

Annotated Agenda 57

Revision of the “Guidelines for demonstrating additionality of microscale project activities”



Microscale additionality- CMP requests

- 3/CMP.6 (paragraph 38) welcomes the work of the CDM Executive Board on the establishment of simplified modalities for demonstrating additionality
- 3/CMP.6 (paragraph 39) requests the Board to continue to simplifying these modalities based on experience gained and to expand, as appropriate, their applicability to Type III projects that reduce emissions by less than 20,000 tonnes of carbon dioxide equivalent per annum and to report back to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its seventh session on the experience gained including the appropriateness of the threshold.



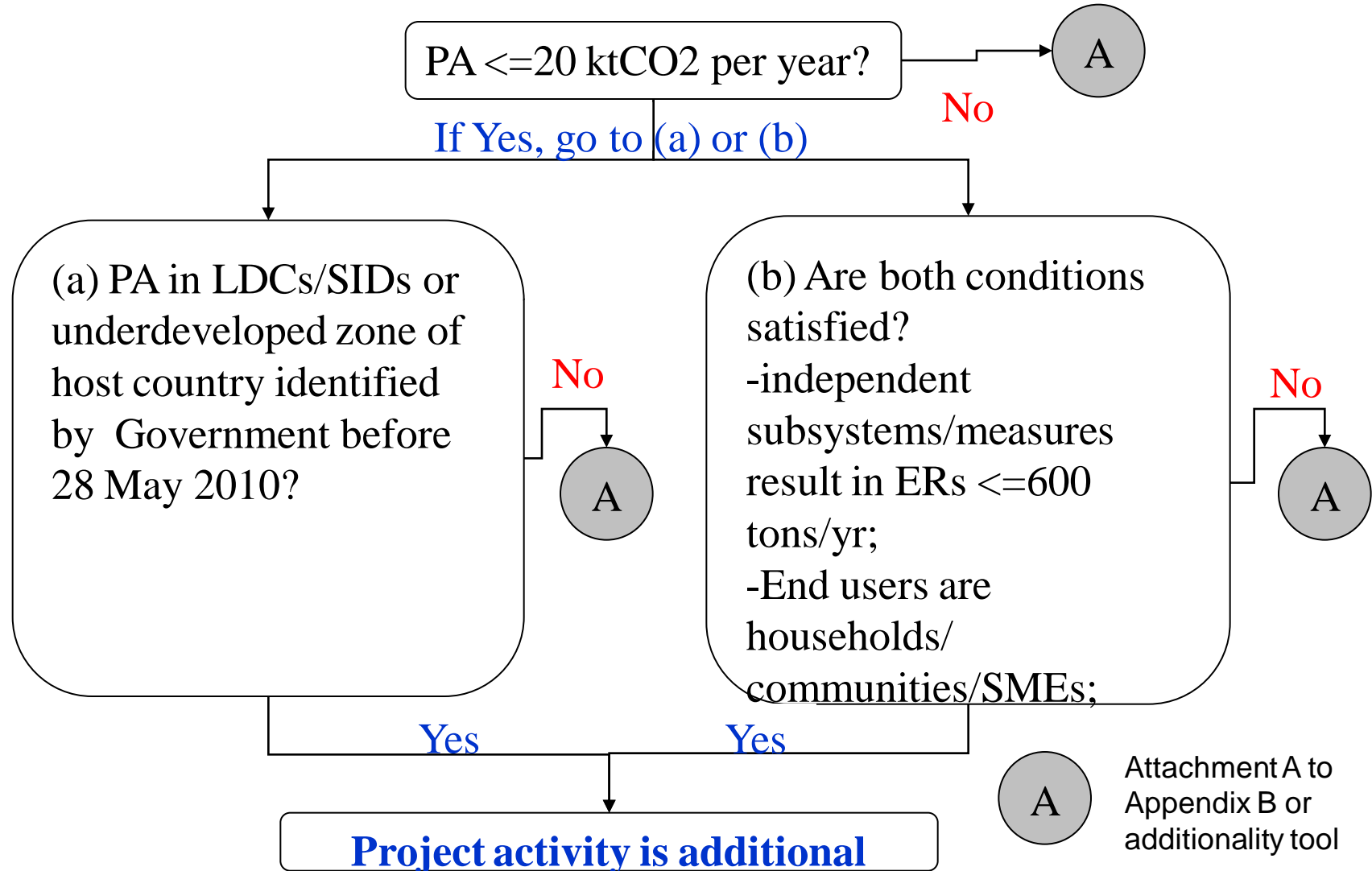
Microscale additionality guidelines

Guiding principles

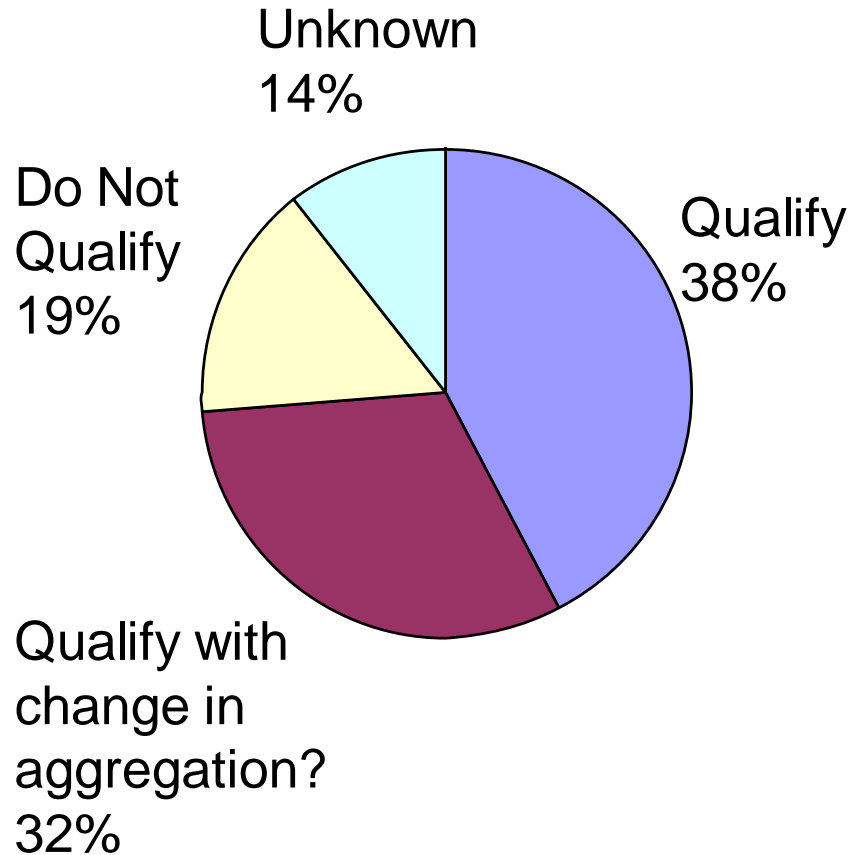
- Barrier due to **Size** renders project additional (conditions apply)
 - a) **S size in CDM:** $\leq 5\text{MW}$, $\leq 20\text{GWh/yr}$, $\leq 20\text{kt/yr?}$
 - b) **Geographical location** is **LDCs OR underdeveloped zones OR off grid areas in DCs** (small size and high investment risk);
 - c) **End users** of **distributed RE technologies** are **households/communities/SMEs** (currently low share of CDM benefits these target groups);
 - d) Specific **upcoming RE technologies** with **low share in national energy mix**. (Board and DNAs to identify)



