



Biogas Upgrading & Bottling Experience in Warna Sugar Mills

About SREL

- SREL is a Private Limited Company focused on Renewable Energy Sector particularly in biogas from waste and produced (BioCNG) / Power
- SREL draws on the best engineering, microbiology, construction engineering and state of the art well proven equipment, servicing and financing capability available to implement innovative and customized solutions for biogas as part of a sustainable society.

Mission Statement

- SREL making strides for reducing emission by using waste derived from Agriculture sector & providing organic manure for improving quality & quantity of yield for the farmers.

FIOBS

- Waste reduction
- Biogas production
- Organic fertilizer
- Organic Farming
- Agricultural processing

Centre for Entrepreneurship & Industries Development Approach

- To pay attention to available biodegradable substrate , and biogas in the regions,
- Demonstrate successfully the renewable energy model, and
- Co-operation with the industries and farmer in a symbiosis manner.

Scale up & Initial trials



BioBrowser at Warna Site

- Initial trials of substrate efficiency for gas production has been studied in R&D Lab with other potential sources and scale up at BioBrowser
- Collaborations with academicians, Researchers, Scientists and Research Institutes.



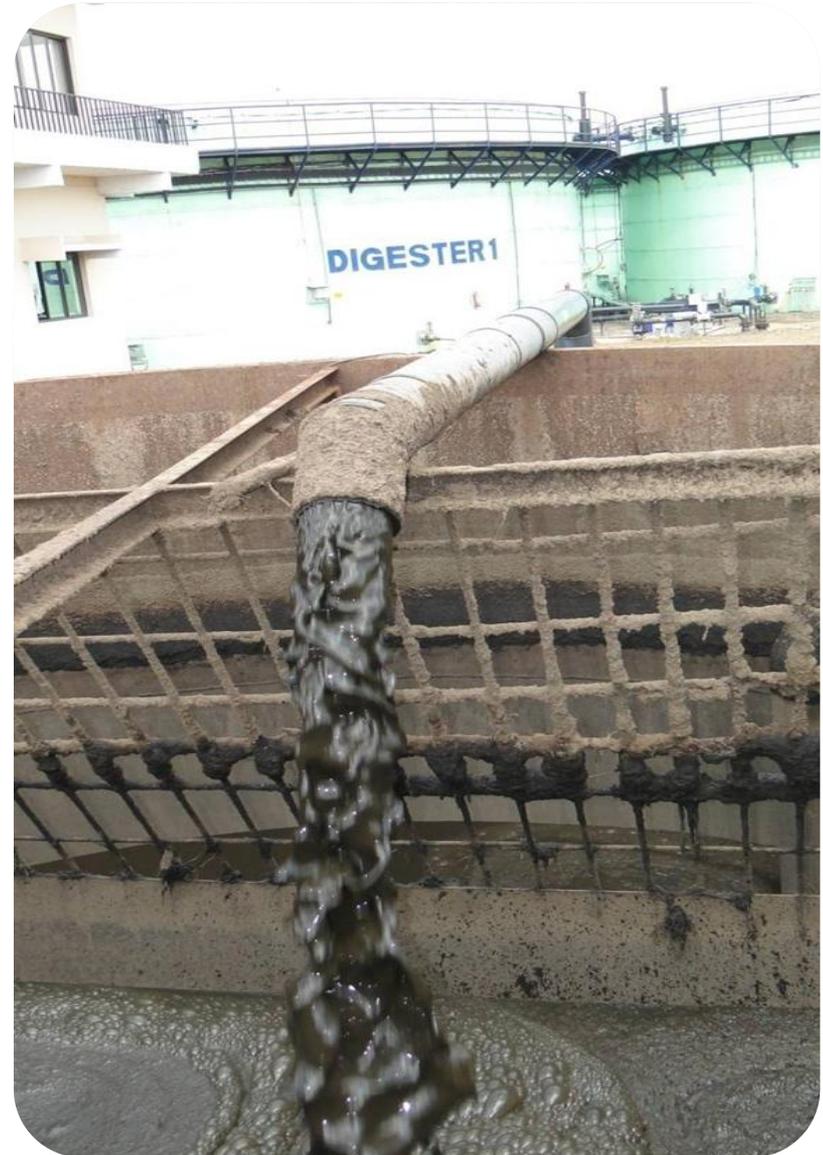
R & D Lab

Pilot Plant at Warnanagar Site

- Substrate = Pressmud
- Loading Rate = 3.2 kg.VS/ day
- Raw biogas = 8000 m³/ day



