EB55 – Annotated agenda item 12 (a)(i)

New Methodology Based on NM0313

Available to the members of the Board as annex 1 of MP 44 meeting

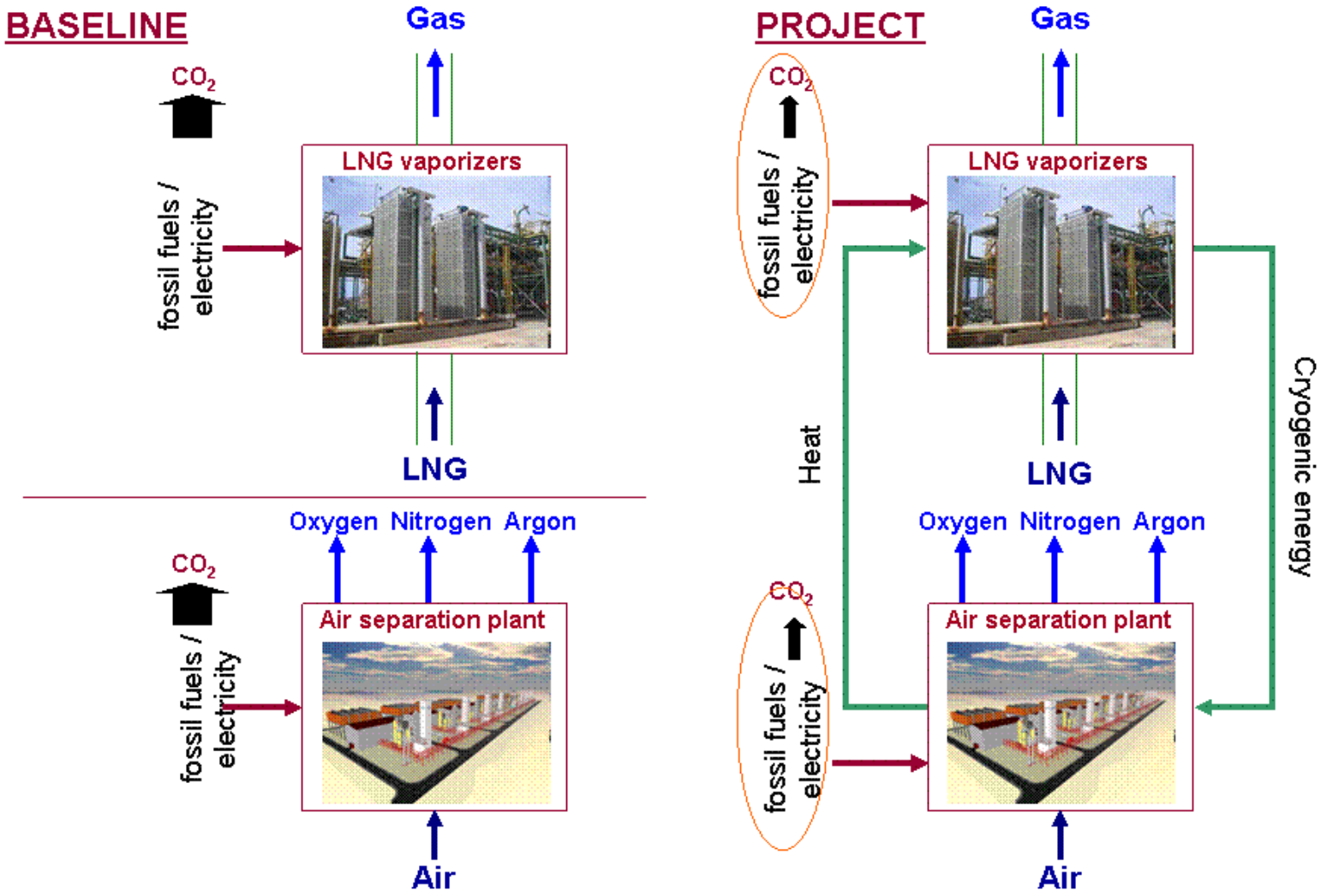
“Air separation using cryogenic energy recovered from the vaporization of LNG”

This new methodology is applicable to the construction and operation of a new air separation plant that uses cryogenic energy recovered from a liquefied natural gas (LNG) vaporization plant.

In the baseline scenario:

- LNG would be vaporized using fossil fuels, electricity and/or ambient heat;
- Air would be liquefied using fossil fuels and/or electricity.

The project activity saves fossil fuels and electricity in both processes. Emissions reductions accrue thus from the reduction in the use of fossil fuels and electricity in LNG vaporization and air liquefaction.