Microscale additionality- type III projects



Microscale additionality to PoAs?

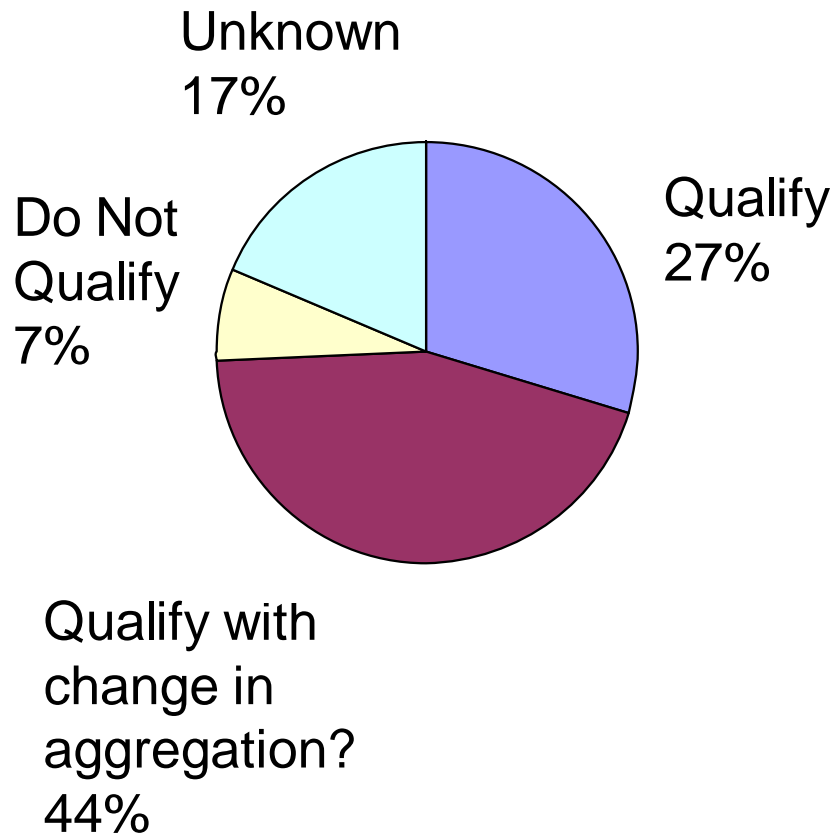


Domestic manure (Biogas)	6
Solar water heating	7
Run of river	3
Solar PV	2
Biomass energy	2
Irrigation	1

Impact on Type 1 PoAs: 21 PoAs



Microscale additionality to PoAs?



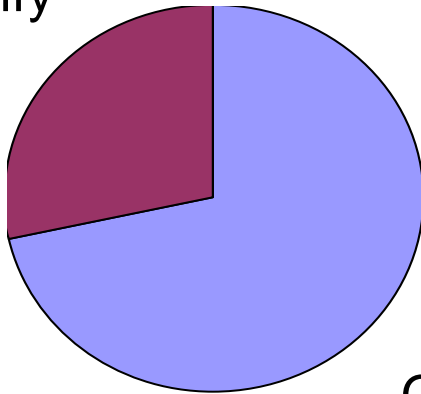
Stoves	11
Lighting in households	10
EE service	4
Energy distribution	3
EE industry	2

Impact on Type 2 PoAs: 30



Microscale additionality to PoAs?

Do Not
Qualify
33%



Qualify
67%

Composting	5
Manure	4
Oil to LPG	2
Wastewater	1
Scrapping old vehicles	1
Building materials	1
Solar lamps	1

Impact on Type 3 PoAs: 15



Microscale additionality- multi component PAs

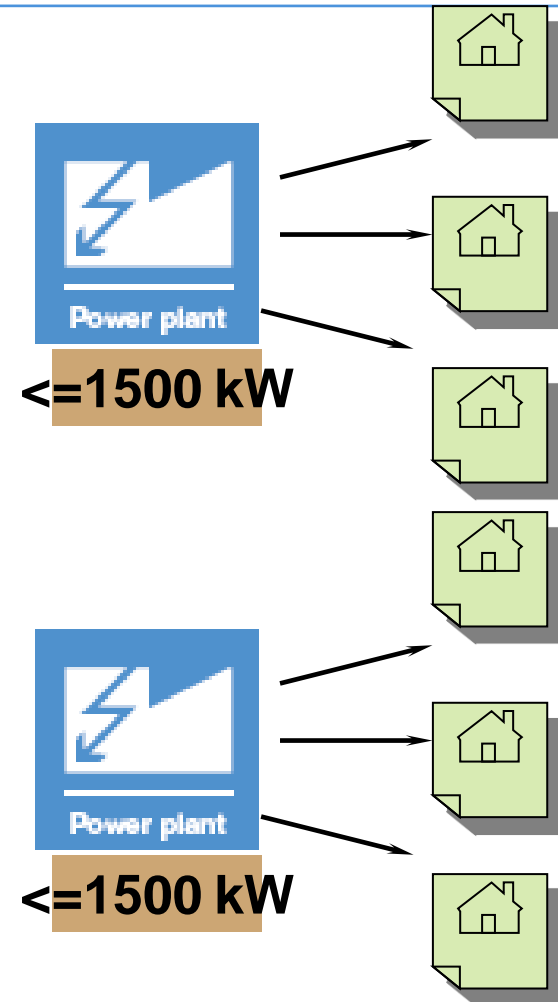
- PA with more than one component eligible
 - a) each component meets the microscale threshold
- Sum of size of components belonging to same type is within microscale threshold
 - a) e.g. the limit for the methane recovery component is 20 ktCO₂e/yr and the limit for the electricity production component is 5 MW output capacity



