

EXECUTIVE SUMMARY

State of the Art Powerful Thermal Energy Modular Retrofit

PREFATORY STATEMENT

As everyone knows that pays an electric bill, generating electricity will only get you half way to our goal. The other half, which is just as important and essential, is delivering the power to your home, business, car, train, and all industries.

When it comes to transporting energy, we have to depend on the wires that are 100 years old. That might have been okay for the turn of the 20th century, but today, we are not just powering lights, phones and stock tickers, we are charging phones, powering buildings, and we now need to charge EV's, trains and whole panoply of energy intensive world which now includes electric transportation systems including ships and planes. An impossible job with today's antiquated grid and cable- inverter- transformer systems (that rob 30% of the energy) that are extremely expensive and vulnerable to weather and ever-increasing solar storms.

Red Star's Red Sun mobile thermal molten metal batteries are practical, tested, and proven grid- scale solution - 3.6 KWh to 40 MWp. At \$ 5 per KWh it is 20 to 30 times less expensive (60 times less than solid state batteries), and seven times more energy dense than lithium batteries at 2000 Wh/kg, while 1/25th the volume, with 40 MW fitting in a shipping container at only 29 tons! Thus, even aeronautical and marine applications are future of Red Sun. By connecting 1400°C to 2000°C internal heat by carbon fiber and metal heat pipes- all engines run better without diesel or kerosene- and cleanly! Plus, already insurance- backed by Lloyd's and 10 years warranty from Thyssenkrupp, only Red Sun can retrofit to new engines, turbines and diesels while maintaining warranties. And; only Red Sun delivers directly by truck, train or ship from renewable or other power plants by converting electricity to thermal heat like the sun heats our Earth's molten core by induction (like an electric stove that heats only the nickel alloy iron pan at 98.6% efficiency using induction www.inductotherm.com); used extensively for the last 20 years in refining industry instead of coke, electromotive force crucibles turns nickel alloy in molten metal phase change thermal batteries white hot in seconds! Red Sun is the only next generation technology ready to bring us and our electrified industries to 22nd Century wirelessly and inexpensively.

Since the early 70's, Philippines is a perennial laggard compared to the rest of the ASEAN countries. Singapore, Malaysia, Thailand, Vietnam and Indonesia overtaken the Philippines in the economic race, though double-digit (for 8 years in a row), economic growth is indicative to government's good economic portfolio. One ardent reason is the present-day nomenclature on the energy mix based on fuel, hydro and geothermal which is very expensive and unstable electricity that shies away foreign investors (FDI index is lowest among ASEAN Region), per se, a means more economic development, noting despite Philippine's economic fundamentals (Stable Banking System and Dollar Reserve).

The supposed untapped human resources remain dormant. This results to poverty despite skill and labor, literacy and government economic policy makers are in consonant needed in Foreign Direct Investment, this would be a good boost to its Gross National Product (GNP-GDP) and Gross International Reserved (GIR), and of course the balance of trade. The manufacturing sector would not only boost the Philippine export but also lower and stabilize prices of food and other basic goods and necessities. Hence, the alleviation of the manufacturing sector from its present state of decadence would have a trickle-down effect in the marginalized sector of the Philippine society. Moreover, the Philippines is a consumer-driven economy and becoming self-sufficient as manufacturer of its own goods for domestic consumption would substantially curtail export and save on Gross International Reserve. While promoting the economic growth, energy has also brought pollution problems to the world environment, which has gradually become a bottleneck impeding sustainable economic development. In view of the rapid evolution of urbanization and industrialization, economic growth is increasingly dependent on the

energy consumption, the development of the two is difficult to coordinate, and the internal contradictions are becoming increasingly serious, which hinders the sustainable development of economic growth of the Philippines.

As an important material basis for the development of human society, energy is also the main driving force of economic growth. However, while energy promotes the economic growth, it also brings pollution problems to the world environment and gradually becomes the bottleneck hindering the sustainable development of the economy. In view of the fact that the pace of the ASEAN's modernization and urbanization are intensifying, environmental pollution has become the main problem restricting ASEAN's economic development, and the demand for energy consumption continues to increase. In view of this, realizing the coordinated development of energy consumption and economic growth and clarifying the future economic development direction of the Philippines are the main breakthroughs in building a moderately prosperous society in an all-round way.

The Philippines is facing a mounting energy crisis as the Malampaya natural gas fields, currently supplying 30% of Luzon's energy consumption, are expected to be depleted (power imbalance) by 2024. The current energy mix is composed of coal (30.2%), natural gas (6%), this renewable energy (35.5%), and oil-based (28.3%). While the country has indicated an interest in clean energy, this clearly will not come at the expense of development, and no penalties or incentives are in place for utilizing different types of energy sources. Price per KWH is expected to rise up again at 24 Pesos per KWH (highest in Asia). There are now at least 24 provinces, 61 towns in the country now experiencing brown-outs and power outages. Mindoro and Palawan would experience severity this year and for next year, the skyrocketing LNG prices are causing havoc across Asia because of energy shortages. Bangladesh recently suffered its worst blackouts in almost a decade, reaching 10 hours at one point. In the Philippines, almost 1.3 million households could face power outages in 2024 due to a lack of funding from the National Power Corporation. This is now matter of the National Security Problem looming along Horizons. Consumers been saddled with poor access of affordable, stable and adequate electricity in decades now.

A new paradigm shift emerges as the advent of new state of the art technologies now setting the pace in consuming electricity. REDSTAR-EGG (Energime Green Group) maker of Redsun Thermal Electric Generator is an International consortium of technology invented the powerful "Thermal Generator Retrofit " the world first mobile proprietary Thermal Electric Generator system (No need crude fuel or Gas, No pungent Noise in Generator) that enables residences and commercial establishments, Industrial Factories access energy in different capacity sizes (30, foot, 20 foot, 15 foot, 12 foot Vans and others, depending on supply capacity), on a shipping Van/containers by truck, ferry or rail, to the client or power plant or fire and train station, in 32 to 50 MW thermal batteries at estimated cost is only 3.5 Pesos per kilowatt hour. This can be a self-finance by us proposal (No Penny at the expense to BARMM provinces) and this is insured by Lloyd of London.

On the offshoot of the Israeli and Ukrainian wars and the tension of the West Philippine Sea, price of fuel (Diesel and Gasoline) is expected to rise at almost 20 percent by next year.

Big-ticket projects under the administration of President Bong Bong Marcos, including the Mindanao Railway Project (MRP) and the High Priority Bus System (HPBS), Bicol railway and North-rail under his administration. These proposed PNR Manila-Bicol train, North Rail, and Mindanao Railway can be built in less than 6 years simultaneously if we are to employ fuel less powerful thermal Battery (based on Molten-Nickel Alloy, subsumed to Cryo-Nitrogen Turbine Booster on Torque, and Autonomous Off grid Train System. GE and Diesel Engine EV train is 90 percent more expensive with and ROI at 25 years on BOT. Ours is 10 years (ROI) with 50-50 share of profit to the government, of course this is in house finance by us, and the insurer is Lloyd's of London syndicate. We can finance this on segmented, or cluster scheme like the Tagum, Davao City and Digos railway System, Manila to Laguna-Quezon Provinces retrofit upgrade or Brand-new Train

(and to Bicol for the continuing cluster), and of course Manila to Pampanga Smart City from 2 billion USD to 15 billion USD.

