IETA
INTERNATIONAL EMISSIONS TRADING ASSOCIATION

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Chairman, CDM Executive Board
UNFCCC Secretariat
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Dear Chair,

IETA welcomes the opportunity to submit its comments on the issue of small-scale projects involving the switch from non-renewable biomass to renewable biomass. IETA hopes to bring forward valuable input and to assists the Board in its mandate to develop a small-scale methodology for this kind of project activities, which will be in concurrence with COP/MOP3.

Despite the potential benefits of this type of projects, which are by now widely discussed and recognized, the CDM Executive Board and COP/MOP could not reach a conclusion on this issue. IETA views it as critical to find a way to include small-scale renewable biomass projects in the CDM for the following reasons:

a) Inclusion of Africa into the CDM
b) Significant contribution to sustainable development
c) Real emission reductions
d) Direct contribution to health situation in developing countries

COP/MOP in its decision 1/CMP.2 seeks input on the following four aspects:

1. Proposals for methodologies for small-scale CDM project activities that propose the switch from non-renewable biomass to renewable biomass
2. Ways of how to address leakage
3. Differentiation between renewable and non-renewable biomass
4. Consistency with paragraph 7 (a) of decision 17/CP.7

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1. Find attached a proposed SSC methodology for switching from wood-based non-renewable biomass (such as fuelwood or charcoal) to renewable sources of energy. The technologies used to replace non-renewable biomass as energy source include biogas stoves, use of solar cookers, renewable-based electricity (hydro, wind, PV etc) and measures that involve the switch to renewable non-woody biomass.

   Acknowledging that the decision from COP/MOP2 in Nairobi only allows for projects that switch from non-renewable to renewable biomass IETA believes that four types of projects should be eligible as SSC biomass projects:

   a) Replacing non-renewable biomass with renewable biomass
   b) Replacing non-renewable biomass with other renewables such as solar energy
   c) Replacing non-renewable biomass through more efficient use of biomass
   d) Replacing non-renewable biomass with efficient fossil fuels[1]

   In terms of emission reductions, it does not make any difference whether one reduces the use of non-renewable biomass through any of the three means given above. In fact the two alternative sources of energy b) and d) and the more efficient use of biomass c) have the benefit of reducing the time households have to spend to obtain fuel to a minimum. In case b) and d) the concern of giving perverse incentives for deforestation can be ruled out from the start. Hence IETA views the decision at COP12 to only allow for option a) as a step backwards, especially since the small-scale working group has already broadened the scope to include b) and c).

   Concerning option d) we would however like to clarify that IETA does not support the suggestions by the SSC WG of using a fossil fuel baseline, which is adjusted for differences in efficiency as stated in its submissions of proposed new methodologies for *Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass* (Annex 16 of 4th SSC WG report) and for the *Switch from Non-Renewable Biomass for Thermal Applications by the User* (Annex 15 of the 4th SSC WG report). Instead IETA proposes having a fossil fuel baseline with the same efficiency as biomass. This provision gives scope for efficiency

[1] the only difference in case d) compared to a), b) and c), is that the project scenario has emissions, according to the carbon content of the fossil fuel

improvements and allows for project activities that switch from non-renewable biomass to efficient fossil fuels, as suggested under option d)

The attached methodology prescribes a fossil fuel baseline but allows for a discount of the actual energy contents of the used biomass. Hence, emission reductions are calculated by multiplying the emission factor of fossil fuel with the actual energy content of non-renewable biomass.

2. The mentioned methodology addresses leakage by stipulating to employ a 15% deduction in case the project activity leads to increased use of non-renewable biomass outside the project boundary.

3. The procedure for differentiating between non-renewable biomass and renewable biomass should according to IETA entail the option to choose between a qualitative approach and a quantitative approach. In the case of data availability a quantitative approach should be used, which entails the collection of household consumption data and data on forest size and growth. When it can be proven that over the same time span the consumption of biomass by households is larger than the growth in biomass, the biomass has to be considered non-renewable. When no such data is available a qualitative approach should be chosen, where it has to be proven that a number of eligibility criteria apply. These criteria demonstrate that the use of biomass is not sustainable and hence the biomass itself is not renewable. This procedure will be outlined in detail in the attached methodology.

