Association of Municipal Electricity Utilities (Southern Africa)
Est 1915
AMEU

CITY OF TSHWANE
IGNITING EXCELLENCE

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

Confronting the Energy Crisis

Presented by At van der Merwe

Energy Transaction Services

Confronting the energy Crisis in the light of the BJET

At the core of the transition- Why are we doing it?

We need to contain the temperature rise of mother earth- 1.5^{o}C

Traditionally ***economic growth and energy demand went hand in hand – the wealthier*** the more you generate and ***the more CO2***

Power industry ***some 70% contributor t***o this

What is the Impact on municipalities

Several areas where municipalities can contribute:

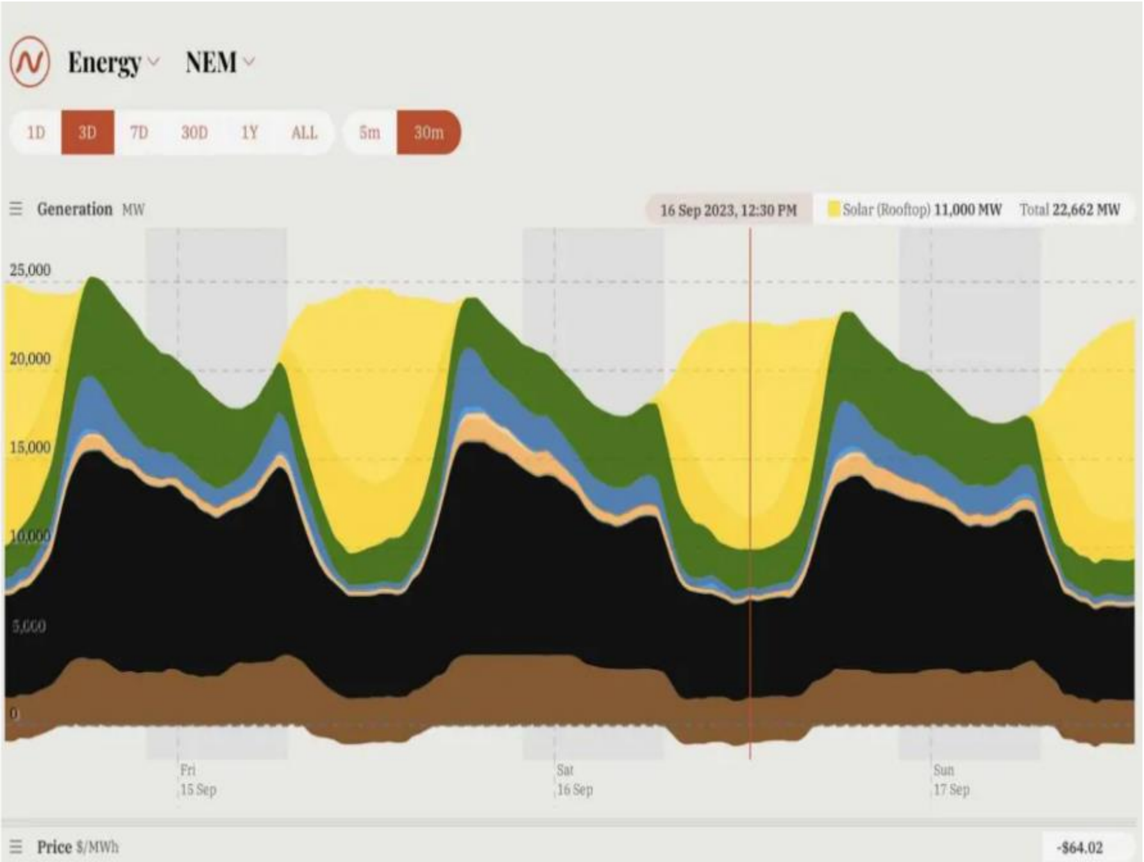
Internal consumption(EE, DSM and others)