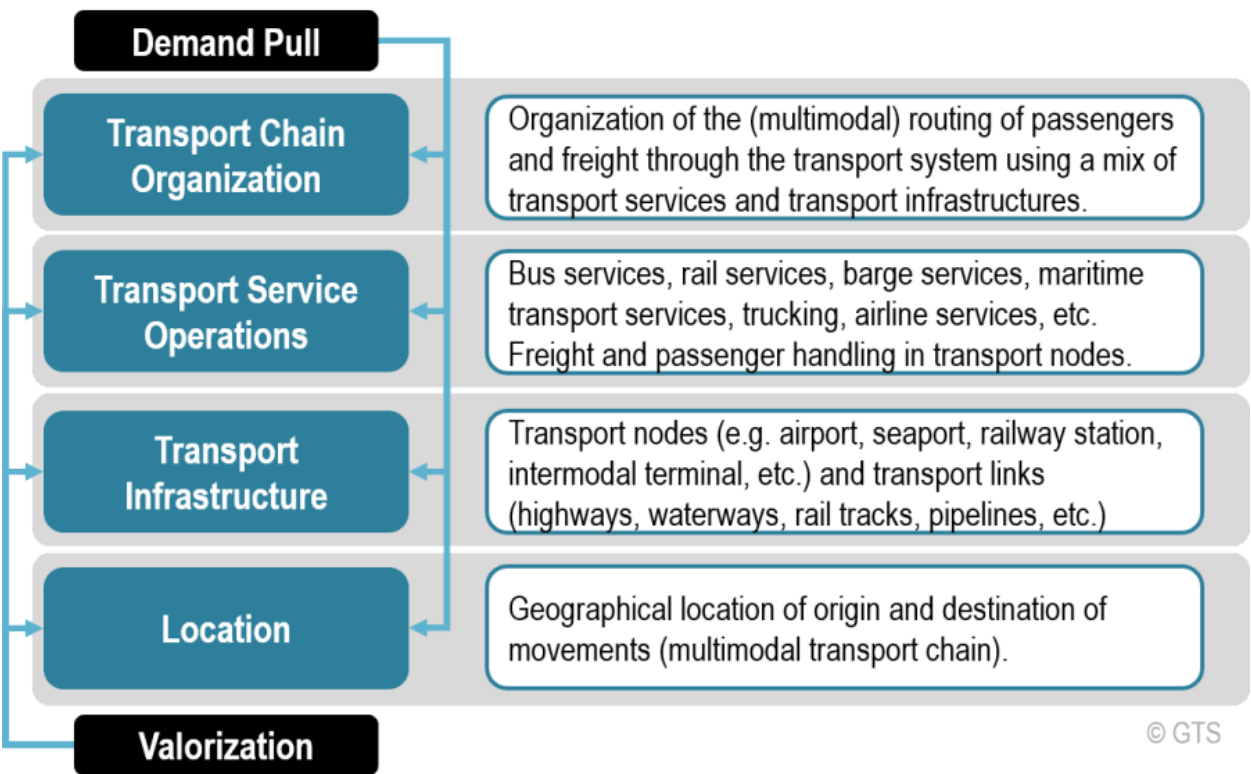
The Economic Importance Energy and Transportation

The transport sector in the Philippines should also be revolutionized. The Philippines is an archipelago consisting of 7,641 islands which makes connectivity a great factor of development. However, apart from not-so-comprehensive infrastructure such as roads and bridges, the Philippines is saddled by huge energy cost to boost its transport industry. The railway system in the Philippines is not at par with its neighbors particularly China. Fast and cost-efficient connectivity through the railway system facilitating movement of people and goods, is all the Philippines needs to propel its economy even more and retain its status as one of the fastest growing economies in Asia.

The development of transportation systems is embedded within the scale and context in which they take place, from the local to the global and from environmental, historical, technological, and economic perspectives.

Development can be defined as improving the welfare of a society through appropriate social, political, and economic conditions. The expected outcomes are quantitative and qualitative improvements in human capital (e.g. income and education levels) as well as physical capital such as infrastructures (utilities, transport, telecommunications).

The development of transportation systems takes place in a socioeconomic context. While development policies and strategies focus on physical capital, recent years have seen a better balance by including human capital issues. Irrespective of the relative importance of physical versus human capital, development cannot occur without their respective interactions, as infrastructures cannot remain effective without proper management, operations, and maintenance. At the same time, economic activities cannot take place without an infrastructure base. The highly transactional and service-oriented functions of many transport activities underline the complex relationship between its physical and human capital needs. For instance, effective logistics rely on infrastructures and managerial expertise.



As an important material basis for the development of human society, energy is also the main driving force of economic growth. However, while energy promotes the economic growth, it also brings pollution problems to the world environment and gradually becomes the bottleneck hindering the sustainable development of the economy. In view of the fact

that the pace of the ASEAN's modernization and urbanization are intensifying, environmental pollution has become the main problem restricting ASEAN's economic development, and the demand for energy consumption continues to increase. In view of this, realizing the coordinated development of energy consumption and economic growth and clarifying the future economic development direction of the Philippines are the main breakthroughs in building a moderately prosperous society in an all-round way

The ultimate solution is to cut down energy cost to make businesses/industries viable and the economy even stronger. A low cost of production made possible by low green environmentally cost-effective energy would not only strengthen the Philippine industries but would keep be competitive, not only in the ASEAN and Asia but globally as well. **Thus now, Red Star- Red Sun enters the picture in the Philippines.**

The micro, small and medium enterprises play a major role in the Philippine economy. Per statistics, it comprised 99.5 % of all registered business establishments in 2019. They also generate 62.4 % of the country's total employment and account for 25% of total exports. This helps in keeping the Philippine economy growing on an enormous scale. However, high cost of electricity constitutes the bulk of the operating expenses of these micro, small and medium enterprises.

High cost of electricity is also a major part of household expenses of every Filipino family. An accumulated expenses for electricity bill all year round is an ample deduction from the food budget of an average Filipino family. When such high cost of household electricity is reduced to a negligible level coupled with low energy cost as means of production of cheaper goods which would benefit the masses, many Filipino families would rise up above the poverty line. Moreover, the Philippine government's goal of attaining an upper middle-income economy would be easily accelerated. In conclusion, everything boils down to low energy cost. **In this respect Red Sun is the answer.**

The foregoing scenario is mutually beneficial to both the Philippines and RED STAR-RED SUN ENERGIME GREEN GROUP CORPORATION(RSEGG). As the low energy cost provided by RSEGG propels the Philippine economy and benefits the Filipinos in general, RSEGG likewise gets its fair share of return of investment which is also beneficial to its prospective investors in the long term.

ALL ABOUT REDSTAR-RED SUN

RedStar-Red Sub Energime Green Group has invented Thermal energy Employing Molten Alloy, on Hydrogen Pyrolysis (Running System) a technology tested and output-certified by Rolls Royce, Kawasaki and British Atmospheric Data Institute, running large 1.5 MWe turbines at 32% deficiency for over a year. Red Sun is **patentee** of the world-wide **exclusive infrared reflection** to enable focusing and collecting of the full spectrum of heat and light giving **1820** degrees centigrade for the first time.

Additional patents for 111 3.2 MW- 40 MWp allow molten steel 40 MWp storage in shipping containers at only 29t – 18 m3 for 25-day to 70-day operation on most commercial enterprises.

