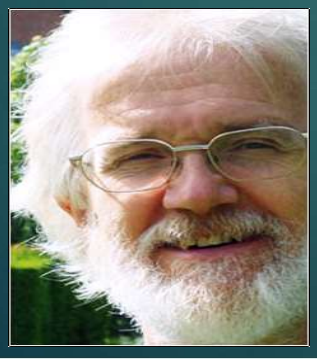
THE NEW PARADIGM SHIFT FOR THE PHILPPINE'S PNR Non-Catenary Train System, Off Grid, thermal Battery, Cost-Effective Wireless Railway System

Republic of the Philippines
Department of Transportation
Philippine National Railways

BAGONG PILIPINAS

Rolling Stock Management Maintenance Dept. RSM
PNR, Executive Bldg.(Tutuban Station, Mayhaligue, Tondo, Manila
January 9, 2024 9:00 AM to 11:00 PM see www.Redstaregg.com



Proponent: REDSTAR ENERGIME GREEN GROUP

REDSUN Cutting Edge Green Technologies

Dr. Jay Avrahm Dubiinsky Presentor
CEO - REDSTAR-EGG
Chief Scientist

Dr. Dan Winter
Director
Chief R&D and Product Engineering Development

RED SUN Hybrid ~ eTram ~ Non-Catenary System

Each Station Features
150 MW Power Plant

Mini-Mall & 7-11 Store

Hostels – Mini Hotels

Restaurants & Bars

Games & Gambling

Post Office-Bus Center

Refrigeration Facility

POWERSOURCE 1300 = 2900 kWh + Gensets run by H2 & Mag Gas
Recharge or RED SUN 32MW Thermal Battery enables H2 Charging!

Electric vehicles, especially on train locomotives, Bus (EVs) make headlines for their ability to slash costs per mile and greenhouse gas emissions, yet, they also have the ability to strengthen the economy – and not just by providing a surge of new commercial establishments, factories and jobs. The EV transition can protect the Philippine economy from recessions by reducing transportation, shipping and oil use, which in turn reduces the Philippine vulnerability to oil price shocks. Most economic governments and business managers still feel the pain of higher oil prices from last summer when gasoline prices shot-up, hitting a national average price of P280 a gallon. Although the Philippines had massive inflation, it managed to avoid prolonged recession in 2022. We may not be so lucky the next time. High gas prices raise inflation on food, manufactured goods and services and depress Filipino consumer sentiment, weaken disposable income and consumption, and; as a result, elevate the risk of recession. By powering our transportation with much lower cost and diversified energy sources backing the Philippine electricity grid, RED SUN Thermal Electric Generator breaks the link between oil prices; geopolitical risk from the Middle East, Russia, and other major oil producers; and the health of the Philippine economy, while helping to restart our manufacturing sector.

Mobility is a critical element of social and economic development. However, the current transportation model heavily relies on fossil fuel-based internal combustion engines (ICE), resulting in harmful emissions that negatively impact the environment and climate. In the Philippines, the transportation sector is the largest source of air pollution and energy-related greenhouse gas (GHG) emissions. In 2015, transport GHG emissions contributed to 34% of the total Philippine GHG emissions, with road transport accounting for 80% of those emissions.1

With easy retrofitting technology, RED SUN thermal battery can retrofit any type of train and increase traction and Torque to every PNR Train by 3x's for both Long Haul freight and passenger types up to 13,000 Horse Power; while lowering costs 89% percent over running on diesel fuel

RED SUN increases range of trains to 900 to 1400 Kilometers while increasing hauling capacity 3.5x's, plus exclusive self-recharging while en route

Choosing public transport over private cars is a big step towards reducing our emissions and cleaning up air quality. But even if 1,000 people taking a train instead of driving 1,000 cars is better for the environment, a diesel engine is never good for the planet - no matter what it's powering. Recent investment infrastructure investment might have you thinking: "Aren't our railways electrified? We don't need to use diesel trains anymore."


Red Sun is the Ultimate energy Connector enabling Renewable Energy-RE, Hydrogen, bioenergy & Nuclear plants to bring RE power to the propulsion systems while tripling torque & efficiency!
Zero Emissions
Wireless
Efficient 98% charging
20x's lower cost battery
RED SUN Charging
700 km Range/chg
Hydrogen Economy
RED SUN 32 MW Thermal Battery
RED SUN
TOP DOWN ENERGY
RED SUN Trains/buses ~ 12 c/kWh Charging
GAS - Bus, Ferry & Train Lines
Wireless Power!
Energy Is Prosperity!

Retrofitting Airport & Train Stations

Building the Airports & Terminals of the future!

- With integrated power, natural skylights & LEDs,
- Solar Thermal Air Conditioning & Power

Enabling New Design possibilities & Performance

Saving $2.5 million per mile in electrification of tracks & Retrofitting Diesel, Diesel Electric & Electric Trains

Ports, Airports & Train Stations

Insured by Lloyds Syndicate

Unparalleled Paradigm shift in Energy & Transport

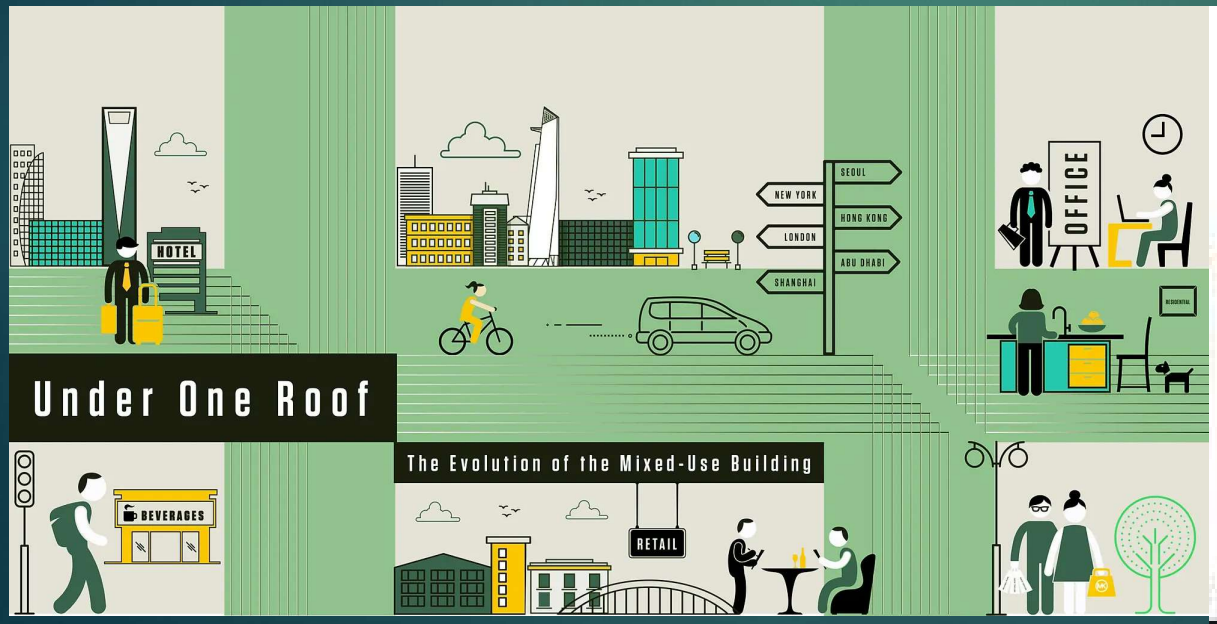
Pushing the boundaries of what an airport could and should be with *RED SUN* power, desalination & ice, AC & refrigeration, & Sanitary Water Heating

Saves 70% operational expenses and upkeep

Satellite Tracked & AI Enhanced Safety Sys

www.max-mesh.com

While airports have always been used to flog perfumes, sweets and luggage to a captive audience, train station operators have been much slower to make the most of on-site retail. The Philippines could create Major new developments for PNR Bicol Express to Metro Manila would have included sprawling retail and dining options, much to passengers' delight with Red Star Power provision up to 150 MW. So what are the opportunities? Redstar proposes adding 150 MW to sell power to local utilities and industry, while adding 7-11 stores, Hostels, Shopping Malls, bars and restaurants with ontrain catering. Plus, entertainment, gaming,



Energime Green Group, Ltd

WIRELESS UTILITIES

Solar Infrared Desal

Davao del Sur, Visayas

Port Packing
Ice &
Refrigeration

RED SUN
Renewable
Energy

Insured by Lloyds

500kt Ice/yr
Desalination
60MML/Day
2cUS/Literar
Sanitary Heat

RED SUN
Port Desal
REFER
& ICE

May 5th, 2021

Modular
Movable
Port
Retrofits

energime
UNIVERSITY

11 to 40 MW Molten Metal Ni Alloy Batteries

RED SUN Reserve

Battery Bank

Retrofits all Diesels, Turbines & Electric

For Trains & Ships
+ Train Stations

Wireless
No Emissions
3x's torque vs Diesel Fuel
700 km to 1400 km range
Charges by Renewables, H2 & Standard Systems
Mobile 6.5 tons to 29 tons only

RED SUN + MAG GAS CHARGING ~
12 c/kWh

Non-Catenary Train System

RED SUN Energy Systems

Mobile Generator Battery in
20 Foot Container – 29 Tons

Thermal

Thermal

Thermal

Thermal

Mechanical

Run jet tubines & diesels
found on many ships

Scania, Cummins & VW
(All Diesels) Bus/truck

The Philippines and world are in midst of Several Crises:

1. Expensive Energy, fuel, metal and material prices;
2. Water shortages and droughts; Energy is Prosperity!
3. Much higher costs to manufacture, transport goods and people, and grow food due to 1 and 2.
4. Obsolete energy, transportation propulsion and power systems that are inefficient, expensive & cause degradation of biota, poor health, contaminated and poor soils and water quality.

RedStar is Apple-like tech innovation company using new generation of empowering energy, battery storage, desalination and fertilizer production systems to dramatically bring down costs an order of magnitude; increasing power, water and fertilizer productions & capacities by 7 to 25x's, thereby giving second chance to manufacturing, transportation & service sectors & creating carbon- free wireless power, transport & lifestyles for all!

Red Sun Thermal Battery Saves 88.9% Replacing Diesel in Trains

Passenger Locomotive & Train (Diesel Fuel Cost P$58 per liter, 6.5 Hr trip):

P$58/L x 3.785 Liters/Gal x 202 Gal/Hour x 6.5 Hour/Trip = P$288,200 /trip= $4969 USD/One way trip

Freight Locomotive & Train (8.8 Liters/km, 385 km x 2 Round trip Distance):

8.8 Liters/km x 385 km x 2 (round Trip) x P$58/liter = P$383,000 / Round Trip = $6773 USD/Round Trip

Red Sun Passenger & Freight & Lines (Red Sun 3 x's Torque vsf Diesel; 160 km/Hour Train uses 6 kWh/km):

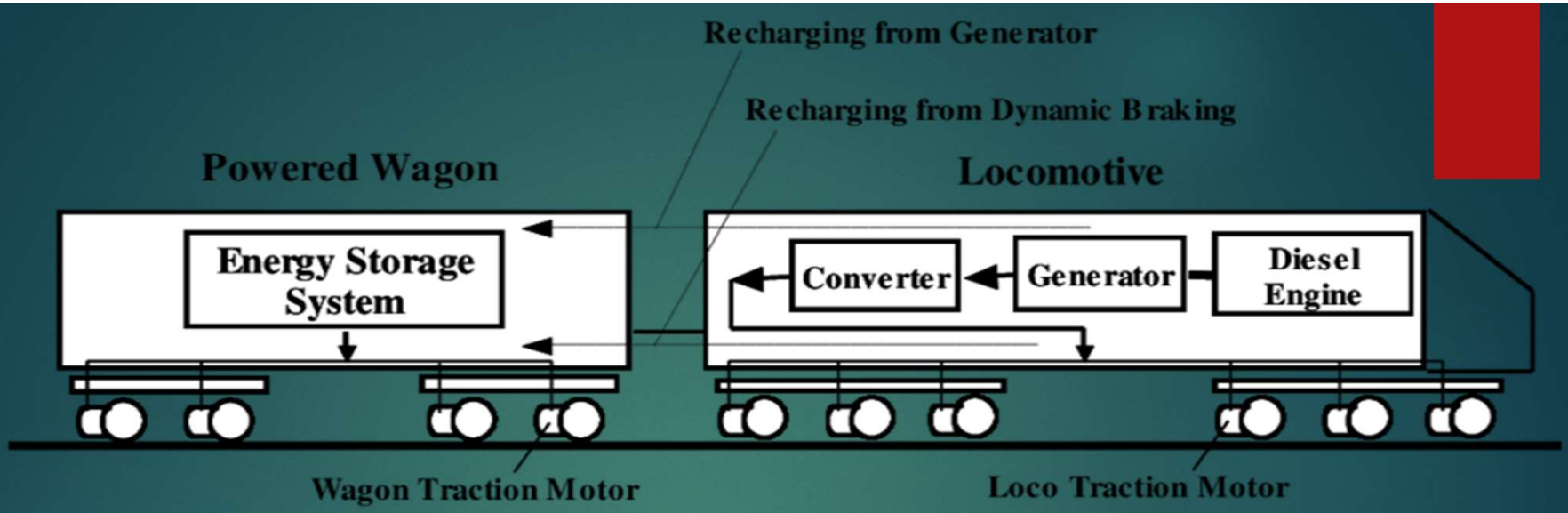
6 kWh/km x 385 km x 2 x $0.12 USD/kWh = $554 USD/Round Trip

Red Sun Lines Passenger Train Savings Percentage over Diesel Train:

($4969 - $554)/$4969 = **88.9% Savings!**

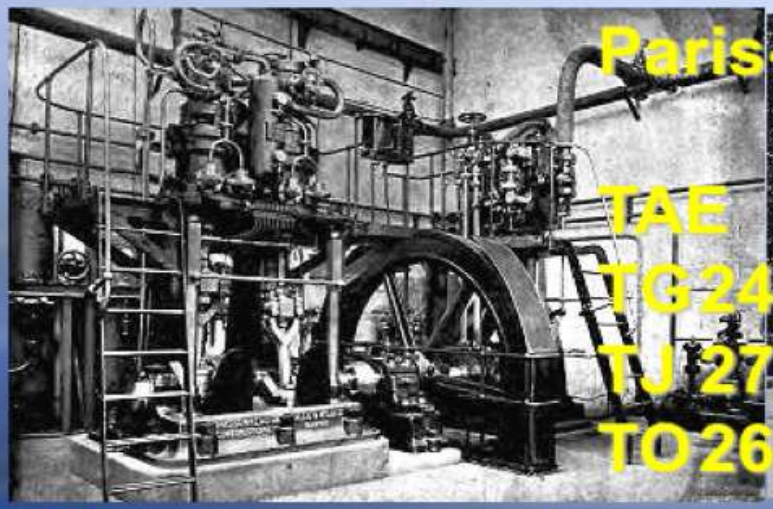
Red Sun Lines Freight Train Savings Percentage over Diesel Train:

(46773 - $554)/$6773 = **91.8% Savings!**



Red Star's Red Sun technologies has developed the next gen non-catenary modern railway system featuring new efficient energy dense thermal batteries of 1500 to 2000 Wh/kg that run diesels and turbines at10x's lower cost for railways and shipping industries. Hybridizing the propulsion systems to reduce costs by 89% while emitting zero CO2. And, regenerative energy obtained from deceleration is returned to power supply to be reused. Also,,11 MW Red Sun Thermal Molten alloy batteries give 120 MWh per charge, charge in 4- 5 hours, run station, train, stores and surrounding towns. **Red Sun Energy Arbitrage:** Charging from all renewable energy sources plus onsite 50 MWe Pyrolysis plants, Red Sun is the last mile solution-connector to bring wind, solar, hydro + geothermal energy to run trains and station as batteries are mobile & wireless!

Compressed Air Trams/Buses



Paris- They came into service as follows:

TAE	**23/3/1900**	**Auteuil to Madeline**
TG	**24/3/1900**	**Montrouge to Gare de l'Est**
TJ	**27/4/1900**	**Passy to Hotel de Ville**
TO	**26/5/1900**	**Auteuil to Boulogne**

Driving was controlled firstly by the regulator which varied the pressure at the cylinders from 0 to 8 atmospheres. Secondly there was a three way tap which directed the supply either to the cylinders or to the brakes with a centre position for coasting. As full line pressure would be fed to the air brake, control was a little crude. Despite difficult gradients, the cars easily pulled double deck trailers weighing 9 tons unladen, and developed 35 hp using 15 kg of air per car kilometre.

What type of Solutions are Available?

