Annotated Agenda # 41

SSC- III.AM: "Fossil Fuel switch in a Co-generation/Tri-generation system"

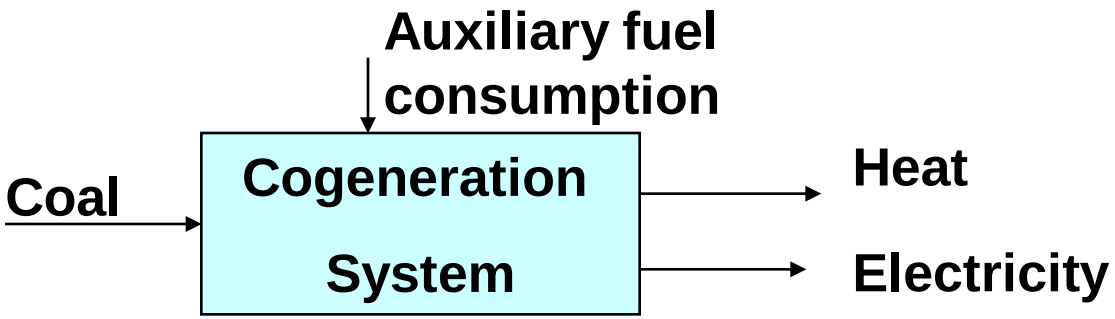
SSC-III.AM:
"Fossil fuel switch in a cogeneration/trigeneration system"

Background

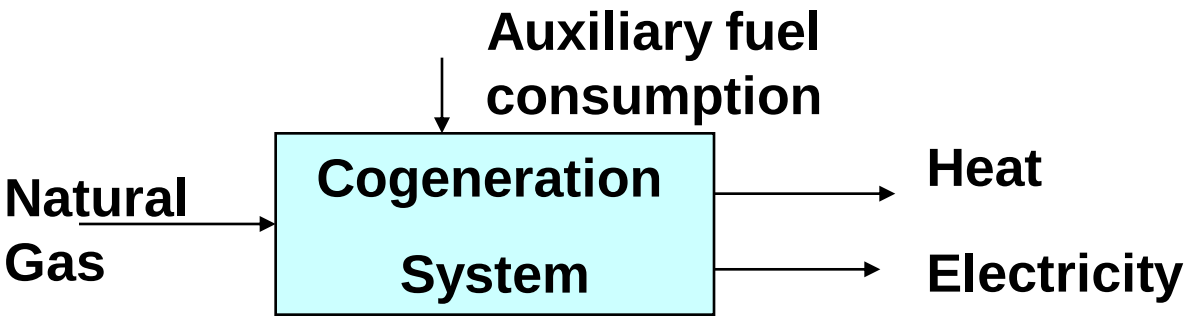
- Expands the portfolio of SSC fuel switch methodologies for shifting to low greenhouse gas emitting fuels;
- Based on submission SSC-NM038 "Fuel Switching in a cogeneration system" .

SSC-III.AM:
"Fossil fuel switch in a cogeneration/trigeneration system"

Baseline: Coal fired cogeneration/trigeneration plant



Project: NG-fired Cogeneration/trigeneration plant



SSC-III.AM: "Fuel switch in cogeneration/trigeneration system"

- Covers new and existing facilities:
  a) Existing systems in operation for =>3 years
  b) For Greenfield plants, a reference plant approach
- Comparing Project to Baseline:
  a) System efficiency is better or at least identical;
  b) Specific auxiliary energy consumption does not change significantly
- Only low GWP and ODP refrigerants eligible;
- ER= Monitored project fuel consumption X (EF baseline fuel - EF project fuel);
  a) 3 years historic data (e.g. fossil fuel, electricity, heat) for baseline if no significant increase in output capacity;
  b) If output increase >20%, demonstration as per the general guidelines to SSC CDM methodologies that baseline is same as existing facility required;

Annotated Agenda # 42

SSC-III.AN: "Fossil fuel switch in existing manufacturing industries"

SSC-III.AN: "Fossil fuel switch in existing manufacturing industries"

Background

- In the footsteps of AMS-III.B "Switching fossil fuels" and AMS-III.Z "Fuel Switch, process improvement and energy efficiency in brick manufacture";
  a) AMS-III.B limitation: measure and record the energy use/output (e.g. heat and electricity) (EB 47, May 2009);
  b) AMS-III.Z limitations: Covers only brick manufacture, includes process change;
  c) In response to several submissions requesting to fill the gap:
    - SSC-NM047 (Fuel switch in reheating furnace in steel manufacturing);
    - SSC_417 (Fuel switch in furnace producing aluminium cookware).

