

Key Concepts: Baseline and Additionality

ARECOP Project Idea Note workshop 3rd -7th September, 2007, Phnom Penh

Presentation Outline



1) Purpose of Baseline

- Calculate emissions reductions
- Additionality

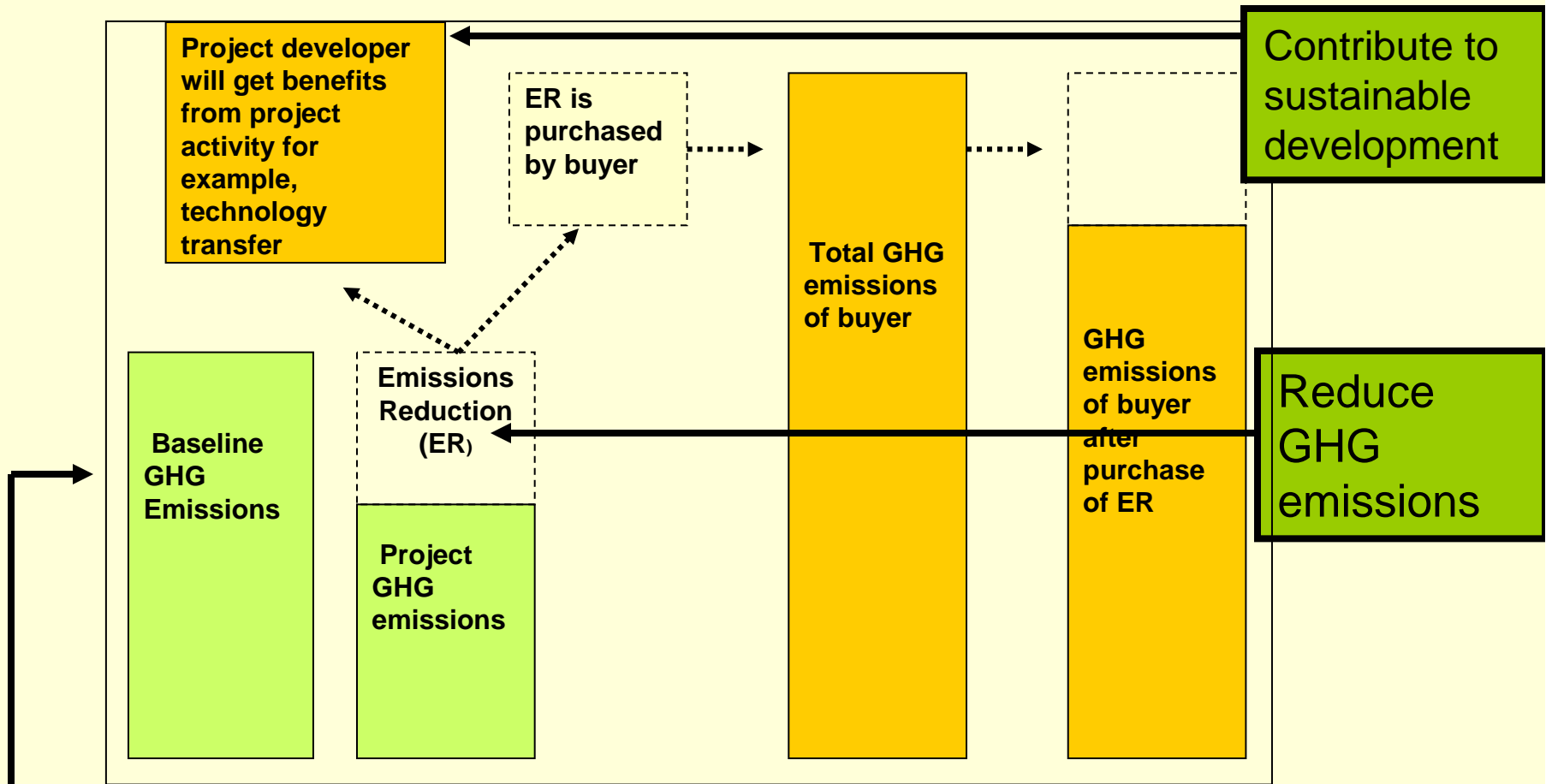
2) Calculating the baseline

- PIN
- PDD

3) Additionality

- PIN
- PDD

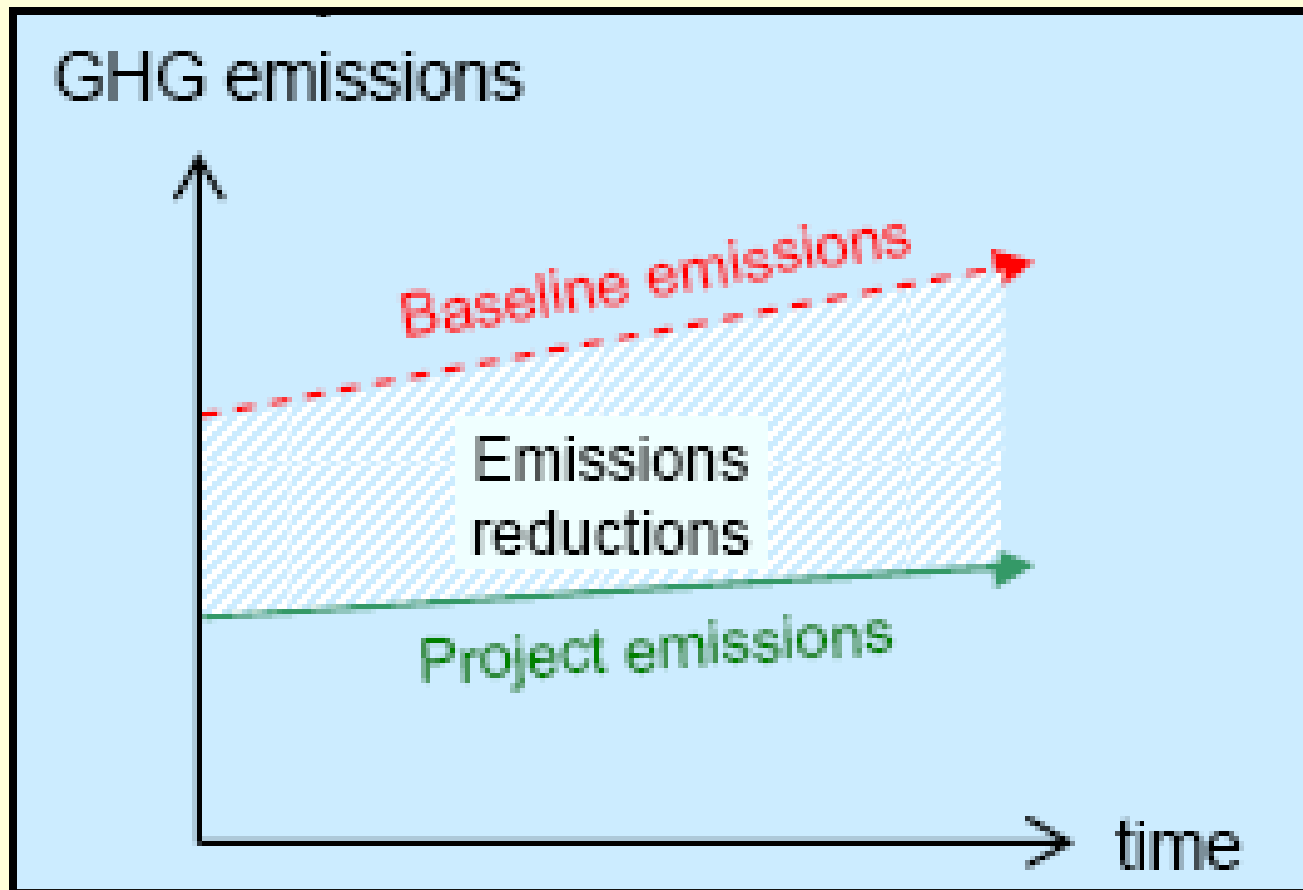
Purpose of Emissions Reductions



To demonstrate these criteria we need something to measure the project against

The Baseline– Emissions Reductions

Show what would have happened without the project.



The Baseline at PIN stage



BASELINE SCENARIO

At the PIN stage questions to be answered are at least:

- Which emissions are being reduced by the proposed project?
- What would the future look like without the proposed project?

Should not contradict other information provided.

