

CVC BIOREFINERIES PVT LTD (CVC-BR) MISSION & OBJECTIVES - LINKED WITH NATIONAL PRIORITIES



CVC-BR VI SI ON – TO INSTITUTIONALIZE GREEN ECONOMY





Green economy is low carbon, resource efficient and socially inclusive.

In Green economy, growth in employment and income are driven by economic activities & infrastructure that (i) mitigate carbon emissions and pollution (ii) enhance efficiencies in energy & resources utilization (iii) preserve biodiversity and natural ecosystems







CVC-BR MI SSI ON – TO CATALYZE GROWTH IN BIO ECONOMY

To deploy advanced Bio-Technologies for processing Farm Waste (Agriculture residues & Manure) to produce advanced Biofuels/ Bio-CNG & useful Co-Products.

Thereby catalyse growth in "Farm linked Bio-Economy" which encompasses

- # Sustainable Energy & Sustainable Mobility
- # Higher value farming (eg. horticulture, silage crops & animal husbandry)
- # "Cold Chain" infrastructure as well as "Food Processing" MSME's

CVC-BR 2020-23 OBJECTIVES – FARM WASTE to BIO-CNG & COMPOST

(A) Activites:

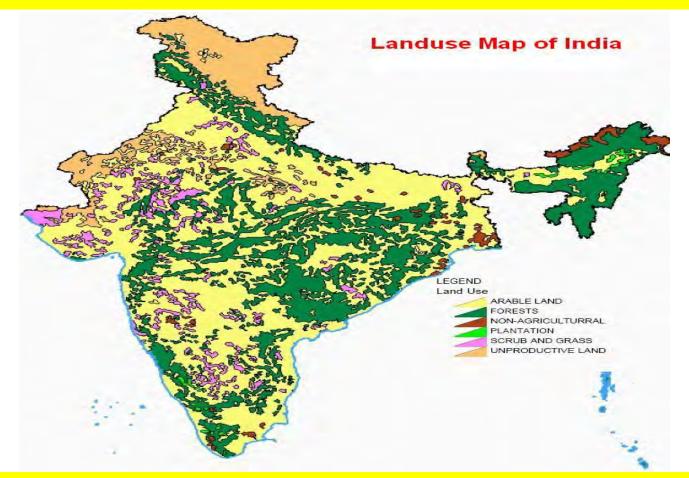
To be Developer of high quality "Bio-CNG" projects, based on advanced technologies, dovetailed with innovative & transformative "Green Business" models.

Thus meeting rural community needs of green fuels for mobility/ community cooking/ industrial heating, at affordable costs, from locally available resources

- (B) Business Segments:
- (1) Bio-CNG Plants (2) Biomass Depots & Silage Yards (3) Compost & Liquid CO2 Units
- (C) Territories (India)
- (1) Gujarat (2) Tamil Nadu (3) Punjab
- (D) Financials.

To ensure better than RE Industry norms for EBDITA (as % of Revenues) and PAT (as % of Capital Employed), as well as making higher contribution to GHG mitigation & SDG's achievement.

THE CONTEXT - 138 MILL HOUSEHOLDS DEPEND on FARMING for LIVELIHOOD



India has 141 mill hectares net cropped land & 200 mill hectares gross cropped land.

India annually produces close to 200 mill tons Milk, involving 70 million Farmer H/H's

India annually produces 70 billion Eggs & 4.8 million tons Broiler meat

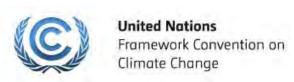
Aligned with National Priorities & Flagship Schemes

INDCs

Green India Mission

Swachh Bharat Mission

National Water Mission









Skill India Mission

Make in India

Indian Prime Minister's Flagship Schemes





- # UJWAL: LPG Cooking access to addll 100 million households
- # REDUCE INDIA'S OIL & GAS IMPORT DEPENDENCE
- # GOBARDHAN + WASTE TO ENERGY Schemes
- **# NATIONAL POLICY ON BIOFUELS**
- # DOUBLE FARMERS INCOME

National Policy on Biofuels (including Bio-CNG)

Cabinet approval on 16th May 2018 & Gazette Notification on 4th June 2018.

Mnister Petroleum & Natural Gas announced target of 15 million tons Bio ONG in Oct 2018

रजिस्ट्री सं० डी० एल०-33004/99

REGD. NO. D. L.-33004/99



असाधारण EXTRAORDINARY भाग I—खण्ड 1

भाग I—खण्ड । PART I—Section 1 पाधिकार से प्रकाशित

PUBLISHED BY AUTHORITY

ਜਂ. 2021 No. 2021 नई दिल्ली, शुक्रवार, जून 8, 2018/ ज्येष्ठ 18, 1940 NEW DELHI, FRIDAY, JUNE 8, 2018/ JYAISTHA 18, 1940

पेट्रोलियम और प्राकृतिक गैस मंत्रालय

अधिस्चना

नई दिल्ली, 4 जुन, 2018

सिसिन सं.-पी-13032(16)/18/2017-सीसी.—दिनांक 4 अगस्त, 2017 की मां. आ. मं.2492 (ई) द्वारा भारत के राजपत्र में प्रकाशित भारत सरकार (कारोबार का आबंटन) तीन सौ पैतीसवें संशोधन नियम, 2017 के तहत प्रदत्त शक्तियों का प्रयोग करते हुए केन्द्र सरकार वर्ष 2009 में नवीन और नवीकरणीय ऊर्जा मंत्रालय के जरिए लागू की गई राष्ट्रीय जैव ईंधन नीति के अधिक्रमण में एक संशोधित जैव ईंधन नीति एतद्वारा बनाती है, नामत:-

- 1. (1) इस नीति को राष्ट्रीय जैब ईंधन नीति-2018 कहा जाएगा।
 - (2) यह नीति मंत्रिमंडल द्वारा अनुमोदन की तारीख अर्थात 16.5.2018 से प्रभावी होगी।

2. इस नीति का पाउ संलग्न है।

राष्ट्रीय जैव ईंधन नीति-2018

1.0 प्रस्तावना

3242 GI/2018

संख्या पी-13032)16)18/2017-सीसी -- 1.1 भारत दुनिया की सबसे तेजी से बढ़ती अर्थव्यवस्थाओं में से एक है और आगामी कुछ दशकों तक जनसांख्यिकीय लाभ भी इसे मिलता रहेगा। बिकास का उद्देश्य समावेश पर केंद्रित है, समावेश अर्थात राष्ट्रीय विकास, प्रौद्योगिकी उद्धयन एवं क्षमता निर्माण, आर्थिक बिकास, इक्विटी और मानव कल्पाण का साझा विजन। नागरिकों के जीवन स्तर के स्तर को बढ़ाने के लिए ऊर्जा एक महत्वपूर्ण इन्हें। देश की ऊर्जा नीति का उद्देश्य ऊर्जा क्षेत्र सरकार की हालिया महत्वाकांक्षी घोषणाओं को पूरा करना है, जैसे 2019 तक सभी सेन्सस (जनगणना) गांवों का विद्युतीकरण, 2022 तक 24×7 बिजली और 175 जीडक्ल्यू की नवीकरणीय ऊर्जा क्षमता, 2030 तक 33% -35% तक ऊर्जा

SATAT Scheme – Bio CNG from Farm Waste Target of 15 million tons Bio-CNG/year

<u>Bio CNG Plant launch event on 23rd June 2020</u>, by Minister of Petroleum & Chief Minister of Tamil Nadu, for Bio-CNG (CBG – Compressed BioGas) plant, with feedstock of Manure & Farm waste, in Namakkal District of Tamil Nadu.

