Assessment of comments received on the draft revised methodology AMS-III.Q "Waste energy recovery (gas/heat/pressure) projects" through the call for public input

I. Background

1. The Executive Board (hereinafter referred to as the Board) of the clean development mechanism (CDM), at its sixty-seventh meeting launched a call for public input on the draft revised methodology AMS-III.Q, as recommended by SSC WG 36, and that was open from 14th May 2012 to 11th June 2012.

2. Three submissions were received from the stakeholders during this public call for input. The submissions were made by:

(a) Mr. Lalit Kumar Singhania;

(b) Mr. Vikas Thakur; and

(c) Mr. Rajendra Kumar Vishnoi.

3. The SSC WG at its thirty-eighth meeting thanked the authors of the submission for the useful suggestions made towards the revision of AMS-III.Q. In response to the specific questions/issues raised in the submissions, responses were prepared by the secretariat and the SSC WG. The table below provides detailed assessment of comments received through the call for public input.

Table I: Assessment of comments received through public call of input

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#	**Submitted by**	**Line/ Para no.**	**Type of input** **ge** = general **te** = technical **ed** = editorial	**Comment**	**Proposed change (proposed text)**	**Final response to the comment:** • **Note: The revised draft methodology AMS-III.Q mentioned below shall be referred to (Annex 5 of SSC WG 38 meeting report)**
1.	Lalit Kumar Singhania	-	te	That last three years data are very difficult to collect about the quantum of Waste Heat or Flue Gases. As it is usually not possible to monitor the Hot waste flue Gases		There are various options as listed under paragraph 4 (i) of the revised draft methodology AMS-III.Q; such as energy balance, energy bills, Manufacturer's specification, DOE site visit to demonstrate that waste energy utilized in the project were flared/released into the atmosphere and only one of the options i.e., "direct measurement" need to have three years data
2.	Lalit Kumar Singhania	-	te	That last three years data are not required to establish the **"no use of waste heat"**; as the project facility is operating as on date of the site visit of validation. It can be easily determined by the DOE during site visit by inspection of the facility whether the waste heat is being used for any beneficial purpose or not or is it being wasted to the atmosphere		As discussed above, requirement on three years of data is mandatory in one of the options out of the five as given in the revised draft of AMS-III Q. The fifth option is added in the revised draft which allows **on-site checks** by the DOE to confirm that no waste energy was recovered and utilized prior to the implementation of the CDM project activity

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3.	Lalit Kumar Singhania	-	te	Similarly so long as the Grid is considered as the baseline then there is no need to have any historical data of three years or even less for this purpose. The existing provision in methodology requires to consider the existing source of power as baseline. So far this also to determine Grid as baseline; it is not required to have last three years data. Methodologies AMS-III.Q referred that CO2 emission factor of the electricity EFelec,gr,j,y shall be determined following the guidance provided in the "Tool to calculate the emission factor for an electricity system"		See paragraph 12 of the revised draft methodology, if the baseline for electricity is a grid, emission factor shall be calculated using "Tool to calculate the emission factor for an electricity system"
4.	Lalit Kumar Singhania	-	te	If the coal based captive power plant is the existing source as on date of validation, then also no data is required for last three years to consider this as baseline. The best way to adopt a conservative approach in this regard is to apply the CO2 emission factor of the most efficient available Technology in the region to produce power from coal which can be established by obtaining at least three manufacture's technical efficiency offer. Most conservative of the some can be adopted		About requirement on historical data for baseline determination, please see responses to comment 5 and 8. CO_2 emissions factor of the captive plant can be determined by estimating conservative efficiency using the "Tool to determine the baseline efficiency of thermal or electric energy generation systems" which include various options including default values. This is already addressed in paragraph 12 and 14 of revised AMS-III.Q.

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5.	Lalit Kumar Singhania		Ge/te	The assessment of **recipient facility** has got no use at all and it is very confusing because the generated power can either be consumed Captive or sold to grid. The emission reduction takes place due to replacement of fuel from coal to waste heat in power generation process. Which may take place in a Grid based power plant or captive power plant. Thus the recipient facility consumption data is not at all required; it only adds to confusion and creates complication and delay in validation. This does not serve any purpose nor it is clear as what is the applicability to it. Even in ACM00012 ver. 4 also; it is not clear as how the data of recipient facility is to be applied and where and for what purpose this has to be applied why such complication is required to be added to methodologies once the baseline for use of waste heat and source of power is already established		– Please see paragraph 9 of the revised AMS-III.Q, which prescribes ; *Baseline determination shall be based on relevant operational data immediately prior three years to the start date of the project activity (or the start date of validation with due justification). For existing facilities, which has three years of operation history but do not have sufficient operational data for the purpose of determining baseline, all historic information shall be available (a minimum of one year operational data shall be required).”*
6.	Lalit Kumar Singhania	-	te	In order to **“cap”** the emission reduction the most simplest thing to do would be to cap the total quantum of emission reduction as claimed in the Registered PDD and at best up to which level the sensitivity analysis has been done. In case it is found that higher PLF in the Project Activity has been achieved during the year of operation then the additionality of the Project Activity using that PLF for the same input values used during the financial analysis be		The suggested approach is beyond the scope of the SSC WG and per the CDM Modalities and Procedures, additionality is assessed only at the time of registration