SSC-III.AN: "Fossil fuel use in existing manufacturing industries"

- Covers fuel switch in existing manufacturing facilities only:
  a) To Low carbon fossil fuel; or
  b) To Low carbon intensive electric grid.
- Covers thermal energy conversion equipment (e.g. furnaces, kilns, dryers) in production (e.g. ceramic insulators, tiles, steel ingots, aluminium cookware);
- Facility should be in operation for =>3 years;
- Element process covered has distinct energy input (i.e. specific fuel or electricity) and distinct product output (i.e. intermediate or finished product) covered by national/ international standard or industrial norm.

SSC-III.AN: "Fossil fuel use in existing manufacturing industries"

- Comparing project to the baseline:
  a) The products are equivalent (same use, same general properties and functions, same or better service level);
  b) The input materials are similar;
  c) System efficiency is better (or at least identical);
  d) Specific auxiliary energy consumption does not change significantly;
- Where product output cannot be measured (e.g. hot/fused metal) input material can be used as a proxy;
- Complex industrial processes excluded i.e. elemental process or other down stream/upstream processes do not change.

SSC-III.AN: "Fossil fuel use in existing manufacturing industries"

Baseline emissions:

- Minimum of *ex ante* and *ex post* specific energy consumption i.e.:
  a) FF use in baseline per unit product (EF and NCV of baseline FF);
  b) FF use in project per unit product (EF of baseline FF, NCV of project FF).

Project emissions and monitoring:

- Fossil fuel and electricity for the production process/es;
- Compliance of product performance to national/international/industrial norm is monitored and subject to validation.

Annotated Agenda # 44 (a)

Revision of AMS-I.E "Switch from Non-Renewable Biomass for Thermal Applications by the User"

Revision of AMS-I.E for safe drinking water applications

Background

- While approving AM0086 “Installation of zero energy water purifier for safe drinking water application”, the Board tasked SSC WG to develop a SSC methodology for safe drinking water applications;
- In addition to AM0086 SSC WG took into account submissions such as SSC_411 (Thermal energy needs for water treatment in rural Rwanda);

- In the proposed revision:
  - Applicability is expanded to renewable energy based drinking water treatment applications (e.g. sand filters followed by solar water disinfection; water boiling using renewable biomass).

Revision of AMS-I.E for safe drinking water applications

- The quantity of biomass that is substituted (By) is derived from parameters A,B and C below for safe drinking applications:
  - A: number of persons (target population) supplied with treated water;
    - Is based on a baseline survey (90/10 precision).
  - B: volume of drinking water per person;
    - Is based on a baseline survey (90/10 precision), a cap of 5.5 litres/day/person applies.
  - C: woody biomass required to boil one liter of water
    - As per water boiling test done for five minutes.
  - B and C are conservative requirements based on WHO recommendations/guidelines.
- Water quality monitored per relevant national microbiological water quality guidelines or international standards/guidelines (e.g. WHO)

Annotated Agenda # 44 (b)

Revision of AMS-I.C “Thermal energy production with or without electricity”

Revision of AMS-I.C:
"Thermal energy production with or without electricity"

Background

- AMS-I.C is applicable to biomass cogeneration projects
  - Per equation 3 for baseline emissions, data on efficiency of baseline cogeneration plant using fossil fuel is required;
  - For existing systems with historical data procedure was provided i.e. total electricity plus total steam divided by thermal energy content of fuel input.

Proposed revisions

- Procedures for new/Greenfield cogeneration projects provided with two options;
- Minor editorial revisions.

Revision of AMS-I.C:
"Thermal energy production with or without electricity"

- Option1 : Product of efficiency of steam turbine and efficiency of steam generator (boiler) under the condition that:
  - Efficiency specs for new steam turbine and steam generator by two or more manufacturers are considered;
  - Specs of steam turbine and steam generator are equivalent to baseline units;
  - Efficiency values used are highest individual efficiency values (over full range of operating conditions of baseline cogen system).
- Option 2: Product of A and B below:
  - A: Default steam turbine efficiency of 100%;
  - B: A default steam generator efficiency determined per the "Tool to determine the baseline efficiency of thermal or electric energy generation systems".

Annotated Agenda # 44 (c)

Revision of AMS-III.X "Energy Efficiency and HFC-134a Recovery in Residential Refrigerators"

Revision of AMS-III.X: "Energy Efficiency and HFC-134a Recovery in Residential Refrigerators"

Background

- AMS-III.X was applicable for an integral project including:
  a) Refrigerator demanufacturing;
  b) Recycling of refrigerator materials;
  c) Recovery of baseline refrigerant (e.g. HFC-134a);
  d) Recovery of foam blowing agent.
- AMX-III.X required installation of fridges within one year.

