Namibia Electricity Supply Industry Market Structure
Modified Single Buyer Market

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Windhoek – NAMIBIA

INTRODUCTION

Metdecci Energy Investment Plant(5MW) – Karibib

Electricity Control Board - *Mandate*

- Derived from the Electricity Act no 4, of 2007, Section 3 sub section (1)
  - to exercise control over and regulate the provision, use and consumption of electricity in Namibia.
  - to oversee the efficient functioning and development of the electricity industry and security of electricity provision.
  - to ensure the efficient provision of electricity
  - to ensure a competitive environment in the electricity industry in Namibia with such restrictions as may be necessary for the security of electricity provision and other public interest
  - to promote private sector investment in the electricity industry
- In accordance with prevailing Government Policies.

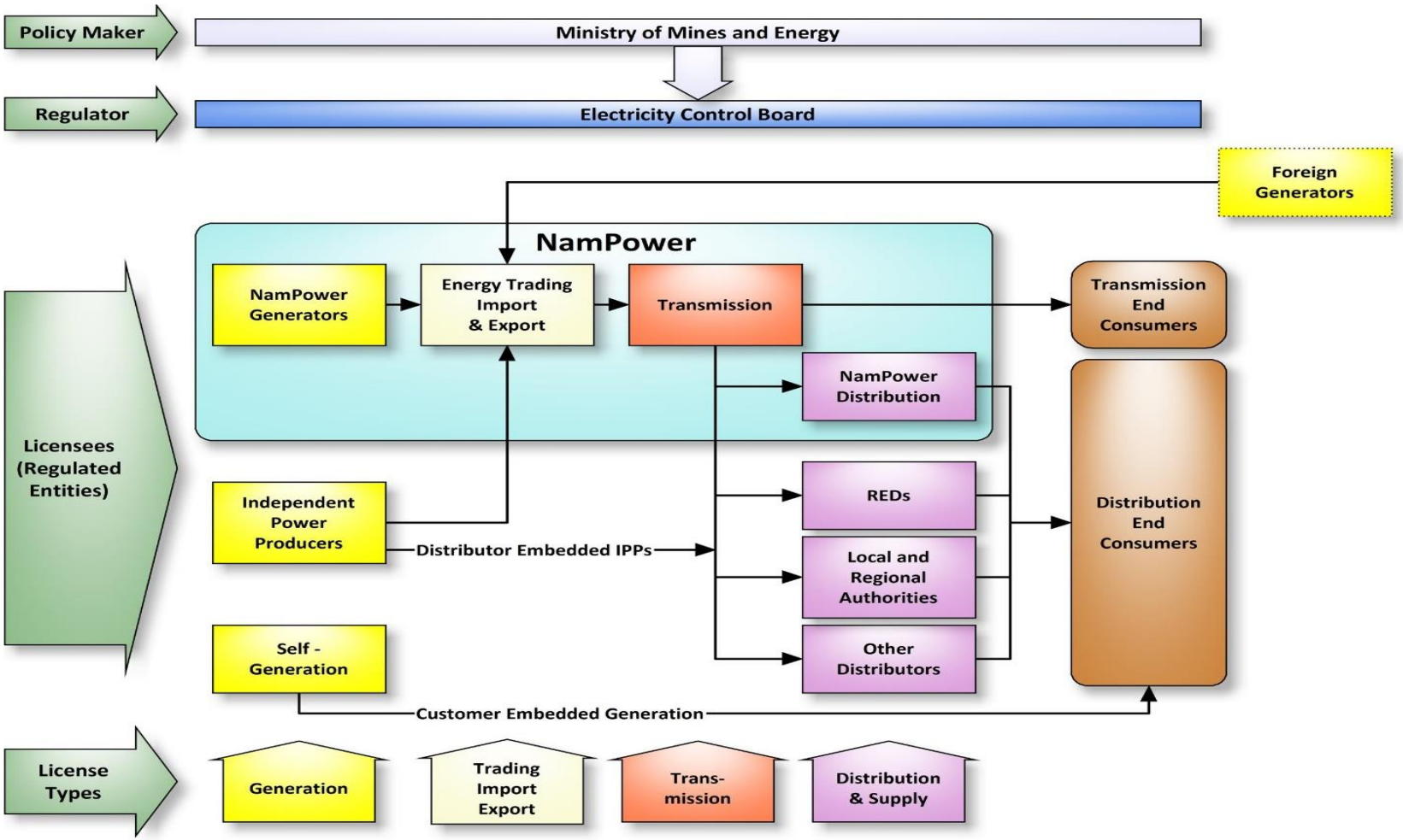
Core Regulatory Areas

- Licensing
  - Oversight and approval of Generation, Transmission and Distribution infrastructure projects
  - Issue, Amend, Transfer, Maintain, Cancel licenses