Ammonia Fertilizer

RED SUN POWER PLANTS

Pyrolysis for Energy & H2

Yachts

Ferries Frigates Commercial Cargo Ships

Trains/Buses

Onboard Recharging of compressed air tanks and Thermal Batteries

Produce zero Emissions

Burn no fuel

Minimize

CONSTANTLY INNOVATING

TO PROTECT THE WORLD'S AIR, OCEAN & ECOSYSTEMS

PowerSource

200 kWp -1200 kWp 300,000 kWp 1 mln kWp

CRUISE FORWARD

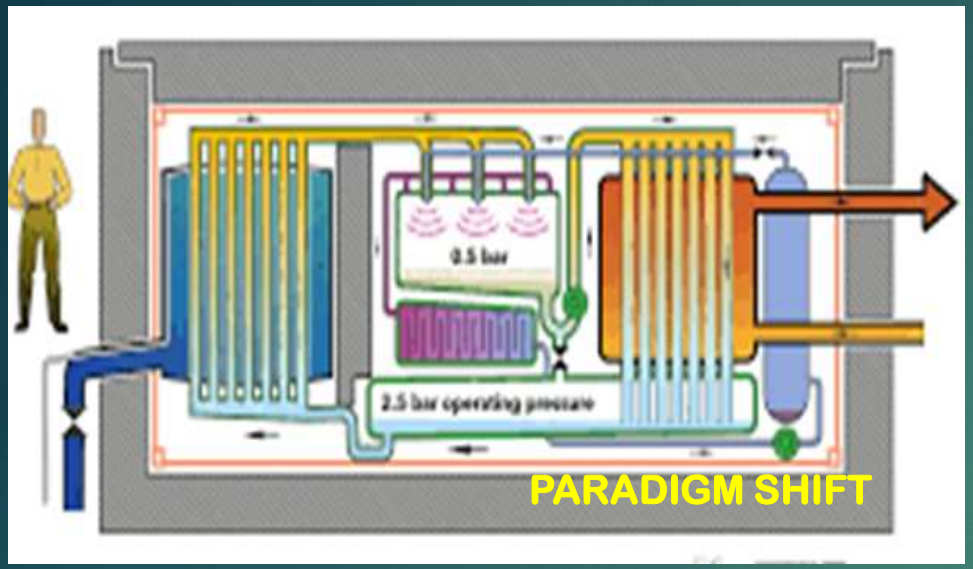
PowerSoure

3.6 kWp battery is 1200 kWh

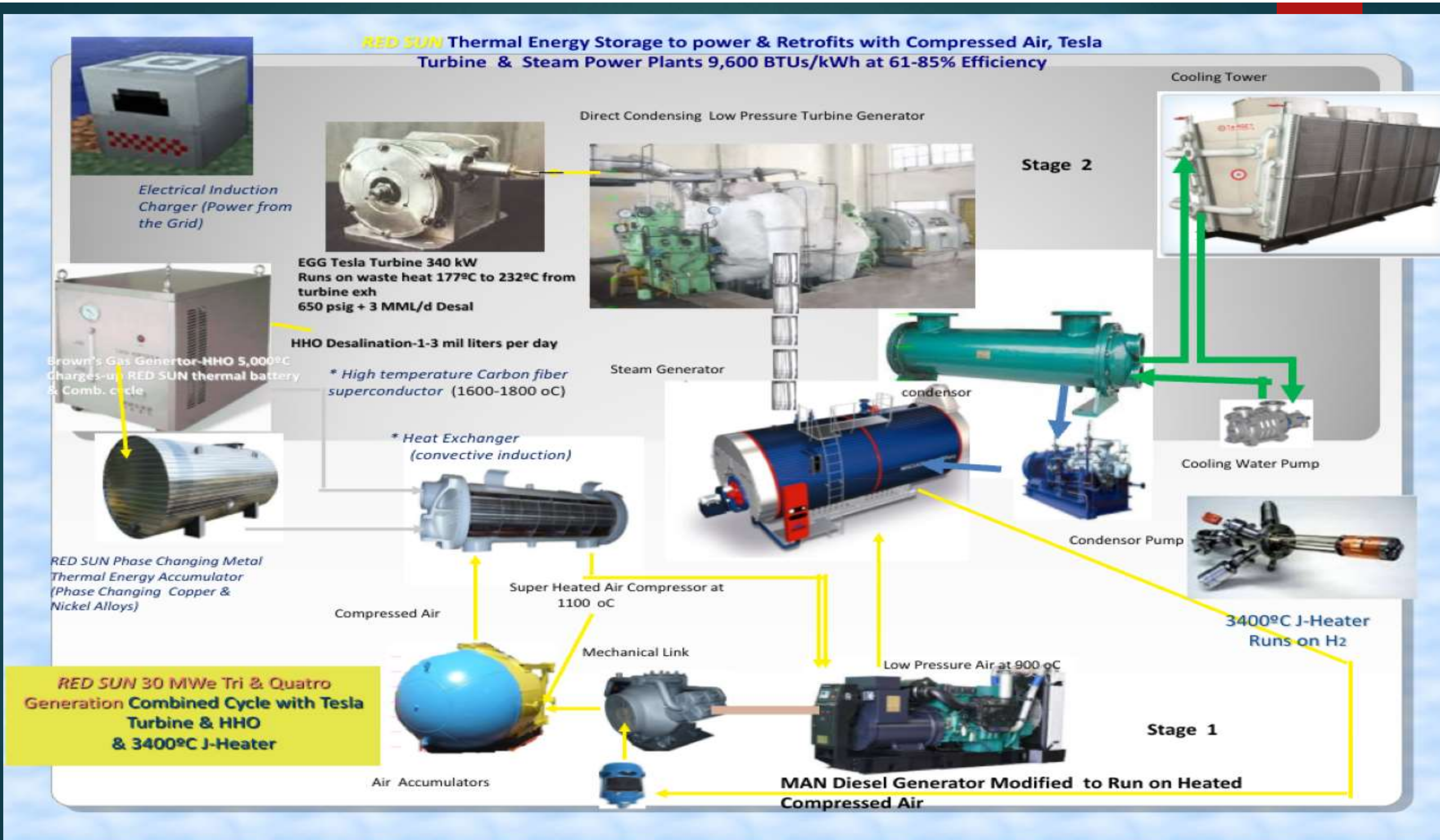
for Cruise, Cargo & Large Ships

Direct Wheel or Propeller Drive

https://www.youtube.com/watch?v=dEUxEZ2sfUM



Retrofitting Molten Salt reactors (MSRs) on ships and train stations will be implemented with RedStar's Red Sun Thermal Generator in the engine room/power plant. Plus; adding cryo-nitrogen gives 3x's the torque over diesel. The key is Red Sun's Non-Combustion patent that connects any power source to existing diesels and turbines. Thus, Molten Salt Reactor (50 MW to 625 MW) connects to Red Sun which connects to engines by simple power cable, thereby saving up to P$11 million per week in diesel costs, while emissions would be zero. **Lloyd's insurance** available. This will be phase II upgrade for Stations.


RED SUN Thermal Energy Storage to power & Retrofits with Compressed Air, Tesla Turbine & Steam Power Plants 9,600 BTUs/kWh at 61-85% Efficiency
Cooling Tower
Direct Condensing Low Pressure Turbine Generator
Stage 2
Electrical Induction Charger (Power from the Grid)
EGG Tesla Turbine 340 kW
Runs on waste heat 177ºC to 232ºC from turbine exh
650 psig + 3 MML/d Desal
HHO Desalination-1-3 mil liters per day
* High temperature Carbon fiber superconductor (1600-1800 oC)
Steam Generator
condensor
* Heat Exchanger (convective induction)
Cooling Water Pump
Condensor Pump
RED SUN Phase Changing Metal Thermal Energy Accumulator (Phase Changing Copper & Nickel Alloys)
Super Heated Air Compressor at 1100 oC
Compressed Air
3400ºC J-Heater Runs on H2
Mechanical Link
Low Pressure Air at 900 oC
RED SUN 30 MWe Tri & Quatro Generation Combined Cycle with Tesla Turbine & HHO & 3400ºC J-Heater
Stage 1
Air Accumulators
MAN Diesel Generator Modified to Run on Heated Compressed Air

Why Hybrid? Why Diesel?

The main reason why diesel locomotives are hybrid is because this combination eliminates the need for a mechanical transmission, as found in cars. Let's start by understanding why cars have transmissions.

The problem boils down to efficiency of Power To Wheels:

- Battery Electric Vehicle (BEV) = 40% to 70% Efficient
- Internal Combustion (IC) = 18% Efficient
- H2 Fuel Cell (FC) from Renewables = 23% to 33%
- Synthetic Fuel = 6% to 8% from Renewable Energy (RE)
- Synthetic Diesel = 7.7% from Renewable Energy
- Thus, two to three times the energy for BEV vs IC
- Whereas seven times the energy BEV vs synthetic fuels.

Red Sun 40 MW – 300 MWh/charge

Charges with 98% Efficiency!

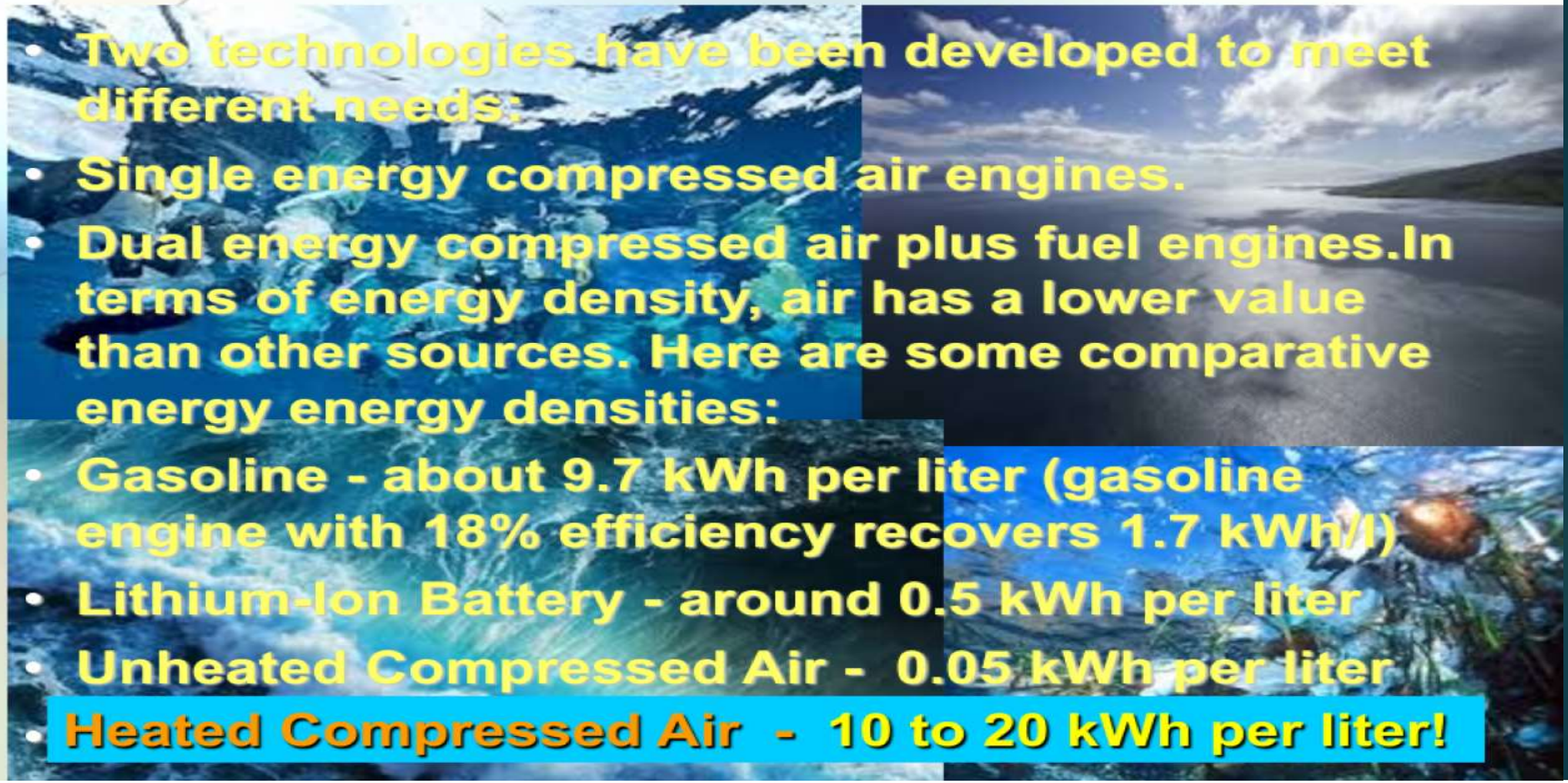
ENERGY DENSITY:

	Gravimetric Density.	Volumetric Density
Diesel. =	10 kWh/kg	9.7 kWh/L
E10 Fuel =	12 kWh/kg	9 kWh/L
Hydrogen =	33 kWh/kg	2 kWh/L
BEV =	0.25 kWh/kg	0.7 kWh/L
Synthetics =	4-10 kWh/kg	4-9 kWh/L
Red Sun N2 =	16 kWh/kg	20 kWh/L

64 MW Red Sun gives 1400km Range

Charges with Renewables –No Wires!

Energy Density of Compressed Air Systems



- Two technologies have been developed to meet different needs:
- Single energy compressed air engines.
- Dual energy compressed air plus fuel engines.In terms of energy density, air has a lower value than other sources. Here are some comparative energy energy densities:
- Gasoline - about 9.7 kWh per liter (gasoline engine with 18% efficiency recovers 1.7 kWh/l)
- Lithium-Ion Battery - around 0.5 kWh per liter
- Unheated Compressed Air - 0.05 kWh per liter
- Heated Compressed Air - 10 to 20 kWh per liter!

Engine Cycle Efficiency

Cycle	Real Gas Efficiency %
Otto	58
Reciprocating Steam	17
Steam Turbine	30
Gasoline	25
Diesel	62
Atkinson	67
Brayton	70
Carnot	90

	Typical Costs	Suitability
Solar	$0.096 per kWh	All locations
Wind	$0.213 per kWh	Windy locations
Hydo	>$0.27 per kWh	Steady supply of water running down a gradient

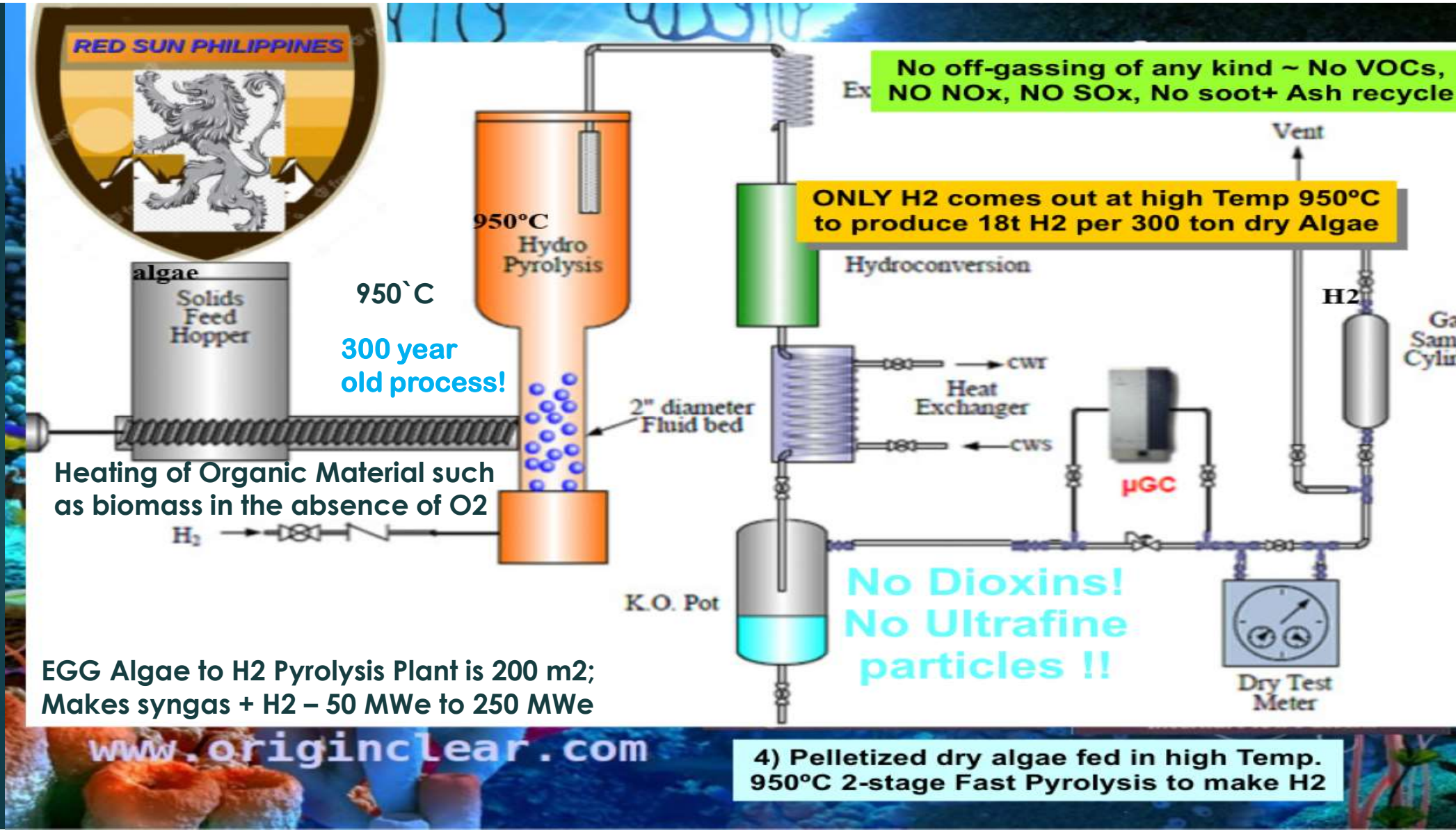
Pyrolysis is 7.7 Dollar cents

Transportation and Food costs are a direct reflection of energy Costs

file:///C:/Users/Windows%2010/Documents/Napocor-alex-Jay%20Powerpoint%20Presentation.90.pdf

Elected officials and practitioners generally believe that - along with gains in time, environment, and roadway safety - the local economic impacts brought by high-speed railways (HSR) could be a major ingredient in socioeconomic appraisals. However, academic studies have shown mixed results.

Outside the "construction effects", that constitute a broad consensus, studies find both the existence and the absence of impacts of HSR, whether these are short-term effects on local productivity and the geography of consumption (through tourism or extended stays) or long-term effects on the relocation of businesses and households and ultimately local growth patterns. Results show great variability as economic effects are conditional upon a set of other factors such as city size, industry structures, amenities, and distance from the urban core.


RED SUN PHILIPPINES
No off-gassing of any kind ~ No VOCs,
NO NOx, NO SOx, No soot+ Ash recycle
Vent
ONLY H2 comes out at high Temp 950°C
to produce 18t H2 per 300 ton dry Algae
950°C
Hydro
Pyrolysis
Hydroconversion
algae
Solids
Feed
Hopper
950`C
300 year
old process!
H2
CWT
Heat
Exchanger
CWS
2" diameter
Fluid bed
µGC
Heating of Organic Material such
as biomass in the absence of O2
H2
K.O. Pot
No Dioxins!
No Ultrafine
particles !!
Dry Test
Meter
EGG Algae to H2 Pyrolysis Plant is 200 m2;
Makes syngas + H2 – 50 MWe to 250 MWe
www.originclear.com
4) Pelletized dry algae fed in high Temp.
950°C 2-stage Fast Pyrolysis to make H2

Cost: Battery Electric Storage Systems:

Pictured above is 50 MW BESS. This is the 1st 50 MW which cost $49 million USD completed in March 2023. This is part of 1 GW for $1 Billion USD divided into 32 facilities. Each battery facility gives less than 10,000 cycles, which requires 2 cycles per day, thus giving 12 year lifetime max.

- BESS Costs per MW = $1,180,000 per MW:
- The efficiency of DC Battery electric system (BESS) to run through Inverter is 85% (fire suppression cooling costs not included) max to make AC = $1 bn/ 850 MW = actual costs of $1,180,000 per each useable 1 MW.
- Red Sun Actual Costs per MW = $34,900 per usable Megawatt:
- The efficiency is 63% to convert thermal to electric through cogen. And, each 32 MW is $700,000 and you need 32.25 batteries to reach 1 GW. Thus 1000 MW = 32.25 x $700,000 = $22 million/1000 MW ÷ 63% = $22,000,000/630 MW = $34,900 per MW usable. And, the Red Sun lasts 60 years- five times longer than the BESS
- Thus, the Red Sun costs are $1,180,000/$34,900 = 33.7 times less! If you factor in 5 times the lifespan you get 169 times less!

50 MW Salt Battery – 150 Wh. per Kilogram

Lithium Battery – 270 Wh. Per Kilogram

=

RedStar's Red Sun Thermal Battery Generator 2000 – Wh Hours per Kilogram with Steam Generator

18 Cubic Meter, 26 Tons - Transportable by truck ship and other locomotives in 20 foot Container

Mobility

GE Transportation is to develop a battery version of its AC-motored Evolution Series locomotives with 2 400 kWh of onboard energy storage and an energy management system. The prototype is to be tested on BNSF freight trains between Stockton and Barstow, working in multiple with diesel locomotives, and is predicted to reduce the train's total fuel consumption by 'at least 10% to 15%'. 'This project will give us tremendous insight into the capabilities of battery power and the best operational methods of leveraging the technology.', which is expected to cost around $45 million for this locomotive!

