REPORT OF THE TWENTY-FOURTH MEETING OF THE SMALL-SCALE WORKING GROUP

UNFCCC Headquarters, Bonn, Germany
16–19 February 2010

RECOMMENDATIONS BY THE SSC WG TO THE EXECUTIVE BOARD

A. Opening of the meeting and adoption of the agenda

1. The Chair of the Small-Scale Working Group (SSC WG), Mr. Peer Stiansen, opened the meeting and welcomed the members. The SSC WG expressed its deep appreciation to the outgoing Chair Mr. Hugh Sealy, for the excellent contributions to the work of the group.

2. The agenda was adopted as proposed.

B. Revision of the simplified modalities and procedures for small-scale CDM project activities

3. The SSC WG considered submissions requesting revisions to, or clarifications of approved SSC methodologies as well as requests for the creation of new methodologies. The detailed responses provided by the SSC WG are made publicly available at: <http://cdm.unfccc.int/goto/SSCclar> and <http://cdm.unfccc.int/methodologies/SSCmethodologies/NewSSCMethodologies/index.html>. They can also be accessed by clicking the hyperlinked submission number in the table below.

Proposed new methodologies		
Submission number	**Title**	**Recommendation**
SSC-NM032-rev	Emission reductions through recovery of spent sulphuric acid	(See paragraph 28)
SSC-NM035-rev	Emission reductions through replacement of cement plaster with alternate industrial waste based plaster	(See paragraph 30)
SSC-NM036	Methane Recovery and thermal heat utilisation in Petroleum Refining Facilities	(See paragraph 31)
SSC-NM038	Fuel switch in a cogeneration/trigeneration system	(See paragraph 32)
SSC-NM039	Electronic Bus Dispatch System Implementation	(See paragraph 33)
SSC-NM040	Fossil Fuel Switch in Manufacturing of Ceramic Products	(See paragraph 34)
SSC-NM041	Installation of cogeneration and/or trigeneration systems supplying electricity and chilled water and/or heat	(See paragraph 35)
SSC-NM042	Avoidance of conventional fuel use by production, sale and consumption of solid biomass products	(See paragraph 36)
SSC-NM043	Emission reductions by using recycling material instead of raw material	(See paragraph 29)
SSC-NM044	Emission avoidance by replacing the use of CO_2 as filler bowl counter pressure in the filling operations with N_2 in a beverage industry	(See paragraph 37)
SSC-NM045	Hydrogen production by using alternative feedstocks	(See paragraph 38)
SSC-NM046	Reduction of methane emissions by switching from Transplanted to Direct Seeded Rice practice with adjusted water management	(See paragraph 39)
SSC-NM047	Switching Fossil Fuels at Steel Production Facilities	(See paragraph 40)
SSC-NM048	Conversion from single cycle to combined cycle power generation	(See paragraph 41)

Requests for revisions		
SSC_375	Inclusion of additional vehicle types in AMS-III.S and clarification of definition of routes and zones for public utility vehicles	(See paragraph 4)
SSC_377	Revision of AMS-I.D for renewable energy units delivering power to newly developed grids in the context of a PoA	(See paragraph 5)
SSC_378	Revision of AMS-I.D to include an additional option for EGestimated,y determination	(See paragraph 6)
SSC_380	Revision to AMS-1.D to allow use of "forage crops" from non-dedicated plantations as renewable biomass	(See paragraph 7)
SSC_379	Revision to AMS-II.C and/or AMS-II.J to facilitate CFL projects/programs	(See paragraph 8)
SSC_384	Proposal to review the condition (c) of the SSC methodology regarding the storage time of the manure after removal from the animal barns	(See paragraph 9)

