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 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, improved connectivity, safety, and local logistics.

Health | 44,500+ HHs

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

Non-farm Rural Livelihoods | 600+ HHs

Harnessing DRE to energize small rural micro-businesses and enterprises for improved operational efficiency, productivity and new livelihood opportunities.

Cold Chain Solutions | 13,200+ HHs

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

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 decentralised bio-digester and slurry processing technologies has led to a renewed momentum in the biogas sector. With a projected market potential of $2.25 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.

Modular Technology Solutions

Biodigester technology has evolved from traditional brick and mortar biodigesters, to offering new-age innovations and modularity for standardised 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.

Institutional Delivery Models

Innovative enterprise based models that aggregate livestock waste locally to serve larger clusters are also being implemented. These include a village scale 'pay-per-use' piped biogas model, and bottled bio-CNG for households and institutional consumers, plus bio-fertiliser production. Such versatile delivery models are being developed to catalyze large-scale transformations of livestock waste to create value within rural ecosystems.

PROM Development and Diffusion

Local production of PROM (Phosphate Rich Organic Manure) by community based organisations and farmer collectives adds immense market value to aggregated slurry. In addition to generating diversified revenues for households, biofertilizers enrich soil quality and production with their rich nutrient value. PROM units also incentivize the adoption of biodigesters in communities and catalyze circular food production systems locally.

Collaboration for Scale

Our vision of enabling a decentralized 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, BAIF Development Research Foundation, Kolhapur Milk Union, Banas Dairy, Sistema.bio, Saaf Energy, Grassroots Energy Inc and others.

SUSTAIN+
FOUNDING PARTNERS
CInI SOCIAL alpha

Set-up in 2019, Sustain Plus Energy Foundation, is conceived and cofounded by Social Alpha, Selco Foundation and Collectives for Integrated Livelihoods Initiatives (CInI), and is a leading effort to transform the fabric of climate action in India.

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Designed by Off Centre Collective

SUSTAIN+

Ensuring affordable, reliable, sustainable, and modern energy for development

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.

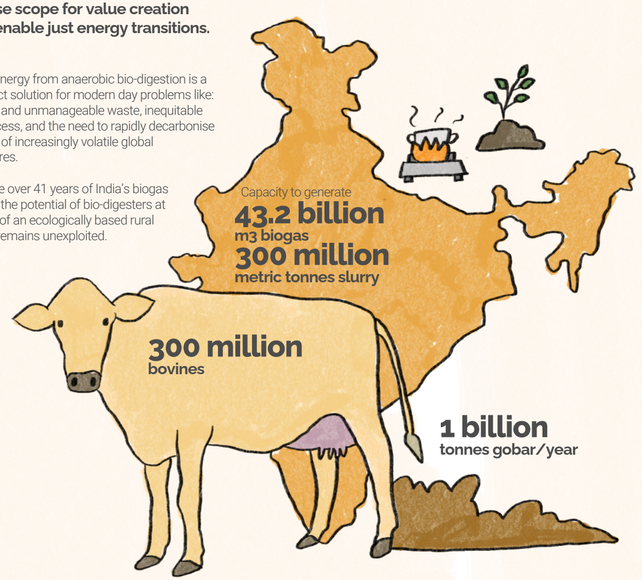
Waste to Value

India is one of the largest producers of gobar (bovine 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.

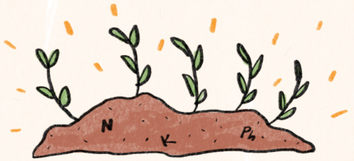
Sourcing energy from anaerobic bio-digestion is a near perfect solution for modern day problems like: increasing and unmanageable waste, inequitable energy access, and the need to rapidly decarbonise in the face of increasingly volatile global temperatures.

Yet, despite over 41 years of India's biogas programs, the potential of bio-digesters at the centre of an ecologically based rural economy remains unexploited.



Prevailing practices of gobar management and use are polluting. Untreated gobar is used directly as manure, contaminating groundwater and emitting methane, with a 25 times higher GHG effect than CO_2. Heaped gobar also spreads diseases from unsanitary living conditions, especially in monsoons when its disposal is challenging.

By leveraging India's cooperative based dairy value chains, which are largely centred around small and marginal farmers, the socio-economic benefits of **a decentralised *'gobar economy'*** can be catalysed to serve the most underserved and marginalised sections of India.



Managed right, gobar has the potential to deliver more nitrogen, potash, phosphorous and other valuable minerals to India's farm lands than chemical fertilisers provide, besides helping the country keep its pledge of reducing the 'emissions intensity' of the economy.

CHANGING THE NARRATIVE: Waste to Value

Enabling circular food production systems that recycle livestock waste in an economically 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.

Namaste! I am Ram Singh, a farmer and milk seller from Soraon village in Pratapgarh, UP. We are a family of 6, with my wife, 2 children and elderly parents. We cultivate our 1.5 acre farmland to produce grain and vegetables for food; and sell the milk of our 3 cows to earn some income. While I take care of farming and the cows, my wife looks after the home and spends several hours a day collecting firewood for cooking. The chulha also affects her eyes and lungs, but we do not have a choice, as LPG is too expensive to use everyday. I want to increase my income and support my wife better. But how?

Conservation of agricultural land
Improved **soil health** and nutrient rejuvenation
Improved agricultural productivity

Improved **food security** and nutrient value

Reduced dependence on chemical fertilizers and pesticides
Savings ~**Rs 5,000** per season

Affordable and sustainable **clean cooking**
65% reduction in biomass-based cooking
25% saving on fuel costs
75% saving on annual LPG refills (~Rs. 4,000)

Integration of bio-fertilizers in agriculture practices
New markets, revenues, jobs

Positive gender outcomes
reduced fuel collection drudgery and time saved (4-5 hours / day), shared feedstock management

Appropriate management of cattle waste
Reduced methane emissions
from exposed gobar stockpiles
Reduced GHG emissions and odour

Methane capture and use

Direct application of slurry by farmers

It has been 2 years since I installed the bio-digester at home and many things have changed. We hardly use our chulha anymore; my wife cooks on the biogas stove and her health is much better. She doesn't spend time collecting firewood either. I have been using the slurry in my fields as fertiliser, insecticide spray, and even for vermicomposting. The quality of produce in my fields has improved and fetches me good prices. My expenses on chemical fertilisers have also reduced. I sell any excess slurry left , which further adds to my income. Together, my wife and I manage the operations of the bio-digester and are glad we invested in it.

Positive health outcomes
Protection of local water resources by reduced nutrient runoff and destruction of pathogens
Reduced exposure to smoke from biomass cooking fuel

Sale of slurry Diversified farm income (~Rs 10,000 p.a.)

PROM FACILITY

Creation of PROM processing centres and value chains
New business and employment opportunity

Value Chain Drivers

Positioning
Modern anaerobic bio-digester technologies deliver two products, biogas and organic manure. The value proposition and viability of both products should be user focused and equally established for individual and institutional end users to make an informed purchase decision.

Institutional strengthening
Localised slurry management and processing should be anchored with community institutions to derive the maximum benefit from the slurry value chain. Institutions need to be supported with technical and business planning to manage and process slurry to establish market demand and maximise economic returns.

Community Awareness
The economic potential and the health and ecological benefits of bio-digester solutions need to be explicitly communicated to target users.

Agri-lifecycle based outcomes
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, and its differentiators from chemical fertilisers to establish market demand.

Serviceability
As new bio-digester technologies enter rural markets, maintaining positive user experience is paramount, and localised service and maintenance outlets are critical to ensure prompt troubleshooting and minimal downtime, as well as long term operational viability.