Given below are excerpts from Minister Petroleum Speech

- 1) India plans to invest \$24 billion to produce 15 million tons compressed biogas (Bio CNG) from 5,000 plants by 2023 ... with bio-manure, as byproduct, to contribute to the growth of organic farming.
- 2) India is exploring global funds and prioritizing lending for Bio CNG projects, as the country looks to reduce its crude imports and increase its use of cleaner fuels.

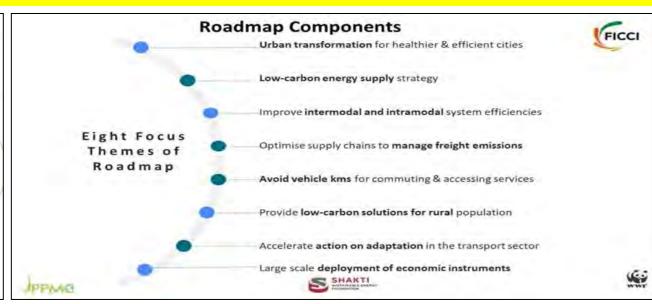
A new package is envisaged for medium and small scale enterprises - to fund Bio CNG plants across India.

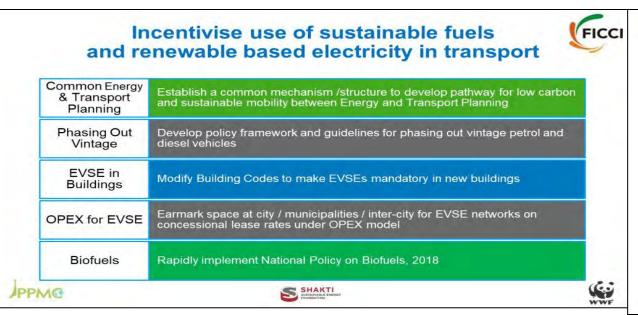
3) India wants to build biogas plants where crop stubble can be used a feedstock in a bid to halt the choking crop-burning pollution that blights the country every winter.

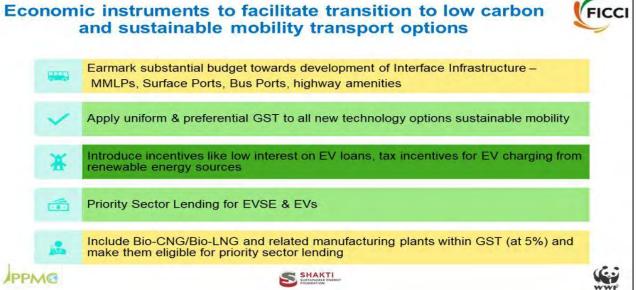
Link to video (3 ½ minutes) of Launch event : https://youtu.be/Nb2AuKH9Ck

FICCI prepared "India Roadmap for Low Carbon & Sustainable Mobility" Launched on June 23rd 2020 by Minister Road Transport & Highways









Gobardhan Scheme - Manure based Biogas & Compost Units - launched on 30-4-2018, Anticipated coverage of 350 Districts, over 300,000 Villages /100,000 Gram Panchayats (In India, about 70 million Farm Households have Dairy activity)

GOBAR* DHAN

Generating Income and Energy from Waste

implementation of 700 bio-gas unit across the country in 2018-19

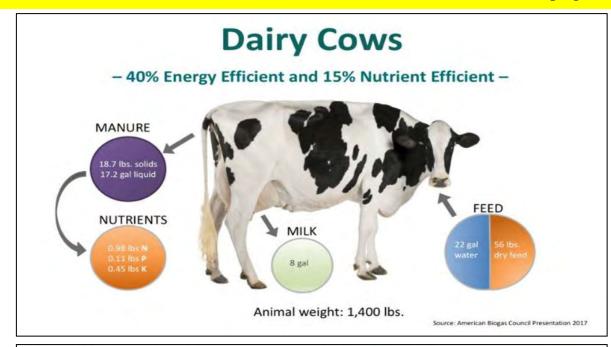
Helps keeping
village clean and
sanitized, improving
livestock health
and increasing
farm yields

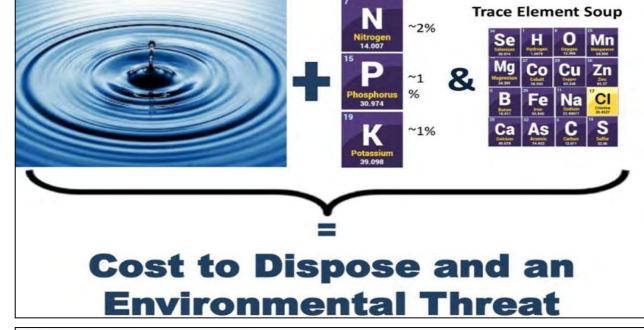
Online trading platform to be created for better implementation

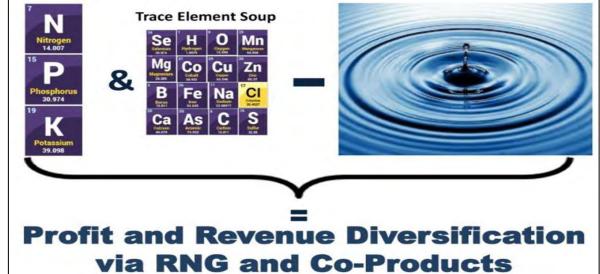


Creation of new job opportunities to farmers and cattle herders and waste management

POTENTIAL & BENEFITS of processing MANURE to BIO-CNG + COMPOST India has 300 million Cattle, annually producing 300 mill Tons (dry matter) manure











"UJJWAL" - CLEAN COOKING MISSION – LIKELY TO BE TECHNOLOGY AGNOSTIC

(1) Prime Minister Modi, in April 2016, launched the "Ujjwal" scheme, to provide 50+50 million LPG connections to replace traditional biomass Cook stoves.

This scheme has received International acclaim, including WHO, and Indian Prime Minister received UN award.

