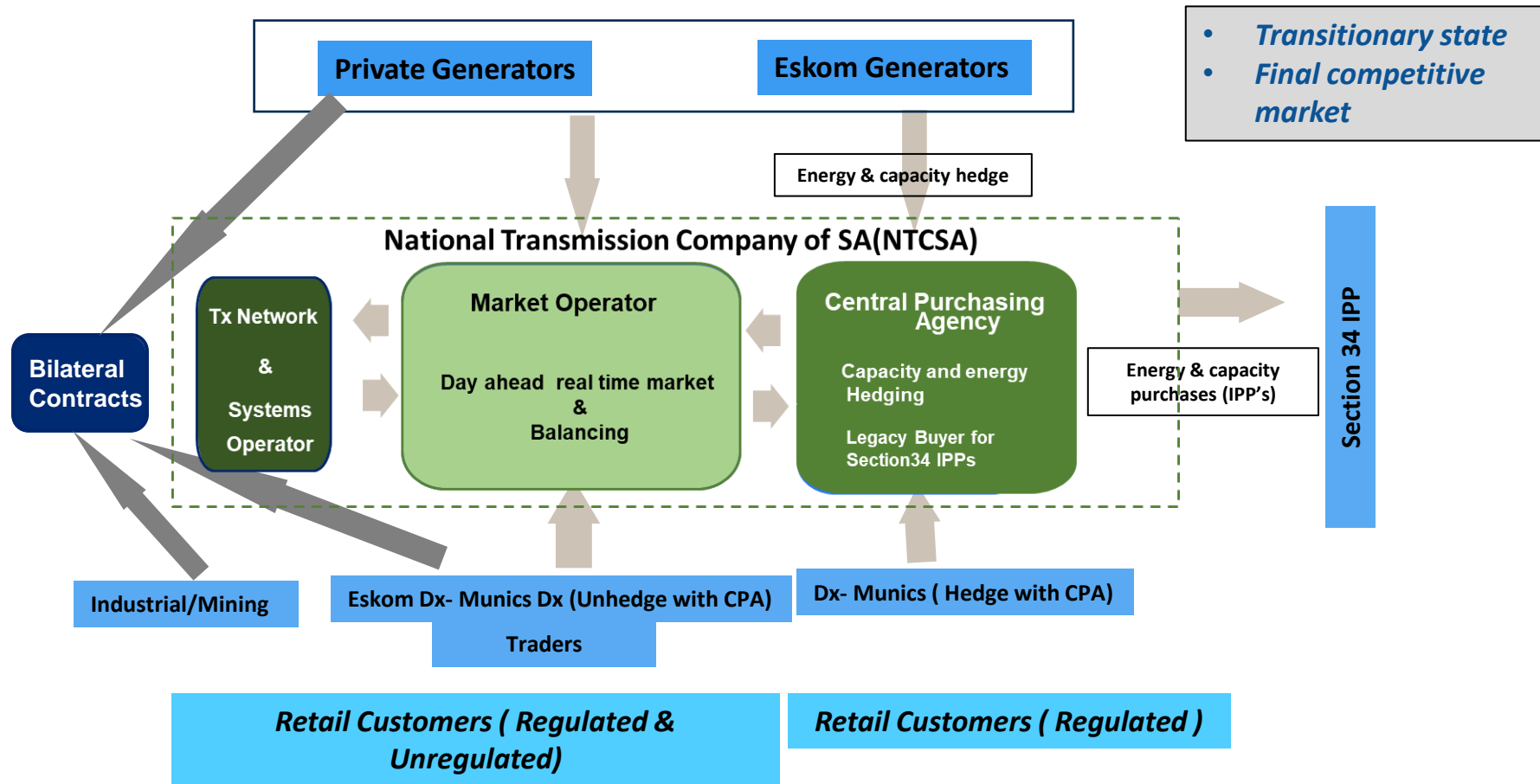
- Not the large utilities that perform the best
- Significant challenge with long term sustainability
- Biggest challenges:
 - Losses
 - Incorrect tariff signals
 - Cost & availability of Bulk Power
 - O&M



2. External Landscape in Transformation



Envisaged Competitive Multi market model for SA



Acknowledgement: Adaption from Eskom and CPCS market models

Municipal DisCos -able to procure wholesale electricity through **own generation capacity, and/or through* signing bilateral (financial / physical) contracts and/or* and/or *DER and/or through *participating in organised market platforms*

Could either do wires (NSP) and/or retail

Wholesale procurement foreseen not to be regulated but retail/ end customer level with caps on mark-ups/ profits on Wires & retail

Takeaways (ERA) for municipalities – Quo vadis ?

