



## **INVITATION TO POTENTIAL INVESTORS TO ACQUIRE 40% SHAREHOLDING OF THE RENEWABLE ENERGY SOLUTION FOR AFRICA (THE TATAI-MISCANTUS KFT)**

### **Introduction**

The purpose of this invitation is to solicit bids from potential investors to acquire 40 % shareholding of the unrivalled renewable energy solution that is earmarked for roll-out and implementation in Africa for the next 50 years. The estimated value of this technology once fully operational is estimated to be between €70- €100bn. The 40% shareholding is therefore offered for €3bn. The payment terms will be discussed with the interested/potential investors who are able to demonstrate the financial capacity to acquire this shareholding.

### **Renewable Energy in the African Context**

Renewable energy sources could help Africa provide modern services to its people both in urban and rural areas, while unleashing its socioeconomic development in a sustainable way. Africa has the possibility of planning the best solution to build new networks that can receive and cope with high shares of variable and decentralized renewable power generation compared to developed countries, which had to integrate renewables in their existing power systems. Furthermore, renewable energy can contribute to electrify Africa's rural and remote areas, where around three-fifths of the sub-Saharan African population currently live. Indeed, renewable energy provides the possibility to develop small- and off-grid power solutions for power supplies to rural dwellers and economic activities alike.

Tatai Program provides, without power grid, with internet connection, unlimited distribution of electric energy to satisfy the fast growing need of electricity.

However, Africa's renewable energy potential is still largely untapped due to multiple and interlinked challenges and barriers. So far, African states have only installed 5 gigawatts (GW) of solar PV, amounting to less than 1% of the world's total solar PVs, despite the continent's extensive solar potential. Other renewable energy sources have experienced similar slow developments. Policy uncertainties, inadequate infrastructure and grids, unstable financial situations, and limited access to private and foreign financing are only some of the main barriers hindering the full exploitation of renewable energy in Africa.

## The Basic Structure of the Tatai Program

- The energy cane: the Miscanthus sinensis 'Tatai' is a patent protected plant
- An industrial-size patented propagation technology
- Small patented power plants (5-10kW), patenting in progress for (15-750 kW)
- All elements and constituents of the program are functioning and available for inspection

## Key Features of the Tata- Reed Energy

- Miscanthus Sinensis 'Tatai' the registered plant
- The 'Tatai' is a perennial plant. Its cane like shoot is straight, compact and not branching with a diameter of 10-13 mm, and height of 3–6 m. The moisture content is low 8-12 % at harvest time.
- It is ready for cultivation in almost all terrain (sandy, clay, etc.) and chemical property (pH 5, 5-8, 5).
- To achieve 22 tones/ha of dry material, about 300-400 mm of precipitation is sufficient in the season of growth.
- Temporary flooding is well tolerated.
- Drought and frost (-35 Co) tolerant.
- Annual harvest yield is beyond average.
- Turns productive quickly (30-40 % of the gross yield in the second year, 70-80 % of the gross yield in the third year, then 100 % ready for harvesting).
- Long life-time, re-planted turnover is a minimum of 25 years.
- Known diseases and pests are not known to influence the plant.
- Not invasive.
- The leaf mould process provides a natural nutrient replacement, radically improving soil nutrient balance and soil quality in the production area.
- The nutrient demand is negligible since the CO2 content of the air is utilized efficiently
- Establishing micro-propagation plants and greenhouses – to produce seedlings in unlimited amount via a technology unique in the world.
- Taking lands into production.
- Further utilization of the energy plant -heat energy from power plants, pellet production, briquettes and later cellulose-based ethanol and the nutrients migrate back to the root system by the time of harvest.

## Project Implementation in Africa

The primary purpose of this project is to develop environmentally friendly renewable energy that will be incorporated into the power grids of the different countries in Africa. The power plants will be manufactured at a single and decentralized or deployed in different countries with a specific focus in rural areas. The power plants will be powered by the unique energy reed, namely the Tatai plant.

The ENERGY REED: *Miscanthus sinensis* "Tatai" is a patent protected plant species. On the basis of equivalence calculations, the heating value of 22 tons of energy reed is equivalent to 10,450 m<sup>3</sup> of natural gas (according to VEIKI Plc.) The energy reed can be harvested annually; its moisture content is low; its burning technology parameters are as good as wood; it has a high yield, is soil-friendly and not invasive, which makes it an ideal energy plant. The technology is also protected.