BASELINE
Gas
CO_2
fossil fuels / electricity
LNG vaporizers
LNG
Oxygen Nitrogen Argon
CO_2
fossil fuels / electricity
Air separation plant
Air
PROJECT
Gas
CO_2
fossil fuels / electricity
LNG vaporizers
LNG
Heat
Cryogenic energy
Oxygen Nitrogen Argon
CO_2
fossil fuels / electricity
Air separation plant
Air

EB55– Annotated agenda item 16 (a)

Revision to AM0025

Available to the members of the Board as annex 3 of MP 44 meeting

AM0025: Avoided emissions from organic waste through alternative waste treatment processes

(i)

AM0025

AM0053

Biodigester

Biogas

residual waste

Natural gas distribution grid

(ii) Provides a separate procedure to estimate emissions from thermal energy generation/electricity generation during co-firing fossil fuel with biomass to allow for cases when the fossil fuel used in the boiler is different than that used for other purposes on-site.

(ii) Provides a conservative approach to estimate emissions from residual waste from different treatment processes when disposed of in landfills.

EB55 – Annotated agenda item 16 (b)

Revision to AM0034

Available to the members of the Board as annex 4 of MP 44 meeting

AM0034: "Catalytic reduction of N_2O inside the ammonia burner of nitric acid plants."

The proposed revision revises the calculation of N2O emissions using the flow of stack gas (VSG) and concentration of N2O in stack gas (NCSG) in baseline and project scenario from 2 seconds to 1 hour for the purpose of equations 3 and 6

The revision is made because:

Presenting 2-second intervals can lead to an unmanageable volume of data;

(i) The response time for measurement of NCSG is 20 seconds, whereas that for VSG is immediate, which indicates that these values cannot be used simultaneously in the equations to estimate emissions;

(ii) The Automated Measuring System (AMS) is already measuring at 2-second intervals (while providing hourly average value) and a statistical procedure is used to remove outliers, therefore there is no need to use 2-second value again in the equation.

EB55 – Annotated agenda item 16 (c)

Revision to AM0053

Available to the members of the Board as annex 6 of MP 44 meeting

AM0053: Biogenic methane injection to a natural gas distribution grid

AM0025

AM0053

Biodigester

Biogas

Natural gas distribution grid

EB55 – Annotated agenda item 16 (d)

Revision to AM0057

Available to the members of the Board as annex 7 of MP 44 meeting

AM0057: Avoided emissions from biomass wastes through use as feed stock in pulp and paper production or in bio-oil production

AM0057

“project activities using agricultural wastes as feed stock for *pulp and paper production*…”

Revision

To include production of *cardboard and fibreboard.*

EB55 – Annotated agenda item 16 (e)

Editorial revision to the Approved Methodology AM0058

Available to the members of the Board as annex 8 of MP 44 meeting

EB55 – Annotated agenda item 16 (f)

Revision to AM0062

Available to the members of the Board as annex 9 of MP 44 meeting

AM0062: "Energy efficiency improvements of a power plant through retrofitting turbines"

The proposed revision corrects the equation 7 of methodology (to calculate Emission factor for steam turbine), which was wrong.

Earlier equation

$$EF_{BL,y} = \frac{3.6}{1000} \times \frac{EF_{FF,BL} \times HI_{PJ,y}}{\eta_{BL,y} \times FC_{PJ,y} \times NCV_{FF,PJ}}$$

Corrected equation

$$EF_{BL,y} = \frac{3.6}{1000} \times \frac{EF_{FF,BL} \times FC_{PJ,y} \times NCV_{FF,PJ}}{\eta_{BL,y} \times HI_{PJ,y}}$$

$\eta_{BL,y}$ = Energy efficiency of the turbine without retrofitting

$FC_{PJ,y}$ = Actual fuel consumption by project in year 'y' (tonne of fuel)

$HI_{PJ,y}$ = Heat input to the steam turbine in year 'y' (TJ).

EB55 – Annotated agenda item 16 (g)

Revision to the Approved Methodology AM0087

Available to the members of the Board as annex 10 of MP 44 meeting

AM_CLA_0179 - Revision to AM0087 - Construction of a new natural gas power plant supplying electricity to the grid or a single consumer

AM0087 is applicable to project activities that construct and operate a new natural gas fired power plant that supplies electricity to the electric power grid and/or to an existing electricity consuming facility that is also connected to the electric power grid.

