THE PROPOSAL:

We at Storm Research are proud to propose a joint venture! Our new technology, best described by the term "solid-to-liquid coal", creates an opportunity for companies which burn large quantities of low-quality powder coal, to have immediate and efficient methods of saving on fuel burning costs while generating carbon credits.

Types of companies (also known as "end-users") which would surely benefit from the technology:

- Power plants which burn coal to turn turbines
- Cement and steel producers working with coal as a solid fuel, who wish to increase fuel efficiency while not only reducing CO-output, but also saving on the fuel itself, as well as the expense for carbon credits
- Ships which use IFO, "mazut", and other heavy shipping fuels.
- Fuel traders and storehousers interested in additional income via carbon credits

Here is a simple calculation for a spending/income formula: A single small "pilot" unit with minimal potential for flooding a production unit of 1.4 liters/sec of the end product, i.e. "liquid coal". The actual unit potentially transferred to the end-user is four to five times higher. The few units used in "parallel operation" are certainly possible to calculate and re-use.

Hyper-Ionizer: The Key

The pilot unit results in production of 1.4 liters/sec. of end product, which is fluid coal fuel. Top level pumping technology is required to meet the specified liquid speed because of the powder's abrasive nature. Great care and understanding for the pump's maintenance should be taken as well.

Before the powder can be ionized in the ionizer built by our technicians, it must be "crashed", or break up to 0.05~0.5 mm sized particles (no minimum size required)

THE FOLLOWING EQUIPMENT WILL BE REQUIRED:

- Crasher Unit; supplied by client
- Mixer; also supplied by client
- Hyper-Ionizer, supplied by Storm Technologies

Content requirements for the fluid coal:

- 40% COAL POWDER
- 20% WATER
- 40% ANY KIND OF FLUID FUEL, even waistline (waste oil & water, limber water) one.

Total calorific value of the fuel:

– Coal = + 6000 kcal / kg	x 40% =	2400Kc/.
– oil fuels = + 9,000 kcal / kg	x 40% =	3600Kc/.
– water = minus 500 kcal / kg.	X 20% =	100Kc/.
		5900 Kc/kg

Keep in mind, more effective mixes will become possible, as the process is refined.

By establishing the quantity of liquid fuel obtained from one kg. we can calculate cost and profit.

Consider another benefit to using just coal-water fuel: the other elements extracted from the coal before it reaches its final stage -phenol for example- can be sold individually for additional profit!

The liquid coal –at 590 kcal kg.– needs no IFO fuels to assist it in burning. Mix and "bilge" waters are sufficient to produce the desired result, thus saving expense at yet another level

Cost in Euros:

- carbon powder = 100 EUR/ mт x40%
- bilge water delivery = 100 EUR/ mт x40%
- cost of processing = 75 EUR/mт (or 100 EUR/mт for small pilot plant).

TOTAL end-product = **200 EUR**/mт

Thus, the fluid coal fuel end-product would have a cost of 200EUR/mt. Compared to oil, the equal calorific value is approximately 80% of 400 EUR/mт

= 320 EUR/mт

The minimum benefit of :**120 EUR**/ mт

Overall investment/yield calculation of a pilot plant and technology transfer:

Baseline data (costs for one unit of end-product – the "mт of fluid coal fuel"):

- purchase of carbon powder – **100 EUR**;
- bilge water after settling, with water content of 35% – **100 EUR.**
- Processing cost – **100 EUR** (as max. European costs)

The calculation for one ton of product. Ton ~ about $1m^3$.

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mт – for metric ton

HYPER-IONIZER, (pilot unit)
capacity by intensity = x2.5

Output = 2m^3/hour, or by mode 10 hours a day, ~ 20m^3/day, ~ 500m^3/month.

COSTs:

- coal = 40%, x 200 mт x 100 EUR = 20'000 EUR
- bilge water 60% x 300 mт x 100 EUR = 30'000 EUR
- process costs for 500 mт : x 100 EUR = 50'000 EUR

TOTAL: **100'000 EUR** / Month.

SALES:

by 500 mт "**LIQUID COAL**") by price of 300 EUR/mт - **150'000 EUR.**

RETURN : *by pilot unit* - **50'000 EUR/Month.**

Next step – the line production unit is at 4 to 5 times higher output (capacity) than the end-product; the liquid coal.

These are the calculations before the extraction of the expensive chemical products before using the coal powder in process. Extracting the unique chemical products normally found in solid coal that are not necessary for burning will without a doubt generate additional income for users of this technology.

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