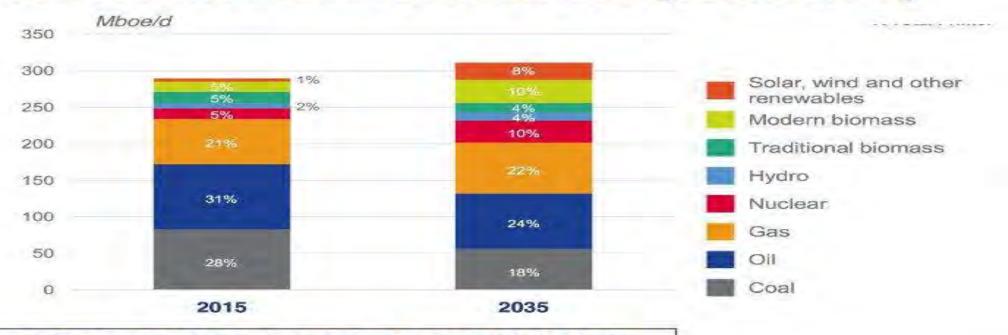
- (2) While "Ujjwal" addressed the pollution/health aspect, it resulted in a surge in India's imports of LPG as well as in budgetary support required for subsidizing LPG supplies to poor households.
- (3) Niti Aayog (Govt of India Think Tank): has proposed that Government widen its subsidy net to cover all cooking fuels including Piped Natural Gas and Bio-gas, along with the existing subsidy on LPG and Kerosene.

The Aayog has recommended that piped natural gas (PNG) is the most efficient form of fuel in urban areas and Biogas should be the preferred option in rural areas given availability of raw materials.

•

IEA forecasted that Modern & Traditional Biomass will contribute 14% of global primary energy by 2035 (against 8% for Solar & Wind)

GLOBAL ENERGY MIX IN 2015 AND 2035 (SOURCE: IEA)



OUR CHALLENGES OVERTHE NEXT 20 YEARS

Meeting the energy needs of a burgeoning global population Contributing to limit the **global** temperature rise to 2°C

Anticipating and meeting changes in customer expectations and their relationship with energy

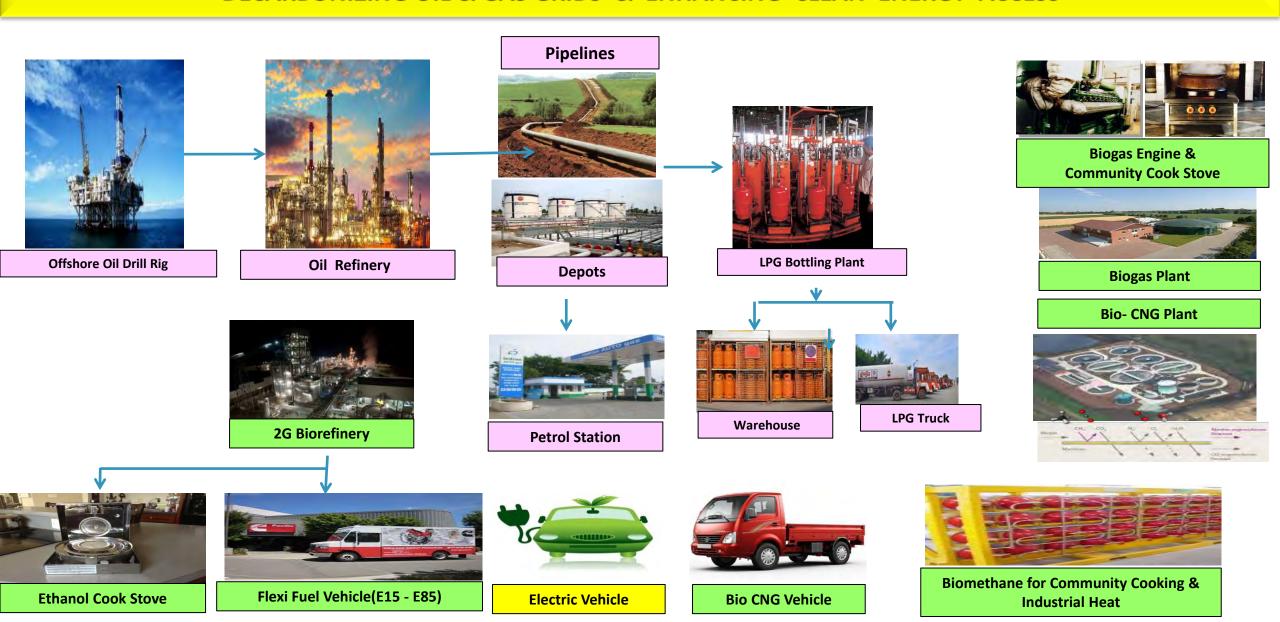


CVC BIOREFINERIES BUSINESS MODELS – DECARBONISING ENERGY & ENHANCING ACCESS

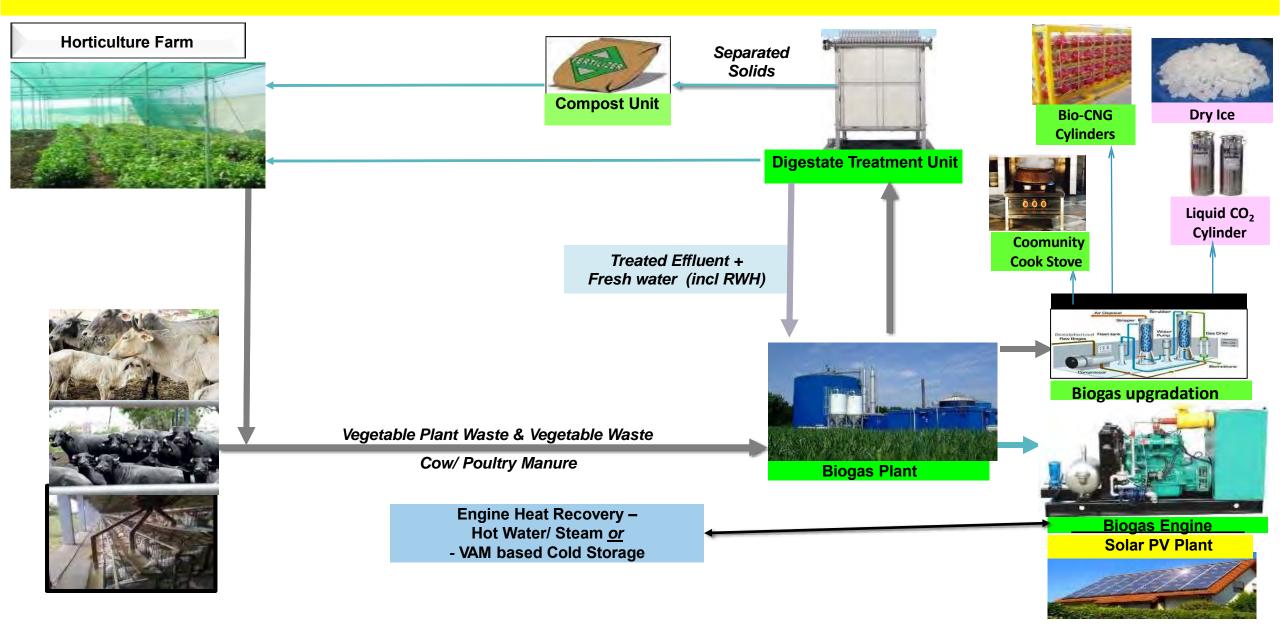


DISTRICT LEVEL: BIOMETHANE MINI GRIDS/ BIO-CNG CASCADES + CELLULOSIC ETHANOL ->

DECARBONIZING OIL & GAS GRIDS & ENHANCING CLEAN ENERGY ACCESS



INTEGRATED ENERGY UTILITY AT 'TAIL END' OF RURAL ENERGY GRIDS



Agnisumukh – high efficiency Cook Stove (with radiant heat transfer)



Radiant Heat Cook Stove has efficiency > 40% over conventional "blue flame" cook stove

Upgraded Biogas supplied to Community Kitchens with radiant heat Cook Stoves replaces LPG + saves cost in Community Kitchens in Schools – Mid Day Meals/Hospitals/ Religious Institutions + QSR's (eg "Amma" Canteen).



