

# Fresh Water & Electricity Production out of Trash The Green Tech package



EuroSport Active World Corp - 3250 Mary Street- Suite 303-Miami Florida 33133 - Tel. +1 305 517 7330 <a href="mailto:www.eawdtechnologies.com">www.eawdtechnologies.com</a> - <a href="mailto:info@eawdtechnologies.com">info@eawdtechnologies.com</a> -

#### Introduction

United Nations has confirmed that as countries' economies grow, so does the volume of their garbage. According to estimates, some 11.2 billion metric tonnes of solid waste are currently being collected around the world every year, and the decay of the organic portion is contributing around 5 percent of global greens house gas emissions (GHG). There is a global demand not only for waste solutions but also for the production of renewable alternative fuels and energy. This supports the theory that there is a clear means of waste disposal for a wide variety of waste streams. Additionally, with fossil fuel problems and power plant decommissioning the existing facilities and methods will not be able to support future growth and above all will continue to strength the fact that Water & Energy in its various forms are some of the biggest threats to human health, to progress, prosperity, and social stability.

**EAWC** engages in patented technologies such as: AWGs, Solar-powered Water Purification Systems, CO<sup>2</sup> Free Energy Production Solar & Wind Energy Solutions as well as Waste Management. By combining the technologies, EAWC offers real solutions to real needs. The following information intents to present the EAWC green tech package for the **Fresh Water and electricity production out of trash.** 



### **General Performance of the solutions Package**

The System offers an attached water bottling (own brand water) with excellent tasting drinking water (spring water quality!)

How it operates:

By taking the daily trash of the Resorts/Hotels/Households/industries with a recommended capacity of 5ton/day and burn it without pollution or emission it will produce enough Natural gas (Syn-Gas) for the existing diesel generators. A regular combusting generator can be equipped with the minimal change to run on propane or the Syn-Gas what is a direct waste from the operation of the Plasma Burner.

The waste heat from the plasma burner will feed a Waste Heat generator System and support the on Syn-Gas operating combusting generators to produce electricity.

The heat and steam from the production will "feed the AWG system" to produce fresh drinking water.

The A/C capacity of the operation is 4,500ton/day and can be used for the cooling of the building and water bottle storage.

The entire system has a "footprint" of 30x16 meters (95x51 feet), including a Green-Tech Bottling system for up to 500,000 bottles of water a month.

The System can be places in a building or outside. A self-cooled construction is recommended.

Time frame to install: 90-120 days after payment received and order is confirmed.

Shipping is from Port Miami and the customs must be cleared from the client.

Installation and instruction of maintenance is included.

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#### **Summary equipment**

5ton plasma burner system, including trash shredder and feeder for up to 5,000 Kg of trash, Oven and Syn Gas Storage for the production of up to 5Mw/day.

AWG Water Generators for up to 200,000 liter fresh drinking water production/day Model: AM 350 without incorporated wind system but with 4,500ton of A/C capacity/day

ENVA Steam Mission Waste Heat Generators for up to 30Mw.

Green tech Bottling Plant (optional) for up to 500,000 water bottles a month (0.33L&0.5L)

## The performance:

50 Mw of electricity/day /with combusting generators (with gas-operation modification)

5,000Kg of Trash burning capacity

4,500ton of A/C for cooling

# **Options:**

(Option A: 500,000 bottled water - for CHF 570,000)

(Option B: 20Mw Diesel Generator - for CHF 4,500,000)

200,000 liter of fresh drinking water /day

#### **Price and Conditions**

Without option, installed and 10 year warranty - no OPEX -

#### CHF 15,800,000 plus shipping/import

With option A: CHF 16,370,000

With option B: CHF 20,870,000

# With both options A&B: CHF 20,870,000 plus shipping/import

The entire system could have a "footprint" of 30x16 meters (95x51 feet, including a Green-Tech Bottling system for up to 50,000 bottles of water a month.

The System can be places in a building or outside. A self-cooled construction is recommended.

Time frame to install: 90-120 days after payment received and order is confirmed.

Shipping is from Port Miami and the customs must be cleared from the client.

Installation and instruction of the maintaining free operation is included. The bottling operation need maintain work is from the 10 year warranty excluded.

EAWC Team would be very pleased to develop a proper technical needs assessment with a proposal of the project development, further official request.

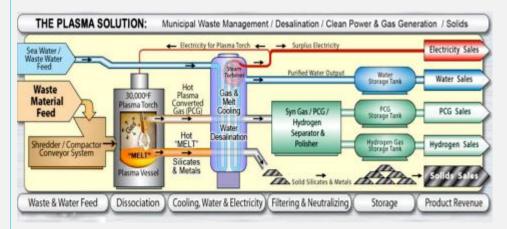
Hoping that this package can be a solution for your resort, we remain to your disposal for any further questions.