AM_CLA_0179 sought clarification on the methodology as to whether a 'Benchmark Analysis' can be performed, instead of an 'Investment Comparison Analysis', in case of project activities which have only two alternative baseline scenarios:

- The project implemented without the CDM), and,
- Not undertaking an investment in the project, situation in which power would be generated in the grid.

AM_CLA_179 - Revision to AM0087 - Construction of a new natural gas power plant supplying electricity to the grid or a single consumer

The panel clarified that an ‘Investment Comparison Analysis’ can also be conducted with the two alternatives mentioned in the request for clarification.

In that case, the alternative of ‘no investment in the project and power generation in the grid’ should be reflected through zero NPV or a hurdle rate for the IRR. Those values should be used in the ‘Investment Comparison Analysis’.

The panel recommended the Board to revise the methodology in order to clarify the issue. This revision is in line with other approved methodologies and the additionality tool.

EB55 – Annotated agenda item 16 (h)

Revision to ACM0007

Available to the members of the Board as annex 12 of MP 44 meeting

ACM0007: Consolidated methodology for conversion from single cycle to combined cycle power generation

Consistent historical data requirements : three years at the time of validation

- EF_{OC} Emission factor for plant operating in Open Cycle Mode (tCO2/MWh)
- $OG_{X,y}$ Electricity generated by the open cycle in year y in the baseline (MWh)

References to tools were added:

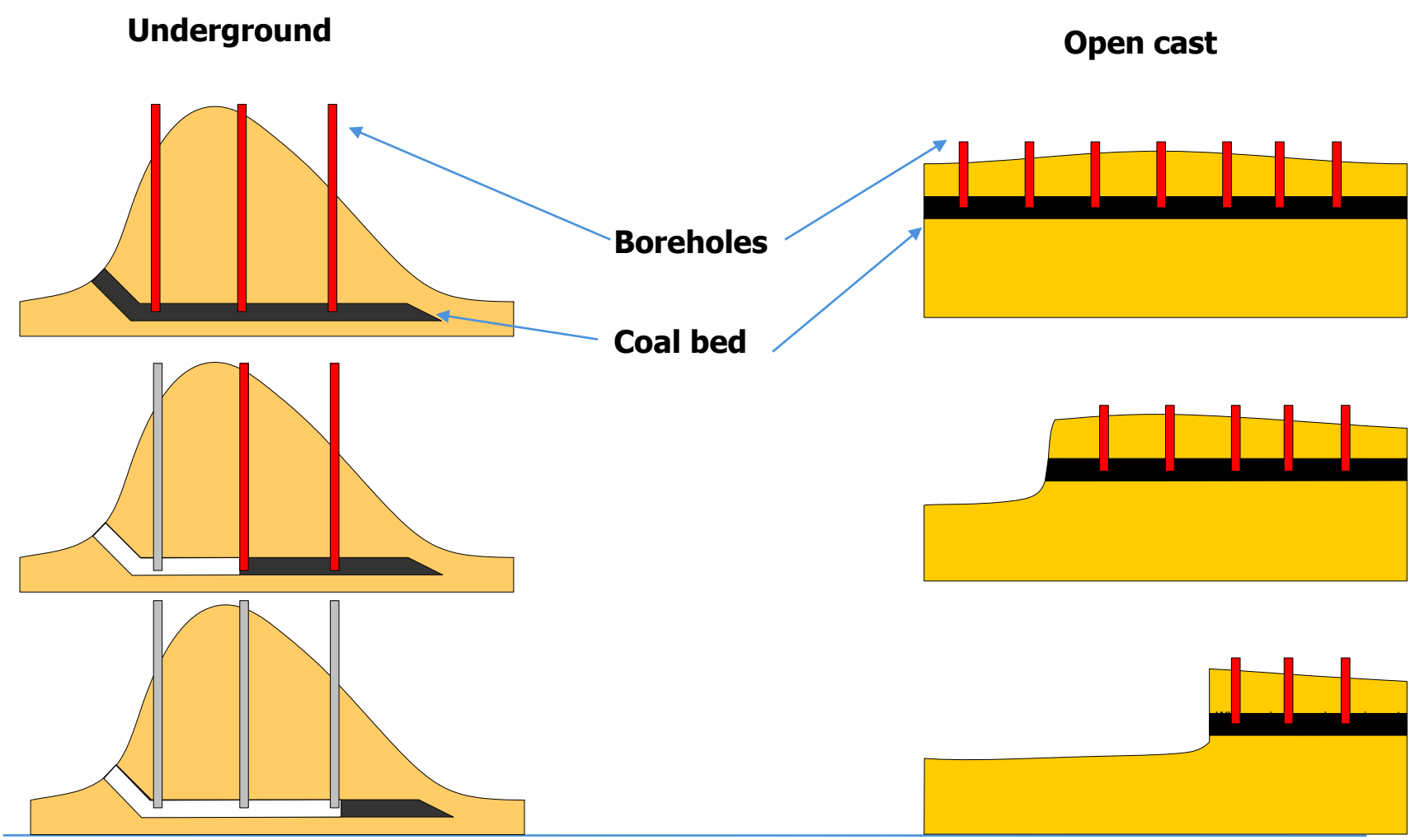
- Tool to determine the remaining lifetime of equipment;
- Tool to calculate project or leakage CO2 emissions from fossil fuel combustion

