

# BIOMASS Pellets-Burner™



**JSK**

RENEWABLE  
ENERGY LTD.

INNOVATIVE  
THINKING

1000+



Successful  
Installations

SAVE  
FUEL COST  
UP TO **50%**

# Concept

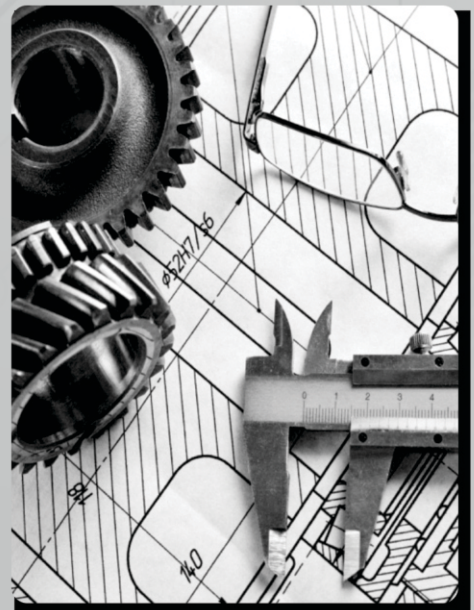
- Serving proven & efficient series of **Pellet-Burners**...
- This is basically European concept for environment friendly combustion heating process..
- Why eco-friendly? Because **PELLETS** are made from woods & agri-waste, which are.:
  - **Renewable** source of energy
  - **Carbon** neutral fuel
  - No fossil fuel – Very low **Sox** or **Nox** release – No **CO** release
  - Best Alternate Low-cost source of energy against conventional **Oil & Gas, Diesel**
  - Locally easy Availability

# Benefits

- **Eco friendly** combustion
- **Lower Cost** of Fuel compared to Diesel, Oil (HSD/LDO/RFO) & Gas (LPG/PNG/CNG/Propane)
- Minimum **30 to 50% savings** in fuel cost is guaranteed
- **Easy to** store, Handle and Transport
- Equal quality, un- interrupted **availability** of pellets @ all the seasons
- Very low ash content (Approx 2-4%) as residue after burning.
- **Highly efficient** (90-95% combustion  $\eta$ ) and controlled combustion through PLC Auto Panel
- **Low power** consumption
- **Clean & Silent** operation
- **Compact sized** installation
- Very **less modification is required** to replace existing Oil & Gas, Diesel-burner

# Why we ?

- **ORIGINAL & PATENT APPLIED DESIGN**
- Management is from **qualified technocrat** who have rich experience in combustion technology **for 20+ years**.
- Successful installation since last **10 years** Pan India + Abroad.
- State of the Art Manufacturing facility in 20,000 sq. ft.
- Proven product as **1000+ installations** are successfully running.
- 24 x 7 Service support by qualified team of engineers



## Biomass Multi-Fuel Burner™ series

PARTICULARS	UNIT	IB-150	IB-200	IB-300	IB-400	IB-600	IB-800	IB-1000	IB-1200	IB-1600	IB-2000
Capacity - Max	Kcal/hr	1,50,000	2,00,000	3,00,000	4,00,000	6,00,000	8,00,000	10,00,000	12,00,000	16,00,000	20,00,000
	Kw/hr.	174	232	349	465	697	930	1162	1395	1743	2328
Fuel Feeding Rate - Max	kg/hr	36	49	73	98	147	195	243	293	375	500
Power	HP	0.5	1	2	2	3	3	5	7.5	15	18
PLC Control Panel		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Secondary fuel feeder		OPT	OPT	OPT	OPT	OPT	Yes	Yes	Yes	Yes	Yes
Automatic Ignition (Optional)		N/A	N/A	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Auto ASH Removal (Optional)		N/A	N/A	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Matched Boiler Capacity	TON	0.25	0.33	0.5	0.66	1	1.3	1.6	2	2.6	3.3