CVC BIOREFINERIES ORGANIZATION – FOR FY 2020-23 OBJECTIVES



CVC GROUP OF COMPANIES – GOVERNANCE & MANAGEMENT STRATEGY

CVC approach is to have 2 distinct constituents for each Project, correlated to domain competences as well as management modalities needed for each constituent. These are

(1) Modular rated Biogas Plant (with feedstock of Farm Waste) and Biogas Upgradation/ Compression/ Bottling Units, for efficient production of Bio-CNG@10 tons per day.

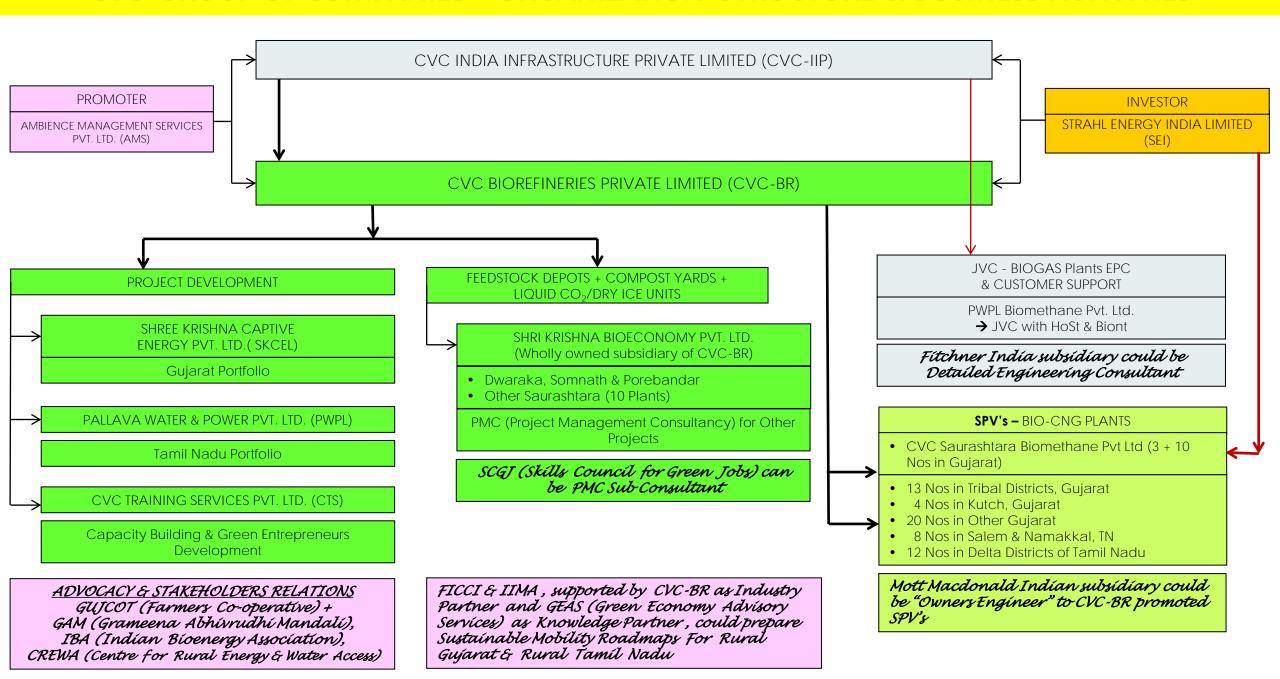
Focus on high plant efficiency & operational efficacy through deployment of advanced technologies and reliable partners for EPC and O&M. Management modalities similar to any reputed Energy Company.

(2) Units, Upstream & Downstream of Biogas Plants, viz Biomass Depots (Agri-residues Bales & Silage); Compost Unit (processing solids separated from Digester effluent); Liquid CO₂ Unit (processing raw CO₂ vented from Biogas Upgradation Unit).

Objectives of "Sustainable Feedstock Supply Chain" & optimizing value recovery from dry matter in "Farm Waste", thus ensuring predictable feedstock costs & providing multiple, collateral, benefits to farmers.

Management Modalities requires ability to work in Partnership with Farmers as well develop "Green Entrepreneurs" who can effectively produce/market Co-Products produced from Waste Streams of the Biogas Plant. CVC, will be supported by sister organization "GAM (Grameena Abhivrudhi Mandali)"

CVC GROUP OF COMPANIES – ORGANIZATION STRUCTURE & BUSINESS ACTIVITIES



FOSTERING ENABLING ECO-SYSTEM – BY SISTER ORGANISATIONS (ALL NOT FOR PROFIT)

Create Platform for Advocacy related to Advanced Biofuels: this would be supported by INDIAN BIOENERGY ASSOCIATION (IBA), whose members are global «thought leaders» in Bioenergy sector