Feed tank & Feeding system



Feeding pipeline and digester



Biogas holder

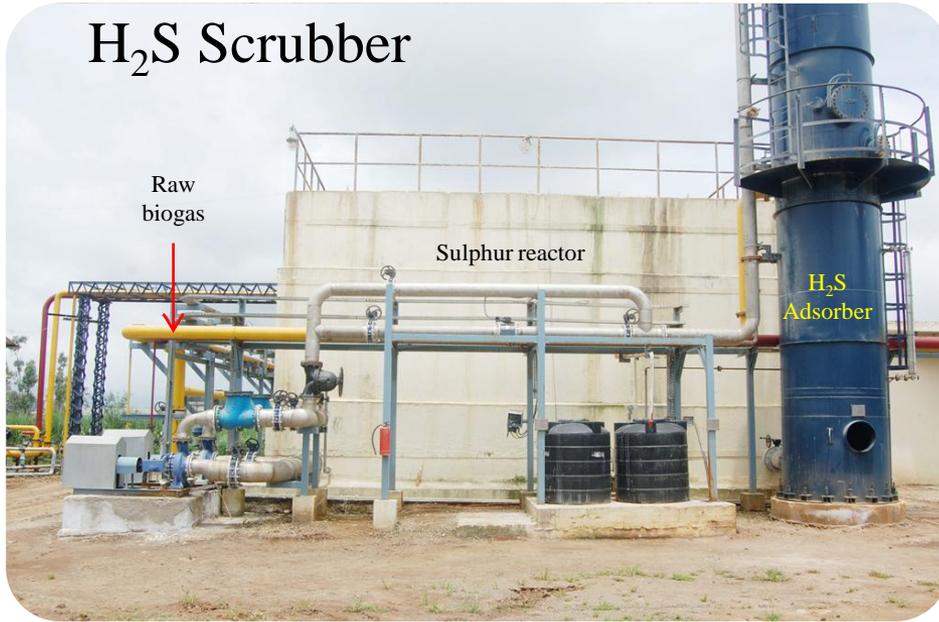


Solid- Liquid Separator



Biogas cleaning system

H₂S Scrubber



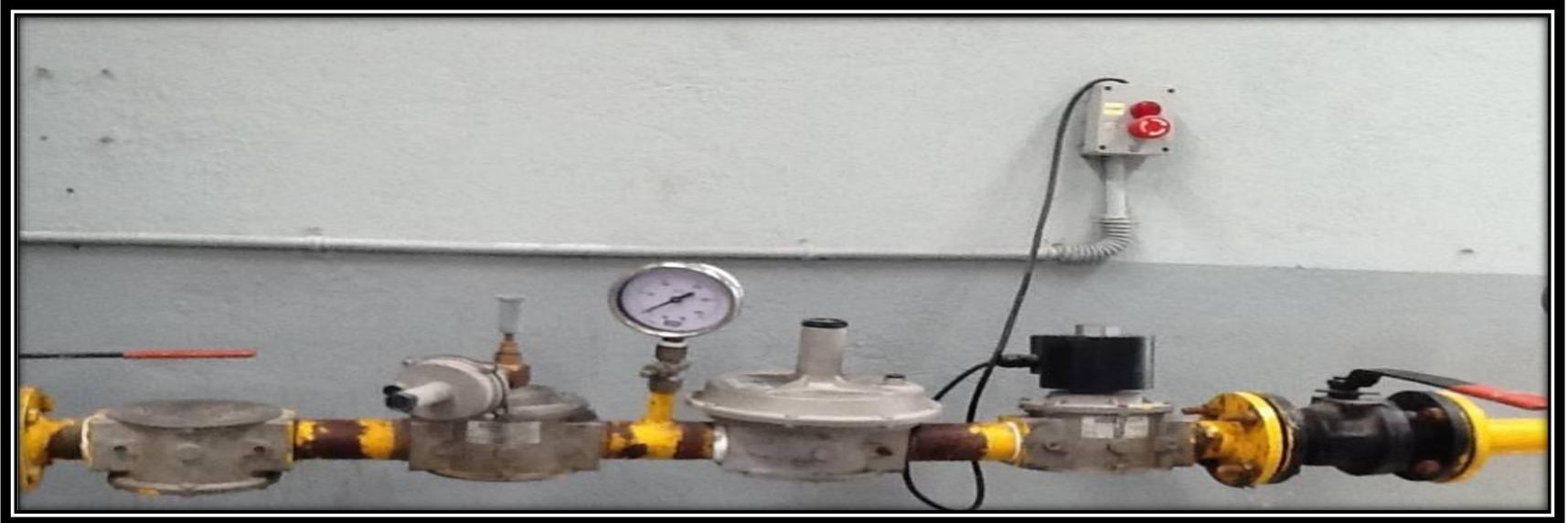
CO₂ Scrubber



Filling station



PRS System

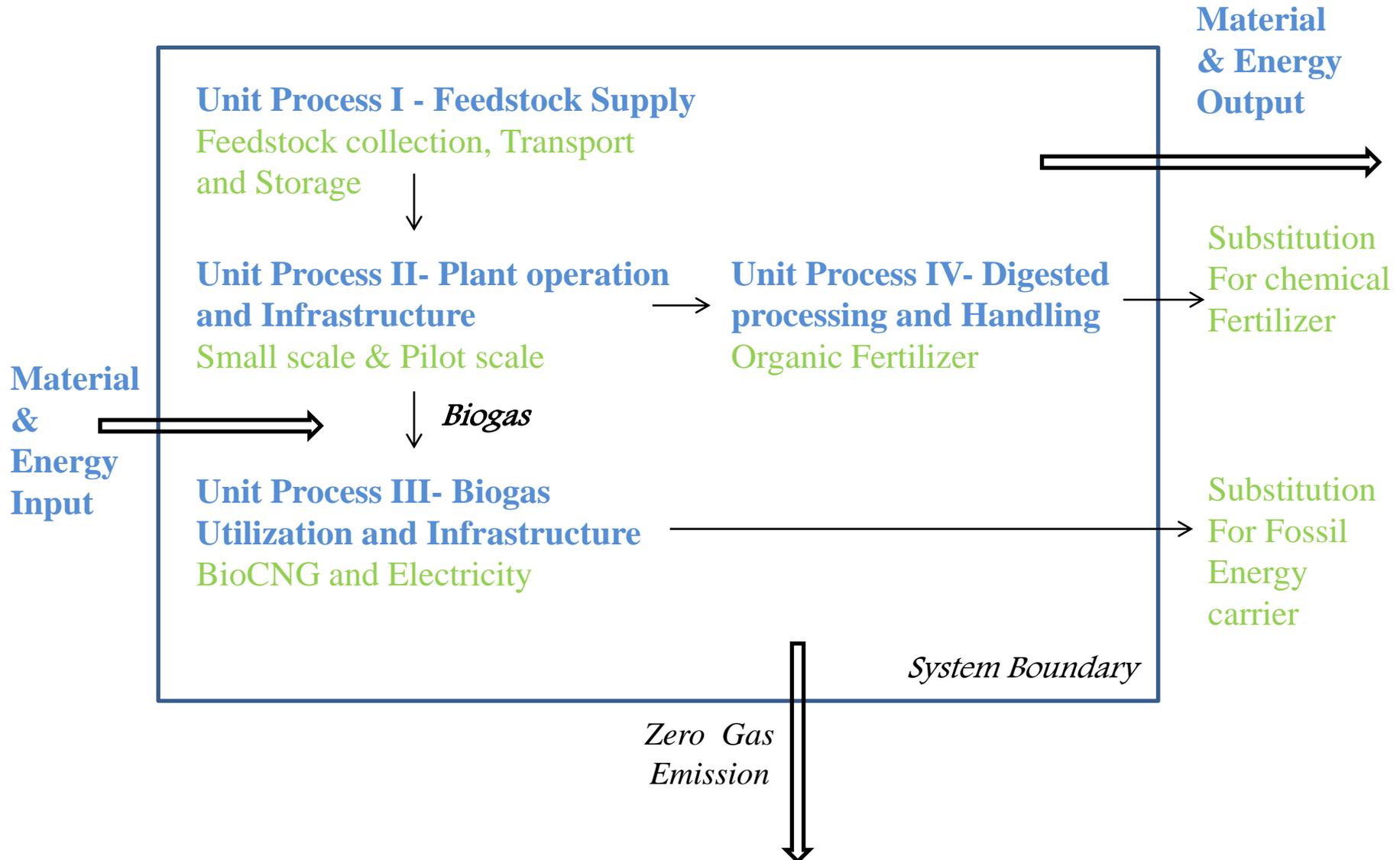


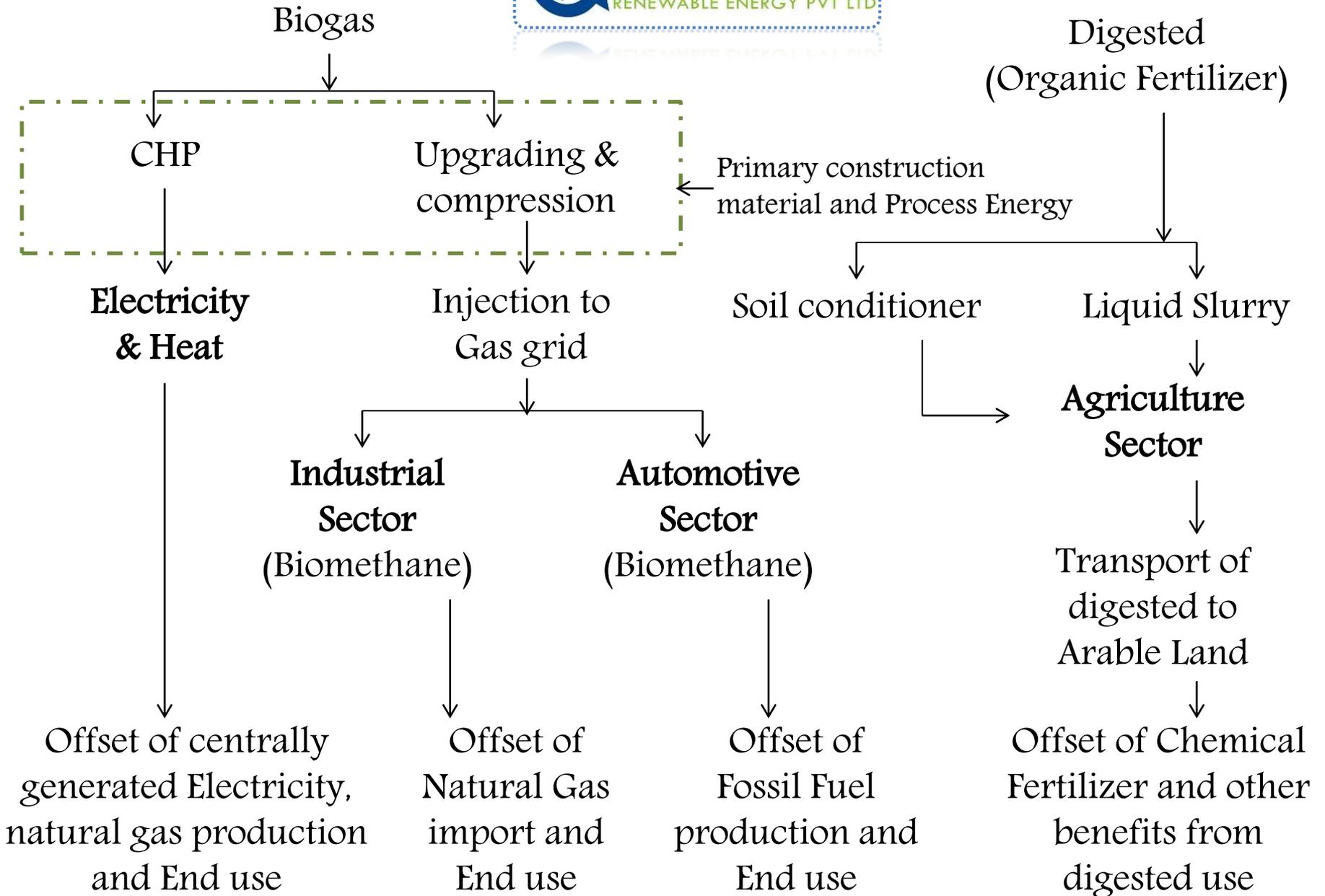
