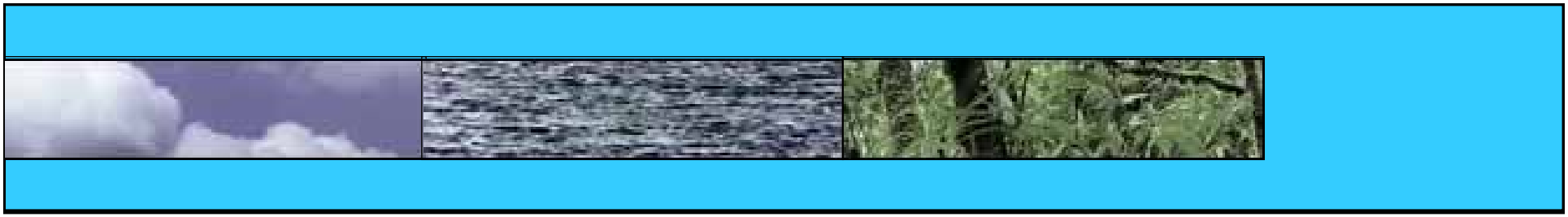


Household Bioenergy Projects and the Clean Development Mechanism

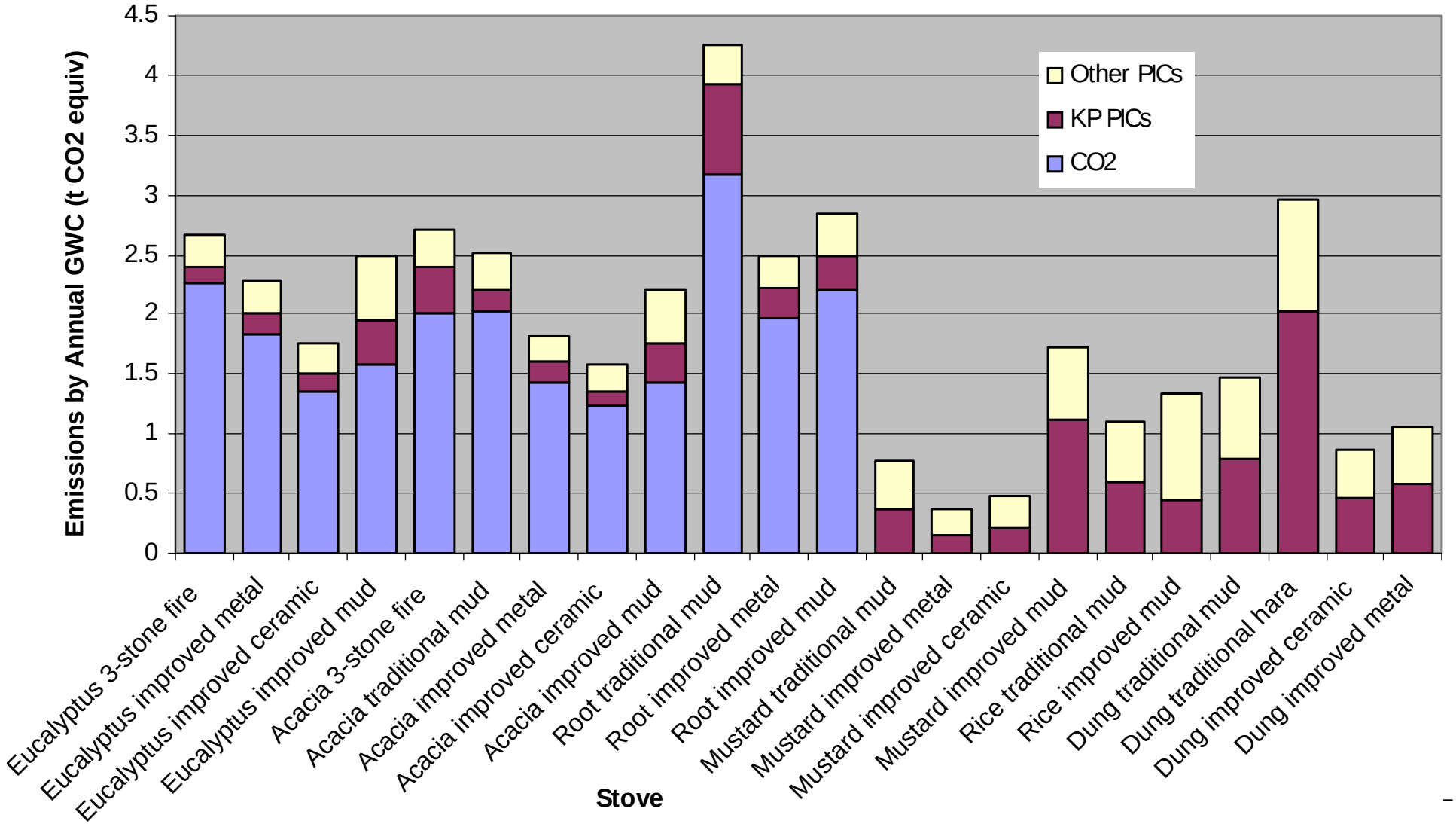
EcoSecurities Experience

Jonathan Avis, Carbon Consultant

Advantages of CDM for Cooking Stove/ Bioenergy projects

- Sustainable funding source; allows donors a successful exit strategy
- GHG and health damaging pollutants can be reduced in tandem
- Substantial climate change benefits – 360mt per year globally