Biogas-to-Energy, Landfill gas-to-Energy, Wastewater gas-to-Energy

Microscale- new thresholds for distributed RE systems

- (c) PA for distributed energy generation (not connected to a national or regional grid) with;
- a) Each of the independent subsystems smaller than or equal to **1500 kW** (**750 kW before**) installed capacity;
 - b) End users are households/communities/SMEs
- Small scale/3= microscale
 - Microscale/3= distributed microscale
 - a) $15 \text{ MW}/3= 5 \text{ MW}$
 - b) $5 \text{ MW}/3= \text{approx } 1500 \text{ kW}$



Microscale- Guidance to secretariat and SSC WG

- “(d) The project activity employs specific renewable energy technologies/measures recommended by the host country DNA and approved by the Board to be additional in the host country (conditions apply: the total installed capacity of technology/measure contributes less than or equal to 5% to national annual electricity generation)”
- Recommendations from more than 6 DNAs have been received (Chile, India, Mongolia, Peru, Thailand, Sri Lanka)
 - a) Projects applying specific technologies/methodologies are additional in the country (barriers cited in some cases)
 - b) All RE projects are additional in the country (based on contribution of < 5% electricity generation)
- Options: (a) Approve the recommendations or (b) Further work by secretariat and SSC WG to elaborate conditions, establish a process



EXTRA SLIDES



CDM Methodologies for Transport Projects

Categories	Projects	Methodology
Fuel Switching from high to low carbon fuels	Bioethanol	N.A.
	Biodiesel	ACM17, AMS III.AK.
	Plant Oil	AMS III.T.
	CNG, LPG	AMS III.S.
Technology/vehicle replacements or upgrades	Hybrid, Electricity	AMS III.C., III.S.
	High (fuel) efficiency vehicle	N.A.
	Retrofitting of engine	AMS III.AA.
Technologies for improved driving	Idling Stop Equipment	AMS III.AP.
	Eco-driving	N.A.
	Vehicle Inspection/Maintenance Program	N.A.
Public transport projects	Subway, LRT	ACM16
	Bus Rapid Transit	AM31
	Cable car	AMS III.U.
Reducing emissions per unit transported	Freight mode switch	AM90
	Bicycle Lane, Improve Occupation Rate	N.A.
Traffic management measures	Park & Ride, Road/Area pricing	N.A.
Infrastructure	Fly-over, Bridges, tunnels, Intelligent traffic signals	N.A.



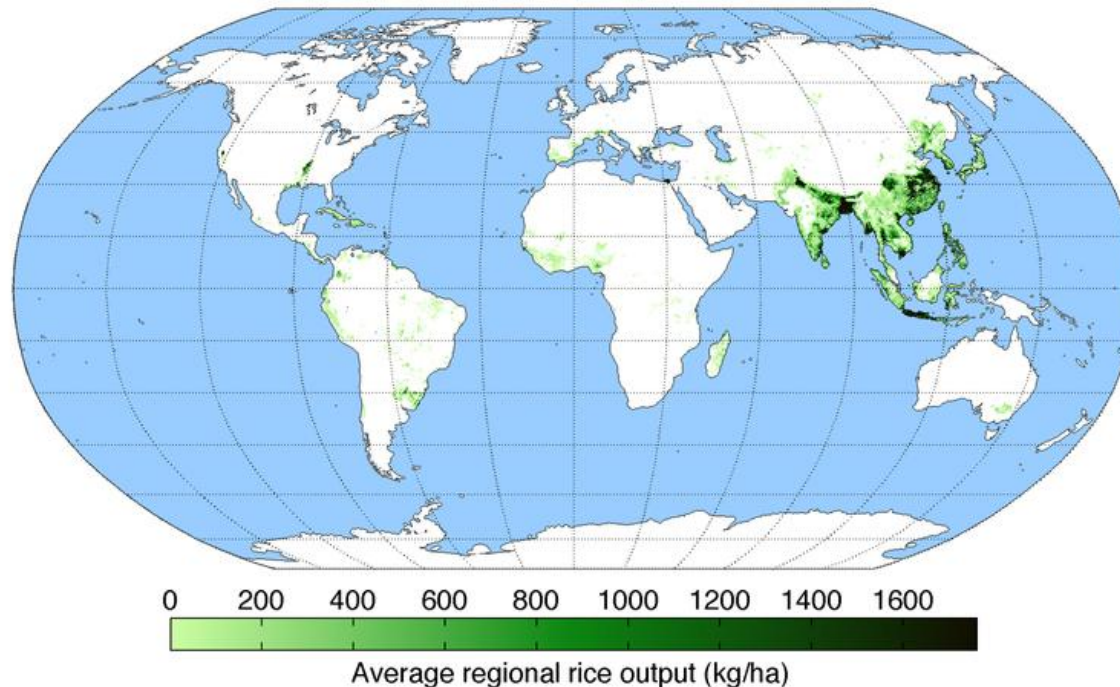
SSC-III.AT: Tachograph - Monitoring

- Important parameters monitored
- Service level (volume of goods **times** average distance of transportation **per** tonne of freight **by** truck class k **in** year y)
 - for each truck class, from company/operators records, driver logs and route maps, plus sales receipts
- Total distance travelled by each vehicle i **in** year y (km/yr)
 - Driver logs and route maps, recorded by GPS tracking system
- Annual average distance of transportation **per** tonne of freight **by** each project vehicle
 - Monitored through company records



