

# Pelletising Wood Waste

## Turning Waste into Value

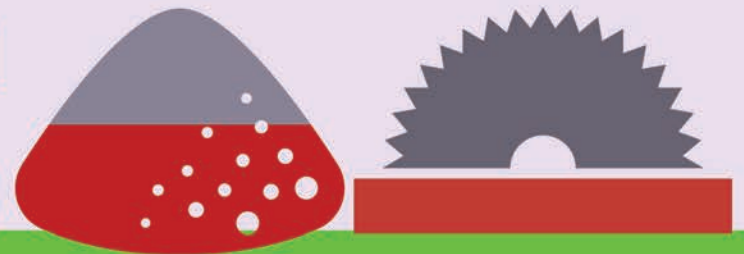
Viet Nam has a sizeable wood processing industry that generates a large amount of wood waste (wood dust, shavings, etc.). The waste is often burned on-site, creating air pollution and releasing large volumes of greenhouse gases.

At the same time, fossil fuel-based power generation is responsible for millions of tonnes of greenhouse gas emissions.

The Microfinance and Community Development Institute (MACDI) saw a business solution to both problems. They established a wood pellet factory that makes use of wood waste. Producing wood pellets prevents the environmental problems associated with wood waste and replaces fossil fuels in combustion processes, resulting in reduced greenhouse gas emissions. MACDI applied for funding from EEP Mekong, which was approved in December 2018.



EEP funded  
**60%**



**150** women  
were employed.



avoided each year

Production capacity:  
**4,300 tonnes**  
of pellets  
per year



# Saw Dust Pellet Factory

macdivn.org

5 GENDER EQUALITY



7 AFFORDABLE AND CLEAN ENERGY



13 CLIMATE ACTION



## A Solution to Multiple Challenges

Wood-based industries in Viet Nam produce millions of tonnes of wood waste (saw dust, shavings, etc.), which is usually burned. Open burning of wood waste creates substantial air pollution and is also a waste of natural resources that can be turned into energy. At the same time, Viet Nam's fossil fuel-based energy sector emits millions of tonnes of greenhouse gases. Producing pellets from wood waste to replace fossil fuels is therefore a win-win approach.

The Microfinance and Community Development Institute (MACDI) formulated a project to launch a factory that produces wood pellets for use as industrial and domestic biofuel. The factory was opened in the Hao Binh Province, where 32% of the people live near or under the poverty line. This brings economic opportunities to the local community in the form of income from the collection and selling of wood waste.

MACDI approached EEP Mekong to fund the project valued at €380,000, and received a grant for 60% of the project's costs. The project started in November 2017 and the factory was completed in December 2018. 150 local women are engaged in collecting wood waste for the factory. After the wood pellet factory's completion, the business ownership was transferred to a cooperative formed by the wood waste suppliers and gatherers as well as factory employees.



Wood waste pellets

Pulverising the wood waste



Feeding saw dust into the hammer mill



## Achievements

1. MACDI originally planned for the factory to produce 1,000 tonnes of pellets per year, but this expectation was surpassed when it produced that amount in three months after the factory's completion. Now the factory is set to produce about 4,300 tonnes of pellets every year.
2. The excess production is due to the collection of wood waste being more efficient than expected, a high-performing sales and marketing team, and an experienced production team.
3. The project directly impacted 160 households by employing 10 people at the factory and 150 women as gatherers. These jobs went mainly to marginalised and unskilled women.

## Sustainability and Scale-Up

- The project has proven to be financially viable.
- A sustainable supply chain for wood waste has been created and the market for the pellets is good.
- There are many wood processing industries in Viet Nam, providing an abundant supply of wood waste with which to create similar projects in other villages.
- Future project investments need to be made into health and safety technology such as fire prevention and air clearing (dust isolation).

## Helping the Community

The factory is located in the rural Hao Binh Province, where poverty is widespread. By employing 160 people from the community as wood waste gatherers and factory workers, the project has offered 160 households improved access to economic opportunity. Many of these households are from marginalised groups.

Indirectly, the project impacted far more community members by giving them an income for wood waste (which had previously been a waste and an expense item) and by giving them a shareholding in the factory.

## Protecting the Environment

Wood waste pellets are a clean energy source that allows the replacement of fossil fuels, avoiding at least 1,000 tonnes in greenhouse gas emissions every year.

It also puts about 4,000 tonnes of wood waste per year to positive use, preventing it from polluting the environment.