Transport,

Electricity business

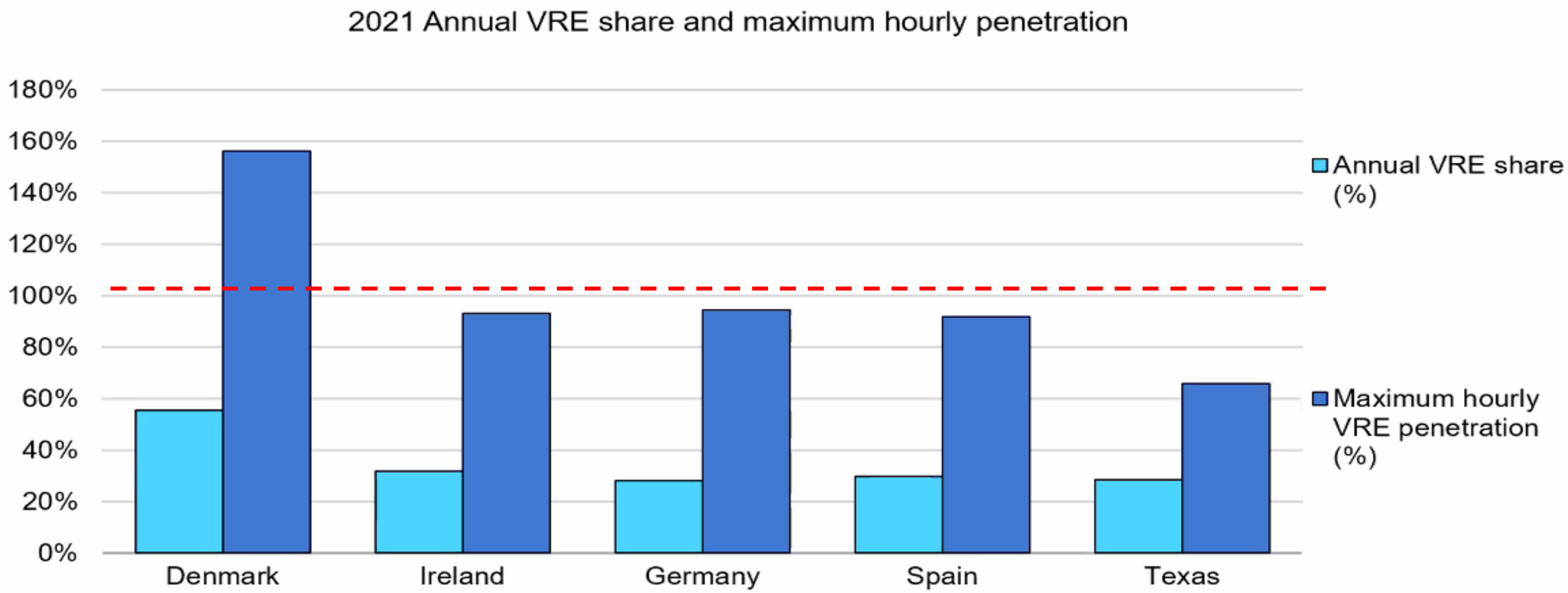
What is happening elsewhere?

- Australia rooftop 46% of total demand at 12.30 noon 16 Sept23 (~12GW)
- Wholesale prices - $64/MWh