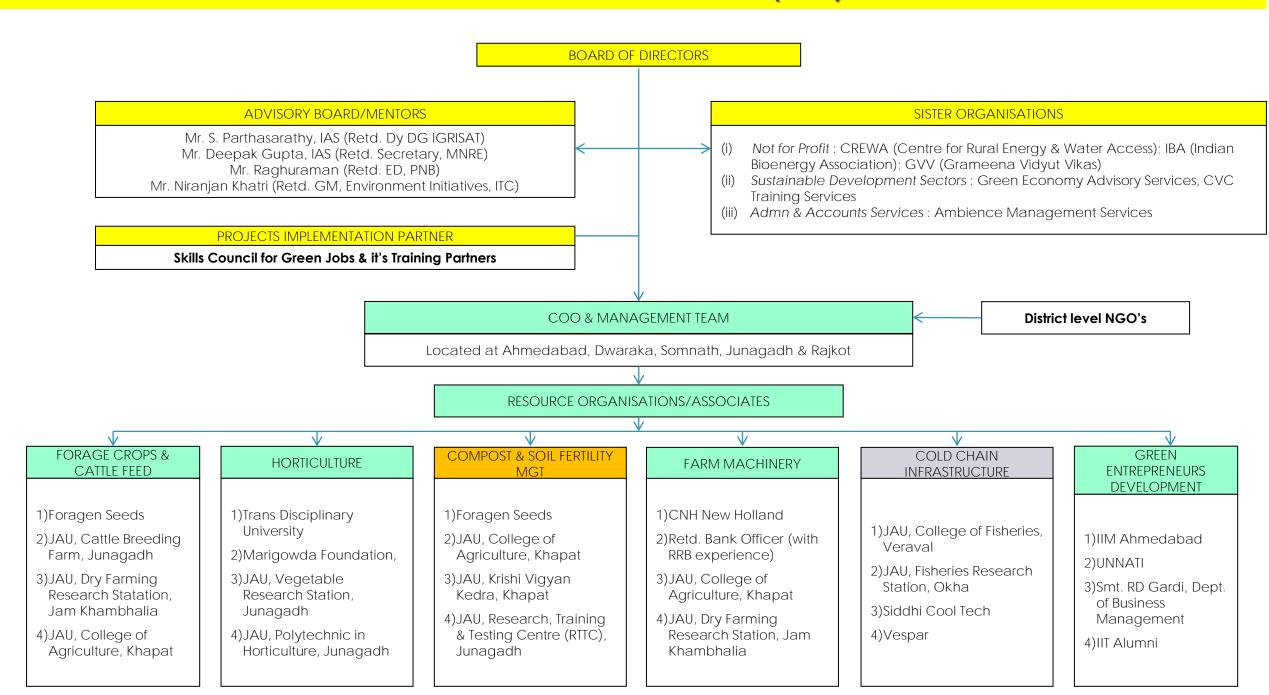
<u>Undertake socio-economic development of local community</u>: this would be supported by <u>CENTRE FOR RURAL ENERGY & WATER ACCESS (CREWA)</u>. whose members are global «thought leaders» in Renewable Energy & Sustainable Development initiatives

Facilitate Carbon/ ESG Finance: this would be supported by Green Economy Advisory Services (GEAS), whose Founders developed commercial scale project (4.5 MW Malavalli Power Plant), which delivered the world's 1° Gold Standard CER's.

<u>Establish sustainable Feedstock & Enhance Farm Households Income</u>: this would be supported by <u>GRAMEENA ABHIVRUDHI MANDALI (GAM)</u> - whose Founders have 25 years field proven experiences in implementing Sustainable Development projects in rural India.

<u>Note:</u> akin to role that GAM performed for 4.5 MW Malavalli Power Plant, commissioned in 2001, which was the World's 1st low denisty crop residues fired power plant (having sustainale feedstock supplies of 150 tons/day of Agriculture residues)

ORGANIGRAM OF GRAMEENA ABHIVRUDHI MANDALI (GAM) – GUJARAT PROJECTS

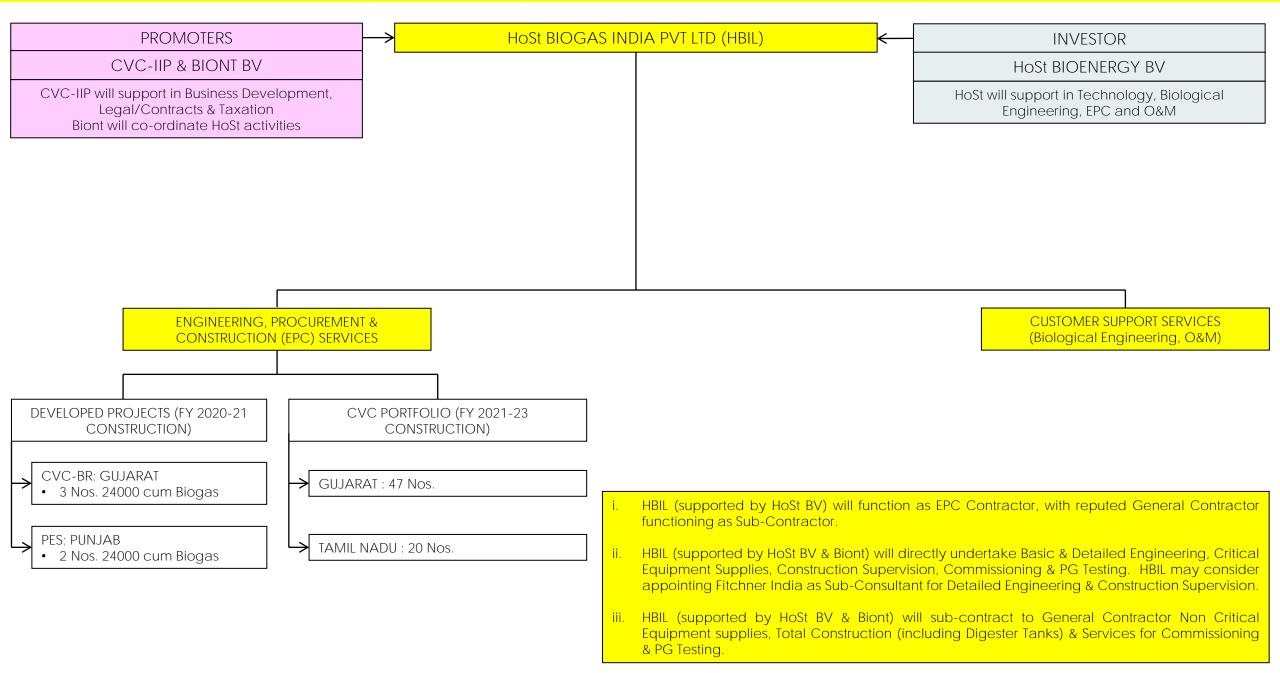


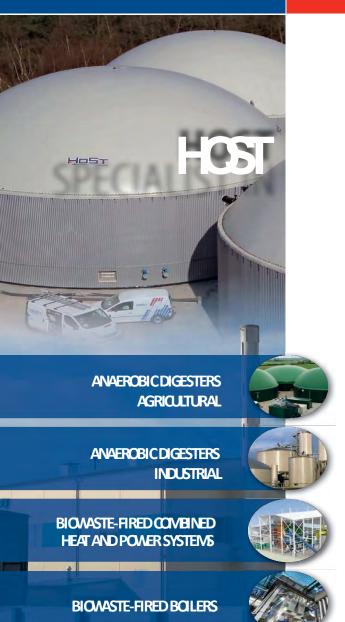


CVC BIOREFINERIES – ASSOCIATE FOR BIOGAS PLANTS EPC



HOST BIOGAS (INDIA) PVT. LTD., (erstwhile PWPL Biomethane Pvt Ltd) ORGANIGRAM







Projects and Stork, two well-established suppliers of energy systems. From 1999 onwards HoSt has been a fully independent business whose activities focus 100% on the technological development of systems for the processing of biomass flows and the supply of systems for the sustainable generation of energy from biomass.

HoSt has built up extensive experience in the processing of diverse waste flows from the food-processing industry and agricultural by-products such as straw, chaff and grass cuttings.

HoSt has designed and constructed more than 40% of Dutch biogas plants. Four out of every five HoSt projects are currently being realised outside the Netherlands. For example, systems have been installed in countries such as Belgium, Poland, Romania, the UK, Latvia and Portugal.