# BIOMASS PELLET BURNER INDUSTRIAL SERIES

up to  
**50%**  
save your  
fuel cost  
*Against Diesel/GAS/LDO/RFO*

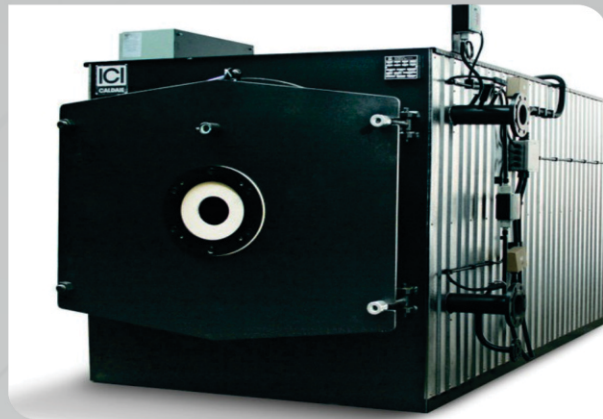


**ZERO**  
Maintenance

# Application



**Steam Boiler**



**Thermal Oil Heater**



**Heat Exchanger**



**Plastic Roto-moulding for Water Tank**

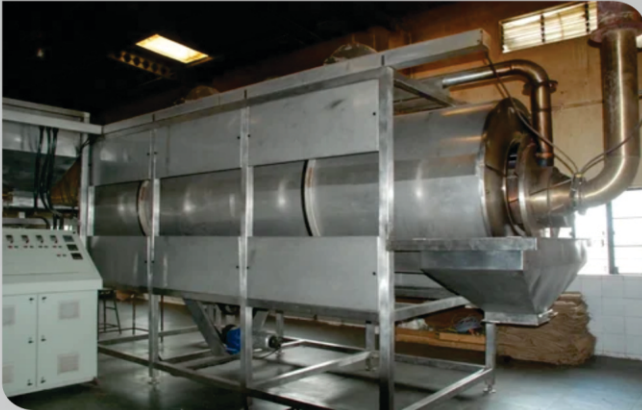


**Printing Rotogravure**



**Spray Drying Line**

# Application



**Roasting Line**



**Rotary Dryer**



**Bakery Oven**



**Biscuits & Snacks Continuous Line**



**Aluminium-Melting-Furnace**



**Incinerator**

# Appli cation



**Road Construction-Asphalt**



**Green House**



**Textile Industries**



**Coal Fired Boiler-Furnace**



**Pharmaceutical Industry**

# Benefits of Pellet (biomass) combustion

## Commercial and Operational suitability benefits

Greenfire designed Biomass firing systems are having great choice compare to others; in terms of User-friendly logic programmed Touchscreen HMI-PLC elect panel, Best possible compact design, Super Silent operation, High quality HR paint & Lucrative machine guard/ cover Compact.

Huge cost savings in fuel bill compare to fossil fuels makes your investment in Greenfire product free within just 2-3 months!!

## Environmental benefits of biomass

Biomass benefits are still subject of many debates when compared with other renewable energy sources. However, biomass has many advantages over fossil fuels due to reduction of the amount of carbon emissions. The main benefits of biomass are,

### (A) It is a renewable source of energy

The benefit of biomass is renewable source of energy and it cannot be depleted. Biomass mostly derived from plants, that means as long as plants are going to be on this planet, biomass will be available as renewable energy source.

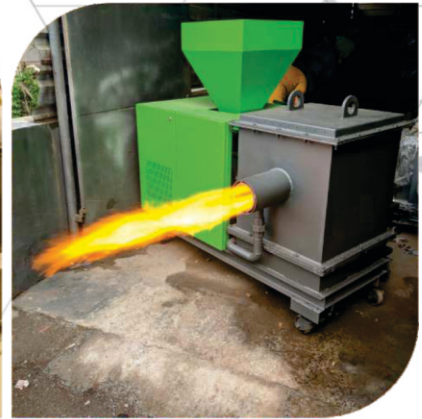
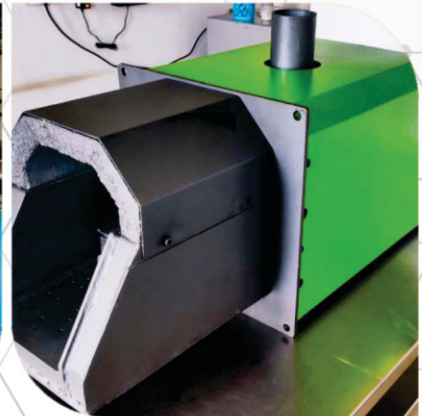
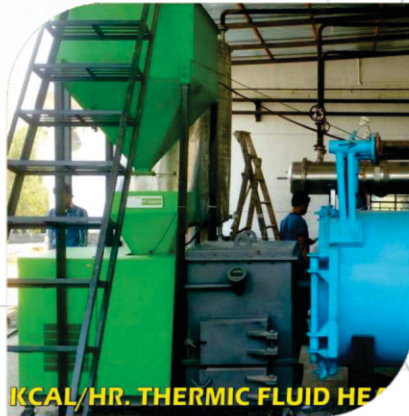
### (B) Biomass helps climate change by reducing GHG

