



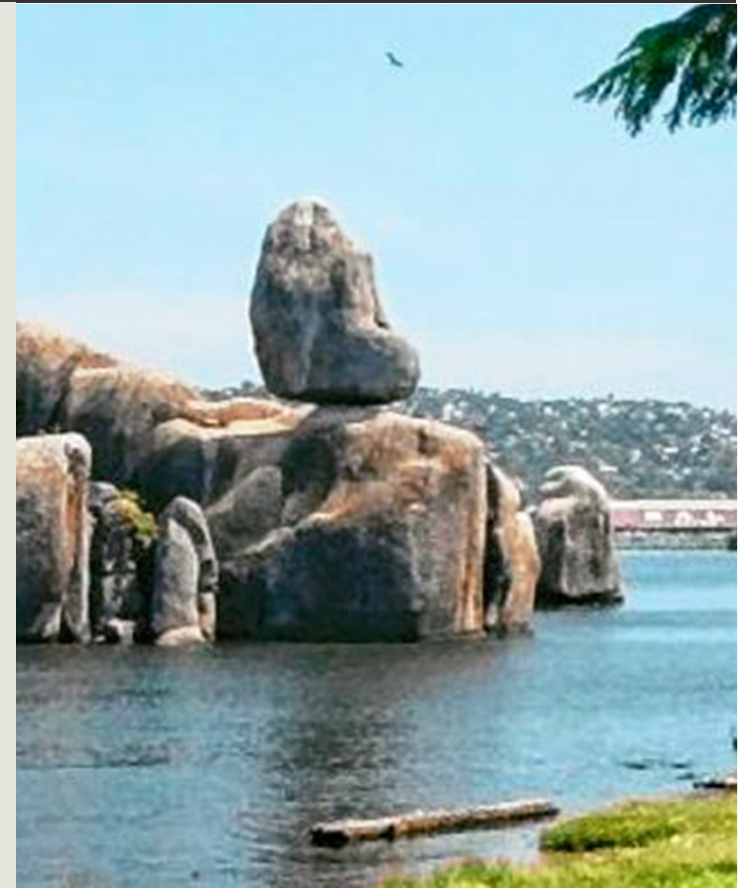
## WURZBURG-MWANZA COOPERATION “POWER -MWANZA PROJECT” 2016-2017

PREPARED BY,  
AMIN ABDALLAH  
PROJECT COORDINATOR  
E mail: [allbrightamin@gmail.com](mailto:allbrightamin@gmail.com)  
Mob: +255713900200

# POWER- MWANZA PROJECT

## BACKGROUND:

- The City of Wurzburg, German and the City of Mwanza, Tanzania signed a formal framework agreement for a climate partnership in November 2011. By participating in the 50 Municipal Climate Partnerships by 2015 project, both our cities are linking protection of the global climate with their historic and humanitarian responsibility.
- The main objective of the cooperation is to jointly tackle the impact of Advancing Climate Change. Efficient and effective ecological development in Mwanza, Tanzania and Wurzburg, Germany of which will depend on the implementation of local strategies for adaptation to climate change, and the decentralized generation of energy from renewable sources.



# INSTITUTIONAL NEED

- ✓ The initial situation was assessed on 29.10.13. Due to the Tanzania favorable temperature and the high solar insolation which provide the country with unique opportunity to propel its future socioeconomic development following a low-carbon pathway, environmentally-friendly resource for electricity generation.
- ✓ Tanzania is in the process of implementing World Solar Programme(WSP) 1996-2005, with the main focus on village solar electrification' (NEAP, p. 86). The investment plan for the Scaling-Up Renewable Energy Programme (SREP) is amongst several key interventions that will guide Tanzania in the years ahead as we strive to achieve energy security, with the ultimate goal of attaining universal access to modern energy services. The SREP-Tanzania outlines the activities that we must undertake to increase access to the modern energy





# Access to power in Tanzania

The electric power supply in the city of Mwanza, and in Tanzania as a whole, is characterized by two main problems:

1. Basic shortage, which leads to regular outages in large parts of the city and the country, with all the negative consequences this entails for the local economy.
2. As it has been stated in the National Environmental Action Plan (Vice-president's Office-Division of Environment) published in October 2006. 'It is estimated that the number of people who have access to electricity is nearly 10% of the entire Tanzanian population.

A significant proportion of energy production is achieved using fossil fuels, which entails corresponding CO<sub>2</sub> emissions (43% of the power produced by the parastatal organization the Tanzania Electricity Supply Company ,TANESCO. Plus unspecified proportion of imported, making a total of 46% of electricity consumed.



