ELECTRICITY STATUS AND POTENTIALS

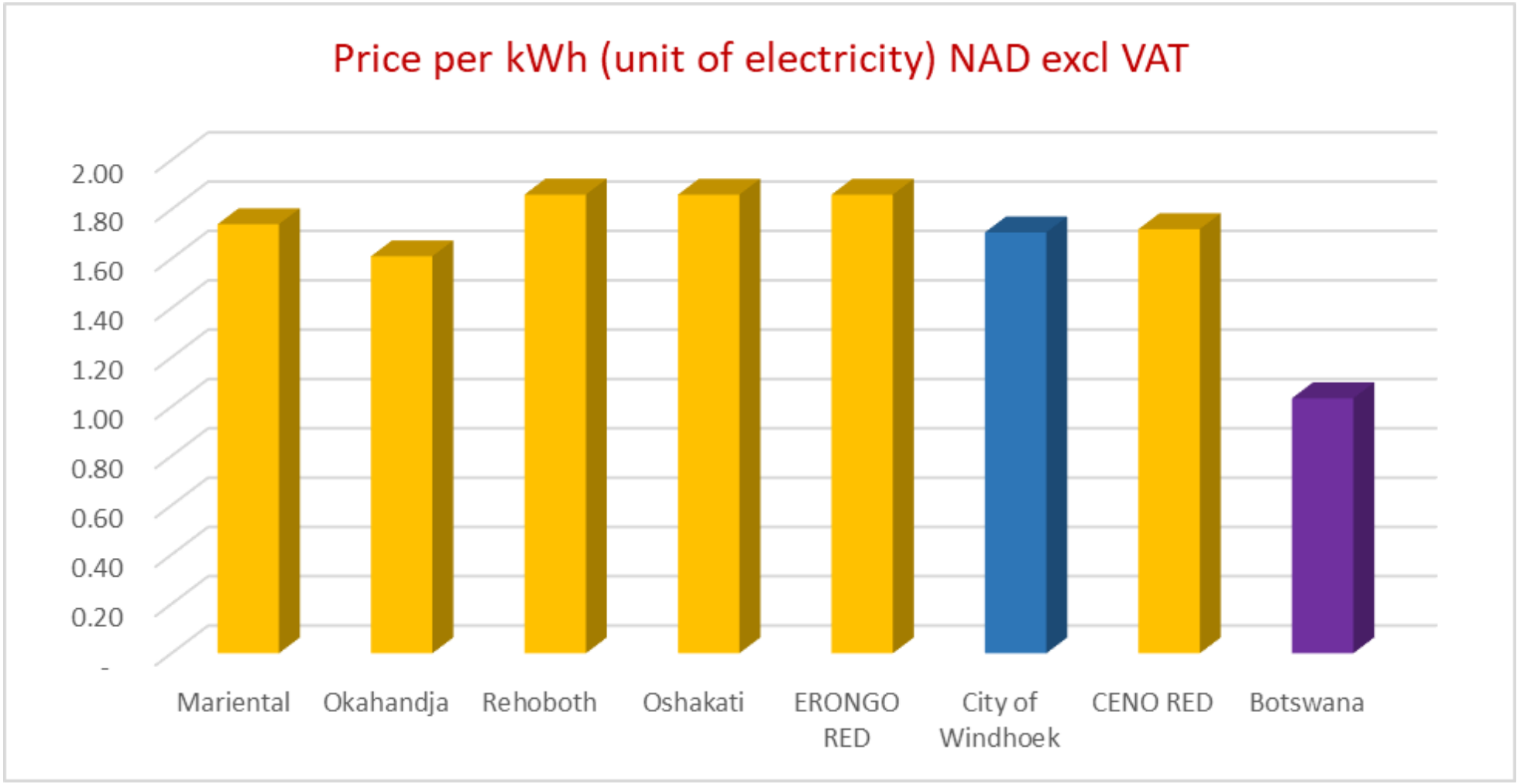
City of Windhoek

The Gateway to Endless Opportunities

STATUS OF ELECTRICITY

- It can be agreed that the electricity supply at City of Windhoek is stable and reliable
- It can be argued that COW has one of the most stable supplies of electricity in Namibia and in the southern African region.
- However, Namibia has the highest cost of electricity in the region for commercial and large-scale businesses, making it difficult to attract manufactures and businesses.
- Namibia is importing 60% of electricity from countries such as south Africa.
- In contrast, we have the best renewable energy resources to be self sufficient, price and carbon competitive with our electricity.

