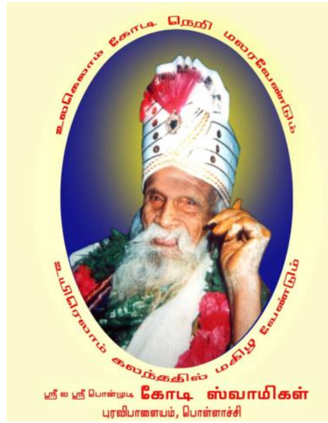

PROPOSAL PROJECT OF KODEESWARAM INDUSTRIAL TOWNSHIP

(A live swan separates milk from water. .Kodi Thatha's mechanical swan extracts electricity from space).

Phase I - Poongulam, Ponneri, Thiruvallur, Tamil Nadu, India

BY

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Project Overview

The proposed Kodeeswaram Indus.Township project aims to create a self-sustaining ecosystem that integrates industrial (Green Power and Gas generation), residential, and commercial spaces. The project will provide a world-class infrastructure, supporting facilities, and services to attract businesses, talent, and investment.

- Highly assured, 6.0 grades 24x7 green hydrogen productions generation using new technology of 6.0 grade green electricity through **Mechanical Power Plant.**
- 24 x 7 production technology has replacing existing part-time power generation using traditional solar and wind technology.
- Every Indian household to produce 2 kg of green hydrogen. Achieving economic self-sufficiency.

Objectives

1. Promote Industrial Growth: Foster a conductive environment for industries to thrive, focusing on sectors like manufacturing@360 MW Mechanical Power Plant and 60 MW Green Hydrogen Production Plant, logistics, and IT.

2. Create Employment Opportunities: Generate jobs and stimulate local economic growth.

3. Enhance Quality of Life: Provide a high standard of living for residents, with access to amenities, services, and community facilities.

4. Sustainable Development: Incorporate eco-friendly practices, renewable energy sources, and green spaces to minimize the project's environmental footprint.

Project Components

1. Industrial Area: 150 acres allocated for industrial plots, with infrastructure for utilities, roads and transportation.

2. Residential Zone: 50 acres for residential development, including apartments, villas, and community facilities.

3. Commercial Hub: 25 acres for office spaces, retail, and entertainment facilities.

4. Infrastructure and Utilities: Power generation and distribution, water supply, wastewater treatment, and telecommunications.

5. Amenities and Services: Schools, hospitals, shopping centers, recreational facilities, and community centers.

Plant Capacity:

* Green Electricity (Mechanical Power Plant) : 360 MW
* Electrolyzer: 10 MW/hr
* Green Hydrogen: 1000 Nm3/hr
* Green Medical Oxygen: 500 Nm3 /hr
* Green Hydrogen Peroxide: 10 TPD
* Green ASU: 100 TPD
* Green Ammonia: 50 TPD
* Wind Powered Vehicle: 50 per day

Methodology of Power Generation: Power generated using Solar and wind (prime mover)

Phase I: The solar power is used to start and move the prime mover / wagon of patented design along the designed rail route. The wind turbine is placed along the railway track and the movement of wagon helps the wind turbine to rotate and generate the power. The power generated in the system is used at the grid load. The average power generated per megawatt plant will be 80 lakh units per year. The power integrated with solar and wind energy is renewable.

Methodology of Gas Generation: Generated power is used for preparation of hydrogen gas.

The phase 2 is proposed for using the surplus power is wasted as cooling system, in other generation plants. Our project uses the surplus power to generate hydrogen gas an alternate fuel which reduces the carbon foot print.

Details of the processing of Power to Gas and Gas to Power

1. N2P (Nature to Power)
2. P2G (Power to Gas)
3. G2P (Gas to Power)
4. P2A (Power to All)

1. N2P (Nature to Power)

Kodi Gas has manufacture of Green power generation from diversified natural resources, which is N2P (Nature to Power)

2. P2G (Power to Gas)

Power converts into hydrogen and oxygen through Water Electrolysis Process. That is P2G (Power to Gas). Nitrogen, Argon and Oxygen gas generation through air separation technology through electricity, that is P2G (Power to Gas) and All other gases are produced through the gas mixer technology like Neon, Xenon and other gases including CO2. These techniques are uses into electric power that is P2G (Power to Gas).