4. IETA thinks that the approach outlined above and in the submitted methodology is in line with paragraph 7 (a) of decision 17/CP.7 since the generated credits are based on emission reductions from activities where it has to be assumed that in the absence of the project a switch to fossil fuel will take place overtime, while under the project activity renewable energy is used or a more efficient use of the fossil fuel than has to be expected under the business as usual case is applied. Hence, the credits are not granted for avoided deforestation.

IETA is convinced that the above suggestions and the submitted methodology will be valuable input to the process of developing a small-scale methodology for projects that switch from non-renewable to renewable biomass and looks forward to the considerations by the CDM Executive Board and the SSC Working Group.

Yours sincerely,

Andrei Marcu
President

TYPE I - RENEWABLE ENERGY PROJECTS

Note: Categories I.A, I.B and I.C involve renewable energy technologies that supply electricity, mechanical and thermal energy, respectively, to the user directly. Renewable energy technologies that supply electricity to a grid fall into category I.D.

Follow the link to find General guidance / Abbreviations

I.E. Switch from Non-Renewable Biomass for Thermal Applications by the User

Technology/ Measure

1. This category comprises of small appliances involving the switch from non-renewable biomass to renewable sources of energy. These technologies include biogas stoves, use of solar cookers, measures that involve the switch to renewable biomass and more efficient use of biomass.

Boundary

2. The project boundary is the physical, geographical area of the use of non-renewable biomass or the renewable energy.

Baseline

3. It is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuel commonly observed with local consumers, for meeting similar thermal energy needs.

4. Emission reductions would be calculated as:

$$ER_y = B_y \cdot EF_{CO2,\,fossil}$$

where:

ERy — Emission reductions during the year y in t CO_2

By — Energy content of non-renewable biomass that is substituted or displaced in MJ, calculated as:

(i) The consumption of non-renewable biomass (MJ), derived from historical data or a survey of local usage.

OR

(ii) The quantity of renewable biomass used in the project activity (MJ).

OR

(iii) The energy output of the appliances in the project activity (in MWh), converted into MJ and divided by the efficiency of the baseline appliances

As for (i) and (ii), the energy content can be calculated as follows:

$$B_y = Q_y \cdot NCV_{biomass}$$

Where:

Q_y	Quantity of biomass displaced or used (in kg)
NCV biomass	Net calorific value of the non-renewable biomass that is substituted (IPCC default for wood fuel, 15 MJ/Kg)
$EFCO_2$, fossil	CO_2 emission factor for the fossil fuel; 71.5 tCO_2/TJ for Kerosene, 63.0 tCO_2/TJ for LPG or the IPCC default value of the fossil fuel commonly observed with local consumers

Leakage

5. Leakage will be addressed by deducting 15% of the generated emissions reductions, unless it can be demonstrated that leakage is negligible in the case of the project activity. In this case, the following sources of leakage should be discussed: 1. Shifts of pre-project activities (decreases of carbon stocks, for example as a result of deforestation, outside the land area where the biomass is grown, due to shifts of pre-project activities); 2. Emissions related to the production of the biomass. 3. Competing uses for the biomass (the biomass may in the absence of the project activity be used elsewhere, for the same or a different purpose).

Monitoring

6. Monitoring shall consist of an annual check of all appliances or a representative sample thereof to ensure that they are still operating or replaced by an equivalent in service appliance.

7. Monitoring should confirm the complete displacement or substitution of the non-renewable biomass at each location. In the case of appliances switching to renewable biomass the quantity of renewable biomass used shall be monitored. In the case of projects applying option 4.(iii) above, the energy output of a representative sample of the appliances shall be monitored.

8. Where applicable the efficiency of the stove and the calculated fuel consumption can be verified with data from scientific, peer-reviewed journals and other published data.