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				carried out and if at that PLF the Project Activity crosses the Bench Mark then the CER's must not be issued for that year. In case the Project Activity continues to achieve higher PLF for more than 3 years then Registered Project Activity should be de-registered from there onwards.		
7.	Lalit Kumar Singhania	-	te	In order to determine the "fcap" to cap the energy that would have been produced in project year y methodologies AMS-III.Q referred procedures of fcap determination given in methodologies ACM 0012.Methodologies ACM 0012 provides the procedure to determine the "fcap" **when historical data is available in Method-1 and procedure to determine the "fcap" when historical data is not available then Method -2 and Method-3 can be applied. The historical data for existing facilities of three years of operational (a minimum of one year operational data) is not a compulsory requirement for the determination of "fcap" according to ACM 0012, too also for fixing 'f' Cap when Method -2 and Method-3 can be applied.**		Please refer to paragraph 11 of the revised AMS-III.Q; where methods referring to ACM0012 require historical data, data vintage requirement as specified in revised paragraph 9 of AMS-III.Q applies.

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8.	Vikas Thakur	-	te	In this revision of methodology under **"Technology/Measures"** it is proposed to remove the definition of "existing facility" as given in footnote_1 of existing version -4 of methodology which in footnote reads as under: *"facility that is existing on the starting date of the project activity (see definition in paragraph 67 of the EB 41 meeting report) and all options for demonstrating the use of waste energy in the absence of a CDM project activity shall be based on historic information and not on a hypothetical scenario."* *In place of the above definition in footnote the following definition of existing facility is being placed in the main text of the methodology draft version webhosted for the Call for inputs:* *"2. Existing facilities (includes the project facility and the recipient facility) are those that have been in operation for at least three years immediately prior to the start date of the project activity (see definition in paragraph 67 of the EB 41 meeting report). All options for demonstrating the use of waste energy in the absence of a CDM project activity shall be based on historic information and not on a hypothetical scenario."*	In this regard we wish to submit as follows: In the above mentioned definition as proposed in the draft revision of the methodology the definition of "existing facility" includes two part first is "project facility" second is "recipient facility". As this methodology is mainly being used for power generation through waste heat recovery thus the interpretation of scenario's of facilities can be done as follows: 1. Project facility: The facility where the WECM is generated (such as sponge iron; blast furnace; coke oven; clinker production in Cement etc) which would be recovered under project activity. 2. Recipient facility: The facility where utilization of electricity generated would take place. As electricity cannot be stored and have to be utilized (i.e. through captive use or through wheeling or through exporting/dumping to grid etc.). If any of the options is available (i.e. existing) then recipient facility will be considered as "existing", as grid is always	The purpose of restricting to existing facilities with further requirement to show that those facilities have been in operation for at least three years immediately prior to the start date of the project activity. This is in line with approaches we have in other approved SSC methodologies such as AMS-III.AN, AMS-III.AS; assuring that SSC meth maintain the simplicity of defined baseline in a conservative manner taking into account potential complexities and uncertainties involved on identifying baseline scenario for III.Q projects. In response to the specific comment "imposing a condition even to prove the grid as a recipient facility with last three year data immediately prior to the start date of project activity' does not have any purpose or significance; as grid is/will always be there and thus historical data; therefore should not be required for grid.", if it is considered that the grid connection is always be there and thus historical data is always available for grid, then our understanding in this case is that it shall be possible to comply with the

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					there to receive power, thus "GRID'' as a permanent recipient facility likely to be always there. Thus imposing a condition even to prove the grid as a recipient facility with "last three year data immediately prior to the start date of project activity' does not have any purpose or significance; as grid is/will always be there and thus historical data; therefore should not be required for grid. **Thus we request you to kindly exclude the word 'recipient facility" completely as this fundamentally does not serve any purpose and would rather create more and more confusion.** However if the EB feels it utmost necessary then the definition can be given as follows" *"2. Existing facilities (~~includes the project facility and~~ project facility) are those that have been in operation and were not having any use of waste heat in the process thus the waste heat was being emitted to atmosphere without any use for at least ~~thre~~ one years immediately prior to the generation*	definition of recipient facility as an existing facility providing evidence that the grid has been supplying electricity to project facility at least three years immediately prior to the start date of the project activity. However, for the purpose of calculating baseline emission factor for the grid, it is clarified in the revised AMS-III.Q that it shall be based on the tool and not based on historical information.

