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Proposal to reduce CO2 emissions through renewable energy business with outstanding profitability

~ Biomass Gasification Power and Heat Utilization Business ~

Wind power and biomass are gaining attention in place of solar power generation, which is vulnerable to disasters, rain, cloudy weather, snow, and nighttime weather.

Among these, biomass power generation and heat utilization can provide a stable supply of electricity and heat (for air conditioning and hot water) regardless of weather conditions, as long as the raw materials are supplied.

However, using forest resources, imported chips from abroad, and PKS is not a very good method, as it is equivalent to importing oil and natural gas.

As shown below, domestic biomass feedstock is abundant.

Examples of raw materials for local distributed dry biomass gasification power generation and heat utilization

1- Forestry

Thinned wood (including terminal branches) Miscellaneous wood. Bamboo

(*In general, only white chips are used. As the parts with many branches and bent parts are not used because they cannot be peeled off. As a result, the yield of the used parts is low, leaving the unused parts in the mountain and causing disasters.)

2-Agricultural Raw Materials

Corn stalks, Sweet potato vines, Sugarcane residue, Agricultural used vinyl, Fruit tree prunings, etc.

3-Livestock raw materials

Cattle, Swine, Manure from chickens, etc.

4- Beverage raw materials

Tea pomace, Coffee pomace, Coffee peel, Fruit pomace, Beer pomace, and other waste from major beverage companies.

5- Food processing residue

6-Convenience stores, large and medium shopping malls

Foodstuffs, Vinyl, and Mixed plastic waste.

7-Meat, fish, vegetables, and waste from public markets and slaughterhouses

General waste

8-Administrative waste

General garbage collected (food scraps. Chopsticks. Paper. Vinyl. Plastic). Roadside tree prunings. Garden tree prunings. Driftwood. Vinyl. Plastic. Disaster waste. Septic tank sludge. Sludge from water purification plants, etc.

9-Industrial waste

All combustible waste

Since the raw materials in the above fields are continuously generated in our daily lives, we can switch from landfill and incineration to power generation and heat utilization, which will enable a decentralized energy supply comparable to that of nuclear power plants and thermal power plants.

This is an ideal energy supply that is resistant to disasters and can be used for agriculture, livestock breeding, and urban development by companies.

The method of CO₂ reduction is shown below.

(1) CO₂ and heat are supplied to agricultural greenhouses located close to the power generation site and used for plant growth, resulting in an increase in the reduction value.

(2) By converting CO₂ to CO + O and using it as circulating energy, the ultimate reduction in CO₂ emissions and fuel consumption is achieved.

(3) CO₂ is converted to C + O₂ and used as a raw material for carbon, which is becoming more and more in demand.

A fine raw material can be obtained. * Can be decomposed to suit the application.

Gasification, power generation, and heat utilization plant

The above raw materials generate about 5% tar during gasification, so a gasification method that minimizes tar generation and tar decomposition technology are indispensable.

Since ultra-high technology is required, no plant in the world has established this technology other than the "Amaterasu Gasification Power Generation and Heat

Utilization Plant".

AMATERASU: Photograph of actual equipment



Nihonmatsu test plant for various raw materials



Companies, groups, organizations, and individuals who can implement the system

(1) Local government

The system achieves Power generation and heat utilization (air conditioning) from collected general waste,

It eliminates disposal costs and increase revenues by generating electricity and heat.

It can be used as a source of social welfare funds for childcare to revitalize unique local communities.

(2) Large-scale farmer

Agriculture can be an ideal business depending on how it is assembled.

What used to be a waste product can be converted into energy to create an even more profitable business.

We can provide innovative agricultural know-how and technology by converting resources into energy. We can also provide appropriate guidance to make it a special production area and increase yields.

(3) Livestock producer

Livestock are used not only for meat, eggs, milk, and fur, but also as a permanent source of biomass material from manure.

Amaterasu can build an ideal, highly profitable livestock industry that has never been seen before.

(4) In-land aquaculture entrepreneur

Land-based aquaculture of fish and shellfish is a major challenge for the future.

The cost of temperature control and water quality preservation is high, putting pressure on profits.

We can provide water temperature control and low-cost purification technologies that will help you to achieve outstanding profitability in the fish and shellfish aquaculture business.

(5) Food processor, drinking water processor, beer brewer

The waste of processing can be used to generate 300 kwh to 1000 kwh of electricity and heat, and eliminates waste disposal costs.

The gasification power generation and heat utilization process leaves about 5% high-quality charcoal, which can be used for water purification and other purposes.

(6) Public market operator, slaughterhouse waste disposal company

Vegetables, fish, and leftovers from slaughtering can be used for power generation and heat utilization without disposal.

Details will be explained at the time of the project.

(7) Industrial waste disposal company

Paper, wood chips, plastic, vinyl, etc. can be used for power generation and heat utilization without incineration or landfill disposal.

The final 5% of residuals (charcoal) should be disposed of in a landfill.

(8) Convenience store, supermarket, shopping mall

Food waste can be used for power generation and heat utilization.

If waste is small, it is collected in one location; otherwise, it is used at each location.

(9) Factory

The CO₂ emissions from boilers and incineration facilities will be converted to CO + O and be used as circulating energy, contributing to reduction of CO₂.

(10) Non-manufacturing industry

Your participation is expected to reduce CO₂ emissions through the projects that will be launched in your area.

Summary

Energy can only be used safely and securely if it can be supplied stably and without fluctuation. CO₂ reduction is the key to preventing catastrophic disasters around the world. We look forward to your participation.

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