Proposed revisions (following submissions such as SSC_447 "Expanding the applicability of AMS-III.X")

- Provide an additional option for the treatment of refrigerant emissions and hence facilitate project development i.e.:
  a) Option 1: Reduced electricity consumption from use of more efficient refrigerators (no refrigerant recovery):
     - Project emissions from release of baseline refrigerant upon demanufacture of refrigerator considered as per EB 34, paragraph 17;
  b) Option 2 (existing option): Reduced electricity consumption from use of more efficient refrigerators and recovery of HFC-134a .

Annotated Agenda # 46

Treatment of increase in future anthropogenic emissions of host country

Treatment of increase in future anthropogenic emissions of host country- SSC WG analysis

- SSC WG interpreted that Specific circumstances of the host Party in the context of SSC projects included Income constraints (poverty) and infrastructure constraints of the households and communities targeted for CDM intervention as in the below situations:
  - services to meet the basic human needs (e.g. basic housing, lighting, cooking, transport, or waste treatment) was previously completely unavailable;
  - a service was previously available to an inadequate level (e.g. due to low income, inefficient kerosene lamps in inadequate numbers used for curtailed duration of hours in households to only partially meet the lighting demands);
  - Service currently provided with a resource that is assumed to result in no emissions. (e.g. burning of dung for cooking energy)
    - Dung is lowest level in the ladder for cooking energy
    - Any other fuel on the ladder such as kerosene leads to emissions and other effects (e.g. health impacts).

Treatment of increase in future emissions in CDM methodologies

- Some CDM methodologies (e.g. AMS-I.D and ACM0002, AMS-I.A, and AMS-III.AE) include methods to account for increase in future anthropogenic emissions
  - Combined margin approach for grid connected renewable energy
- AMS I A methods for off grid renewable energy include:

a) Average annual individual energy consumption observed in closest grid electricity systems among rural grid connected consumers

b) Estimate of output of the renewable energy technologies;

c) A trend-adjusted projection of historic fuel consumption in situations where an existing technology is replaced.

- Some questions to address in further elaborating existing methods
  - Means to determine the level of attained energy or other services?
    - national/regional standards for example to establish the comfort levels or minimum energy provisions?
    - Calibrated models? and under what circumstances?
    - Couple a measure of increase in demand with a maximum cap conservatively determined?

Treatment of increase emissions -conclusions

- The SSC WG is of the opinion that:
  a) It is better to address the issue in the context of specific methodologies (for specific technologies and applications) versus developing a general policy that would apply to all methodologies;
  b) It should further continue considering the issue in the context of other activities Board has tasked the SSC WG to focus on e.g. development of default conservative operating parameters.
- Unless otherwise guided by the Board, the SSC WG will continue to address the issue in its methodological recommendations to the Board in situations where infrastructure constraints and income constraints are apparent or evidenced.

Annotated Agenda # 47

Combination of methodologies for PoA

Combination of methodologies for PoA

Background

- EB 47 approved procedures for application of multiple methodologies in a PoA which requires among others:
  a) DOE submittal with the latest version of the CDM-POA-DD and CDM-CPA-DD;
  b) Analysis and recommendation by secretariat, panels/WGs before consideration/approval by the Board.
- EB 53 approved combinations AMS-III.R with AMS-I.C for application in CPAs of a PoA without prior approval;
- EB 55 tasked the SSC WG through its workprogramme for the SSC WG to recommend further combinations of methodologies that could be directly applied without specifically requesting the approval of combinations.

Combination of methodologies for PoA

- Application of combination of methodologies in regular SSC project activities.

Combination of methodologies	No. of registered projects
III.D. + I.D.	49
III.E. + I.C.	6
III.E. + I.D.	13
III.G. + I.D.	5
III.H. + I.A.	7
III.H. + I.C.	13
III.H. + I.D.	24
III.H. + I.C.+ I.D.	4

Combination of methodologies for PoA

- Combinations for utilization of methane from a Type III activity for generating heat or electricity under Type I activity is with minimal complexity for establishing the baseline;
- SSC WG recommends combination of (a) and (b) below for inclusion in the list of combinations that can be applied without requiring a preapproval of combinations:

  a) Any one of the following Type III methodologies i.e.:
    - AMS-III.H (anaerobic wastewater treatment);
    - AMS-III.D or AMS-III.F (anaerobic solid waste treatment);
    - AMS-III.G (landfill gas capture).

  b) With any one of the following Type I methodologies i.e.
    - AMS-I.A, AMS-I.D and AMS-I.F (renewable electricity generation);
    - AMS-I.C (renewable thermal energy generation).
  - Other plausible combinations need to have PoA specific pre-approval.