What to Do?

- Being a market participant: Toward end of period – munics will have to procure capacity (physical bilaterals or CfD) or retain the services of a trader – to insulate against market volatility
- Depending on how the market is finally structured may have some balancing responsibilities
- Separate the wires and retail parts of the businesses
- Develop Integrated resource planning and procurement capacity.

WHY?

- Will provide opportunities to *procure power at potentially better prices* and *increase availability of power*.



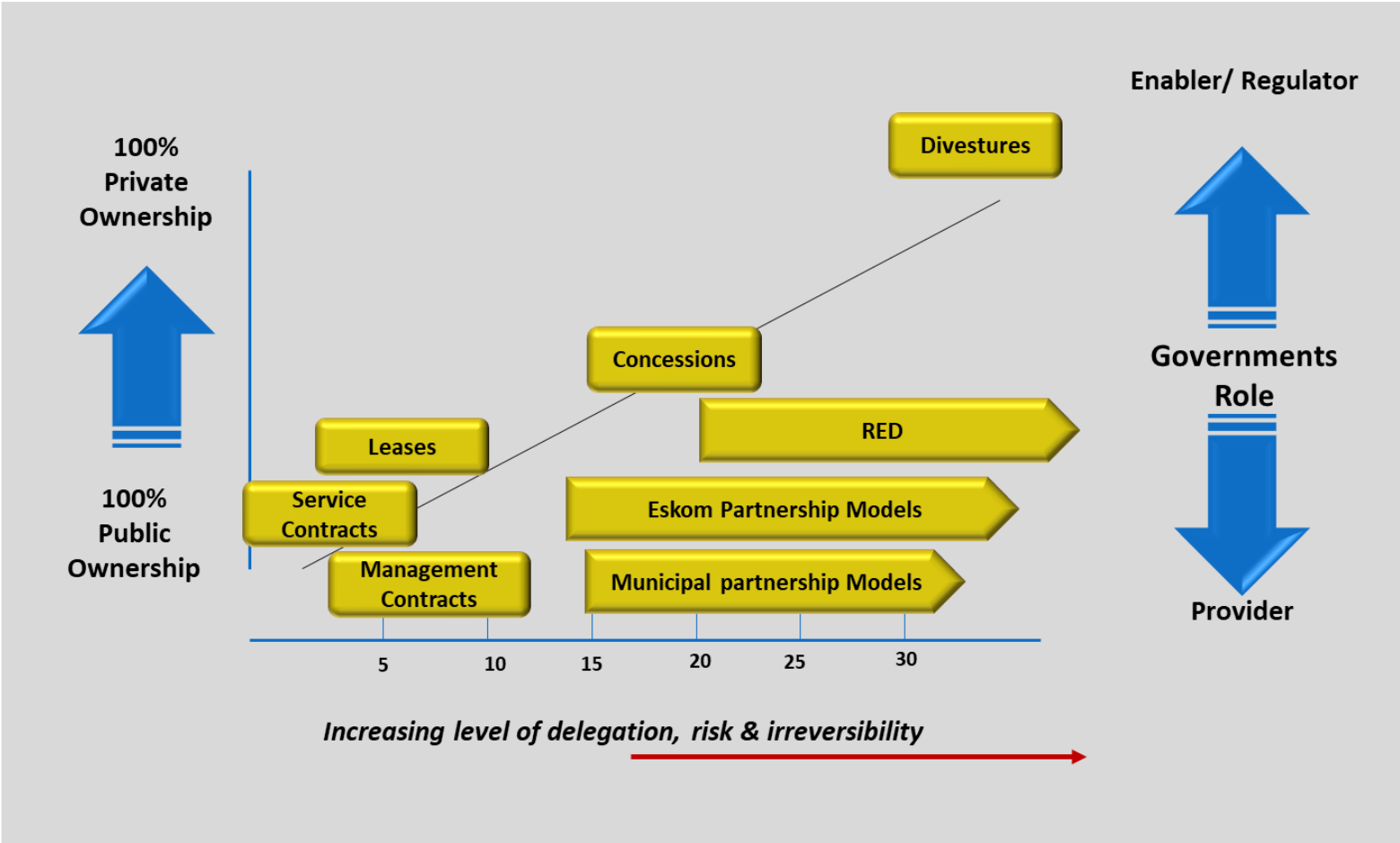
3.Support Options

Quo Vadis

- Short to medium term to assist municipality utilities to move towards greater sustainability to take part in the market
- Longer term Institutional reforms (range of current examples in SA)