STATE-OF-THE ART TECHNOLOGIES OF RED STAR RED SUN

1.Red Sun Modular Portable Retrofit and Large Desalination: 3 to 250 MML/Day

- runs entirely on Red Sun thermal infrared collection and storage; allows the efficient running of modular and large permanent desalination systems at 3MM L/day.

2.Modular Desalination in 20-foot containers, running on renewable infrared trough systems.

- large units up to 60 million gallons per day run on the mobile Red Sun thermal storage and power plants.
- long term contracts for 2 cents per liter.

3.Red Sun Modular Features brand new 3.2 MWp Red Sun

- each 20-foot container produces 3 million liters per day; add-ons can produce 50 to 150 tons of ice per day; also, it can support 4000 m2 ice and refrigeration plants.

4.Red Sun Desalination runs entirely on Red Sun infrared solar troughs

- evaporation mimics nature to provide the lowest energy solution to desalinating millions of gallons everyday with low-temperature desalination creating an unbeatable combination.

5.Red Sun lines run on 40 MW mobile thermal batteries

- Red Sun retrofits diesel electric engines and runs 700 km with freight, without fuel and is financed by EGG efficiency contracts guaranteeing 45% savings on operations by eliminating fuel bills. No trace of fume and pollution.

RED SUN SPECIFICATIONS

- provides 10- 250 MW PPAs for solar thermal triple power to make electricity, air conditioning and sanitary hot water for neighborhoods with lowest capitalized cost per MWh; patented solar thermal Brayton Cyc + storage; operates Man and GE Locomotives and runs trains at 130 kms per hour for hauling of commodities.
- provides AC and heat source for off-grid Red Sun desalination for towns and communities, restaurants, stores, townships, hotels, hospitals and other government buildings.
- makes 100 % clean renewable energy without emissions that qualify for CCs Retrofits for all diesel engines with small compressor and running at Red Sun heat only.
- captures 96 % of sun's total spectrum in order to provide distributed base load power and on demand power 24/7, with new thermal storage technology from 3.2 – 40 MWp

GOALS

1.to provide turnkey 10-to-250 MWe power that would replace coal and fuel oil generators for base load power in running cities and featuring mini-Red Sun 3.2 MWp for powering modular desalination or running apartments, offices, ships and buses.

2.to provide distributed power that is modular in nature and has back up system for Red Star Red Sun modular desalination plants, hospitals, airports, and government offices, police stations, etc. and run by 3.2 MWp Mini Red Sun Batteries.

3.to provide thermal processes which simultaneously run turn key and heating, including 1000 degree centigrade for many industries and refrigeration services for malls, supermarkets, ports and industries.

ENERGIME GREEN GROUP'S PAST PROJECTS

Introductory Statement

Reinhold Ziegler of Energime is a former NASA scientist, and is responsible for engineering, developing, and designing many ground-breaking wind and renewable energy and sustainable growth projects worldwide and solar and wind integrated buildings.

Past Projects of Energime Green Group (EGG)

1.) Infrared solar collection 40MWp storage (only 18 m3) modeled after the earth with casing around a molten steel core. Red Sun storage holds heat with less than 2% loss in caloric value each day.

2.) 12-22 meter dishes, or large underground dish bunkers that provide 600 suns including all IR and wide band heat focused onto the exclusive Red Sun heat collector / transfer.

3.) Red Star-Red Sun Mobile Thermal Battery

- magnetic induction allows rapid conversion of electricity to heat with less than 2% losses.
- 40 MWp storage (only 18 m³) modelled after the earth with nano-graphite ceramic casing using magnetic induction for elect conversion to heat at 98.4% efficiency.

4.) Red Sun Research Testing:

- IR and long-wave collection, British Atmospheric Data Center.
- Energime Green Group works with EC Harris Atmospheric Data Center, Latvian Technical University, Rolls Royce, Kawazaki, and British Atmospheric Institute and UIV, to name a few institutions.
- 18 Month testing with Rolls Royce UK; EGG then running very large MW turbines.
- one year testing with Kawasaki. EGG ran Kawasaki's 1.5-1.8 MW turbines.
- 1.5-year testing with British Atmospheric Data Center – 302 W/m² UK at 10pm
-

ENERGIME GREEN GROUP

Energime Green Group (EGG) is a scientific incubator and global social networking, marketing, and technology integration network with PPAs in the Philippines and Thailand. EGG can ably reduce energy cost from 15.5c/kWh to 19 cents / kWh. EGG sells energy cost-saving air conditioner, heat and steam and modular desalination plant that can run Vitruvian Gardens with closed-loop medicinal herb growing system, utilizing Red Sun low-temperature forced evaporative desalination, with greenhouse and processing running on waste heat.

EGG provides equipment, plants and technologies for desalination and ice, electric power, waste heat collection, air conditioning, refrigeration, ice production and manufacturing.

EGG Roof Technology Options

1. Solar Concentrators
2. Solar photovoltaics
3. Wind wall and power wind turbines

HVAC and Light

1. Parabolic lighting
2. Evaporative cooling
3. Solar wall and solar duct

- with Solar Thermal Water Heating and Water condensing technology

Roof Technology Options

Energy

1. Solar Concentrators
2. Solar photovoltaics
3. Wind wall and vertical wind turbines

HVAC and Light

1. Parabolic Lighting
2. Evaporative Cooling
3. Solar Wall and Solar Duct

- with Solar Thermal Water Heating and Water Condensing technology

- 130 kW Power Tower operates at 2m/s and weighs only 800kg

RED SUN TURBINE TECHNOLOGIES

- Rolls Royce NGE 1.5MW – 2.5MW ++
- Brayton Cycle originally designed as heat only system without pressure.
- Red Sun Canister is retrofitted to replace fuel inlet with heat only system.
- Red Sun follows the exact same Brayton Cycle – 60% efficiency
- Red Sun operates easily at 1100 degrees centigrade on low pressure 1-2 ATM only
- Turbines operate cleanly on Red Sun and last longer. Turbines operate on low temperature desalination at 70 to 100 degrees centigrade.

RED SUN INFRARED CAPABILITIES

- 96% of sun rays captured by Red Sun, up to 2800 nanometers, can make 40MW charging stations for buses, trains, and ships. Red Sun lines can distribute power in remote train stations, with diesel retrofits to operate on 3.2 MW installed mini-Red Sun batteries that charge up only for hours but to run for two (2) weeks.
- allows running off the reflected IR / heat of clouds operating without direct sun.
- enables 365-day operation in all climates; not affected by moisture in the air or humidity, clouds or water getting into the equipment; weather proof for the tropics.
- provides a permanent sustainable distributed base load platform that can provide environmental balance to a community while sustainably enabling expansion of services and development directly.
- produces minimal to zero emissions of any kind and enhances qualities for carbon emissions.

INFRARED (IR) POWER ADVANTAGES

1. high heat allows high efficiency turbines to double efficiency to 32% and 61% with combined cycle.
2. dependable year-round base load power, independent of weather conditions and cloudy days; cloud abedo bounces off long-wave radiation 24 hours a day and all year through.
3. 96% of total output of sun collected with brand new InfraRed collection / focusing receiver tech with Solar Brayton Cycle ww patent; Red Sun is first to focus IR for thermal collection.
4. high heat above 1620 degrees centigrade-1800 degrees centigrade allows retrofitting every jet turbine ever built including Kawasaki, Rolls Royce, Pratt & Whitney and others.
5. complete power sys off-the shelf gives best part service.
6. design features plug-in electric, HVAC, sanitary and hot water; drying capabilities for industries and hotels alike.
7. complete design flexibility adjusts to lower conditions.
8. small footprint allows roof top installations.
9. enables distributed 2-to-100 MW power plants.
- 10.fit for hotels, airports, stations, offices, and manufacturing sites.
- 11.can easily provide sanitary hot water, steam and heat.