- Economic Regulation
  - Tariffs setting and approval
  - Financial viability and sustainability of the ESI
- Technical Regulation
  - Ensure technical compliance of licensee
  - Technical / Infrastructure Standards Setting
  - Technical Compliance Audits and Inspections

ELECTRICITY SUPPLY INDUSTRY STRUCTURE

Ruacana Falls – April 2018
Photo Contributed

Electricity Supply Industry (ESI) Structure – *Current*



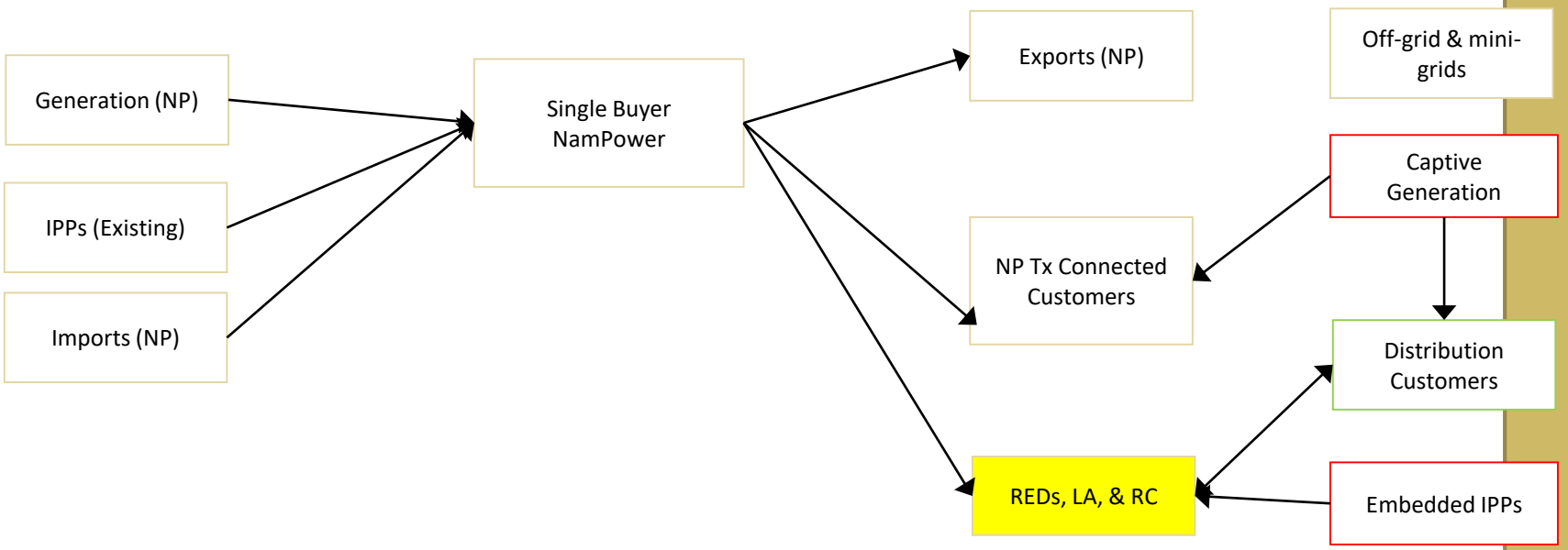
What is the Modified Single Buyer? (MSB)

- Market platform that allows consumers and private generators to transact directly
  - It builds on the existing Single Buyer (SB) model i.e. it represents a modification of the existing market structure.
  - The MSB draws on global best practice, but it has been designed for Namibia,
  - Aligned with National Development Plans, Energy Policy and IPP Policy
  - 30% of total volumes (energy) will be contestable (Transmission customers) with the MSB
  - Supports electricity trading in accordance with a set of transparent rules,
  - Ring fenced unit within NamPower (MSB Office)
  - MSB will enable development of plant specifically for export purposes.