The Baseline



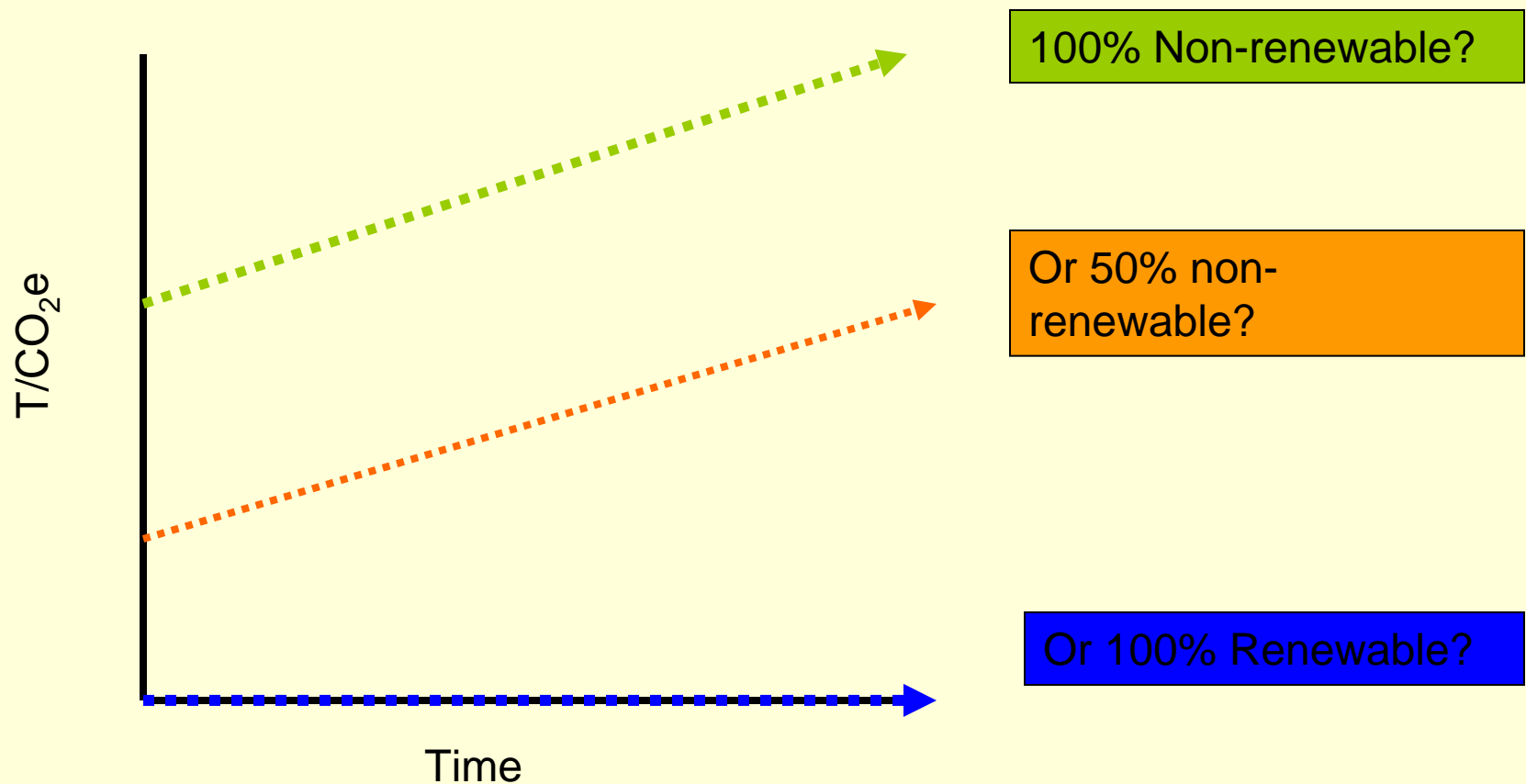
Using methodology **Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass** the baseline is defined as:

It is assumed that in the absence of the project activity, the baseline scenario would be the **mix of non-renewable biomass and fossil fuel** use expected to be used in the baseline, **within the project duration**, by the local consumers, for **meeting similar thermal energy needs**.

Project proponents must demonstrate that the biomass use claimed to be non-renewable is indeed non-renewable, following the **EB 23 Annex 18 definition of “renewable biomass” (by inversion)**. In order to avoid incentives to enhance deforestation and forest degradation in order to meet the conditions of “non-renewable biomass”, project proponents must, in addition, demonstrate that the biomass used by the project participants was non-renewable at the time of, or before, the adoption of this methodology (September 2006).

Mix of non-renewable biomass and fossil fuel

Baseline will depend on the quantity and proportions of non-renewable biomass.