CHP Unit



Capacity : 360 Kw/h

Spectrum Life Cycle Assessment

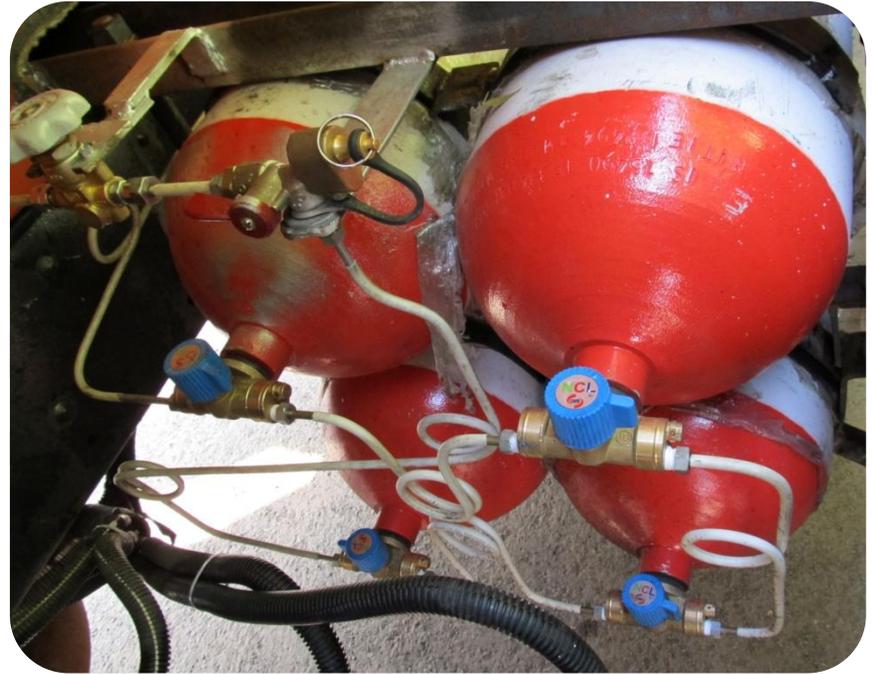




BioCNG Cascade



Automobile sector



Spectrum Organic Fertilizer



Spectrum Liquid Slurry

Spectrum Enriched Soil Conditioner

Organic manure based Farming



Cabbage each Weighing 2.5 Kg

Сәбәзге әрсыр Мейрмүләр 2,5 КҖ



Farmer Association



SREL WANTS TO BE THE UNDISPUTED LEADER IN THE USE OF BIOGAS AS AN ENERGY SOURCE BY OFFERING A TOTAL SOLUTION EITHER ON BUILD, OWN & OPERATE (BOO) OR BOOT BASIS.

We offer a total solution as shown below :

Prepare the complete engineering plans for the project based on the substrate lab test report.

Obtain all permits & approvals from authorities on the site acquired by SREL.

Raise total funding in the form of equity and debt.

Construct the plant within twelve months from the financial closure using high quality systems / components.

Generate Biogas 4 months after the completion of the construction.

Clean the Biogas for in-house power and for the grid or use the bio CNG for vehicular application.

