

Proposal



Comfortable, Richer Lives



Quintas
Renewable Energy Solutions Limited

Our Ref: QEL/FME/05

June 26, 2015

The Coordinator,
Renewable Energy Program,
Federal Ministry of Environment,
Green Building,
Aguyi Ironsi Way,
Maitama – Abuja.

Dear Madam,

QUINTAS BIOMASS GASIFIER STOVES SET FOR MASS COOKING IN SCHOOLS

Quintas Renewable Energy Solutions Ltd is a renewable energy generation and energy management company, specialising in the manufacture of gasifiers for efficient biomass energy utilization, as part of her all-encompassing efficient biomass energy deployment in Nigeria. We attach a write up on our organisation to acquaint you with all our works in biomass and other energy technologies.

QUINTAS GASIFIER STOVES

Using the Top-lit Updraft Gasification Technologies, we manufacture over ten models of gasifier stoves, with burner size ranging from 3 to 15 inches. The 12 inches, 10 inches and 8 inches diameter burner size models form a set for use in schools and other institutions for rapid process mass cooking. The burning intensity of each stove in the set could be independently controlled, to suit the cooking desires of the operators of the stoves. The stoves use wood, Palm Kernel Shell, maize cob/stalk, Groundnut shell, flower cuttings or any other dense or fairly dense biomass material as fuel. Each stove stand houses three biomass stoves and has provisions to allow for placing of ladles and pestles during cooking.

QUOTATION FOR ONE SET OF QUINTAS GASIFIER STOVES

Quotation for a set of our biomass stoves that can handle the cooking of over a thousand people within two hours will be supplied if you show interest in our product.

Find below the photograph of the stove



Back View of Quintas Gasifier Stoves set

Front View of Quintas Gasifier Stoves set



We thank you for your interest in our products, and we look forward to a future business relationship with your organisation.

Yours faithfully,
Quintas Renewable Energy Solutions Ltd.

Dr. Omotayo Dairo
Managing Director



Energy in Everyday Living



Everyday in the course of life activities and pursuit of value creation, individuals and organisations place common active demand on energy consumption. Energy is actively consumed in and across all forms of daily activities from industrial levels to a personal scale endeavours.

Energy that is efficiently development and delivered improve our everyday living and enriches our general wellbeing. At Quintas, we package and deliver energy in an efficient and environmentally friendly manner to earn our envied leadership status in the Global Renewable Energy Industry.

Preamble

Renewable energy could be simply defined as energy that is naturally replaced by nature after it has been expended by man.

There are six of such energy forms in use by man as at today. They are:

1. Solar energy, which comes in two forms (i) *Solar Photovoltaic* and (ii) *Solar Thermal*
2. Hydro Energy
3. Wind Energy
4. Biomass Energy
5. Geo-thermal Energy and
6. Tidal and Oceanic wave Energy