Why do we need the MSB?

- To allow more new local generation capacity
- Address challenges in existing Single Buyer (SB) model
  - E.g. Monopoly; Reliance on imports, Slow decision making etc.
- Support efficient competition (lower tariffs) and customer choice
- Encourage more private sector investments in generation
- Reduce funding burden on NamPower / GRN
- Adapt tariff structures to accommodate changes in technology and to facilitate MSB
- Provide opportunity for the deployment of new technologies such as battery storage
- Namibia to become more energy self-sufficient
- Opportunity for customers to invest in and benefit from reducing cost and new technologies

Electricity Supply Industry
Market Structure - Single Buyer (Previous)

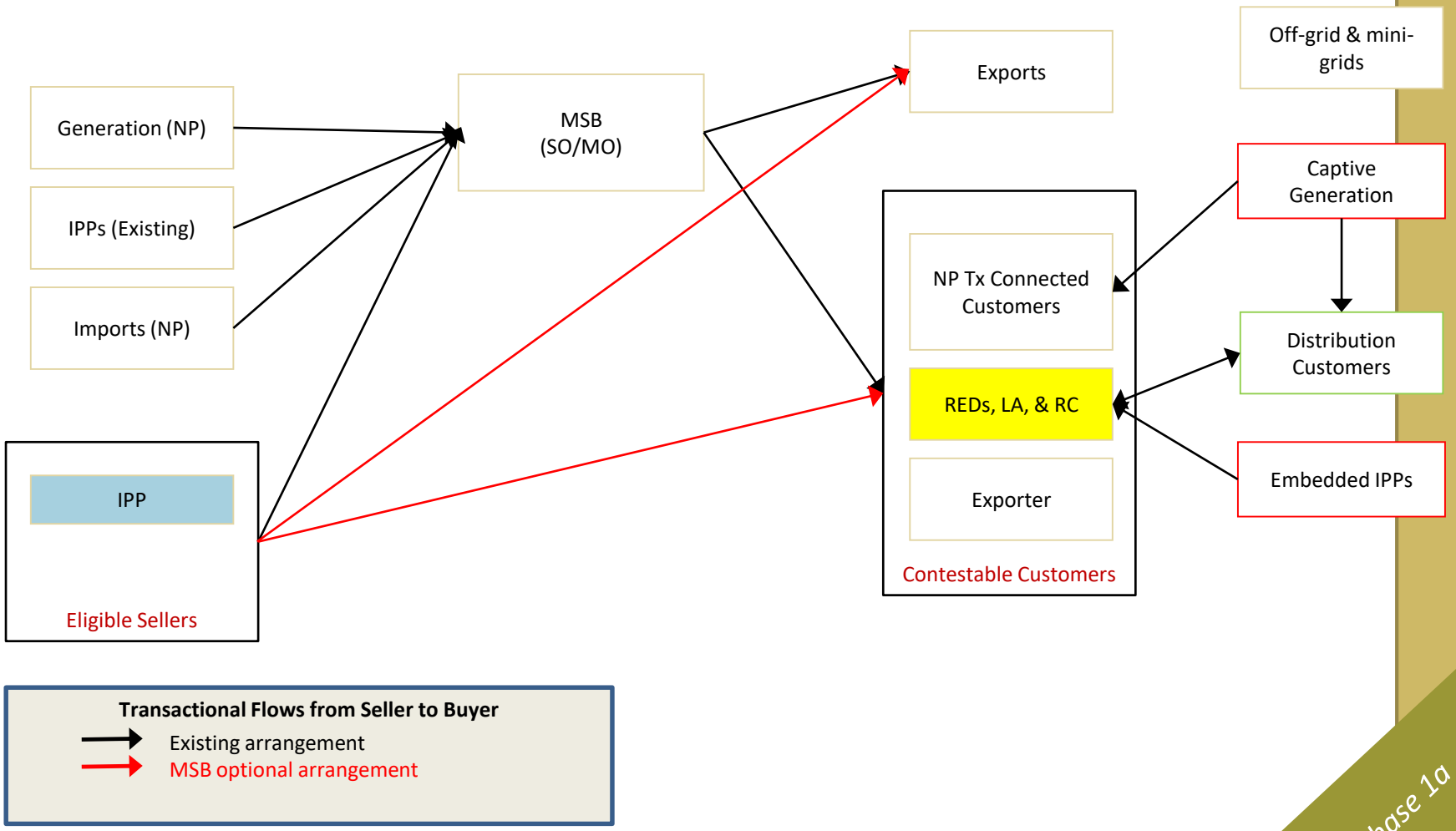


Previous

Key Design Features of the MSB

New Trading Arrangements	Contestable Customers & Eligible Sellers	Phased Implementation to manage Risk	30% of total purchases contestable from Sept 2019
Unbundled Tariffs	Changes in Market Operations & Administration	Updated Rules & Regulations	No unbundling or privatisation of existing entities
NamPower: New MSB Unit	NamPower: Security of Supply	NamPower: New products & services	NamPower: new generation and transmission

Electricity Supply Industry
Market Structure – Modified Single Buyer (Current) 1a



Phase 1a

Market Participants & Authorisations

Participant	Authorisation
Market Operator (MO)	Included in Transmission License
System Operations (SO)	Included in Transmission License
Eligible Generator	Generation License
Contestable Customer	Approval from Regulator
Trader	Trading License
Importer	Import License
Exporter	Export License

1) The MSB Market Rules apply to all Market Participants, taking into account the following exemptions:

   a) All Generators licensed before 1st September 2019

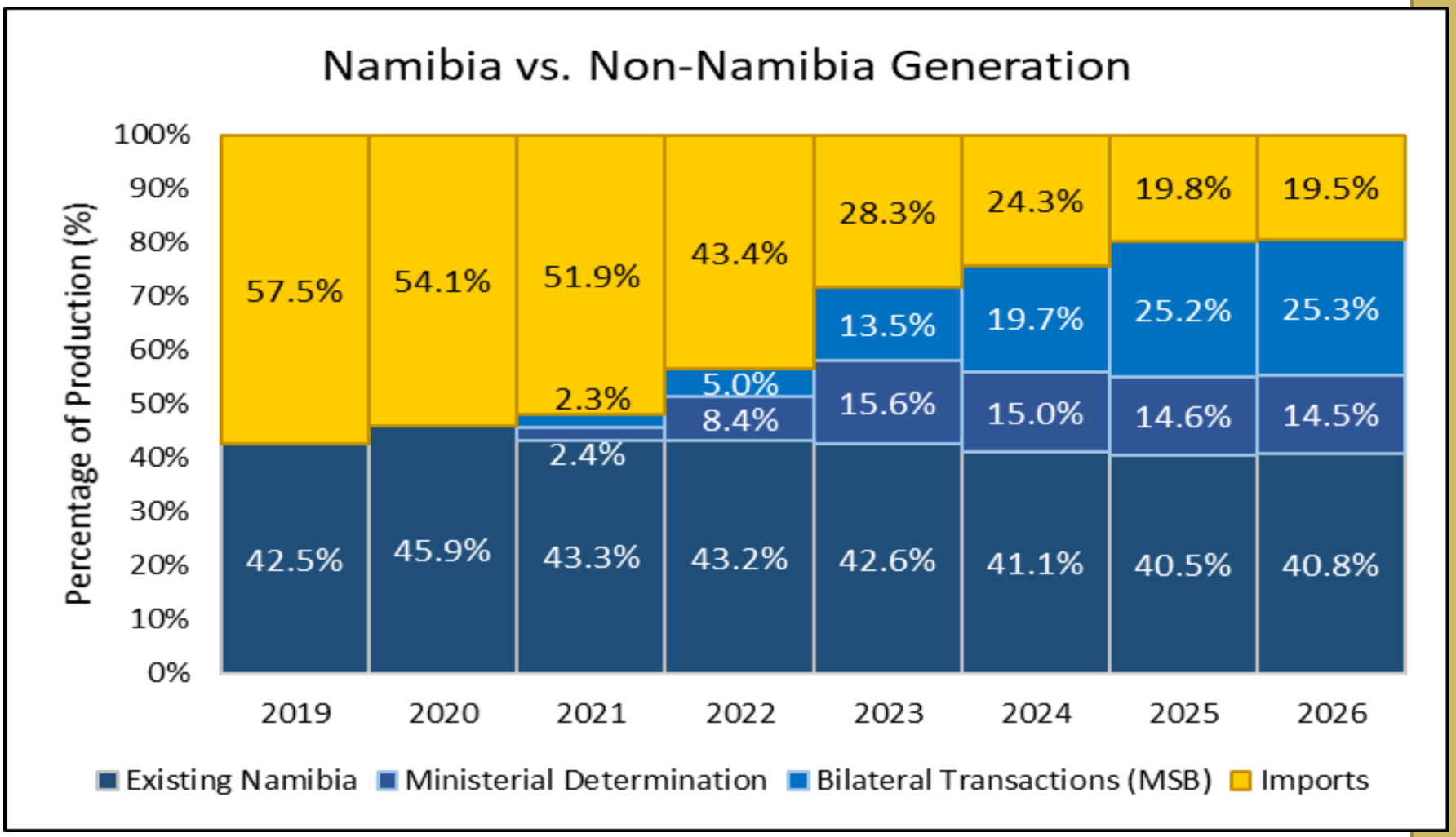
   b) All off-grid Generators

2) Any Generator that is exempted from the MSB Market Rules, will become subject to the MSB Market Rules upon application and approval to participate in the MSB Market, or automatically upon renewal of their licence.

Phase 1 vs. Phase 2

1. **Phase 1a: Sep 2019** - June 2021; Tx Customers only (30% Annual Energy)
2. **Phase 1b: July 2021 – June 2026**; Tx + Dx ≥ 1MVA (30% Annual Energy)
3. Two stage approach to allow Distributors to unbundle sufficiently to enable wheeling for their customers
4. Phase 2: July 2026 – onwards; Tx + Dx (as determined by Regulator); Imports allowed
5. Imports only allowed from 2026 to support Government policy of self-sufficiency and to align with unwinding of current import contracts

Potential Impact on Self-sufficiency Energy – Why 30%?



Implementation Status

- MSB Market opened - 1st September 2019
- All pending licence applications and all new licence applications - will now be assessed in terms of the MSB Market Design, Rules and Wheeling Framework; Generators & Exporters
  - Market Rules and Wheeling Framework Developed
  - Four licenses issued
- ECB is accepting applications from Contestable Customers – All Transmission connected customers including Distributors are now Contestable;
- ECB / MSB are ready to accept trades under Draft Rules and Procedures