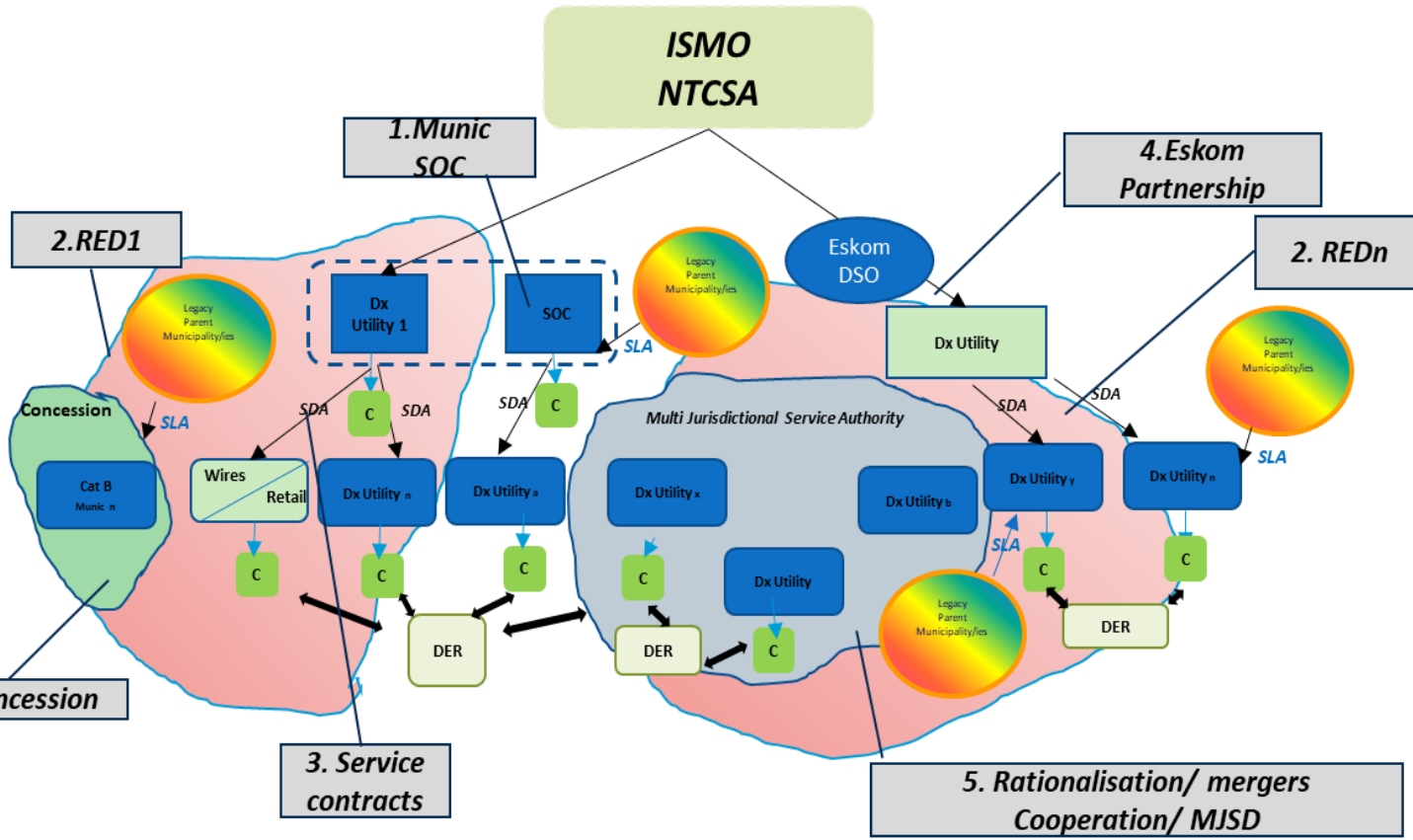


Restructuring Options



Institutional Reforms

Restructuring Options



1. Municipal SOC/Municipal Partnership
2. RED
3. SDA's
4. Eskom Partnership
5. Rationalisation/mergers Cooperation/MJSD
6. Concession

*Adapted from De Beer, Vd Merwe & Vd Merwe:
The Dawn of the New Municipal Business Model : AMEU 2018*

Conclusions and take Aways

- Munic performance parameters in general not good- indicate a serious decline in business performance
- The on-selling kWh business is dead
- The external landscape is changing
 - Both from an ESI point of view
 - Energy Transition/ (JET) changing energy use
- Can we survive in the current business structure?



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Transition' (BJET) and the need for a reliable and resilient national electricity grid**

Thank you!