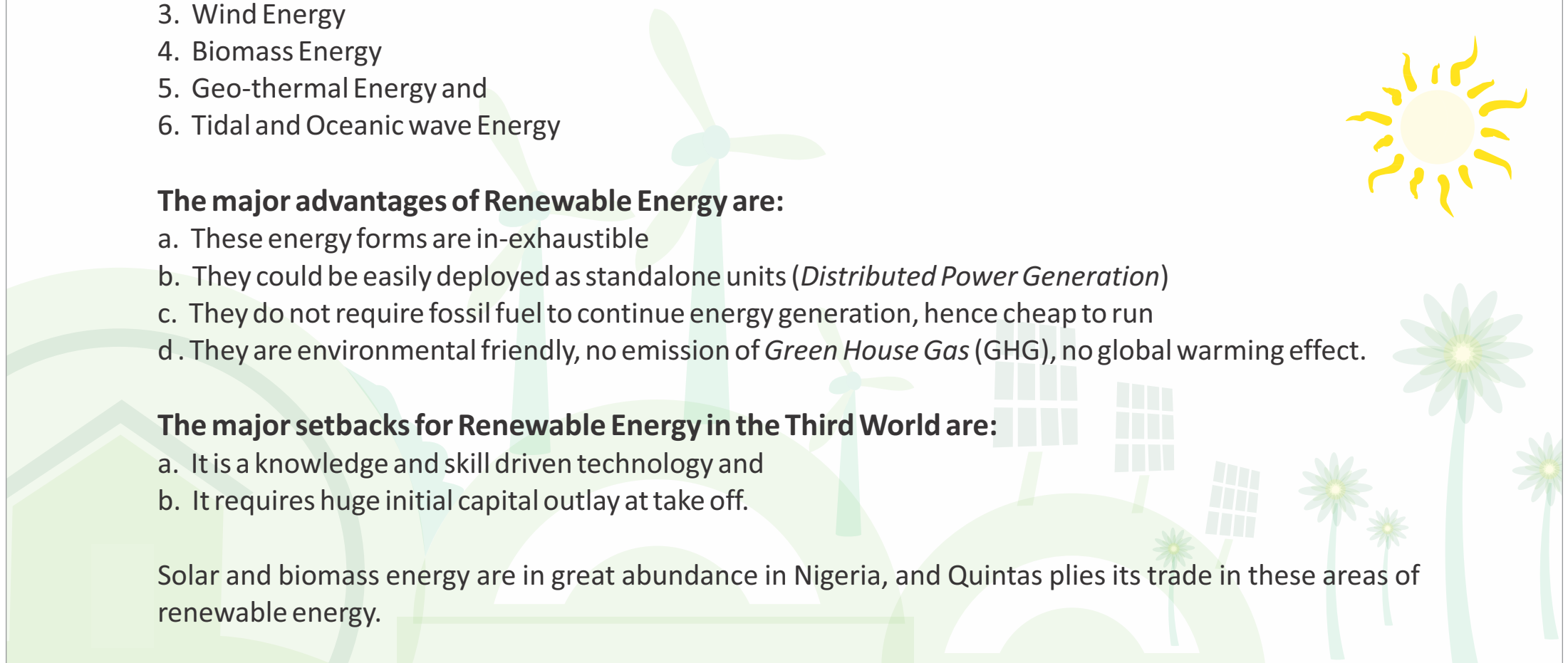
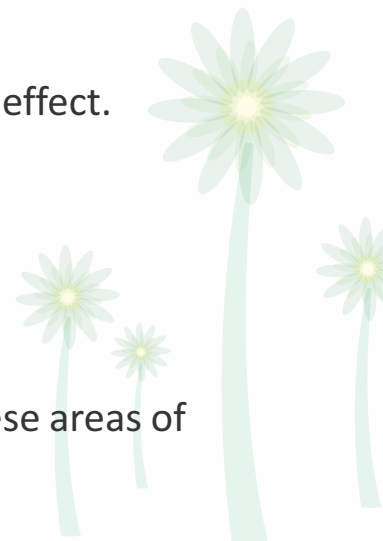
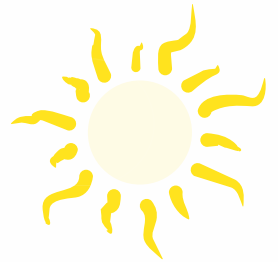
The major advantages of Renewable Energy are:

- a. These energy forms are in-exhaustible
- b. They could be easily deployed as standalone units (*Distributed Power Generation*)
- c. They do not require fossil fuel to continue energy generation, hence cheap to run
- d. They are environmental friendly, no emission of *Green House Gas* (GHG), no global warming effect.

The major setbacks for Renewable Energy in the Third World are:

- a. It is a knowledge and skill driven technology and
- b. It requires huge initial capital outlay at take off.

Solar and biomass energy are in great abundance in Nigeria, and Quintas plies its trade in these areas of renewable energy.



Global Investments In Renewable Energy In The Last One Decade

Global investment in renewable energy was about \$40b in 2004. This has grown up to \$254b (Two hundred and fifty four Billion USD) in 2013 (635% increase). According to data released by Bloomberg, New Energy Finance (BNEF) in January 2014, this figure is expected to double in 2020, and the 2020 figure is expected to double again in 2030 to hit a gross Global investment of over \$1Trillion USD.

Africa's share in renewable energy investment was \$211m in 2004. In 2013 Africa's total investment climbed to \$4.3b, with South Africa having 28 of the 34 renewable energy projects in the continent.

The world energy consumption in 2010 was 153,546 terawatt-hour, (*TWh, and 1 terawatt-hour = 1 billionkilowatt-hours*) with Africa consuming only 4,606TWh, which is just 3% of global consumption. Since there is direct correlation between energy consumption and GDP, it is no surprise that Africa contributed only 3.1% to global GDP in 2010.