GE Transportation's

Battery-Electric Locomotive

Massive power generation capabilities up to **2400** kWhrs

Huge fuel savings of at least **10-15**%

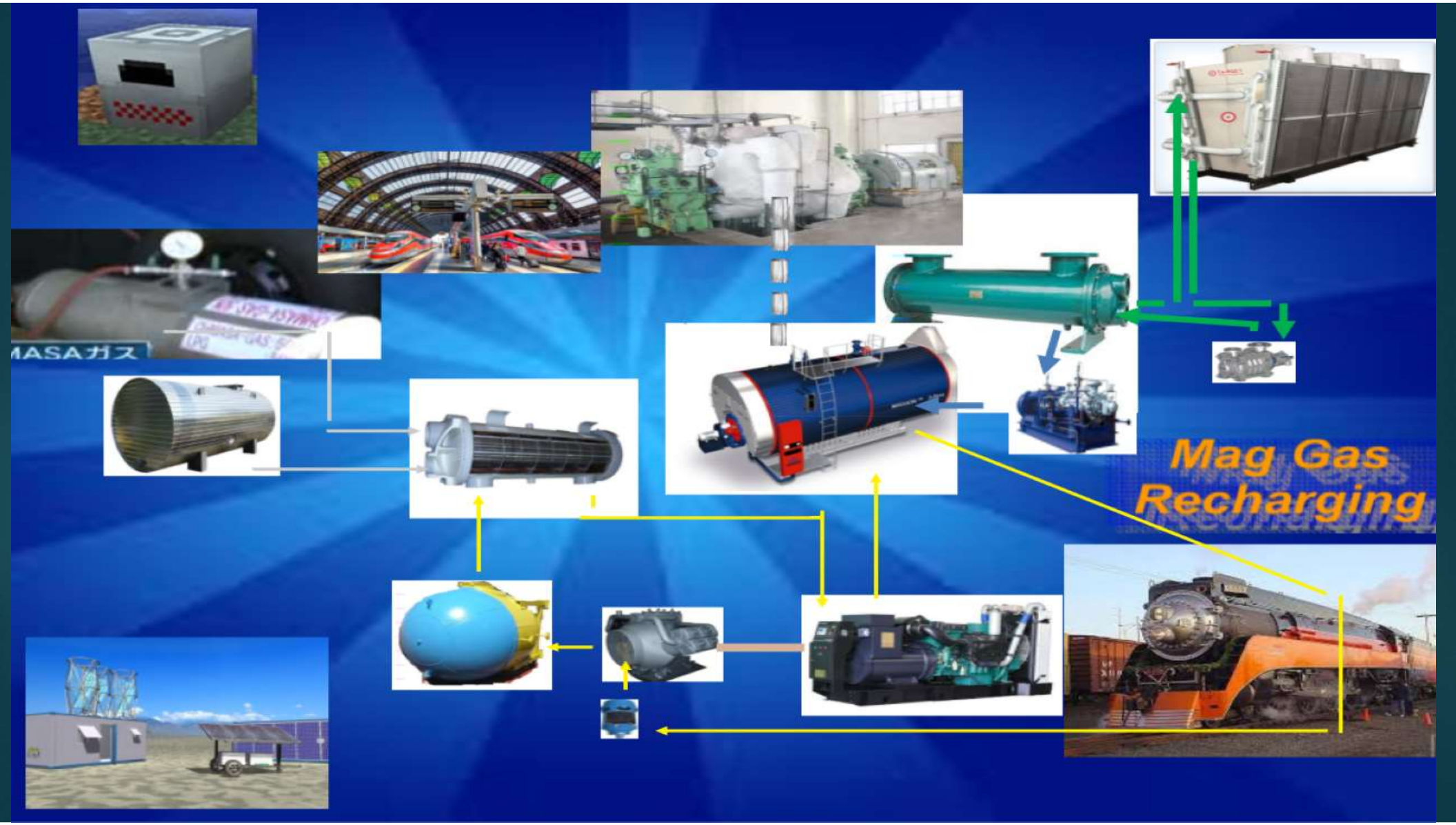
Vs. Mag Power Wireless Electric Train Retrofits

Vs. RED SUN 32 MW Thermal Battery = 65,000 kWh

RED SUN GE Elec Retrofit

Fuel savings of 94%~ 64 MW – weighs 60 tons = 130MWh on Budd car-110 tons
Range of 1400 km to 2100 km- Electric Locomotive Retrofit - $1.6 mln+ Bat cost
Charge-up with Mag Gas cost 1c/kWh = $650 USD – 4-6 hr+onboard Recharge
Onboard Charge-up 2x's while running: Induction + MAG GAS genset charger

We offer electric traction and/or Diesel retrofit battery packs for all trains, and vehicles, such as trucks, buses, tractor, etc. Red Sun thermal battery systems are used on high voltage (up to 25,000 Volts) platform to provide traction power for electric locomotives. The capacity is usually above 11MW 120 MWh/chg, which guarantees 3000km for passenger electric train with scalable Ship & Bus system up to 7 seven days travel time without re-charging.


Mag Gas
Recharging

Energime Green Group's exclusive *RED SUN & RED SUN MOBILE Thermal Power Plant*

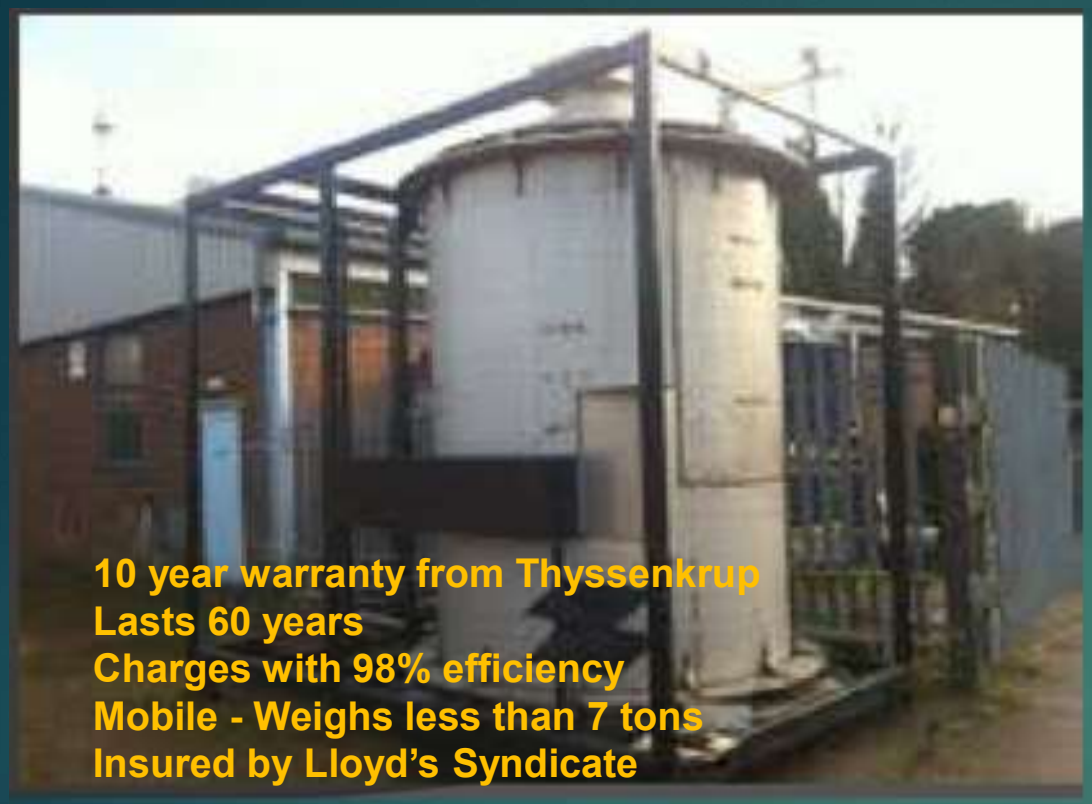
Energime Green Group has developed technology tested & output-certified by ***Rolls Royce,*** *and* ***British Atmospheric Data Institute,*** running large 2.5 MWe turbines at high efficiency for over a year. ***RED SUN*** is the world-wide exclusive franchise for Infrared reflection to enable focusing & collecting the full spectrum of heat and light giving 1620° C for the 1st time! Additional co-patents allow molten steel 30 MW storage units 18m3 for 24 hr operations – 3-day operation with railcar storage of up to 212 MW for heat/AC & compressed Air modified Diesels: Boesch, Man, Gebruder Suizer, and Deutz.

RED SUN Mobile Advanced Thermal Storage Unit

RED SUN 30 MW Cylinder = 18 m3

Transport refined metals from refiners and goods across the Panama Dry Canal

- The storage unit is a solid state thermal battery that can store large amounts of thermal energy in a relatively small footprint. A 30 MW Unit is in the picture to the left.
- The unit weighs 29 tons, is 18 M3 and can store up to 30 MW of thermal energy for in excess of **30** days. If you reduce the size by 50%, you will reduce by 50% the energy that can be stored.
- The unit will hold energy up to 1600°C and deliver that energy in a measured and consistent manner. The thermal loss of the storage unit is 1°C per day.
- For a 30MW thermal energy storage device, the manufacturing costs will be around $100,000.
- A rail car mounted 90 MT of phase changing alloys can store 26,000 MMBTUs of thermal energy which is equivalent to over 1,000 ST of steam coal.

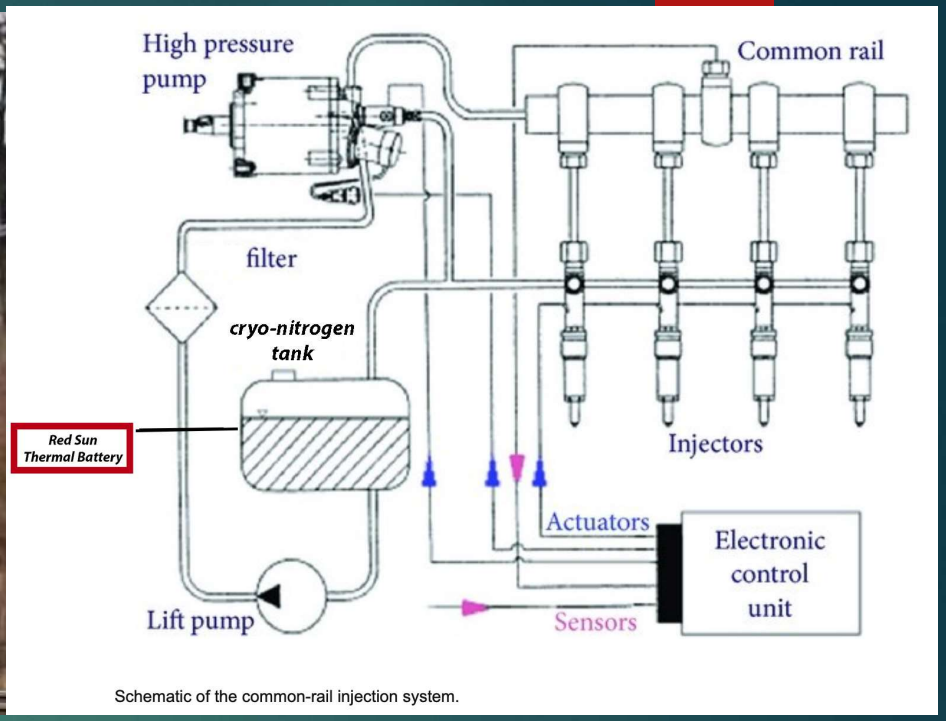


10 year warranty from Thyssenkrup
Lasts 60 years
Charges with 98% efficiency
Mobile - Weighs less than 7 tons
Insured by Lloyd's Syndicate

120 MWH Molten Metal Storage for the 11 MW battery unit – 6 Cubic meters weight is 6.5 Tons. 1700 degrees C for over 8 weeks

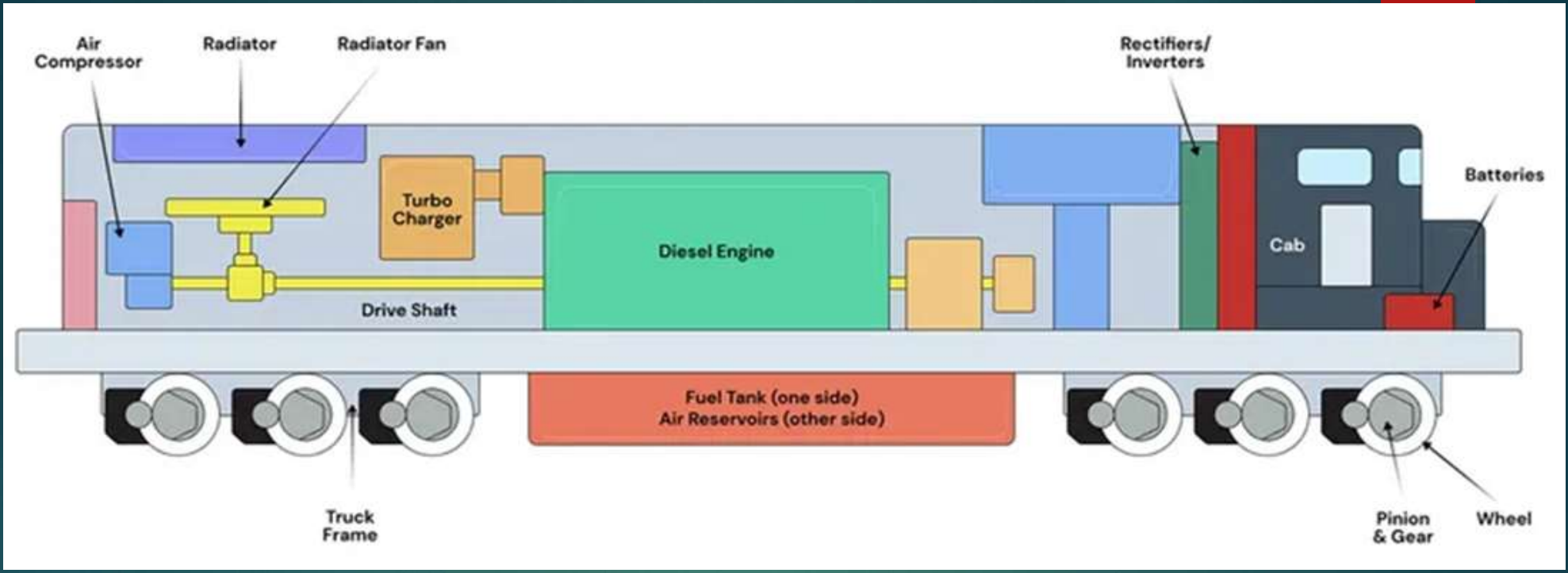
Transported by Truck, ship. Train and other locomotives

RedStar's 11 MW RED SUN Thermal Generator Battery. Molten Nickel Alloy Phase Change metal battery. It is charge by EMF induction at 98 percent efficiency. Induction unit made by www.inductotherm.com



Schematic of the common-rail injection system.

The locomotives weigh between 100 and 200 tons (91,000 and 181,000 kilograms) and are designed to tow passenger-train cars at speeds of up to 125 miles per hour (200 kph). Siemens' modern engines produce up to 13,000 horsepower, and the generator can turn this into almost 4,700 amps of electrical current. The drive motors use this electricity to generate around 60,000 lb-ft of torque. There is also a secondary diesel engine and generator to provide electrical power for the rest of the train. This generator is called the head-end power unit, producing between 500 and 700 kilowatts (kW) of electrical power.

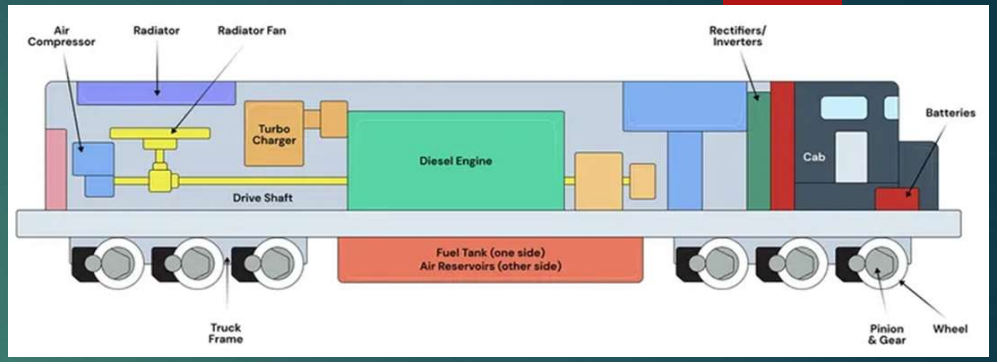


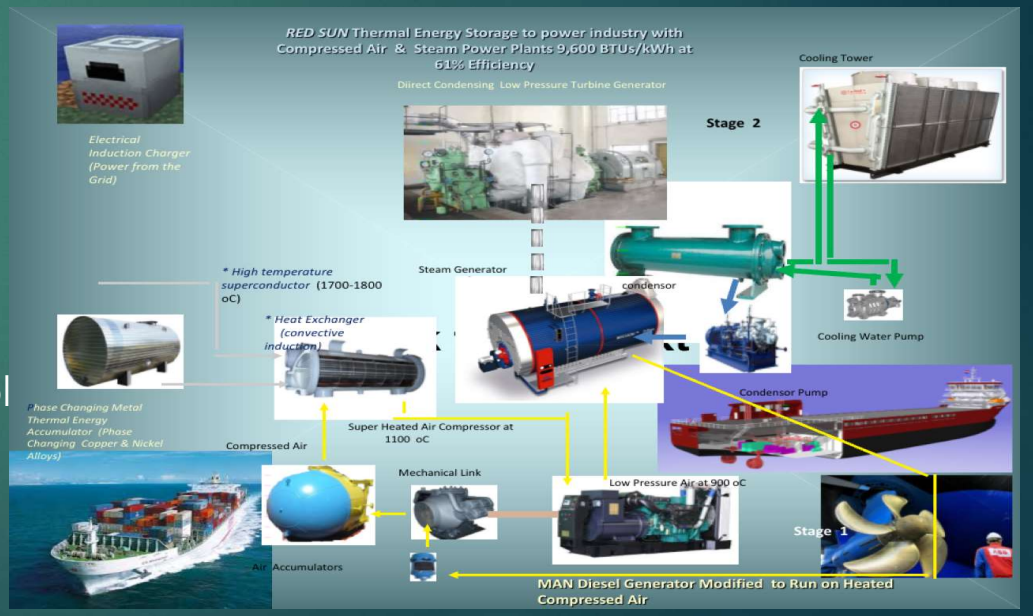
Red Sun heats cryo-nitrogen in Diesel engines typically used in many types of vehicles, including locomotives. Diesel engines compress heated gas which makes them perfect for heated cryo-nitrogen that expands 1500x's at 200`C vs diesel at 500x's at 550`C to increase torque by three times in Red Sun retrofits; this increases hauling capacity three times plus removes diesel cost to lower operating costs by 89%, stop GHGs; plus, engines last longer!

Traction when going around turns is not an issue because train wheels have flanges (projecting rims around the wheels) that keep them on the track. But traction when braking and accelerating is an issue.

A locomotive can generate more than 60,000 lb-ft of torque. But in order for it to use this torque effectively, the eight wheels on the locomotive have to be able to apply it to the track without slipping. The locomotive uses a neat trick to increase the traction.

In front of each wheel is a nozzle that uses compressed air to spray sand, which is stored in two tanks on the locomotive. The sand dramatically increases the traction of the drive wheels. The train has an electronic traction-control system that automatically starts the sand sprayers when the wheels slip or when the engineer makes an emergency stop. The system can also reduce the power of any traction motor whose wheels are slipping.





RED SUN - Self-Charging- Medium- Ship, D9, or big mining equip:

A): Powersource 1.5 MW to 4 MW for Train:

B.) 30 MW RED SUN or two flat ones no higher than 135 cm, fit two on a rail car lengthwise - The real battery car.

At full power it burns something over 200 gallons per hour. So you need to make some guesses about how much time it's spending idling and how much at full power, and how fast it's covering the miles. 3000 gals x $3/gal = $9000 USD per day ave for train with 37 cars

Self-Charging Train Savings:
You would save approximately $8100 per day x 360 = $2,916,000 per year savings.

So- If- you save the client 45% of that after expenses = $1.31 million per year savings And; Efficiency Contract fee could be $1.3 million per year- paying-off in 1 year!

M

TRAIN or Ship RED SUN RETROFIT Budget: · $1.1 million
RED SUN 30 MW battery costs $300,000
NG2 Implosion Heat exchanger- Train -
CHIEFS System - $125,000
Aux. heat transfer - $75,000
RED SUN AIR CONDITIONERS: 5 x - $250,000
(on retrofit-. we go without Induction Steam Generator)
Inductortherm Induction unit - $300,000
Installation $125,000
Axial Generator(s) - $25,000-$30,000
From 2 MW to 10 MW Power

Self-Charging Train Retrofit Budget:

Entire Capex of Efficiency Contract pays off in one year with 100% clean-up of emissions

RED SUN- Micro-Hybrid-Charging Bus, Tram, Small- Med Yacht & Jets:

A): PowerSource 0.6 MW to 1.6 MW Bus - Truck- Small Yacht fit two on a Keel as ballast – &/or, one in Luggage Compartment

A commuter service in Santa Barbara, California, USA, found average diesel bus efficiency of 6.0 mpg-US (39 L/100 km;, and goes an average of 300 km per day is 117 L/d x $1/L= $117 USD per day ave for normal Bus.

RED SUN MicroHybrid BUS-Truck-Yacht Savings:
You would save approximately $117 per day ($234/d with Tram) x 316 day/yr=$36,972 per year fuel savings on bus

So- If- you save the client 45% of that after expenses = $16,637 per year savings And; Efficiency Contract fee could be $16,637 per year- paying-off in 12 years; RED SUN tram $73,080 fuel savings pays off in 6 years!