Requests for clarifications		
SSC_363	Clarification on the applicability of AMS-I.C version 14 for separate heat and power	(See paragraph 12)
SSC_364	Clarification on the applicability of AMS-III.C to fuel switch in freight transportation	(See paragraph 13)
SSC_365	Clarification on the interpretation of para. 5 in AMS-III.F in relation to the use of sludge from two biogas projects in a new compost facility	(See paragraph 14)
SSC_366	Clarification regarding the consideration of biomass assessment and leakage under AMS-I.D	(See paragraph 15)
SSC_367	Clarification on the guidelines for type II & type III Greenfield projects in the general guidance to SSC methodologies	(See paragraph 16)
SSC_368	Degummed and neutralized oil as biomass	(See paragraph 17)
SSC_369	Debundling conditions and small-scale barrier analysis	(See paragraph 18)
SSC_370	Clarification on the applicability of AMS-II.E to a group of similar residential houses	(See paragraph 19)
SSC_371	Clarification on the monitoring of net electricity in AMS-I.D	(See paragraph 20)
SSC_372	Applicability of AMS-III.AG to a project activity involving capacity expansion	(See paragraph 21)
SSC_373	Clarification on the monitoring requirements for technical energy losses metering in AMS-II.A	(See paragraph 22)
SSC_374	Clarification on calculation of baseline emissions for retrofitted boilers in AMS-1.C	(See paragraph 23)
SSC_376	Clarification on the monitoring of "methane recovered, fuelled, flared or utilized" in AMS-III.H	(See paragraphs 10 and 24)
SSC_381	Clarification on emission reduction calculation in cases where energy output cannot be measured directly in AMS-III.B	(See paragraph 25)
SSC_382	Applicability of AMS-II.D for energy efficiency measures in gas manufacturing facility	(See paragraph 26)

SSC_383	Clarification on the treatment of the liquid digester effluent and the proper soil application of the final sludge	(See paragraph 27)

C. Revisions & requests for revision of approved methodologies

4. **Revision of AMS-III.S**: in response to SSC_375, the SSC WG indicated that, in principle, the methodology could be expanded to include additional vehicle categories such as jeepneys, tricycles and shuttle vans; however, the proposed revisions with regard to pre-identified routes/zones would render the methodology internally inconsistent. The project proponents are encouraged to propose corresponding changes to monitoring requirements including average distance travelled, number of passengers commuted, frequency of operation etc.

5. **Revision of AMS-I.D:** in response to the submission SSC_377 requesting a revision of AMS-I.D in the context of a project activity under a program of activities (PoA) to include newly set up mini grid comprising of renewable energy generating units such as mini hydro units, the SSC WG agreed not to recommend the revision since such project activities are only applicable under AMS-I.A.

6. In response to SSC_378 requesting a revision of AMS-I.D procedures to determine baseline emissions of a hydro project retrofit, the SSC WG agreed that the corresponding procedures of ACM0002 can be included in AMS-I.D as an additional option available to project proponents.

7. In response to SSC_380 requesting a revision of AMS-I.D to include biomass from forage crops or short-cycle cellulosic biomass crops as eligible renewable biomass for use as feedstock to biogas digester, the SSC WG agreed to request further information from the project proponents, e.g., conditions that ensure there is no shift of pre project activities in the areas of cultivation of biomass and how the project missions from cultivation such as soil carbon losses, irrigation and fertilizer use are accounted for.

8. **Revision of AMS-II.C and/or AMS-II.J:** in response to SSC_379 requesting a revision of AMS-II.C and/or AMS-II.J for household lighting retrofit projects, the SSC WG agreed to consider the suggestions made in its ongoing efforts to revise and broaden AMS-II.J.

9. **Revision of AMS-III.D:** in response to SSC_384 requesting a revision of AMS-III.D to include an option for a longer period of storage of manure after removal from the animal barns, the SSC WG agreed to recommend a revision of AMS-III.D as contained in annex 1, including procedures to calculate project emissions when manure is stored for periods longer than 24 hours. The proposed methods are consistent with the methods of AM0073.

10. **Revision of AMS-III H:** in response to SSC_376, the SSC WG agreed to propose a revision of the methodology (as contained in annex 2) to clarify the monitoring requirements with regard to flow rate of biogas (see also paragraph D. 24).

11. **Revision of AMS-I.E**: (see paragraph G. 42below).

D. Clarifications on approved methodologies

12. In response to SSC_363, the SSC WG agreed to clarify that only cogeneration project activities (simultaneous heat and power) are eligible under AMS-I C, activities for producing heat and electricity in separate elemental processes (i.e., heat from biomass boiler and electricity from biogas engine) are required to apply AMS-I.C and AMS-I.D respectively for heat and electricity components.

