INVESTMENT OPPORTUNITIES IN THE GAS ENERGY SECTOR IN TANZANIA

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CROWNE PLAZA PROMENADE HOTEL, THE HAGUE, NETHERLANDS

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PRESENTATION OUTLINE

- Key Legislations
- Policies and Acts
- Sedimentary Basins of Tanzania
- Petroleum Sector Organization Structure
- Deep Wells Drilled
- Gas Discoveries
- Government Strategy on Power Supply
- Natural Gas Projects
- Current Projects
- Benefits to the Economy
- Investment Opportunities in the gas energy sector

Key Legislations

Petroleum (Exploration and Production) Act, 1980

- Tanzania's upstream industry is governed by the Petroleum (Exploration and Production) Act, 1980 which lays down the machinery for the granting of licences for exploration and development and Production.
- Framework for application, award, modification, cancellation and relinquishment of petroleum exploration and production licences.

Income Tax Act, 2004

- Framework taxation of income derived from petroleum operations for contractors.

The Environmental Management Act, 2004

- Provides Legal and Institutional framework for sustainable Management of Environment

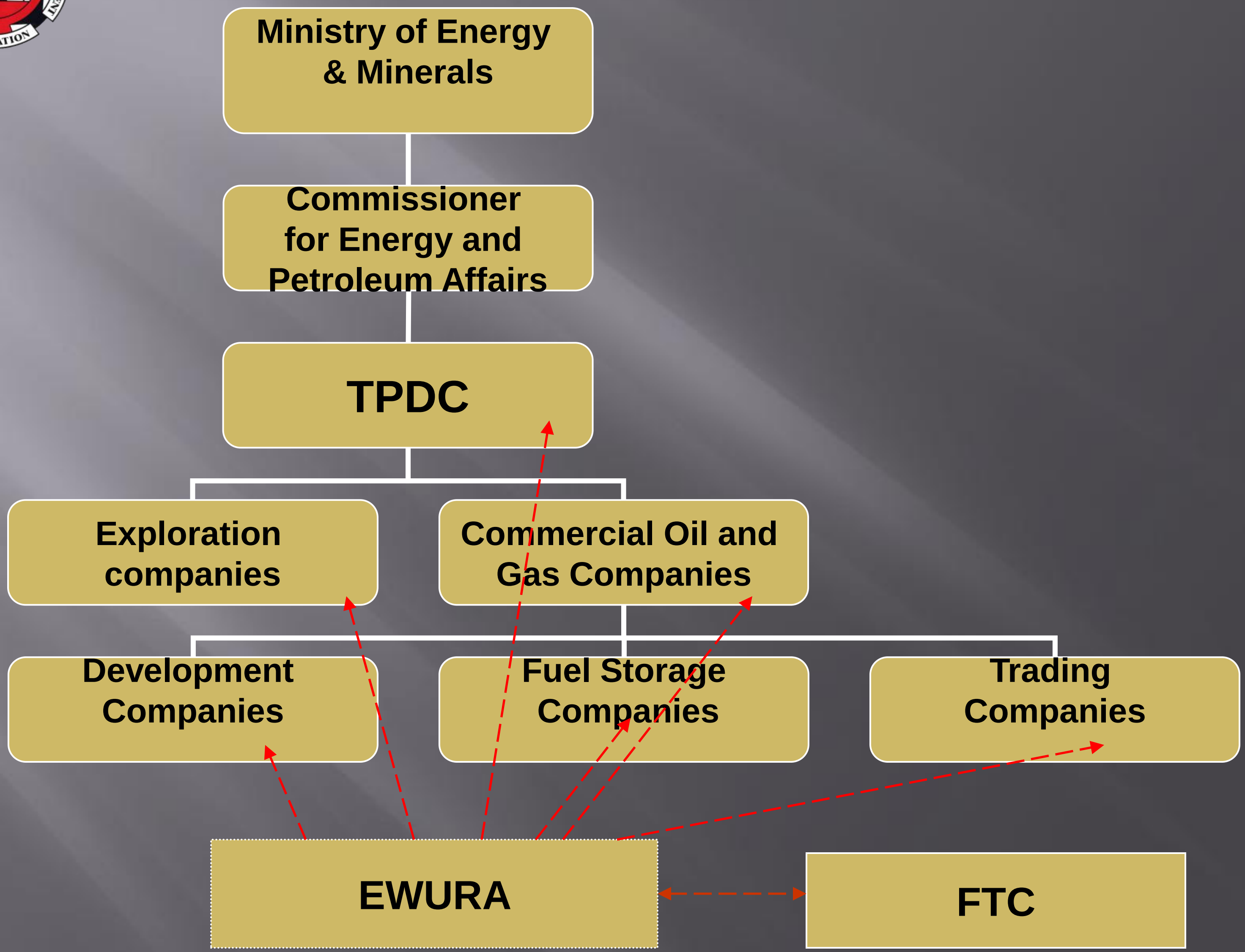
Model Production Sharing Agreement (MPSA 2013)

