

## BUSSINESS PLAN OF SUNLINE TRANSPower (T) LIMITED.

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## **EXECUTIVE SUMMARY**

SUNLINE TRANSPOWER(T) LIMITED registered on dated 6- July 2023 at Plot No-10, Misugusugu CBD Kibaha PO Box 79381 for manufacturing plant of concrete pole for power distribution line. This ladder type poles are proven in INDIA in the last 50 years and these types of poles are new for TANZANIA.

The company manufacturing of poles as per TBS standards.

The company already given the order of plant and machinery procurement simultaneously to start the project very fast and we will start the production in January 2024.

The upgraded technology and excellent experience of the promoters shall bring revolutions in Power Infrastructure in Tanzania.

### **(A)Brief Description of Project**

The Company is planning to enter in various sectors of the power distributions. The promoters are very well experienced. THEIR EXPERIENCE IS MORE THAN CURRENT ESTABLISHMENT OF TANZANIA in the power sector.

The huge power generation expected in the near future in Tanzania as soon as Julius Nyerere Hydraul power plant completed within short period is more than 150

% Of current consumption. This will require lots of poles to take power lines to consumers, huge power distribution networks with high tension lines, definitely substations shall be required to step up and step-down line voltages and various accessories in huge quantities shall be required for all these infrastructures.

Therefore, company has decided to enter all these high demand sectors one by one in following sectors

#### **(1) Concrete poles of various length for power distribution**

SUNLINE TRANSPOWER shall introduce the latest technology of Ladder type concrete poles for power distribution lines, which is first in east Africa.

These new design poles are reliable, with better mechanical strength and cost effective.

The company shall start production by 15,000 poles per annum, and ultimate goal is to expand to the capacity that meet the demand of not only Tanzania but up to great extent the demand of East Africa.

#### **(2) Accessories of Concrete poles.**

Company will be manufacturing of accessories of poles by fabrication using local materials. There are different types of pole accessories required for power infrastructure, company will be supplying all accessories by local manufacturing.

### (B) Summary of Objective

The Company is planning to put up the manufacturing plant at a strategic location which is well connected with the national highway. The Location is also suitable to get the raw material at reasonable cost and delivery of the products at economical cost.

The plant has world class machinery and equipment of international standard for manufacturing of Concrete poles for power lines as per Tanzania Bureau of Standards.

Tanzania currently uses treated wooden poles for power lines, whose average lifespan is below 20 years, Errors may lead to rotten poles within 5 to 7 years. It is not only very costly to replace old rotted poles but also affects the power supply to households and industries which is a loss of Revenue.

The ladder types of concrete poles having 50 years life span and which are already proven in INDIA in the last 60 years.

The Company shall also closely work with Tanzania electricity supply company and Rural electrification agency. We shall provide reliable, efficient and economical power infrastructure to Tanzania so people can get electricity at the cheapest price

### (C) Description of the Market

The current demand of 800,000 poles is annual demand for power distribution lines in Tanzania. Out of that 90% poles are treated wooden poles and 10% spun concrete poles are being used.

The Government wants to replace these treated wooden poles with concrete poles to make the power sector cost effective. But there is not enough supply of concrete poles. In short there is a huge demand supply gap for the concrete pole supply.

Wooden poles are manufactured from Eucalyptus trees. These trees are grown by farmers which takes about 10 to 12 years from the plantation to mature. It also depends upon weather conditions; many plants may destroy due to abnormal rainfall, excess rainfall and many other weather-related issues. Also, the environmental implications of eucalyptus plantations, it has allelopathy on ground vegetation, has a negative impact on biodiversity, exhausts soil from nutrients, has oil in its leaves and accumulated litter leads to forest fire hazards. It also exhausts groundwater and lowers the water table. Hence growing of eucalyptus trees is a negative effect to environments.

The Company shall provide environmentally friendly concrete poles for power lines. Our poles were first introduced in Africa, so there is huge demand in neighboring countries like Kenya, Uganda, Rwanda, Burundi and others. So, a very huge market potential is available.

**D)Justification and viability**

The Company is intended to manufacture cost effective and long-life concrete poles which shall be the first time introduced in East Africa.