Power profit / Cost break downs: Triple profits plus desalination and ice

24 hours a day x 365 days = 8760 hours x 10 MW = 87,600 MWh/year

- a. \$ 200 per MWh x 87,600 MWh electric = \$ 17.5 million / year
- b. \$ 200 per MWh x 87,600 MWh Air Cond = \$ 17.5 million / year
- c. \$ 79 per MWh x 87,600 MWh head steam = \$ 6.1 million / year

Totals – 262,800 MWh / year = \$41.1 million / year

Return on Investment (ROI) \$ 50 MILLION FOR 10 MWe

\$ 41.1 mln/\$50 mln 82.2% = 1.3 year payback.

Capitalized Cost per MWh

20-year life x 262,800 MWh/year = 5,252,000 MWh

(\$ 50 million + \$3 million maint.) / 5,256,000 = \$ 10 USD / MWh

SUPPORTIVE RELATIONSHIPS AND PARTNERSHIPS

Energime Green Group is supported by the technology input of over 90 sustainable tech companies worldwide, some of which are the following, viz;

- 1. Omega Garden
- 2. Aqua-Manna
- 3. Coolerado
- 4. International Academy of Holo-dynamics
- 5. Vitruvian Gardens
- 6. Geo Comfort Geothermal Systems
- 7. Aero Farms
- 8. Synergy International
- 9. Andgar Corporation
- 10. Re3 Resource, & Recovery
- 11. Sopogy
- 12. UES
- 13. Signet Solar
- 14. Urban Green Energy
- 15. Phono Solar
- 16. US Solar and Wind Synergies
- 17. Skywater

50 MW Salt Battery – 150 Wh.



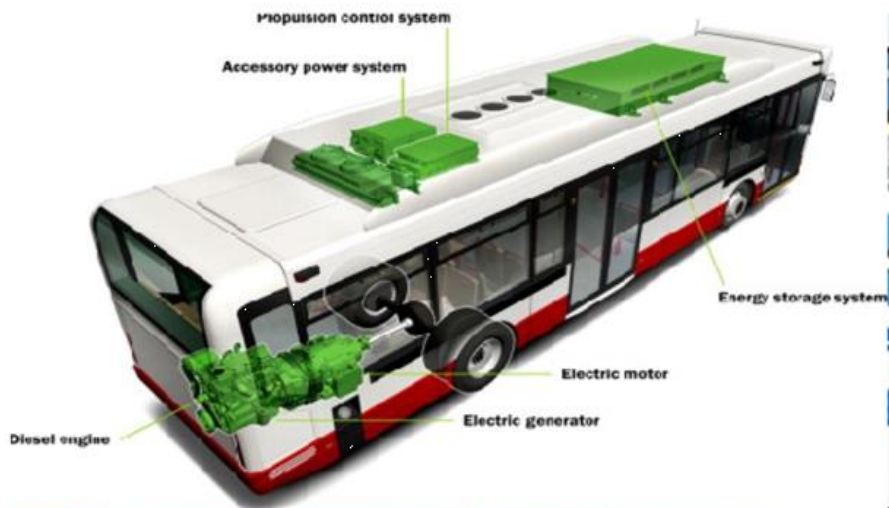
Lithium Battery – 270 Wh. Per
Kilogram



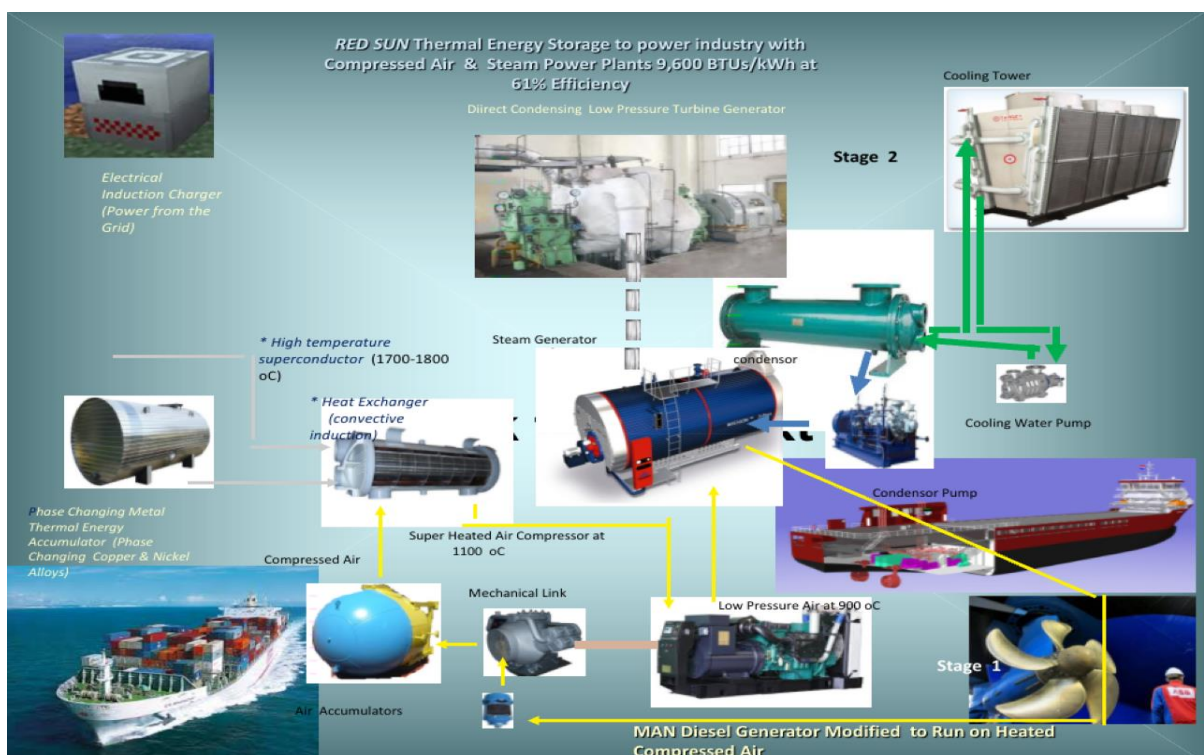
RedStar's Red Sun
Thermal Battery
Generator 2000 – Wh
Hours per Kilogram with
Steam Generator



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



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).