  - Market Rules will be promulgated before end of 2020

Contestability

Licensees	Energy	30%	MW	Licensed	Available
Cenored (Pty) Ltd	209,089,497	62,726,849	30	6	24
City of Windhoek	940,339,440	282,101,832	134		134
Elizabeth Bay Mine	11,181,303	3,354,391	0.85		0.85
Erongo RED (Pty) Ltd	530,140,964	159,042,289	76	3	72
Gobabis Town Council	26,512,040	7,953,612	4		4
Keetmanshoop Municipality	36,281,593	10,884,478	5		5
Luderitz Town Council	37,008,917	11,102,675	3		3
Mariental Town Council	30,277,897	9,083,369	4	1	3
Namibia Breweries Limited*	18,518,460	5,555,538	3	1	2
Navachab Gold Mine	55,099,705	16,529,912	8		8
Nored (Pty) Ltd	438,937,586	131,681,276	63	15	48
Ohorongo Cement	40,586,189	12,175,857	6	6	-
Okahandja Town Council	48,151,025	14,445,308	7		7
Oranjemund Town Council	30,308,494	9,092,548	4		4
Orano Mining Namibia	39,654,916	11,896,475	6		6
Oshakati Premier Electric	67,750,017	20,325,005	10	5	5
Rehoboth Town Council	37,327,175	11,198,153	5		5
Rosh Pinah Zinc Mine	47,353,373	14,206,012	7		7
Rossing Uranium	170,411,940	51,123,582	24		24
Skeleton Coast Trawling*	9,319,680	2,795,904	1		1
Sun Water (Pty) Ltd*	6,060,000	1,818,000	1		1
Swakop Uranium	204,957,591	61,487,277	29	12	17
Tsumeb Smelter	184,969,949	55,490,985	26		26
Whale Rock Cement	16,867,250	5,060,175	2		2
TOTAL	**3,237,105,002**	**971,131,501**	**459**	**49**	**410**
Registered as Contestable Customers					
**Distribution connected embedded*					
				Updated	10-Mar-21