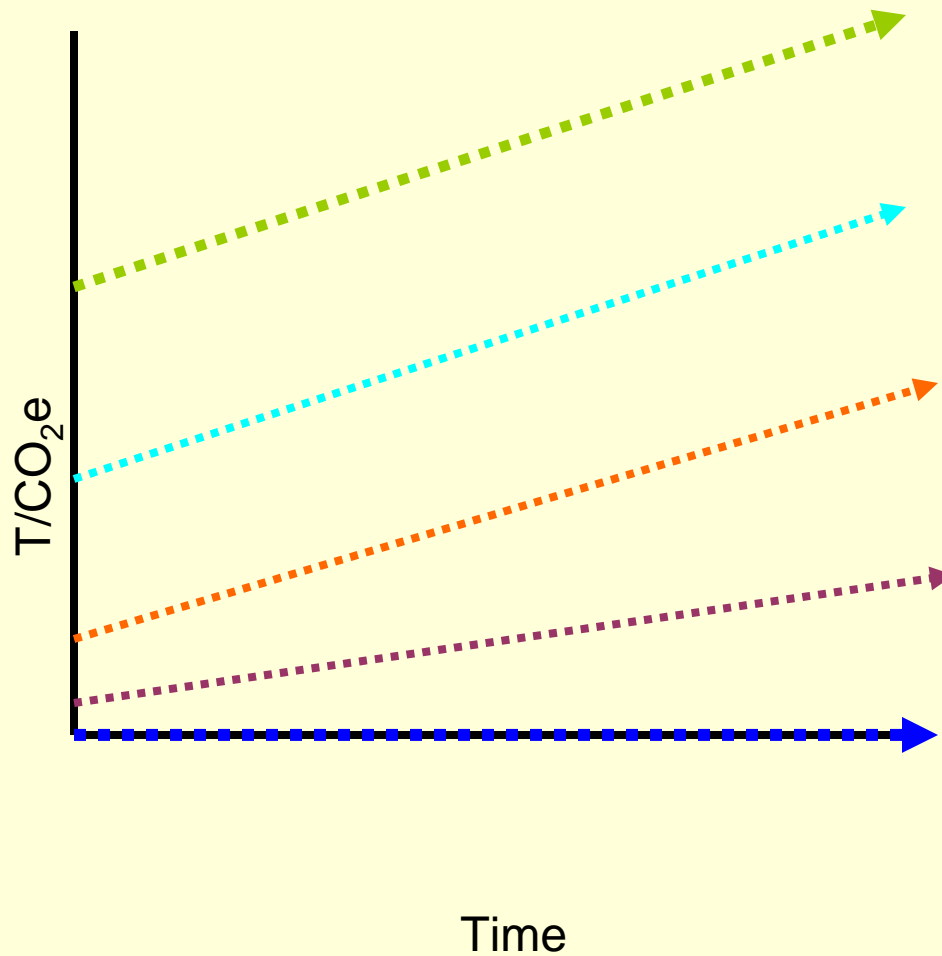


Fuel Source



- Deforestation rates
- Forest degradation rates
- Time spent by households for gathering fuel wood
- Distance traveled in order to collect fuel wood
- Significant trends in fuel wood price (e.g. sustained price rises), indicating scarcity

Mix of non-renewable biomass and fossil fuel



Do stove users just burn charcoal? (urban areas)

Or do they use a combination of wood and charcoal?

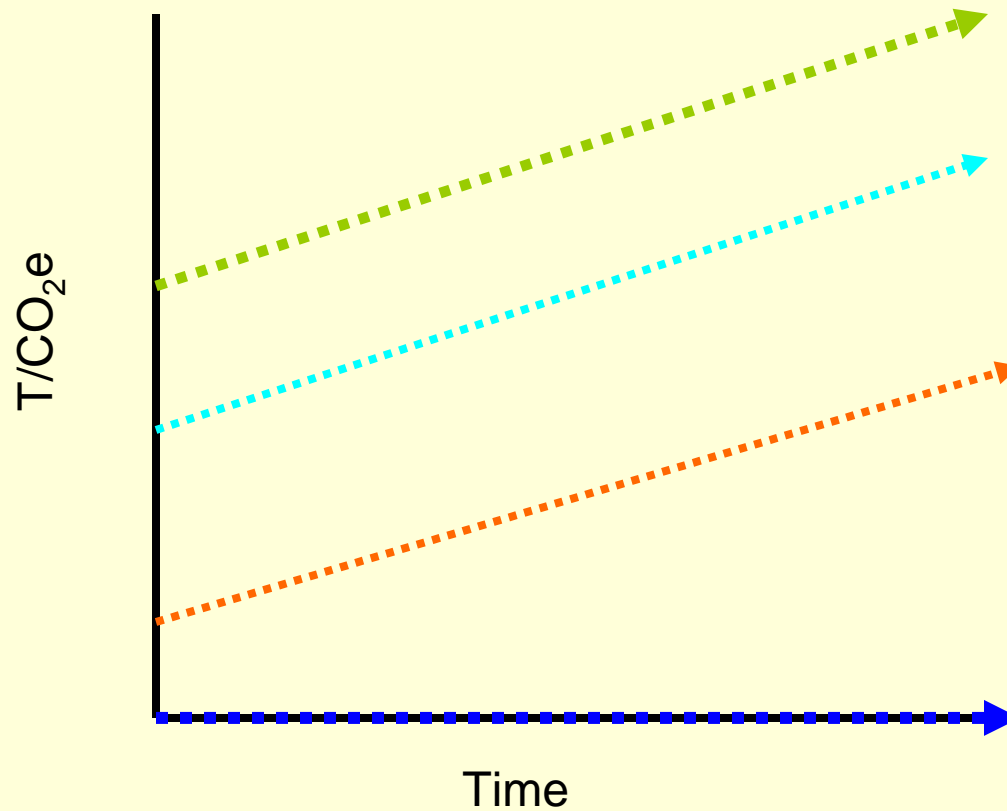
Or do they only use wood? (rural areas)

LPG and Kerosene

How about agricultural residues?