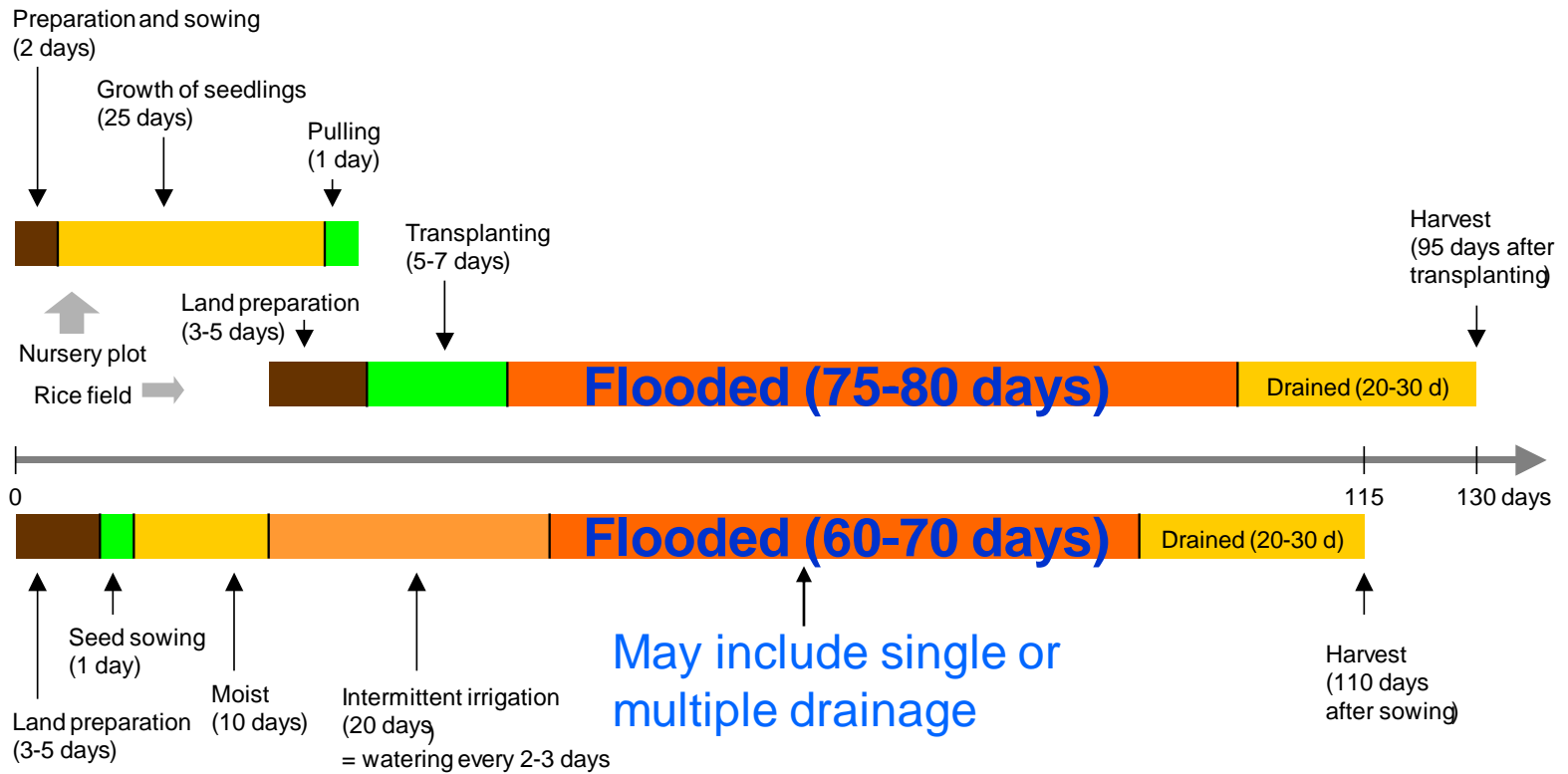
SSC-III.AU: Rice Methane avoidance

- Rice is grown in flooded fields under anaerobic soil conditions that release methane



SSC-III.AU: Direct Seeded Rice

Tabela DSR Transplanted Rice



SSC-III.AU: Rice Methane avoidance

Applicability:

- Rice cultivation areas with **flooded fields** for **extended period** eligible (**upland or rainfed or deep water** fields not eligible).
- Confirmed from **sample survey** in the region or **using national data** (information on **pre-season water regime** and applied **organic amendments** required)
- project rice fields have **controlled irrigation and drainage** (to establish dry/flooded conditions)



SSC-III.AU: Rice Methane avoidance- reference fields

Parameter	Values/Categories	Source/Method
Water regime – on-season	Continuously flooded	Baseline: Farmer's information Project: Monitoring
	Single Drainage	
	Multiple Drainage	
Water regime – preseason	Flooded	
	Short drainage (<180d)	
	Long drainage (>180d)	
Organic Amendment	Straw on-season	
	Green manure	
	Straw off-season	
	Farm yard manure	
	Compost	
	No organic amendment	



Annotated Agenda 59

Applicability of AMS-I.D/AMS-I.F for project activity supplying electricity to identified users via national/regional grid through contractual arrangement such as wheeling/banking.



Application of AMS-I.F vs. I.D for electricity supplying to captive use via grid (wheeling):