PRICE OF ELECTRICITY – KILOWATT HOURS (PRICE PER UNIT)



- The prices indicated are for Large Business 3 Phase connection and the time of use tariffs have been averaged

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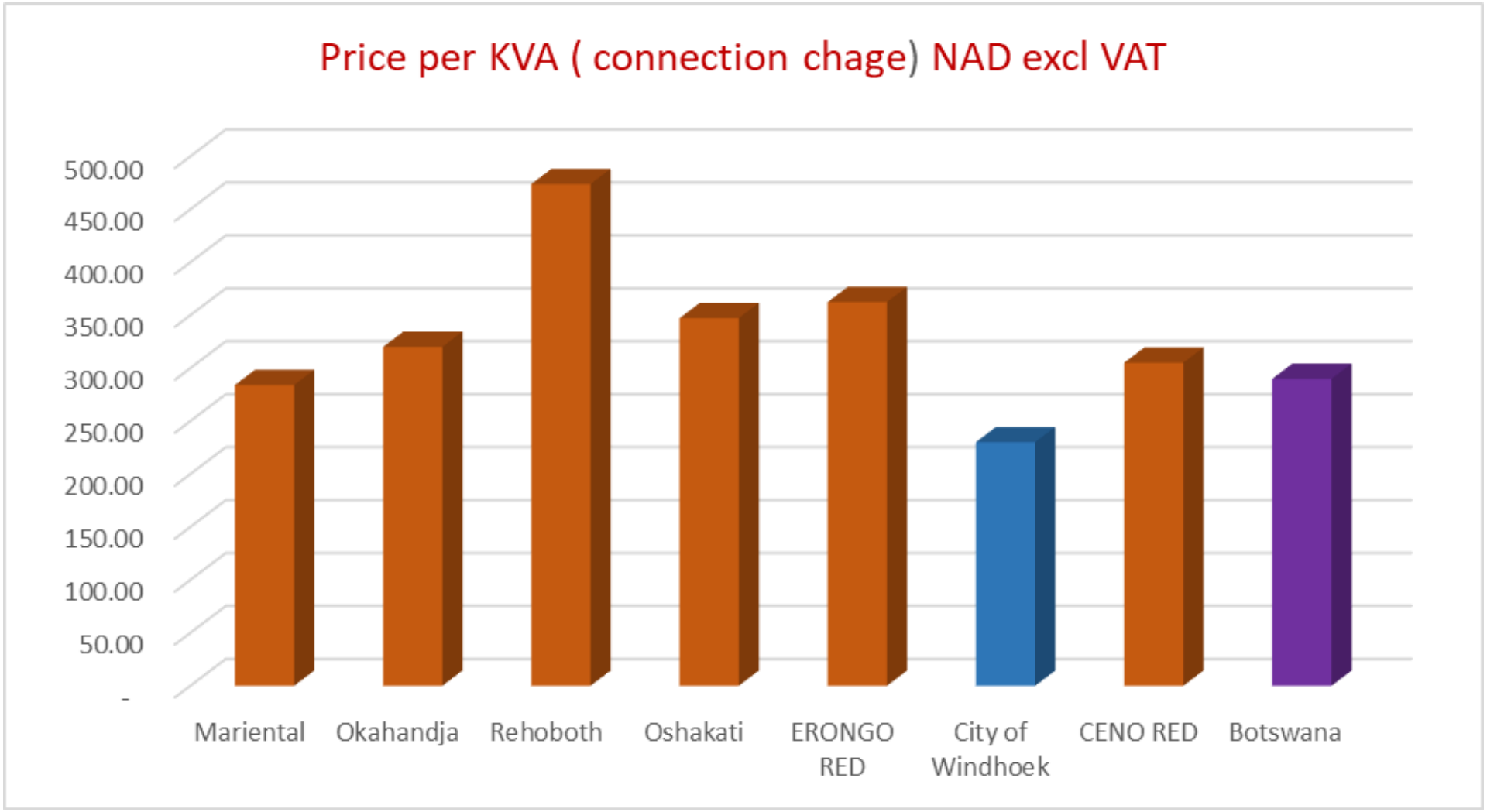

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HOW TO REDUCE PRICE OF ELECTRICITY AND STABILIZE IT ?