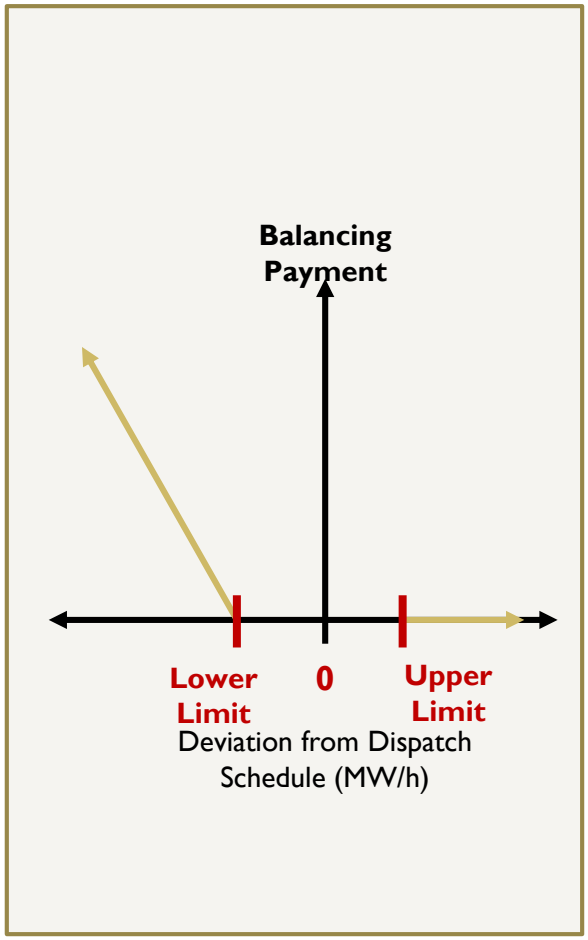
MARKET PARTICIPATION

Momentous Energy (5MW) – Keetmanshoop

Market Rules

- Overview of the Rules
  - Qualifying Requirements to Trade
  - Network Capacity Management
  - Bilateral Trading Nomination
  - Metering and Settlements
  - Financial and Invoicing
- Rules supported by
  - Balancing Framework
  - Wheeling Framework

