

# Reducing Deforestation and GHG Emission with Biomass Stove and Fuel as Alternative Energy for a Community

## Objectives

The overall objective of the project “Reducing Deforestation and GHG Emission with Biomass Stove and Fuel as Alternative Energy for a Community” is to reduce deforestation and greenhouse gas emission and provide an alternative sustainable energy solution for the communities in Central Kalimantan. The Project Purpose is the promotion and introduction of energy-efficient cook stoves and technology-based entrepreneurship in the Villages of Habaring Hurung and Petuk Bukit in the District of Palangkaraya in Central Kalimantan.

## Description

Instead of kerosene and gas which often poorly available, families in the project site and other rural areas of Central Kalimantan commonly use firewood for cooking and harvest it from forests surrounding their villages.

The project of Yayasan INOTEK aims to provide an alternative energy and environmental solution for the target villages in the form of biomass stove UB03 and promote utilization of this type of improved energy efficient cook stove also in the surrounding communities. This innovative stove can save up to 80% of biomass fuel compared to the conventional three-stone fire or the clay stove contributing to forest protection around the villages.

With relatively high efficiency, Biomass Stove UB03 also reduces the amount of smoke from the combustion process, thus making the air in the kitchen cleaner and healthier.

Through the project, 100 energy efficient stoves are taken into use in the Villages of Habaring Hurung and Petuk Bukit. To support the sustainability of the project, training on biomass stove production as well as entrepreneurship is provided.



Training on additional income generation. (Source: INOTEK)

## Project Profile

Project title:	Reducing Deforestation and GHG Emission with Biomass Stoves and Fuel as Alternative Energy for a Community
Location:	Central Kalimantan
Lead Partner:	Yayasan Inovasi Teknologi Indonesia (INOTEK) – Indonesia Technology Innovation Foundation
Partners:	Yayasan Mitra Insani (YMI)
Total budget:	€ 128,608
Technical focus:	Energy efficiency/ energy conservation (demonstration)
Implementation period:	May, 2012 - July, 2013
Website	<a href="http://www.inotek.org">www.inotek.org</a>
Email	<a href="mailto:info@inotek.org">info@inotek.org</a>



Inefficient traditional wood stove in Habaring Hurung. (Source: INOTEK)

## Innovation and Knowledge Transfer

Biomass Stove UB03 applies innovative pre-heating, gasification, counter flow and turbulence mechanism to the combustion process. It can save up to 60% of biomass fuel and improve burning efficiency with 42%. Since it produces much less smoke than traditional stoves, the air circulation in the kitchens utilizing this type of stove becomes cleaner and healthier.

Knowledge transfer of the project of Yayasan INOTEK will be achieved through training, dissemination of the project results through media and promotion. Moreover, the involvement of local people constitutes as important part of the project implementation. At the end of the project community agreement on supporting forest conservation and clean energy is declared and signed by community representatives of Petuk Bukit and Habaring Hurung.

## Relevance to Indonesian Energy and Environment Policy

### > Beneficiaries

Direct beneficiaries of the project are the 100 households of the village of Habaring Hurung in the Sub-District of Bukit Batu and Village of Petuk Bukit in the Sub -District of Rakumpit of the District of Palangkaraya in the Province of Central Kalimantan.

### > Contribution to the energy and environment policies of the Province of Central Kalimantan and Indonesia

The successful implementation of the project of Yayasan INOTEK will contribute to the achievement of Government Decree No. 5/2006, targeting at clear increase of energy production from renewable sources. The project is also aligned with the Government's target to reduce 26% of GHG emission in Indonesia by the year 2020. The project also contributes to the reduction of deforestation in the Province of Central Kalimantan and improves living conditions of rural people there.



Socialization of UB-03 Biomass Stove and test fires. (Source: EEP Indonesia)

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Training on biomass stove production (left), Community agreement socialization and declaration (center & right). (Source: INOTEK)

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