

- Emissions Reducing Bioenergy Technology -  
A Project Concept for Rural Households  
and  
a CDM Small-Scale Project in Progress

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# Key Points

1. Project Concept - Objectives and Strategy
2. Project Concept - Project Description
3. Project Concept - Technologies
4. Project Concept - Extension
5. Project Concept - Target Groups
6. Project Concept – Risks
7. A CDM Biomass/-energy Project in Progress
8. Issues

# 1. Objectives and Strategy

## Objective:

- Improving energy efficiency; and
- reducing overall GHG emissions (i.e. mainly CO2 here) as well as indoor air pollution.

## Strategy:

- Build on local and traditional lifestyle and behavior by adapting currently used strategies to secure domestic household energy needs.

## 2. Project Description

### **Measures:**

- Substitution of primary fuelwood or other biomass based primary fuel by processed biomass products (i.e., pellets made from energy crops, wood, or wood residues).
- Rebuilding open fireplaces to combined cookers and heaters made out of clay or brick with flue pipes.

### **Application of local technology and technology transfer:**

- Machinery to produce the pellets will be imported.
- Manufacturing of combined cookers and heaters will use experiences and trained producers from previously implemented programs.

## 2. Project Description

### Impacts:

- Reducing GHG emissions and IAP.
- Additional emissions avoidance effect by avoided further deforestation.

### Raw material production:

- Specifically cultivated energy crops, cereal residues, wood residues, or fast-growing tree species or a combination of these.

# 3. Technologies

## Mix of technology transfer and locally available technology:

- *Aim:* reduce the imported technology to the minimum by combining it with locally available technology.
  - Guarantee use of locally developed, adapted knowledge and supporting local economy through production of combined cooking and heating devices.
- Pellets and machinery can be produced on-site after introduction and training period.
  - Diesel engines or steam engines will run the machines.
- Use of locally available technology (i.e. combined cooker-heater with flue pipes made from clay or brick).
  - Experience from previous programs and initiatives by knowledge transfer and training.

## 4. Extension

- Machines will be positioned in central areas of the villages or other well-positioned places.
- Adaptation process of machines will involve selected locals to ensure an accurate maintenance and acceptance.
- Accompanying courses will introduce the technology and how to use it as well preparing local manufacturers to produce such machines.
- Courses to market the technologies and products approaching in particular agricultural extension workers and other key figures and opinion leaders (facilitators).

## 5. Target Groups

### Who, how many, and ability to pay for improved household energy

- Mainly farmers in villages in rural areas that use biomass fuels.
- Project would include other groups which use biomass fuels in open fireplaces at household level.
- Number of customers or villages where the project will be implemented:
  - dependent on the available funding from foundation;
  - co-funding from the CDM small-scale projects facility;
  - a private sector bank.
- Micro-finance strategies
- Using traditional organizational structures and groups

## 6. Risks

### Main risks associated and how to address them

- Problem of accepting new technology by the target groups
  - Introducing new technologies and related advantages to key figures and opinion leaders, at first.
- Lost of income source for certain groups dependent on use of primary fuelwood (e.g., charcoal burners and fuelwood pickers)
  - Integration into project by taking on the job of collecting and transporting raw material to the pellet machines.

## 7. A CDM Biomass/-energy Project in Progress

### Irani - CDM biomass/-energy project, Brasil

#### Basics:

- Installed capacity: 9.4 MW.
- Emission reductions:  
3.7 Mio. tCO<sub>2</sub>e over 21 years;  
626,000 tCO<sub>2</sub>e through grid energy displacement and 3.07 Mio. tCO<sub>2</sub>e through a methane avoidance component.

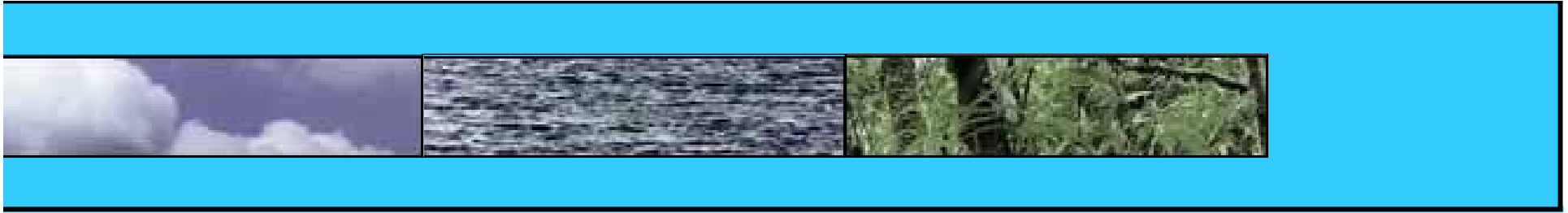


## 7. A CDM Biomass/-energy Project in Progress

- The project activity involves displacing more carbon-intensive electricity from the grid with electricity generated by a GHG-neutral option.
  - Type/Category I.D (Renewable Energy Projects / Renewable electricity generation for a grid)
- The project activity also involves methane avoided from biomass not being landfilled (120,000 t per year).
  - Type/Category III.E (Other project activities / Avoidance of methane production from biomass decay through controlled combustion)
- Status: Irani has just been validated and is in the final approval process with the Brazilian DNA.

## 8. Issues

- Immediately for 2008-2012: Combined AR and biomass projects to offer tCER/ICER replacement with permanent CERs from seller side.
- Post-2012: Compensated reductions as a reward for countries that can demonstrate a real increase in avoided deforestation.
  - Baseline for a certain period (e.g., 1980-1990);
  - deforestation rate below this baseline eligible for compensation; compensation *post facto*;
  - compensation in the form of tradable credits;
  - real reductions for credit generation concretely measured at the end of Kyoto period;
  - part of a deal to get US on board?



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