Micro-Hybrid Bus-Tram-Truck Retrofit Budget:

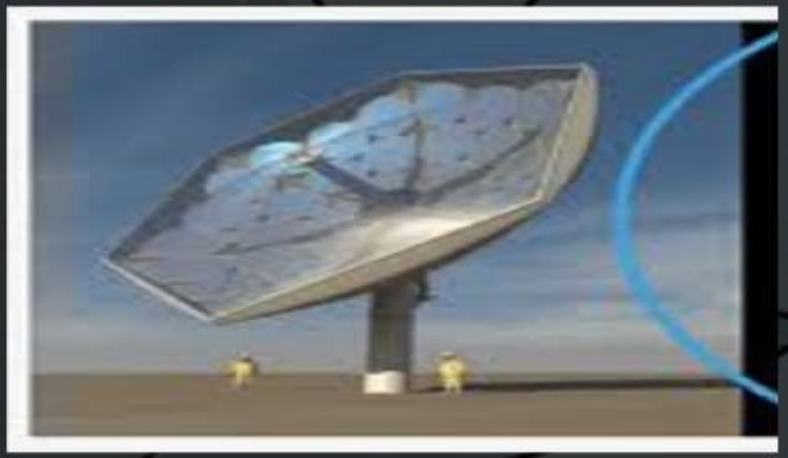
RED SUN BUS-TRAM Tier III RETROFIT Total Budget: - $190,000

RED SUN 0.6 MW battery costs $75,000 (0.6 MW- 1 charging during braking)
NG2 Implosion Heat exchanger- Bus - $10,000
Aux AC/ heat transfer - $5,000
+ Nitrogen Cryogenic tank -$20,000
Inductortherm Induction units - $40,000
Installation $15,000
Axial Generators + Electronics – monitoring- $20,000

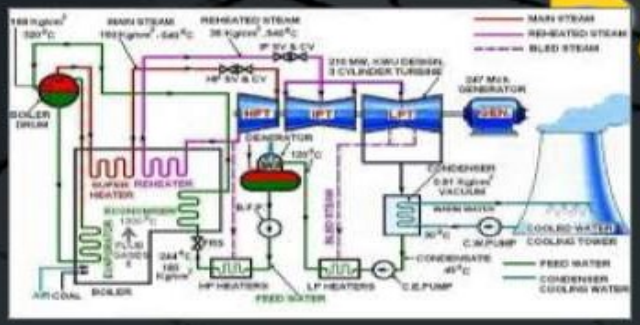
From 275 Hp – 12 L upto 1 MW Power

MAG GAS+BUS/Tram– Ship
Total Fuel Savings per year = $36,972 Bus
upto $125,000 fuel savings for trams/year

Entire Capex of Efficiency Contract pays off in six years with 100% clean-up of emissions

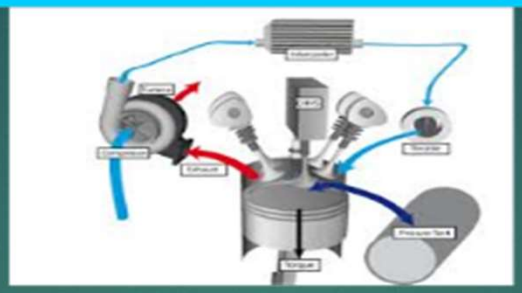


Industrial Electric & 1000°C Heat & Steam



drrenewables@gmail.com
Energime Green Group, Thailand Ltd

PowerSource Energy Systems



Man, Cummins & GE
(All Diesels) Hybrids

11 kW
To 4 MW

Thermal

Pneumatic
Engine

Mechanical

Thermal

Thermal

Bus & Truck is driven by 6
Pneumatic wheel engines

Hybrids

Run Buses/Ships/Trucks
Trams/Trains/Ferries/Taxi

Truck, Bus, Ship, & Crane Retrofits

RSRBB WORKING SOLUTIONS
for Electric, Diesel Electric and Diesel Trains

11.2 MW RSRBB ~ 10 MW Ge LM1550 + Two 4MW PowerSource + 4 x Mazda Rx-8 300kW + Cryo nitrogen

4x Mazda Rx-8 Runs on Mag Gas – 1200 kw

2 x 4 MW=34 Mwh/chg PowerSource Battery

10MW~ Btu/shp-hr. 7,800. Btu/kW-hr (LHV). 12,000. 13,800 V

RED SUN & MAG GAS H2 Platform

75% of Pollution & GHG is from ground equipment & generators

Heated Compressed Air 3x's Torque

RED SUN ARBITRAGE: Location & Processes

RED SUN & MAG GAS H2 Platform

1400 km Range Per Charge – 64 MW on Budd Car

RED SUN Onboard Self-Charging Thermal Platform:

Brown's Gas HHO & MHHO & Energy Storage:

MHHO Gas is a Modified Stoichiometric Oxygen-Hydrogen Gas Mixture called MAG GAS (HHO, Brown's Gas), produced by our original, modified, high-effective (0.8Wh/L HHO, 1.3Wh/L Hydrogen) Water Electrolysis method, using special cell, equipped with a low-frequency ultrasound transducer, UV-LED-photo activation, PWM and PSM current-modifiers, and more. MHHO gas is the ideal universal Fuel and Energy Storage - 100% clean and renewable, cheap, dense, compact, lightweight, powerful, easy and safe for production and operation.

MHHO can be safely compressed over 200 bar and more, liquefied at -178deg.C/1bar, filled in CNG/LNG bottles/tanks, stored for years and combusted as a single fuel, or mixed with pure hydrogen (produced by the same gas-generator) in various ratios for higher fuel energy performance, in all the existing gasoline/diesel engines, gas turbines, jet/rocket engines and burners. Unlike the pure hydrogen and the regular HHO, MHHO is safe for storing. No leakages, diffusion and embrittlement issues have been observed. It is very low-explosive, cannot be ignited by a spark at regular pressure/temperature conditions.

MHHO Gas as Energy Storage Fuel for CSP and PV Solar Power Plants

MAG GAS made on train or ship extends range up to 25%

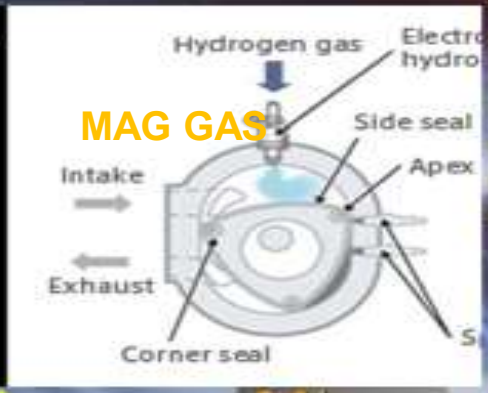
MHHO's cold-plasma flame can heat, melt and boil-up UHTC materials up to unique ultrahigh temperatures over 5,500 deg.C and more, which enormous heat can be used in welding machines, ovens, furnaces, boilers, heaters, waste/toxic/nuclear incinerators, water purifiers, distillers, desalinators, de-ionizers, etc...

MAG GAS 300 kW GENSETS CHARGE-UP for RSRBB RED SUN/PowerSource 8 - 32 MW Themal Batt: ~34 MWh/chg

Chamber volume
2 x 654 cc (equiv. Displacement: 2,616 cc)

Mode
Hydrogen Gasoline
Performance
80 kW (109 HP) 154 kW (210 HP)
Maximum torque
140 Nm at 5.000 U/min 222 Nm at 5.000 U/min
Runs 300 kW Axial Generators and was designed to run on Mag Gas by Mazda in JV with MAG POWER, so timing is set to burn MAG GAS slowly in longer turbine burn cycle

MAG GAS runs Rx-8:



2.4 kg

131 Liters H2 at 350 bar:
Powersource 8 MW ~ 9 TONS
4 MAG GAS Gensets ~ 125 kg

Four Rx-8 gensets ~1200 kW ~ with Four MAG GAS generators ch
MW POWERSOURCE BATTERY
In Train RSRBB in 5 to 6 hours onboard while running!

MAG GAS never exploded in 18 years! Each hydrogen molecule is surrounded by four water molecules!

32 MW gives 300 MWh per charge & taking 4 to 5 hours to charge & giving 700 km range

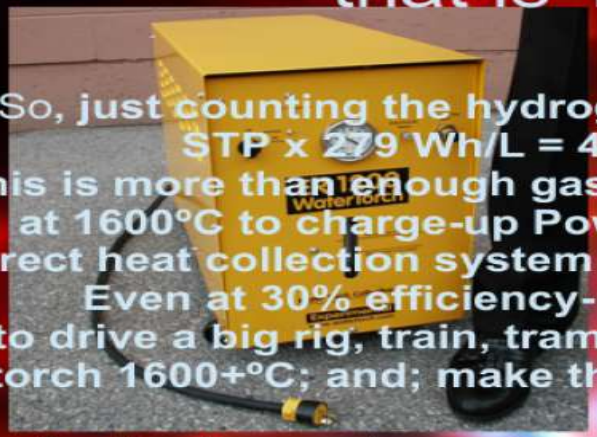
Onboard MAG GAS extends range 25%

Runs Engine, generator HVAC & Pneumatic Brakes

Powersource 8 MW ~ 9 Tons
4 MAG GAS Gensets ~ 125 kg
RED SUN 32 MW ~ 26 tons
135 Mwh/charge ~ 4-5 hr chg

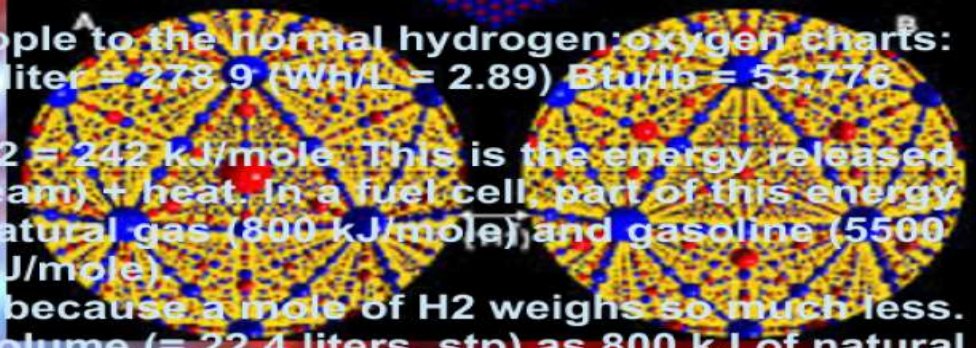
Four Rx-8 gensets ~1200 kW ~ with Four MAG GAS generators charge 8 MW POWERSOURCE BATTERY
In Train RSRBB in 5 to 6 hours onboard while running!

Eagle Research Unit-1000 L/hr that is 16.7 liters per minute!

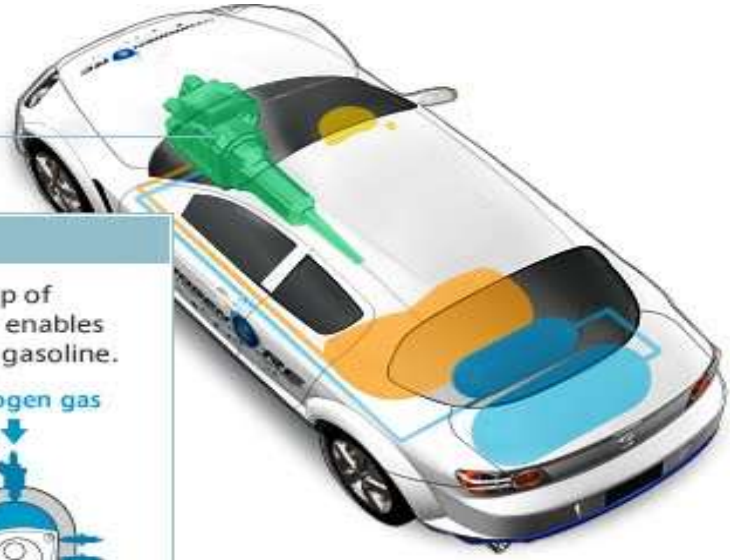


So, just counting the hydrogen part of HHO = 16.7 Literper minute HHO under STP x 279 Wh/L = 4.6 kWh per minute in energy equivalency!
This is more than enough gas to run a torch that will be mixed with gases to burn at 1600°C to charge-up PowerSOurce and MAG POWER Batteries through a direct heat collection system and wick into core of MAG POWER thermal Battery.
Even at 30% efficiency- that is 1.5 kWh per minute- more than enough to drive a big rig, train, tram or 90 kW electric motor...Definitely will run a HHO torch 1600+°C; and; make the RX-8 Mazda genset converted with plasma sing!

As for the former, I usually direct people to the normal hydrogen:oxygen charts: Hydrogen = 280 BTU/F[illegible] = 10 BTU/liter = 278.9 (Wh/L = 2.89) Btu/lb = 53,776

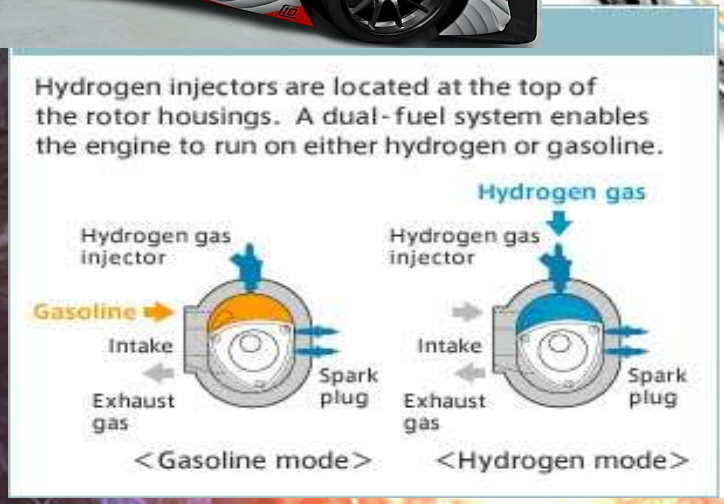


Energy released by combustion of H2 = 242 kJ/mole. This is the energy released in the reaction H2 + ½ O2 → H2O (steam) + heat. In a fuel cell, part of this energy is electrical, part is heat. Compare natural gas (800 kJ/mole) and gasoline (5500 kJ/mole).
Per kilogram, H2 stores more energy because a mole of H2 weighs so much less. But 242 kJ of H2 takes up the same volume (= 22.4 liters, stp) as 800 kJ of natural gas. Gasoline, because it is a liquid, is much more dense- 22.4 liters of gasoline is roughly 160 moles, containing 900,000 kJ of energy!
http://www.convert-me.com/en/convert/energy



MAG GAS runs generators, fork lifts, & vehicles for pennies on the dollar making Hydrogen for 50 US cents/L

Charges at 2.5 cents per kWh & saves 88% on grid electric!



In the practical application of hydrogen internal combustion engines, avoidance of so-called backfiring (premature ignition) is a major issue. Backfiring is ignition caused by the fuel coming in contact with hot engine parts during the intake process. In reciprocal engines, the intake, compression, combustion and exhaust processes take place in the same location-within the cylinders. As a result, the ignition plugs and exhaust valves reach a high temperature due to the heat of combustion and the intake process becomes prone to backfiring. In contrast, the RE structure has no intake and exhaust valves, and the low-temperature intake chamber and high-temperature combustion chamber are separated. This allows good combustion and helps avoid backfiring. Further, the RE encourages thorough mixing of hydrogen and air since the duration of the intake process is longer than in reciprocal engines.

Rx-8 MAG GAS ~ H2 Engine

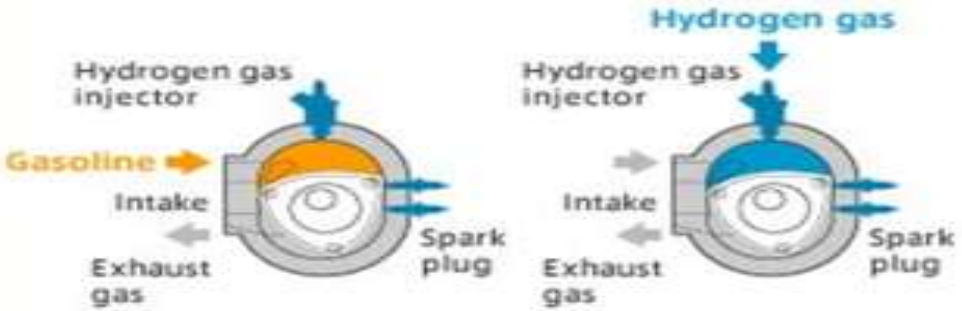
Rx-8 MAG GAS runs Rx-8 Longer Cycle

= high Efficiency+ safe!

250 kW MAG GAS Gensets

Hydrogen Rotary Engine

Hydrogen injectors are located at the top of the rotor housings. A dual-fuel system enables the engine to run on either hydrogen or gasoline.



Combined use of direct injection and premixing

Aiming to achieve a high output in hydrogen fuel mode, a direct injection system is applied by installing an electronically-controlled hydrogen gas injector on the top of the rotor housing. Structurally, the RE has considerable freedom of injector layout, so it is well suited to direct injection.

Further, a gas injector for premixing is installed on the intake pipe enabling the combined use of direct injection and premixing depending on driving conditions. This produces optimal hydrogen combustion.

MAG MAS has OXYGEN so reduced intake for high altitude flying or underwater submarine propulsion

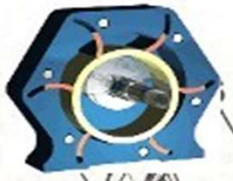
Turnkey UpCycling with Brand New Hydrogren Production integrated Aluminum Recycling Systems:

For every 1 gm of Aluminum recycled & ball milled = 2 L H2:

Hydrogen Production by Aluminum powder +NaOH corrosion
+ Ball Milling Aluminum cans
+ Run gensets & Charge thermal battery
+ Run all seperation/waste facilities on Hydrogen
+And unlike solar power, wind power and other "clean" energy, hydrogen can be easily stored
+ AlO3 and hydrogen peroxide byproducts are quite valuable and help monetize the recycling process
+ All the energy of separation plant and total recycling plant can be made-up with the aluminum can to hydrogen system, with 100 cans giving approx 5 kWh, or 100,000 cans give 5 MWh, while none of the aluminum is lost- and is ready to sell to aluminum smelter after process.

EGG Direct drive Pneumatic Buses & Trucks

2 Di Petro Engines + PowerSource = 230 bhp



Heated Compressed Air Bus
2 Direct drive High Torque Engines + Volvo Air Suspension

1. Working cylinder (alt. control rod)
2. Front level valve
3. Front air bellows
4. Solenoid valve for level control
5. Four-circuit protection val
6. Rear level valves
7. Rear air bellows

Simple Valve Control lowers costs by 75%

PA1

Mobile Energy Storage Rail Cars

Torpedo Rail Car Used to Transport Molten Iron

To start the thermal storage business, one needs to invest in 2 torpedo rail car units plus the costs to sign up a power source and na end user for the thermal energy. Most of the capital tied up in the business will be in the rail cars which will have a residual value based on the value of the metals used in the system.

- A Thermal energy storage system capable of transporting 90 MT of alloys will carry 26,000 MMBTUs of thermal energy which can be stored for over 1 month.
- The thermal energy transported is equivalent to over 1,000 ST of steam coal (10 coal cars).
- No pollution is created in the charging and use of thermal energy.
- Can recharge using 7600 MWH over 6-days.
- At $.04/kWh cost for power at a wind farm, the cost to recharge the thermal energy storage system will be $311,000 ($11.95/MMBTUs). This cost is not sensitive to rail freight costs. Energy can compete in price against any diesel-fired boiler/furnace and in some cases, against natural gas-fired boilers.
- System could deliver a high temperature heat (1400°C) to a power plant boiler such as a coal-fired boiler if one can use low cost electrical power from a wind power plant where land is cheap and deliver the renewable thermal energy to a fossil fueled boiler as a repowering project.
- Solar Thermal Power plants can be built to displace the need to buy electricity in order to improve even more the operating margins. If one owned thermal solar power plants to create the heat for the system, operating margins will be over 50%.