The following are the comparisons of our design poles with other available poles.

FACTORS	SUNLINE	WOODEN	SPUN
Strength	Excellent	Poor	Average
Climbing	Easy	Difficult	Difficult
Transport	Easy	Easy	Difficult
Weight	Light	Light	Heavy
Erection	Easy	Easy	Difficult
Environment	Friendly	Negative	Friendly
Life Span	Excellent	Poor	Excellent
Cost	Economical	Costly	Costliest
Erection Cost	Cheapest	Cheap	Costly
Performance In Cyclone	Excellent	Poor	Poor
Cross Arm Holding	Strong	Poor	Poor
Zero Cost Earthing	Possible	Impossible	Possible
Fire Resistance	Yes	No	Yes
Manual Erection Staff	Very easy	Difficult	Very Difficult
Vandalism	Low	High	Low
Extension Joining	Possible	Not Possible	Not Possible
Special Climbing Shoe	Not Required	Required	Required
Maintenance Flexibility	Excellent	Poor	Poor

The above comparison makes it very clear the superiority of SUNLINE poles compared to other poles available in East Africa.



**(PHOTO of SUNLINE LADDER TYPES POLES IN INDIA SINCE 1980)**

SUNLINE concrete poles are robust, easily erected in challenging areas. These type poles are first introduced in Tanzania, which are economical, easy to transport and erect and have a life span more than 50 years. As on today 75 % urban population access electricity but only 24% of the rural population access electricity. This manufacturing plant bust up the rate of electricity access to Tanzanian people at an affordable cost.

## (E.) Snapshot of Growth potential

Following are the reasons why this sector shall be growing fast.

1. Power production capacity of Tanzania shall be increasing by 150 % which requires distribution.
2. Government may be injecting 10 billion Dollar in the coming decade to meet the development of the country.
3. Huge Power cannot be stored; it required to use whatever is being produced
4. wooden poles shorter lifespan, replacement cost, adverse effect on environment and negative effect on revenue during replacement leads to use concrete pole
5. Replacement of existing wooden poles
6. concrete poles are better, its proven technology
7. Huge numbers of farms, household and industry need to be electrified
8. Big demand supply gap of concrete poles
9. wooden poles cannot meet urgent demand of the requirement as the growing time span is very long
10. There is huge demand in neighboring countries Kenya about 1,000,000 poles, Uganda 350,000 poles, Rwanda 55,000 poles, Burundi 35,000 poles annually and many in other neighboring countries too. Company shall export pole to neighboring countries.
11. High potential of export market also
12. East African countries are developing countries and the Power is a fundamental demand of growth.

The growth potential of the Power sector is huge.

## (F) BACKGROUND, PROJECT DETAILS AND SECTOR POTENTIAL

Power is the most important utility in the current time. It becomes the necessity of the country; One can say Back Bone of the country. In the developed and developing country it is impossible to survive without power. There are various methods of power generation.

It is interesting to know the fundamentals of power generation. Electrical power generation is based on Faraday's law of mutual electromagnetic induction: in an electrical circuit moving (e.g., rotating) so that it cuts magnetic lines of force, an e.m.f. is generated that is proportional to the rate at which unit lines of force are cut. Another reason for power generation is that Photovoltaics directly convert solar energy into electricity. They work on the principle of the photovoltaic effect. When certain materials are exposed to light, they absorb photons and release free electrons. This phenomenon is called the photoelectric effect.

Power generated is to be utilized at the same time unless stored in a battery. But the majority of power; 99.99 %, is being used online due to higher quantum of generation and utilization. storing in a battery is loss of efficiency and huge cost therefore limited utilizations.

## (G)Background of Power sector of Tanzania

The details mentioned shall give the power sector about Tanzania. The history, current situation and future of the power sector. Being the growing nation power sector shall be the rapidly growing sector of Tanzania.

### (1) History of Power Sector of Tanzania

The Tanzanian Government understood the direct relation of power with the growth of the country. Therefore, various appreciable steps have been taken in this sector. The Government established TANESCO AND REA to meet the demand of urban and rural electrification.