- Tripartite draft Agreement (Government, TPDC and the Contractor)
- The MPSA 2013, which was unveiled at the Launch of the 4th Deep offshore and L. Tanganyika North Licensing Round, forms the basis for PSAs negotiation between successful bidders and the Government of Tanzania and TPDC.
- Defines all parties rights and obligations

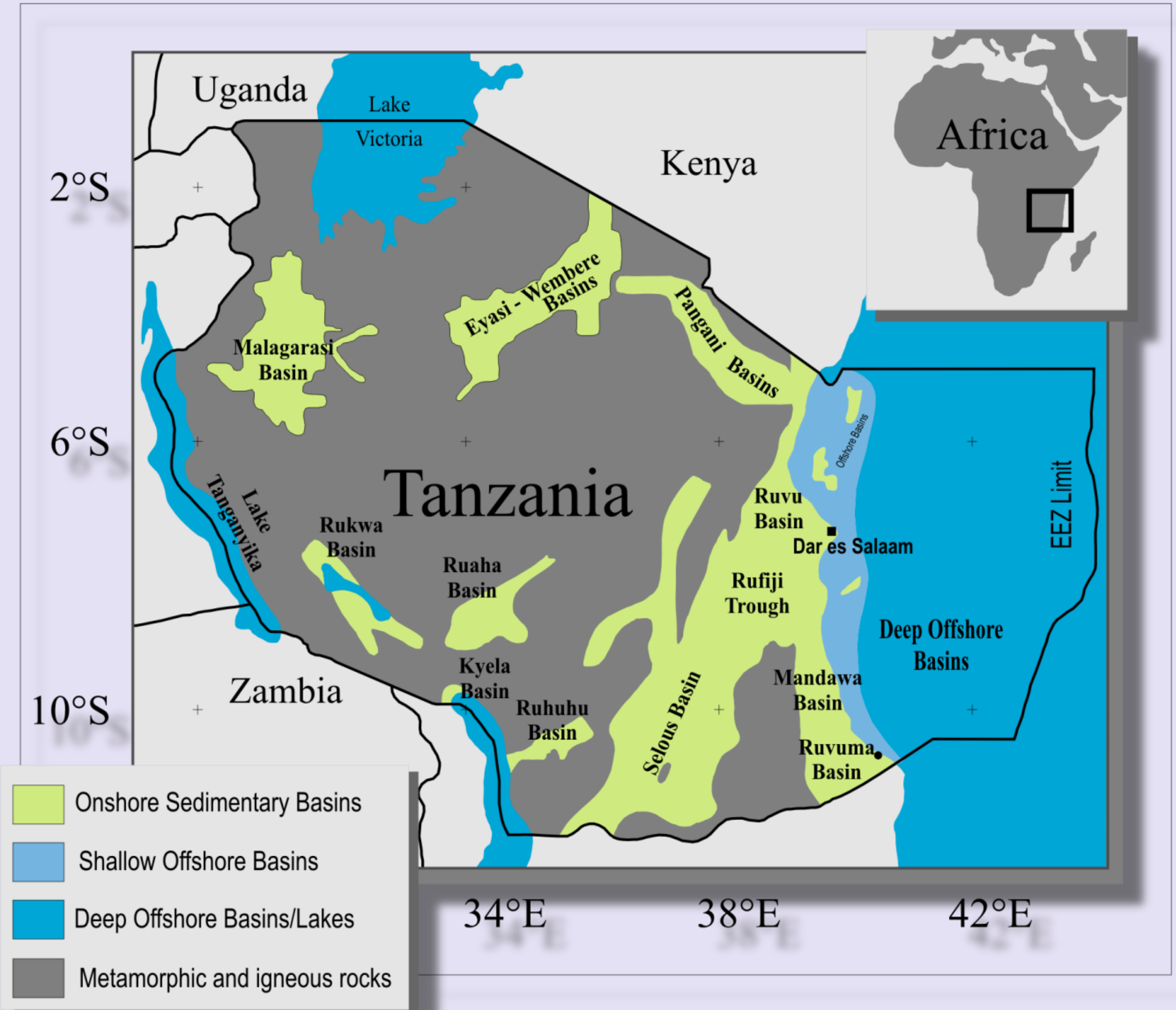
Policies and Acts

- In the light of recent big gas discoveries the Government is coming up with appropriate policies and legal frameworks to guide future exploration, and exploitation of the oil and gas resources.
  - Petroleum Act, 2008 – in place
  - Gas Policy 2013 – is in place
  - Gas Act – under preparation
  - Gas Utilization Master Plan – is in final stages
  - Petroleum Exploration and Production Act 1980 - under review