EB55 – Annotated agenda item 16 (i)

Revision to ACM0008

Available to the members of the Board as annex 13 of MP 44 meeting

ACM0008 “Consolidated methodology for coal bed methane, coal mine methane and ventilation air methane capture and use for power and heat and/or destruction through flaring or flameless oxidation”



EB55 – Annotated agenda item 16 (j)

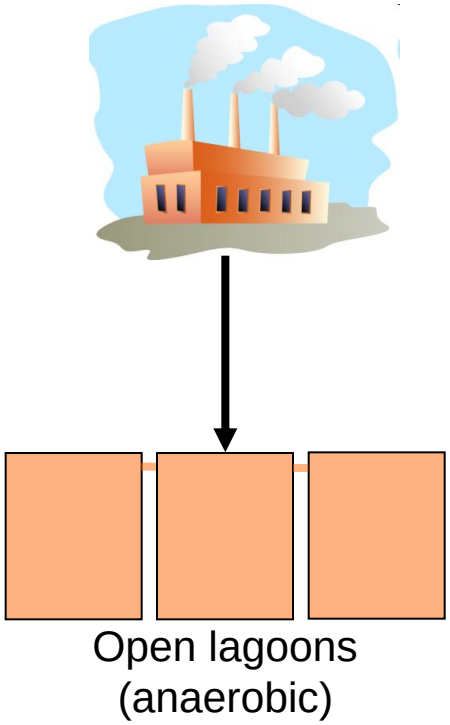
Revision to the Approved Methodology ACM0014

Available to the members of the Board as annex 14 of MP 44 meeting

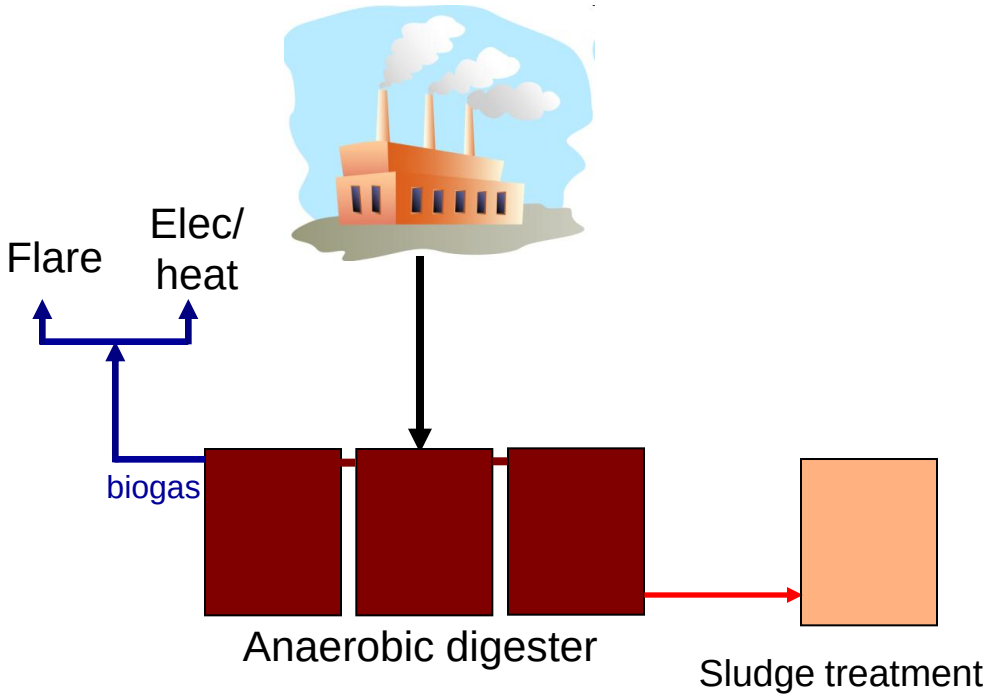
ACM0014: Mitigation of greenhouse gas emissions from treatment of industrial wastewater