It took several hundreds of millions of years for nature to accumulate the Petroleum, Natural Gas and Coal that are the main sources of energy to the world today. From the present consumption rate and data on the quantum of these energy sources thus far established, (global mineral reserve) Petroleum will be exhausted in 35years, Natural Gas in 150 years and coal in 400 years.

From the facts enumerated above, it is easy to infer that the development of the renewable energy industry is an unavoidable path for the survival of Africa and mitigation of the disasters that may accompany Global climate change.



Who We Are



Quintas Renewable Energy Solutions Ltd is a private limited liability company specialising in Renewable Energy (Solar & Biomass) generation, Energy management and Farm-gate Industrial cluster development;. The company was founded by Dr. Omotayo Dairo in 2009.

The company manufactures Power inverters, fabricate simple agro processing machinery to process farm gate produce beyond primary raw material levels, Top-lit updraft gasifiers (TLUD), Updraft gasifiers with embedded combustors for efficient biomass energy utilisation, water in tube boilers to generate steam at varied volumes and pressures, and steam turbines of different power out for mechanical and electrical energy generation. These products are geared towards Farm gate Industrial processing and rural development.

Who We Are

Our Vision:

To use the simplest, cheapest and most efficient technologies to provide solutions to the energy needs of our clients.

Our Mission:

To provide comfort where man lives, work and play using the best engineering practices to harness, manage; distribute renewable and other energy forms.

Our Values:

Our values are our guiding beliefs that shape our behaviour, relationships and work ethics.

Efficiency

We are built to deliver and optimise our operation processes, to meet the needs and desires of our clients. Our timelines and production processes are always kept in focus.

Innovation

We are constantly innovating, with increased productivity and improved comfort of our clients at the base of our cogitation.

Excellence

Quintas derives its meaning from the Latin word QUINTUS which means excellence. As our name portrays, we strive each day to make all our products excellent and futuristic.

Balance

We find a beautiful balance between work and play. We also bring this into business relationships as well.

Practicability

We are driven by the desire to not just achieve excellence, but to create products and services that are easy to use and relevant to our target consumers..



Quintas Energies

Quintas Energies is made up of four arms of renewable energy generation, distribution and management. They are:

- 1. Quintas Steam Turbines/Power plants**
- 2. Quintas Biomass Energy Generation and Management Systems**
- 3. Quintas Solar/Inverter Technologies**
- 4. Quintas Farm Gate Industrial Clusters that are driven by clean renewable energy**

