Harnessing Miracles of Coal Molecule ®

Net-Zero Bio-Bunker®

Bunker Oil Replacment At Fraction of Costs

Low-Rank Coal-Water Fuel (LRCWF®)

Biomass Water Fuel (BWF®)

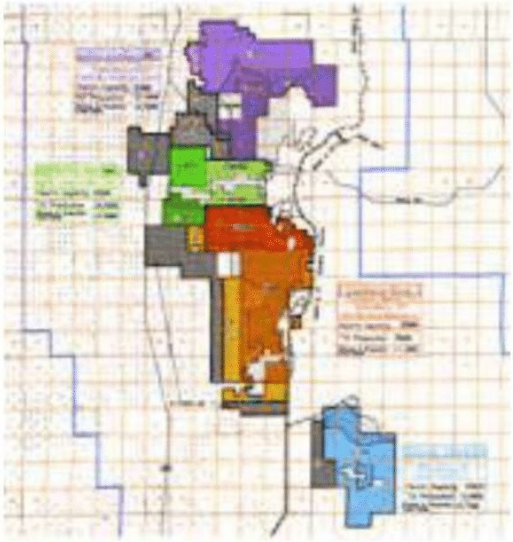
For Shipping Industry ; Delivered Port Specific
Sustainable - Low Carbon Fuel Economy- Across Planet

Barrel of LRCWF®

- Coal- America's fossil energy resource in enough abundance to be considered a strategic fuel available in liquid form for economical exports to Asia Pacific on long term contracts
- Low-rank coal (including biomass) converted into a stable liquid fuel, LRCWF® via AED's patented hydrothermal treatment (HT) process. (Compliant Coal)
- LRCWF® is pumpable and enjoys all the benefits of liquid handling, storage, and transportation and combustion characteristics- EPA compliant (globally)
- LRCWF® eliminates hazards of coal dust and can be used sight unseen like oil. It's non-hazardous and non-toxic if spilled.
- Powder River Basin(WY) has one of the world's largest operating mining infrastructure for economical Ultra Clean low-sulfur low-rank coal with 162 billion tons of economical recoverable reserves.
- PRBLRCWF® can be produced at a mine for under $15 per barrel (BOE).

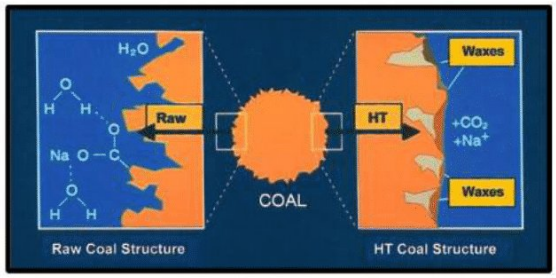
U.S. Fossil Fuel Resources for LRCWF® Exports to Asia Pacific

- Proven U.S. Low-Rank Coal (LRC) Reserves can fuel export economy for centuries.
- US Exports can support short fall in indigenous energy resources in Asia Pacific countries thru PRB LRCWF.®
- Powder River Basin (WY) with 163 billion tons economically mineable coal, is one of the largest low-sulfur low-rank ultra clean coal resource for competitive PRB LRCWF® export markets to Asia Pacific.



- Now that PRB coal is in a stable liquid form it can be transported by pipelines, rail tankers, and/or ocean tankers.
- It can be loaded into ocean tankers via a mono buoy and does not require a costly, unsightly coal terminal the US West Coast States are trying to ban.

Hydrothermal Treatment (Patented)



- In raw low-rank coal (LRC) water fills the pores and is bound to coal oxygen and mineral sites.
- Without permanent moisture reduction, LRCs can't be made into coal-water fuels
- The most efficient way to permanently reduce inherent moisture in LRCs is hydrothermal treatment (HT).
- Hydrothermal treatment involves heating low-rank coal under pressure, somewhat like pressure-cooking.
- Upon heating, water expands and is also expelled from coal pores when much of the oxygen in LRC is released as CO_2.
- A key to permanent moisture reduction is the evolution of LRC volatile matter as waxy substances, which seal micro-pores and limit moisture reabsorbtion.
- The energy content of hydrothermally treated LRC is 20 – 50% higher than the raw coal.
- After HT LRCs can be formulated into stable, concentrated LRCWF® without the use of costly additives.
- LRCWF®s are low-cost substitutes for oil made from abundant U.S. resources.