HoSt operates as a turn-key supplier. In addition to the design, construction and assembly of installations, HoSt also provides a wide range of other services, such as feasibility studies, planning applications, financial support, start-up, supervision of process operations, process monitoring and optimisation of systems supplied.



Farm-type digesters from 250 kWe to 2500 kWe
These anaerobic digesters are designed with a
flexible supply system suitable for a wide range
of solid biomass flows. The concrete digester
tanks, fitted, with special mixers enable
extremely dense biomass flows to be mixed.
With its sophisticated design, which almost
doubles the capacity in comparison to the
traditional concept, the large volumes of gas
production per digester enable quick returns on
Initial investment.



ANAEROBIC DIGESTERS - INDUSTRIAL

From sludge digestion to category 3 waste material In industrial anaerobic digesters organic waste flows are processed without the addition of slurry. For example, HoSt has constructed numerous systems for the digestion of slaughterhouse waste. To this end, for the processing of category 2 material, various thermal pressure hydrolysis (THP) systems have been supplied, as a result of which the conversion of biomass is improved significantly. HoSt also supplied systems for processing unpacked food products, industrial food product and for the processing and maximum energy recovery of industrial and municipal primary and secondary sludge.

HoSt Digestion Technology

- **BIOMASS FLEXIBILITY:** adjust input to changing situations
- **DIFFICULT INPUT POSSIBLE:** straw, chicken manure etc.
- **ROBUST INSTALLATIONS:** high quality equipment
- **HIGH EFFICIENCY:** optimal technical design
- **INNOVATIVE:** latest technologies in the market
- **PRACTICAL:** easy to operate
- **EXPERTISE FOR OPERATION:** asistance, analysis and advise











Straw co-digestion

HoSt can build anaerobic digestion plants using only straw, which is a "difficult" material. As a light, dry material, using straw will also increase the solid content in the digester, which calls for special mixers that can handle this.

As well as special feeding systems, because of the large volumes. Furthermore special pre-treatment and adequate HRT as the conversion process is relatively slow, especially in the beginning.

Novel pre-treatment

HoSt has conducted an extensive research programme in association with the Technical University of Münster in Germany on the preparation of straw to increase conversion. Technologies included making powder, hammering, thermal treatment at medium temperatures, acid or high temperature treatment and enzymes.

The high thermal treatment gave the highest gas production per tonne of straw, but needs a large amount of steam (with added factor of Engine waste heat not being available in case of Bio-CNG Projects). It is also an expensive system which is difficult to make economical feasible.

HoSt is focusing on low temperature pre-treatment, where hammering is one of the best options



HOST SERVICES

PROCESS ANALYSIS

In order to optimise management and control of the digestion process, HoSt provides a process analysis:

- no process failure as a result of acidification, salification, etc.;
- increase in gas production;
- reduction in feeding costs;
- defining of fertilisation value of the digestate.

PROCESS IMPROVEMENT WITH ENZYMES

Enzymes for digesters are produced with the aid of fungi. With the aid of enzymes the mixing process and the mass transfer are improved and the breakdown of long chains of scum formation avoided.

LABORATORY

HoSt has its own laboratory with four small-scale digesters. By simulating actual digesters the digestion process can be optimised and biogas yields can likewise be defined for each specific product per customer.

PROCESS SUPPORT AND MAINTENANCE

Because of the sophisticated operating controls on the systems, HoSt is able to monitor and optimise processes remotely. In combination with our maintenance programmes, this ensures high-efficiency installations.

FURTHER INFORMATION

For more information, please contact us directly or visit the HoSt website: www.host-bioenergy.com.













CVC BIOREFINERIES PVT LTD (CVC-BR) BUSINESS PORTFOLIO (GUJARAT)



CVC - MOU SIGNED WITH GOVT OF GUJARAT on 11th JAN 2017 USD 300 MILLION INVESTMENT IN ADVANCED BIOFUELS (from Farm Waste)





MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding is entered on 11th day of January, 2017 at Mahatma Mandir in Gandhinagar (Gujarat) as part of Investment Promotion Activity for Vibrant Gujarat Summit 2017

Between

CVC Biorefineries and The Government of Gujarat.

CVC Biorefineries wishes to establish the following project in Gujarat.

Sr. No.	Project	Location	Proposed Inv. (Rs. in Cr.)	Employment	Proposed Year of Commencement
1.	2 Nos. 2nd Generation Bio-Refineries, with feedstock of Ligno Cellulosic agri residues, each having annual output of 75 million litres of Cellulosic Ethanol plus Co-Products of high quality Pellets, Bio CNG, Compost, Liquid CO2 and Dry Ice		2000	3000	2019

Government of Gujarat would facilitate to CVC Biorefineries obtain necessary permissions/ registrations/ approvals/clearances etc. from the concerned departments of the State, as per the existing policies/ rules and regulations of the State Government.

This Memorandum of Understanding is made to facilitate CVC Biorefineries for establishment of the aforesaid Project(s) in Gujarat in a time bound manner.

For and on behalf of Government of Gujarat

(AUTHORISED SIGNATORY)

Name: Shri Dhananjay Dwivedi, IAS

Designation: Secretary, Department of Science & Technology, GOG

no.: +91 079-23259999

E mail: secdst@qujarat.gov.in

Contact address: Block No.7, 5th Floor, New Sachivalaya, Gandhinagar For and on behalf of CVC Biorefineries

(AUTHORISED SIGNATORY) Name: Mr. Kolluru Krishan Designation: Chairman Contact Contact no.: 9845071534

Email: kkrishan1951@gmail.com

Contact address: No.29, Hospital Road, 1st Floor, Maliks Building, 560001, Karnataka, INDIA

CVC - MOU SIGNED WITH GOVT OF GUJARAT on 11th JAN 2017









CVC collaboration with GUJCOT (Co-operative representing 550,000 Farmers) MoU signed on Aug 30th 2019 + Addendums No 1 & 2 – Total Portfolio of 50 Nos 10 TPD Bio-CNG Plants





CVC - GUJARAT PORTFOLIO – PHASE 1 (SAURASHTRA + KUTCH) : 13 + 4 PLANTS



Phase 1: Saurashtra:

- Costal Fishing Zone (4)
- Industrial Zone (9)

= 4 Nos.