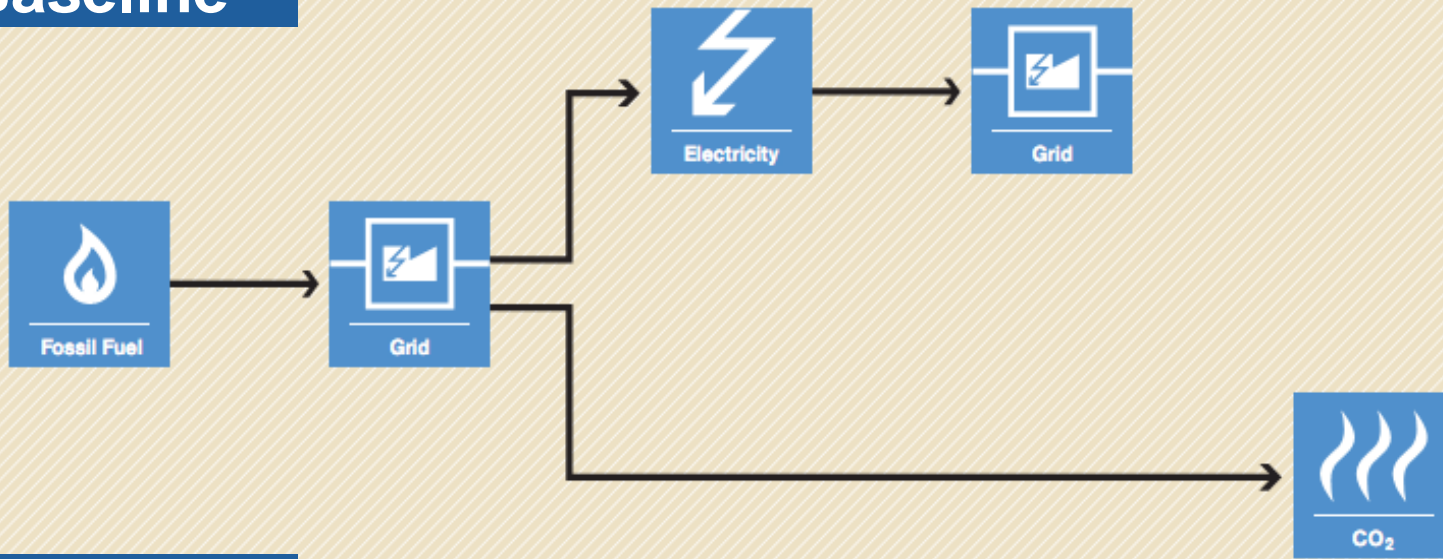
AMS I D	AMS I F
RE supply to a national or regional grid	RE substitutes fossil fuel intensive grid/mini-grid and/or captive electricity
Combined margin or weighted average of current generation for Emission Factor (EF)	Case 1: exclusively diesel electricity, default EF depending on load factor Case 2: mix of energy sources including grid, weighted average EF (captive electricity EF as per Tool for BE, PE from electricity consumption) Case 3: EF of grid as per AMS-I.D