Indonesia's Strategic Fuel (Compliant Coal)

For Asia Pacific, India, China, and Threatened Island Nations

Barrel of LRCWF®

- Coal –Indonesia's fossil energy resource in enough abundance to be considered a strategic fuel available in liquid form for economical exports to Asia Pacific on long term contracts.
- Low-rank coal (including biomass) converted into a stable liquid fuel, LRCWF® via AED's patented hydrothermal treatment (HT) process.
- LRCWF® is pumpable and enjoys all the benefits of liquid handling, storage, and transportation and combustion characteristics- EPA compliant (globally)
- LRCWF® eliminates hazards of coal dust and can be used sight unseen like oil.It is non-hazardous and non-toxic if spilled
- Indonesian LRCWF® can be produced at a mine for under $15 per barrel (BOE).

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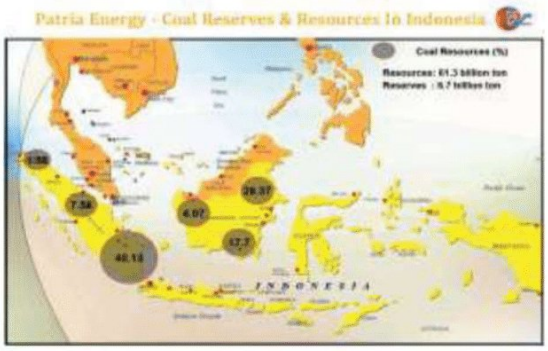
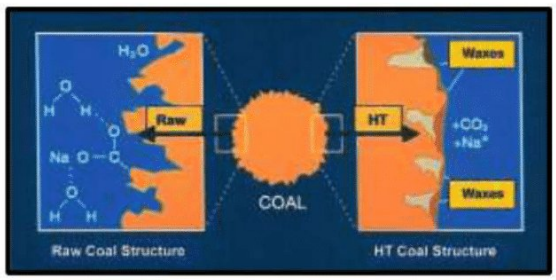
Indonesian Fossil Fuel Resources for LRCWF® Exports to Asia Pacific

- Proven Low-Rank Coal (LRC) Reserves can fuel export economy for decades.
- Indonesian Exports can support short fall in indigenous energy resources in Asia Pacific countries thru Indonesian LRCWF.®
- Indonesian's billion tons economically mineable coal, is one of the largest low-sulfur low-rank ultra clean coal resource for competitive Indonesian LRCWF® export markets to Asia Pacific.



- Now that Indonesian coal is in a stable liquid form it can be transported by pipelines, rail tankers, and/or ocean tankers.
- It can be loaded into ocean tankers via a mono buoy and does not require a costly, unsightly coal terminals.

Hydrothermal Treatment (Patented)



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- LRCWF®s are low-cost substitutes for oil made from abundant **Indonesian Resources**

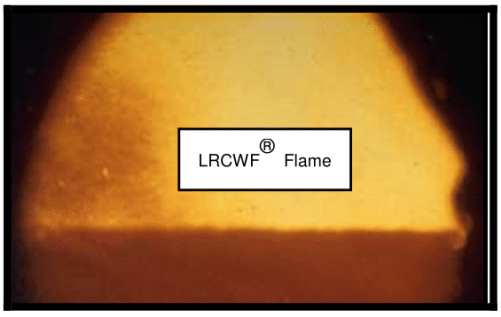
Environmental Attributes of LRCWF®

Single hulled Oil Tanker for LRCWF Shipment

- Since LRCWF® is simply coal suspended in water, it is neither hazardous nor toxic if spilled.
- If spilled on water it will be dispersed and sink to the ocean floor, where it will provide nutrients for biological growth.
- LRCWF® is a non-hazardous, low-cost oil alternative that can use existing oil infrastructure for handling, storage, and transportation.
- It can be shipped in single-hulled tankers barges, which are now plentiful as per legislation requiring double hulls for oil shipping
- Since, outside of the combustion system, LRCWF® is neither flammable nor explosive, costly fire prevention controls and high-pressure piping are not required.
- Being non-hazardous, LRCWF® will eliminate the risk of multimillion-dollar cleanup in the event of spills and reduce liability insurance.

LRCWF® Utilization

- LRCWF® was developed primarily as a low-cost alternative to oil.
- It has a freezing point and viscosity similar to heavy oils and can be handled accordingly.
- In combustion systems LRCWF® is non-agglomerating, ignites rapidly, and gives nearly complete carbon burnout like oil.
- It can be used in oil-designed boilers and use existing oil infrastructure with only minor modifications.
- Superior combustion characteristics allow LRCWF® to be used in oil-designed boilers with little or no derating.
- Made from ultra low-sulfur Indonesian LRC, it can meet the most stringent SO_x air quality regulations, without costly emission controls.
- LRCWF® allows coal to be used in advanced combustors, such as slurry fed gasifiers, fluid-bed boilers, and diesel and turbine engines.