PowerSource AC & Refrigeration

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**

Insured by Lloyds Syndicate

Ports, Airports & Train Stations

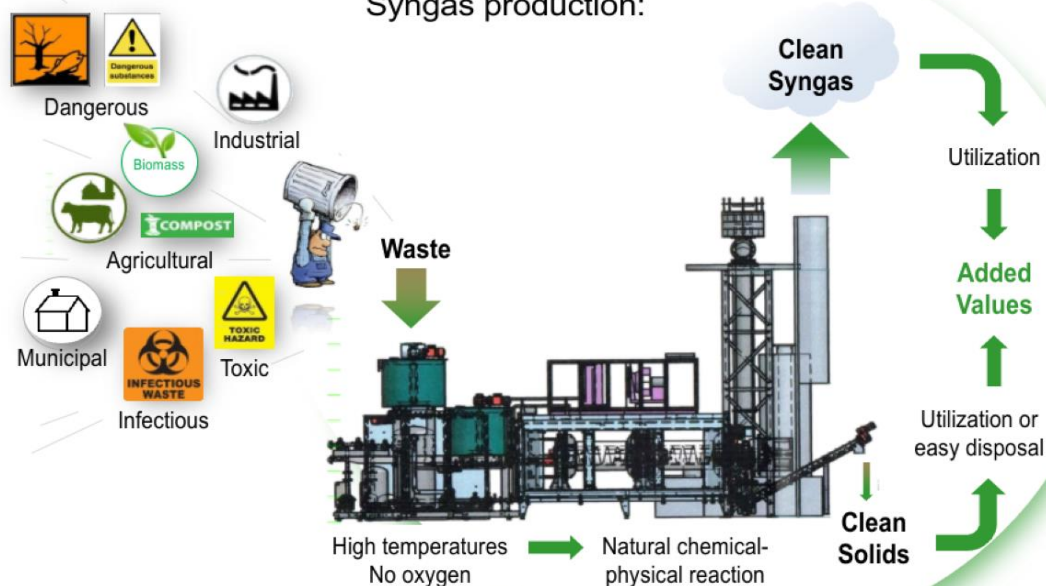
Pushing the boundaries
of what an airport could
and should be with **RED**
SUN power, desalination
& ice, AC & refrigeration,
& Sanitary Water Heating



CLEAN CARBON CONVERSION

What we do: Energy recovery from waste and biomass

Syngas production:





Nitrogen trains ran successfully from 1850s to 1930s in half the world. Just working on Heated nitrogen pulled from the air costs pennies per mile. Now, modern diesel electric that Red Sun retrofits and runs fuellessly with zero emissions run on super powerful electric traction motors to reach 9000 hp to 18000 hp...the diesel just runs the generator. The thermal battery breaks down everything and regenerative braking can be used to recharge Red Sun batteries directly also. So three innovations since the 1930s include replacing coal boilers with Red Sun fumes solid state thermal battery.



The perfect combination: how can the full benefits be drawn from each mode of transport?

Although Redsun Thermal Battery Retrofit multi-modal transport is more sustainable and economical, it still needs to be efficiently implemented. Many factors must be taken into account to accomplish this. The first, of course, is the **total distance to be traveled**, in addition to the proximity of terminals. The calculations and studies provide a viable economic ratio. Rail transport is to be prioritized for long distances of more than 500 kilometers. The closer the loading and unloading locations are to the terminals (within a maximum radius of 150 to 200 km), the more suitable and economical the multimodal option will be.

Old gas fired and diesel plants by running them on pure heat in the RED SUN thermal Electric platform that charges-up the RED SUN MOBILE thermal batteries by converting electricity to heat perfectly in mobile shipping containers weighing 29 tons - at night to \$10 to \$25 per MVh, and delivering to distributed and permanent power plants where the thermal cycles can be driven on heat delivered by graphene core pipes at 15000C, to run both diesel and turbines better than with fuel, and at high efficiencies! Distributed power solves future issues with both power and power lines with only good roads required. <https://drive.google.com/file/>

MOBILE RED SUN Renewable Energy

Thermal Energy storage units (each charged can be used for 10-15 hours) can be stored for over 5 months.

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

Collector Solar Field Storage Powerhouse

Superconductor (1000-1800 uC) Superconductor for heat specific to 15000°C Each Dish produces 340 MW in 200 MW of thermal energy

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!

Battery-Electric Locomotive

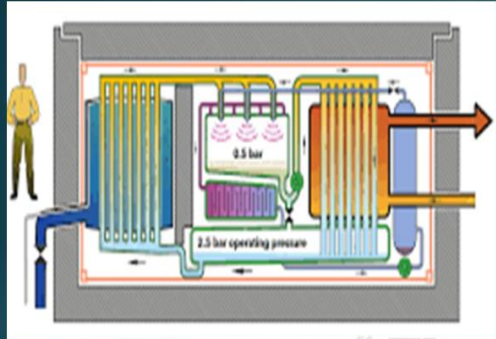
Massive power generation capabilities up to **2400 kWhrs**
Huge fuel savings of at least **10-15 %**

Vs. Mag Power Wireless Electric Train Retrofits



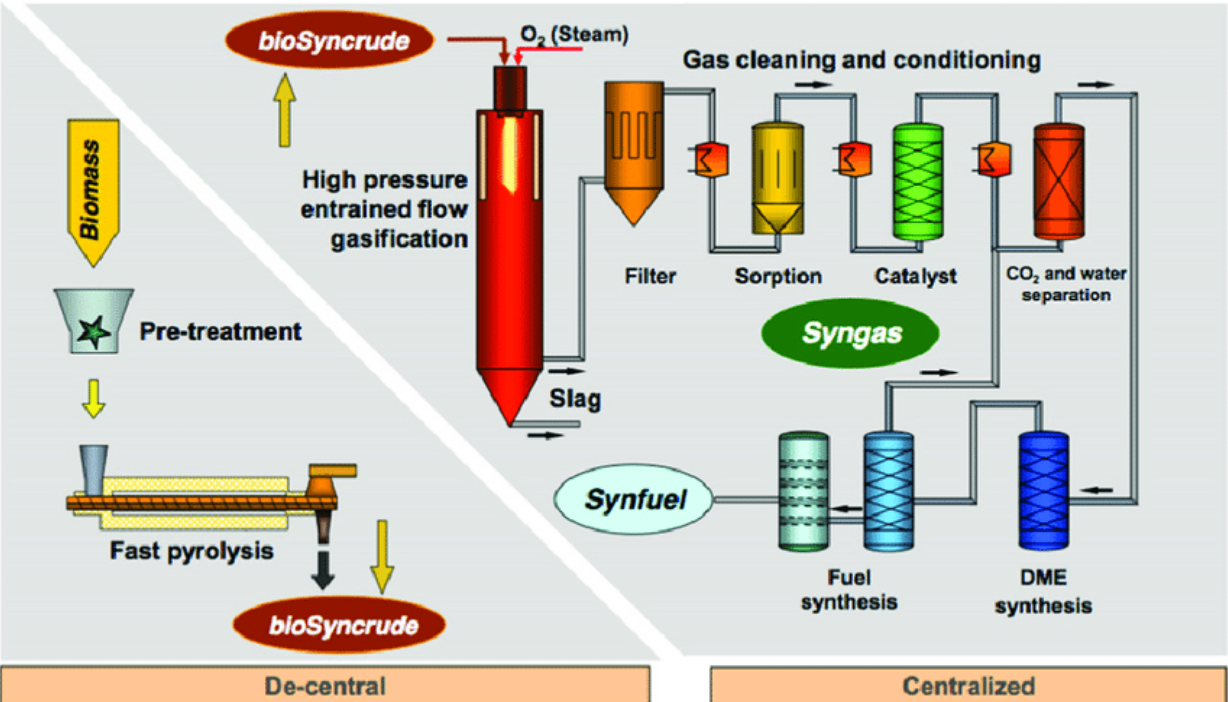
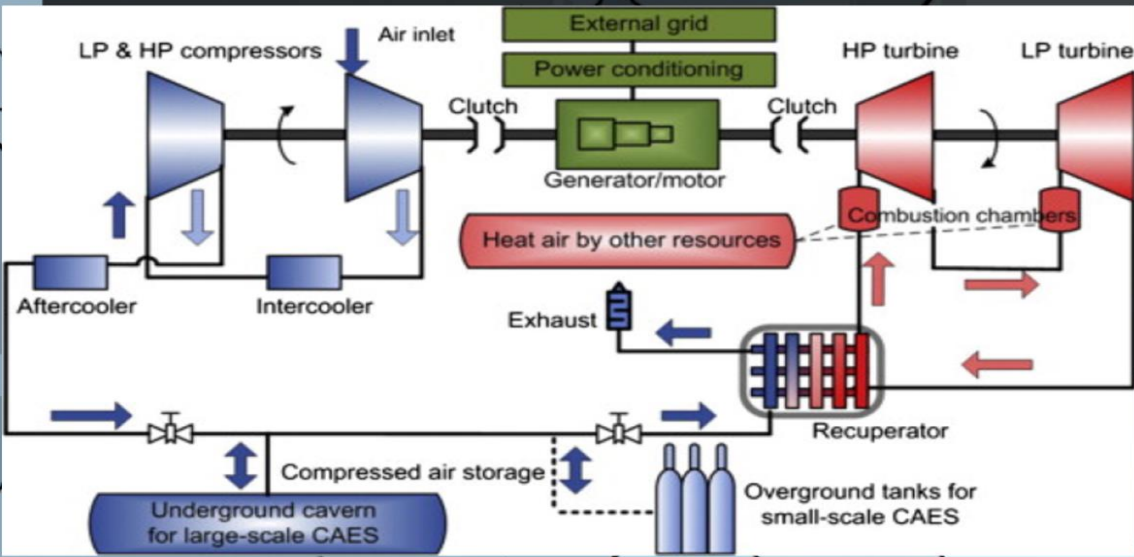
Vs. RED SUN 32 MW Thermal Battery = 65,000 kWh **RED SUN GE Elec Retrofit**
Fuel savings of 94%~ 64 MW – weighs 60 tons = 130MWh on Budd car-110 tons
Range of 1400 km to 2100 km- Electric Locomotive Retrofit - \$1.6 mln+ Bat cost
Charge-up with Mag Gas cost 1c/kWh = \$650 USD – 4-6 hr+onboard Recharge
Onboard Charge-up 2x's while running: Induction + MAG GAS genset charger