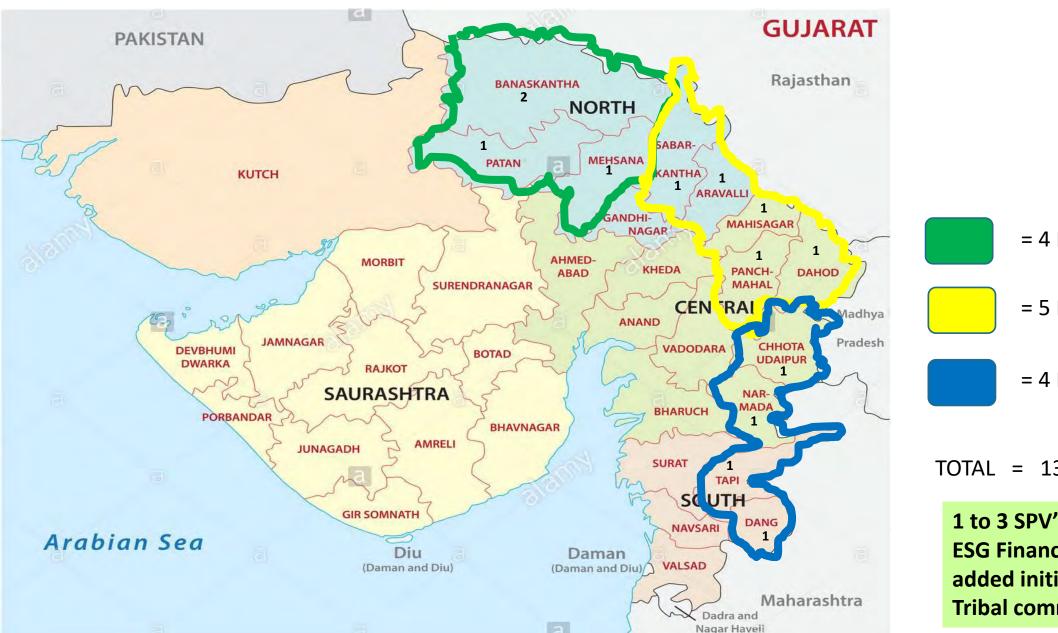
= 9 Nos.

TOTAL = 13 Nos

SPV " CVC Saurashtra
Biomethane Pvt Ltd" for
13 Plants in Saurashtra Region

Separate SPV " CVC Kutch Biomethane Pvt Ltd" for 4 Plants in Kutch District

CVC - GUJARAT PORTFOLIO - PHASE 1 (TRIBAL DISTRICTS): 13 PLANTS



= 4 Nos

= 5 Nos

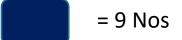
= 4 Nos

TOTAL = 13 Nos.

1 to 3 SPV's linked to **ESG Financing, with** added initiatives for Tribal community dev.

CVC - GUJARAT PORTFOLIO – PHASE 3 (CENTRAL + SOUTH REGION) : 9 + 11 PLANTS







TOTAL = 20 Nos.

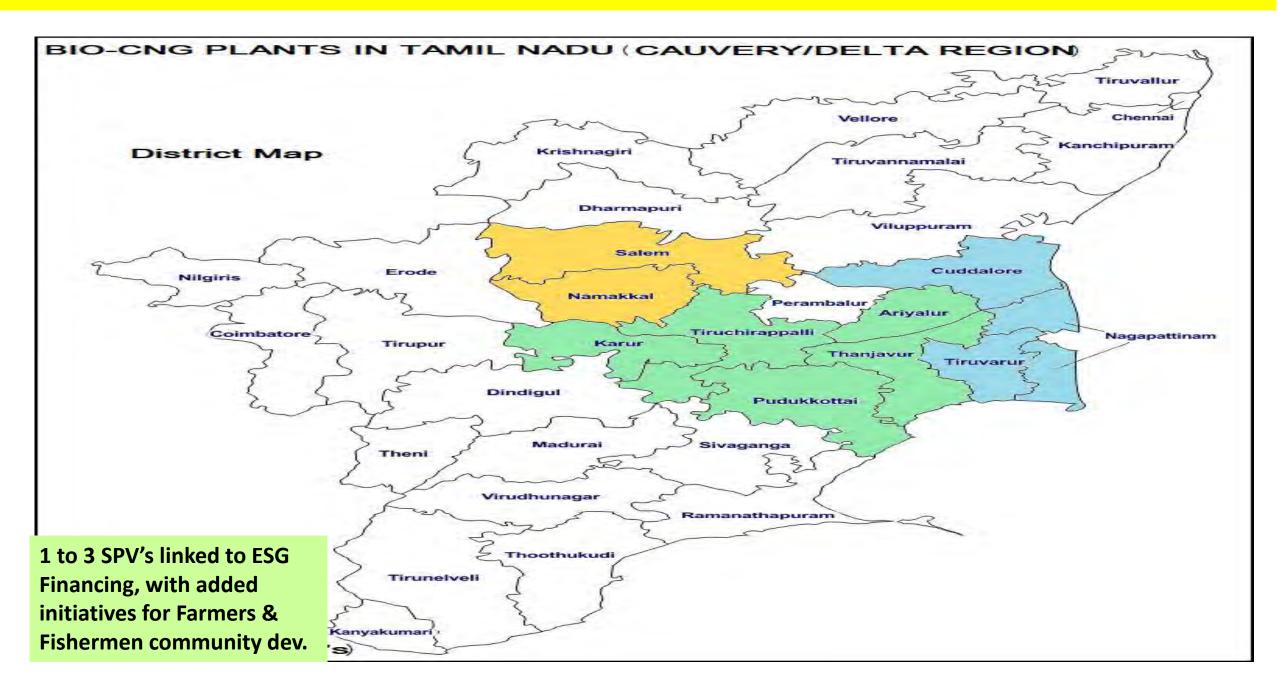
2 SPV's linked to Energy Majors goals for decarbonizing CNG/ PNG



CVC BIOREFINERIES PVT LTD (CVC-BR) BUSINESS PORTFOLIO (TAMIL NADU)



CVC - TAMIL NADU PORTFOLIO - SALEM & NAMAKKAL + DELTA DISTRICTS : 8 + 12 PLANTS



TAMIL NADU BIOGAS/ BIO-CNG PORTFOLIO (BACKGROUND FACTS)

- UNDP carried study of Environmental problems occurring from untreated Poultry Litter and Sago mill effluent, and potential to produce Biogas + Organic manure in Namakkal Districts. As follow up, they invited GAM to develop Biogas Power Plant program & sent support letter to TNERC & TEDA in support of tariff petition
- MNRE (Ministry of New & Renewable Energy) endorsed the program and Secretary wrote to Chief Secretary, GoTN proposing 100 MW Biogas Programme in Salem & Namakkal Districts.
- INTERNATIONAL INVESTMENT SUPPORT: Portfolio of 24 MW Biogas Power Plants was developed, which received "pre-construction" Term Sheet from DEG for 40% equity & 30% debt. Furthermore, Allianz Capital signed 'post construction" Term Sheet for 70% equity.
- <u>PPA ISSUES</u>: for various reasons TNERC took close to 3 years to pass Tariff order, against which TANGEDCO filed appeal in ATE (Appellate Tribunal for Electricity). These delays & simultaneous declining trends in Solar & Wind Power Tariffs, lead to the projects being kept in abeyance.



GAM has signed a MoU with the Grama Panchayat in Mohanur Block of Namakkal District and committed to develop a pilot project with a cumulative capacity of 6 MW consisting of three modular 2 MW biogas power plants (each producing 10,000 MT of organic fertiliser per year).

GAM proposed to implement the Pilot Project through an SPV named Pallava Water & Power Pvt. Ltd.

 GAM also filed an affidavit dated March 31st, 2009 with TNERC seeking a tariff of Rs. 6/KWh for biogas power plants.

