BE-ITEM Limited

Business proposal:

- **Agriculture**
- **Health**
- **Education**
- **Tourism**

Promotion of the Renweble Energies in Africa

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BE- ITEM Limited services

BE- ITEM Limited, is a company of engineering consulting and manufacturing services. Our services are specifically in the following jobs :

- Conception, flat design with necessary measurements tolerances of all products parts such as: solar food dryer, solar cooker, incinerator….

- To transfer to the specific companies under the contract, all measurements parts list in order to manufacture them in required materials.

- To make frames and final jobs with our construction plans in our own workshop.

BUSINESS PROPOSALS

BE- ITEM Limited is able to provide his services in the following domains:

I. Agriculture and rairing

We can provide: the solar food driers, the solar cookers, solar pumps, solar freeze, solar cells installation, solar geysers.

II. Health

We can provide: solar light for the hospitals, solar pumps, solar food driers, solar ovens because direct sunlight sometimes destroys the nutrients in the food (particularly vitamin A).

The incinerator to burn rejects from hospitals and to produce hot water for the needs of the hospitals.

III. Education

We have to provide solar cells for schools and boarding-schools, solar pumps, solar freeze and solar driers for preservation of food.

IV. Tourism

The tourism department is a very big sector in which Renweble Energy can be used. In this project we want to unit all actors people and groups in environment protection and climate change such as: Bicultural, biofuel, Renweble Energies, agro forestry, carpentry, biotechnology and natural medecine.

BE- ITEM Limited wants to build an African Ecological City, in which we will use Renweble Energies and consumer bicultural foods and natural products from manure and compost.

In this project, we have to build 2000 houses using Renweble Energies, specially:

- 1000 Houses (80m²) with 2 studios in each
- 700 Houses (120m²) with 1 bed room in each
- 300 Houses (160m²) with 2 bedrooms in each.

V. TOTAL AMOUNT OF SERVICES FEES OF ALL PROJECTS

In this chapter, we want to give the estimation services fees for all 7 projects what our Company is able to offer.

This estimation is per year. And this amount reflects the services fees in D.R.C
It can be adapted with the contract and states obligations of the Country.

1. SOLAR FOOD DRYER

The drying process is the easiest and cheapest conserving method. A solar dryer can considerably speed up this process.

The warm air draws water from fresh food and thus conserves it without destroying vitamins and without affecting the nutrient content.

1.1 Technical specifications

1.1.1 General description

The solar dryer shall be wooden frames with metallic sides and wooden back. The sola r absorber shall be made of a hardened transparent plastic over a metallic base with black finish.

1.1.2 Size of the solar dryer

– The Drying Chamber: 80cmx80cmx2, 200cm

- The solar absorber: 1,800cmx80cm
- The trays : 80cmx80cm

1.1.3 Loarding caoacity of drying Products

5 kgs per tray is the capacity loarding and 30 kgs for the entire dryer. After drying, the weight is at least 23-25 kgs.

1.1.4 Drying Operations and time

a. Drying Operations

Food to be dried is cut in halves or slives or shredded and placed on the screens. Fruit should not be too ripe and juicy to avoid dripping. Dry the tealeaves and herbs without very large stems.

b. Drying time

The lengh of time with any drying procedure depends on the water content of the food, the temperature and the humidity in the air. Tea and herbs only need a few hours but tomatoes and fruit may take several days to dry.

The interruption of the drying process at night is an advantage be cause fast drying produces crusts that obstruct a further with drawls of water. Any crusts are therefore soaked during the night and the next day the drying process can go on unhindered. The warm air reaches 40-50°C.

Here are different times of some foods and products :

- Leaves and herbs : 6 Hours
- Vegetables : 4 days
- Fruits and tomatoes : 8-9 days
- Fishes and insects : 8-9 days
- Animals foods : 7-8 days

1.2 Services fees and Period of Performance

The amount per dryer is 2000 $ and per we can provide 600 solar driers per year

1.3 Maintenance of the solar dryer

To allow the sun rays to penetrate the absorber, the plastic must be very clean. Wipe out side with a damp cloth.