13. In response to SSC_364, requesting clarification on the applicability of AMS-III.C to fuel switch in freight transportation, the SSC WG agreed to clarify that AMS-III.C in its current form is only applicable for project cases involving replacement of complete vehicles and introduction of new vehicles and not components thereof.

14. In response to SSC_365 pertaining to ASM-III.F, the SSC WG agreed to indicate that the issues raised in the submission that arise on account of multiple CDM projects being implemented in the same geographical location are related to validation and are not methodological issues related to requirements of AMS-III.F.

15. In response to SSC_366 requesting clarification on the requirements of 'General guidance on leakage in biomass project activities' with regard to surplus availability of biomass when multiple types of biomass are proposed for use by the project activity, the SSC WG agreed to clarify that aggregate availability of biomass (including all sub-types together) can be considered for the purpose of assessment.

16. In response to SSC_367, requesting clarification on type II & type III Greenfield projects in particular applicability of methodologies as inferred from the methodologies versus guidelines in the 'general guidance to SSC methodologies', the SSCWG agreed to clarify that the requirements of the methodology have precedence[1].

17. In response to SSC_368, requesting a clarification on whether chemically processed and neutralized plant oil may be considered as biomass under type I methodologies to produce electricity displacing fossil fuel, the SSC WG agreed to clarify that the proposed technology/measure is eligible. However the cultivation area and plant oil processing facilities have to be included into the project boundary and relevant procedures of AMS-III.T/ACM0017 and/or General Guidance need to be followed to estimate emission reductions.

18. In response to SSC_369, SSC WG agreed to clarify that a residential lighting project applying AMS-II.J and a project for street lighting applying AMS-II C are not to be considered as debundled components of a large scale project activity.

19. In response to SSC_370 requesting clarification on applicability of AMS-II.E for energy efficiency projects aiming at improved insulation of rural houses, the SSC WG noted that in its present form AMS-II.E does not adequately cover the proposed technology/measure. However it agreed to continue to consider the case subject to receipt of further information from the project proponents.

20. In response to SSC_371 pertaining to monitoring of net electricity supplied by an AMS-I.D hydro project, the SSCWG clarified what constitutes "Net Electricity Generation" versus "Gross Electricity Generation".

21. In response to SSC_372 pertaining to applicability of AMS-III.AG to capacity expansion of an existing natural gas -fired power plant to supply electricity to an existing commercial complex as well as to a new commercial complex, the SSC WG clarified that a revision of the methodology would be necessary for example including the relevant procedures of AM0084 before the methodology can be applied to the described project activity.

22. In response to SSC_373 requesting clarification on the monitoring requirements of technical energy losses in AMS-II.A, the SSC WG indicated that it can only respond if further information requested, including the context of the query is provided.

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[1] Guidelines contain supplemental information such as acceptable methods for satisfying requirements described in the standards which is in this case methodologies.

23. In response to SSC_374 requesting clarification on the applicability of AMS-I.C for retrofit projects switching from coal to biomass residues in boilers for thermal energy production, the SSCWG agreed that AMS-I.C is in principle applicable to the described project activity. More detailed procedures for retrofit/modification of existing fossil fuel thermal generating equipment to enable the use of biomass residues shall be included at the time of proposing the next revision to AMS-I.C.

24. In response to SSC_376 requesting clarification on the monitoring procedure of the recovered biogas, the SSC WG agreed to clarify that if the biogas flared and fueled (or utilized) is being continuously monitored separately, then the total flow of recovered biogas need not be monitored separately.

25. In response to SSC_381 requesting clarification on the applicability of AMS-III.B for a project activity that involves switching from coal gas to natural gas in a kiln that produces ceramic product and whose energy output cannot be directly measured, the SSC WG clarified that AMS-III.B is not applicable and a new methodology would be required for such project activities. It may be noted that the SSC WG is already considering proposals SSC-NM040 and SSC-NM047 involving fossil fuel switch in an element process whose output can not be measured in energy terms.