3. G2P (Gas to Power)

Hydrogen gas again use to be electric energy conversion through fuel cell technology that is G2P.

4. P2A (Power to All)

Generally, power is use for all work, that is P2A.

Comparison of Power generation Resources and Their Efficiencies:

- Solar: 1 MW × 365 days × 24 hours × 0.25 × = 21.90 Lakh Units
- Wind: 1 MW × 365 days × 24 hours × 0.30× = 26.28 Lakh Units
- Thermal: 1 MW × 365 days × 24 hours × 1× = 87.60 Lakh Units
- **MPP: 1 MW × 365 days × 24 hours × 1×=87.60 Lakh Units**

***MPP=Mechanical Power Plant**

Source: www.aweo.org

Products

Green Power Division

1. Green Electricity from diversified natural resources,

Green Gas Division

1. Green Hydrogen from Water Electrolysis (Hydrogen & Oxygen)
2. Hydrogen Cooking Gas – LPHG
3. Hydrogen Peroxide
4. Green Medical Oxygen
5. Green Ammonia

Green Vehicle Division

1. WPEV - Wind Powered Electric Vehicle (Windmill inside the vehicle)
2. FCEV (Hydrogen Fuel Cell Vehicle)
3. HIEV (Hydrogen Internal Combustion Vehicle)

Residential Division

1. Apartment for company Staff's
2. Amenities like Education institutions, Hospitals, Industry (Subsidiary Units) and related sectors)

REAP 6.0 Grade Green Hydrogen and its Techniques of algorithms

Step 1: Raw materials Resource Assessment

1a. 24x7 Sustainable Renewable Energy (Electricity)

1b. 24x7 Quality Water

Step 1a: 24x7 Sustainable Renewable Energy (Electricity) Resource Assessment

1. Cascade Solar Resource Assessment Algorithm: Evaluate the solar irradiance, photon splitting mechanism, temperature, Cascade Solar light shading at the proposed site and setting up the Artificially photon production mechanism.

2. Circular Train Wind Resource Assessment Algorithm: Assess the train speed, wind speed and velocity, direction, and turbulence at the proposed site. (Nature wind and artificial wind)

3. Untapped hydro power Resource Assessment Algorithm: Assess the Pumpset motor speed, hydro turbine direction, water delivering pipe angle covering up 360 degree of maximum tapping and utilization of the water delivery force

4. Elasto-mechanical Force Resource Assessment Algorithm: Assess the barrel main wheel input and output speed, flywheel mechanism's output force management, and train of wheels management.

5. Elasto-magnetically forces Resource Assessment Algorithm: Assess the barrel main magnetic input and output force, fly magnetic mechanism's output force management, and train of wheels management.

Step 1b: 24x7 Quality Water Resource Assessment

1. Water Resource Assessment Algorithm: Evaluate the availability and quality of water resources for electrolysis.

Step 2: System Design

1. Electrolyzer Sizing Algorithm: Determine the optimal size and number of electrolyzers based on energy input, water supply, and desired hydrogen production rate.

2. System Layout Optimization Algorithm: Optimize the layout of the electrolyzers, compressors, storage tanks, and other system components to minimize energy losses and costs.

3. Power Conversion System (PCS) Sizing Algorithm: Determine the optimal size and number of PCS units (e.g., converters) based on energy output, efficiency, and budget.

Step 3: Energy Management

1. Renewable Energy Forecasting and artificially formatting force Algorithm: Predict and artificially formation the output of solar and wind resources to optimize energy storage and hydrogen production.

2. Energy Storage Sizing Algorithm: Determine the optimal size and type of energy storage systems (e.g., batteries and super capacitors) to stabilize the smart micro grid and ensure a stable energy supply.

3. Power-to-Hydrogen Control Algorithm: Regulate the electrolysis process **to optimize hydrogen production based on energy availability and demand.**

Step 4: Hydrogen Production and Storage

1. Electrolysis Process Control Algorithm: Monitor and control the electrolysis process to ensure optimal hydrogen production, purity, and energy efficiency

2. Hydrogen Compression and Storage Algorithm: Optimize the compression and storage of hydrogen to minimize energy losses and costs.