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					of power from ~~start date~~ of the or implementation of the project activity ~~(see definition in paragraph 67 of the EB 41 meeting report)~~. All options for demonstrating the use of waste energy in the absence of a CDM project activity shall be based on historic information for one year period prior to the commencement of power generation from the or implementation of the project activity and not on a hypothetical scenario."	
9.	Vikas Thakur	-	ge	Further to this under para 12 of revision of methodology proposed it is mentioned *"12. Baseline emission calculations shall be based on relevant historical data immediately prior three years to the start date of the project activity (or the start date of validation with due justification). For existing facilities with less than three years of operational data, all historic information shall be available (a minimum of one year operational data would be required)."*	Here we suggest that instead of "start date of project activity" the word "project implementation' or commencement of operation of the project activity" gives better result, as actual emission reduction will only takes place at the time when project activity is implemented or its operation is started. Thus if data for one year of operation of project facility is available on the date of "implementation of project activity" then it will be the appropriate for the determination of baselines emissions.	Please note the additionality of the project is demonstrated with respect to the decision making date, thus it is appropriate to consider the start date of project activity (or start date of the validation with due justification) for determining the baseline for the project activity

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					The suggested revision in para-12 is as follows: *"12. Baseline emission calculations shall be based on relevant historical data immediately prior one ~~three~~ years to the implementation (i.e. commencement of operation) ~~start date~~ of the project activity (or the start date of validation with due justification). For existing facilities with less than one ~~three~~ years of operational data, all historic information shall be available (a minimum of six months ~~one year~~ operational data would be required)."*	
10.	Vikas Thakur	-	ge	Under equation No. (1) for baseline calculation there is provision for fWCM, which is the brought there only for sake of arriving fraction of energy provided by waste energy containing materials, further to this is multiplied with EGi,j,y which means EGi,j,y is the figure from which fraction is required to be derived. But EG i,j,y is defined as follows:	*"The quantity of electricity supplied to the recipient "j" by generator, that in the absence of the project activity would have been sourced from "i th" source (i can be either grid or identified existing source) during the year y in MWh"* Whereas the phrase *"in the absence of project activity would have been sourced from ith*	fwcm can be considered 1 in the case where electricity is purely generated using WECM or where fraction of electricity generated using waste energy is known straight-forward using direct measurements. We do not see problem keeping fwcm in the equation and there is detailed procedure given in ACM00012 covering different situations where fwcm needs to be estimated

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					source" clearly indicate the *"only portion/fraction of useful energy that is generated due to project activity".* Thus this does not involve the energy from other sources than the project activity, hence how can fWCM will be applied here. Then there is no need to further multiplication of fWCM to this. Thus it requires to be suitably corrected. Or else the definition should be changed accordingly for EGi,j,y as *"The quantity of electricity supplied to the recipient j by generator(j is the useful energy generation facility which includes any other generation facility operating along with the Project activity to generate power), that ~~in the absence of the project activity~~ would have been sourced from i th source (i can be either grid or identified existing source) during the year y in MWh*	
11.	Vikas Thakur	-	ge	As this is a SSC methodology; thus simplification of baseline and monitoring methodology should be well justified and simplified.		The SSC-WG is of the opinion that the comparable similar large scale methodology mandates use of investment analysis for Greenfield facilities and includes rigorous