Similar thermal energy needs...

Fuel consumption depends on wide variety of factors.



Do stove users cook for
6 hours a day?

Or 4 hours a day?

Or two hours a day?

Or only on special
occasions ?

The Household Fuel Cooking test



Traditional Stove test

Average	Rice	Water	Charcoal	PFS %
Consumption/week for one family(kg)	13.6	94.2	14.8	
Consumption/day for one family(kg)	1.9	13.5	2.1	
Consumption/week/eq.adult	2.9	20.2	3.2	
Consumption/day/eq.adult	0.4	2.9	0.5	

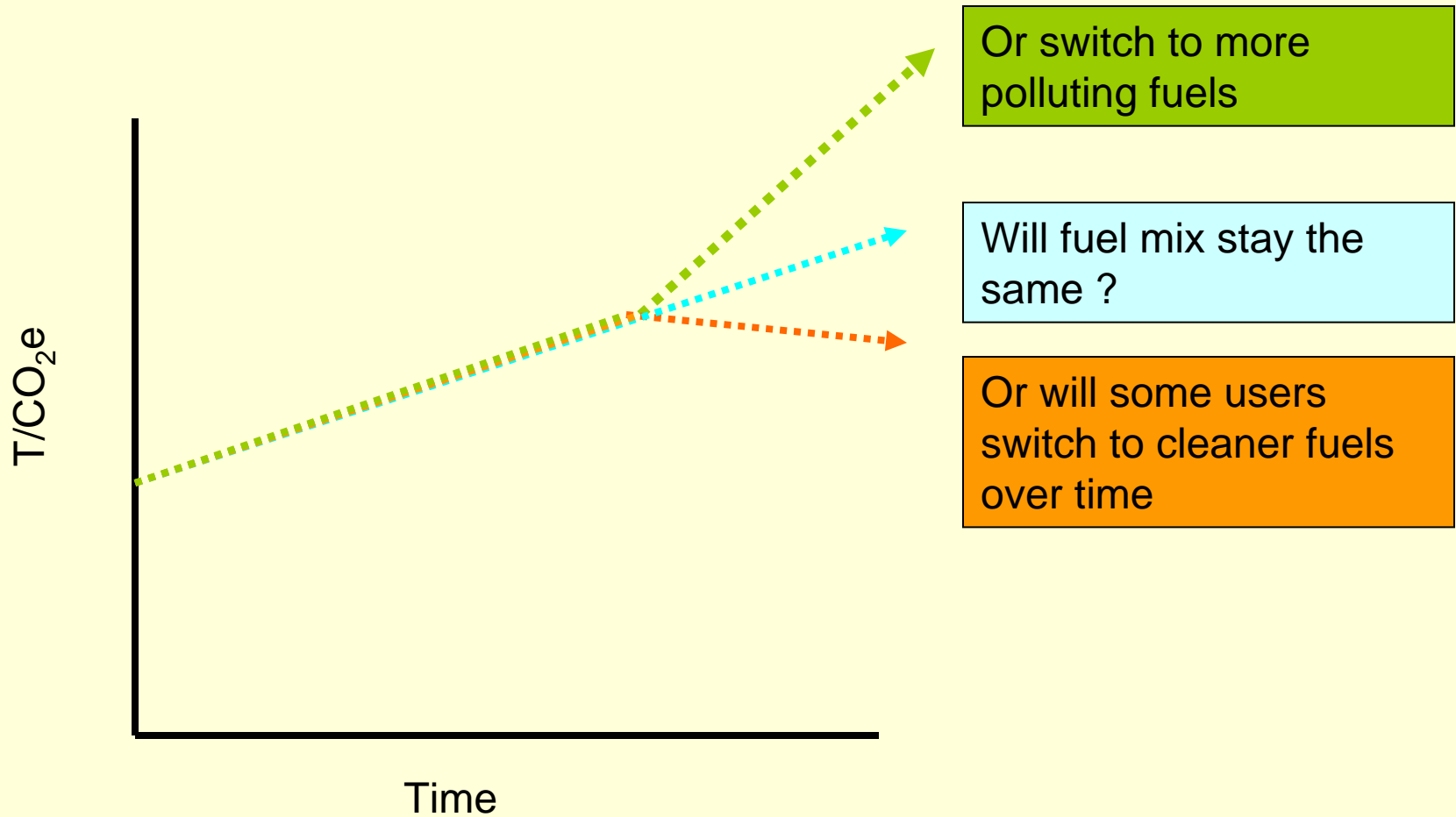
Improved Stove Test

Average	Rice	Water	Charcoal	
Consumption/week for one family(kg)	13.6	94.4	11.6	
Consumption/day for one family(kg)	1.9	13.3	1.7	21.8
Consumption/week/eq.adult	2.9	20.3	2.5	
Consumption/day/eq.adult	0.4	2.9	0.4	