Unclarity on electricity supplied to a grid versus grid import displacement

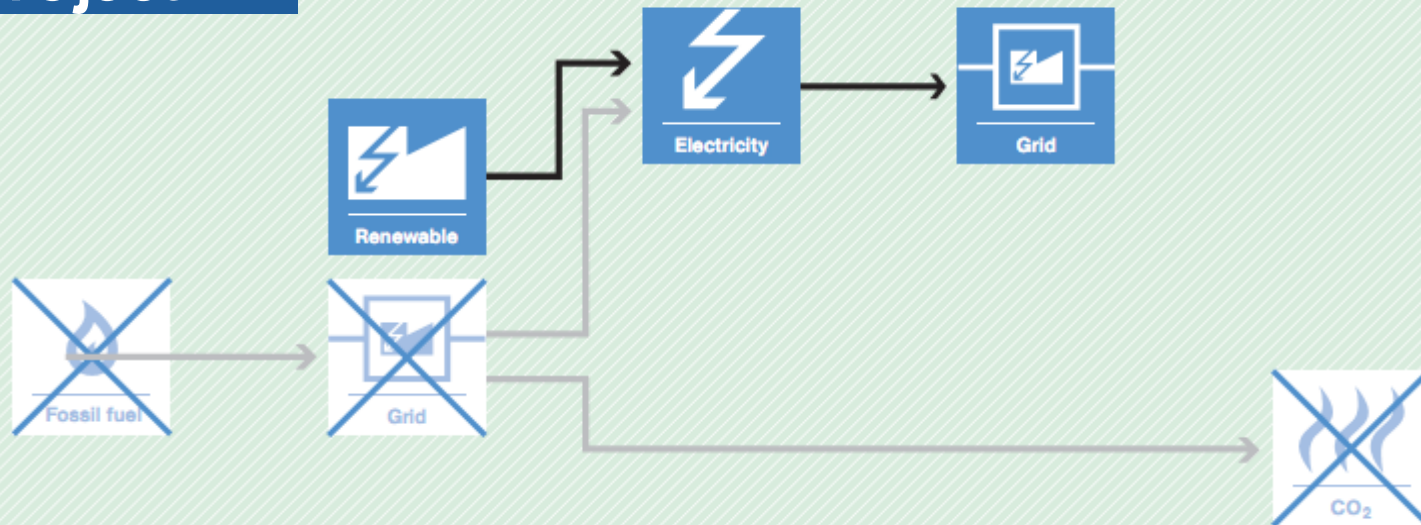


AMS-I.D Grid connected renewable electricity generation

Baseline

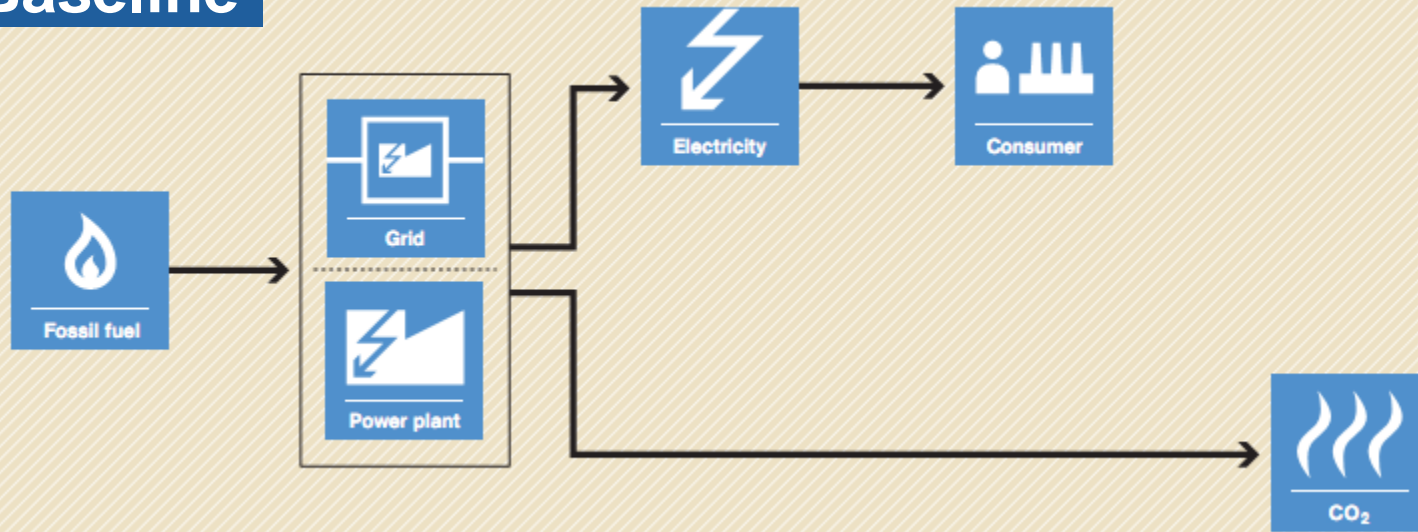


Project

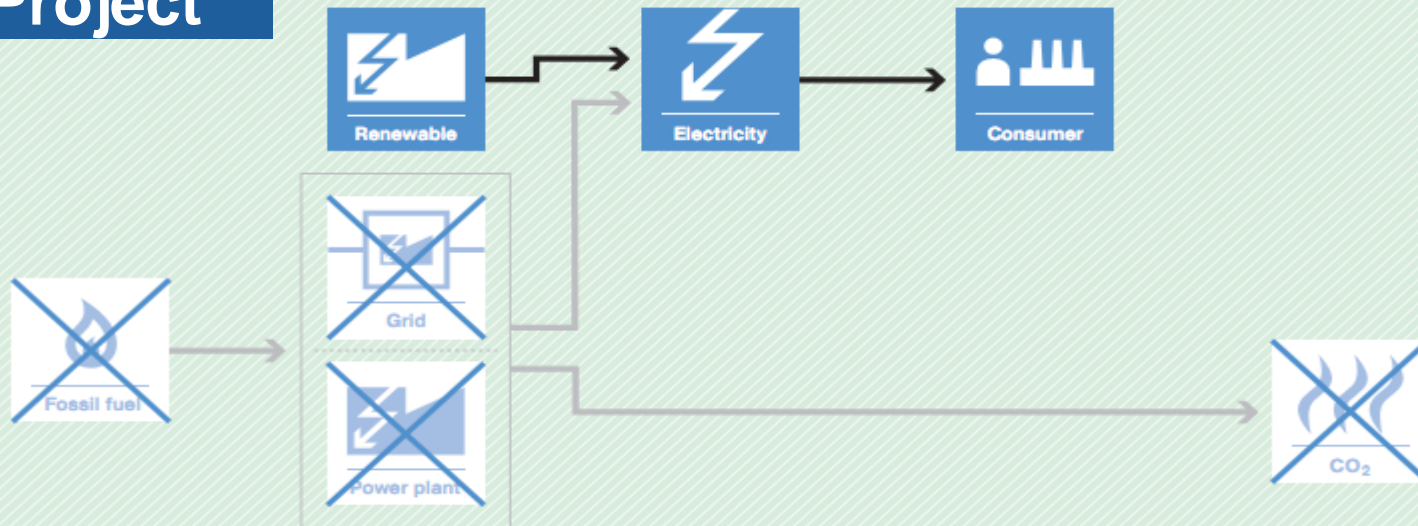


AMS-IF: Renewable electricity generation for captive use and mini-grid

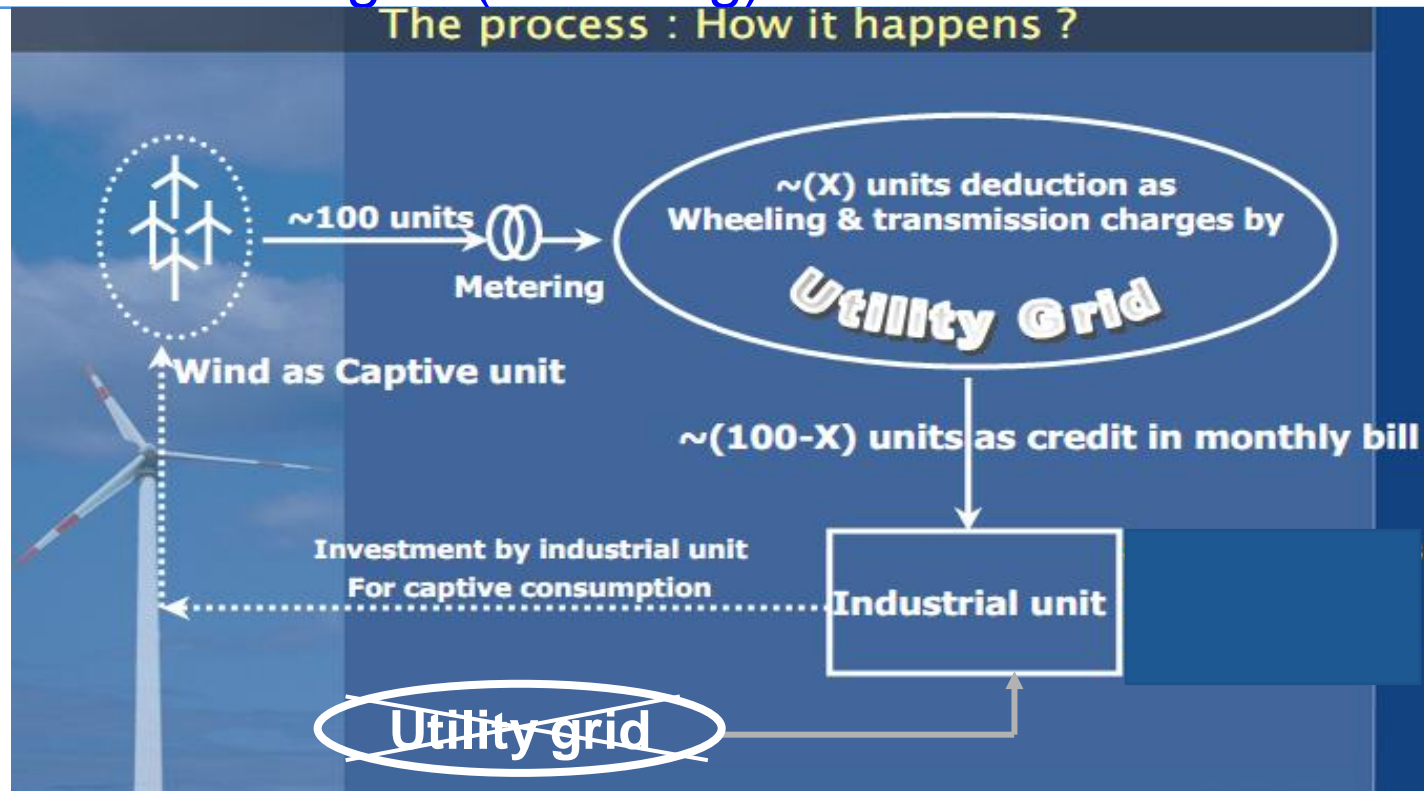
Baseline



Project



Application of AMS-I.F vs I.D for electricity supplying to captive use via grid (wheeling):



