

a world class African city



**CHANGE OF BUSINESS MODELS IN MUNICIPALITIES:**

## **PROPOSED BUSINESS MODELS FOR MIXED ENERGY DISTRIBUTION UTILITIES**

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The proposed mixed energy packages presented in this paper aims to pave the way for Municipalities to merge to energy utilities by integrating alternative energy sources, including Gas and Solar PV / Thermal.

Current business models used by Supply Authorities within South Africa are not addressing complete solutions for the migration from electricity companies to energy companies. To become energy utilities, an approach must be formulated addressing the transition needs



# PROPOSED BUSINESS MODEL



- **AMEU report** (Dated 05 October 2013) – Impact of renewables and embedded generation on revenue of Municipalities.
- **City Power case study** - Embedded and renewable energy will decrease City Power's revenue base by 2.28%.
- The **residential sector** is responsible for approximately 50% of the total **City Power revenue**.

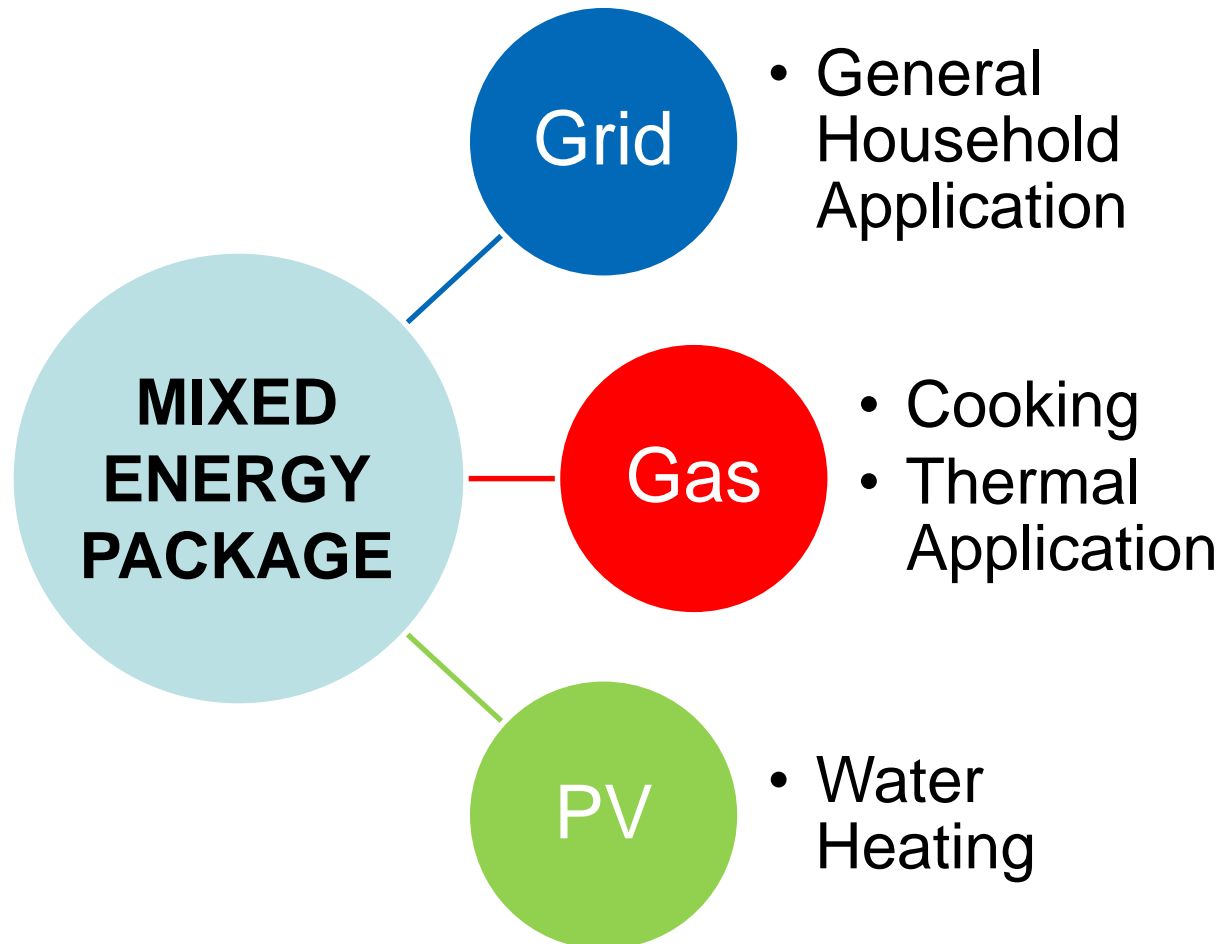
# PROJECTED UPTAKE OF RE AND EE OVER 10 YEARS