METHODOLOGY TO DIFFERENTIATE BETWEEN NON-RENEWABLE AND RENEWABLE BIOMASS

In order to claim emission reductions from the reduction in non-renewable biomass, project participants must demonstrate that the biomass consumption in the baseline is indeed non-renewable. This can be done either qualitatively, or quantitatively, depending on the data that is available. Project developers should chose one or other of these approaches, and justify their choice. For small scale projects, we propose that a simplified, qualitative approach be allowed, if sufficient data to use the quantitative approach below is not available. For large scale projects, the quantitative approach would be more suitable.

Qualitative indicator-based approach:

Data on biomass consumption, and on mean annual yield for forest and non forest areas in many developing countries is either difficult to obtain, lacks detail, or is not available at all. Therefore it is important that for small scale projects an alternative approach is available to demonstrate non-renewability that relies on qualitative indicators, which can act as a reliable proxy for whether biomass is renewable or non-renewable. Such an approach should be justified on a project by project basis with reference to the conditions and data availability in the country, and indicators should be chosen and justified that indicate whether biomass is renewable or non-renewable in the area surrounding the project activity. Here we give a list of possible indicators, but this is not intended to be a prescriptive or exhaustive list, since circumstances for each project will vary. Furthermore one indicator alone may not provide sufficient evidence that biomass in the region is indeed non-renewable, therefore project developers may need to use several indicators in order to demonstrate to a Designated Operational Entity that a non-renewable baseline choice is accurate. Such indicators could include:

- 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
- Trends in the type of biomass collected by users, e.g. a switch from wood to small branches and twigs, or to non-woody biomass, suggesting scarcity of woody biomass

Quantitative approach

The following methodology deals with woody biomass only. Other methods would need to be proposed to deal with non-woody biomass. It defines a step-wise approach which can be followed in order to determine whether woody biomass is non-renewable. Similar basic steps are followed for biomass from forested areas, and from cropland/grassland areas.

The following text refers to ‘reachable harvesting area’. Reachable harvesting areas should be justified based on the type of biomass harvesters and the means of transport and harvesting methods they use, i.e. if the project activity is concerned with household cooking stoves, a reachable harvesting area should be defined based on the household’s harvesting methods. For example, household harvesting on foot will be confined to an area easily reachable on foot within the time available for households to collect wood (defined by the average time per day an average household dedicates to wood gathering). Maps can be used to illustrate the harvesting area, where necessary.

1. Identify biomass types

Project participants should categorise the baseline sources of woody biomass into: woody biomass from forests and woodlands, woody biomass from croplands and/or grasslands, non-woody biomass from croplands and/or grass-lands, biomass residues, and non-fossil fraction of an industrial or municipal waste. Sources that are not significant (less than 5% of biomass consumed in the project) can be ignored. Biomass residues and any non-fossil fraction of industrial or municipal waste should be considered 100% renewable. Non-woody biomass should be assessed using an alternative method, since this methodology deals only with woody biomass.

2 Woody biomass from forests and woodland

The notion of non-renewable in the context of woody biomass consumption from forests and woodlands is understood as woody biomass consumption that contributes to deforestation or forest/woodland degradation. The critical factor is whether the consumption of woody biomass is greater than the incremental woody biomass growth. The total stock of woody biomass would be reduced in absolute terms beginning at the point where the consumption of woody biomass exceeds the rate of growth, as illustrated by this simple equation:

$$Gb/Db < 1$$

Where
Gb = growth in woody biomass
Db = use of woody biomass.