NB Rainy and Dry seasons

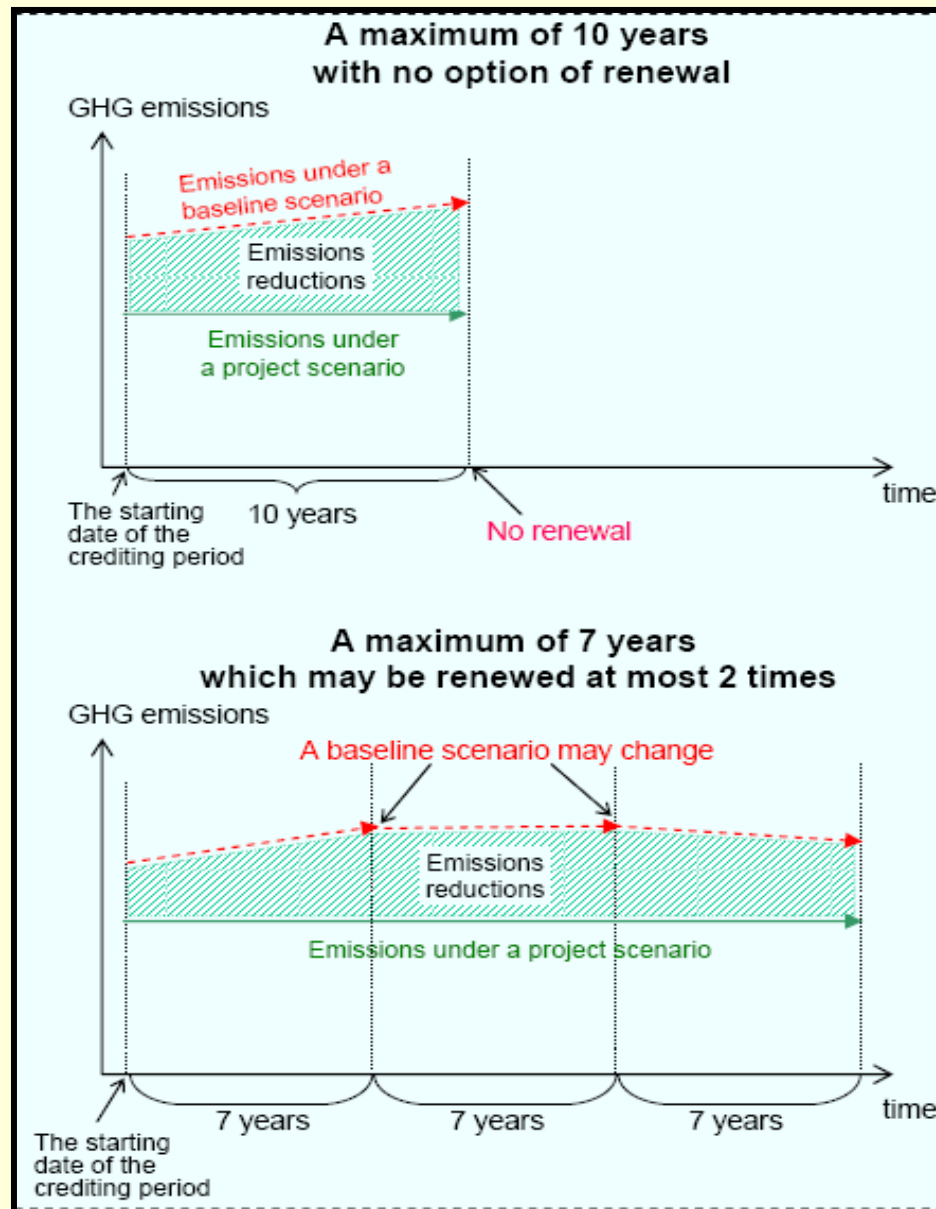
Within the project duration

Fuel mix and or stove mix will change over time.



How much fuel does a stove use per hour?

Crediting Periods



Additionality



Offsetting justifies a polluting action elsewhere, by balancing the net GHG emissions. But if the emissions reductions would have occurred anyway there is no balance.

- Buyer receives an emission reduction that didn't really occur
- Host country receives no additional sustainable development benefit

Baseline scenario shows the current situation related to the project

Project scenario shows how carbon financing will help the project go ahead

If there is no difference between the **baseline scenario** and the **project scenario** then the project is not additional and not eligible as an emissions reductions project.