**TANESCO:** -Tanzania Electric Supply Company Limited (TANESCO) is a Parastatal organization established by Memorandum and Articles of Association incorporated on 26th November 1931 which established Tanzania Electric Supply Company Limited (the then Tanganyika Electric Supply Company Limited -TANESCO). The Company generates, purchases, transmits, distributes, and sells electricity to Tanzania Mainland and sells bulk power to the Zanzibar Electricity Corporation (ZECO), which in turn sells it to the public in islands Unguja and Pemba. TANESCO owns most of the electricity generating, transmitting, and distributing facilities in Tanzania Mainland with an estimated population of over 50 million. Tanzania Government undertaking company established in 1964, area served Tanzania mainland and Zanzibar. Main role of TANESCO is the generation, transmission and distribution of electricity. Total Generation Capacity 1700 MW, 48 grid substation, 2732 Km 220 kv line, 1555 Km 132Kv line, 578 Km 66kv line.

MISSION: "Deliver electricity in a most effective, competitive and sustainable manner"

VISION: "A Leading Regional Provider of Quality and Affordable Electric Power"

Revenue of TANESCO 15,654 billion Tsh, Net income 45.2 billion Tsh, Total assets 11,480 billion Tsh in Year 2020. Total employees 7500.

Power Distribution networks 11,124 Distribution Transformer, 43890 Km 33kv line, 11044 Km 11Kv line, 84156 Km LV line.

**REA Tanzania:** -Rural Energy Agency (REA) is an autonomous body under the Ministry of Energy and Minerals of the United Republic of Tanzania. Its main role is to promote and facilitate improved access to modern energy services in rural areas of Mainland Tanzania. REA became operational in October 2007

**Vision:** Transformation of rural livelihoods through provision of modern energy

**Mission:** To promote and facilitate availability and access to modern energy services in rural Mainland Tanzania.

### CORE VALUES

**Integrity:** We treat our customers and other stakeholders fairly and with courtesy. We are ethical in the course of discharging our duties and uphold confidentiality.

**Honesty:** We are determined to treat customers honestly. We build value-added relationships with customers and stakeholders.

**Transparency:**

- We are transparent and accountable for what we do.
- Goals and objectives are aligned and clearly articulated.
- Our actions are open to public scrutiny.
- We are honest about our performance.

Rural Electrification Agency (REA) is an autonomous body under the Ministry of Energy and Minerals of Tanzania established in 2007. Its main role is to promote and facilitate improved access to modern energy services in rural areas of mainland Tanzania. REA Tanzania targets 50% rural electrification in 2025, and 75% in 2033 and full coverage by 2040. power generation 305 MW and demand 230 MW in 2001.

Power demand increased 700Mw in 2010, and 1600MW in 2020.

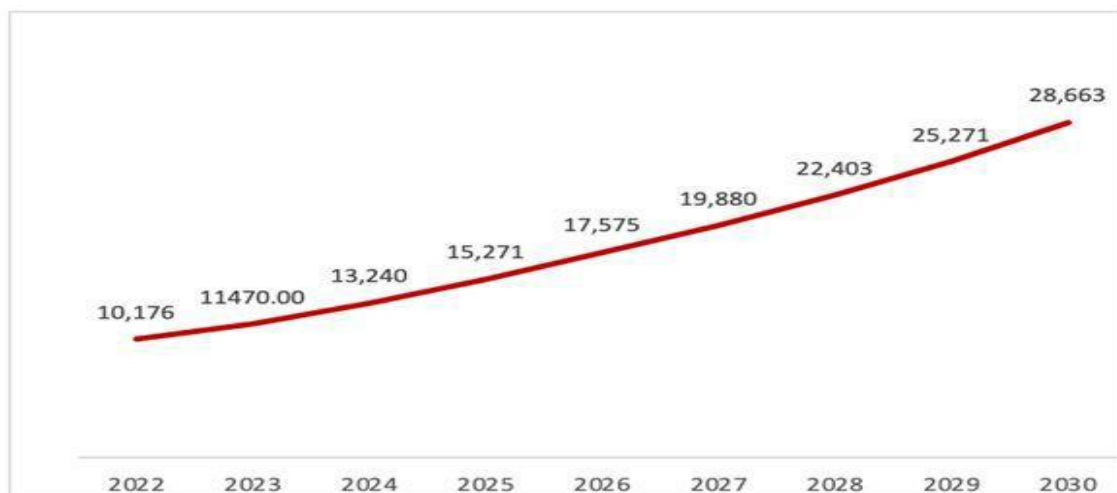
Power demand increases 1700MW in 2021 due to starting industrialization and rural electrification projects.