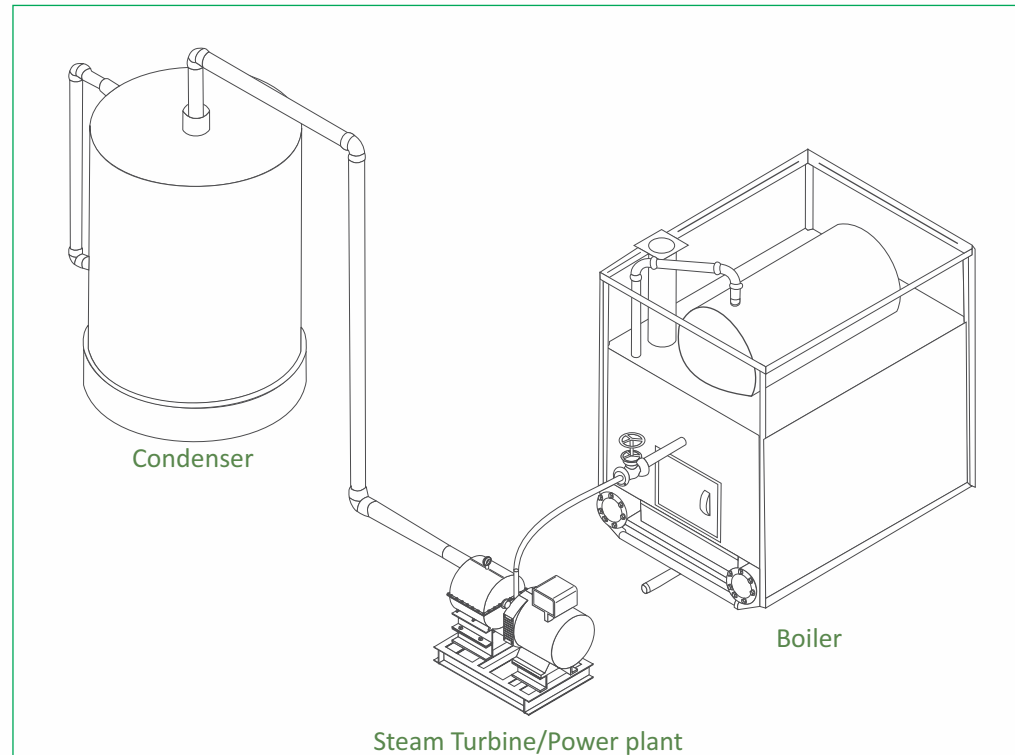


Inventions and Innovations

1. Quintas Steam Turbines/Power plants

Quintas has designed single and multi-stage pressure and velocity compounded back pressure steam turbines to run at 1,500RPM for off grid distributed (embedded) electricity generation.

These turbines are in four models with power output of 100KW, 250KW, 500KW and 1MW.



Quintas Steam Power Plant

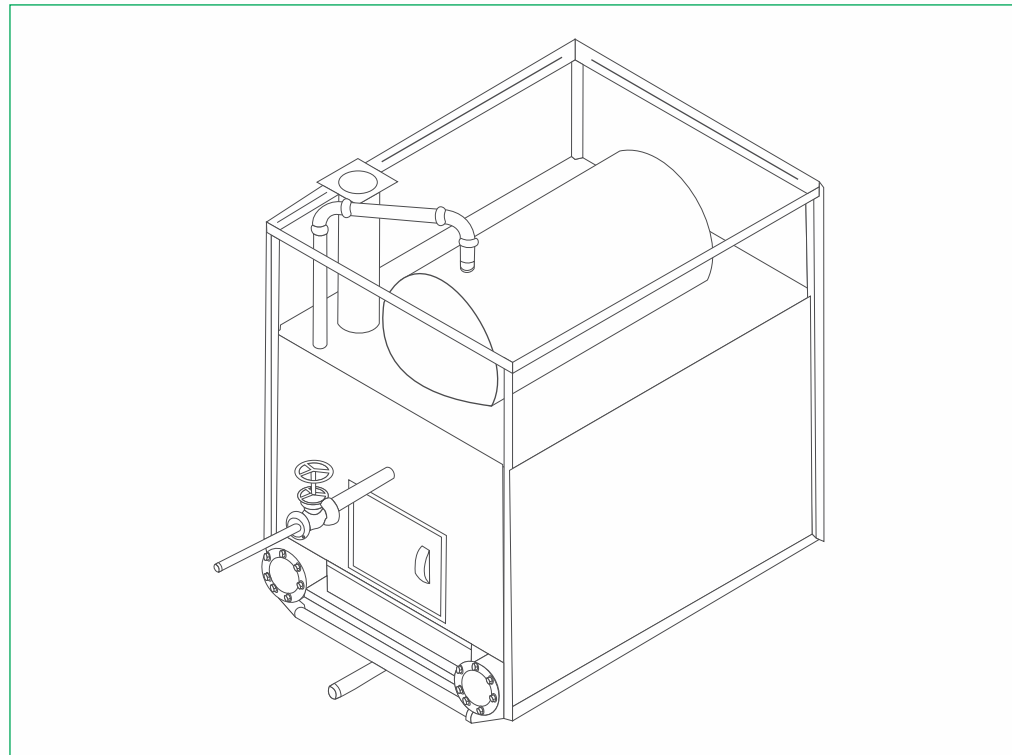
The boilers that accompany these turbines could use forest and agro residue or processed municipal wastes as fuel for steam generation.