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



Retrofitting a Molten Salt reactor on the deck of any ships can be implemented putting the RedStar's Red Sun Thermal Generator in the Engine Room connecting the MSR with the engine by a simple power cable, thereby the fuel cost could be zero. **Lloyd's insurance** is available with full financing package.

Compressed Air Energy System (CAES)



RED SUN & MAG GAS H2 Platform

Once available at the airport, liquefied hydrogen is used for many purposes, including ground logistics: baggage tractors, forklifts, pods, super tugs, shuttle buses, etc. For example, at the new London International Airport, Air Liquide provides recharging stations for airport vehicle fleets with filling times of under 5 minutes. The environmental impact of these vehicles is considerably reduced by using hydrogen to power them. Finally, thanks to high-performance trucks capable of storing up to 300 liters of liquid hydrogen, refueling can be done directly on the tarmac in a few minutes. One of the Group's projects is the "H2 Hub Airport" to develop an airport hydrogen industry. Low-carbon hydrogen is produced in gaseous form, particularly by using renewable energies for water electrolysis, as is already the case at our Bécancour site in Quebec. The numerous pipelines deployed by Air Liquide will soon mean that it can be transported in large quantities to a converter located near each airport. Thanks to its expertise spanning more than 50 years in the aerospace industry and extreme cryogenics



RED SUN BATTERIES CHARGED BY 3 types of Hydrogen + Wind & Hydro at Night: 2c/kWh

Heated Compressed Air 3x's Torque



Electrical induction charger, Power is from the Grid



Electrical induction charger, Power is from the Grid



1400 km Range Per Charge – 64 MW on Budd Car

RED SUN MOBILE OVERVIEW

PHILLIPINE NAVY ENGAGEMENT

Red Star-Redsun Energime has pending negotiation with the Philippine Navy. RED SUN MOBILE is undertaking renewable energy parks in the Philippine Naval Base, Subic Bay and Clark Development in cooperation with the Philippine National Railways (PNR) and will sell electricity to the railroad company for operations and will also retrofit its trains to save up to 30 tons of fuel per train per day to make the railroad profitable and sustainable.

-Energime Power LLC and UAV Green Bio Products intend to build a sustainable Energy Park on the dockside naval base north of Manila and in Clark Development Industrial Site and windfarm site in Subic Bay Industrial Site. The navy will grant EGG a Power Purchase Agreement for 50MW of installed wind and concentrated solar power with thermal storage, utilizing new technology as well as the Power Tower.

Basic terms of the Power Purchase Agreement (PPA)

- Description-50 MW of installed wind and concentrated solar power with thermal storage. Delivered power includes electric, A/C, hot water and steam as required.
- Base load - 50 MW. This capacity can be increased up to 200 % depending on agreements.
- Term - 25 years.
- Tariff - \$ 0.18 per KWh. With no increase for 3 years. In years 4 to 5, there will be no increase except for inflation based on current regulation.
- EGG will provide a complete insurance package for the project.
- Financial conditions and guarantees -Bank guarantee / Credit Line; with collateral
- The engineering co-developer and procurement contractor (EPC) is Arcadis which has extensive experience in building power plants.
- A force desalination plant will also be built onsite to utilize waste heat from the thermal cycle. Later phases will include the Vitruvian gardens- EISTEP greenhouse system to utilize the fresh water and waste water.
- EGG will roll out Red Sun Mobile Power Plants to tie together isolated renewable energy power plants throughout the Philippines by the highways and railways with mobile thermal cylinders

RED SUN MOBILE SOLUTIONS – THERMAL STORAGE UNITS

-It is designed to provide on the spot electricity/AC /heat steam 24/7 for any business or housing track with a self-contained 20-foot container that plugs into the building after a few hours of plugging into the fuse system and air-conditioning ducts. Charging 18-20 cents per KWh for electricity, with the same rate for AC, giving 100% performance guarantee under contract.

-The mobile nature of the 30-60 MW canisters is they are only 29 tons and fit on any flatbed, truck or train. They can be recharged in less than half a day and will last for a minimum of 25 days

-Small disc charging stations can be added along the railroad to charge cylinders with RED SUN INFRARED SOLAR DISHES.

-each cylinder can be field once a day and can run the train up to 700 kms.

-such is the paradigm changing technology using convective induction heat exchange transfer to transform electricity to thermal energy with 98.6% efficiency to store and transfer without wires.

-RED SUN MOBILE can also operate from the sun (with RED SUN INFRARED DISHES) or waste heat from industry at 1300 degrees centigrade to 1800 degrees centigrade with steel, aluminum or cement industries.

-with Red Sun's new infrared collection and focusing system, almost 98% of the sun's heat is captured and stored. Wind and other devices can be convectively inducted into heat at 98.6% to fill up the Red Sun MOBILE CANISTERS at remote sites, off grid for the first time, and power can be delivered to the end user and bypass the rat's nest power distribution system and plug right into the client company's main fuse box or air conditioning box directly, saving 30% in long distance distribution energy and any other added cost, other than truck transport which could be once a month or once a week for a big factory.

-given the low wages and availability of manual labor, the Philippines should be competing in the export of manufactured goods but it is not doing so because of poor infrastructure including electricity. Hence, the Philippines aptly needs Red Sun.