	Customers above 600 kWh/month	PV uptake in year 10	SWH uptake in year 10	EE uptake in year 10
Residential	269 169	44 221	160 639	160 369
Commercial	7 335	4 148	0	500
Industrial	4 005	674	0	2 332

# IMPACT OF RE AND EE ON REVENUE OVER 10 YEARS

	Impact on Revenue (%)	Impact on Revenue (R)
Residential	-1.11%	-R 558 231 401
Commercial	-0.56%	-R 281 823 107
Industrial	-0.61%	-R 305 886 623
<b>TOTAL</b>	<b>-2.28%</b>	<b>-R 1 145 941 131</b>

# MIXED ENERGY PACKAGE

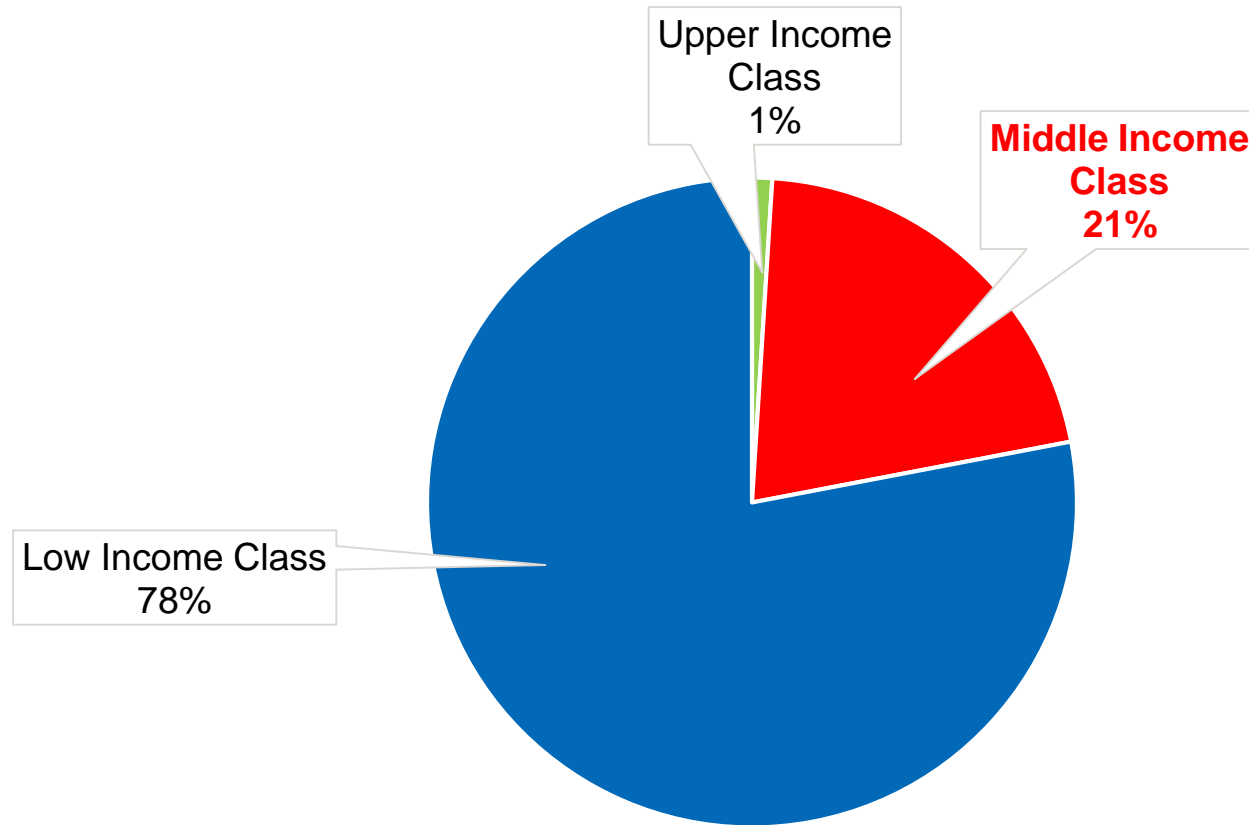


# HOUSEHOLD INCOME CLASSIFICATION

Annual Income	Monthly Income	Classification
R 0 – R 11 600	R 0 – R 967	Lowest
R 11 601 – R 49 000	R 968 – R 4 083	Second Lowest
<b>R 49 001 – R 109 000</b>	<b>R 4 084 – R 9 083</b>	<b>Low Emerging Middle</b>
<b>R 109 001 – R 234 000</b>	<b>R 9 084 – R 19 500</b>	<b>Emerging Middle</b>
<b>R 234 001 – R 378 000</b>	<b>R 19 501 – R 31 500</b>	<b>Lower Middle</b>
<b>R 378 001 – R 783 000</b>	<b>R 31 501 – R 65 250</b>	<b>Upper Middle</b>
R 783 001 – R 1 693 000	R 65 251 – R 141 083	Upper Income / Emerging Affluent
R 1 693 001+	R 141 084+	Affluent