Stoves tested by Smith et al (2000)



Project Size

- (i) 15MW equivalent maximum output capacity for renewable energy activities: Tens of thousands of stoves

- (I) Efficiency projects which reduce consumption by up to the equivalent of 15GW hours: 3,500 tonnes wood savings – 7,000 stoves

- (iii) Other activities that emit less than 15,000t CO_2 equivalent annually: 15,000-30,000 stoves, emitting 0.5 to 1 tonne of CO_2 per year

- - Small Scale guidelines are restrictive on project size.
- - Bundling an option?

Nepal Biogas Sector Partnership

- National programme
- Builds on 100,000 plant programme 1992-2003, Support from SNV (Netherlands)
- Scale-up of programme under CDM
- Uniform technical design, quality control, after-sales, financial support for end users
- Awareness raising

CDM status of the project

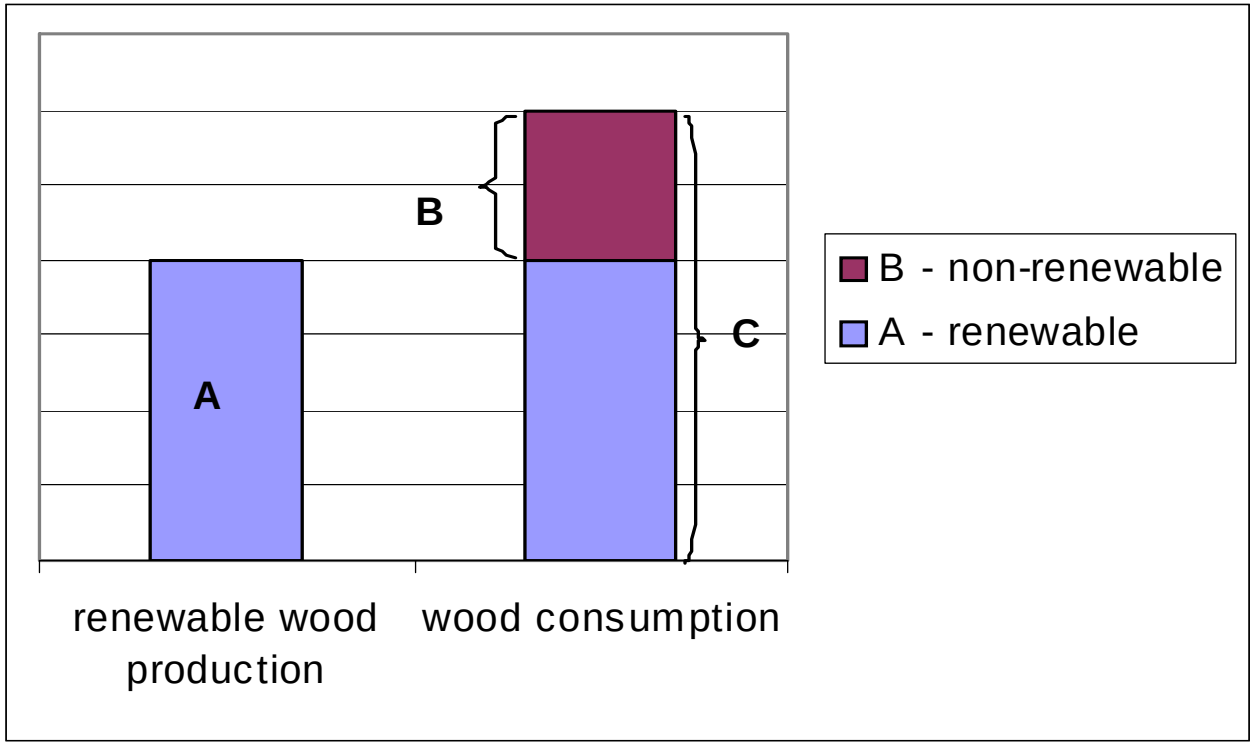
- Category 1.C (Thermal Energy for the User) – replacing non-renewable biomass with renewable energy
- 3.6 million tonnes CERs over 7 years
- Registration as a bundle of small scale projects – not viable as large scale project due to geographical barriers
- Small scale, household technology with SD benefits well suited to SSP status

Emission reduction Calculations

- CDM guidelines do not define how to calculate non-renewable biomass
- A definition:
- Fuel wood consumption that contributes to deforestation or forest degradation
- Key point to consider is whether the demand and supply of biomass is balanced (in ‘equilibrium’)

Defining non-renewable biomass

- To make this concept operational we have defined non-renewable fuel wood consumption (B) as any part of total wood consumption (C) beyond the level of renewable wood production (A).