ACM0014 scenario 1

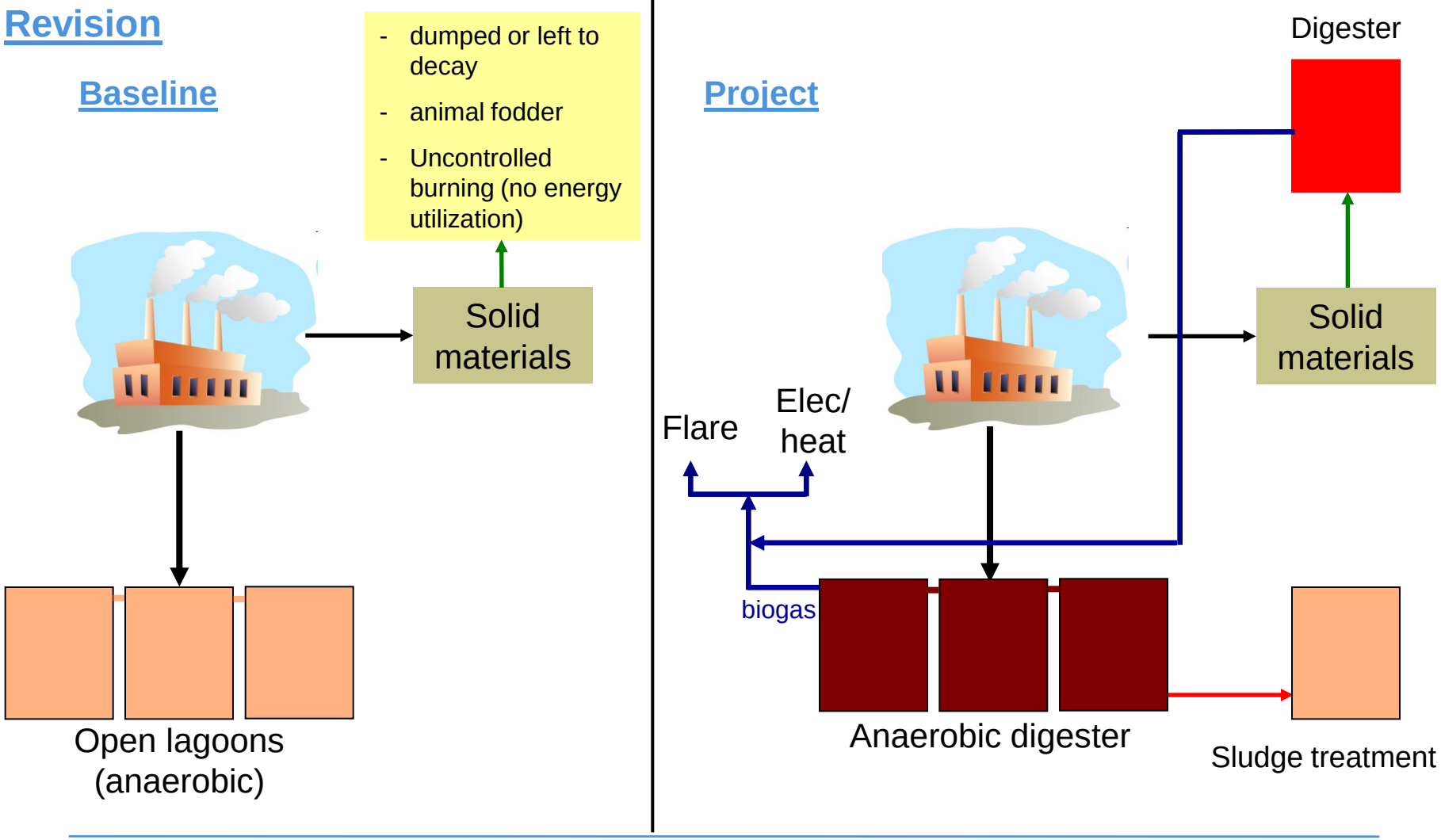
Baseline



Project



ACM0014: Mitigation of greenhouse gas emissions from treatment of industrial wastewater