- ❑ PA supplies electricity to a grid; typically falls under AMS-I.D (ref SSC_466). However,
- ❑ PA solely displaces grid electricity previously imported
- ❑ BE is calculated based of RE produced **times** grid emission factor
- ❑ No difference in ER using AMS-I.D or AMS-I.F
- ❑ Application of AMS-I.F shall be accepted. For future I.D shall apply.

SSC-III.AT: Tachograph

Baseline Emission

- baseline emission factor (as per AMS-III.S approach):
 - per tonne of goods per kilometre
 - total annual distance clocked by baseline vehicle **divided by** total weight of goods transported by baseline vehicle **times** annual average distance of transportation per tonne
 - based on at least one year of historical data
- Three options for newly added vehicles

Project Emission

- As per AMS-III.S approach (based on actual fuel consumption)
- Service level capped at baseline level
- Further justification required if ERs \gg 10% of BE in year y (e.g. using relevant studies)



SSC-III.AT: Tachograph

- In response to the previous clarification request (SSC_041), the Board at its 23rd meeting clarified “that transfer of know-how and training, as such, cannot be considered as CDM project activities. The eligibility of project activities that are a result of the transfer of know-how and training shall be based only on measurable emission reductions which are directly attributable to these project activities.”



Criteria for approval of computerized simulation model programs

- They include:
 - a) The program is non-proprietary and available at no cost or for a small cost;
 - b) The simulation algorithms are available and documented;
 - c) Reliable and documented historical and real time weather data, compatible with the program, are available for the country where the project(s) are implemented; and
 - d) The program has been tested and bench marked to show that it is reliable and the results of such testing/bench marking in the public domain; and user support is available.
- At the time of approval of this version of this methodology, the only pre-approved model simulation program is RETScreen
 - a) Climate Database including 6,500 ground-station locations around the globe
 - b) 36 languages versions
 - c) <http://www.retscreen.net>



III-A.V. Urban – Rural Disparities

Use of improved drinking-water sources in urban areas is almost double the use in rural areas of Sub-Saharan Africa and Oceania

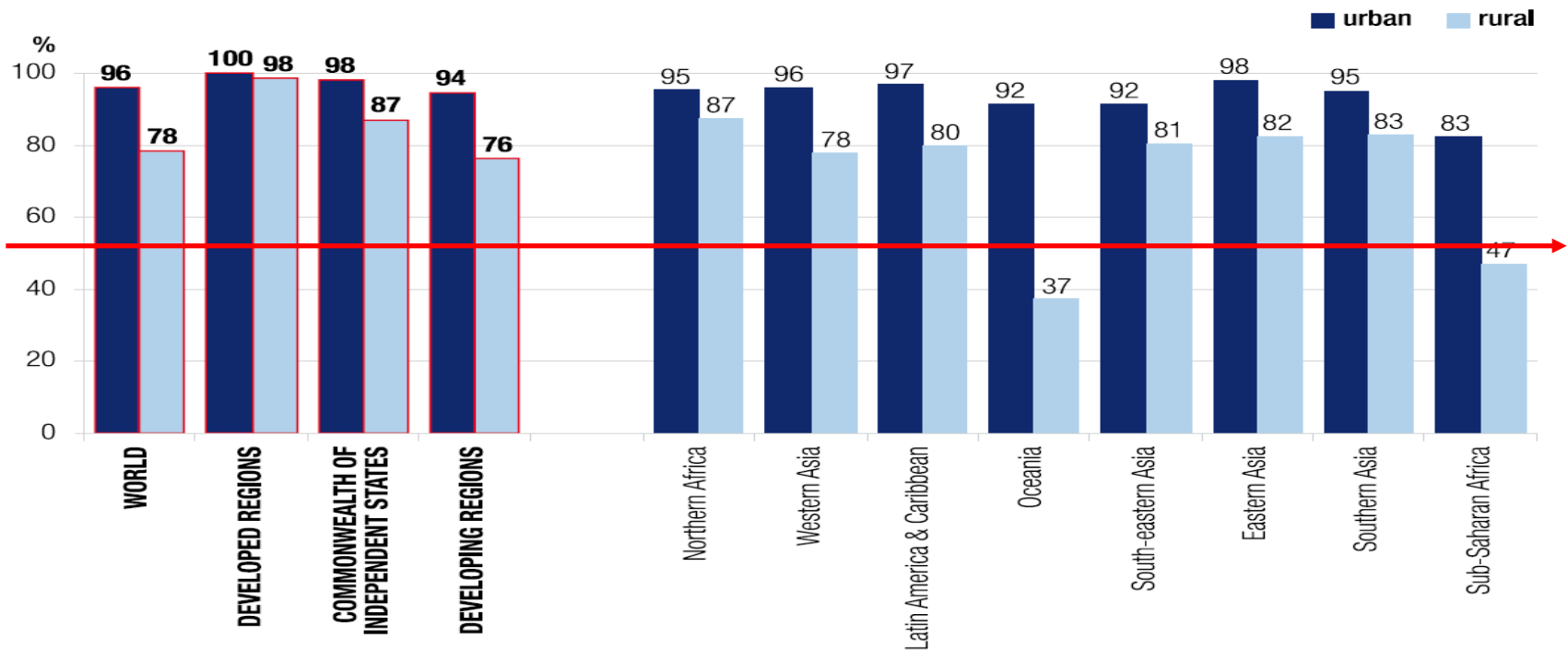


Figure 18 Urban-Rural uses of improved sources of drinking-water, in MDG regions, 2008



Revision of AMS-II.G – Stove efficiency testing procedures

Water Boiling Test

Overview

- WBT is a laboratory test but may also be carried out in the field
- WBT is carried out under controlled conditions
- The process of WBT involves three phases i.e. Cold-start-high-power phase, Hot-start-high-power phase and Low power simmering phase
- This method focuses on simulation of cooking practices by water boiling
- WBT is very vital at the time of the design of the cook stoves



Key parameters investigated

- Thermal efficiency,
- Combustion efficiency,
- Fuel consumption,
- fuel burn rate, and
- Time to boil (Speed of boiling).