To make this concept operational, non-renewable woody biomass consumption (B) is defined as any woody biomass consumption (C) beyond the level of renewable woody biomass production (A). See figure 1 below:

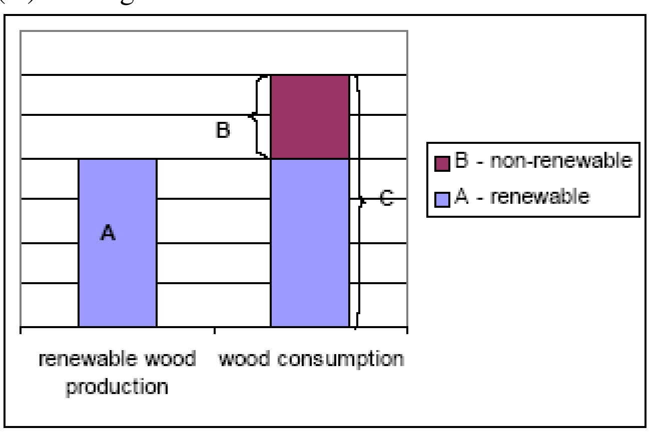

Figure 1

There are two conditions that must be assessed in order to determine whether woody biomass is renewable or non-renewable:

a) In the reachable harvesting area, does the consumption of woody biomass exceed the sustainable forest growth?
b) Does woody biomass consumption for fuel by the type of energy users associated with the project activity (e.g. by households) constitute a significant share of total woody biomass consumption?

Condition a: In the reachable harvesting area, does the consumption of woody biomass exceed the sustainable forest growth?

This condition is an operationalisation of the concept of non-renewable fuel wood. Sustainable forest growth is defined as the mean annual increment of reachable forest/woodland areas (reachable harvesting area). Consumption of woody biomass is defined as the sum of all woody biomass consumption, including use for timber, use for households etc (if insufficient data is available, insignificant sources of woody biomass consumption can be ignored as this is conservative). If relevant the project should also try to adjust for import and export out of the region.

This condition is met if:
Mean annual increment (A) < Total annual woody biomass consumption (C)

Calculation guidance:
A: Mean annual increment (tonnes/year) = reachable forest area (in ha) * mean annual increment/ha (m^3/ha/year) * average density of wood (tonnes/m^3)
The mean annual increment of the forest type in question may be derived from national or local statistics, or other sources of information such as remote sensing data or surveys.

C: Total annual woody biomass consumption (tons/year) = timber wood consumption (x) + industrial fuel wood consumption (y) + household fuel wood consumption (z) + other uses and net exports, as appropriate

Condition b: Does woody biomass consumption for fuel, by the type of energy users associated with the project activity (e.g. by households), constitute a significant share of total woody biomass consumption?

This condition has to be met in order to demonstrate that consumption by the type of energy users associated with the project activity is indeed a driver in significant deforestation / forest degradation. The project can demonstrate that a particular user type (e.g. households) has a significant share if it meets one of the following criteria (note, the word ‘household’ here could be replaced by other user types e.g. ‘industrial users’):

- (Household) woody biomass consumption > Annual Increment (A)
- (Household) woody biomass consumption is the largest woody biomass consumption sector;
- Share of (household) woody biomass consumption as a proportion of total woody biomass consumption (C) is greater than 30%

3 Woody Biomass from croplands and/or grasslands

The notion of non-renewable in the context of woody biomass consumption from croplands and/or grasslands is understood as woody biomass consumption that contributes to a reduction in tree and shrub cover on croplands and/or grasslands. The critical factor is again whether the consumption of woody biomass is greater than the incremental woody biomass growth. Again, the total stock of woody biomass would be reduced in absolute terms beginning at the point where the consumption of woody biomass exceeds the rate of growth, as illustrated in figure 1 above.

Similarly, there are two conditions that must be assessed in order to determine whether woody biomass is renewable or non-renewable:

a) In the reachable harvesting area, does the consumption of woody biomass exceed the sustainable woody biomass growth?
b) Does woody biomass consumption for fuel by the type of energy users associated with the project activity (e.g. by households) constitute a significant share of total woody biomass consumption?

Condition a: In the project area, does the consumption of woody biomass exceed the mean annual increment of the cropland/grassland area?

Consumption of woody biomass is defined as the sum of all woody biomass consumption, including use for timber, use for households etc (if insufficient data is available, insignificant sources of woody biomass consumption can be ignored as this is conservative). If relevant the project should also try to adjust for import and export out of the region.