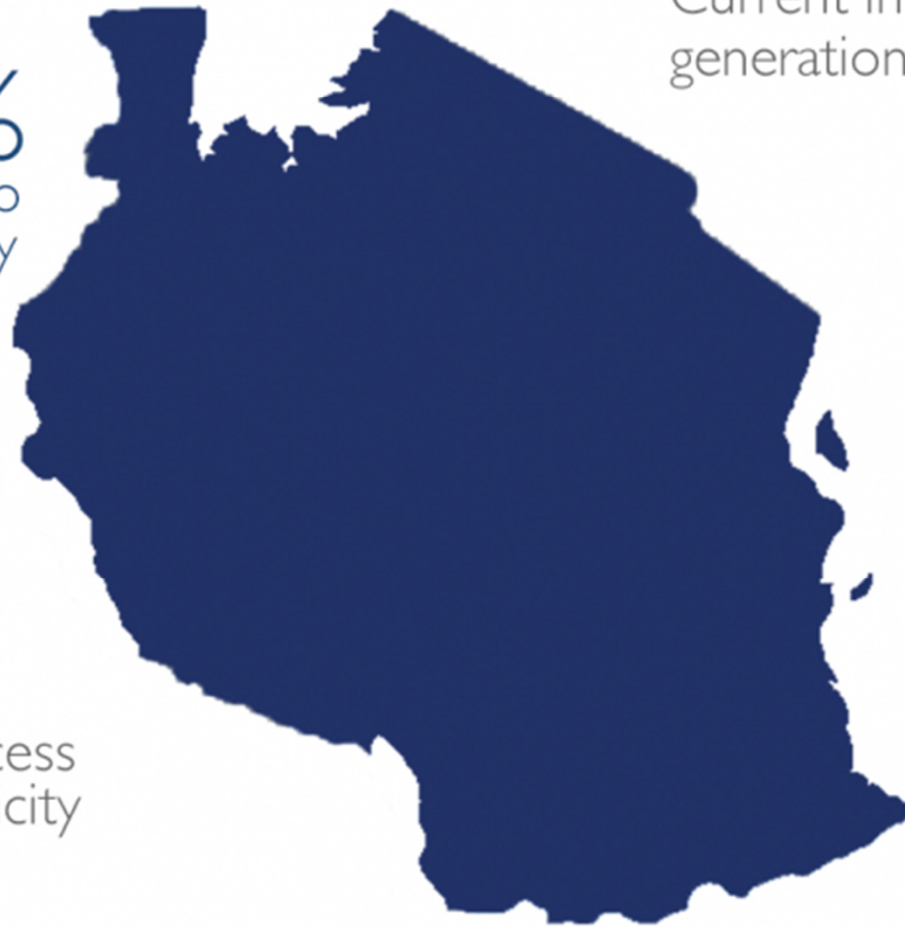
# Tanzania

## Electricity Profile

1,583MW  
Current installed  
generation capacity

24%  
Access to  
electricity

7%  
Rural access  
to electricity



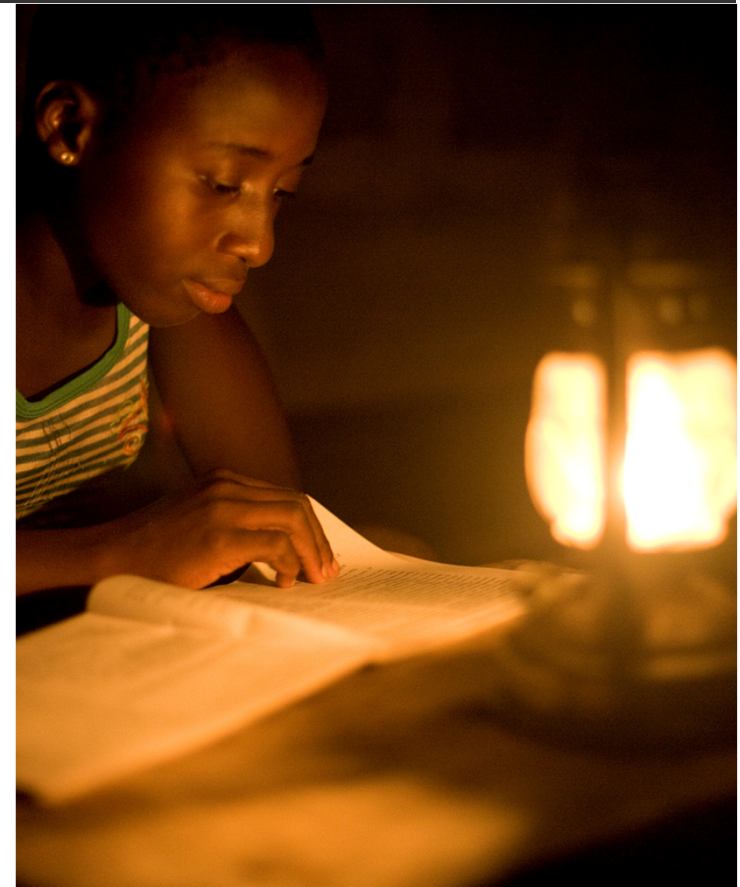
# Grid power challenges

On May 2013, Tanzania was reaffirmed that Tanzania in general and Mwanza in particular suffered bottlenecks with regard to electricity power supply.