26. In response to SSC_382, requesting a clarification that the proposed project activity described in the submission (i.e., energy efficiency measures through process optimization including loss reduction, pressure optimization and computer controlled process automation in an industrial gas manufacturing facility) complies with the specific requirements of AMS-II.D, the SSC WG clarified that the query is not within the scope of the work of the SSC WG as it contained no methodological issue in need of clarification.

27. In response to SSC_383 requesting clarification on the treatment of the liquid digester effluent and handling of the final slurry in AMS-III.D, the SSC WG clarified that all output (liquid/slurry/sludge) should be treated aerobically; otherwise resulting emissions should be considered as project emissions.

E. Proposed new methodologies

28. In response to SSC-NM032-rev, the SSC WG agreed to recommend a new methodology entitled “Emission reductions through recovery of spent sulphuric acid” as in annex 3. The methodology is for recovering sulphuric acid from ‘spent sulphuric acid’ generated from manufacturing industries such as chemicals, dyes, pigments, drugs production. By recovering sulphuric acid, neutralization of spent acid with hydrated lime or lime stone and the associated CO_2 emissions in the existing facility are avoided. The energy released during recovery of acid is used for heat/electricity generation to displace fossil fuel thereby resulting in further emission reductions.

29. In response to SSC-NM043, the SSC WG agreed to recommend a new methodology entitled “Recovery and recycling of materials from solid wastes” as contained in annex 4. This methodology covers activities for recovery and recycling of high density polyethylene (HDPE) and low density polyethylene (LDPE) materials in municipal solid wastes to process them into intermediate or finished products e.g., plastic resin to displace production of virgin HDPE and LDPE materials in dedicated facilities thereby resulting energy savings and emission reduction.

F. Response to requests for new methodologies

30. In response to SSC-NM035 for activities replacing cement plaster with alternative industrial waste material (e.g., phosphor gypsum) in new and existing facilities, the SSC WG agreed to seek further clarifications e.g., baseline alternatives to cement plaster, cement production emissions and treatment of users of the plasters.

31. In response to SSC-NM036, proposing a new methodology for methane recovery and thermal heat utilisation in petroleum refining facilities, the SSC WG agreed not to recommend the methodology as the group was of the opinion the small-scale methodology framework can not adequately capture the energy consumption and emission attributes of many interlinked processes of the complex industrial operations described in the submission and therefore can not guarantee with certainty emission reductions from such project activities. Besides methodological shortcomings in the submission, the SSC WG took into account the related guidance from the Board e.g., paragraph 58 of EB 47, annex 15 of EB 52 and annex 11 of EB 51 in making these conclusions.

32. In response to SSC-NM038 for fossil fuel switch in Greenfield and existing captive cogeneration or trigeneration plants[2], the SSC WG agreed to request further inputs on reference plant approach for determining the baseline scenario and the conditions that ensure comparable level of energy services delivered during the baseline versus project situation.

33. In response to SSC-NM039 for improving bus transportation management including electronic bus dispatch systems, the SSCWG agreed not to recommend the methodology as there were fundamental concerns, for example the emission reductions rely on a behavioral change for which neither an appropriate conservative baseline can be defined nor an accurate estimation of project emissions can be determined under the small-scale methodological framework.

34. In response to SSC-NM040 for fossil fuel switch in manufacturing of ceramic products in new and existing facilities, the SSC WG agreed to request further inputs on methods to distinguish for example the variation in specific energy consumption due to process related parameters, e.g., material quality, improved efficiency of the process from the emission reduction that would occur due to fuel switch.

35. In response to SSC-NM041, for cogeneration/trigeneration activities in existing and new buildings, the SSC WG agreed to seek further inputs on methods for establishing the baseline for Greenfield/capacity expansion projects. Project proponent may consider the reference plant approach provided in AM0084 in providing further inputs.

36. In response to SSC-NM042, for renewable solid biomass fuel production (also known as briquette/pellet) from biomass residues which are sold and distributed to end users, the SSC WG requested further inputs regarding monitoring procedures that would ensure that briquettes produced will be consumed to displace fossil fuel use.

37. In response to SSC-NM044 for switching from CO_2 to N_2 as filler bowl counter pressure in the filling operations in a beverage industry, the SSC WG requested clarification on procedure to determine the baseline emission factor that distinguishes between CO_2 used for carbonization purposes and that used for maintaining the pressure during filling operation in the baseline. There is a need for significant improvement in the drafting quality of the methodology, e.g., key applicability conditions and algorithm for emission reductions calculations are missing.