We were made aware that TNERC has issued tariff order No. 2 of 2009 dated April 27th, 2009 for the conventional biomass power plants based on Rankine cycle (biomass boilers + steam turbines). This tariff order provided for a first year tariff of Rs. 4.5/KWh with a calibrated annual increase.

Globally, biogas power plants are often provided preferential tariffs. In the Indian context this would be important to take into consideration as the co-produced organic fertiliser would not only contribute to increased soil fertility and crop yields but would also reduce the impact of subsidies linked with chemical fertilizers.

5. GAM has progressed in identifying sites for the pilot projects as well as investors.

We were informed by GAM that - supported by the German Technical Cooperation (GTZ) - a seminar on Modular Biogas Power Plants + Organic Fertiliser units is being held in Chennai on July 29th, 2009.

UNDP would appreciate your attention to the above points and any assistance in the implementation of the pilot project. The immediate concern of our partners of a special tariff may hence be considered.

With regards

Arndt Husar Programme Officer

The Secretary
Tamil Nadu Electricity Regulatory Commission
No. 19A, Rukmini Lakshmipathi Salai
Egmore, Chennai – 600 008
Tamil Nadu

United Nations Development Programme

CC: Dr. R. Christodas Gandhi, Chairman & Managing Director, Tamil Nadu Energy Development Agency

Secretary Ministry of Renewable Energy letter to Chief Secretary Govt of Tamil Nadu



Deepak Gupta

SPEED POST

सचिव

भारत सरकार

नवीन और नवीकरणीय ऊर्जा मंत्रालय SECRETARY

GOVERNMENT OF INDIA MINISTRY OF NEW AND RENEWABLE ENERGY

D.O.No.14/1/2009-U&I

20th July 2011

De as Sheidarangi

Please refer to my D.O. letter of even no. dated 8th March 2010 in connection with 100 MW Bio Waste to Biogas + Organic Fertilizer programme in Salem & Namakkal Districts (copy enclosed).

I am glad to note that the Government of Tamil Nadu has recently stressed upon expanding Renewable Energy Generation to overcome current power deficit as well as ensure long term energy security. Early implementation of almost 100 MW Biogas Power Programme, based on wastes which could export 600 million kWh per year, could help meet some of the above goals of Government of Tamil Nadu. I understand that TEDA has approved a reasonable number of Biogas Projects in Salem & Namakkal Districts, which could be commissioned on fast track mode.

The other main advantage of early implementation of Bio Waste to Biogas programme in Salem & Namakkal Districts is that it would avoid significant environment pollution as well as produce much needed organic fertilizer, as per study carried out by UNDP in 2007 & 2008.

I understand that the only hold up for implementation of the above projects is TNERC award of tariff for Biogas Power Plants, which process has been pending for a long time. I hope this can be expedited. In the meanwhile, during September 2010, Haryana ERC has given tariff order for 5.6 MW poultry litter based Biogas Power Plant. Awarded tariff is apparently in line with request made to TNERC.

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ब्लॉक नं. 14. केन्द्रीय कार्यालय परिसर, लोदी रोड, नई दिल्ली 110003 Biock No. 14, CGO Complex, Lodi Road, New Delhi - 110 003 Tel.: 011-24361481, 24362772 - Fax: 011-24367329 • E-mail: secymnes @nic.in website: www.mnre.gov.in -2-

We have also proposed a mission approach for dedicated energy plantations for power. Mr. Gandhi had attended a National Workshop. A plan of action needs to be prepared. You may like to have this examined.

hills best wishes

Yours sincerely,

July with

(Deepak Gupta)

Enck As above

Shri Debendranath Sarangi Chief Secretary Govt of Tamil Nadu Secretariat Chennai – 600 009.

अध्यय अन्तर्भ से देश विक्रिय

नवीन और नवीकरणीय ऊर्जा मंत्रालय ब्लॉक नं. 14, केन्द्रीय कार्यालय परिसर, लोदी रोड, नई दिल्ली-110003 Ministry of New and Renewable Energy

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गाव गाव विजला, घर घर प्रकाश

TEDA ACCORDED PERMITS FOR BIOGAS POWER PLANTS (TEDA – Tamilnadu Energy Development Authority)

Company	Location	Capacity	TEDA Ref No. & Date
PWPL	Manjini, Salem District	2x400 KW	Lr.No.1291-6/TEDA/2010 dated 16.08.2010
PWPL	Sarvoy, Salem District	2x400 KW	Lr. No.1291-1/BE/TEDA/2010 dated 16.08.2010
PWPL	Metupatti, Namakkal District	2x2 MW	Lr.No.2299/BE/TEDA/2010 dated 21.12.2010
PWPL	Tholur, Namakkal District	2x2 MW	Lr.No.2299/BE/TEDA/09 dated 16.11.2009
PBEL	Nadavallur, Salem District	2x2 MW	Lr.No.1291-2/BE/TEDA/2010 dated 16.08.2010
PBEL	Valaiyamadevi, Salem District	2x2 MW	Lr.No.1291-3/BE/TEDA/2010 dated 16.08.2010
PBEL	Sarvoy, Salem District	2x2 MW	Lr.No.1291-1/BE/TEDA/2010 dated 16.08.2010
NBEL	Alanganatham, Namakkal District	2x400 kW	Lr.No.1291-8/BE/TEDA/2010 dated 19.10.2010
NBEL	Pottireddypatti, Namakkal District	2x2 MW	Lr.No.1291-8/BE/TEDA/2010 dated 16.08.2010

Total Permits for 26.4 MW in 9 defined sites. Permits are for Biogas Power Plants, with rating of 12,000 cu m Biogas/ day per MW.

6 sites for 2x2 MW, equivalent to 12 Nos 24,000 cu m Biogas/ day. TEDA is anticipated to Permit revision for use of Biogas to produce Bio CNG.

TNPCB ACCORDED PERMITS FOR BIOGAS POWER PLANTS (TNPCB – Tamilnadu Pollution Control Board)

Company	Location	Capacity	TNPCB Ref No. & Date
PWPL	Manjini, Salem District	2x400 kW	No.5884 dated 15.05.2012
PWPL	Metupatti, Namakkal District	2x2 MW	No.107 dated 23.10.2012
PBEL	Nadavallur, Salem District	2x2 MW	No.DEE/SLM/Estt-0107/A-2011 dated 15.11.2011
PBEL	Valaiyamadevi, Salem District	2x2 MW	No.5824 dated 15.05.2012
NBEL	Alanganatham, Namakkal District	2x400 kW	No.5662 dated 12.10.2011
NBEL	Pottireddypatti, Namakkal District	2x2 MW	No.5603 dated 12.10.2011

Total Permits for 16.8 MW in 6 defined sites. Permits are for Biogas Power Plants, with rating of 12,000 cum Biogas/ day per MW.

4 sites for 2x2 MW, equivalent to 8 Nos 24,000 cu m Biogas/ day. It is anticipated that fresh Permits will be issued for use of Biogas to produce Bio CNG.