- ✓ This resulted in regular and prolonged power outages, sometimes affecting large areas, i.e dry areas.

- ✓ These energy supply difficulties are caused by insufficient development of power generation capacities, in conjunction with a focus on hydropower plants, production at which is highly seasonal.

- ✓ According to TANESCO, the parastatal electricity company that has a quasi monopoly on electricity generation, a total of 5760 GWh of electric power was consumed in 2012. Of this, 54% was produced by TANESCO itself, and 46% was bought-in from independent power producers (IPPs) or imported



# Preparation of the Project

- ✓ The initial idea and the recognition to the need to act, were behind the outcomes of the strategic and systematic preparation of the programme of action within the Climate Partnership.
- ✓ The process of the preparation was mainly founded as a baseline review and as a result of SWOT analysis.
- ✓ Currently in Tanzania and particularly Mwanza, it has been realised with longer period of drought and increased flooding which resulted into extreme weather events and electricity supply bottlenecks occur frequently.

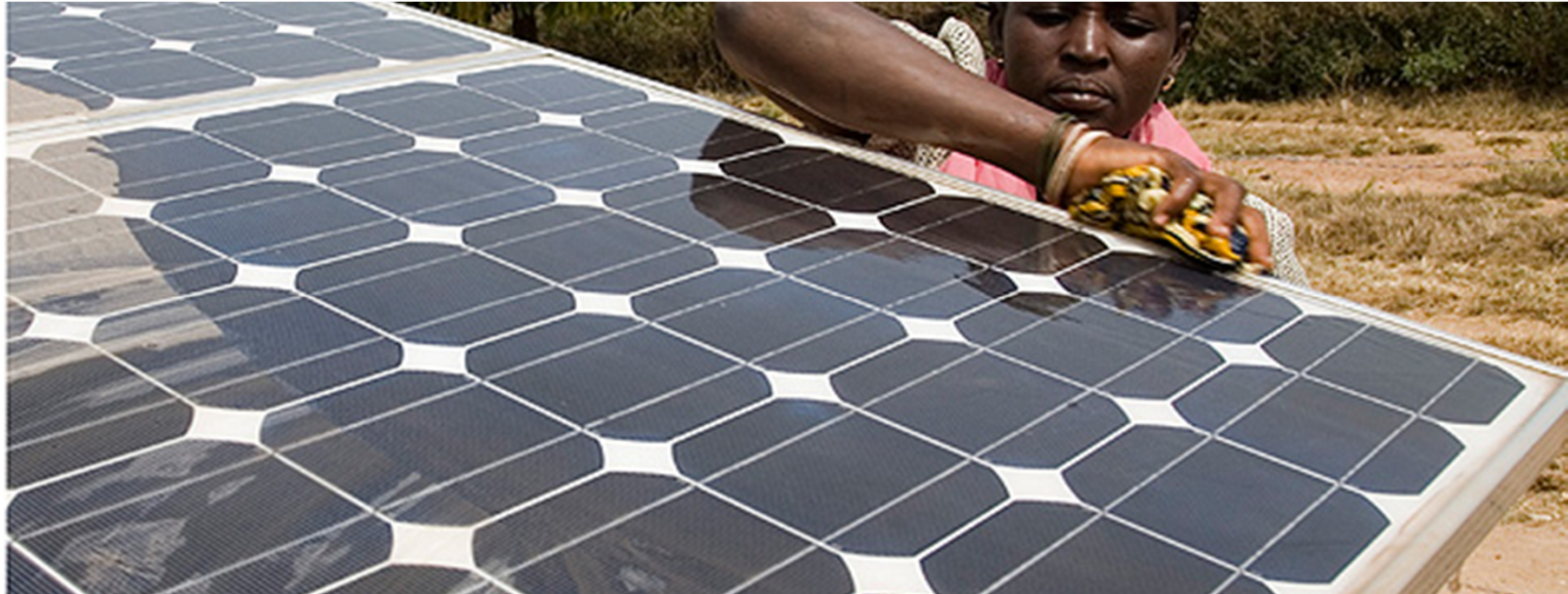




---

# Project idea

- The idea was brought into practice as a means to stabilise the energy supply, which is mostly obtained from Hydropower, and make it sustainable.
  - Thus, the most important part of the Programme of action is the development of renewable energy and autonomous power generation structures.
  - The project has developed several measures designed to operationalise concrete projects in the field of photovoltaic energy and thermal use of solar energy in Mwanza by establishing a pilot project of four photovoltaic energy and thermal use of solar energy.
-



## TARGET GROUPS OF THE PROJECT:

The objective of the project is to demonstrate the potential of solar power production, in order to win over investors for large-scale solar power plants in the medium to long term, and enable solar power to account for a significant proportion of all power in Tanzania.