Revision

- Leakage is calculated for scenario 1 projects if the solid materials are used as animal fodder in the baseline scenario and it can not be demonstrated that there is abundant surplus of solid materials for fodder;
- Biogas generated from solid materials is separately monitored in order to discount the part of electricity/heat generation from $EG_{PJ,y}$, caused by digestion of solid materials. Total net exported heat/power shall be multiplied with a ratio $R_{biogas,SM,y}$ in order to determine only the relevant amount of baseline heat/power emissions for calculation of emission reductions, where:

$$R_{biogas,SM,y} = \frac{F_{biogas,y} \times w_{CH4,biogas,y} - F_{biogas,SM,y} \times w_{CH4,biogas,SM,y}}{F_{biogas,y} \times w_{CH4,biogas,y}}$$

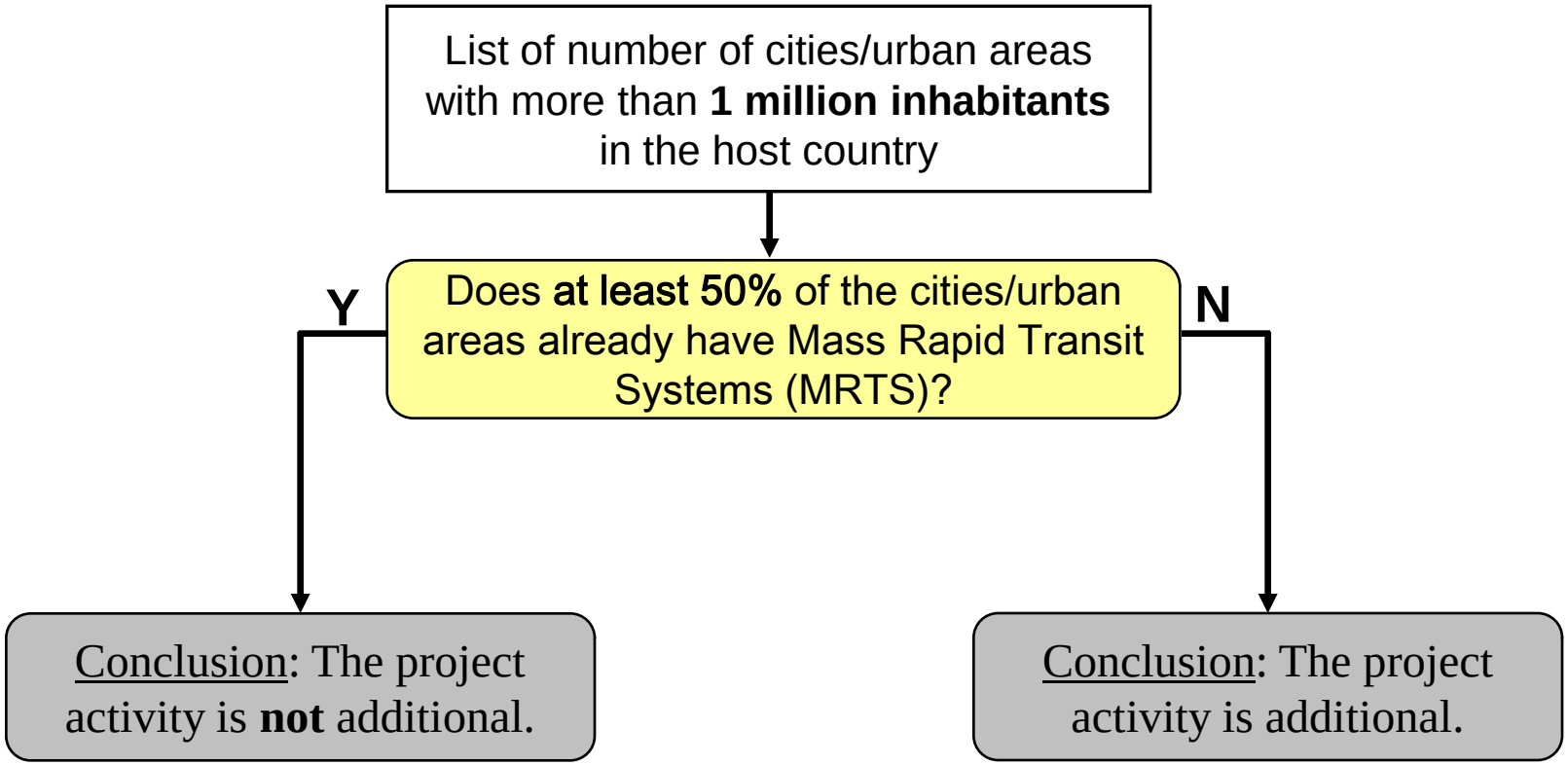
EB55 – Annotated agenda item 16 (k)