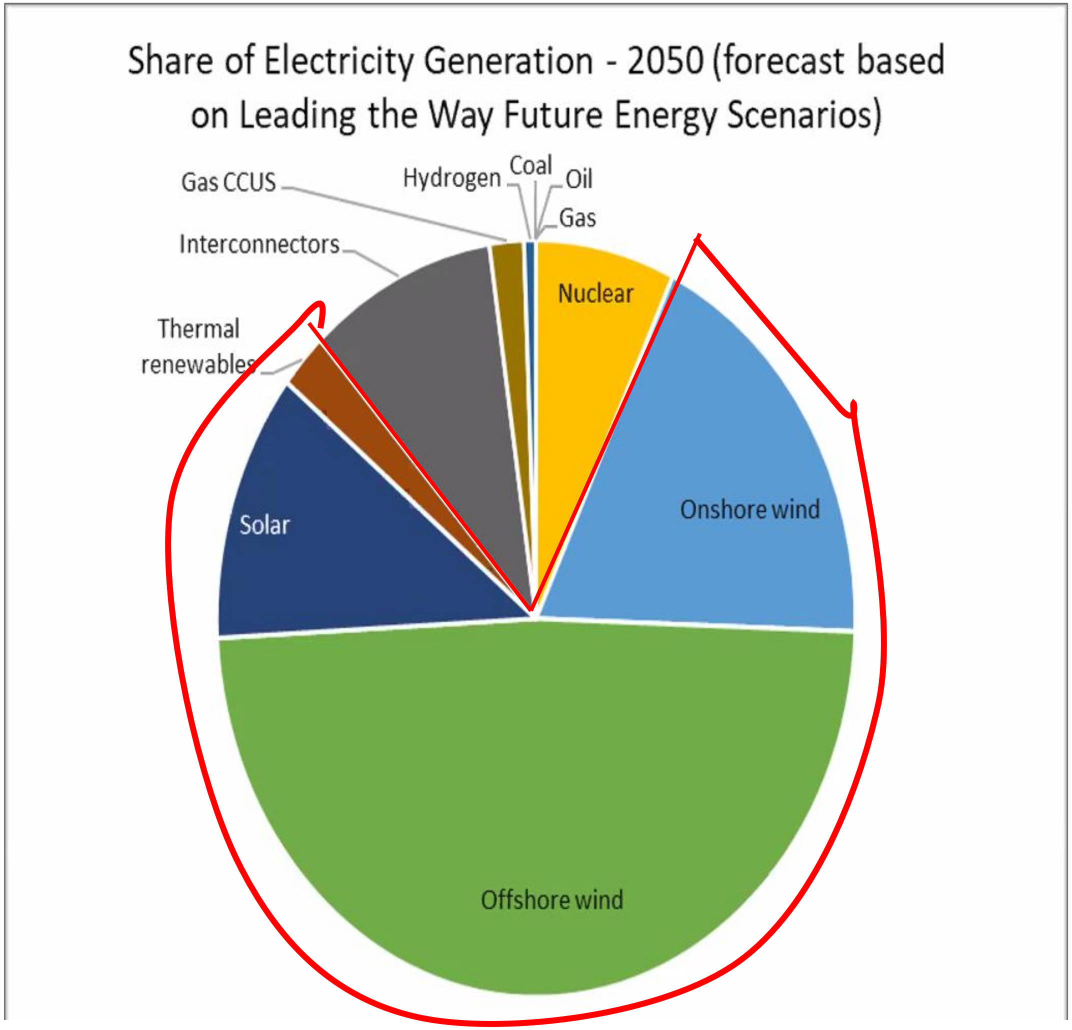
VRE (Annual and Instantaneous share)

Annual vs instantaneous VRE share…



As countries and regions are attaining higher shares of VRE generation, they are also experiencing much higher instantaneous VRE infeed levels in certain periods of the year

