Sustain Plus Energy Foundation is a multi-stakeholder collaborative platform that leverages the power of decentralised renewable energy (DRE) to catalyse social, economic and environmental impact more equitably and at meaningful scale.

Mainstreaming Biogas and Organic Manure in Rural Ecosystems

As the largest producer of milk, and home to the largest livestock population worldwide, India has enormous bio-energy potential. Recent developments in decentralized bio-gasification and dairy processing technology have led to a renewed momentum in the biogas sector. With a projected market potential of $22.5 billion by 2030, the industrial scale segment of India’s biogas sector has significant growth potential.

Through its ‘Waste-To-Value’ approach, Sustain Plus aims to work on small and medium market segments through community centric delivery models that are embedded within agricultural and dairy ecosystems and deliver direct value to rural households.

Collaboration for Scale

Our vision of enabling a decentralised gobar economy is a solution to a large scale problem. Leveraging partnerships is critical for households in India to gain access to safe, affordable, and clean fuel and food systems. National Dairy Development Board, one of our key partners, have aligned with us to accomplish our goal across 7 states. We have also collaborated with varied institutional, grassroot and private sector stakeholders across dairy and agriculture value chains, including, SBI Development Research Foundation, Kolhapur Milk Union, Banas Dairy, Sistema.bio, Saaf Energy, Grassroots Innovation Initiatives (CInI), and is a leading effort to transform the fabric of climate action in India.

Sustain Plus Energy Foundation

No.3, 14th Main Rd, Agara Village, 1st Sector, HSR Layout 5th Sector, Bengaluru, Karnataka 560102

contact@sustainplus.org

www.sustainplus.org

Design by Off Centre Collective

Set-up in 2019, Sustain Plus Energy Foundation is a solution-oriented collaborative platform that drives effective and inclusive implementation of biogas and other renewable energy technologies in rural ecosystems. Sustain Plus works at the intersection of sustainable development and renewable energy, to accelerate development action by ensuring affordable, reliable, sustainable and modern energy for development. Under this mandate, Sustain Plus focuses on 6 prominent solution themes:

Production Hubs | 20,800+ HHs

The farm sector holds significant potential for socio-economic transformation, and a sustainable energy access can enhance farmer incomes, optimise production costs, reduce drudgery and strengthen the farm ecosystem in conjunction with other support services.

Waste to Value | 3,000+ HHs

Solutions to enable circular biogas based economies and unlock the economic potential of waste to generate energy, biogas for clean cooking, and organic fertilizer to enhance soil quality and reduce input costs for farmers.

Clean Mobility | 800+ HHs

Fostering inclusive micro-entrepreneurship for men and women in the clean mobility space for livelihoods, energy access and integration of energy efficient services.

Health | 14,600+ HHs

Enhancing rural medical services through solar powered energy solutions and integration of energy efficient appliances for PHCs.

Cold Chain Solutions | 13,200+ HHs

Customised, multi-sectoral cold chain solutions across cooling spectrums ranging from sub-zero to 18°C for pharmaceuticals in the agriculture, livestock and health value chains.

Modular Technology Solutions

Biodigester technology has evolved from traditional brick and mortar biodigesters to offering new age, biogas plants that are characterised delivery at a small scale. These solutions come in a range of capacities and designs, offering portability, ease of installation and modularity for varied contexts and applications.

Innovative enterprise based models that aggregate livestock waste locally to serve larger clusters are also being delivered. Such models or block chain scale ‘pay-per-use’ piped biogas can be replicated for households and institutional consumers to unlock the economic potential of waste to generate biogas for clean cooking, and organic fertilizer to enhance soil quality and production costs for farmers.

Institutional Delivery Models

Local production of PROM (Phosphate Rich Organic Manure) by community based organisations and dairy clusters, plus bio-fertiliser production. Such venture delivery models are being developed to ensure that livestock waste is created value within rural ecosystems.

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India is one of the largest producers of gobar (cow manure) since the 1990s. The economic potential and socio-ecology of gobar in India has immense scope for value creation and to enable just energy transitions.

\[\text{prevailing uses of gobar management and use are polluting.}\]

\[\text{Ancient practices of gobar management and use are polluting.} \]

\[\text{Yet, despite over 41 years of India's biogas programs, the potential of biogas and the centre of an ecologically sound and economic revolution remains untapped.} \]

CHANGING THE NARRATIVE: Waste to Value

Enabling circular food production systems that recycle livestock waste in an environmentally and environmentally sustainable way will drive transitions toward clean cooking in rural homes and enhance sustainable agriculture practices for better productivity, soil health and improved resource utilisation.

\[\text{managed right, gobar has the potential to deliver more nitrogen, phosphorus and other valuable minerals to India's farms lands than any other fertilizer.} \]

\[\text{By leveraging India's cooperative based dairy value chains, which are legally owned and managed, and a decentralized 'gobar economy' most of the most disadvantaged and marginalized sections of India.} \]

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\[\text{Value Chain Drivers} \]

Positioning

\[\text{Modern anaerobic bio-digester technologies deliver two products, biogas and organic manure. The value proposition and viability of both products should be clear to users. Users should be enabled to make an informed purchase decision.} \]

Institutional strengthening

\[\text{Localised slurry management and processing should be architected with community organisations to derive the maximum benefit from the slurry value chain. Institutions need to be involved to provide certicable benefits and process slurry to establish market demand and maximise economic returns.} \]

Community awareness

\[\text{The economic potential and socio-ecological benefits of slurry need to be explicitly communicated to target users.} \]

Agri-lifecycle based outcomes

\[\text{For slurry/PROM to be adopted and used as a key cultivation ingredient, interventions must align with agricultural lifecycles to generate experiential user evidence on the benefits of slurry.} \]

\[\text{New business and employment opportunity} \]

Serviceability

\[\text{As new bio-digester technologies enter rural markets, maintaining positive user experiences is paramount, and localized service and maintenance centres are critical to ensure seamless access to services, as well as long term operational viability.} \]