After drying the dryer should be protected from rain.

Before the following used, clean the trays.

The Solar dryer view in front

2. SOLAR COOKER

If we all used solar cookers, we would:

- Reduce air pollution. No more would women cough and choke whilst cooking dinners on a smoky fire, and our towns and cities would be cleaner and more pleasant.

- Stop using trees for firewood for cooking, and stop destroying valuable trees for charcoal. Cutting down trees causes a reduction in the rainfall, and reduces the fertility of the soil. In this way once fertile ragions turn into desert.

- Stop putting carbon dioxide into the atmosphere. This would stop the process of global warming which is causing the climate changes that are leading to unpredictable droughts and floods across the would.

- Create jobs in the construction of solar energy ovens and driers, and in training others in their use. Jobs would also be created in forestry and carpentry, because, if more trees were to be planted, there would be an abundance of timber. Some trees would produce fruit and medicinal material, providing more job opportunies in making fruit juices and medicines.

2.1 Types

2 Types :
- Solar box cooker
- Parabolic solar cooker

2.1.1 Solar box cooker : Pratical recommandations

a. Temperature

The temperature in a solar box cooker can reach more than 150°C but it is possible to cook from 80°C on wards already.
To reach the maximum temperature the sky has to be clear, the windows of the cooker clean and from time to time it is necessary to adjust the position of the cooker and of the reflector to the position of the sun. A reorientation every 30 min optimises the temperature but in general a medium position towards the south is sufficient, therefore, the best time to prepare food in the solar cooker is between 9 am and 4 pm.
If there are clouds or if one wants to eat after sundown, the cover should be closed when the temperature has dropped below 80°C.The food stays hot for 2-3 hours.

b. Cooking time and liquid

The lengh of the time depends on the temperature and the food. If the cooker is very hot it takes about double the time of conventionnal cooking.

A temperature of 80°C is enough to simmer food are fully. It takes longer to cook but the vitamins are less destroyed.

Cooking in solar cookers demands about 1 /3 less liquid, because there is almost no evaporation. Hard boiled eggs, potatoes, vegetables may be prepared even without adding water.

It is possible to use pots made in iron, aluminum or pottery. With metallic pots the heat is conducted faster but the most important is the black exterior of the pot. Pots must be covered with black lids as well. If you want to use a light coloured pot, it can be painted black with non-toxic black dispersion or with color for blackboards.