Slide 52

PA1 Paurom Alexander, 6/21/2023

PowerSource - under the covers

PowerSource Home in its enclosure

Inside is a Thermal Storage Cell w induction charger

System controls

Under the skin, contained in attractive encasement, the basic PowerSource "Home" System includes the ceramic thermal cell, induction heater, controls, and steam turbine (with composite non-corroding pressure vessel, stainless steel expansion tank & return drive fluid container).

Turbine enclosure with reservoir

High pressure tank w/ integrated boiler

5 kW steam turbine & alternator

Expansion stank

MOBILE RED SUN
Renewable Energy

e Mirrow

d Aluminum
sh reflects
iation

Supercondutor (1000-1800 oC)

Each Dish produces 160 kW to 250 kWh of Thermal Energy

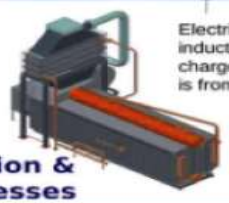
fluxo em hora

* Acumulador de ca
(metais fundidos)

6,000 MMBTUs of transportable thermal
er 90 MW nominal thermal capacity. This
lent to over 1,000 ST of steam coal.

Thermal Energy storage units once charged can travel by rail to a load center for use. Energy can be stored for over 1 month

Superconductor for heat (900°C to 1600°C

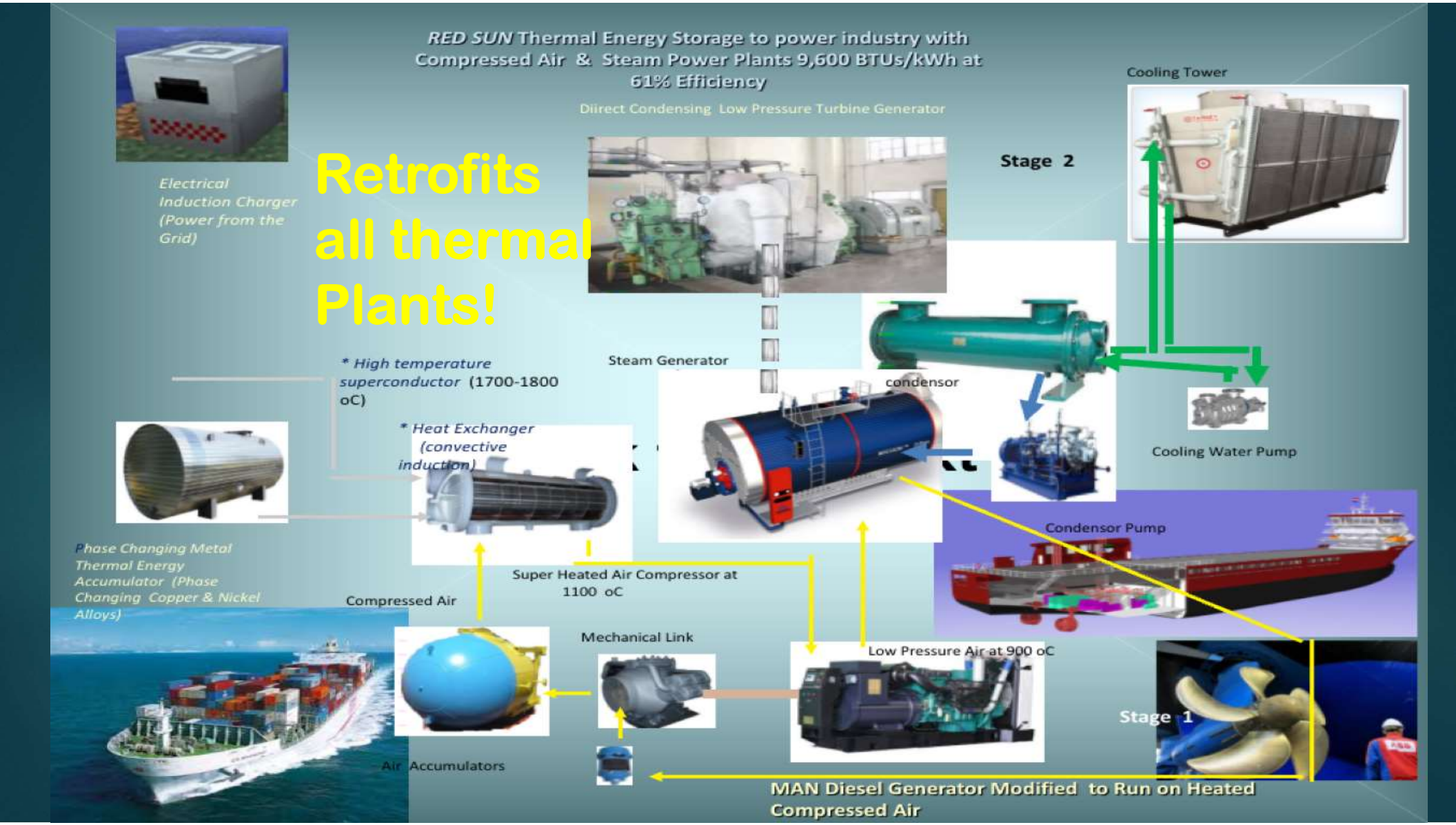


Electrical induction charger. Power is from the Grid

Other Applications to develop: Create Heat in One Location & Transport to Another Location to Use for Industrial Processes

MOBILE RED SUN CYLINDERS

Fill 30 MW in 6hrs-3.2 MWp (3 tons) and run Up to 30 MM Liter per day wirelessly to 30 days delivered by truck, ship or train

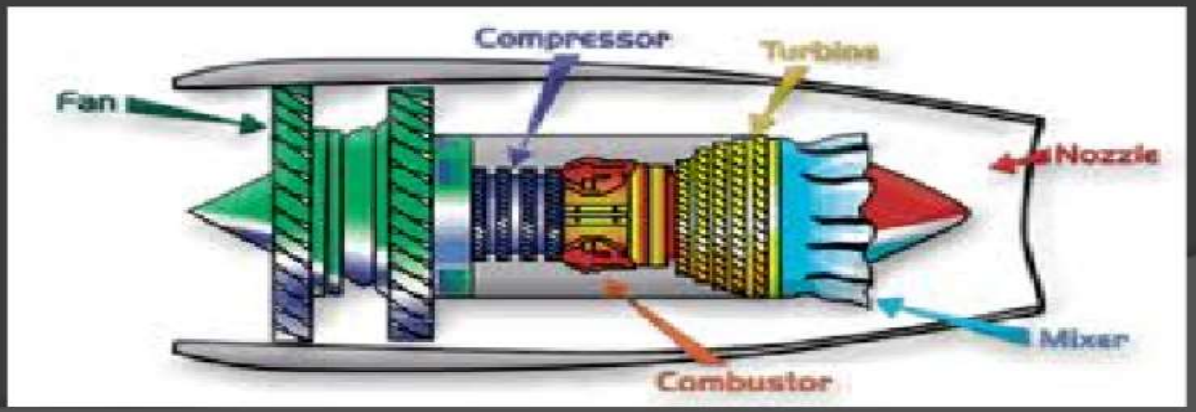

RED SUN Thermal Energy Storage to power industry with Compressed Air & Steam Power Plants 9,600 BTUs/kWh at 61% Efficiency
Diirect Condensing Low Pressure Turbine Generator
Retrofits all thermal Plants!
Electrical Induction Charger (Power from the Grid)
Stage 2
Cooling Tower
Steam Generator
condensor
Cooling Water Pump
* High temperature superconductor (1700-1800 oC)
* Heat Exchanger (convective induction)
Phase Changing Metal Thermal Energy Accumulator (Phase Changing Copper & Nickel Alloys)
Condensor Pump
Super Heated Air Compressor at 1100 oC
Compressed Air
Mechanical Link
Low Pressure Air at 900 oC
Stage 1
Air Accumulators
MAN Diesel Generator Modified to Run on Heated Compressed Air

Research and Development

Energime Green Group works with *DOE, University of Texas, Latvian Technical University, Rolls Royce, Kawasaki, and British Atmospheric Institute, and UIB* to name a few institutions.

Testing

1 Year testing with Rolls Royce UK – Run very large 1.5 MW turbines
1 Year testing with Kawasaki – Runs their 1.5 to 1.8 MW Turbines
1.5 Year testing with British Atmospheric Institute UK -302 W/m^2 @ 10 pm



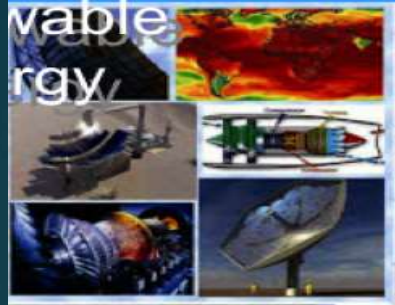
Red Sun Mobile - Financial Analysis (for 1 Red Sun Cylinder)

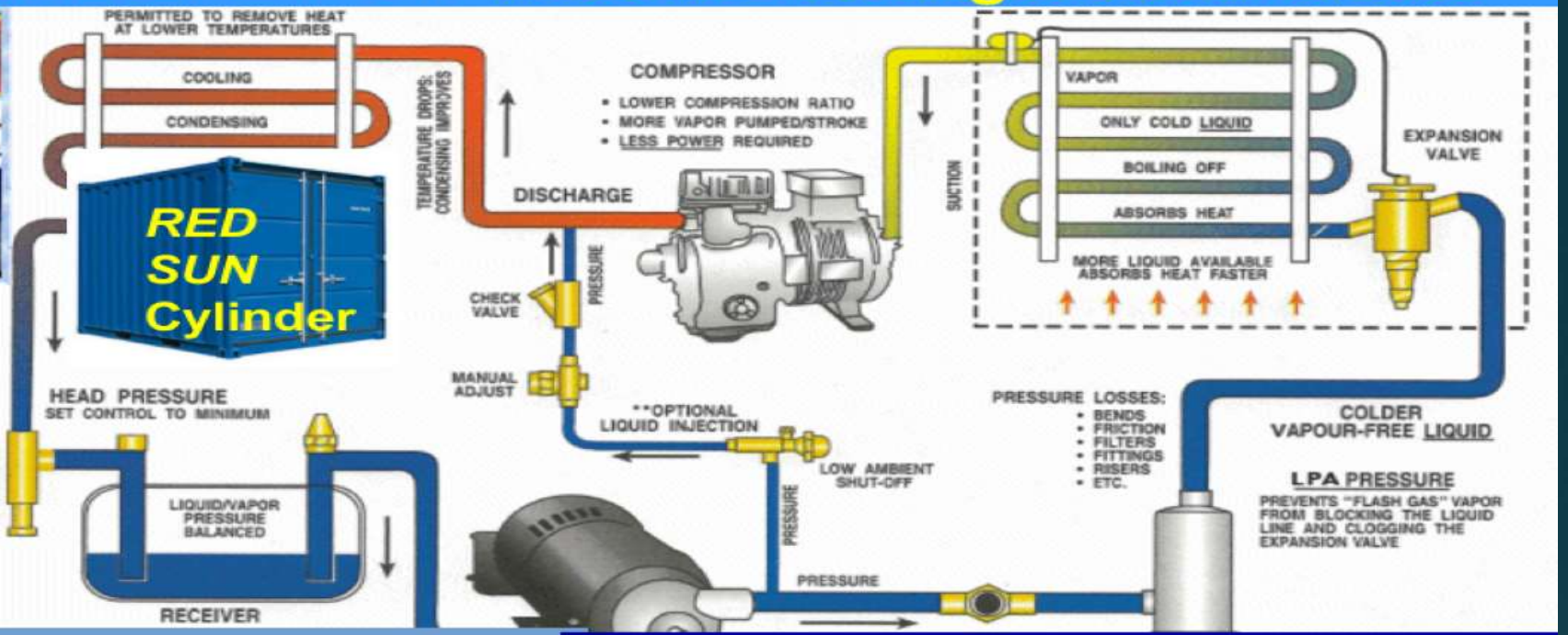
Electricity Generation

Technical Details	Model 1		Model 2			Model 3	
Red Sun Mobile Storage Size (MW)	40		40			40	
Monthly Energy Generated (kWh)	28,800,000.00		28,800,000.00			28,800,000.00	
Energy Generated with De-rate factor (kWh)	17,280,000.00		17,280,000.00			17,280,000.00	
Manufacturing/Internal Costs							
Charging Costs (@ $.04/kWh)	$1,152,000.00		$1,152,000.00			$1,152,000.00	
Red Sun Mfg. Costs	$250,000.00		$250,000.00			$250,000.00	
Staff, Logistics and Misc.	$300,000.00		$300,000.00			$300,000.00	
Total Costs	$1,702,000.00		$1,702,000.00			$1,702,000.00	
Cost per kWh (Internal costs)	$0.059					$0.059	
Sale Price/Profit			$0.25				
PPA Sale Rate	$0.24		$4,320,000.00			$0.16	
PPA Revenue (Monthly)	$4,147,200.00		**$2,618,000.00**			$2,764,800.00	
Gross Profit per Red Sun Mobile	**$2,445,200.00**	**59%**		**61%**		**$1,062,800.00**	**38%**
	Bahamas					Cambodia/Burma	

SUN ... CYLINDERS RUN 4000 m2 Refrigeration & Ice:

vable
rgy





350,000t/y Pack Ice

30 MW RED SUN battery give 65,000 kWh at 3c/kWh

4000 m2 Refrigeration plant plus Ice Plant Franchise can payback power plants quickl

PowerSource AC & Refrigeration

Train Air Conditioner

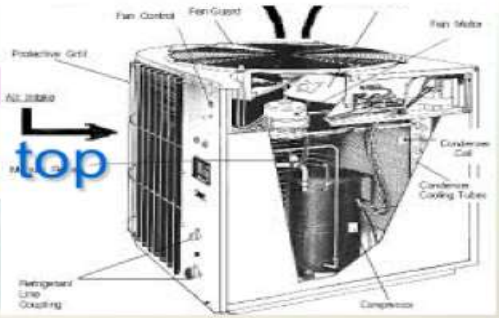
Thermal

Pneumatic+Compressor Engine

Mechanical

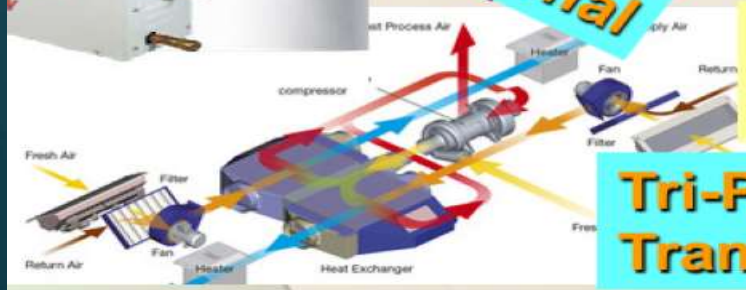
Thermal

Bus & Truck can run on top of cab or trailer

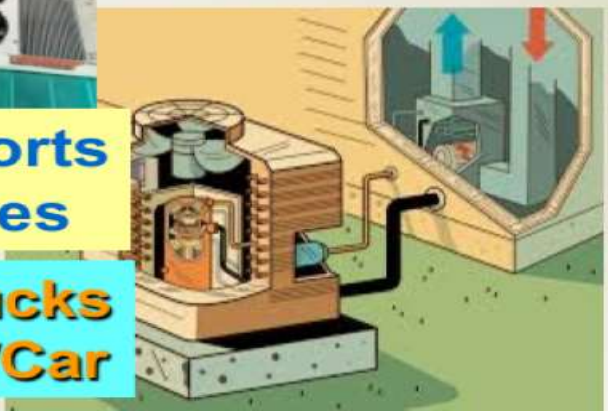


3.6 kW
To 1.5 MW

Thermal

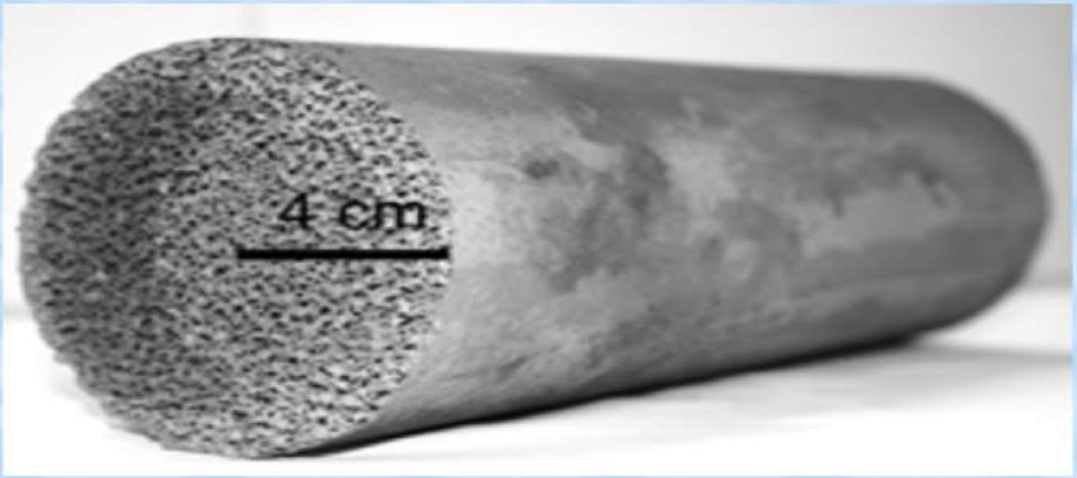


Tri-Pack AC for Airports Offices, Apts & Homes



Tri-Pack: Buses/Ships/Trucks Trams/Trains/Ferries/Taxi/Car

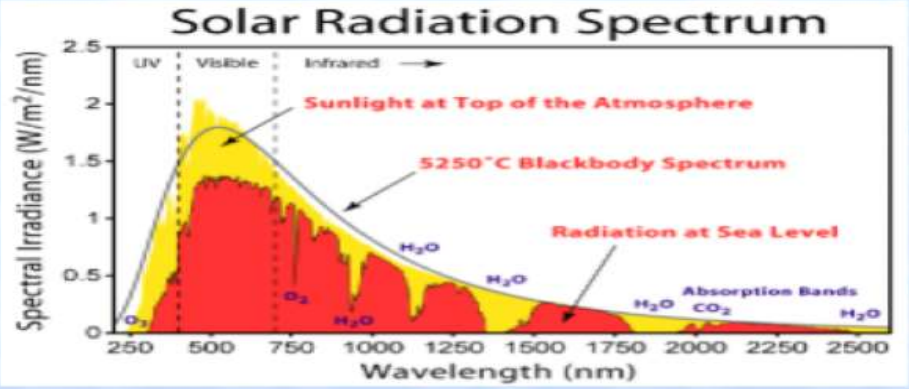
Advanced Thermal Storage – Transfer of Thermal Energy

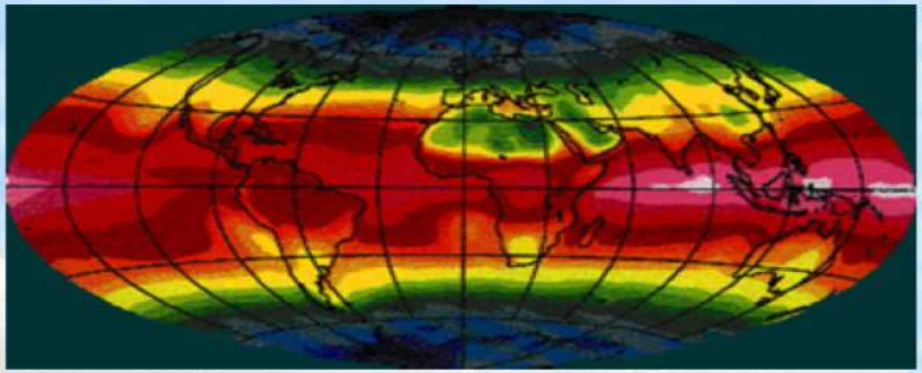


Thermal energy is transported without gas or liquid

- The Graphite foam tube has thermal conductivity of 4x that of molten silver
- The tube is capable of transporting 2.5 megawatts of thermal energy per hour
- An innovative thermal storage system that integrates high density phase change material, ceramics as well as graphite in a solid-state storage system.
- Energy can be stored thermally for days and up to weeks.
- Proposed thermal storage system is at least ¼ the cost of liquid salt systems used for thermal solar and does not have any environmental issues. The amount of energy stored in 18M3 of thermal storage designed by Energime Green Group (30 MW) is equivalent to several hundred cubic meters of liquid salt
- The proposed system has a very high energy density compared to the liquid storage systems used by conventional solar thermal plants. We can store heat up to 1720ºC. At 800° C, salt turns to gas and cannot resolidify.
- Higher the temperature stored means more energy for a given space.