The Tatai Program captures 20-50% more CO<sub>2</sub> in a controlled manner than the amount of CO<sub>2</sub> exhausted. It is a unique and efficient solution in the renewable energy sector. The CO<sub>2</sub> is absorbed in the soil in the form of bio carbon. The properties of bio carbon:

- Enhances the effects of soil fertilizers;
- Enhances water retention, soil aeration, and subsoiling;
- Reduces the nitrogen-oxide and methane discharge of the soil;
- Efficient in reversing desertification;
- Reduces the acidity of the soil;
- Enhances soil fertility and yield;

## Tatai Program Value Chain

### Plantation

Africa has vast amount of unused land particularly in rural areas that could be suitable for Tatai Plantation. In this regard poor quality agricultural land, public areas and land adjacent to railway lines currently not cultivated; re-mediated waste dumps and polluted land unsuitable for food production purposes would primarily be used for the production of energy crops. Plantation will be spread across the continent and established within fifty kilometres radius from each power plant. It is estimated that thousands of jobs will be created in the continent.

### Harvesting

*Miscanthus* is harvested twice a year. The dry material content of the plant is high, even exceeding 85-90%, during this particular period; moreover, this is when nutrients migrate from the plant to

the rhizome. The key requirement stipulated for using harvesters is that they should not compact the soil or damage rhizomes.

Owing to the structure of home agriculture, the most suitable and frequently used harvesting method is to use of a maize combine harvester. It is possible to cut off the fuel plants by switching off the chopping adapter of the harvester, so the harvester will simultaneously sort and cut the plant. A baling machine is used to put the cut and sorted plants in bales.

### **Power Plants Establishment**

Different sized of power plants will be established across the continent. The plants will be powered by the Tatai reed to produce heat electricity and heat energy. The burning of biomass, the utilization of steam produced is practically equalled to the technology applied at the large power plant. The produced heat is necessary for the processes (drying of biomass, preheating, etc.), but the facility produces a considerable amount of heat. In the production of 1kW electric energy we receive 2 kW heat energy.

It is envisaged that the power plants components will be manufactured at a Factory that will be established at one of the Special Economic Zones in South Africa.

### **Environmental Impact**

Plantations do not have any negative impacts to the environment. By composting the leaves that fall in a natural manner, replenishment substantially improves the soil nutrient balance and consequently the quality of soil in the area of production. Since this plant does not require intensive soil replenishment on an annual basis, it is neither necessary to take account of the impacts of soil erosion ensuing from cultivation.

Gassing has a history of 100 years. Gasing Kft. developed a set, which is up to date to the 21st century in its technology, environment protection and other professional requirements. Biomass will be burned in an environment of low oxygen content. The produced gases are combustible and are able to produce energy. The so called wood-gas contains carbon-monoxide, hydrogen, and few methane. The tar content of the produced gas is very low, thanks to the modern technology developed by Gasing Kft. Because of the low tar content there is less maintenance need and the facility can work 7000 hours a year.

The produced gases contain some dreg, which will be extracted mechanically. The heat energy will be also extracted and the gas will be lead to a gas engine. The engine drives a generator, which produces electricity for the network. The facility does not pollute environment.

## Advantages of the Project to the Continent

- Independent energy source: import gas could be replaced in principle.
- The output of power plants based on installed systems could reach several thousand MW capacity by the year 2050.
- The capacity of the system could be increased virtually without limitation only dependent on the amount of land available.
- Modest investment is required against the turnover.
- High-profit capability.
- Quick return in the energy sector.
- Utilization of waste lands by taking them into production.
- The program could be realized with equipment available in the market.
- Job creation
- Rural development
- Opportunities for SMMEs in the value chain (Transportation, manufacturing and supply of components for the power plants)
- Taxes for government
- The continent has the potential to generate major revenues through carbon-dioxide trade, which amount cannot be determined in advance, since the stock exchange determines its price. The Program is anticipated to generate a 7 000 000 ton CO2 quota by assuming that 2000 MW of electricity.
- Taking 20 €/tons as a basis, this implies generating an annual revenue of € 140. - Million.

## Procedure on the submission of bids

- Potential investors will be required to submit their bids in writing
- Shortlisted bidders will be given access to the financial information and all other material details relevant to the project once non-disclosure agreements have been signed.
- Sites visits will also be arranged with the short-listed bidders.
- All technical questions and enquiries can be addressed to Mr. Gabor Kiss
- Email: [info@tataireed.com](mailto:info@tataireed.com)

Bids shall open until 31 August 2021 and all formal submissions must be made to:

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