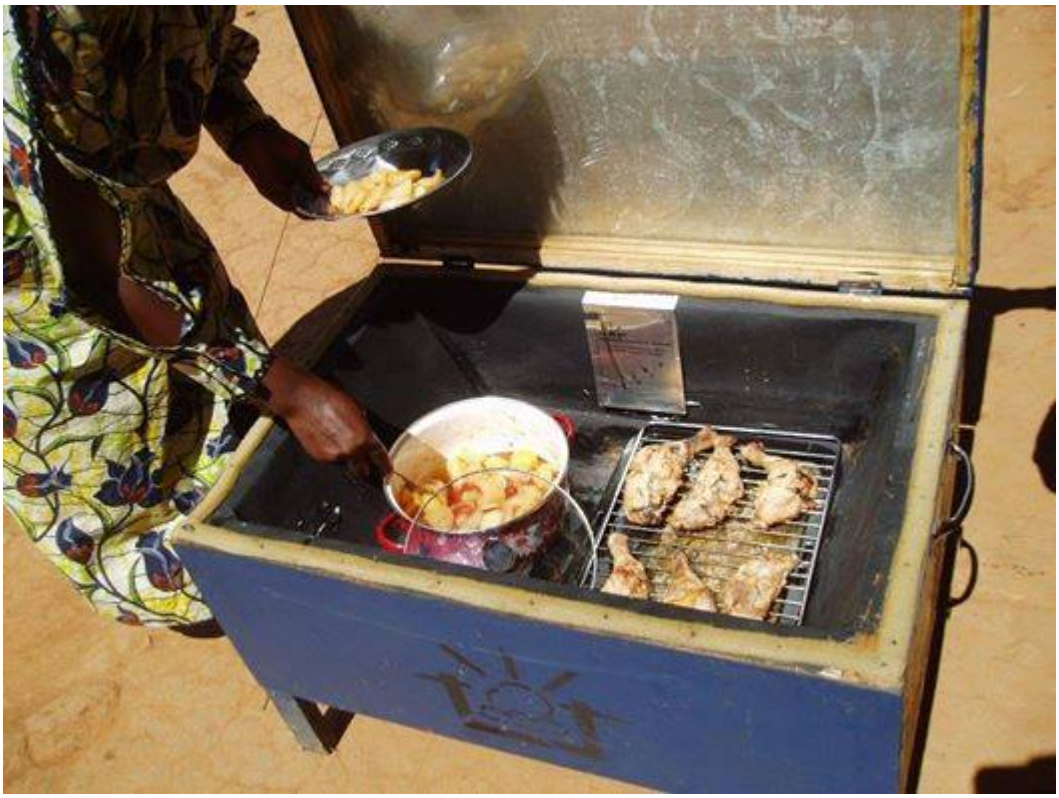
c. Size and cooking capacity

- Small cooker : 75cmx55cmx55cm (2 or 3 small pots for 4-10 people)
- Big cooker: 100cmx75cmx55cm (3 big pots and some small pots for 12-20 people).

d. Services fees and Period of performance

The amount of the manufacturing is:
- Small solar cooker : 200 $
- Big solar cooker : 450 $

We can provide 5000 small solar cookers and 5000 big solar cookers per year.



The solar box cooker

2.1.2 Parabolic solar cooker

The cooking process on a parabolic cooker is fast than the box cooker.

a. Size and cooking capacity

It is a parabolic of 1.20m of diameter; this cooker is able to cook food for a big family (12 people).

b. Services fees and period of performance

The services fees is 200 $ per cooker. We can provide 1000 parabolic solar cookers per year.

c. Maintenance

Clean the mirror side with a damp cloth.

The parabolic solar cooker

3. SOLAR PUMPS

It is a pump which is connected on 24 V, the power is from solar cells. The pump is able to move water from 30m in deep wall to 70 m in the highest to the container which is 330 liters of capacity.
This type of pump is very economical and technical in terms of compact and equipment.

It can be used for small skills farming and farming organizations, to provide water to the animals and fishes.

3.1 Technical specifications

3.1.1 Connection power

- 2 Solar panels : 175 W / 24 V (Marque SHURflo)
- 2 Batteries : 210 AH/ 12 V (Dryfit Gel)
- 1 Controller : 12/24 A (Sol- PRS 3030)
- Wires and cables
- 2 Switches
- 1 Switch-flottor : 10A

- Accessories

3.1.2 Caracteristics

- Marque : SHURflo 9325 Solar pumpe
- Serie : 9325-043-101*
- Voltage : 24 V/DC
- Horse power : 180 W
- Deepest level : 30 m
- Higherst level : 70 m
- Pression : 7,2- 7,6 bars
- Weight : 2,72 Kgs
- Lengh : 305 mm
- Diameter : 95 mm

3.1.3 Hydraulics connection

- Conduites : 15-20 mm
- Tank : 300 l

3.2 Services fees and period of performance

The services fees are 12.000 $ per pump and we can provide 3000 pumps per year.

4. SOLAR LIGHTS AND FREEZER

In this project, we have to provide solar cells and solar freezer for houses farmers, 1 bedroom in each. We can also provide a converter for charging phones and watching small TV

- 2 Solar panels : 175 W /12 V
- 1 Battery : 140 AH/12V
- 1 Controller : 12 /24A
- 1 Solar freezer : 100 W /166 L /12-24 V/DC
- LED Lamps : low power
- 1 Converter : 12/ 350 Sinus 12V
- 1 TV : 100 W
- Accessories

The services fees are 10.000 $ Per project and we can provide 3000 solar panels per year.