RED SUN Mobile Advanced Thermal Storage Unit





Long wave radiation is collected with visible spectrum to operate at 1600°C in the yellow and red zones (Bangkok is red zone) shown in the solar radiation map below. RED SUN features a solid state thermal battery made of graphite ceramics as storage unit that can store large amounts of thermal energy in a relatively small footprint.

- A 30 MW RED SUN unit weighs 29 tons, is 18 M3 and can store up to 30 MW of thermal energy for in excess of **30** days.

The unit will hold energy up to 1600°C and deliver that energy in a measured and consistent manner. The thermal loss of the storage unit is 1°C per day

- A rail car shown on left is mounted with 90 MT of phase changing alloys can store 26,000 MMBTUs of thermal energy which is equivalent to over 1,000 ST of steam coal.

Energime Green Group, Ltd

Introduces:

RED SUN Solar Thermal for Thailand & Asia

www.fibonaccimotors.com

www.originclear.com

wwww.theimploder.com

Advanced Solar Thermal – The Dish to Replace Power from the Grid (Phase 2 Upside once Solar Dish Certification is Completed)

- The proprietary system captures up to 98% of the total solar spectrum as opposed to just visible light spectrum, which is 38%
- Other solar technologies capture only a fraction of the visible light spectrum
- A solar dish that has 500 M2 of 3M film and polished aluminum that collects 200 kWh of power. The Southeast of the United States, the power collected would drop to around 140 kWh.
- The dish is a compound curved deposit ABS plastic foam and coated with reflective 3M film.
- Under the 3M film there is a polished aluminium cladding that reflects long wave radiation.
- The expected medium capex per kw-installed thermal will be around $200 per kW-installed. For solar collector dishes.

The First patented Solar Concentrator of Infrared reaches 1740 deg. C 22 meter Disc & 1100 Deg.C for trough

Infrared Solar

Infrared Dishes 3kW rooftop to-12 meters -4 MM MJ/d
& Large 300 kW – 22.6 meter Infrared Dish

RED SUN INFRARED 3 kW:

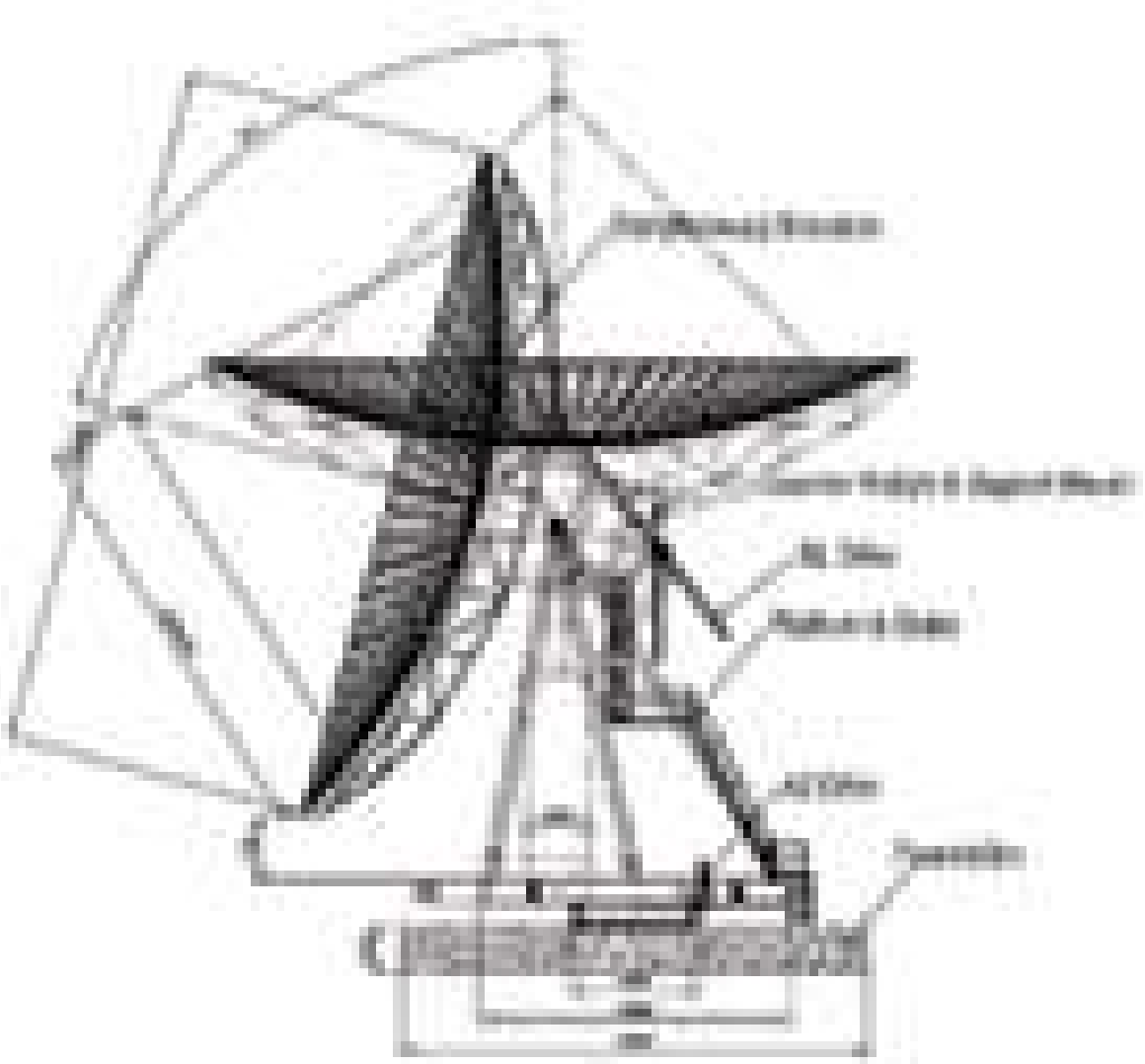
Rooftop

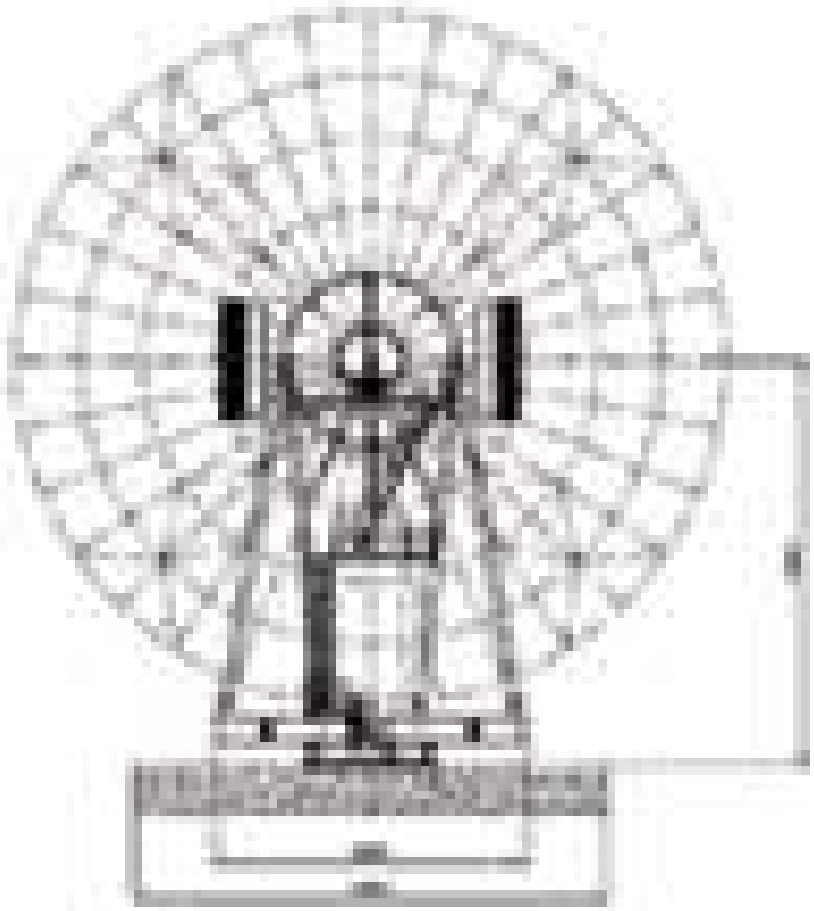
RED SUN

22 m INFRARED DISH+300kW turbine 12 m DISH

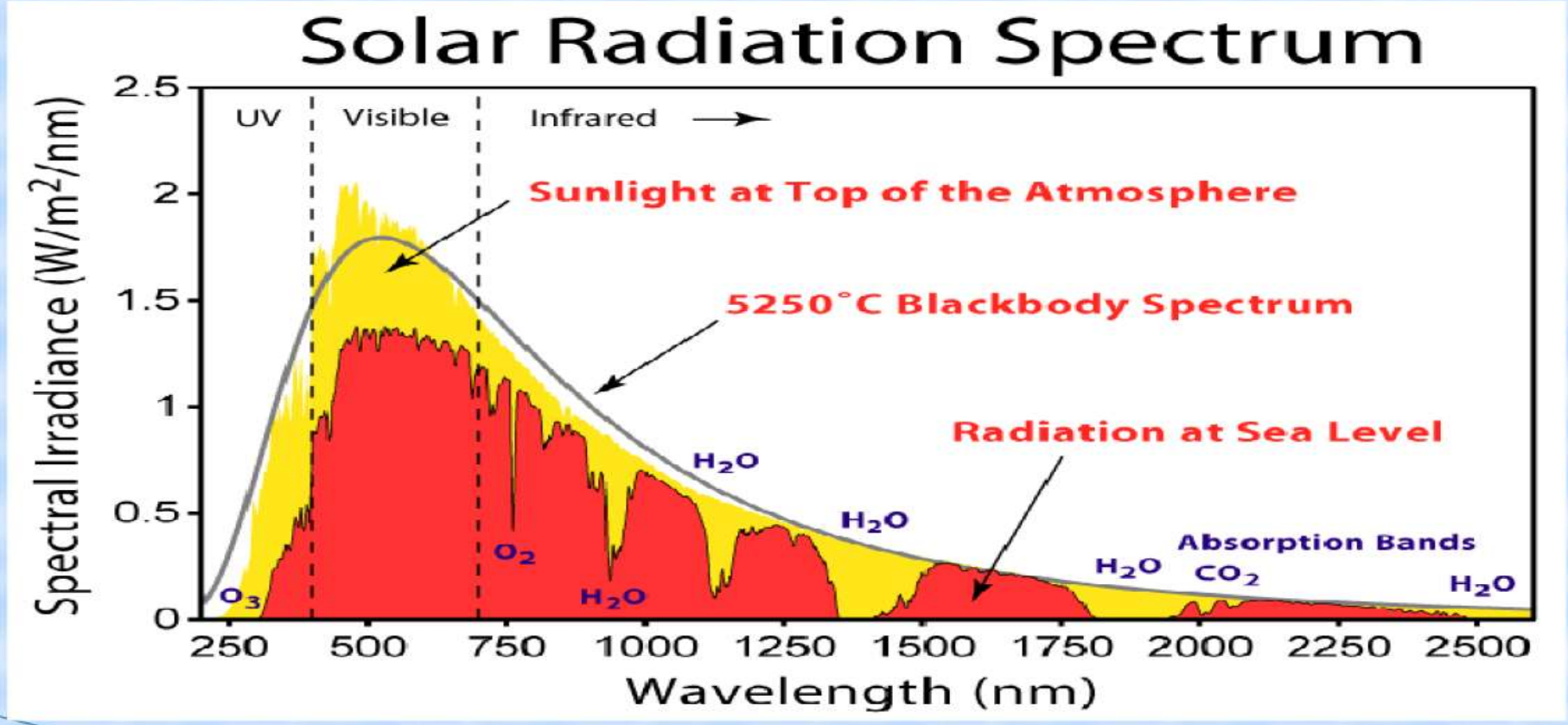
RED SUN 22.6 meter Dish – 600 Suns –
1650°C runs Jenbacher/LM2500/Turbines

RED SUN 12 m
Infrared Dish
2 MM MJ/day-
= $3600/day in Oil Eq.
~ Pays off in 6 mo!





Phase II: Use of Dishes to Collect Solar Radiation to Substitute the Use of Electrical Induction for Heat Creation



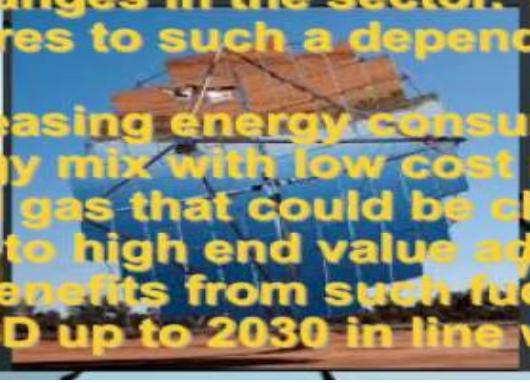
RED SUN Energy Arbitrage

Wind is the renewable energy source getting active consideration as Trinadad's Government moves toward lower carbon options for electricity generation. ... "Given that we in Trinidad and Tobago now generate 100 per cent of our electricity from natural gas it is expected that our next evolution would be towards a lower carbon option..

The transition to clean, sustainable and efficient modern energy services in Trinidad and Tobago was the focus of the landmark two-day Conference "Energy Efficiency and Renewable Energy in a Hydrocarbon Economy"

BACKGROUND

Trinidad and Tobago is a country heavily reliant on oil and gas. Energy and its by-products have accounted for approximately 40% of GDP, half of all total government revenues, and 80% of exports. Therefore, the economy is highly susceptible to any abrupt changes in the sector. The recent oil shocks illustrate vividly the exposures to such a dependency.



The calculations show that by decreasing energy consumption and substituting fossil fuels in the energy mix with low cost renewables will save substantial amounts of natural gas that could be channeled to the domestic industry and transformed to high end value added products. According to estimates, the fiscal benefits from such fuel savings could be in the range of 1.5 up to 3 billion USD up to 2030 in line with the scenarios.

We are definitely already making our way towards the tipping point in the Philippines. According to the Energy Department, the private sector already has 37,948.70 megawatts (MW) of indicative RE projects slated for 2023 to 2037 and 3,180.63 MW of committed RE projects for 2023 to 2026. This signifies that there is indeed a shift to building a greener energy system, giving weight to the government's target of having 50% RE on the power generation mix by 2040. As the Philippines adds more RE while just maintaining its current stock of thermal capacities to meet its growing energy consumption, it will reduce its deep exposure to fossil fuel imports and its supply and price volatilities, as well as give more spotlight to energy sources in its backyard like solar, wind and geothermal.

Needing 28 days of storage for all intermittent energy also means that the Philippines will need 4 GW+ of storage; and, an equal amount of non-intermittent baseload power that can be ramped-up in minutes to equalize and smooth-out the variability of weather-sensitive wind and solar.

"Indeed, technology can only get us so far. Solutions are still generated by people."

With the country diversifying its energy mix with different forms of energy capacities (a significant chunk being RE), different types of energy storage must also keep pace. Periodic interruptions that are inherent in wind and solar installations need to be balanced with fast acting energy storage systems starting with Redstar's (Redstar Energime Green Group Corp.) patented mobile thermal batteries that are amazing 2,000 W per kg and charge at 98% efficiency. Modelled after the earth, with molten nickel iron core and ceramic refractory and graphene CNT composite covering that can hold charge for years while not needing inverters or wires; they are the perfect analog energy system for retrofitting everything we have already created and committed to.

With Red Sun and smaller transportation and truck sized Power source cousin do-away with the need to reinvent the wheel to run without fumes or smog, just reinvent batteries and replace fuel with the direct heat that fuel ultimately was designed to create only for **2 pennies per kWh or kg, not 2 dollars**. This is important because buses, ships, trains and trucks are the most difficult to decarbonize. And; Red Sun is mobile, wireless and flexible for every scenario, so you can charge in myriads (charging at night from all renewables, nuclear, and thermal plants, plus solar thermal, hydrogen, ammonia, synfuels, and waste heat from industry) of ways and enable plugging into existing infrastructure and existing transportation without modifications (you replace only the cannula with heat exchangers to run any turbine)

To drop these ridiculously heavy, expensive and **explosive lithium ion batteries**, filled with pricey rare earths and difficult to source materials; and Red Sun the need for wasteful inverters that rob another 20% to 38% of our precious energy. Red sun is a mobile and scan elements also, which Li-ion is not; and Red Sun is well suited for every large ship, train and thermal power plant, engine or turbine to run fuel less (in easy retrofit conditions, with zero emissions) ever invented (some bigger than a 4 story house), because they all run on heat. Thus, all our legacy systems can be greened- up and salvaged without spending trillions of dollars on new untested manufacturing of our cars, plains, trains, ships and engines, to run better than new.

The reason is because our diesels and engines were designed originally before petrol and kerosene was invented. The little known fact is diesels were designed the "Red Sun way". To run on expanded heated gases in 1897; and pure heat in the case of the jet turbine patented in 1842, or 75 years before the first gas station!. From ship, bus, train and truck transportation propulsion to large power plant operations, as well as grid back- up, all gensets and power plants work the "Red Sun way": Non-Combustion Brayton Cycle or Red Sun thermo pneumatics featuring compressed air heated to 200°C and injected into diesel rail systems give twice the energy density over gasoline 20MJ/ kg vs only 11.1MJ/kg for gasoline (and only 9.7 MJ/ kg for biodiesel), and Red Sun way gives triple the torque over petrol or diesel.

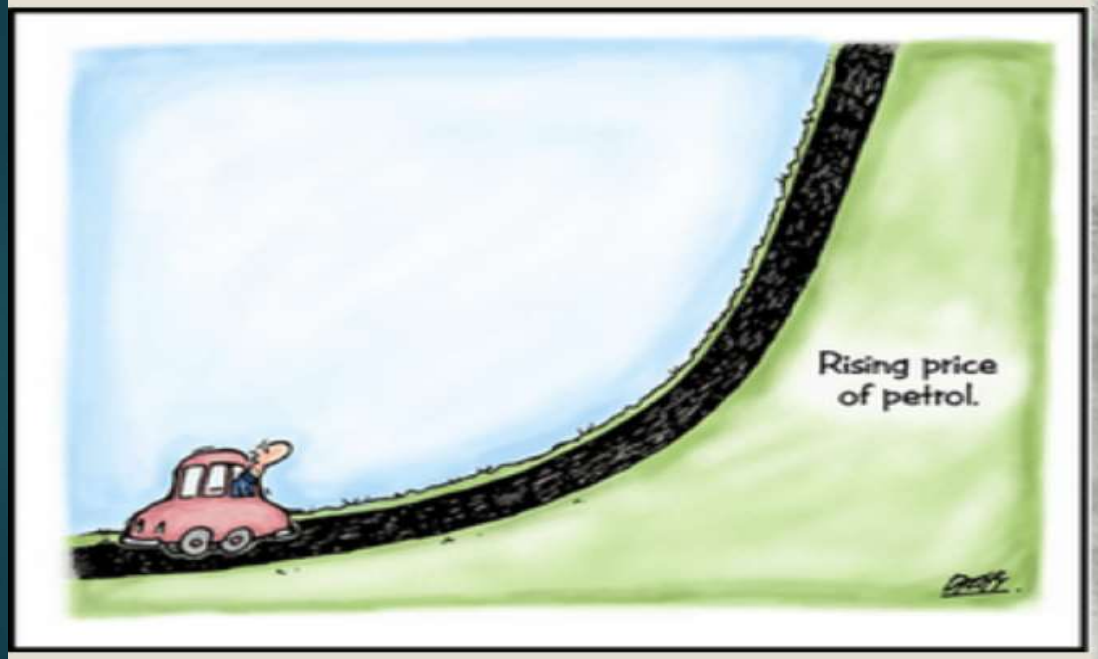
The Red Sun **patented solid state thermal battery** features a **molten nickel iron alloy at 1,700 to 2,500°C** to connect and run diesels and turbines directly, and/ or providing high temperature process heat directly, and can be delivered to every business by truck or ship in 20 foot container; and can hold this as back- up power for two years. Thus, for every industry from food and chemical to metal refining above 2,200°C, they can save 50% to 75% over fuel and go green, without emissions, and without fuel; and replace the under-performing and expensive legacy systems, or worse, the standard fare of lithium ion batteries (only 270 W per kg and not mobile for large 1 MW+ operations, with 7 year life only). Other storage from the past, like mechanical flywheels to compensate for the variability of RE, are limited, weak, complicated with many moving parts; and more importantly because they can't run engines directly. Furthermore, if we also hope to elevate the capability of RE to shoulder the base load (or at least a portion of it).