## (2) Current Power Demand and future Demand

Current power demand is 1700 MW in Tanzania and peak demand 1629 MW in 2021.

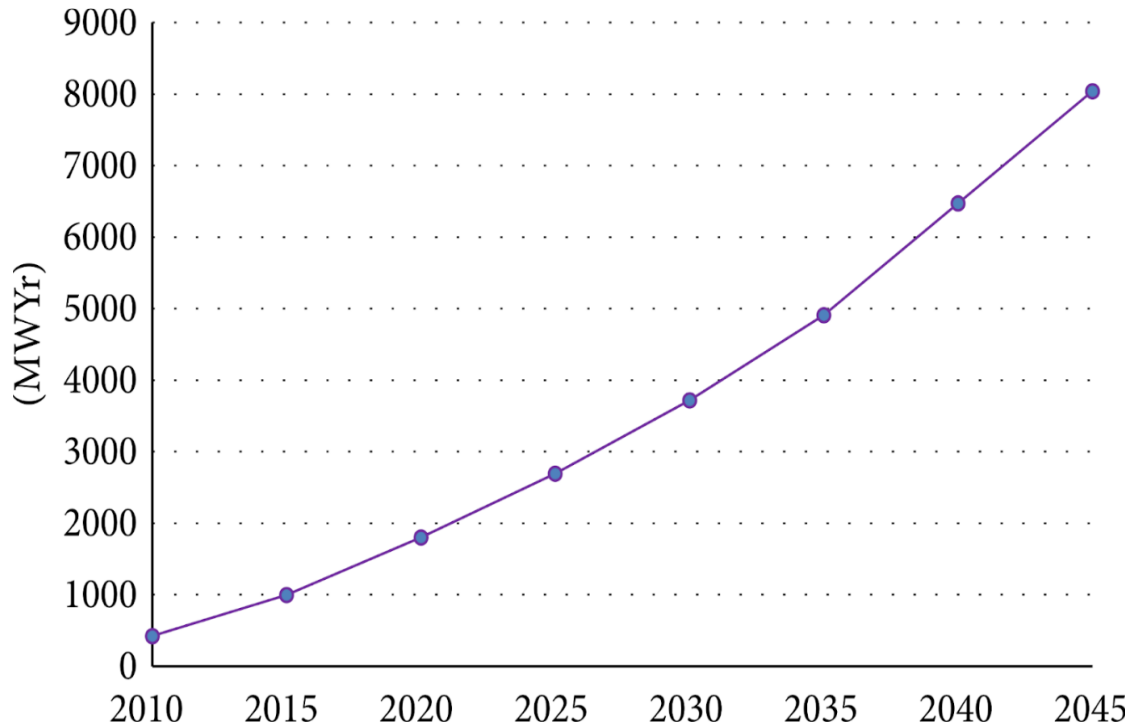
Future peak demand will be 3000 MW in 2025, in 2030 it will be 4800 MW, In 2035 it will be 8500 MW, In 2040 it will be 12,000 MW.

This data as per Tanzania Power System Master Plan-2020.



### (3) Current Power Generation and Future Planning.

Tanzania power generation capacity 1600MW in 2021, The new Hydropower project 2115MW (Julius Nyerere Dam) constructed and will be in commercial use by the end of 2022. Hence power generation capacity will be total 3615MW. Future planning of Tanzania 5200 MW in 2030, 9000 MW in 2035, 13000 MW in 2040 and 19000MW in 2044.