The target groups envisaged are

1. *TanESCO: To build solar power plants of its own and feed the electricity generated into its own grid directly*
2. *The independent power producers could build solar power plants*
3. *Bulk consumers. They could build plants to generate power for their own consumption,*

# PROJECT METHODOLOGY

**Awareness raising:** involves demonstrating to the relevant local actors the potential technical and economic applications of PV plants for producing electricity and mitigating climate change, by showing them concrete examples by installing the Four demonstration Plants to generate low-carbon electricity by reducing local CO<sub>2</sub> emissions and demonstrate the functionality and economic viability of PV plants.

- ✓ Install, commission 7 kWp plant at the City Radio
- ✓ Install, commission 40 kWp plant at Nyamagana Hospital
- ✓ Install, commission 15 kWp plant at Mkolani Secondary School
- ✓ Install, commission and test a 45 kWp plant at the City Hall





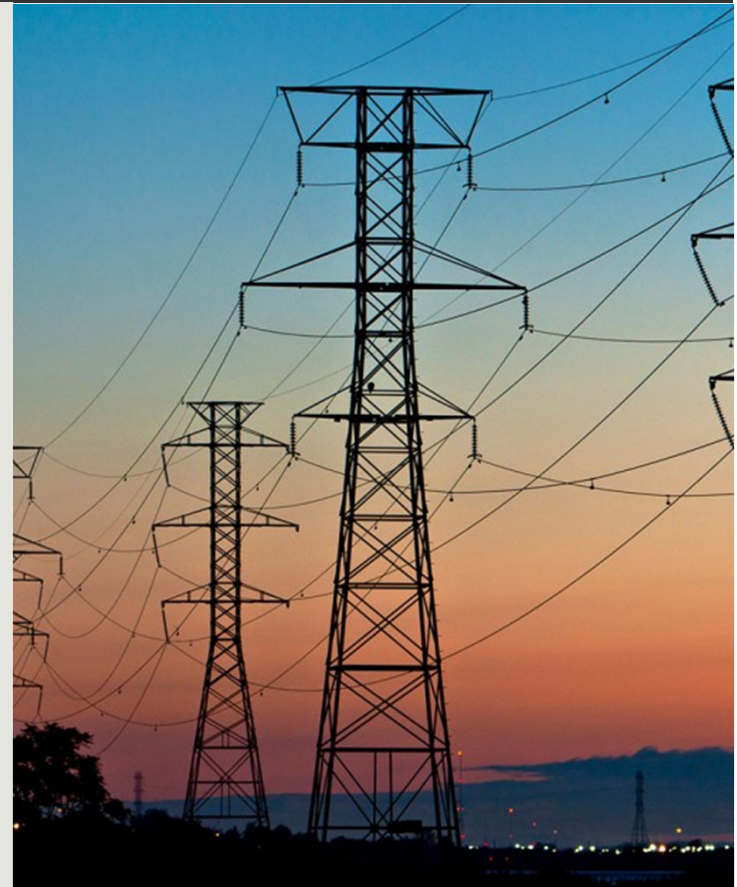


## OUTPUTS OF THE PROJECT

- ❑ The project will make a contribution toward sustainable energy supply in the city of Mwanza, and will serve as a showpiece demonstrating the potential for stable and competitive power supply based on low-carbon energy production.
- ❑ Awareness raising is increased on the use of solar power and low carbon supply within population and investors
- ❑ The power required from the public grid will be reduced, and overall expenditure on electric power will be lowered in the medium term in the four municipal building
- ❑ Surplus power generated will be fed into the public grid subject by the approval of Tanesco
- ❑ Operation and maintenance of the systems is ensured through local expertise through capacity building.

# Lessons learnt

- ❑ New technology of solar system which can contribute to the supply of energy to the national grid.
- ❑ Online monitoring, maintenance and configurations
- ❑ Solar Photovoltaic system is not only for household consumption but it can also be a national source of energy.
- ❑ It is the source of energy which is environmental friendly and also its costs are cheaper compared to the diesel generators and hydro sources.
- ❑ lack of sufficient knowledge concerned this new technology even to TanESCO.

















Thank you