Additionality

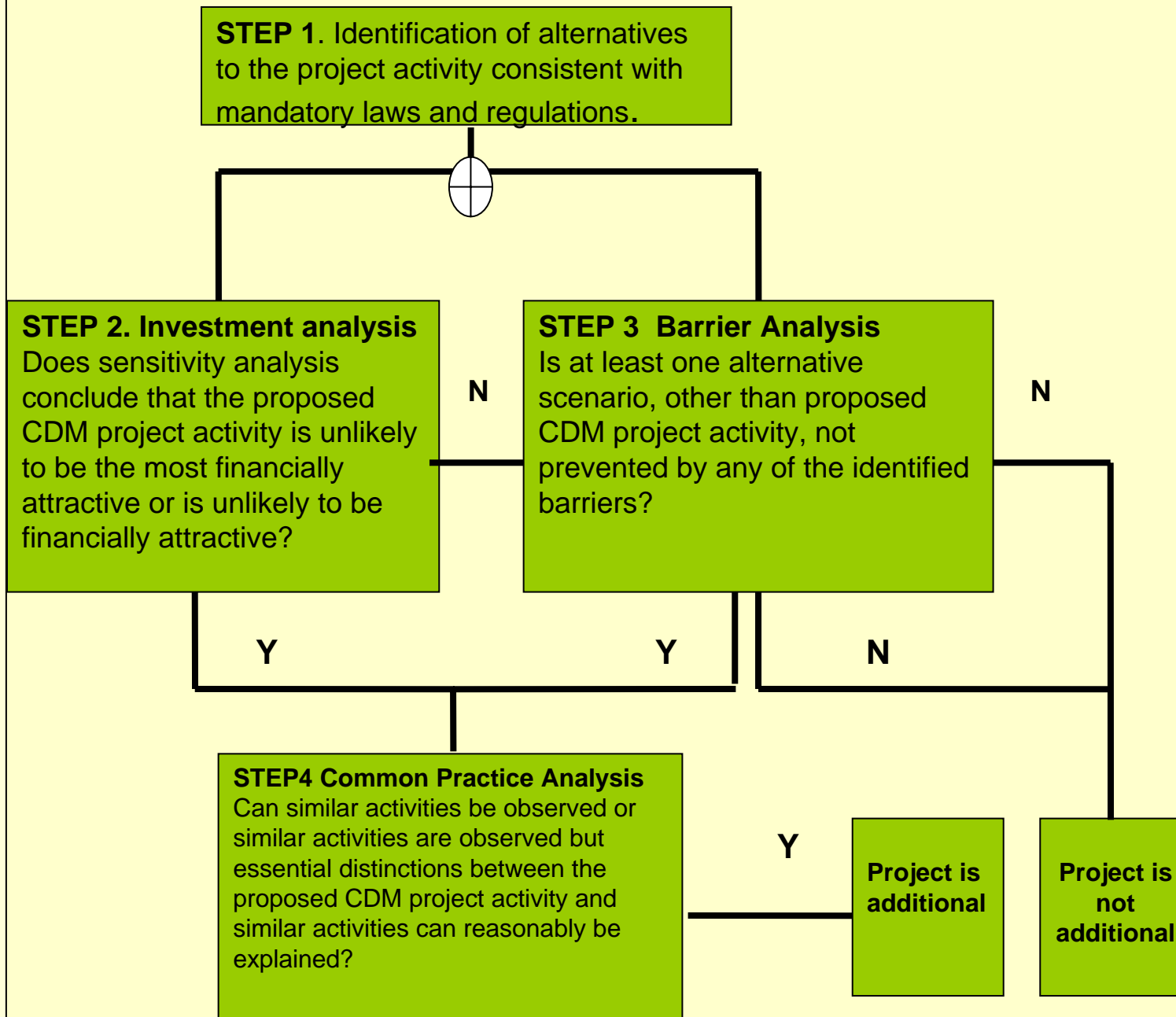


At PIN stage need to explain which apply to the project

(i) there is no regulation or incentive scheme in place covering the project

(ii) the project is financially weak or not the least cost option

(iii) country risk, new technology for country, other barriers



Step 1. Identification of alternatives to the project activity consistent with current laws and regulations



Sub-step 1a. Define alternatives to the project activity:

1. Identify realistic and credible alternative (s) available to the project participants or similar project developers that provide outputs or services comparable with the proposed CDM project activity.

These alternatives are to include:

- The proposed project activity undertaken without carbon finance;
- Other realistic and credible alternative scenario(s) to the proposed project activity scenario that deliver outputs and on services (e.g. electricity, heat or cement) with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;
- If applicable, continuation of the current situation (no project activity or other alternatives undertaken).