Step 5: Smart Micro Grid Integration and Monitoring

1. Smart Micro Grid Integration Algorithm: Ensure stable and efficient integration of the green hydrogen production system with the electrical grid.

2. System Monitoring and Control Algorithm (SCADA): Continuously monitor the system's performance, detect anomalies, and adjust the system's operation to optimize energy efficiency, system stability, and grid synchronization

Step 6: Maintenance and Optimization

1. Predictive Maintenance Algorithm: Develop a predictive maintenance strategy to minimize downtime, reduce maintenance costs, and optimize system performance.

2. Performance Optimization Algorithm: Continuously monitor and optimize the system's performance to ensure maximum energy efficiency, system stability, and grid synchronization

These algorithms can be implemented using various tools and technologies, such as:

1. Machine learning (ML) and artificial intelligence (AI): For predictive modeling, optimization, and control.

2. Model predictive control (MPC): For optimizing the system's operation and energy efficiency.

3. Internet of Things (IoT): For real-time monitoring and control of the system's components.

4. Cloud computing: For data storage, processing, and analytics.

Investment pattern:

* Donations from regular and nominal members: Rs.150Cr (As per Society Act: Rs.25,000 x 60,000 members)

* Society loan from NCDC /bank: 1350 Cr (Deposit to NCDC/bank Rs.150 Cr)

Total investment: Rs.1500 Cr

Investment:

* Cost of land and development : 167 Cr
* Cost of 360 MW MPP - SWAN : 513 Cr
* Cost of Vehicle 100 per day : 210 Cr
* Cost of 10 MW/hr Electrolyzer : 125 Cr
* Cost of ASU 100 TPD : 150 Cr
* Ammonia 50 TPD: 150 Cr
* Cost of Hydrogen Peroxide 10 TPD :20 Cr
* Cost of storage /Cylinder /Containers:120 Cr
* Pre-operative Expenses : 35 Cr
* Miscellaneous Expenses :10 Cr

Total :1500 Cr

Revenue:

1. Revenue through 360 MW power Sales Rs. 6/. Per unit through TPA (Third Party Agreement)

Yearly: 3,00,000 units x Rs.6 x 24 hr x 350 day = 1,512 Cr

2. Gas sales: 60 MW = 50% gas

Sales price: Rs. 350/- per kg

Yearly : Rs . 398 Cr (650 kg/MW x Rs.350 x 350 days x 50 MW)

Cross Total : Rs. 1910 Cr (1512+398)

Expenditure

General and others: 38 % (Rs.725.80 Cr)

Loan repayment: 30% (Rs.573.00Cr)

Society development: 10% (Rs.191.00 Cr)

Donation contributor's benefits: 20% (Rs.382.00 Cr)

CSR: 2% (Rs.38.20 Cr)

Implementation Plan

1. Phase 1 (Months 3-6): Land acquisition, master planning, and infrastructure development.

2. Phase 2 (Years 1-2): Industrial and residential development, with a focus on attracting businesses and residents.

3. Phase 3 (Years 2-3): Completion of commercial and recreational facilities, with ongoing evaluation and improvement.

Financial Projections

1. Total Investment: Rs.1500 Crores

2. Revenue Streams: Power and Gas sales, and utility services.

3. Break-Even Point: 4-6 years after project commencement.

Key Features

1. Master-planned Layout: Efficient use of space, with a focus on sustainability and aesthetics.

2. State-of-the-Art Infrastructure: World-class roads, utilities, and telecommunications.

3. Business-Friendly Environment: Streamlined regulatory processes, tax incentives, and investment promotion.

4. Quality of Life: Access to education, healthcare, shopping, and entertainment facilities.

Conclusion

The industrial township project offers a unique opportunity for sustainable growth, economic development, and improved quality of life. With its strategic location, world-class infrastructure, and business-friendly environment, this project is poised to become a model for industrial townships in the region.

- **We will assure Power and Gas to all at low-cost**
- **We will minimizing of global warming**
- **We will support of green environmental development.**

Thanks