Petroleum Sector Organization Structure

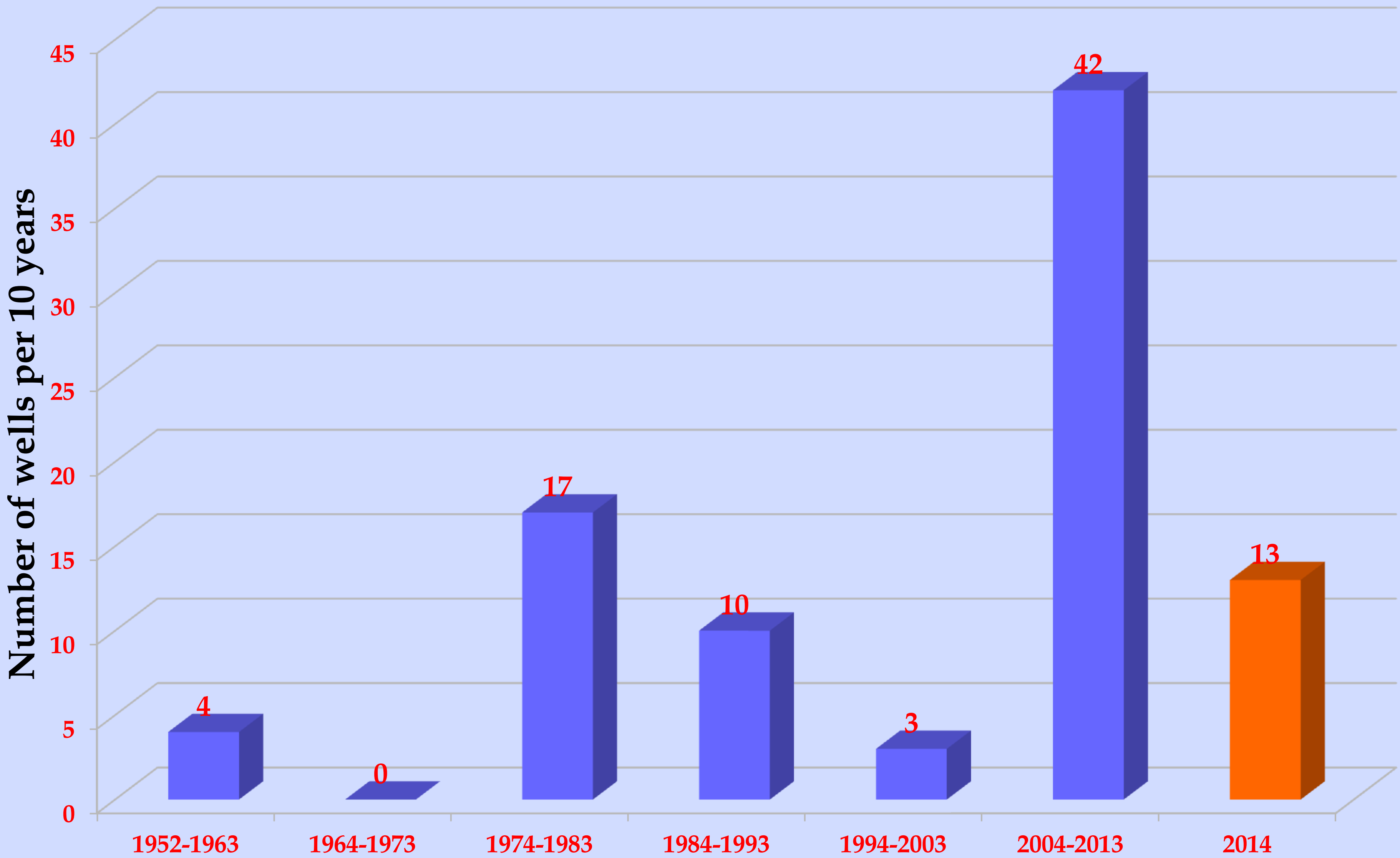


SEDIMENTARY BASINS OF TANZANIA



- Inland Rift Basins and Modern Rift System: 114,000 km^2
- Coastal and Continental Shelf Basins (onshore and offshore including the islands of Zanzibar Pemba and Mafia : 280,000km^2
- Deep Sea Basins: Basins (300m to 3000m of water depths) 140,000km^2
- TOTAL: 534,000 km^2

Deep Wells Drilled since 1952 - Aug, 2014



NATURAL GAS DISCOVERIES (GIIP)

Deep-Sea (2010-14) : 42.5 TCF

Mkuranga 2007 (0.2 TCF)

Kiliwani 2008 (0.07 TCF)