Milestones in GB's journey towards grid decarbonisation

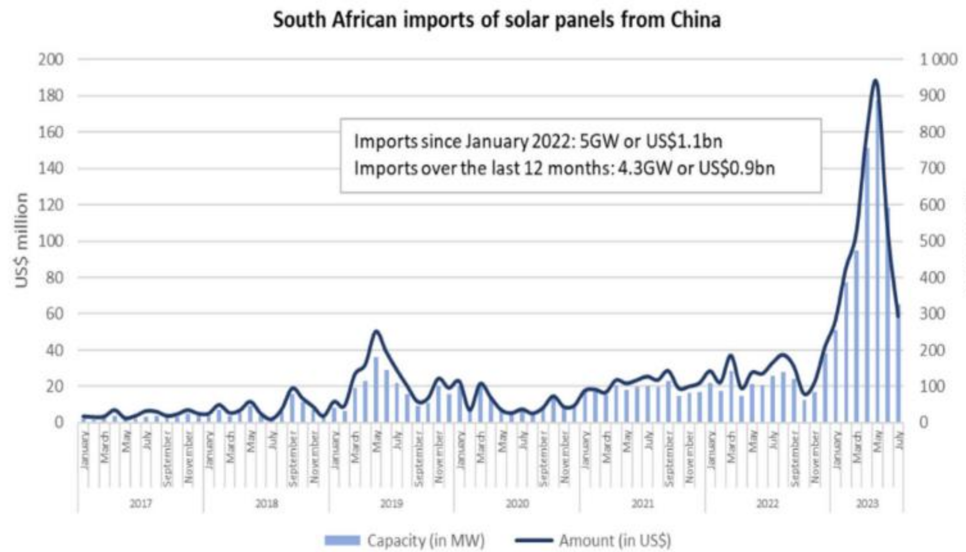


What is happening in SA

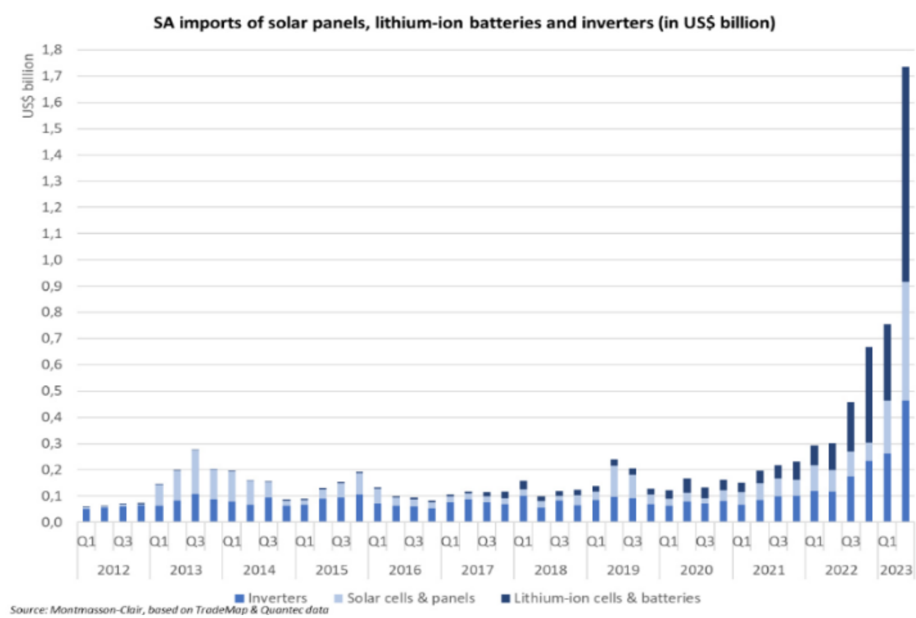
- **In SA During the first half of 2023, SA quadrupled its imports of solar panels from China to 3.4 GW, - R12bn**
- **Since 2010- R35bn.**
- **Eskom estimate**

Estimated Rooftop PV				
Maximum/Installed Rooftop PV (MW):	Eastern Cape	Free State	Gauteng	KwaZulu-Natal
[illegible]	284.3	280.2	1,207.8	565.8
May 2023	190.0	204.9	1,072.1	565.8
Apr 2023	163.2	160.5	917.5	417.5
Mar 2023	163.2	160.5	917.5	417.5
Feb 2023	163.2	160.5	917.5	417.5
Jan 2023	143.1	160.5	917.5	417.5
Dec 2022	130.2	160.3	848.3	308.7
Nov 2022	130.2	160.3	848.3	308.7
Oct 2022	130.2	160.3	848.3	296.9
Sep 2022	130.2	160.3	848.3	296.9
Aug 2022	130.2	160.3	848.3	296.9
Jul 2022	130.2	148.8	790.8	296.9

Maximum/Installed Rooftop PV (MW):	Total
Jun-23	4,411.50
May-23	4,036.80
Apr-23	3,368.00
Mar-23	3,242.80
Feb-23	3,138.80
Jan-23	3,077.10
Dec-22	2,586.40
Nov-22	2,421.90
Oct-22	2,338.10
Sep-22	2,333.60
Aug-22	2,333.60
Jul-22	2,264.50
Apr-22	1,458.80
Mar-22	983.1