Inventions and Innovations

2. Quintas Biomass Energy Generation and Management Systems

a. Quintas (Yarrow Moel) Biomass fired Water in-tube Boilers

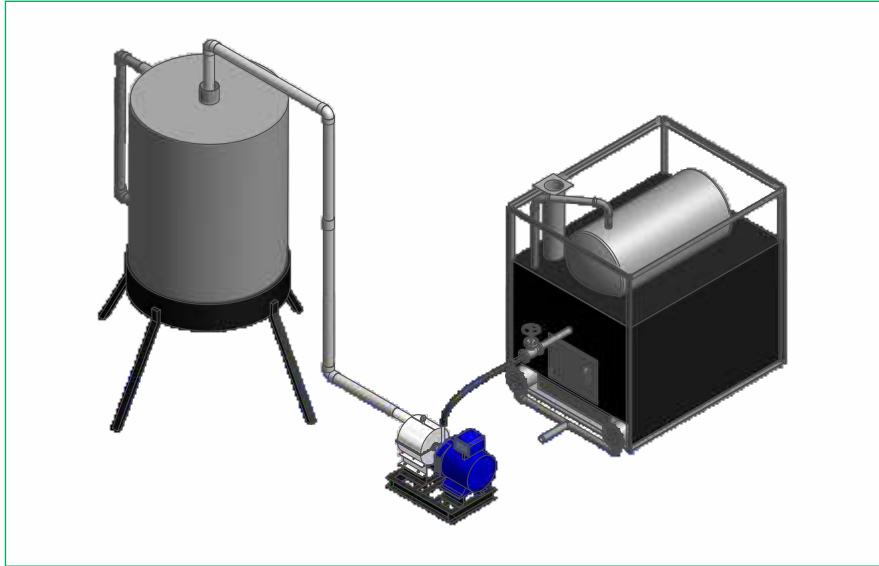
Quintas has four models of 150KW, 375KW, 750KW and 1,500KW with super-heaters to support our different models of turbines for electricity generation. These boilers could be used as standalone steam generators in the processing Industries.



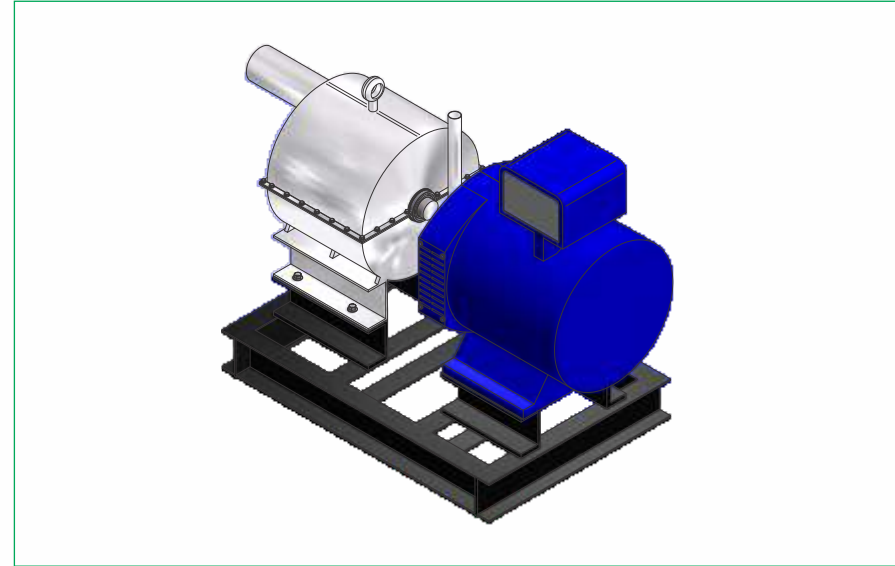
Quintas Biomass fired water in-tube Boiler

The furnace of the boilers are designed to burn solid, liquid and gaseous fuels and their operating pressure ranges from 20 to 500psi, depending of the requirement of clients.

