

## **Key Project Information for the proposed Gold Standard Programme of Activities (PoA): “Integrated Domestic Energy Systems (IDES) for rural communities in India”**

The Energy and Resources Institute (TERI) is India’s leading energy and environmental research institute, based in New Delhi working in the fields of energy, environment, and sustainable development. Value Network Ventures Advisory Services (VNV) is a social enterprise based in Singapore and working with communities for community-based solutions to climate change mitigation. Now, the TERI and VNV have joined hands to initiate a Gold Standard microscale Programme of Activities (PoA) that involves providing access to clean and affordable cooking energy services along with solar home lighting systems in various states of India (in particular, poor rural households / urban slum dwellers and SMEs like community kitchens, mid-day meal programs, etc.)

The PoA aims at establishing an ecosystem, driven by self-sustaining market value chains, for the dissemination and maintenance of clean household energy technologies. It includes an Integrated Domestic Energy System (IDES) which provides a comfortable level of illumination in one or more rooms of a house along with an improved cookstove (ICS). The IDES consists of a PV module, charge controller, battery, forced draft solar power assist ICS, and luminaire(s). It involves providing access to clean and affordable cooking energy services along with solar home lighting systems in various states of India through the dissemination of improved, energy-efficient forced draft technology-based biomass cookstoves (ICS) replacing the use of traditional / non-efficient biomass cookstoves and Solar PV home lighting system which will replace fossil fuel (kerosene, etc.). The reduction in biomass fuel and fossil fuel consumption will result in the reduction of greenhouse gas emissions associated with the use of non-renewable biomass as well as fossil fuel. The technical specification of

the stove model and the Solar PV system that will be disseminated under the PoA is given below:

### **Stove Model Specifications**

|                                    |   |
|------------------------------------|---|
| Stove model                        | IMPMUD TERI SPF_0414  |
| Stove type                         | Front loaded forced-draft, medium sized stove (fixed)                       |
| Efficiency                         | 35.52%  |
| CO                                 | 3.63 mg/MJd   |
| PM                                 | 107.56mg/MJd  |
| Fuel consumption                   | 2-2.5kg/h   |
| Application/service level          | Domestic cooking  |
| Fuel type                          | Fuel wood along with crop residue and cow dung etc.                         |
| Power supply                       | 12V DC  |
| Fan type and details               | 60*60*25mm 12V,0.45-0.7A  |
| Customizations to suit local needs | GI portability with feeding door<br>Tray portability with 80*80*60mm fan GI |
| Operational Lifetime               | 7 years   |

### **SOLAR PV system**

|               |                     |
|---------------|---------------------|
| PV capacity   | 50 W                |
| PV efficiency | 10.23%              |
| PV area       | 0.18 m <sup>2</sup> |

|                              |  |
|------------------------------|--|
| Availability factor of Solar | 20 %                                   |
| Solar Irradiation            | 5.5 KWh/sq.m                           |
| Battery                      | 12 V – 20 Ah Lead Acid Tubular flooded |