Sub-step 1b. Consistency with mandatory laws and regulations:



2. The alternative (s) shall be in compliance with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution. (This sub-step does not consider national and local policies that do not have legally-binding status.).
3. If an alternative does not comply with all mandatory applicable legislation and regulations, then show that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are systematically not enforced and that noncompliance with those requirements is widespread in the country. If this cannot be shown, then eliminate the alternative from further consideration;
4. If the proposed project activity is the only alternative amongst the ones considered by the project participants that is in compliance with mandatory regulations with which there is general compliance, then the proposed CDM project activity is not additional.

Step 2. Investment analysis



Determine whether the proposed project activity is economically or financially less attractive than at least one other alternative, identified in step 1, without the revenue from the sale of certified emission reductions (CERs).

Determine whether to apply simple cost analysis, investment comparison analysis or benchmark analysis (sub-step 2b).

If the CDM project activity generates no financial or economic benefits.

Step 3. Barrier analysis



If this step is used, determine whether the proposed project activity faces barriers that:

- Prevent the implementation of this type of proposed project activity; and
- Do not prevent the implementation of at least one of the alternatives.

Sub-step 3a. Identify barriers that would prevent the implementation of the proposed CDM project activity:



Establish that there are realistic and credible barriers that would prevent the implementation of the proposed project activity from being carried out if the project activity was not registered as a CDM activity. Such realistic and credible barriers may include, among others:

Investment barriers

- For alternatives undertaken and operated by private entities: Similar activities have only been implemented with grants or other non-commercial finance terms. Similar activities are defined as activities that rely on a broadly similar technology or practices, are of a similar scale, take place in a comparable environment with respect to regulatory framework.
- No private capital is available from domestic or international capital markets due to real or perceived risks associated with investment in the country where the proposed CDM project activity is to be implemented, as demonstrated by the credit rating of the country or other country investments reports of reputed origin.

Step 3. Barrier analysis



Technological barriers

- Skilled and/or properly trained labour to operate and maintain the technology is not available, which leads to an unacceptably high risk of equipment disrepair and malfunctioning or other underperformance;
- Lack of infrastructure for implementation and logistics for maintenance of the technology (e.g. natural gas can not be used because of the lack of a gas transmission and distribution network).
- Risk of technological failure: the process/technology failure risk in the local circumstances is significantly greater than for other technologies that provide services or outputs comparable to those of the proposed CDM project activity, as demonstrated by relevant scientific literature or technology manufacturer information.
- The particular technology used in the proposed project activity is not available in the relevant region.

Step 3. Barrier analysis



Prevailing practice

- The project activity is the “first of its kind”..

Step 4. Common practice analysis



Sub-step 4a. Analyze other activities similar to the proposed project activity:

Sub-step 4b. Discuss any similar options that are occurring:

“If Sub-steps 4a and 4b are satisfied, i.e.(i) similar activities cannot be observed or (ii) similar activities are observed, but essential distinctions between the project activity and similar activities can reasonably be explained, then the proposed project activity is additional)”.

Additionality in the VCS- Option A



1. The project is not common practice.
 - Project technology does not exceed 51% in the defined market area.
 - Business-as-usual technology options are clearly defined and their position on the market proven by official Statistics.
2. The project is not required by regulation
3. The project is not the least cost option for providing the underlying product or service

Additionality in the VCS- Option B



Verification Entity shall verify and state in the Verification Report that there is clear evidence that:

Using the steps in the CDM Additionality tool the project has been undertaken to reduce greenhouse gas emissions beyond normal business practice.

Additionality in the VCS- Option C



Verification Entity shall verify and state in the Verification Report that there is clear evidence that:

In addition to a satisfactory project baseline, the project falls within the top quintile (20%) in terms of emissions efficiency for producing the underlying service or product in the region/country.

Additionality in the VCS- Option D



Verification Entity shall verify and state in the Verification Report that there is clear evidence that a project is additional because:

The project has selected the appropriate baseline and its project emissions are found to be below the selected baseline. In order to determine the baseline the project will use either of the following three determination methods:

- Determine the baseline based on existing or historical emissions
- Determine the baseline based on its industry benchmark under similar social, economic, environmental and technological circumstances
- Determine the baseline by identifying the most likely new project activity providing the same level of services as the proposed project.

Conclusions



1) Purpose of Baselines

- Calculate emissions reductions
- Establish additionality

2) Need to calculate variety of inputs using qualitative and quantitative research methods

3) Additionality tools for PIN stage and PDD stage

Panel Discussion



What is the baseline scenario for the project?

How are the projects additional?

How can this be demonstrated for PIN and PDD stages

What further study/research needs to occur?