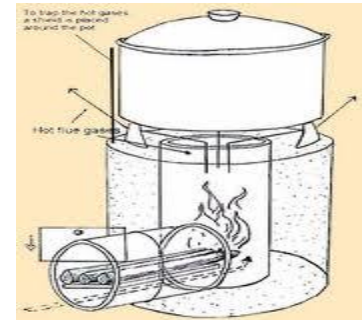


Revision of AMS-II.G – Stove efficiency testing procedures

Controlled Cooking Test (CCT)

Overview

- CCT is either a laboratory or a field test
- It evaluates the performance of the stoves using a standardised local cooking task(s)
- It involves identifying the cooking task and preparing a detailed procedure for the test
- The test is thereafter performed in accordance with the procedure
- The cooking task and test procedure should be in line with cooking task, local conditions as well as cooking practices
- This method is capable of providing reliable results since it stimulates actual cooking



Key parameters investigated

- Fuel consumption, and
- Time to boil (Speed of boiling).



Revision of AMS-II.G – Stove efficiency testing procedures

Kitchen Performance Test (KPT)

Overview

- KPT is a field test in real/actual cooking settings
- Evaluates the performance of the stoves as well as their effectiveness and impact
- KPT process involves both qualitative survey and quantitative measurements
- Pre-dissemination and post dissemination surveys are necessary



Key parameters investigated

- Fuel consumption,
- User satisfaction
- Impact and effectiveness of the cook stove interventions



Findings

Application of test methods in some current projects

Project	Fuel consumption	Old efficiency	New efficiency
CDM7122, Lesotho/Atmosfair	Household survey	IPCC default values	WBT
CDM6591, India/Fair Climate	Historical data and past studies	IPCC default values	WBT
CDM6591, India/Fair Climate	Historical data and past studies	IPCC default values	WBT
CDM5957, NEPAL/Egluro	Household survey	IPCC default values	WBT
CDM6677, Cameroon/ONF International	Household survey	CCT	CCT
CDM4491, Nigeria/Atmosfair	Household survey	IPCC default values	WBT



Annotated Agenda 58

Draft of the “Non-binding best practices examples to illustrate the application of sampling guidelines”



Public input received on microscale additionality

Expansion to Type III activities

- Yes expand [15] [3] [4] [5] [9] [10]
- a) =<20kt CO2/y, additional criteria:
 - a) geographic locations (LDCs/SIDs, underdeveloped zones)
 - (b) =<600 t/y subsystems **AND** users are households OR low income communities OR SMEs [17]
- b) [3] proposals: Market penetration rate < x%;
- c) DNA can propose if deemed inappropriate[6]
 - Recommended by DNA with the positive list reviewed at pre-defined time interval[6]
- d) Assess each type III meth and form a criteria [8]



Public input received on microscale additionality

Expansion to Type I, II and III activities

- a) Clarify more than one component[9][10][15]

Application to PoAs

- Applicable to CPAs [3][6][8][10][15][IETA email]
- Applicable to PoAs, prior consideration form proposed[9]
- Apply at PoA level if any conditions below are met
 - a) Subsystems ≤ 5 MW or 20 GWh or 20 kt **AND** PoA is in LDCs/SIDS or underdeveloped zones of DCs; or
 - b) Subsystem ≤ 750 kW or 600MWh or 600t/y and users are HH/low income commnuiteis/SMEs[17]

Application to bundled projects

- SSC 436 already covers it [15]
- Debundling norm shall also be met [1]



Public input received on microscale additionality

Underdeveloped zones:

- Use MDG (e.g. Target 1.1 Proportion of population below \$1 per day or 7.2 proportion of population using an improved source of drinking water or the gross national/zone income (GNI) data [14][16]
- Applies to the entire bundle as a whole [3][6]
- Applies to Sub-project in the bundle per SSC_436[15],

Thresholds

- 5 MW limit; scale up to 10MW, RE technologies have lower utilisation rate than fossil fuel generators [16]
- 750 kW appropriate [9] Inappropriate [3] with grid-connection no value added[12]
- DNA to propose values[6]



Public input received on microscale additionality

Deemed Additional technologies by DNAs and EB

- technology is underutilized (<50% of potential). Limit can be adjusted periodically [3].
- based on SD indices instead of a financial criteria, e.g. to modify Sustainability Matrix in GS methodology[4]. Don't seek past documents for underdeveloped zone[4]
- Captive power consumption in regions of low grid availability (off-grid)
- DNA's recommendation automatically accepted, at least criteria is not made obligatory [5]
- Country and sector specific, DNA shall propose the limit
- DNAs propose positive list, else an initial country-specific non-obligatory best practice list by EB [6][11]
- Provide Criteria for EE and type III[6]
- Reformulated based on capacity or generated power [9]
- Application to cogeneration [11][12]
- CDM not to be counted in the 5% national annual generation[16]
- Not workable for DNAs leave to DOE to check [15]



Public input received on microscale additionality

6. Definition of SMEs, Community, Primary technology

[10] SME (non-industrial) building sector or service sector.

- industrial end-users, threshold is factory < 300 employees.
- Vehicles also be eligible end-users
- Community definition: municipalities included [1]
- Any attempt may be controversial e.g. Inappropriate if based on the settlement size or population.
- The definition may not be necessary[5]
- use the definition provided by the Host DNA[13]
- With a population of <20, 000 people [15]
- For SME, country specific def. shall be used, else def. from IFC can be used[15]
- public services and implemented on public properties (e.g. street lighting, waste disposal be included. They ultimately serve communities as end users.[IETA email]
- Provide a list of „primary technology“ [12]
- Technology in Type I meth can be used as „ primary technology“[13]
- explicitly include small thermal and mechanical project[15]
- Hybrid stand alone RE off-grid project, applicable? [18]



Solar power streetlighting, SWH, Solar cookers, Solar LED, off-grid mini hydro, stove project applicable? [18]