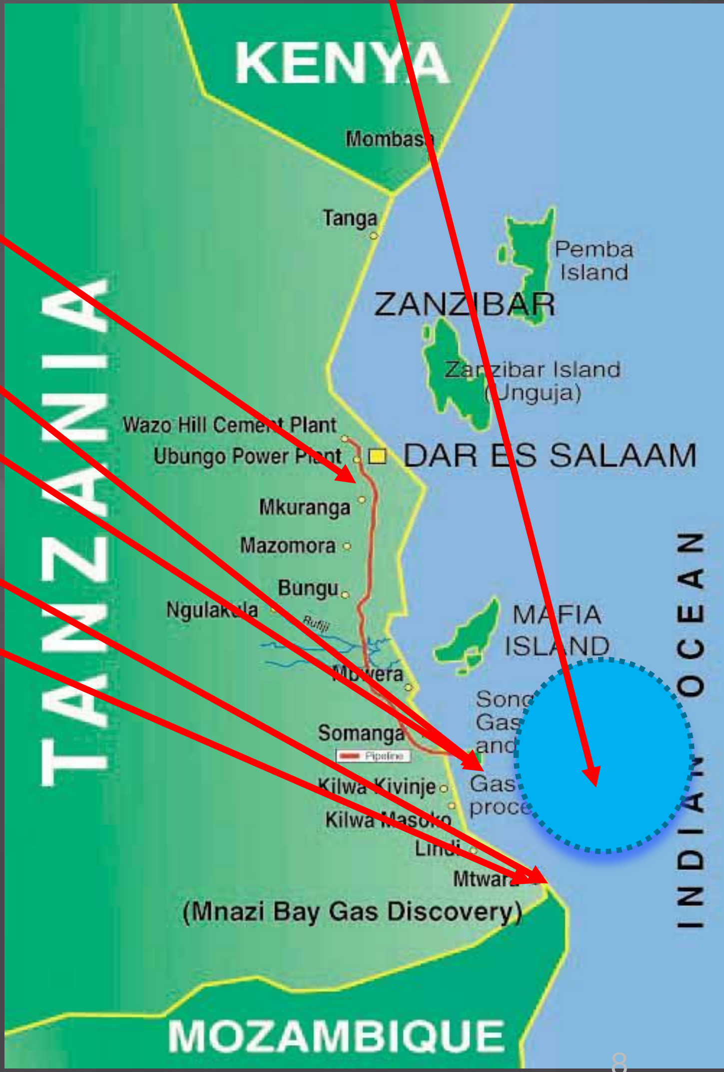
Songo Songo 1974 (2.5 TCF)

MnaziBay 1982 (5 TCF)

Ntorya 2012 (0.178 TCF)