Biomass helps to reduce the amount of GHG that give significant impact to global warming and climate change. The biomass emissions level is far less compared to fossil fuels. The basic difference between biomass and fossil fuels when it comes to amount of carbon emissions is: all the CO<sub>2</sub> which has been absorbed by plant for its growth is going back in the atmosphere during its burning for the production of biomass energy. While the CO<sub>2</sub> produced from fossil fuels is going to atmosphere where it increases greenhouse effect.

### (C) Biomass is widely available source of energy

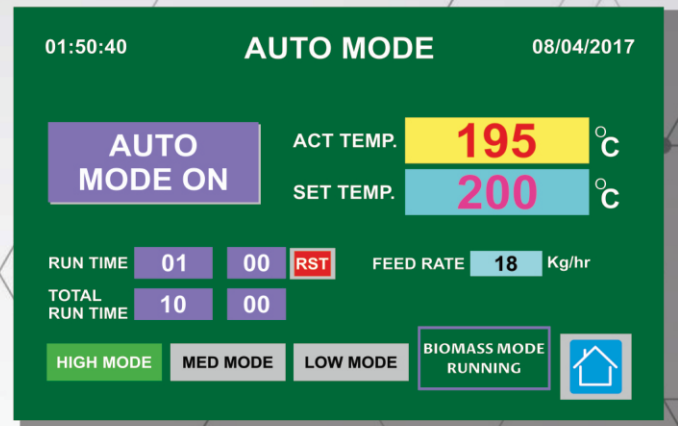
Biomass is widely available energy source. The main sources are from agriculture and forestry waste. Many energy experts agree that when you combine economic and environmental character of energy sources, biomass is on top of the list as one of the best suitable and feasible energy sources.

# Products Showcase



# Greenfire PLC-HMI Controlled Electric Panel

## CONTROL PANEL WITH ADDITIONAL MANUAL MODE CONTROL FACILITY



## Features

- # Dual option programme for Biomass and Wood Pellet mode (*Multi-Fuel Controls mode*)
- # Colorful Touchscreen HMI-PLC Control
- # Graphical Display: Large graphical display ensure un-interrupted operation of the unit
- # Large fonts & icons: Make easy to operate
- # Password based data acces: Allows only authorised persons to change setting parameters
- # Detailed Home page: Shows set temp, Actual temp, run time of Burner, running pellet consumption, total consumption of the day and many more
- # Auto, Manual & Test mode operations: Facilitate operator to control all situations
- # PID controlled modulation system
- # VFD driven proper Air-Fuel ratio control system
- # Fuse n relay based safety features
- # Alarm hooter for Low fuel warning system
- # Socket connector type Plug n play system for easy of installation
- # Additional controls for semi-auto and emergency manual mode (*Dual wiring*)
- # All proven and branded hardware we use in control panel

# Greenfire *USP*



FULLY AUTOMATIC



ZERO MAINTENANCE



ROBUST DESIGN



FUEL COST SAVINGS

24/7

SERVICE BACKUP



AUTO IGNITION  
AUTO ASH REMOVAL



COMPACT & SILENT



# ROUGHLY CALCULATION

## COST SAVING BETWEEN GAS (LPG)/DIESEL/OIL AND WOOD PELLETS

Current burner: ..... Burner  
 Monthly GAS/DIESEL/OIL consumption: .....kg/L  
 Monthly GAS/DIESEL/OIL cost: GHC..... (1kg/L .....price Ghc.....)