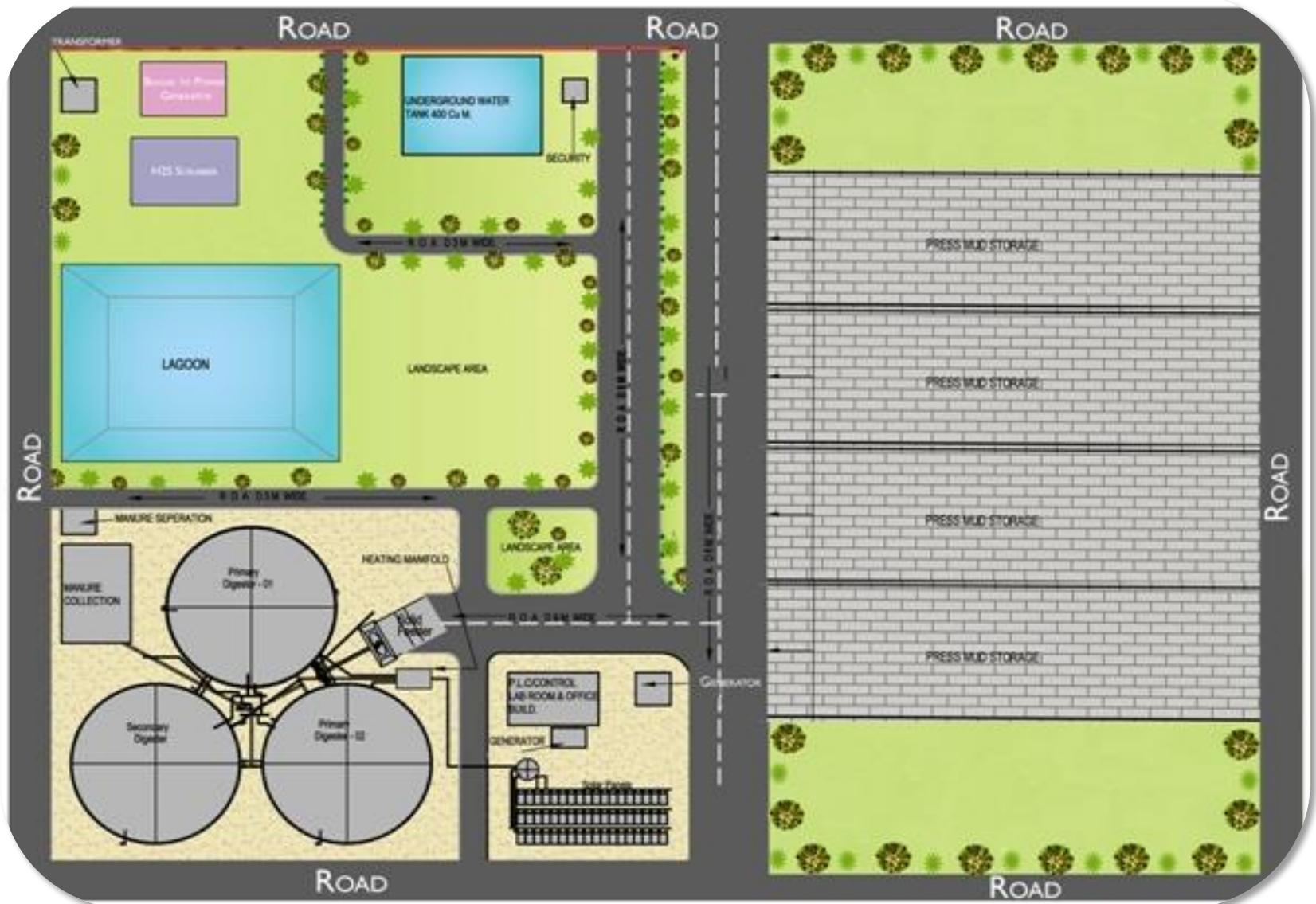
Sell the Power to Local Grid Company/Other Commercial Consumers.

Transfer the plant upon achieving the agreed IRR.

ALL WE NEED FROM OUR CUSTOMER IS THE GUARANTEE SUPPLY OF THE SUBSTRATE & WE DO THE REST USING WORLD CLASS ENGINEERING AND EQUIPMENT FOR THE PRODUCTION ENERGY.



Bakhera Project



Subsidy template



- Recognition of Bio-CNG plant as an Integrated biogas-fertilizer-compressed gas entity
- Capital Subsidy by the Ministry of New and Renewable Energy on the total capital cost and not on components at par with policy for Solar and Wind Energy.

Conclusion

- We do it all from conception to finishing line with our own funds, MNRE support and governmental agencies and other companies who worked and supported us.
- Now we are working on growing our own substrates with our own Fertilizer - that's the next challenge for a cleaner and a better environment.
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- Bring the challenges to us if somebody has a similar challenge like Warana to work together to make this possible.
- For the first time, there is a real opportunity to empower Rural India with their own energy and fertilizers.



THANK YOU

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SREL Team