LRCWF® Flame

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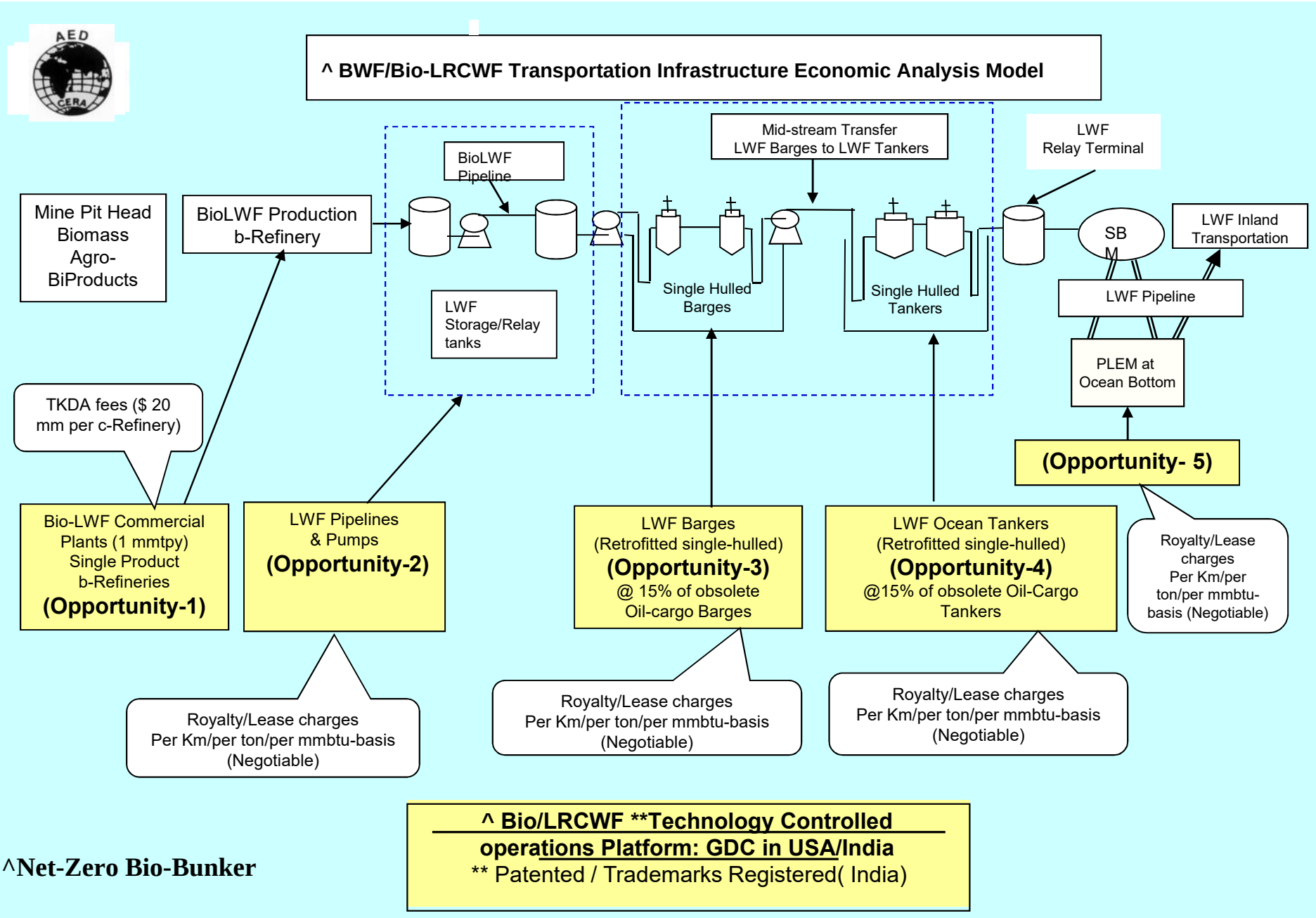

^Net-Zero Bio-Bunker

^ Bio/LRCWF **Technology Controlled operations Platform: GDC in USA/India

** Patented / Trademarks Registered(India)

(Order of Magnitude)