GAS/DIESEL/OIL calorific Value= 12,000/11,000/10,200kcal/kg  
 Wood pellets calorific value= 4,400kcal/kg

### 1 KG/L GAS/DIESEL/OIL = KG/L PELLETS NEEDED

1 Kg/L **GAS/DIESEL/OIL** price ( / /20 ) = GHc ..... /kg/L  
 1 Kg PELLETS price ( / /20 ) = GHc ..... /Kg  
 1 USD = Ghc..... [Exchange rate]

Monthly .....kg/L **GAS/DIESEL/OIL** = .....kg PELLETS

..... kg/L **GAS/DIESEL/OIL** × Ghc ..... = Ghc..... /Month  
 .....kg PELLETS × Ghc ..... = Ghc ...../Month

@ **GAS/DIESEL/OIL** cost per month= GHc .....  
 @ Pellets cost per month = Ghc .....

### Difference:

..... - ..... = Ghc ...../ month

Monthly saving Ghc ..... In USD is ..... ÷ ..... = \$.....

Yearly saving Ghc..... In USD is ..... ÷ ..... = \$.....

Approximately investment require in pellet burner = \$.....

## Fuel for Our burners - Wood Pellets

Wood pellets are a heating fuel typically made from the compacted sawdust and industrial waste from the milling of lumber as well as the manufacture of wood products like wood furniture and flooring, without any chemical adhesive. Pellet fuel is environment friendly and also easy to transport, to store and to distribute. They are characterized by allowing moisture content, low ash and they are not harmful to the environment as carbon neutral fuel and they are having high energy value. It has safe to store - no risk of hazards flexible in packages from 30 kg Bag to 1000 kg Jumbo Bag.



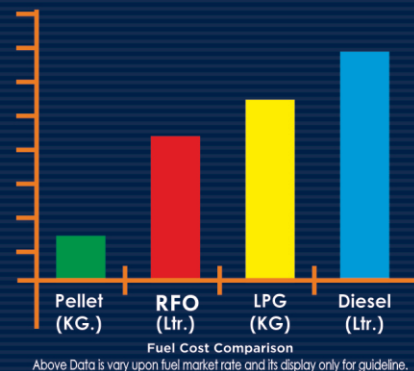
## BIOMASS

Biomass is fuel that is developed from organic materials, a renewable and sustainable source of energy used to create electricity or other forms of power. Continuous significant increase in prices of liquid & gaseous fuels is increasing interest in lot of cheaper, alternative sources of energy everywhere. We are glad to offer our range of burners at Vedant Green Energy, allows you to effectively burn renewable fuel i.e wood pellets. the relatively low price of Bio-Fuels can save up to 50% in fuel costs.

Particular	Unit	Value
GCV	Kcal/Kg.	4100 2%
Ash	%	<3-4
Moisture	%	<10
Bulk Density	Kg/3	600-730

## Why Pellets are economical..?

PERTICULAR	PELLETS (KG)	LPG (KG)	RFO (Ltr)	Diesel (Ltr)
Calorific Value(KCAL)	4,400	12,000	10,200	11,000
Rate(GHC)	1.82	13	12	15
Equal pellet consumption(Kg)		4	3	3
Cost of Pellets(GHC)	---	7.28	5.46	5.46
Tentative savings(GHC)	---	5.72	6.54	6.54
Savings (%)	---	44%	55%	55%



Savings on Price is subjected to vary based on fuel market rate\*

## PLC - HMI based Electric control panel With Following Features

- Full color display of critical startup data including flame scanner status, purge, pilot and fuel status.
- Large graphical display ensure un-interrupted operation of the unit.
- Easy and fast operator adjustment with a complete view of all system information.
- Setup, turning and fuel / Air ration adjustment available through password protected screen.
- Shows set temperature, run time of burner, running pellet consumption, total consumption of the day and many more.
- Facilitate operator to control all situations.
- PDI controlled modulation system.
- VFD driven proper Air-Fuel ration control system.
- Fuse n relay based safety features.
- Alarm hooter for low fuel warning system.



RENEWABLE  
ENERGY LTD.

P.O.Box Ks12465. Kumasi,  
Ghana (West Africa)

+233 546330506

jksenergy15@gmail.com

<http://jksrenewable.com>

