

# Integrated Domestic Energy Systems (IDES) for Clean Energy access and clean cooking in rural households in India



## Project Implementation

The project activity aims at establishing an ecosystem, driven by self-sustaining market value chains, for the dissemination and maintenance of integrated lighting & clean cooking technologies.

The proposed project activity 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 cook stove (ICS), displacing fossil fuel use, such as in fuel-based lighting systems, stand-alone power generators, and fossil fuel based mini-grids. The IDES consists of a PV module, charge controller, battery, ICS (forced draft) and luminaire(s).

The reduction in biomass fuel consumption will result in reduction of greenhouse gas emissions associated with use of non-renewable biomass.

Lighting from the solar panel not only provides a high quality solution to improve rural productivity, but also substantially reduces health hazards by enabling replacement of kerosene lamps.

Annual average emission reduction over the crediting period

**50,000 tCO<sub>2</sub>**

Number of Systems

**20,000**

Duration of the Project

**5 Years**



## Location

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**Country:** India

**State:** Bihar, Jharkhand, Madhya Pradesh and West Bengal



### Indoor Air Quality

Family members will be exposed to fewer air pollutants by the reduced emission of black carbon, carbon dioxide, carbon monoxide & other particulate matters.

50,000 people will benefit from improved air quality.

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### Energy Access

Family members have access to electricity for their daily activities from the solar based PV systems. This access is beneficial for both regular lighting as well as adaptation during disasters such as floods.

50,000 people will have better access to clean energy.

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### Women Empowerment

Women members trained under the project have been instrumental in addressing any technical faults in the solar-powered system that may arise. They form a chunk of the maintenance teams, also aiding in enhanced employment for the women.

### Girl Child

The girl child now has access to lighting in the evening, which helps with imparting of education in the rural areas. The ICS helps with a smoke free environment at home, which is essential for children.



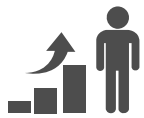
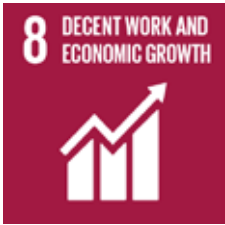
### Additional Time

Reduction in wood consumption implies relief from drudgery and more opportunity for productive activity, arising from less time spent collecting fuel.

10,000 women will benefit from these technologies.

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### Human & Institutional Capacity

The programme as part of its large-scale promotion and advertising has facilitated capacity development among the employed staff through trainings and workshops.



### Employment Opportunities

This programme has given rise to employment opportunities for new technicians, assistants, office staff and other related jobs.

Local people will have more job opportunities as a result of the project.

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### Livelihood Benefits

Circumstances of poor families has improved since the stoves reduce fuel cost. The new cook stove uses less fuel, which in many areas can be a scarce resource or very expensive to buy.

50,000 beneficiaries will have a better standard of living.

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### Mitigation of Climate Change

One of the many goals of the project is to reduce greenhouse gas emissions through the dissemination of these improved cook stoves.

Total ERs will be in the range of 125,000 tCO<sub>2</sub>e



### Climate Adaptation

Economic development, technological progress and targeted adaptation interventions help reduce flood impacts over time. In this project, the beneficiaries are trained to dismantle the IDES systems and reuse them in the flood camps.

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### Conservation of Biodiversity

Impact on the region's biodiversity is improved as the programme reduces pressure on the remaining forest reserves.

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## VNV ADVISORY

VNV Advisory Services has been at the forefront of working with climate change and livelihoods. Our decade-long experience has seen us develop low-carbon projects that support these communities in getting their basic needs while adapting to and mitigating the harsh impacts of climate change. We work in areas of clean cooking, social forestry, sustainable agriculture, rural energy access and many other related community based technologies. With support from over 40 NGOs and implementation partners, our work encompasses over 4 million rural households and 50,000 hectares of forest areas under management across the South Asian (India, Bangladesh, Nepal, Laos, Myanmar and Sri Lanka) region. We have also been able to engage with businesses to address issues of Social Responsibility, Environmental Sustainability and Carbon Neutrality.





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