RED SUN LINES - Solar Thermal Runs the Rail Road

Ten of the Red Sun Mobile 30-60 MW Canisters can be put in one flat car to create the battery car (128 tons) and retrofit with the small simple compressor to any diesel, electric locomotive to run wirelessly, while RED SUN MOBILE heat piping conveys compressed air to the cylinders to run 6.7 hours per charged battery car, with two operating 13.4 hours to give a total radius of over 1,200 kms with normal stops, running without fuel and 100% clean. On fast charged mode, the battery cars can be charged up to 70% during normal stop-over of two (2) hours. RED SUN lines save diesel fuel of 1000 gallons per 100 miles or 160 kms, saving 25 tons of fuel for each 1200 kms travelled with the same freight and pulling capabilities without wires.

ADDRESSING THE HOTSPOTS RED SUN MOBILE -Paradigm Shift

Addressing the hotspots in large Industrial Parks such as Subic and Clark with Red Sun Mobile Canisters brought by rail from mini-plant Red Sun Infrared Disc Collection Sites and 3 main Wind Farms of 150 MW in phase 1.

THE VERY HIGH EFFICIENCIES OF RED SUN MOBILE SYSTEM

Through EGG Echo Village concept, a marriage of clean Red Sun Wind or Solar Industrial Power Plants run adjacent daily green house and desalination plants to utilize waste heat and makes over-all efficiency over 90%.

The full spectrum of heat can be used for 6-7 different processes simultaneously

1. Green houses
2. Water purification
3. Desalination
4. Distillation
5. Milk pasteurization processes
6. Sanitary hot water
7. Green house operation to heat water for fast growing tilapia and providing heat for absorption chillers in green house and food processing facilities that operates below 120 degrees centigrade.

Others

- 1.) 1100 degrees centigrade and above – jet turbines- Rolls Royce, Kawasaki tested- 1.5 MW 400 degrees centigrade to 1100 degrees centigrade- retrofitted Cummins or Man Engines
- 2.) 250 to 550 degrees centigrade combined cycle steam engines
- 3.) 120 degrees centigrade to 180 degrees centigrade absorption chillers for air-conditioning
- 4.) 75 degrees centigrade to 220 degrees centigrade desalination or low temperature (two different patents)

5.) 65 degrees centigrade to 120 degrees centigrade- boilers to sanitary hot water and pasteurization for food processing

6.) 55 degrees centigrade to 120 degrees centigrade- heating aquaculture fish tanks and running radiated heaters

Thus, the ultimate overall efficiency easily reaches over 90% with several systems in parallel and series, easily reaching above 90% for Red Sun Charging Stations, with co-located desalination, housing tracks, green house and animal farm operations; and featuring full waste recycling, water recycling and Vitruvian Gardens-EISTEP. Meanwhile, fresh water is one of the by products using the waste heat.

DESALINISATION: Red Sun's forced evaporation and low temperature desalination, with the first location in either Manila or Subic Bay, will provide clean water to the city and green house operations. In addition, a large 40,000 m2 green-house system designed by EGG called Vitruvian Gardens- EISTEP utilize all low temperature waste heat to run absorption chillers, water heaters for aqua culture, heating 20,000 m2 of aqua-tanks for tilapia, so that all energy will be utilized in the operations co-located with the multi-purpose 100 – 1000 MW charging stations, in capturing up to 90% of all energy inside the plant for electricity, air conditioning, desalination, water heating and sterilization of fish and animal products for food processing plants on site, creating the definition of an eco- village that can turn into a new city – the ultimate profitability goal for each charging station, and becoming a real estate boom running on sustainable sun and wind energy.

By combining the renewable energies on site, Red Sun Mobile gives new impetus to renewable energy by entering sustainable aqua-culture green-house cultivation, desalination and eventually living structures, eco-villages and green sustainable lifestyles and incorporating Energime University / Green Tech Institute Training Academy and skills/job training into this new energy paradigm; giving back to the community a model in sustainability that is both safe and effective in both results and profitability; and thus the definition of sustainability that provides economic stimulus and job creation in clean and green industries.

The Solar Thermal Red Sun Dishes and Wind Farms will be designed to withstand winds of over 250kph with EGG composite plastic and carbon fiber construction. The towers will be steel and be retractable for typhoons, and high wind speeds throughout the year.

RED SUN INFRARED TECHNOLOGY FOCUSES INFRARED FOR THE FIRST TIME

1. High heat infrared collection dishes are made of aluminum or composite frames with 3m aluminum film coated and composite plastic disc liners designed to last for 20 years. Each Red Sun Mobile Canister and Red Sun Disc System has a pay back of only 2 to 3 years and has a capex of only 2.5 cents per kilowatt hour. With infrared energy representing over half the energy of the sun, which is ignored by all solar collection systems, Red Sun is the first to design and patent Infrared Thermal Collection Systems.
2. Red Sun Dishes collect 98% of all the radiant energy of the sun, reaching 1620 degrees centigrade to 1800 degrees centigrade for the first time. These high temperatures run both jet turbines like Rolls Royce and Kawasaki (under Brayton heat cycle and tested by both Rolls Royce and Kawasaki) as well as retrofit to diesel engines and super heat compressed air time in order to pump cylinders correctly.

POWER TOWER WIND TECHNOLOGY FOR LOW WIND AREAS RED SUN MOBILE – TOOLS OF CHANGE

All wind farms will feature the Power Tower for the Naval Base as well as Subic and Clark and neighboring plants. The Power Tower features a low wind threshold with wind technology that cuts in at only 1.5 m/s to take advantage of the mostly low winds between two and four m/s at the three intended locations that will fill up mobile canisters, using convective induction at a very high efficiency of 98.6%. The Power Towers feature 30 turbines at 3.5 kw each at a light weight steel tower that is retractable for typhoons.

Characteristics of the Power Tower

1. The advantage of the power tower, other than easy retractability of its 10-meter high wind stand, is the low weight of 2,400 kgs.
2. Power Tower's rated speed is 4.5 to 5m/s. On the other hand, commercial units need 12-14 m/s minimum which makes the power tower the only choice for the Philippines including the Philippine Naval Base, Subic Bay and Clark Development.
3. Compared to traditional wind turbine solutions, Power Tower wind turbines can produce more than five (5) times energy output given for the same wind velocity and equal rotor sizes.
4. Other benefits of Power Tower
 - a. virtually no noise
 - b. almost no vibration
 - c. has up to 5x more power

The Thyssenkrupp railcar can bring 212 MW of power to Subic and Clark industrial zones for large power client like the Philippine Navy and return filled up at various wind farms to the Philippine Naval Base and provide power to an adjacent industry and also simultaneously feed new housing developments along the railroad, running them for days or weeks at a time including A/C and sanitary hot water and electricity. For clients off the tracks that do not have rail spurs, the Red Sun cylinders are only 18 m³ and 29 tons, allowing them to be transported in shipping containers by large trucks. We could expand the rail network to move 2GW everyday using 10 cars at 90 tons of molten metals each.

Red Sun Mobile brings air conditioning steam and heat also for the first time on rolling power plant and plugs into any boiler in any industry with standard heat exchanger and standard piping/wiring – to charge up in hours with new thermal conductive material breakthroughs.

