

**Asia Regional Cookstove Program Regional Initiative - Biomass Gasification
for Thermal Applications in Cottage/Small Industries**

**Regional Training on
Biomass Gasification for Thermal Applications in
Small/Cottage Industries**

Yunnan Normal University, Kunming, China, 24th-27th July 2006

Organized by:

**Asia Regional Cookstove Program, Indonesia &
Solar Energy Research Institute, Yunnan Normal University, China**

Introduction

A significant proportion of rural population in Asia relies on traditional cottage/small scale industries as their source of livelihood. While at the same time it is also realized that these traditional small cottage industries have been facing/will face unfavourable economic situation due to decline of natural resources including energy resources, as well as increased competition in the market from more modern industries substituting traditional products. Energy utilization constitutes an important aspect for most of these industries. How energy is utilized in these industries may have significant immediate as well as long term impacts, such as on working environment, productivity, energy resources – all of which contribute to the economic viability of these industries.

Due to a number of reasons, notably, limitations on resources and know how, over the years, improved cookstove programs have put less emphasis in addressing improvements of energy and related conditions in small/cottage industries.

Gasification technology could potentially be an option in energy improvement intervention for cottage/small industries. However, even though gasification is a well known technology, practitioners, in particular those active in improved cookstove programs have little knowledge and know how to apply gasification into properly working equipment. On the other hand, there exist several types of gasifier for small to medium scale thermal applications that have been developed, e.g. various gasifiers developed in China and India.

ARECOP Regional Initiative will be a means to introduce biomass gasification technologies to actors and organizations working in biomass energy, particularly those who have been engaged in small industries and household energy interventions – through transfer of experience, expertise and technologies.

The Regional Initiative consists of a series of activities, which are, training, pilot project implementation and a regional workshop. The training will be a means to introduce biomass gasification technology to actors working in biomass energy programs and build their capacities. Further, several pilot projects will be implemented in order to assess the viability of gasification technology in the Asian context and how it could be a technological option for future energy intervention in the region. Lastly the Regional Workshop will be a means to share results of the pilot projects.

Regional Training on Biomass Gasification for Thermal Applications in Small/Cottage Industries

Training Objectives

Specific objectives of the training are as follows:

- Participants understand principles of biomass gasification and gasification system designs (up, down and cross draft).
- Participants have knowledge on biomass gasifier stove technology (stove material, stove parts, stove power output/sizing, gasifier stove design considerations)
- Participants are able to assess and select gasifier stove technologies for various energy contexts.

Participants

- Participants with adequate technical knowledge and experience on improved cookstove and biomass energy technology
- For participants who have already had experience in the research and development of biomass gasification technology, the training will be a means to consolidate skills and knowledge.

Post Training Activities

Prospective participants will be required to plan for a post training follow up, a pilot project on the implementation of biomass gasification technology in selected rural industry. ***We also require that participants consult with their respective head of organizations in order that post training follow ups could be carried out accordingly.*** (Please see later part of the announcement for information on supports from ARECOP for post training follow ups).

1. Pilot project - Action Research of gasifier use in small scale industry

Up to 8 pilot projects will be supported by ARECOP. A pilot project consists of implementation of gasification technology in selected rural industries. Suitable gasification model will be adopted or adapted or developed. The action research team (up to 3 persons in each country) will be responsible for the implementation of the technology, trouble shooting, as well as the monitoring, for the 9 month period of project. The action research team is expected to provide a report on the results and outcome of the action research including a comprehensive overview of costs, problems encountered, etc.

2. Regional Workshop on Biomass Gasification for Thermal Applications in Small/cottage industries

A workshop will be held to discuss experiences and results of the action research. The results will be compiled in a comprehensive overview of: experiences gained, cost effectiveness of applying the gasification technology in rural based small scale industries; problems encountered, etc. The overview will be published with the intent to contribute toward awareness raising on gasification application for small scale thermal applications.

ARECOP's supports

ARECOP offers **limited financial supports**, as well **as expects non ARECOP contributions** in carrying out the activities. These supports include the following:

1. Participation in the Regional Training
2. Pilot project initiative fund worth approximately US\$ 3000 (three thousands)
3. Participation of project partner representatives at the Regional Workshop.

Applications

- A prospective participant is required to fill in the **training application form**
- A prospective participant **should select rural small scale/cottage industry** sector, where gasification pilot project may be implemented. The prospective participant is required to **conduct assessment on the energy situation** in that particular industry sector using the **assessment form**.

Training application and *assessment* forms should be completed and return to ARECOP Secretariat, **not later than 26th June 2006**.

ARECOP Secretariat

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E- mail: secretariat@arecop.org (with a CC to arecop02@yahoo.com)

Schedules

Project duration: July 2006 – May 2007

Submission of proposal	26 th June 2006
Announcement of acceptance of project proposal	3 rd July 2006
Training on gasification	24-28 th July 2006
Project implementation	August 2006 – April 2007
Technology selection, fabrication, construction, installation, test run, trouble shooting	August 2006 - January 2007
Operation	January – April 2007
Monitoring	January – April 2007
Reporting	May 2007
Regional workshop on biomass gasification	June 2007