SELF GENERATING WITH LOW COST RENEWABLE ENERGY

- PV Solar
- Wind
- Biogas
- Battery Storage for Peak shaving

PV SOLAR – COMMERCIAL

Currently in Place

- Namibia has a well-defined Net-Metering Policy that has been included in the Government Gazette
- This allows Businesses to generate some of their electrical needs from renewable source which is currently the cheapest source of electricity on commercial scale.

Potential Improvements

- Increase the maximum threshold of 500KVA to 1500 kVA for self consumption customers
- Allow for energy storage solutions to be integrated more easily

PV SOLAR – UTILITY SCALE

Currently in Place

- Modified Single Buyer Model
- This allows Transmission customers to procure or generate 30% of their total power themselves
- Procurement from IPP's is usually more than 30% cheaper than the current transmission market price

Potential Improvements

- Increase the 30% threshold in order to procure more cheaper electricity
- Allow for Utility scale storage solutions to enable transmission customers to implement peak shaving solutions

WIND– UTILITY SCALE

Currently in Place

- Modified Single Buyer Model
- This allows Transmission customers to procure or generate 30% of their total power themselves
- Procurement from IPP's is usually more than 30% cheaper than the current transmission market price

Potential Improvements

- Increase the 30% threshold in order to procure more cheaper electricity
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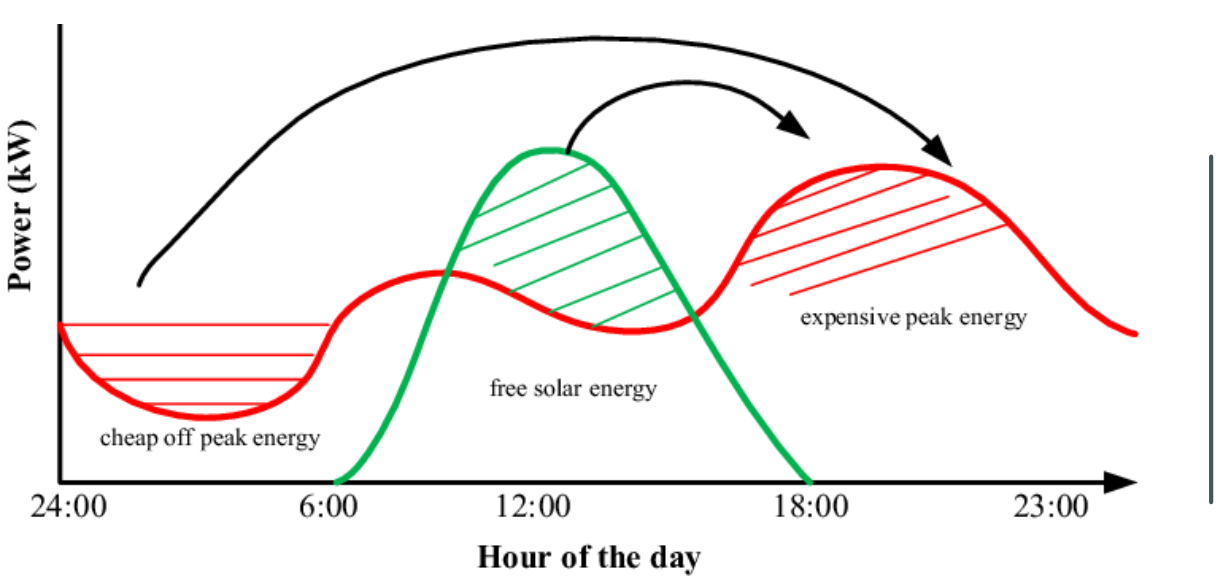

PV SOLAR – UTILITY SCALE STORAGE

Potential Improvements

- Allow for Utility scale storage solutions to enable transmission customers to implement peak shaving solutions
- This can reduce the costs of demand and network access charges to be reduced and so provide cheaper electricity to the COW clients

NATIONAL SMART GRID SOLUTION

- Namibia must move away from the reliability of Eskom (we are importing 60% of our power)
- National policy must increase the 30% threshold for self procurement by transmission customers
- Reliable of the grid is a challenge when implementing multiple renewable energy sources, but it is not an excuse avoid implementation
- Nampower must use the reliability charge on all transmission electricity flows to implement storage solutions and emergency power units. This is the only way we can be a 100% self generating economy