Red Sun Mobile will convert the entire network into a multi-GW energy corridor with energy storage in thermal 1800-degree battery that last for weeks or until the round trip between Subic-Manila-Clark development areas that can be done by rail track or ferry and can service all along the lines and main roads that can take a 32-ton load from Manila to Mindanao.

The client will obtain total power supply and base load using one or two cylinders for two (2) to four (4) weeks and return the empty cylinders once or twice a month or once a week for big factories and industrial powers.

Red Sun solves the two biggest problems in the Philippines which are transport and electricity supply which can be put in one system overlaid to the existing railroad system; the cylinders will allow storing energy to sell within a two-hour period for higher peak prices or to support grid at peak hours.

RED SUN GUARANTEES FOR POWER AND METERED BILLING

Red Sun guarantees its power production with 40 insurance companies behind it with lead agency Steve Gennat and Associates. The power production is ensured as is payment to the lender /investor or COOPS

All cylinders give metered billing with automated bulbs by HEATEX, giving online data in real time to track all consumption with satellite monitored systems that give real time information to any i-phone or online clients through online monitoring systems which can give consumption of electricity, air conditioning, steam and heat, with automatic computer- controlled switches for the heat pipes connecting Red Sun cylinders to their operations or housing or railcar. This allows for all emergency shut offs / power offs for normal plant closings, maintenance rounds, or operator preferences in real time.

Philippine National Railroad/Railways: all roads and railroads lead to the industrial park where electrical power, steam / heat, and air conditioning can be dumped in hours, with seventy percent of the power transferred from one cylinder to another one empty of thermal heat in two (2) hours, making end of line transferrable twice a day. This means that EGG transforms the rail line into Red Sun lines – a major energy corridor utilizing Red Sun Mobile canisters, starting with the 50 megawatt wind farm that can fill up canisters in two(2) to six (6) hours in Clark Wind Farm Number 1 and be in before 8AM to Manila or Subic or any site in the Philippines from the capital to Del Gallego to hook up directly to any business, industry, boiler, or power plant anywhere along the line leading and can have power for 25 to 30 days continuously from one canister depending on power. Canisters would ordinarily be exchanged. For train stations where a crane is not available to unload canisters, a canister-to-canister transfer protocol using automated HEATEX pipes allows Red Sun canister to Red Sun canister transfer in 2 TO 4 hours. This makes many complicated logistics unnecessary as a permanently mounted canister on the railcar can simply pull up next to a cylinder at the stations and employ an automated valve system that is computer- controlled heat pipe to transfer the heat with safety turn off.

Cylinders will be filled and dropped off at five of the train stations everyday so they can be switched on the train and empty cylinders (of heat)transferred off the train, up to several times a day and also delivered to industrial clients along the road.

Joint Venture with the Philippine National Railways – Tools of Change

Red Sun Mobile will enter into a joint venture agreement with Philippine National Railways to retrofit the diesel-electric locomotives with physical timely mechanism that blast heated compressed air at the top of the cycle in order to run the diesel engines as they were originally designed to run.

EGG's joint venture with Philippine National Railways will create a PPP that finances, builds and operates power stations and railroad itself (once a PPP is created or privatized by EGG) as well as powers surrounding businesses around each train station. EGG features exclusive patent and trade-secret technology, energy systems, new railroad, air conditioning and sanitary hot water to each rail way station. Each station will be retrofitted; build-out power stations to deliver plug in and run on Red Sun Mobile cylinders. Ten trains will be retrofitted in phase 1, with 3 wind farms feeding in the cylinders from the Naval Base, Subic and Clark Development, to deliver power to the main stations as well as deliver them by train and truck to private clients and the coops. In addition, Red Sun will provide power delivered to various locations to run existing operations of new train stations to be added with one GW of Red Sun charging stations starting with 400MW in five (5) locations along the new Philippine lines which will feature ten (10) trains running on Red Sun.

FINANCING STRUCTURES AND MECHANISMS

Power Purchase Agreements with the Philippine Navy and several industrial private clients as well as coops will provide for at least 150 MW of installed capacity initially from three (3) wind farms. In addition, EGG Efficiency Agreement with the railroad will provide 20% savings for Philippine National Railways while providing

income on the difference on running the train on diesel, which is several hundred thousand per day and running with Red Sun at only thousands per day.

Each Red Sun Mobile canister in Red Sun disc system has a payback of only two (2) to three (3) years and has a capex of only 2.5 cents per kwh. Thus, financing the long-term difference between the net 15 cents per kwh after taxes on long term power purchase agreements granted by the Philippine Navy or coops, gives a sizable spread on several million-megawatt hour per year for twenty (20) years. This pays for the new plants and for retrofitting the tracks and trains including charging stations to charge up and carry up to 2GW of power a day and charge trains and neighborhoods surrounding the five (5) train stations planned for Red Sun lines. Each PPA is backed by bank guarantee.

EGG collateralization program- as an alternate financing mechanism of balance sheet through EGG's collateralization and financing platforms, provide bankable collaterals of rare and religious jewels and artifacts in first class nature, already accepted by the Asian Development Bank and India Exim Bank; provides the needed lines of credit with each EPCs to finance the construction. In addition, a bank guarantee from the Navy, and / or coops can also be utilized in alternate cases.

The collateralization by EGG appraised assets can provide term construction financing without straining the state budget or even increasing the payments on the railroad. These installations will all be financed instead on the fuel savings created for a sustainable model for all railroads; and indeed all government infrastructure improvements worldwide, by taking the railroads and vehicles off the grid and financing them totally on the cost difference between their present fuel consumption bills (30-35 cents per kwh) and Red Sun's low capex cost of 2.5 cents per kwh.

CONCLUSIONS- Red Sun Mobile – Tools of Change

Security of supply and low-cost operation is assured as the technologies run on natural limitless power harnessed from nature including infrared and long wave radiation as well as wind power converted to Red Sun Mobile thermal canisters for transport and plug and play with industry, housing, and cities in which any business or industry can plug in within 24 hours.

These synergistic technologies are none polluting and will not add unwanted waste by-products into the ecosystem. Even in construction, the waste management and construction implementation is low impact. There is no waste produced from the solar farm, wind or future tidal systems. All energy is captured and runs layered functions from generators to green houses and water purifications all the way down from 1620 degrees centigrade to 80 degrees centigrade and / or combined cycle systems to steam and heat clients like desalination or distillation and mild pasteurization processes, etc. while still running medium temperature boilers for absorption chillers and series; as well as sanitary hot water to run heating and/or industrial / office blocks, and cities. Waste heat even lower (60 to 120 degrees centigrade) is used for on-site green-house operations to heat water for fast growing tilapia and providing heat for large absorption chillers in green house and food processing facilities that operate below 120 degrees centigrade. These Red Sun tools will enable new cities and towns to be built without choking the air with more emissions, and the state balance sheets with more liabilities for taxpayers. Instead, a truly sustainable way forward to realize all the goals of change for the future. Thermal energy is plentiful throughout the globe. EGG is the first to tap into this trillion GW bonanza with the newest solar thermal technology on the planet and according to NASA, "Red Sun is the best solar technology on the planet".

PROJECTS ON THE PIPELINE IN THE PHILIPPINES

1. Cleaning up of Laguna Lake, Pasig, Subic and Manila Bay
2. Philippine National Railway
3. Mindanao Railway
4. El Nido Palawan
5. Occidental Mindoro
6. BARMM: Basilan, Tawi-tawi, Sulo, Maguindao, Sultan Kudarat and Cotabto City