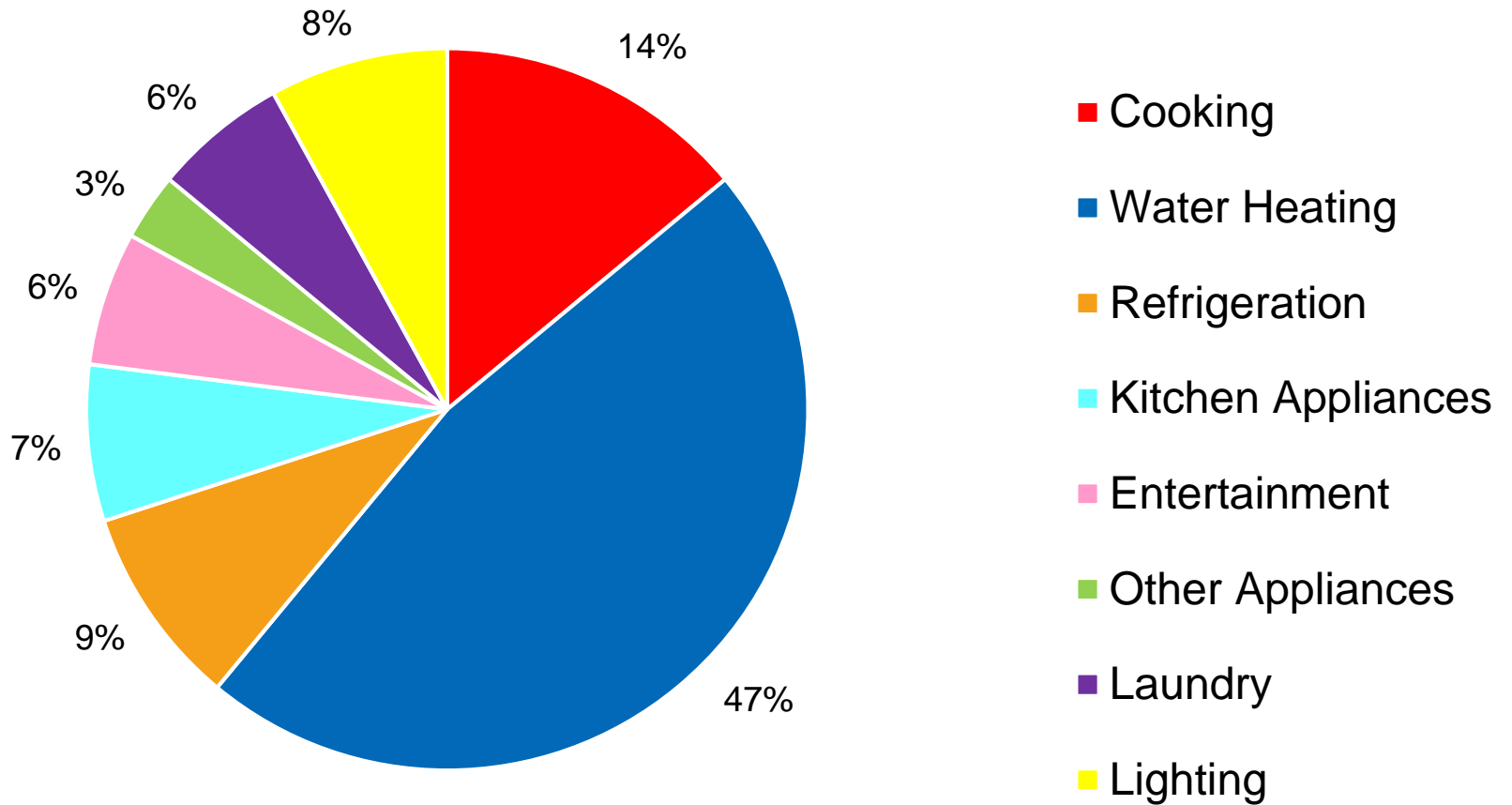


# HOUSEHOLD INCOME CLASSES

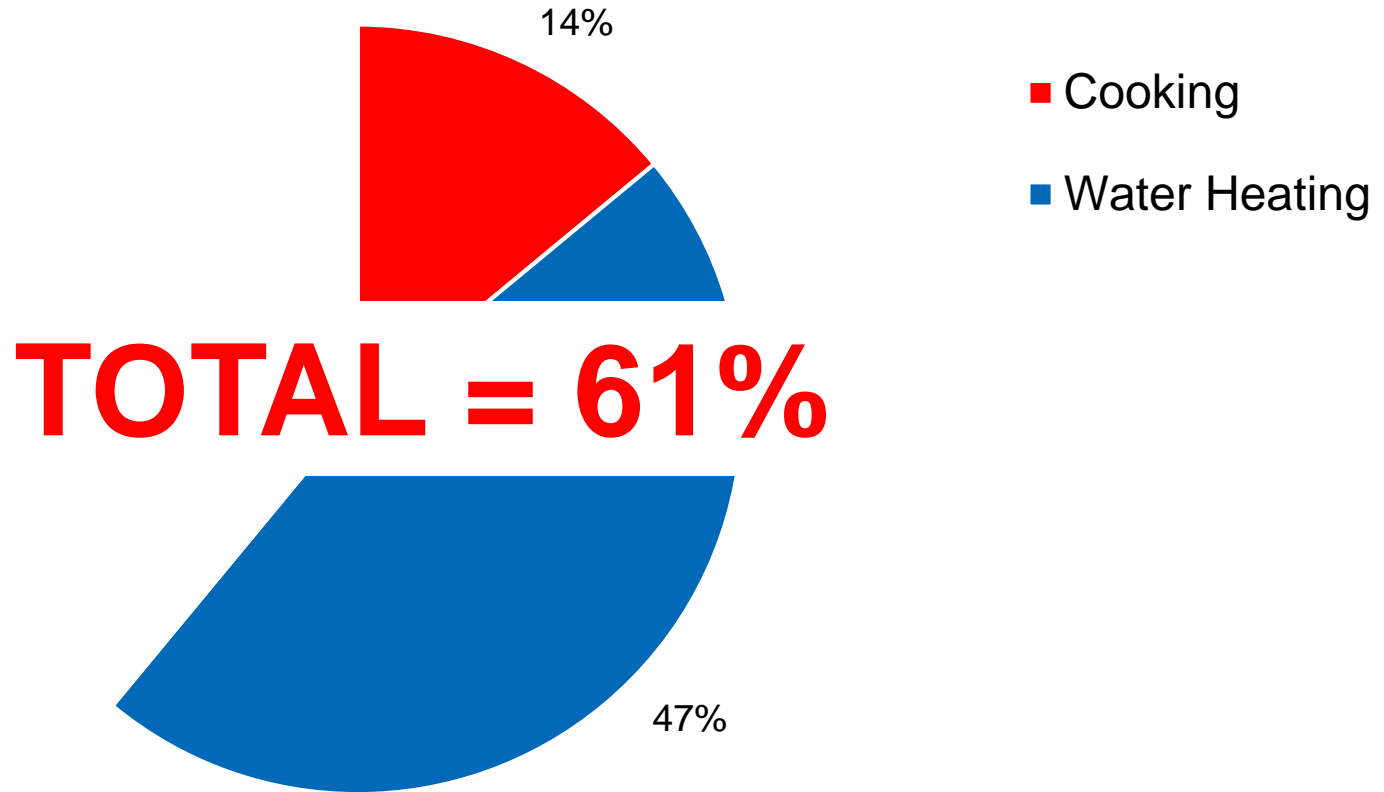


Approximately 105 000 Middle Class Households in Gauteng

# HOUSEHOLD ELECTRICITY USAGE

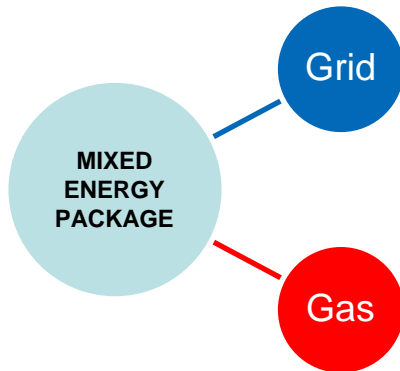


# HOUSEHOLD ELECTRICITY USAGE

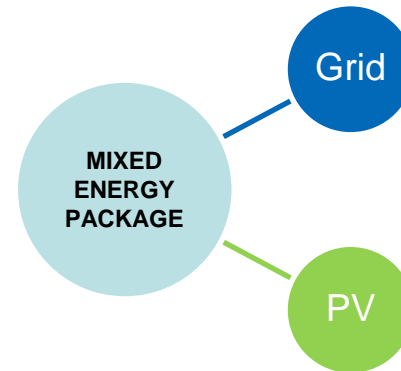