Defining non-renewable biomass

- The methodology contains three conditions which must be met in order to claim emission reductions from non-renewable sources of wood:
  - 1) In the project area the consumption of wood exceeds the renewable wood production.
  - 2) Fuel wood consumption by households constitutes a significant share of total wood consumption;
  - 3) The emission reductions can only be claimed in proportion to the reduction of non-renewable biomass.

Condition 1: Consumption of wood exceeds renewable wood production

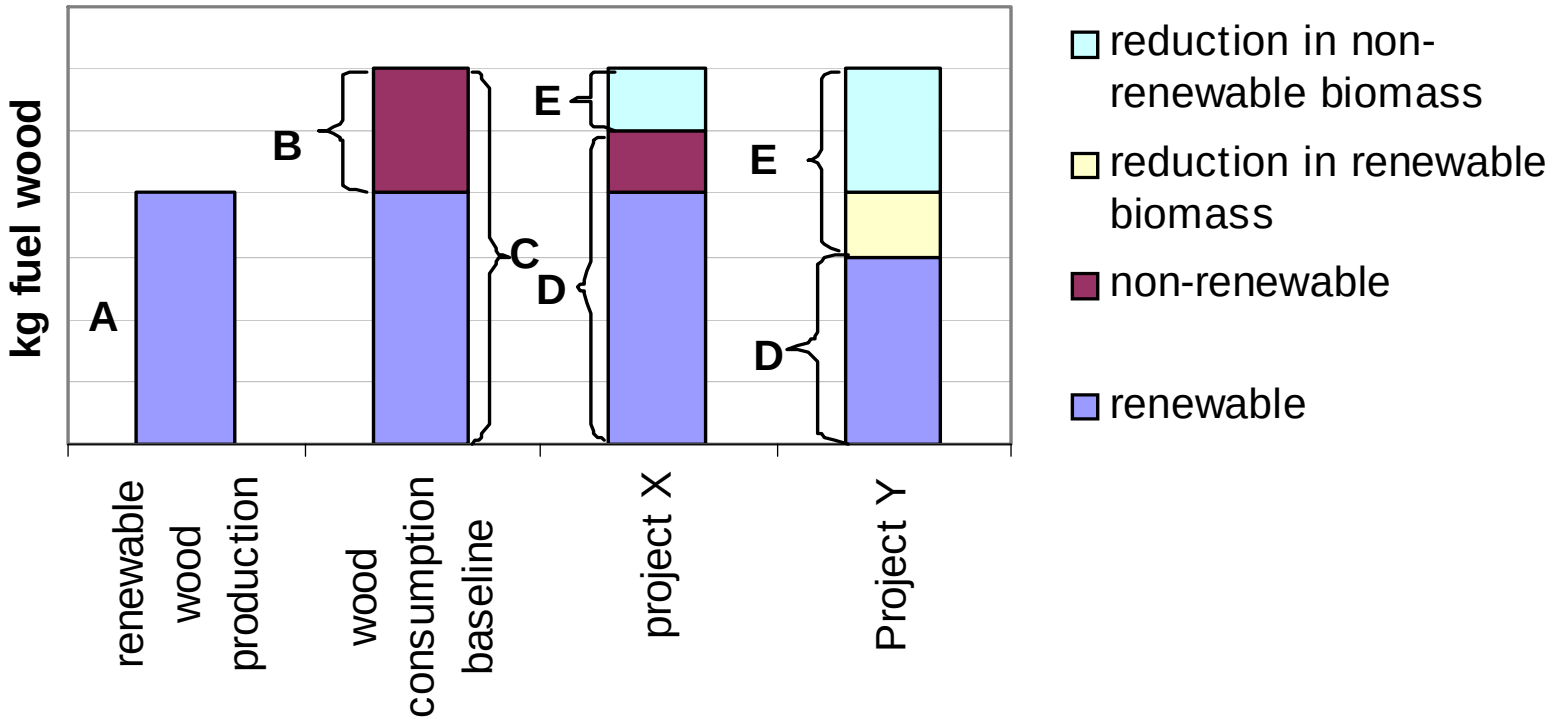
- Renewable forest growth defined as the annual increment in reachable forest areas
- Consumption of wood defined as fuel plus timber (and other wood uses)
- Condition 1 is met if annual increment is less than total wood consumption
- Non renewable wood therefore defined as additional consumption at the margin (i.e. all consumption above sustainable annual increment)

Condition 2: Household wood consumption a significant share of total

- Either:
  - Household wood consumption is greater than annual increment,
  - Household consumption is largest wood consumption sector, or
  - Household wood consumption is more than 35% of total wood consumption

Condition 3: Maximum ERs to be claimed cannot be more than the total ERs from non-renewable biomass

- i.e. can only claim ERs from the non-renewable portion (B)



Leakage

- Unclear what SSP requirements are for leakage
- Suppressed demand argument – cannot punish development
- Leakage should not be the reason for rejection of projects

Outstanding Issues

- Have to show that woodfuel and timber is main driver of deforestation, not land clearance
- Can we define non-renewable harvesting as harvesting at the margins?
- Leakage requirements
- Project size

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