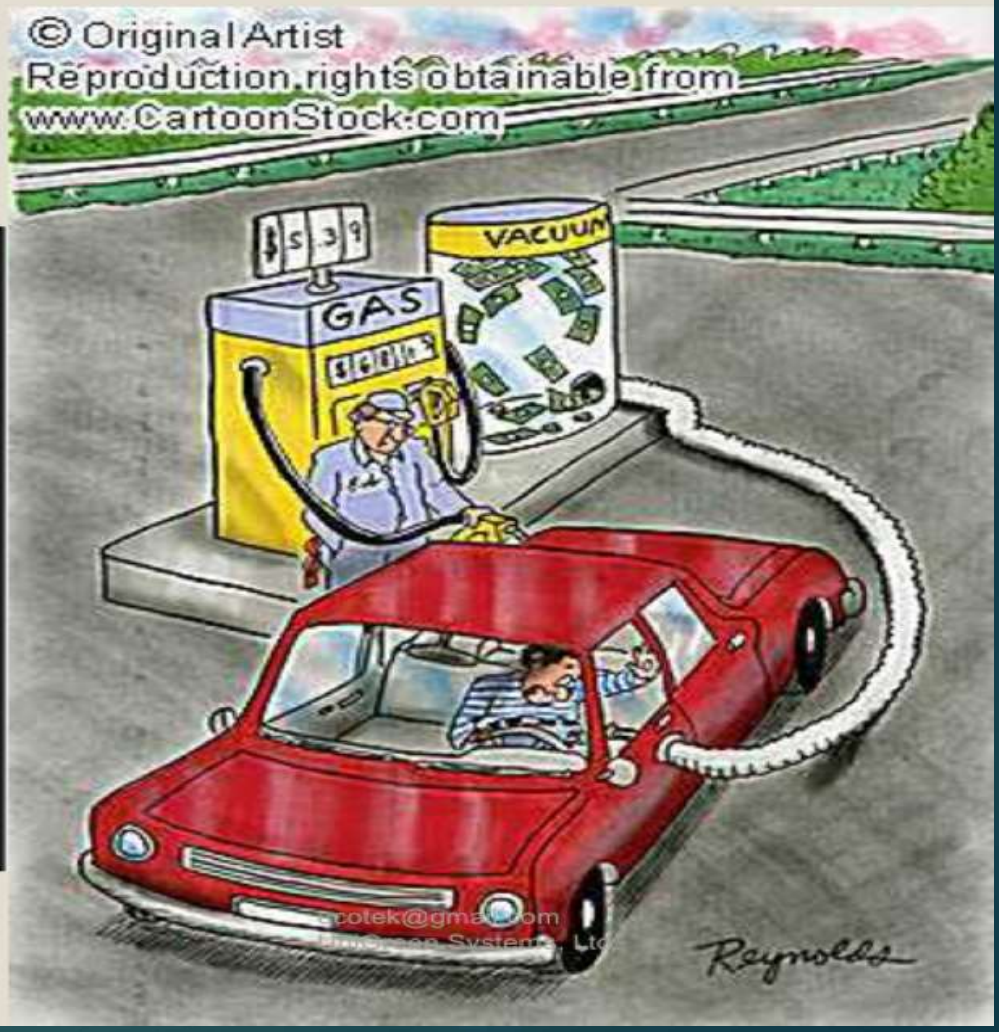
To displace fossil fuel, longer duration energy storage like pumped storage hydropower and green or pink hydrogen and green ammonia supply chains can also be considered for more development. Redstar will build **Pink hydrogen** and anhydrous ammonia, which has become the preferred hydrogen format for ship and train propulsion, and way to ship hydrogen. Redstar will focus on manufacturing urea for lower cost fertilizer. Running two plants by **Molten Salt Reactors** (MSRs) in North and South Philippines. **Gen IV reactor MSR** technology has been tested since the 50s and propels all your nuclear submarines today with perfect records of no accidents. MSRs present no risk of explosion and does not require bulky concrete containment. It works principaly at one atmosphere and radioactive fuel is ionically and magnetically bound inside the salts.

Moreover; MSRs enable drastically shortened construction times and 4x's lower costs as components are made in modules and shipped onsite. Redstar's method uses all standardized parts and salts with 400 years of reactor testing. And; using low cost thorium **(plentiful in the Philippines)** and fast breeder reactor only produces 100 grams waste for each 2 GW- year, that is only radioactive for **300 years!** The most exciting breakthrough is the cost to make this clean electricity with no GHGs is only 3 cents per kWh, half the rate of coal. While the establishment of new greenfield coal plants is unlikely in the foreseeable future, it will still be necessary to retrofit our existing thermal power plants with the Red Sun Thermal battery to help ensure energy security and comply with the PHP laws phasing out natural gas and coal and complying with stated goals to half CO2 and GHGs. Liquified natural gas (LNG)-to-power, in particular, gives 0.185 kg CO2 per kWh and will soon be banned outright by 2030, so a temporary solution at best And; if the carbon price goes up to $130 per ton, that will add another 2.6 cents per kWh to run natural gas at 11.7 cents US per kWh (natural gas is $790/ mt April 30th, 2023),

Gen IV MSRs are safe, green non- intermittent baseload systems that are back- ups for RE that remove the fluctuations on the grid of RE because they ramp-up in 15 seconds to cover solar and wind intermittency and become the backbone missing now in the Philippines. Wind only operates 24.9% of the time, and solar less at 11% (40 days out of 365 days average bin the USA) of the 365 days, so building smaller MSRs on the four corners of the Philippines is needed to back- up RE, besides the remaining coal plants to drive the Philippines future; and also to provide the only way to make affordable desalination and green anhydrous ammonia. Manufacturing at a 20% discount, possibly for the ministry of Agriculture of the Philippines using Redstar's five proprietary robust hydrogen pyrolysis and ultrasound frequency cracking systems. As the limiting factor and major cost of ammonia is hydrogen, this is critical.

Energy Security
Fossil fuels pricing





RED SUN Value:

Most invest time and money either on Capabilities or Financial ROI, while ***RED SUN's*** Clean Thermal Electrical Non-Fuel Pneumatic Platform combines both. You will enjoy tair in your city, ferry, train or ship more, and the ship's residual value will improve as you greatly lower propulsion and operating costs.

Just Like any other industry, you upgrade or buy new, but buying new has worse ROI, than upgrading; while ***RED SUN's*** Tier III system is robust, and the thermal batteries will outlive the ships with 40- 50 year life, while allowing complete removal of unfriendly and unhealthful emissions for crew, clients, and skies, plus enabling complete compliance of all the new upcoming regulations.

RED SUN's plug-and-play system retrofits every type of Diesel, ship, train, etc, unlike others, giving greatly reduced maintenance, and eliminating bildge oil entirely. RED SUN flash evaporation & RO Low-temp desal is the most efficient water technologies on the market, and new RED SUN flash freezing systems are geared to agricultural companies & port refrigeration facilities with 350t/day ice

RED SUN Water & Ice
Tier III Self-Charging Retrofits

RED SUN Results & Performance:

1) RED SUN 30 MW gives 90,000 kWh, which is up to 30 days energy supply for medium-sized hotel, running electricity, hotwater. HVAC; pool, spa, sanitary hot water, ice making, desalination, and laundry.
2.) Half charge of 30 MW- 2 hours gives 14 days service, with recharging abilities of 60% to possible 30 days service- using Tier III Self-charging RED SUN Batteries+Aux
3) Aux Gensets add AC, Lights, heat, pumping & elec power cabins+charge-up's
4.) RED SUN gives back-up power for up to 30 days, depending on use +HVAC
5.) Cold storage- Ice and refrigeration for cargo and shipping containers
6.) Optional Ice & desalination onboard & ozonation, kitchen oven, stove, biosterilization, autoclaves, bildge pumping and sterilization heat, etc
7) Allows non-stop intercontinental sailing and power boating without port calls.
8) Retrofits to all types of diesel & turbines with 45% ave. Savings to client bills.
9.) Add'l Electrical Bow thrusters can be added for lge ships to replace tugboats
10) Retrofits self-pay on fuel savings and take 1-to 2 years to pay-off totally!

RED SUN Self-Charging Water & Ice City & Hotel Retrofits

Cost of Usable Energy

-Brown's Gas HHO & Energy Storage = 0.67 cents/kWh – 1.3 cents/mile
-Hydrogen = 10.3 cents/kWh -Tesla Semi – 2 kWh/mile = 20.6 cents/mile
-So your generator is using 5.174 GJ of thermal energy to produce 1.8 GJ of electrical energy and a lot of waste heat (that's why engines have cooling systems.) So, this is an electrical conversion efficiency of 1.8/5.174 = 34.8%
-BioDiesel - 1 gallon = 133.1 megajoules x 1 kWh/3.6 MJ = 37 kWh/gal x 0.34 =12.9kWh/gal- with a gallon costing $5 USD = $5/12.9 kWh = 0.38 cents/kWh
-Diesel 36.4 MJ/liter, 1 liter €1.18 = 1.18/35.4 MJ *3.6 MJ/kWh = 12.9/0.34= 34.5 cents/kWh to run your generator on Petrol Diesel– CARGO SHIP: Let's say voyage across the Pacific of 8000nm between Japan and Seattle. Plus- 5% a bad weather allowance of 4 days consumption. Our speed is around 15knots (nm/hr)

It's going to take us 8000/15 (nm/nm per hour) = 533hrs or 22 days

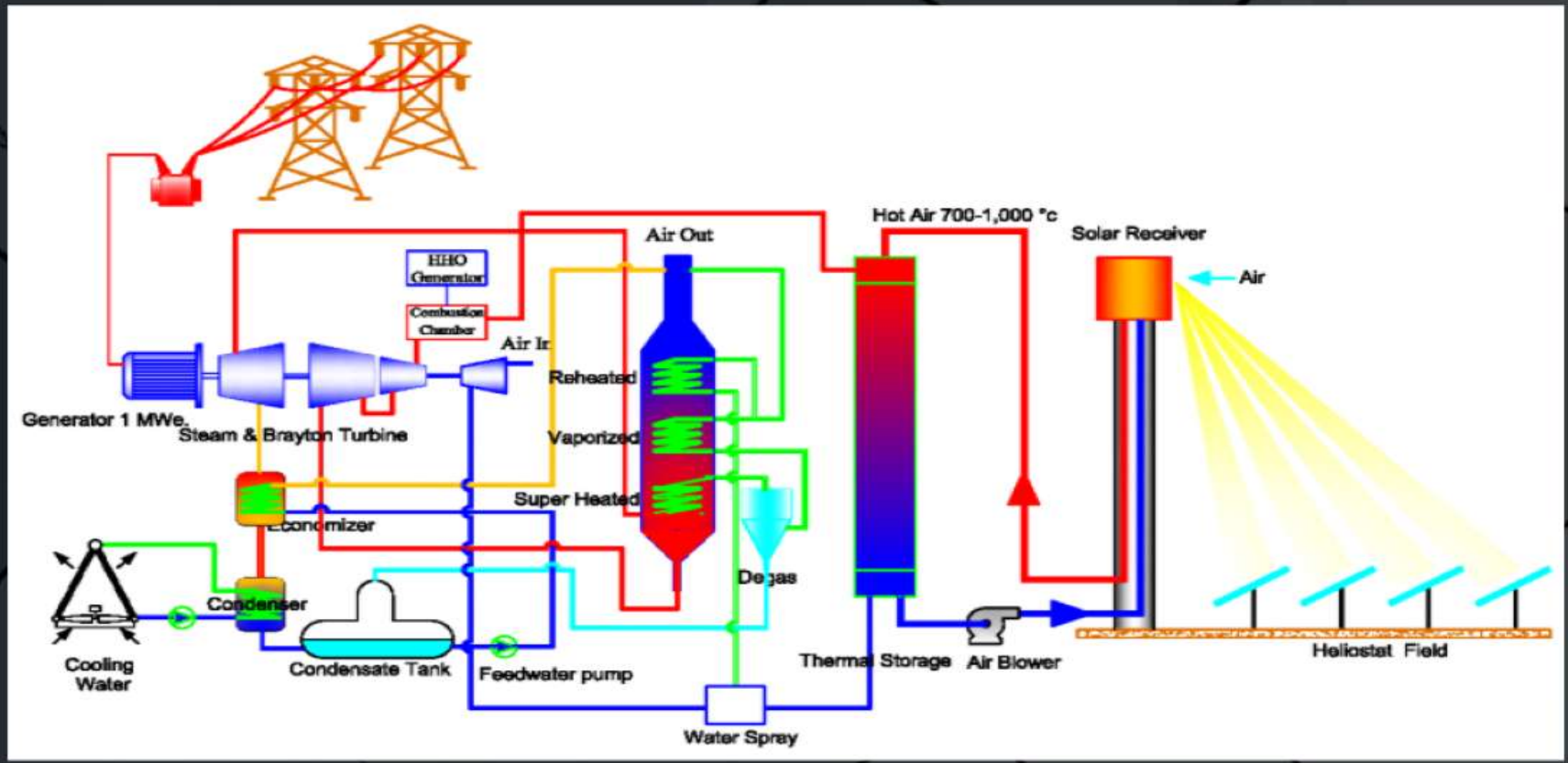
Our fuel consumption is therefore going to be 75.6 x (22 + 4) = 1,965.6 tons

Add the 5% unpumpables total fuel consumption is 1965.6 x 1.05 = 2063.88t

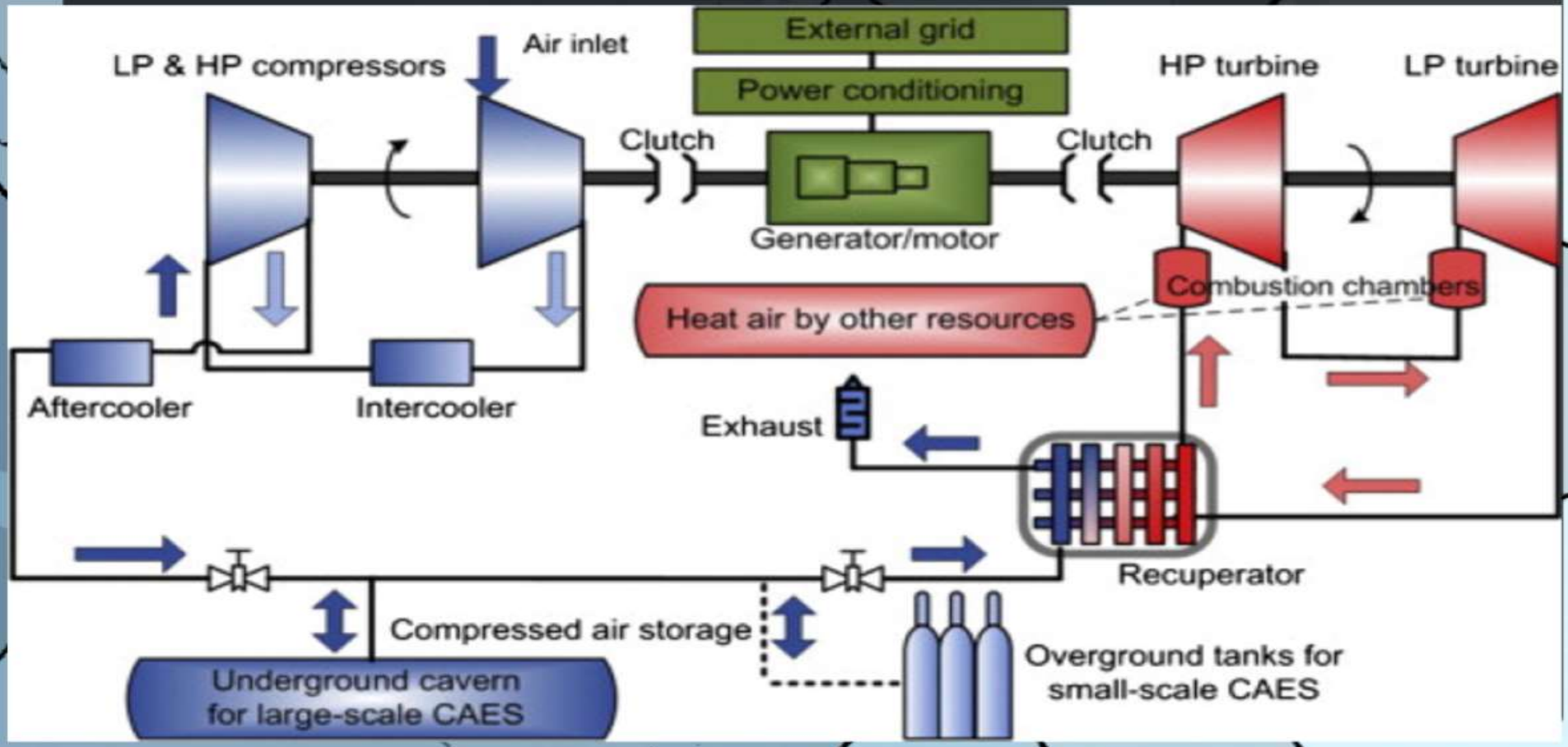
Now multiply that by the cost of bunkers in Japan (around 418.50/t) and we get the total cost of heavy oil bunkers of 2063.88 x 418.5

= $863.724 which is your answer = $864K/8000nm = $108 per Nautical Mile!

Combined Cycle Power Plant
20MW to 300 MW



Compressed Air Energy System (CAES)



Innovative Material & Design Tech

RED SUN Infrared Collecting Trough

Davao del Sur, Visayas & Mindanao

RED SUN Renewable Energy

light & Infrared Spectrums

- Polished Aluminum
- & 3 M Film
- 3 M film reflect up to 2800 um and polished aluminum reflect solar radiation up to 12000 um

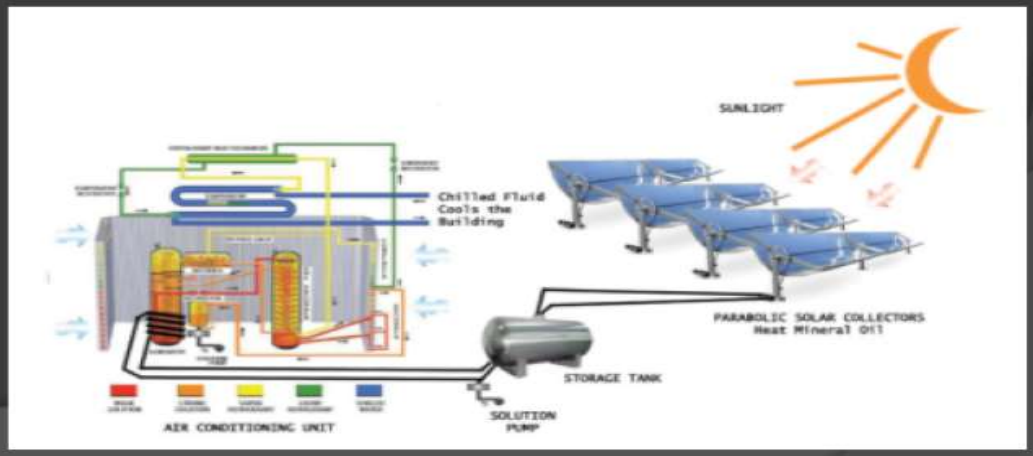
RED SUN Focuses Infra-Red & Visible to1800°C
600 Suns on 22.6m Dishes

Solar Absorption Air Condition

In a plant where low-pressure steam is currently being vented to the atmosphere, a mechanical chiller with a COP of 4.0 is used 4,000 hours a year to produce an average 300 tons of refrigeration. The plant's cost of electricity is $0.05 a kilowatt-hour.