# PROPOSED SOLUTIONS

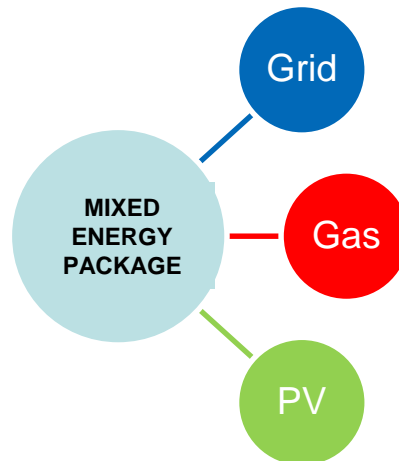
## Solution #1



## Solution #2



## Solution #3



# FINANCIAL MODELS

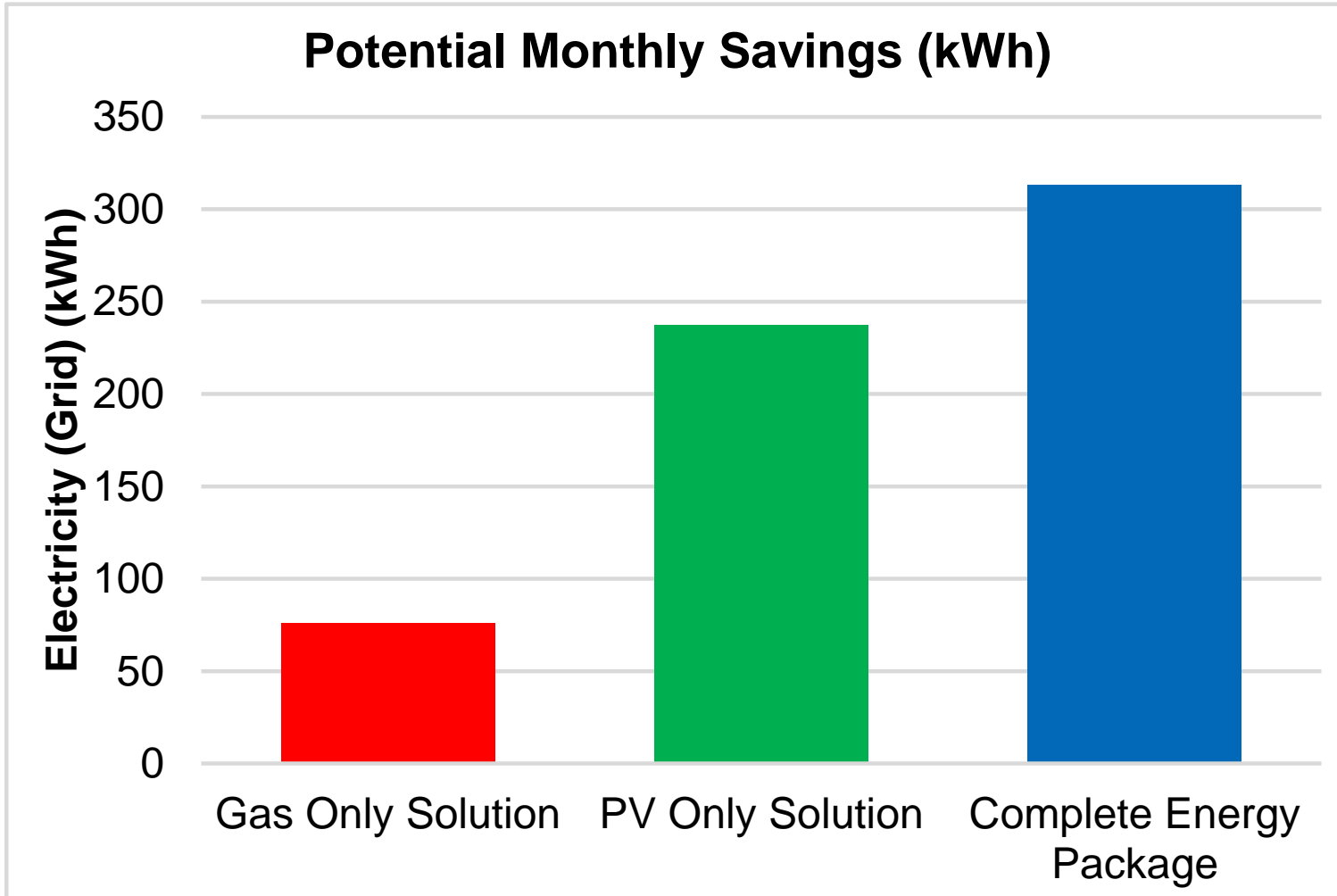
## #1 Grid & Gas

## #2 Grid & PV

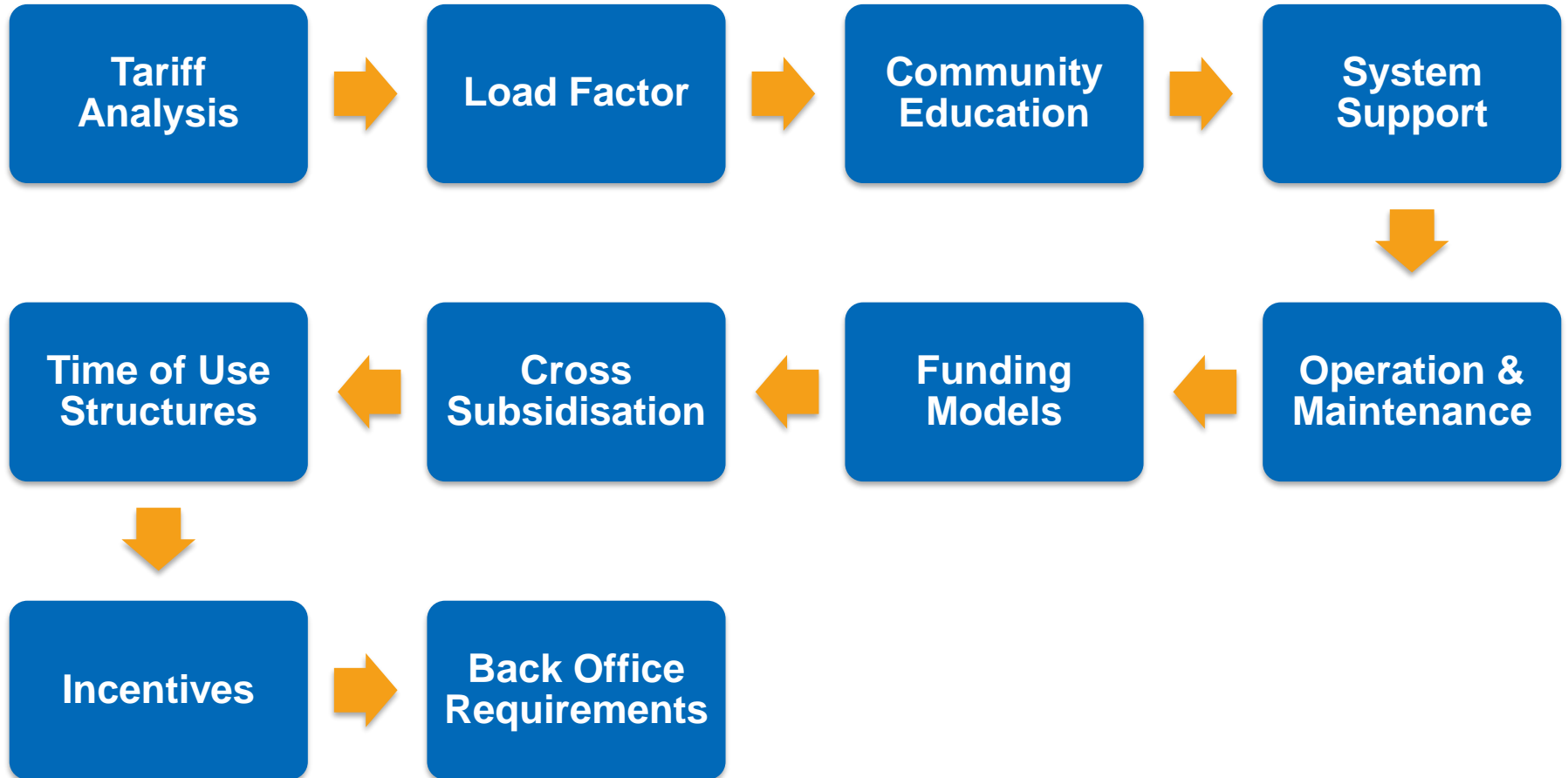
## #3 Grid, PV & Gas

Package option	Cost	Monthly repayments (8%, 60 Months)	Monthly repayments (8%, 60 Months)	Monthly repayments (8%, 60 Months)	
Gas stove	R3 700.00	R75.00		R75.00	
Gas bottle (6kg filled)	R680.00	R13.00		R13.00	
Gas installation including COC	R690.00	R13.00		R13.00	
Finance Admin Cost		R68.00	R68.00	R68.00	
PV Geyser high pressure 150 litres	R 17 000.00		R344.00	R344.00	
Additional gas (1kg = 13kWh)	6kg gas x R19/kg	R114.00		R114.00	
Grid Monthly Units included in Package		R193.54	R129.03	R77.41	
		150 Units @ 129.03c	100 Units @ 129.03c	60 Units @ 103.22c	1000 Units @ 129.03c
Total Monthly Package Cost		R476.54	R541.03	R704.41	
Additional Grid Units Required		R916.11	R554.83	R340.63	R1 290.30
Total Monthly Cost		R1 392.65	R1 095.86	R1 045.04	R1 290.30
Variance		-R102.35	R194.44	R245.26	R0.00

# ESTIMATED GRID SAVINGS



# SUCCESS FACTORS



Proposed mixed energy packages to pave the way for Municipalities to merge from electricity utilities to **Complete Energy Utilities.**

***“The secret of change is to focus all of your energy, not on fighting the old, but on building the new” – Socrates***



THANK  
YOU