Product Gallery



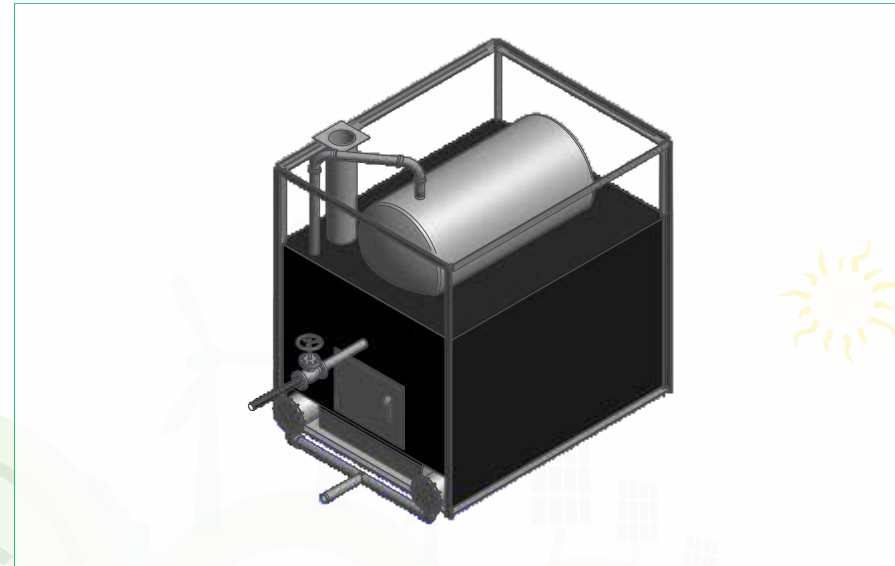
Quintas Steam Power Plant



Quintas Power Plant

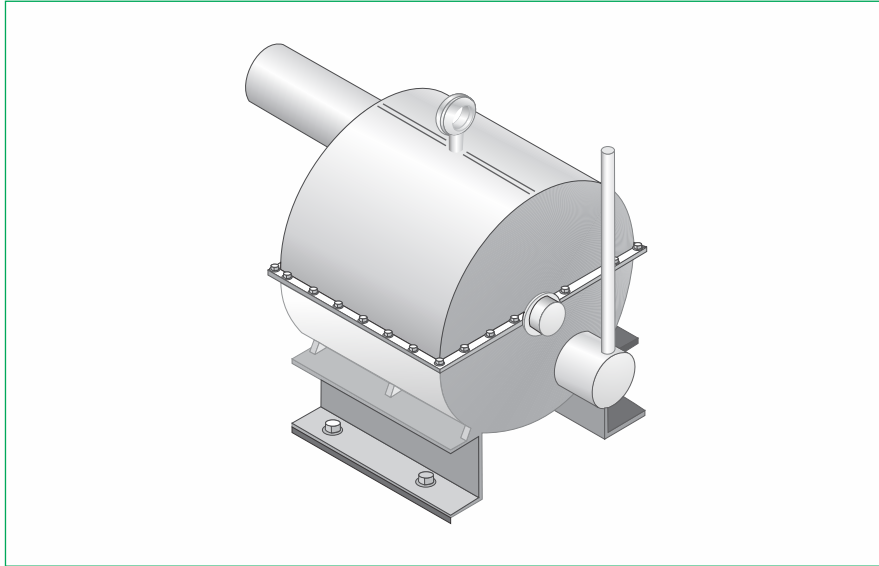


Quintas Condenser

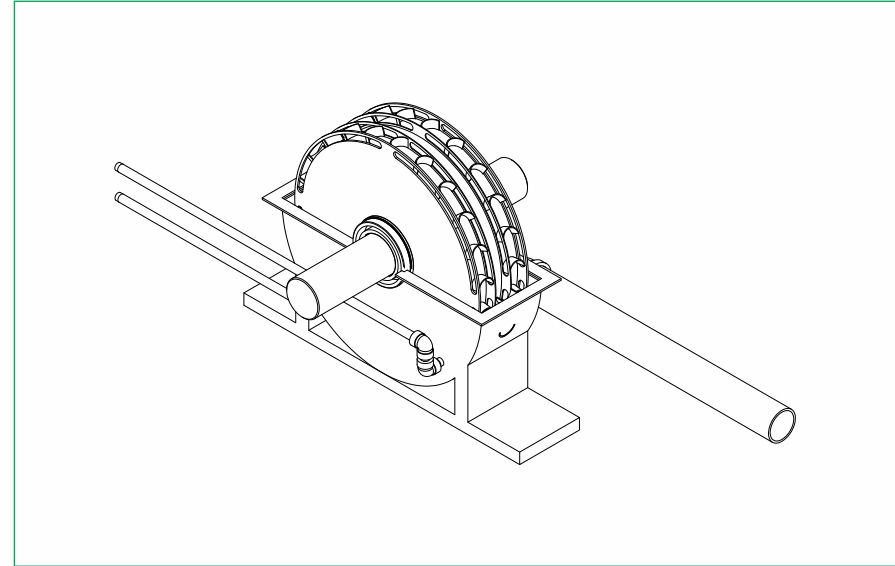


Quintas Water-In-tube Boiler

Product Gallery



Quintas Steam Turbine



Quintas Steam Turbine



Picture Gallery:



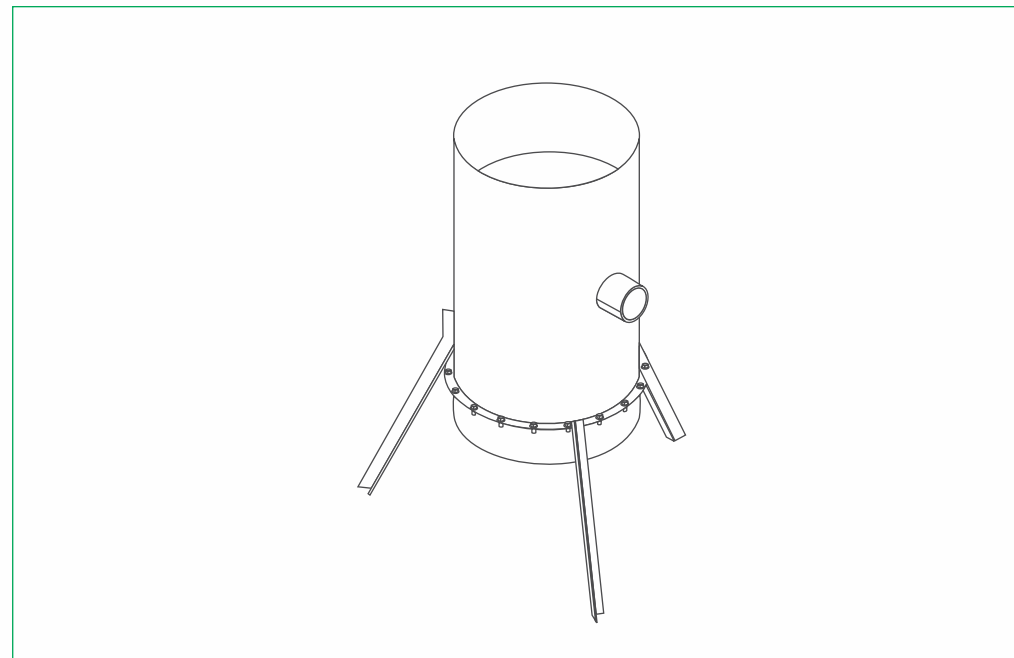
Inventions and Innovations

2. Quintas Biomass Energy Generation and Management Systems

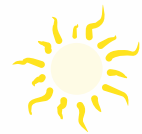
b. Quintas Gasifiers

(i) *Updraft Gasifiers with or without embedded Internal Combustor*

These types of gasifiers are produced with varying size of grate to meet the energy demands of clients. They are used as heat source for boilers, heat exchangers and direct heat source in kilns, Industrial processing and space heating for drying of materials.



Quintas Gasifier



Inventions and Innovations:

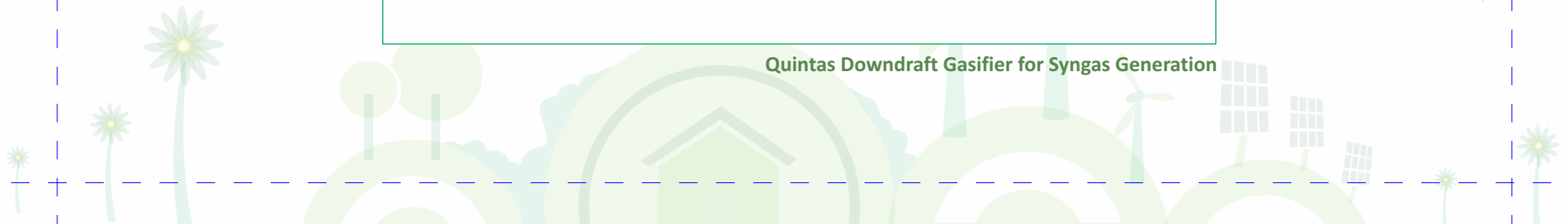
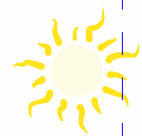
2. Quintas Biomass Energy Generation and Management Systems

b. Quintas Gasifiers

(ii) *Downdraft Gasifiers*



Quintas Downdraft Gasifier for Syngas Generation



Picture Gallery



Prototype Quintas Updraft Gasifier with embedded combustor



250kW Quintas Gasifier with embedded combustor



Inventions and Innovations

2. Quintas Biomass Energy Generation and Management Systems

c. Quintas Biomass Stoves Gasifiers

- (I) Quintas Toplit Updraft Gasifier Stoves
- (ii) Quintas Rocket Stoves



Picture Gallery



Quintas 12" TLUD Biomass Stove - In Use



Quintas 12", 10" and 8" Biomass stove array at Arch Bishop Vining College, Akure



Quintas 12" TLUD Biomass Stove - For Domestic Cooking



Quintas 12", 10" and 8" Gasifier Stoves for mass cooking

Inventions and Innovations

3. Quintas Solar/Inverter



Quintas Inverter Model No. Q12 500VA – Q48-0500VA



Imported Quintas Inverter with power range from 6 – 100KVA (Single Phase)