Revision to the Approved Methodology ACM0016

Available to the members of the Board as annex 15 of MP 44 meeting

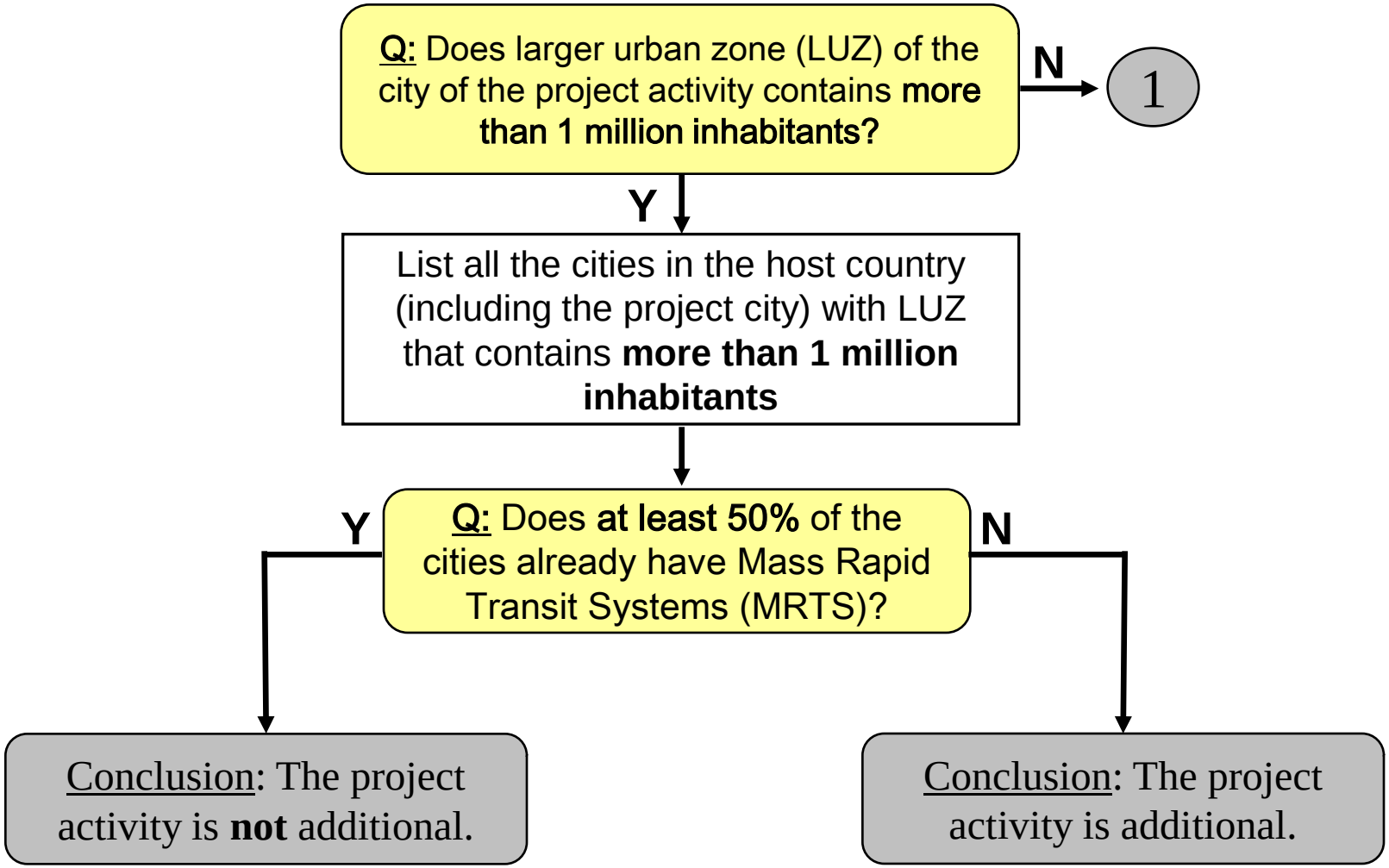
ACM0016: Baseline Methodology for Mass Rapid Transit Projects

Common practice analysis in the current ACM0016 (ver 01)