This condition is met if:
Mean annual increment (A) < Total annual woody biomass consumption (C)

Calculation guidance:
A: Mean annual increment (tonnes/year) = reachable harvesting area (in ha) * mean annual increment/ha (m^3/ha/year) * average density of wood (tonnes/m^3)
The mean annual increment of the cropland/grassland in question may be derived from national or local statistics, or other sources of information such as remote sensing or survey data

C: Total annual wood consumption (tons/year) = timber wood consumption (x) + industrial fuel wood consumption (y) + household fuel wood consumption (z) + other uses and net exports, as appropriate

Condition b: Does woody biomass consumption for fuel, by the type of energy users associated with the project activity (e.g. by households), constitute a significant share of total woody biomass consumption?

The project can demonstrate that a particular user type (e.g. households) has a significant share if it meets one of the following criteria (note, the word ‘household’ here could be replaced by other user types e.g. ‘industrial users’):

- (Household) woody biomass consumption > Annual Increment (A)

- (Household) woody biomass consumption is the largest woody biomass consumption sector;
- Share of (household) woody biomass consumption as a proportion of total woody biomass consumption (C) is greater than 30%

4 Emission reductions can only be claimed in proportion to the reduction of non-renewable biomass

This condition ensures that the maximum emission reductions to be claimed cannot be more than the total emission reductions from non-renewable biomass.

The project can only claim emission reductions insofar it leads to a reduction in the unsustainable portion of biomass. This is illustrated in the figure below using two project examples. Project X can claim all emission reductions related to reduction in biomass consumption, because all reductions in biomass consumption are reductions in non-renewable sources of biomass. Project Y, instead, can claim only 67% of its emission reductions, since the total reduction in biomass attributable to the Project is larger than the amount of non-renewable biomass consumption in the baseline. That means that also a part (33%) of the *renewable* fuel wood consumption has been reduced. For this latter part, emission reductions cannot be claimed.

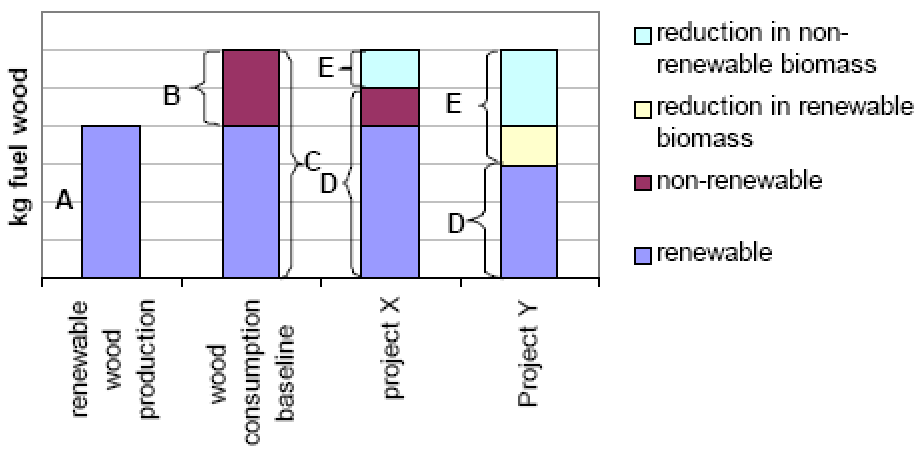

Figure 2

The project can claim emission reductions if it follows the following criteria:
a) The project can claim all emission reductions from its fuel wood savings if:

- the projected biomass consumption by the project (*after* the implementation of the project) (D) > Annual Increment (A); or
- the projected biomass reduction (E) < non-renewable fuel wood consumption in the baseline (B)

b) The project can claim emission reductions in proportion to the share of reduction in non-renewable fuel wood as part of the total fuel wood reductions (B/E) if:

- The projected fuel wood consumption after the implementation of the project (D) < Annual Increment (A) or
- The projected biomass reduction (E) > non-renewable fuel wood consumption in the baseline (B)