Quintas 60KVA (30kva each) Inverter Installation @UCTH Calabar

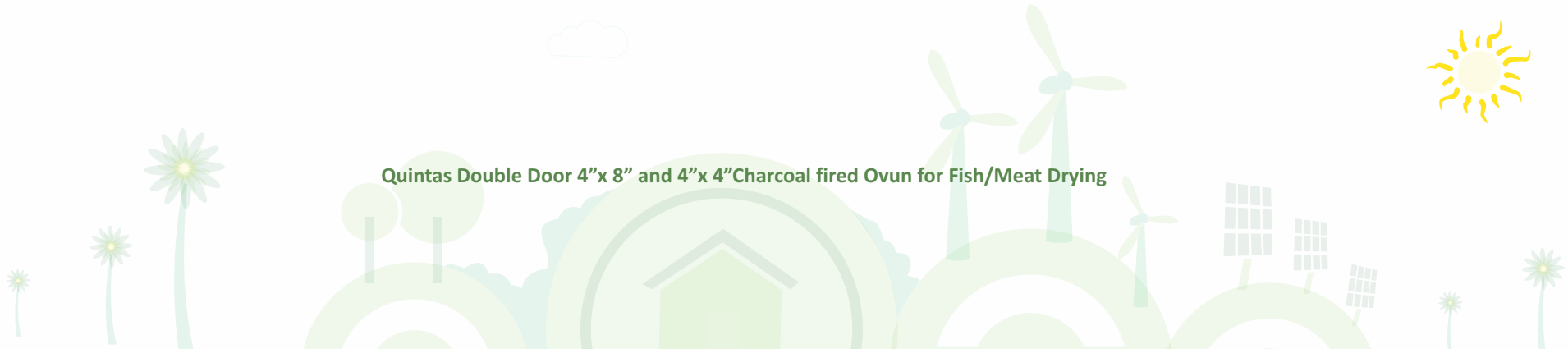


120KVA (60Kva each) Inverter Installation National Stadium, Abuja

Inventions and Innovations



Quintas Double Door 4"x 8" and 4"x 4" Charcoal fired Ovun for Fish/Meat Drying



Inventions and Innovations

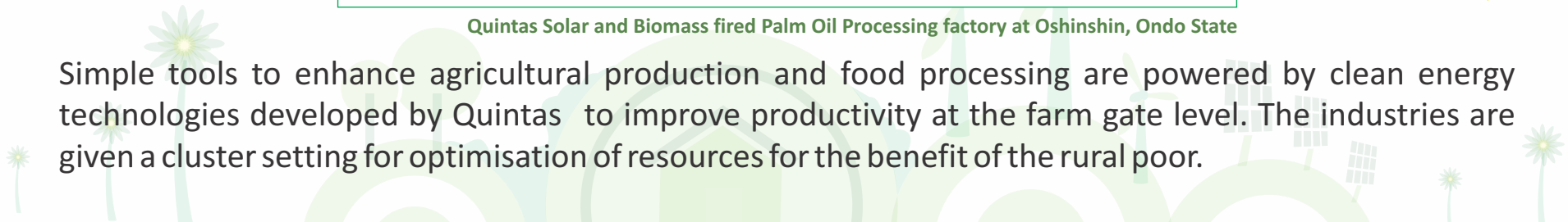
4. Quintas Farm Gate Clean Energy Industrial Clusters

One of the causes of endemic poverty in Africa is her inability to process her agricultural produce beyond primary production level before sales. Lack of access to energy coupled with poor Industrial processing techniques are major challenges that rural and semi urban dwellers face in Africa.



Quintas Solar and Biomass fired Palm Oil Processing factory at Oshinshin, Ondo State

Simple tools to enhance agricultural production and food processing are powered by clean energy technologies developed by Quintas to improve productivity at the farm gate level. The industries are given a cluster setting for optimisation of resources for the benefit of the rural poor.





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