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				But why the Greenfield project activity are not allowed under this methodology? For simplification it can be proposed that Baseline should be exiting scenario, or hypothetical baseline or Greenfield baselines are not allowed under methodology. Or else like AMS I.C. various baseline option can be included in methodology for further simplification. But only for the sake of existing project facility the restriction of application of this methodology as proposed to be amended with at least three years historical data prior to the starting date is not justified. Thus it is suggested to either keep this as it is or allow only one year's data from the implementation /commencement of power generation from project activity		procedures to identify baseline scenario for the Greenfield projects. Therefore in order to retain the simplicity of the methodology and its scale the group agreed to recommend the revised AMS III.Q confining to existing facilities only
12.	Rajendra Kumar Vishnoi	-	te	It will be a wise approach to include the Green field waste energy generation facilities in AMS .III.Q Version 05. As large scale consolidated baseline and monitoring methodology ACM0012 is applicable to both Greenfield and existing waste energy generation facilities	Draft revision of Methodology AMS.III.Q. Version 05 require following change to cover green field waste energy generation facilities. We propose that the methodology may be amended as per below; Technology/measure 1. The category is for project activities that utilize waste gas and/or waste heat at existing facilities or new facility /green field facility converting the waste energy carried in the identified WECM	The SSC-WG is of the opinion that the comparable similar large scale methodology mandates use of investment analysis for Greenfield facilities and includes rigorous procedures to identify the baseline for the Greenfield in its methodology, therefore in order to retain the simplicity of the methodology and its scale it is decided to keep greenfield project activities out of scope of this methodology

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					stream(s) into useful energy. 2. Waste energy generation facilities; (i) Existing facilities (includes the project facility and the recipient facility) are those that have been in operation for at least one years immediately prior to the s date of commissioning/operation of the project activity (). All options for demonstrating the use of waste energy in the absence of a CDM project activity shall be based on historic information and not on a hypothetical scenario. (ii) Green field facilities are those that have started commercial production at the same time as project activity. 6. The category is applicable under the following conditions: (g) In cases where the energy is exported to other facilities (included in the project boundary), the following are required; we suggest to add the (IV) option in the methodology as below:: "(iv) where the energy (electricity) is exported to the Grid combined margin CO2 emission factor of	

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					recipient grid would be applied." (i) It shall be proven by using one of the following options that the WECM stream waste gas/heat/pressure utilized in the project activity would have been/were flared or released into the atmosphere in the absence of the project activity: this shall be proven by one of the following options, we suggest to add the (V) option in the methodology as below: "(v) Demonstrating the use of waste energy in the absence of a CDM project activity for Green field project activity shall be established through investment analysis to demonstrate that the drawing power from the baseline source or imported power from grid power the baseline alternative is financially more attractive than the Project activity." Logic behind the above suggestion: 1. That the implementation of the Project activity may sometime take 2-3 years of time from the start date of the Project Activity. Thus if the	

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					"start date" is considered as the reference date line then a large number of such small scale project get excluded in which the potential to generate less than 15MW power is only available. Such small project activities are not viable to apply ACM 0012 ver 4 or any large scale methodology. 2. Because the validation charges are so high for the large scale Project activity that people are not finding it viable even for the Actual large Scale Projects and thus are either not implementing or if have implemented it then are not going to get validated as cost of Validation and verification are becoming more than the CDM revenue. 3. It is a logical conclusion that the project facility viability is not related to the use of waste energy so long as the waste energy is not found to be of any use in the Project Activity; thus this does not require any more financial calculation. Hence for electricity energy generating project activities in the Waste energy generation	

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					facilities the combination of the Project facility with power generating project activities can be as below:- (i) Project facility (A)+ Power generation from Project Activity without CDM (B) =(A)+ (B) (ii) Project facility (A) + Power from Grid (C)= (A)+ (C) (iii) Project facility (A) + Power generation from Coal based CPP. (D)= (A)+ (D) In the above three option even if only power generation in the Project activity (I.E. OPTION (B)) from Waste energy generation facilities; Project Activity (B) is found less viable than either of (C) or (D) then considering the profitability of project facility (A) as constant and not influenced by the Project Activity; then there is no purpose to calculate the profitability of the Project facility. Calculating the profitability of the project facility will unnecessary add to the cost of validation, verification and increase the time and create more confusion and	

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					would be disincentive to SSC project proponents. So long as the profitability of project facility is independent of the project activity and it's alternatives till then there is no point or no use of linking the profitability of the Project facility to the Project Activity. To make it more clear please note the below equation: (i) If = {(A)+ (B)}< {(A)+ (C)}< {(A)+ (D)} (ii) THEN = { (B)}< { (C)}< {(D)} (iii) If ={(A)+ (B)}> {(A)+ (C)}> {(A)+ (D)} (iv) THEN =={ (B)}> { (C)}> {(D)} The above algebraic logic clearly establishes that there is no purpose and utility of Calculating the Profitability of the Project facility and only the profitability or the investment analysis of the Project activity and it's alternatives are sufficient for the purpose of establishing the additionality.	

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					Thus it is requested to kindly make suitable amendments in the Methodology and the Additionality test process or procedures.	