



Abellon CleanEnergy

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Building a Unique, Sustainable, Decentralized Biomass Collection Model for Biomass Pellets manufacturing and Bio-Power Generation in India

CASE STUDY



Figure 1: Farmer is getting biomass to Abellon's Collection Hub

Summary

Uninterrupted biomass supply is critical to bioenergy. India has abundant agricultural biomass. However, the key challenges are:

- Perception of biomass as “waste”. Farmers do not see any value in collecting and supplying biomass.
- Biomass collection, processing and transportation complexities.
- Abellon’s award winning, decentralized biomass collection model.
- Value from waste - monetary compensation as incentive for farmer participation.
- Collects biomass within 50km radius of facility, reducing logistical complexities and costs.
- Involves “*Poornaparivartaks*” – local rural entrepreneurs who collect biomass from farmers and supply to facility.
- Combines on-field and on-plant processing infrastructure, ensuring biomass load optimization.



Objective of Intervention

Showcasing a model for decentralized biomass collection in India, involving rural communities, that taps into the potential of bioenergy to meet the country's growing energy needs, while delivering multiple economic, environmental, and social benefits.

Description of Intervention

The company has invested significantly in this intervention on multiple fronts including Awareness programmes for farmers on "biomass as a resource" to change mind sets and practices such as open burning. Development of collection/processing infrastructure, including setting up fully-equipped and manned local collection hubs, and making available advanced collection and processing equipment. Payments to farmers/local entrepreneurs: Farmers get INR 600/tonne, local entrepreneurs + labour force get INR 1000/tonne of biomass, thus adding to their income. Positioning of pellets & pellet appliances for heat generation vs. fuels such as Diesel/LPG for higher economic realization to customers/farmers. Engaging with rural communities on continuous basis through the platform of Krishisabhas – farmer meets conducted in collaboration with leading agricultural universities and experts.

Intangible or Tangible Benefit

Rural communities:



- Income/employment: Farmers - INR 600/tonne, local entrepreneurs + labour – INR 1000/tonne of biomass.
- Environment/health: Preventing open burning reduces CO₂, CO, other local pollutants.
- Farmers' training—1700 meets, 12500 farmers, 250 villages.

Customers:

- Payback period: 3–6 months of purchase
- Safe & user-friendly fuel.
- Environment— Replacing coal/diesel/gas with 1 tonne of pellets can reduce 1.3 tCO₂ emissions; 5.4 lakh tCO₂ reduced (up to 2014, India).

About Abellon CleanEnergy

Abellon Clean Energy is a sustainable energy solutions provider focusing on bioenergy, solar, and other forms of clean energy. A modern bioenergy pioneer in India, Abellon's global presence extends across North America, Europe, and Africa, through pellet and appliances manufacturing/marketing networks, bio-power, solar, energy farming, and technology development operations.