Onshore (1974- 2014) : 7.948 TCF

TOTAL GIIP (Sept. 2014): 50.5TCF

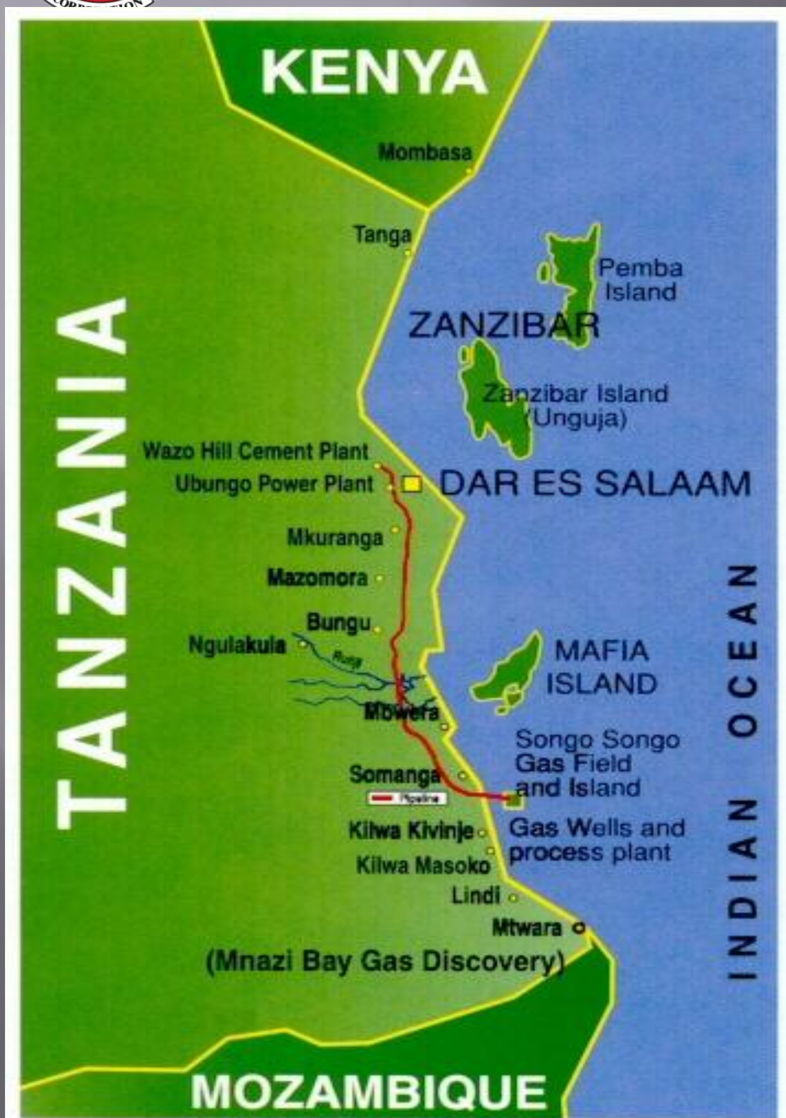


GOVERNMENT STRATEGY ON POWER SUPPLY

- To sustain economic development:
  - Requires reliable and affordable power
  - Connection levels to population to 30% by 2015/2016;
  - Introduce energy mix power supply arrangement:
    - Natural Gas
    - Coal
    - Hydro
    - Renewable energy – Geothermal, wind, solar

NATURAL GAS PROJECTS

SONGO SONGO GAS FIELD



Songo Songo Gas Field

Processing Plant

- Capacity 70 mmscfd - rerated to 105 mmscfd

Transportation

A 25 km 12″ diameter offshore line: SS to Somanga Fungu;

- A 207 km 16″ onshore line: Somanga Fungu to Ubungo, DSM;
- A 16 km 8″ diameter lateral line from Ubungo to Wazo Hill cement plants;
- Maximum capacity of pipeline 105 mmscf

MNAZI BAY GAS FIELD

Processing Plant:

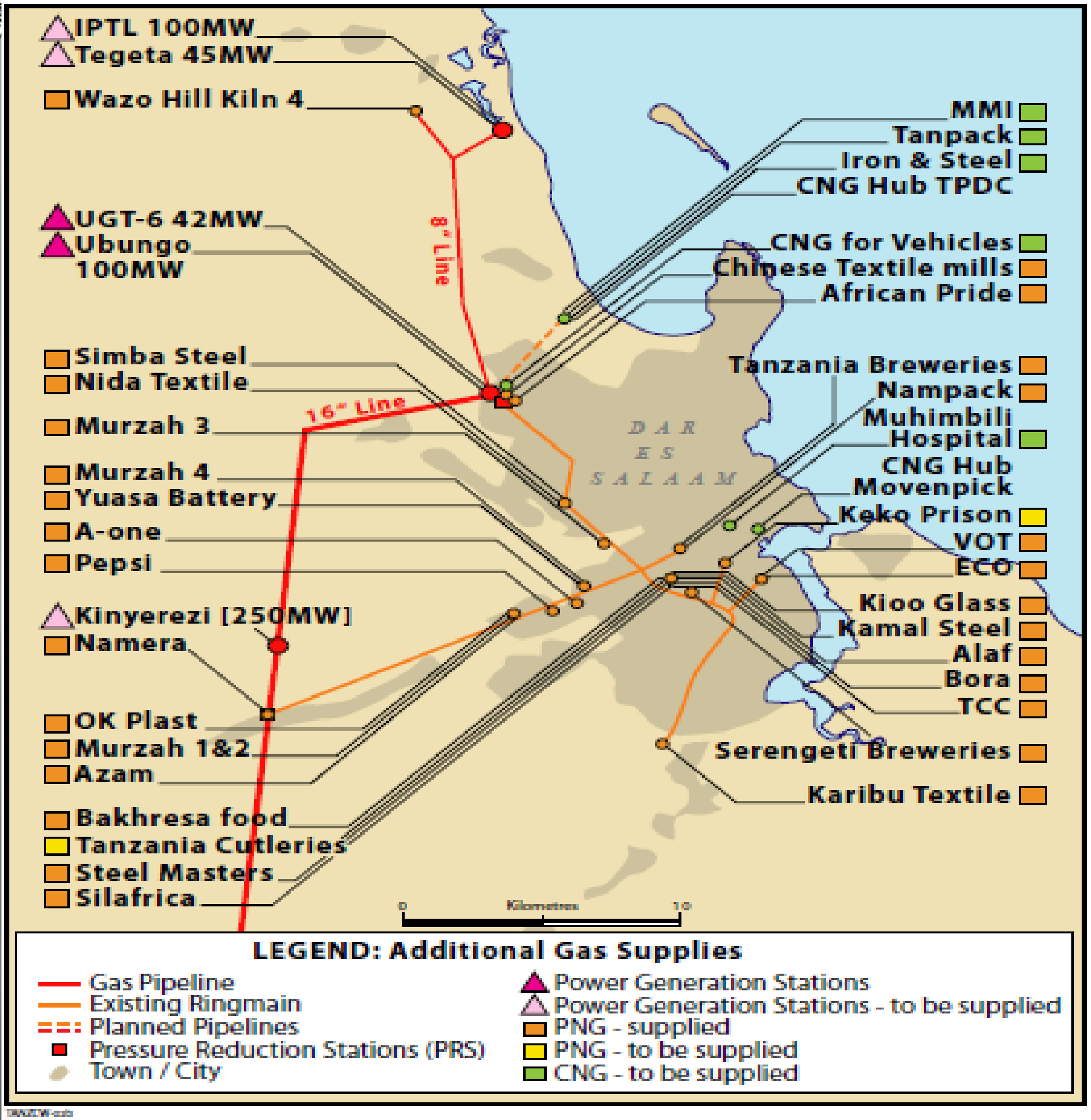
- Processing plant with maximum Capacity 10 mmscfd