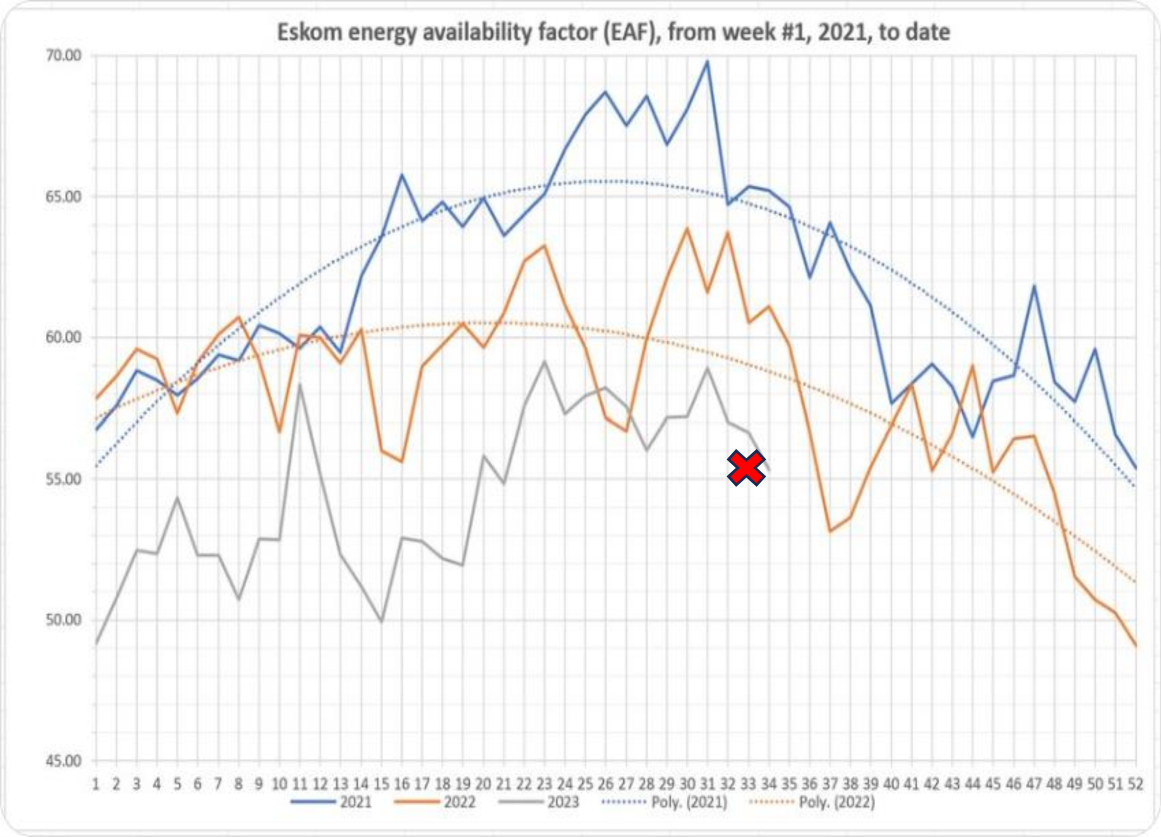


Source: Montmasson-Clair, based on Chinese customs data compiled by Ember Climate



Changing Landscape

- **Supply issues**
  - **Eskom Current EAF – 55%**
  - **Grid constraints**
- **New landscape**
  - **NTCSA to commence trading in April 2024**



Confronting the energy Crisis in the light of the BJET

A Seismic External Environment Change for municipalities

- *Changing landscape: Unbundled Eskom- changing structure of industry*
- *Disruptive and Emerging technologies changing the usage landscape*

Confronting the energy Crisis in the light of the BJET

Thoughts for Municipalities

"aes" strategy

(adapt, evolve to survive)

- ***Adapt***- Fact: The on-selling kWh business of Dx in SA is "dead" and many Dx Business are in a death spiral
- ***Evolve*** - VRE will become the dominant source of generation with BESS providing reliability for lights on 24/7
- ***Evolve*** -The normal hypothesis ***<u>supply needs to follow demand</u>*** is in reverse
- ***Survive - <u>Signals on non-energy cost</u>*** will change dramatically from a net user to a gross consumed or export
  - ***<u>Unbundled business-</u>*** Focus on your NSP role
  - ***Embrace VRE***

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Thank you!