

Pollution Preventing System

(Pollution controlling system for drum roasting cashew processing units)

Technology Description

§ A Pollution Preventing System for controlling the effluents emitted from the traditional "Drum Roasting" process in cashew factories. § The system is designed to remove heavy carbon particles as well as the polluting gases generated during the conventional drum roasting process. § That is by removing the particulate matter leaving only steam outside. § The system consists of a Gas Scrubber and a Biological Engine.



Name Of institute:
CEPC Laboratory and Technical Division,
Cashew Bhavan, Mundackkal, Kollam.
Stage of development: Commercialised
Patent status: Filed

Scientific Experts:
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Background

Atmospheric pollution is one of the major problems with drum roasting cashew processing units in India. The national pollution board has stopped working of many such units in many states. As the cashew processing is employing mainly women folk i.e. estimated 6 lakhs, closure of processing units will directly affect the working population. The PPS can address this problem by containing the carbon emission from the chimney as well as the purification of water

Benefits / Utility

The technology not only ensures low emission of pollutants to the atmosphere; but also makes sure that the absorbed pollutants in the water are decomposed biologically. This was done by the bioremediation (microorganisms) of biologically degradable hydrocarbons into CO₂ and H₂O and thereby recycling the contaminated water too. These two features have certainly helped in a

Country
India

Scalability
Large Scale

Business and Commercial Potential

Business Potential: India process about 1.18 million MT of raw cashew seeds through 3650 cashew processing industries scattered in many states of country. Approximately 1500 of this cashew processing unit's use drum roasting method for raw cashew nut processing. Hence the business potential for this technology is enormous. Market potential: Modified version of the system is being tried in another cashew processing unit for preventing the smoke from the borma chimney. This

Potential investors to this technical innovation

Companies that develop and install Cashew Processing Machineries.
Companies that develop water scrubber



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Financials

VALUE OF THE TECHNOLOGY: Project cost: Innovating team/organization's margin 15%= approx Rs 10,000/- (from the profit margin), Revenue to be generated by tech commercialization= approx Rs 75,000/- (profit/unit gained)

Tech commercialization fee to be charged from one licensee= 4 Lakhs on technology transfer Financial Required: Fix assets (Land and Building) = Land 10 cents and building in it in 1500 square feet with a total expense of approx : 10 lakhs for land and 6 lakhs for the building + miscellaneous 2 Lakhs. Machinery = Rs. 10 lakhs Others= Rs 3 lakhs Cost: Approx investment of Rs. 31 Lakhs Energy Requirement: Electricity: for the use of welding machines and other power tools an approximate cost of Rs

Target Market / Customer

Potential Clients: The target market/customer for PPS is specifically cashew processing unit's that use drum roasting method for raw cashew nut processing.

Limiting factors for large scale commercialization

Once most of the Cashew companies that uses Drum Roasting type of Cashew Processing technique or Borma technique adopts this technology; the commercialization of this technology will be saturated and a slight stagnancy can be expected. But the potential for maintenance and consultancy can't be ignored and will ever be present.

Social impact of the technology

PPS as a technology is highly user friendly to work with and is cheaper. The technology has helped in providing greener environment by low emission of pollutants to the atmosphere. The Kerala Pollution control board has strictly recommended PPS for drum roasting cashew processing units. The Tamilnadu government will soon be recommending the PPS for drum roasting cashew processing units

Any other relevant information

- iii. Cost of production per unit: 2.25 Lacks (including Labour Cost 75,000/-)
- iv. employment generation approx
Production-10 people
Installation-10 people
Working and maintenance after installation- 2+2 people
- v. Selling price of product:
In whole-sale: 3 Lakhs
In retail: 3.50 Lakhs