Balancing Framework



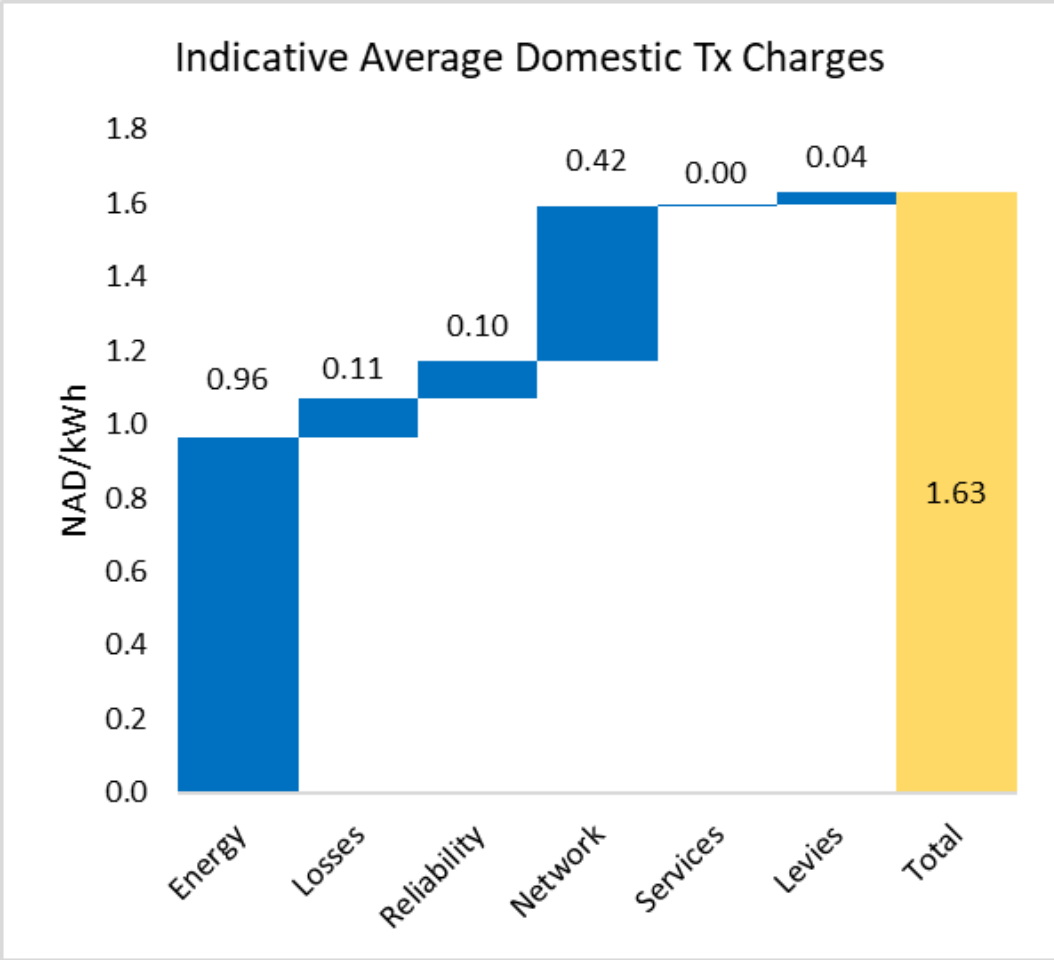
- Balancing refers to the real time adjustment of supply and or demand to ensure the security and reliability of the electric system. In Namibia, the Systems Operations (SO) function in NamPower is responsible for balancing.
- The need for balancing services and the cost to procure these services are the result of unforeseen fluctuations by suppliers and consumers of electricity.
- This framework addresses the commercial arrangements in the event an Eligible Generator or Importer deviates from the Final Dispatch Schedule published by the MO.
- The objective of the Balancing Framework is to recover the cost of providing balancing services from the parties who cause the need for the service in accordance with the 'user-pay' principle.

Wheeling Framework

- The Wheeling Framework is part of the main activity of Market Rules, and due to its significance was developed separately for effective administrative of the market.
  - The main purpose of the Wheeling Framework is to support the operationalisation of the MSB market by providing a transparent, fair and practical framework for the determination and implementation of wheeling services and charges for the use of transmission and distribution networks.
  - The MSB, supported by the Wheeling Framework, will intensify competition, provide for more customer choice and increase generation self-sufficiency while lowering the cost of electricity by enabling Bilateral Transactions across Namibia's integrated electricity system.

Indicative Transmission Wheeling Charges *(based on transmission sales)*

Indicative Average Transmission Charges			
Unbundled Service	Applies to Tx		Indicative Charge
	CC	ES	
Connection charges	✓	✓	Specific
Energy from NP	✓		0.96
Tx losses charge	✓		0.11
Reliability charge	✓		0.10
Use of System charges	✓		0.42
Service charges	✓	✓	0.00
Levies (ECB, NEF)	✓		0.04
EG incremental Tx losses charge/rebate	✓		Specific
Network Export charge		✓	TBD
Network Capacity Reserve charge		✓	Specific
Balancing penalty		✓	Based on NP Energy rate
Energy from EG	✓		Negotiated



Future outlook for the Namibian ESI

- The MSB unlocks approximately 400MW Solar PV equivalent capacity
- MSB creates more opportunities for competition, choice and increased private investment
- This will give Namibia the best chance of building more local plant, as efficiently as possible
- An opportunity for REDs and LPU Dx to procure energy from IPPs
- Customers who choose to buy / generate own electricity will be allowed utilise distribution network at a fee;
  - Network Access fees
  - Use of System charges
  - Reliability fees
- Distributors should adapt to the new market conditions
- Allow Namibia to build generation plants for export purposes

Thank You!

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