Transportation and power plant:

- 27 km, 8″ diameter pipeline from Mnazi Bay to Mtwara

- Maximum capacity of pipeline 70 mmscfd
- 18 MW Installed capacity in Mtwara
- 12 MW Current generation

EXISTING DISTRIBUTION NETWORK IN DSM



Current Power customers

1. Ubungo Turbines (UGT 1-6)
2. Wartsilla Ubungo
3.Wartisila Tegeta
4.Tanesco Jacobsen

Industrial customers

1. Wazo Hill Cement Plant
2. Tanzania Brew. Ltd
3. Kioo Ltd
4. Alaf Group
5. Bora Tanzania Ltd
6. Karibu Textiles
7. Chinese Textiles
8. Nida Textiles
9. Lakhani Textiles
10. Mukwano Industries
11. Tanzania Cigarette Co.
12. Murzha 1
13. Murzha 2
14. Murzha 3
15. METL
16. Nampack
17. Yuasa Batteries
18. Serengeti
19. Namera
20. Simba Plastic
21. Simba Steel
22. Ok Plast
23. Pepsi
24. VOT
25. Azam Bakery
26. Kamal Steel
27. Tanzania Cutleries
28. Steel Masters
29. Bakresa Food Product
30. Tanpack Tissues
31. Bauteck 1
32. MMI 1
33. MMI 2
34. Iron & Steel
35. Bauteck 2
36. A One Products
37. Soap and Allied Industries Limited

Institutions Customers

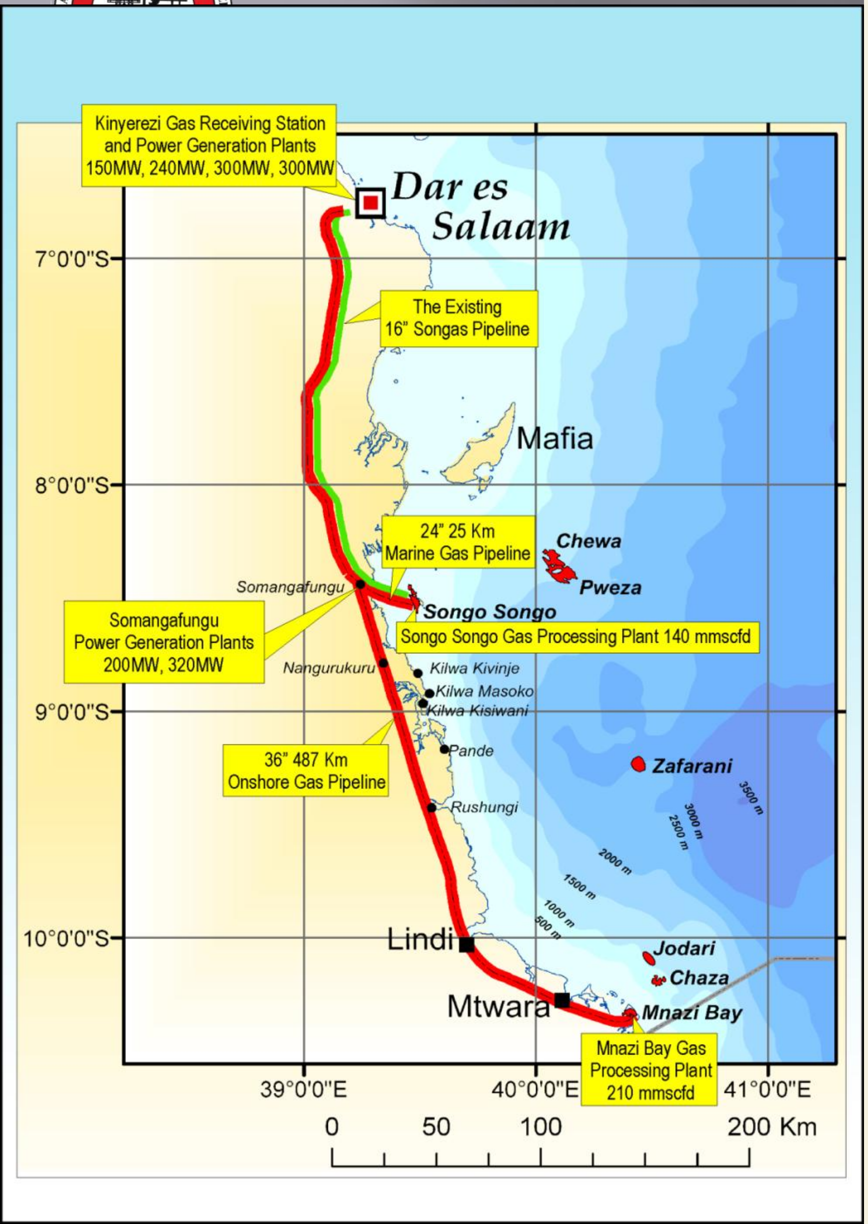
1. **Serena (Movenpick)**
2. **Keko Prison**
3. **Mgulani Baracks**