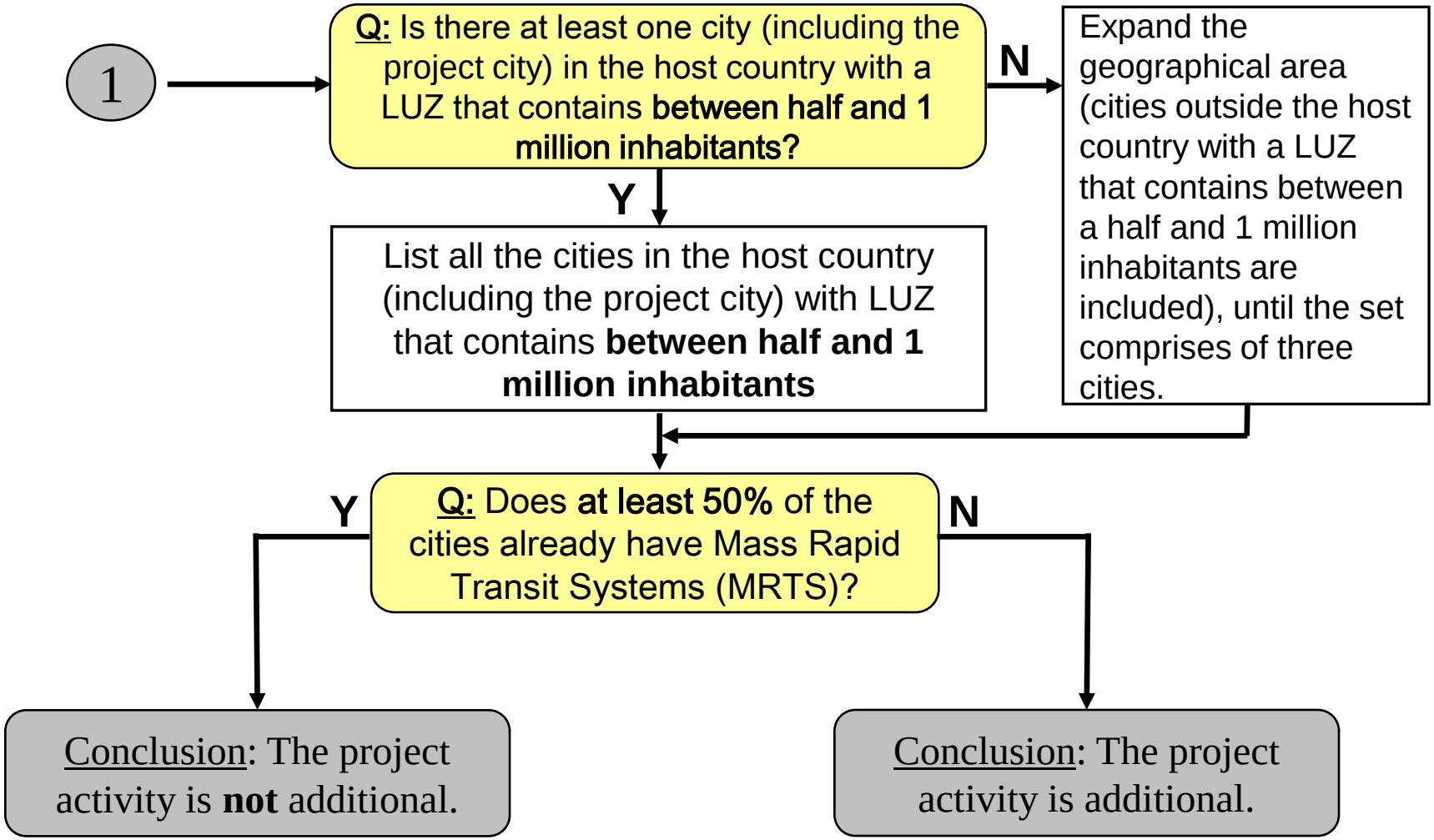
AM_REV_0192 aims to revise the methodology to address situations in which there are no cities with more than 1 million inhabitants in the host country, and thus the common practice analysis cannot be undertaken.

Revised common practice analysis (ACM0016, ver 02)



ACM0016: Baseline Methodology for Mass Rapid Transit Projects

Revised common practice analysis (ACM0016, ver 02)



EB55 – Annotated agenda item 16 (l)

Editorial revision to the Approved Methodology AM0042

Available to the members of the Board as annex 5 of MP 44 meeting

EB55 – Annotated agenda item 19

Revision to the

“Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site”

Available to the members of the Board as annex 17 of MP 44 meeting

Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site

Revision

Provides default values for the fraction of degradable organic carbon (DOC) for industrial sludge and for the decay rate (k) for sludge from pulp and paper industry.

EB55 – Annotated agenda item 20

Revision to ACM0008

Available to the members of the Board as annex 13 of MP 44 meeting

EB54: ACM0008 Measurement on CMM and PMM during project activity