

CDM Projects for Poor Rural Communities —Methodological treatment to determine the baseline emissions?—

Climate Experts, Ltd.

Naoki Matsuo

Preface

For discussion of the practitioner workshops for CDM stakeholders, I would like to raise a baseline methodological issue for projects in low-income rural areas.

As expressed in COP/MOP decisions on LDCs, most people wish to promote the use of CDM for low-carbon development of the poor rural communities in developing countries.

Although PoA still has room for improvement to be a handy tool for this purpose, it is a welcome indication that a number of rural community projects are now going through validation.

However, preparing necessary documents like PoA DD, *etc.*, we sometimes find considerable difficulties in using methodologies, that is, the existing methodologies are overly strict—no allowance for the best solution—and sometimes inconsistent. Such problems are, in practice, hampering the implementation of the rural projects under CDM.

Here, we would like to show you such examples and the possible solutions.

Case Thermal Use in Poor Rural Communities

It should be a great opportunity for poor rural communities to realize low-carbon development by using technologies like household level biogas digesters and improved cooking stoves, and CDM should serve as a tool to promote such development.

However, an ‘interpretation’¹ presented by SSC WG especially for a small-scale CDM

¹ SSC WG rejected to revise the methodology to include coal consumption as the baseline emissions and said that “as savings in coal consumption is associated with many uncertainties that are beyond the control of the project participant (coal price, supply, regulations, coal quality such as moisture, NCV, household occupancy *etc.*).” It also shows its opinion to utilize some demand-side method without revising the methodology (thus para. 13 in v.17 remains) (F-CDM-SSCwg ver 01 SSC_346). The reason above is not appropriate theoretically to explain why historical coal consumption cannot be regarded as the baseline and demand-side method is better. As SSC WG did not show alternative

methodology AMS-I.C, virtually precludes such use of CDM.

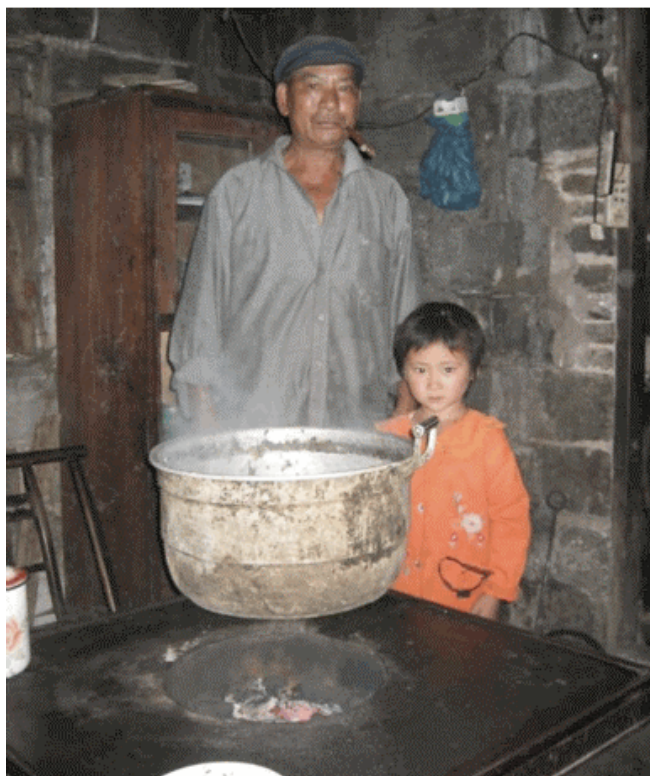
AMS-I.C. (v.17) states as follows:

13. For renewable energy technologies that displace technologies using fossil fuels, the simplified baseline is the fuel consumption of the technologies that would have been used in the absence of the project activity times an emission factor for the fossil fuel displaced...

The above statement is unambiguous expression based on the “definition” of the baseline.

When the baseline fuel is assumed to be coal, the baseline emissions in a project that will introduce biogas digesters for households should be calculated based on the historical coal consumptions before the implementation of the project (because it is unlikely that energy consumption will increase in poor rural communities).

This method—calculated based on the fuel supply—is far more precise and well-represents the definition of baseline. On the contrary, in order to calculate from the fuel demand side, we need to know the values of the three parameters, which are ‘biogas consumptions’, ‘thermal efficiency of project biogas cooking stove’ and ‘thermal efficiency of baseline coal cooking stove’. In addition, the energy by biogas supply (PJ) may not be same as energy by coal (BL). Theoretically, the former is correct for this case.



In reality, it is impossible to precisely measure especially the thermal efficiencies of the baseline cooking stoves² (see picture), and they vary widely from household to household.

Determining each of these values by sampling and taking the most conservative ones will sacrifice accuracy and require excessive conservativeness.

solution in the methodology, it may mean that this type of technologies have been put-on-hold.

² We need to know not only the value of cooking stove efficiency when it is used but also that of the estimated CO₂ emissions from long fire-making that would be required before cooking in the baseline.

On the other hand, for the method to use historical coal consumptions for the baseline emission calculation, however, the historical value for each household can be collected from (complete) survey from questionnaires,³ *etc.* as appropriate. This is a realistic and feasible way even in rural areas. And as it includes only a single parameter, we can limit the range of errors using a statistical method (thus avoid unnecessary conservativeness).

Thus, from the viewpoints of the concept of baseline as well as of accuracy, it is best and useful to calculate the baseline emissions from the supply-side fuel consumptions.

In addition, the methodological consistency with AMS-I.E., which is a similar methodology dealing with non-renewable biomass, should be secured, where the baseline emissions are estimated based on the amount of the supply-side non-renewable biomass.

Plus, it should be noted that a CDM project of “Project 2221: Hubei-Eco-Farming Biogas Project Phase I” was registered by adopting the method of surveying coal consumptions.

If the measurements of biogas consumptions as well as the efficiencies of the old and the new cooking stoves are enforced to target households, this kind of projects cannot be implemented. All PoAs utilizing household biogas technology targeting poor farmers now under validation are calculating their baseline emissions basically from the historical coal consumptions. If this method is not allowed, all of these PoAs will virtually be impractical.

Requiring more to the projects for poor rural communities than most of other SSC methodologies should not be the COP/MOP’s intention.

As for thermal energy use targeting poor households, the baseline emissions from non-renewable biomass are also calculated in an odd way. It is theoretically obvious that the baseline emissions in this case, in nature, should be as follows

Amount of non-renewable biomass × CO₂ emission factor of the non-renewable biomass

However, both AMS-I.E. and AMS-II.G. require to use a CO₂ emission factor of a fossil fuel, unreasonably underestimating CERs for farmers, and denying project diffusion.

Such methodologies that unreasonably underestimate CDM benefits, especially for socially vulnerables, must be revised as soon as possible. The role of SSC WG should not be to rule out concerns from the beginning but to think how to facilitate CDM projects for such communities and to make rules for it.

³ The questionnaires should be designed to eliminate an incentive to report higher values.