Natural Gas Based Power Plants

Songo Songo Gas	Installed Capacity	Generation
Songas Power Plants (UGT 1-6)	189 MW	180 MW
TANESCO Ubungo Plant No. 1	102 MW	100 MW
TANESCO Ubungo Plant No.2	105 MW	75 MW
TANESCO Tegeta Plant	45 MW	45 MW
Symbion	112 MW	-
Somanga Fungu Plant	7.5 MW	2.5 MW
Total	**560.5MW**	**332.5MW**
Mnazi Bay Gas		
TANESCO's Mtwara Plant	18 MW	12 MW
Total	**18MW**	**12MW**

CURRENT PROJECTS

MTWARA & SONGOSONGO TO DSM GAS PIPELINE PROJECT



- The project aimed to connect MnaziBay, SS, Kiliwani, Mkuranga, Ntorya, Deep Sea and future discoveries along the way:
- Will transport natural gas from Mtwara – Dar es Salaam
- Construction of new processing facilities in Songo Songo 140 mmscfd
- Construction of new processing facilities from 210 mmscfd
- Construction of a 36” 487km pipeline from Mtwara to Dar.
- Construction of a 24” 25km pipeline from Songo Songo to Somanga Fungu.

Customers along the Gas Pipeline

Industries that will be connected immediately after completion of the project include:

- Dangote Cement Plant (Mtwara)
- MEIS Cement Plant (Lindi)
- Symbion Power Generation Plant (Mtwara)
- Kilwa Energy Power Generation Plant (Lindi)
- Kinyerezi Power Plants

BENEFITS TO THE ECONOMY

- Reduced costs of power generation through replacement of costly imported liquid fuels with natural gas;
- Accelerating the economy growth by providing affordable and reliable source of Power generation;
- More Power generation capacity through natural gas power generation plants;
- Government ownership to ensure security and reliability of the infrastructure;

BENEFITS TO THE ECONOMY

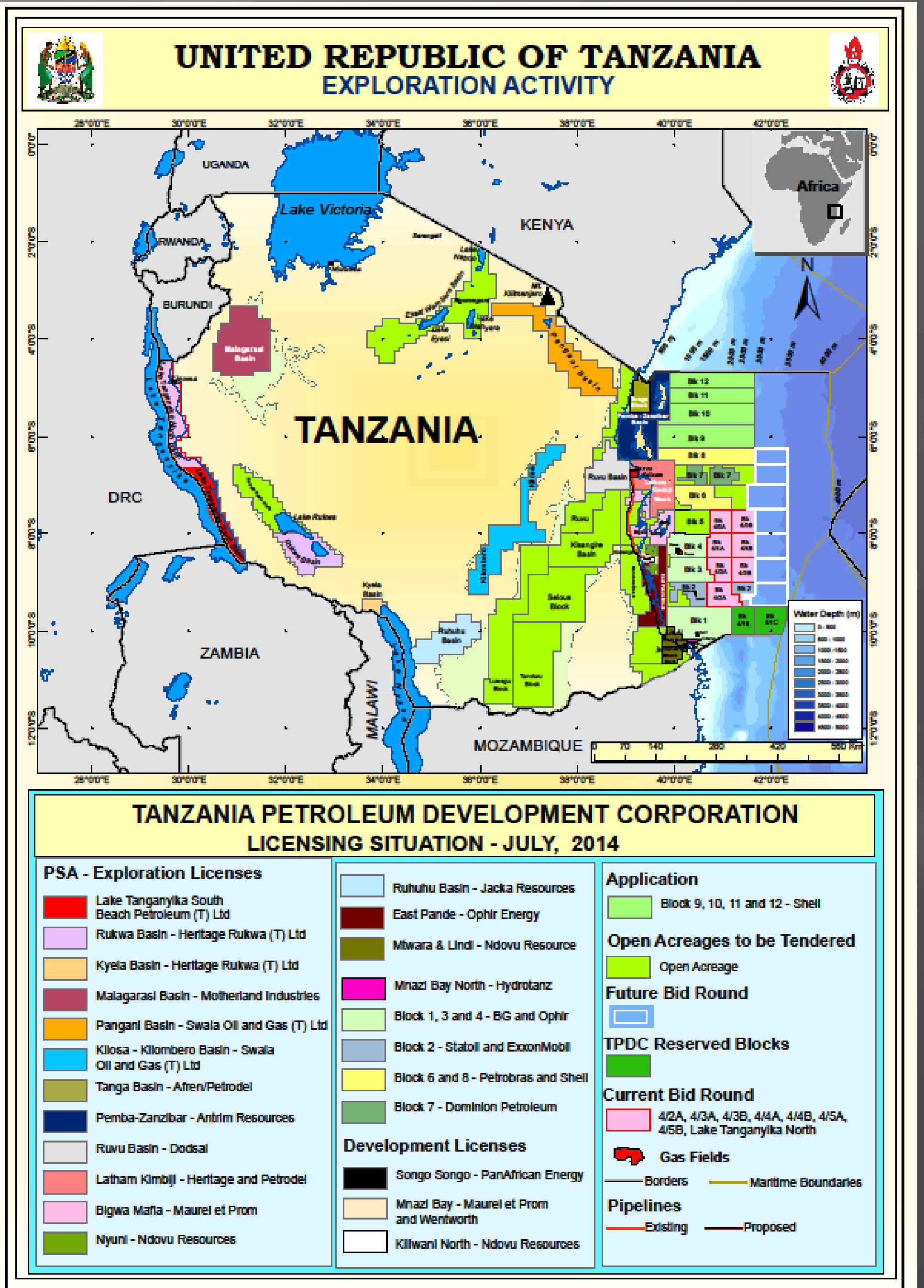
- Establishment of LNG facility for export: for natural gas that has been discovered in the deep sea;
- As raw material for production of fertilizer/ Cement e.g. Dangote (Mtwara) and MEIS (Lindi) Cement Factories;
- Natural Gas Distribution Network in Lindi and Mtwara;
- Natural Gas Distribution Network to supply industries, Households and Vehicles in Dar es Salaam;
- Connection of industries in Dar city and neighboring suburbs;
- Increase in implementation of natural gas related projects to boost investments in service sectors such as tourism.