38. In response to SSC-NM045 for shifting from natural gas to hydrogen rich waste stream as an alternative feedstock in the production of hydrogen, the SSC WG agreed not to recommend the methodology as the group is of the opinion that it is not feasible to credibly demonstrate that hydrogen with intrinsic energy value would be emitted to the atmosphere as a waste gas using the small-scale methodology framework.

39. In response to SSC-NM046 for reduced methane emissions from rice fields by shifting from continuously flooded, transplanted rice methods to directly seeded rice resulting in reduced periods of flooding and consequent reduction in methane emissions, the SSC WG agreed to seek

[2] Combined cooling, heat and power generation.

further inputs from the project proponents e.g., consideration of organic inputs from the previous rice production cycle, more rigorous monitoring procedures. It also requested expert inputs and agreed to continue to consider the case.

40. In response to SSC-NM047 for fossil fuel switching in a re-heating furnace at existing steel manufacturing facilities, the SSC WG agreed to seek further inputs regarding project boundary (e.g., it is not clear whether the product is the output of the re-heat furnace or the final product of the steel plant). The variation in specific energy consumption due to *ex post* energy efficiency measures need to be addressed among others.

41. In response to SSC-NM048 for conversion of an existing cogenerating single cycle gas turbine to a combined cycle gas turbine, the SSC WG agreed to request further inputs on credible methods to determine baseline for thermal energy production and to ensure that the waste heat intended for recovery and use was indeed being released to atmosphere in the baseline.

G. Request for deviation

42. In response to request for deviation entitled "M-DEV0281: Using an alternative approach to determine the baseline emission factor based on the procedures given in the Tool to determine the baseline efficiency of thermal or electric energy generation systems", the SSC WG agreed to recommend that the project may use a default efficiency value of 85% for the baseline boilers or alternatively conduct a measurement campaign to determine the baseline efficiency and adopt the measured value in a conservative manner, i.e., cap applies to the lowest efficiency value that can be used.

H. Public consultation (Workshops, Side events, Public inputs)

43. The SSC WG continued its work on the revision of cook stove methodologies taking into account the inputs received at the Bonn Workshop of October 2009 (see http://cdm.unfccc.int/Panels/ssc_wg/workshop/091026/index.html for proceedings and presentations). It agreed to recommend a revision to AMS-I.E as contained in annex 5 of this report to include the changes below which are consistent with the changes to AMS-II.G approved by the Board at its fifty-first meeting:

- Further clarification on the eligible technology/measures;
- Default efficiency factors for baseline cook stoves;
- Procedures for sampling;
- Revised procedures for quantity of woody biomass that can be considered as non-renewable; and
- Clarifications as to which leakage requirements are appropriate for projects versus PoAs.

44. It agreed to continue to consider additional modifications to AMS-I.E, AMS-II.G and AMS-I.C, based on stakeholder inputs, expert inputs and the analysis by the group and make further recommendations at a future meeting.

45. As requested by the Board at its forty-seventh meeting, the secretariat organized a side event at CMP.5 entitled 'Energy efficiency under the CDM: Lessons learned, opportunities and challenges'. The side event aimed at achieving better understanding of the methodological constraints on the application of small-scale end-use energy efficiency methodologies. The SSC WG took stock of the feedback received at this event and agreed to continue to work on these methodologies with a view to improve their usability. The presentation and proceedings of the event can be accessed at: http://www7.cop15.meta-

fusion.com/kongresse/cop15/templ/play.php?id_kongressmain=1&theme=unfccc&id_kongresssession=2410 and http://regserver.unfccc.int/seors/reports/events_list.html?session_id=COP15.

46. As requested by the Board at its fifty first and fifty second meetings, the SSC WG commenced work on development of top down methodologies (see annex 15 of EB 52 and annex 11 of EB 51)[3] in the priority sectors defined by the Board.