### (4) Requirement of Poles, Substations and lines In Tanzania.

Existing Substation as on 2020 total 7 Nos 66kv Substation and 543 Km Lines, total 29 Nos 132kv Substation and 1631 Km Lines, total 22 Nos 220Kv Substation and 3011 Km Lines. Future planning in next 5 years: New 100 Nos 66kv Substation, 50 Nos 132Kv Substation, 70 Nos 220kv Substation and 10 Nos 400kv Substation Planned by TANESCO to meet future power demand.

Existing 33kv lines are 43890 Km, 11Kv lines 11044, Low Voltage lines 84156 Km as on 2020, As per Power system master plan and rural electrification data in Tanzania new lines of 33kv 8000km, 11kv 12000 Km and 25000 km low voltage line required to be installed per annum.

So Total 1.2 million new electricity poles required per annum.

## **(H) SUNLINE TRANSPOWER SHALL CONTRIBUTE IN TANZANIA**

### **(1) SUNLINE TRANSPOWER Year by Year growth**

Sunline Trans power (T) Ltd. planned to set up pilot project of Concrete poles manufacturing plant having capacity 15,000 poles in 2024, then cumulative will be increase 45,000 poles in 2025, 75,000 poles in 2026, 105,000 poles in 2027, 135,000 poles in 2028

### **(2) Ultimate goal**

SUNLINE TRANSPOWER (T) LTD. set the long-term goal to work with TANESCO and REA Tanzania.

Our aim is to support Tanzania Governments to light up the country by accessing electricity to every household.

Tanzania will become a middle-income country by 2025 and due to industries growth day by day and expected electricity per capita consumption will be 200 Kwh in 2025.

So, a very huge power infrastructure is required to be built up in the next five years.

Our goal is to set up the manufacturing plant related power infrastructure. We are going to the service sector and project implementation of reliable and economical power infrastructure on the mainland of Tanzania so people can get electricity at affordable cost.

## **(I) Infrastructure required year by year**

### **(1), In the Year of 2024**

The 4000sqmeter land already leased AT Kibaha District to set up a pilot project Manufacturing plant and production will be start in January-2024 for Concrete poles for power Distribution line, 15,000 poles annually and total investments required for plant and machinery 300,000 USD and working capital 100,000 USD

### **(2) In the Year of 2025.**

The company will setup second manufacturing plant near to DODOMA 30,000 poles per annually capacity as per demand of TANESCO. 500,000 USD investments require for plant and machinery and 150,000 USD requires for working capital.

### **(3) In the YEAR of 2026.**

The company will setup third manufacturing plant near to TABORA 30,000 poles per annually capacity as per demand of TANESCO. 500,000 USD investments require for plant and machinery and 150,000 USD requires for working capital.

### **(4) In the Year of 2027**

The company will setup third manufacturing plant near to MWANZA 30,000 poles per annually capacity as per demand of TANESCO and export to KENYA, BURUNDI and RWANDA countries 500,000 USD investments require for plant and machinery and 150,000 USD requires for working capital.

### **(5) In the Year of 2028**

The company will setup third manufacturing plant near to MBEYA 30,000 poles per annually capacity as per demand of TANESCO and export to Zambia country 500,000 USD investments require for plant and machinery and 150,000 USD requires for working capital.

**Employment by Company: - 90% Tanzania Employee and 10% foreigner**

Designation	2024	2025	2026	2027	2028
Director	01	02	04	06	08
Production Head	01	02	04	06	08
Quality Control Engineer	01	0	04	06	08
Civil Engineer	01	02	04	06	08
Production Supervisor	02	04	08	12	16
Accountant	01	02	04	06	08
HR person	01	02	04	06	08
Skill Labour	10	20	40	60	80
Unskilled Labour	20	40	80	120	160
Security	02	04	08	12	16
Indirect employee (Transportation)	20	40	80	120	160
Indirect employee (Installation of Power line by TANESCO and REA contractors)	80	160	320	480	640
<b>Total Employments</b>	<b>140</b>	<b>280</b>	<b>560</b>	<b>840</b>	<b>1120</b>

Mission of Sunline Transpower (T) Limited: -

- Providing reliable, robust and economical concrete poles to TANESCO and REA.
- Ultimately electricity access project become fast and every people of TANZANIA main land can get electricity at affordable cost.
- TANZANIA growing fast and become middle income country very fast.

Thank You very much.