Investment Opportunities in the Gas Energy Sector

- **Upstream:** Investments in offshore blocks and Relinquished Blocks
- **Midstream:** Pipeline from Dar es Salaam to upcountry
- **Downstream:** Distribution networks in Dar es Salaam, Lindi and Mtwara.
- **Natural Gas Utilization Master Plan Projects**:
  - Electricity generation,
  - As energy for Industries Petrochemicals, Fertilizer, Cement, Steel, Power Generation, CNGV, Households/Institutions
- **Export** of Natural Gas in the form LNG.

Other Opportunities

- Embark on conversion of gas to Compressed Natural Gas (CNG) to be used by vehicles;
- Supply of gas pipelines of international standards and specifications;
- Manufacture of pipelines to transport gas for domestic use; and
- Supply of drilling muds to drilling sites (Upstream)


UNITED REPUBLIC OF TANZANIA
EXPLORATION ACTIVITY
UGANDA
Lake Victoria
KENYA
RWANDA
BURUNDI
TANZANIA
DRC
ZAMBIA
MALAWI
MOZAMBIQUE
Africa
N
TANZANIA PETROLEUM DEVELOPMENT CORPORATION
LICENSING SITUATION - JULY, 2014
PSA - Exploration Licenses
Lake Tanganyika South Beach Petroleum (T) Ltd
Rukwa Basin - Heritage Rukwa (T) Ltd
Kyela Basin - Heritage Rukwa (T) Ltd
Malagarasi Basin - Motherland Industries
Pangani Basin - Swala Oil and Gas (T) Ltd
Kilosa - Kilombero Basin - Swala Oil and Gas (T) Ltd
Tanga Basin - Afren/Petrodel
Pemba-Zanzibar - Antrim Resources
Ruvu Basin - Dodsal
Latham Kimbiji - Heritage and Petrodel
Bigwa Mafia - Maurel et Prom
Nyuni - Ndovu Resources
Ruhuhu Basin - Jacka Resources
East Pande - Ophir Energy
Mtwara & Lindi - Ndovu Resource
Mnazi Bay North - Hydrotanz
Block 1, 3 and 4 - BG and Ophir
Block 2 - Statoil and ExxonMobil
Block 6 and 8 - Petrobras and Shell
Block 7 - Dominion Petroleum
Development Licenses
Songo Songo - PanAfrican Energy
Mnazi Bay - Maurel et Prom and Wentworth
Kiliwani North - Ndovu Resources
Application
Block 9, 10, 11 and 12 - Shell
Open Acreages to be Tendered
Open Acreage
Future Bid Round
TPDC Reserved Blocks
Current Bid Round
4/2A, 4/3A, 4/3B, 4/4A, 4/4B, 4/5A, 4/5B, Lake Tanganyika North
Gas Fields
Borders
Maritime Boundaries
Pipelines
Existing
Proposed

THANK YOU FOR LISTENING