47. The SSC WG has prepared an initial draft of a small-scale energy efficiency exterior lighting methodology as in annex 6 of this report. In addition, the SSC WG is considering modifications to the existing CFL methodology 'AMS-II.J Demand-side activities for efficient lighting technologies' and the general energy efficiency methodology 'AMS-II.C Demand-side energy efficiency activities for specific technologies' including the addition of new lighting technologies. Lastly, the SSC WG is working on a new methodology for replacing kerosene lamps with LED or other lighting technologies taking into account expert inputs. The SSC WG recommends that the Board may wish to open a call for public and expert inputs on specific aspects of these methodologies as listed in annex 7 to this report.

48. The SSC WG has also prepared an initial draft of a small-scale domestic solar water heating (SDWH) system methodology as contained in annex 8 of this report. The SSC WG recommends that the Board may consider opening a call for public and expert inputs on specific aspects of this methodology as listed in annex 9 to this report.

I. General guidance

49. In response to a request from the Board to further clarify options for monitoring of renewable biomass in SSC methodologies, the SSC WG based on a preliminary analysis of the issue, agreed that differentiation should be made between the cases where the quantity of biomass used by the project activity directly impacts the emission reduction of the project activity versus the cases where the quantity of biomass is not included in the equations to estimate baseline emission. The group agreed that in the latter cases e.g., as in the case of AMS-I C or AMS-I.D it is feasible to include a more flexible approach to monitoring. The parameters of importance here would be net calorific value (NCV), weight or volume & density, the impact of uncertainties in the measurement of these parameters is relatively small, and mainly in the *ex ante* estimations of emission reductions/project size. *Ex post* the energy output of the biomass using equipment (boiler, furnaces, etc.) is dependent on the energy content of the wastes, and not as much on the characteristics of the biomass waste, thereby providing a choice between directly measured weight and measured volume & density. However for the former cases e.g., AMS-III E or AMS-III F more accurate method of measuring and recording the quantity of biomass would be required that is consistent with the underlying assumptions of first order decay model of IPCC. The SSC WG will propose modifications to clarify the issue in the respective methodologies at a future meeting.

50. In response to the request[4] to allow use of AMS-III.R in conjunction with AMS-I C in Hunan Household Biogas Digester PoA, the SSC WG agreed to indicate that the proposed combination of the methodologies is appropriate noting that the applicability conditions of AMS-III.R require that the methodology can only be applied in conjunction with AMS-I C.

51. As requested by the Board, the SSC WG continued its work on exploring the use of default operating parameters in small-scale methodologies (see EB 47, paragraph 66)[5] and agreed to recommend a default value 60% for methane content in biogas for optional use in the approved methodologies AMS-III.R and AMS-III.D. The default value was computed based on extensive

[3] See also paragraph 23 and 48 of 2/CMP.5.

[4] This request was received in accordance to 'Procedures for approval of the application of multiple methodologies to a programme of activities' (Annex 31, EB 47).

[5] See also paragraph 43 of 2/CMP.4.

measured data compiled from a number of AMS-III.D projects in addition to peer reviewed published literature on the topic (a conservative value was chosen deducting one times the standard deviation from the mean value of methane content).

J. Schedule of meetings

52. The SSC WG agreed to schedule its twenty-fifth meeting from **27–30 April 2010** taking into account the schedule of the Board. The deadline for new methodology submissions to this meeting is **02 March 2010** and the deadline for submitting requests for clarifications/revisions for this meeting is **30 March 2010.**

K. Desk Reviews

53. The SSC WG noted the satisfactory completion of the desk reviews undertaken for the proposed new SSC methodologies considered at the meeting.

External annexes to the twenty-fourth meeting of the SSC WG

Annex	1:	Revision of AMS-III.D
Annex	2:	Revision of AMS-III.H
Annex	3:	SSC-III.xx Emission reductions through recovery of spent sulphuric acid
Annex	4:	SSC-III.xx Recovery and recycling of materials from solid wastes
Annex	5:	Revision to AMS-I.E
Annex	6:	SCC-II.x Demand-side activities for outdoor and street lighting efficient lighting technologies
Annex	7:	Questions for public and expert inputs on updating and expanding EE lighting methodologies
Annex	8:	SSC-I.x Solar thermal domestic water heating systems
Annex	9:	Questions for public and expert inputs on solar water heating methodology