**EAWC Technologies Team** 

#### **Plasma Converter System**

The PCS in an electrochemical system powered by electricity that produces an intense field of radiant energy (plasma) that causes the dissociation (breaking apart) of the molecular bonds of solid, liquid and gaseous compounds or materials of both hazardous and nonhazardous wastes (feedstock) organic and inorganic. Within the PCS, the molecules of the waste material are separated into their elemental components (atoms), and then reformed into recoverable nonhazardous commodity products ready for commercial use.

As for this project we suggest the 5ton plasma converter system, including trash shredder and feeder for up to 5,000 Kg of trash, Oven and Syngas Storage for the production of up to 10Mw/day.



#### Plasma Converted Gas (PCG)

PCG is also a storehouse of chemical energy; however, it is a manufactured commodity produced by the PCS process. PCG is also referred to as a syngas (synthesis gas), and has many uses as a clean fuel and a chemical industry feedstock.

In the PCS, materials that are not converted to PCG are melted and "poured off" as glassy silicate compounds or metals, which are valuable commodities. The silicates can be used as raw materials for abrasives industry and for construction industry products. Metals can be recycled for direct use in the metallurgical industry.

# CO2-free Electricity Generation from Steam – up to 10Mw

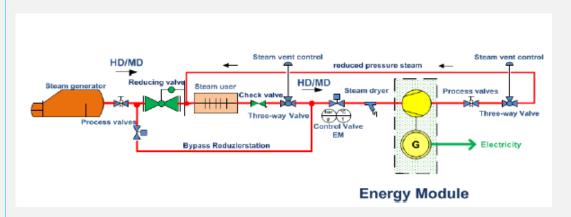
The Operation steam Mission is a Conversion of low-pressure steam (0.6-5 bar) into electric energy (CO2 free!) Is a patented electricity production from low-pressure steam which converts thermal energy into rotatory energy which in turn is transformed into electric energy by a generator. Is green electricity production because of the absence of CO2 emissions. Increases the energy efficiency of production plants.

It functionality is based on the following process:

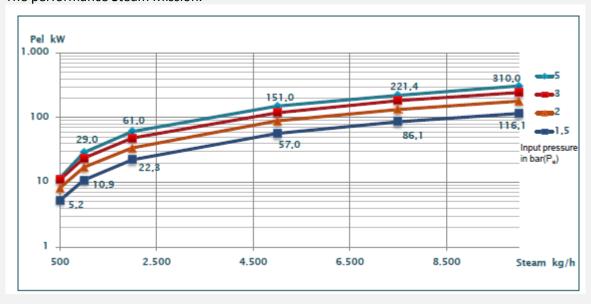
- Power production from unused waste heat
- Conversion of low-pressure steam (0.6-5 bar) into electric energy
- Power production from pressure reductions in steam pipes
- No CO2 emissions hence green electricity



The unused steam is converted into carbon-neutral electricity which can be fed into the grid (CHP electricity) or can also reduce the own power consumption.



The performance Steam Mission.



# Atmosphere Water Generator -AWG – AM 350 Mobile & remote area supply

**EAWC** uses the basic condensation principles, but in an extremely targeted manner. EAWC has developed a device that dehumidifies the air as much as possible to extract drinking water from it.

It was an enormous engineering feat to extract drinking water from the air in large quantities, using a relatively compact device, scarcely larger than a freezer. This AWG machine was developed in Germany to produce large quantities of drinking water through very effective use of condensation. Large quantities of air are cooled to the dew point and then that condensed air is collected in a catch tank, where it is filtered and mineralized. The result is the production of pure drinking water that meets the quality specifications of the WHO.

In regions with high temperatures and humidity levels, a single machine can produce up to 50,000 liters of pure drinking water daily.

The patented condenser system is different than the traditional cylinder or coil systems. The condenser works with huge amounts of air that is forced, under high pressure through the condenser. The patented vortex effect divides (condenses) the water from the air.



#### **Benefits**

With this system the AM models will operate under any weather conditions. High temperatures and high humidity is not necessary. The condenser works in any conditions, even in cold weather or in the arid desert.

Weight and Measures of AM65 small model 1000 gallons water Length = 2350 mm Width = 1250 mm Height = 2200 mm Weight = 1403 kg

The AM350 model weighs 15,000 Kg (15ton) and is L30 feet W12 feet X H10feet.

The AM350 can produce up to 15,000 gallons a day.

Cost of water: 1 acre feet of water \$700 (gallon price of \$0.00214)

Based on 10 years & capital costs only, including renewable energy source from EAWC

**Production capacity** up to 15,000 gallons/d/single unit (pristine drinking water)

Energy source: renewable energy / option

Space required: 400 s.f. A/C capacity is 36 ton /hour