An absorption unit requiring 5,400 lbs/hr of 15-psig steam could replace the mechanical chiller, providing annual electrical cost savings of:

Annual Savings = 300 tons x (12,000 Btu/ton / 4.0) x 4,000 hrs/yr x $0.05/kWh x kWh/3,413 Btu = $52,740



RED SUN Configurations with Compressed Air-HVAC & Steam Power Plants 9,600 BTUs/kWh at 62% Efficiency

Inductotherm Electrical Induction Charger

EGG Tesla Turbine 340 kWp
Runs on waste heat 177ºC to 232ºC from exhaust -
650 psig

Direct Condensing Low Pressure Turbine Generator

Stage 2

LM 1500 Jet Turbine 2.5 MW to 10 MW

* High temperature superconductor (1600-1800 ºC)

Steam Generator

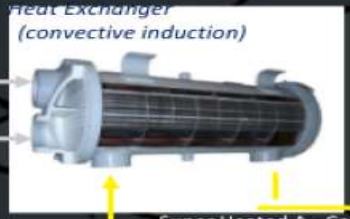
condensor

Condensor Pump

Cooling Water Pump

Phase Changing Metal Thermal Energy Accumulator (Phase Changing Copper & Nickel Alloys)

Heat Exchanger (convective induction)



Super Heated A Compressor at 1100º C

Compressed Air

Air Accumulators

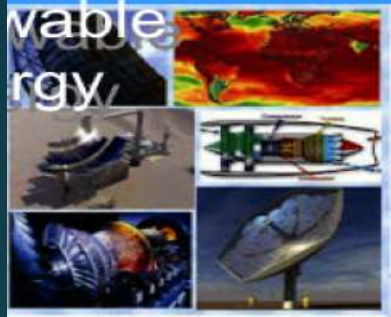
Mechanical Link

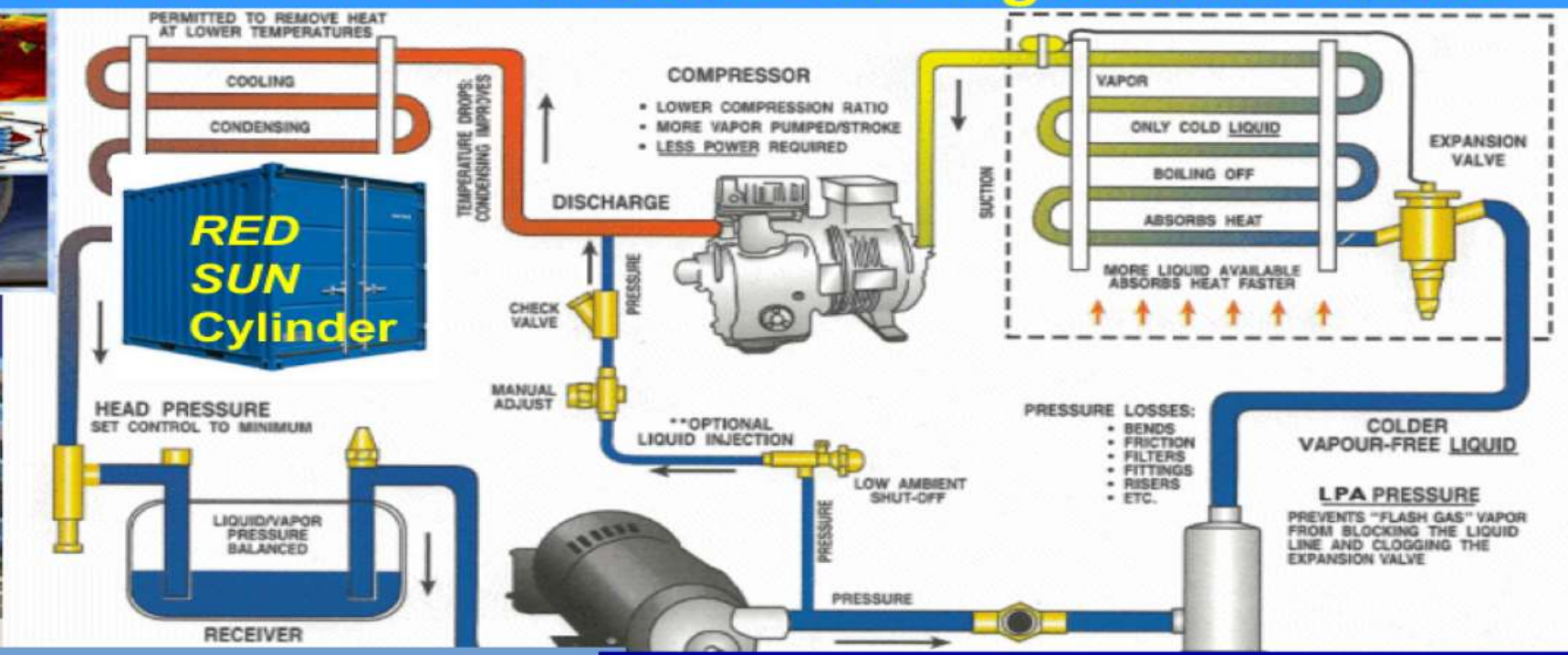
Low Pressure Air at 900 ºC

MAN Diesel Generator modified to Run on Heated Compressed Air

SUN CYLINDERS RUN 4000 m2 Refrigeration & Ice:

vable
rgy



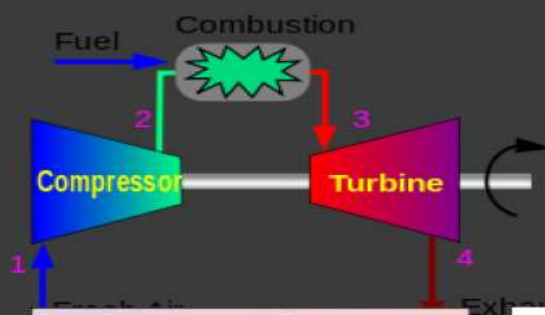


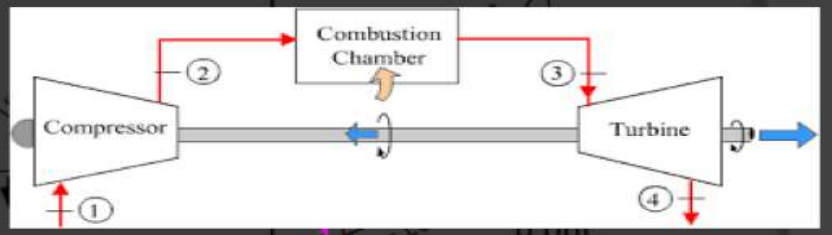
350,000t/y Pack Ice

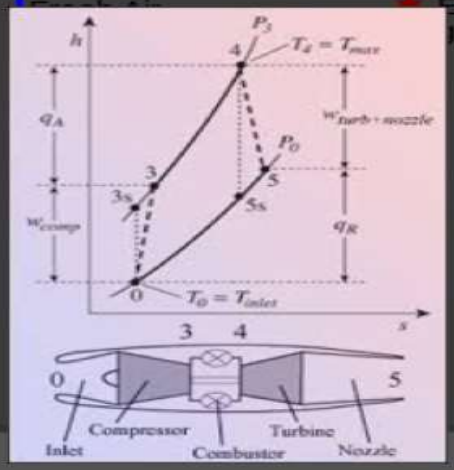
30 MW RED SUN battery give 65,000 kWh at 3c/kWh

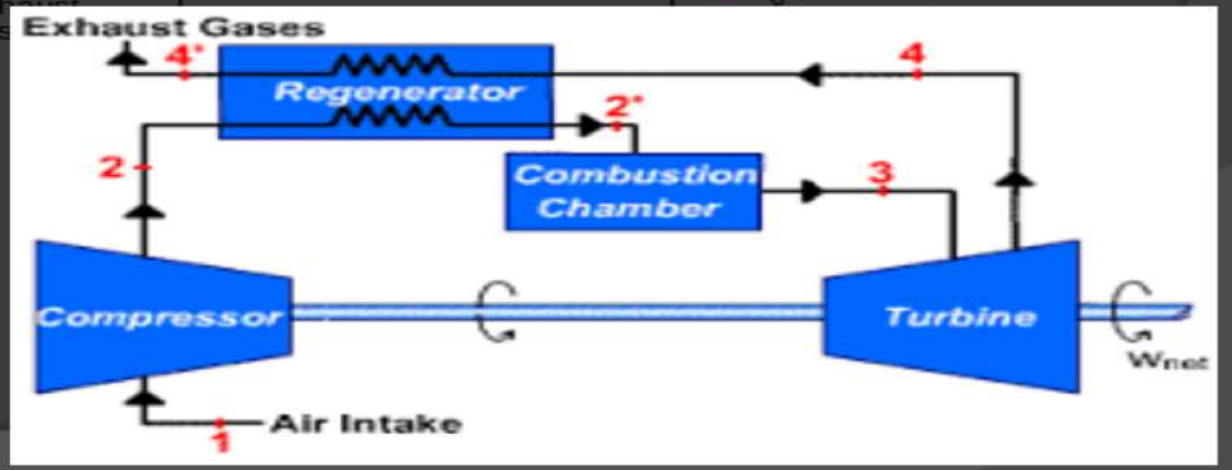
4000 m2 Refrigeration plant plus Ice Plant Franchise can payback power plants quickl

Idealized Brayton cycle is a pure heat cycle invented 165 years before karosene & jet fuel





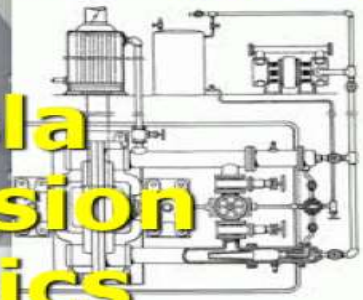




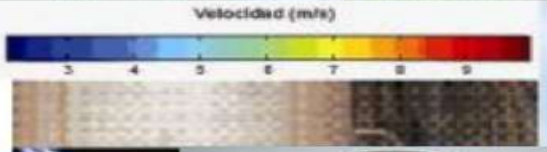
High Efficiency~Tesla Turbine~ Implosions

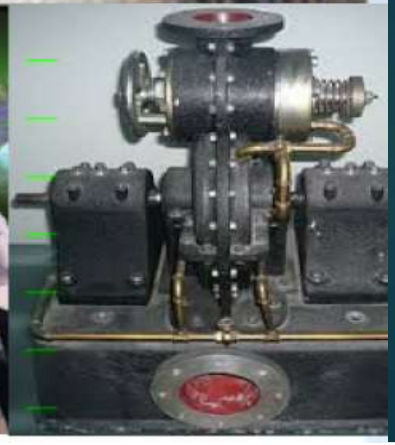
340 kW-1MWe

Tesla Implosion Physics



RED SUN





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RED SUN Water & Ice
Tier III Self-Charging Retrofits

MAG POWER

SUN Onboard Self-Charging ermal- Electrical Platform:

-Brown's Gas HHO & MAG GAS & Energy Storage:

Proprietary Charging Platform

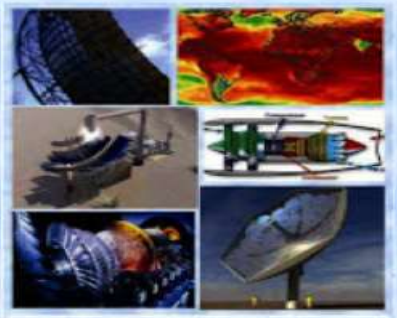
- Mag POWER MOH GAS & STORAGE COST $0.0067/kWh
- MAG POWER Catalyst HHO Emulsion Fuel Systems
- MAG POWER Plasma Langmuir Torch
- MAG POWER 1600°+C Carbon Fiber Heat Collector
- MAG POWER Heat Exchangers & Thermal Air Conditioning
- MAG POWER Thermal Phase Change Ni+ Alloy Batteries
- Tesla Turbine 300 kW – Fibonacci Motors
- Axial Generators to 350 kW for turbine/diesel gensets
- Injectors Elements charging with electron flow and argon and 4th state H2O

Www.fibonaccimotors.com www.theraphi.net

Selected Manufacturing Partners

WCM

Honeywell



ThyssenKrupp

TITAN TRACKER

3M

Morgan Crucible

posco

CHASESTEAD
world class prototype engineers

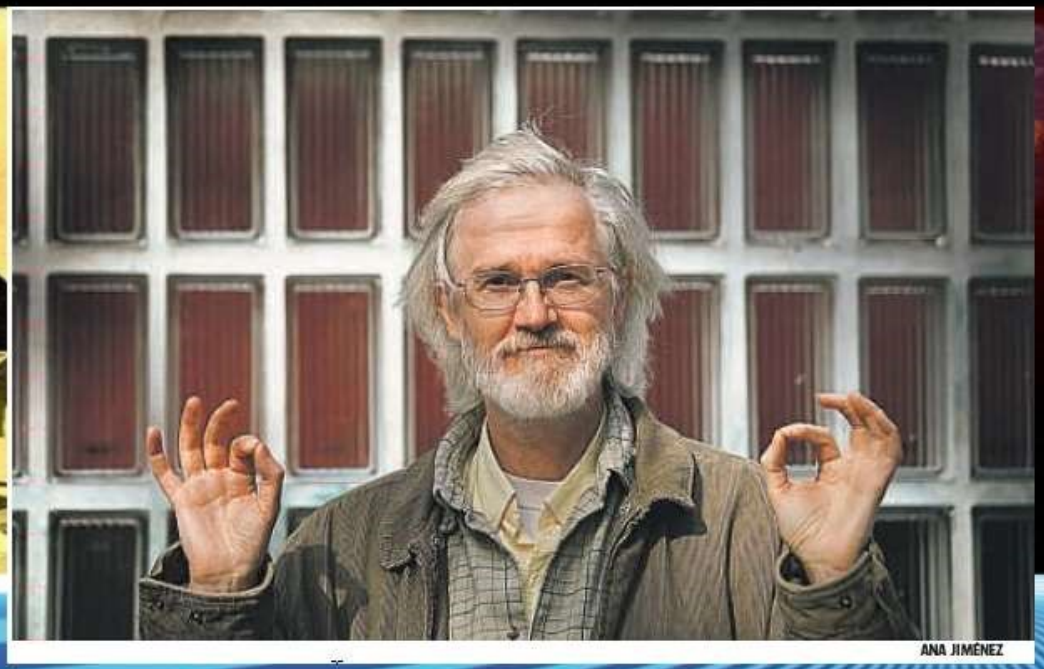
MAN

INDUCTOTHERM
HEATING & WELDING

RATH
Designed to Take the Heat

Working with Best in Class Manufacturing Partners

Zero Point Energy & Propulsion



Dan Winter
Sacred Geometry
Expert

Fractalfield.com

with Dan Winter

Breakthru-Technologies & Sacred Geometry

Global Online Conference Nov 5-7

Engineering Team

Dan Winter – Chief Elec Eng.
Www.fractalfield.com Www.theimploder.com
Paul Harris- Electrical Engineer
Mert Pekrul – Chief Mech Engineer
Engine/turbine Manufacturing chief
Www.fibonaccimotors.com
Dr Jack Wong – Prof. Civil Engineer
Mark Rohrbough – Electronics Eng.
Dr Andrejs Zagars – Prof. of Chem/
Elizabeth Donavan – Chemical Engineer
Jay Dubinsky – Mgr Engineer & CEO

Administration

Jay Dubinsky –CEO/ME
Dan Winter - Chief Elec.
Dr Jack Wong – Civil Eng
Dr Zagars- Sr Chem & Trainer
Baby McCaw ~ Mkting
Alex Paurom ~ Lawyer

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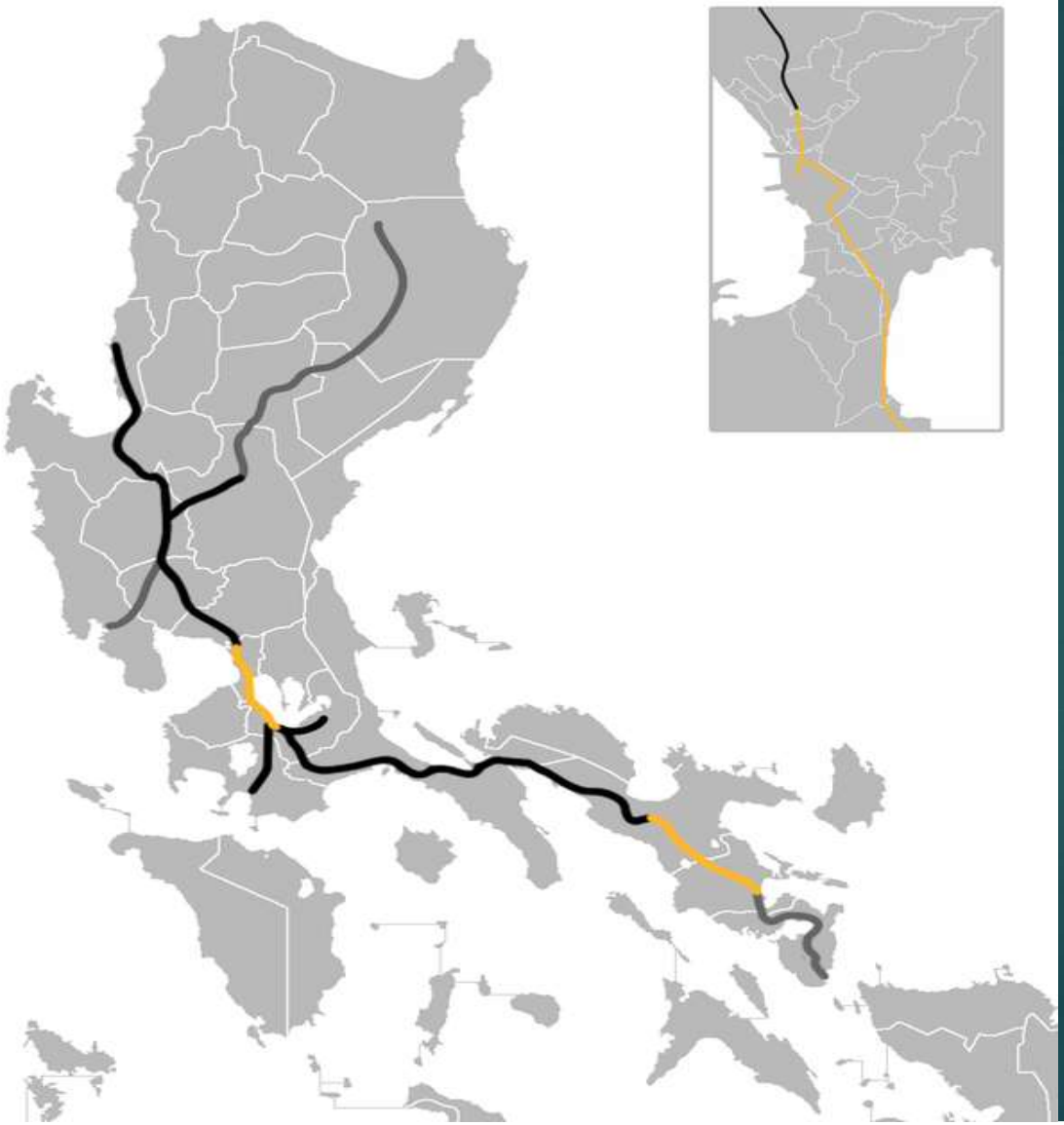
Thermal Pneumatic Eng Retrofits~
Train, Ship, large Gensets

Transportation & Stationary Power & MAG
GAS Charging Stations~ Port/Train/Bus



Thank You!

Secretary Nani Roxas and the rest of NPC team for watching, This could bring the country assured food security and Energy sufficiency program of the National Government!