Solar panels for lights, freezer and pumps

Solar batteries

LED lamps

Solar freezer, connected on 24 Volt

5. SOLAR GEYSERS

In this project, we can provide solar geyser in each Hospital and farm for producing warm water.

- Solar Geyser : 150 l
- Conduits
- Metallic frame
- Accessories

The services fees are 8.000 $ per project, and we can provide 1000 Solar Geysers per year.

6. INCINERATOR FOR BURNING REJECTS AND PRODUCING HOT WATER

In this project, our company is able to provide in sanitation structure an incinerator for burning hospital rejects and to benefit to produce hot water for hospitals needs. This system can be with Cogeneration (Heat and Electricity) or Only Heat.

a. Incinerator for Heat : Services fees are 50.000 $
b. Cogeneration system : Services fees are 300.000 $

We can provide 10 incinerators in both cases per year.

7. CONSTRUCTION OF THE ECOLOGICAL AFRICAN CITY

In this big project, we want to unit all actors of environment preservation such as : Renewble Energies, Biotechnology, Agroforesrty, Animal manure Process, Agro fuel, Natural Medicine…

The building of The Ecological African City consists of a construction of 2000 Houses using Renweble Energies and which all natural process can be applied in order to preserve the Environment system.

Here is the description of the Project:

- 1000 Houses (80m), 2 studios in each. The services fees are 40.000 $ Per House
- 700 Houses (120m), 1 bedroom in each. The services fees are 60.000 $ per House
- 300 Houses (160m), 2 bedrooms in each. The services fees are 80.000 $ Pre House

Solar cells Installation and construction fees

- 0 ,2 X Amount : 0 ,2 X40.000 = 8.000 $
- 0,2 X Amount : 0,2 X 60.000 = 12.000 $
- 0,2 X Amount : 0,2 X 80.000 = 16.000 $

The Total fees are: (40.000 $ + 8.000 $).1000 + (60.000 $+ 12.000$).700 + (80.000 $+16.000 $).300 = 127.720.000 $ For 2 years of period of performance, then for 1 year is 63.600.000 $.

8. THE TOTAL AMOUNT OF SERVICES FEES OF THE PROJECTS

1. ANNUAL AMOUNT OF SOLAR DRIERS

600 DRIERS per year for 2000 $ per dryer The total amount is 600X 2000 $ = 1.200.000 $

2. ANNUAL AMOUNT OF SOLAR CCOKERS

- 5000 Small solar cookers / Year for 200 $ / Cooker

The amount per year is: 5000 X 200 $ = 1.000.000 $

- 5000 Big cookers / Year for 450 $ / Cooker.

The amount per year is: 5000 X 450 $ = 2.250.000 $

- 1000 Parabolic solar cookers per year for 200 $ / Cooker

The amount per year is: 1000 X 200 $ = 200.000 $

3. ANNUAL AMOUNT OF SOLAR PUMPS

3000 Solar pumps per year for 12.000 $/ Solar pump
The amount per year is: 3000 X 12.000 = 36.000.000 $

4. ANNUAL AMOUNT OF SOLAR LIGHT AND FREEZER

3000 Solar panels per year for 10.000 $ / House.
The amount per year is: 3000 X 10.000 $ = 30.000.000 $

5. ANNUAL AMOUNT OF SOLAR GYSERS

1000 Solar Geysers / Year for 8.000 $ Per installation.
The amount per year is: 1000 X 8.000 $ = 8.000.000 $

6. ANNUAL AMOUNT OF THE INCINERATORS

- 10 Incinerators / year for 50.000 $ Per Hospital

The amount per year is 10 X 50.000 $ = 500.000 $

- 10 Cogeneration systems / Year for 300.000 $ Per Hospital
- The amount per year is: 10X 300.000 = 3.000.000 $.

7. ANNUAL AMOUNT OF THE CPNSTRUCTION OF AN ECOLOGICAL AFRICAN CITY

1000 Houses per year for 63.600.000 $.

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