Revision of ACM0001 to include a default grid electricity emission factor if electricity consumption is less than 15 GWh/yr
Call for inputs for DOE submissions of request for revisions of approved methodologies

For project activities where captured landfill gas is not utilized for electricity generation, ACM0001 (version 04) requires that "electricity required for the operation of the project activity, including transport of heat, should be accounted and monitored. […] Where the project activity does not involve electricity generation, project participants should account for CO_2 emissions by multiplying the quantity of electricity required with the CO_2 emissions intensity of the electricity displaced ($CEF_{electricity,y}$)." Moreover, ACM0001 states that $CEF_{electricity,y}$ is "CO_2 emissions intensity of the electricity displaced, in tCO_2e/MWh. This can estimated using either ACM0002 or AMSI.D, if the capacity is within the small scale threshold values, when grid electricity is used or displaced."

Both ACM0002 and AMS-I.D require data that in many countries is not easily available and require the collection and analysis of data which can be resource and time demanding. Given that the electricity required by the project and associated project emissions are relatively small, it is suggested that a default emission grid emission factor may be applied (similar to the provisions for emissions associated with electricity consumption in the baseline stipulated by ACM0010 - Consolidated baseline methodology for GHG emission reductions from manure management systems).

It is suggested that for a project activity that does not involve electricity generation, the following option is given for determining $CEF_{electricity,y}$ used to determine project emissions associated with the electricity required for the operation of the project activity:

In case the electricity is imported from the grid, $CEF_{electricity}$ should be calculated according to methodology ACM0002 ("Consolidated baseline methodology for grid-connected electricity generation from renewable sources"). If electricity consumption is less than small scale threshold (15 GWh/yr), use the default emission factor for a diesel generator with a capacity of more than 200 kW for small-scale project activities (0.8 tCO_2/MWh, see Table I.D.1 in the simplified baseline and monitoring methodology AMS.I.D for selected small-scale CDM project activity categories).

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Revision of ACM0010 to include the option to apply a default grid electricity emission factor for both project and baseline emissions if electricity consumption is less than 15 GWh/yr
Call for inputs for DOE submissions of request for revisions of approved methodologies

In order to determine the carbon emissions factor for electricity consumed at the project site in the absence of the project activity (tCO$_2$/MWh) in the baseline, ACM0010 allows the use of a default emission factor:

In cases where electricity would, in the absence of the project activity, be purchased from the grid, the emission factor CEFBl,elec should be calculated according to approved methodology ACM0002 ("Consolidated baseline methodology for grid-connected electricity generation from renewable sources"). If electricity consumption is less than small scale threshold (15 GWh/yr), use the default emission factor for a diesel generator with a capacity of more than 200 kW for small-scale project activities (0.8 tCO2/MWh, see Table I.D.1 in the simplified baseline and monitoring methodology AMS.I.D for selected small-scale CDM project activity categories).

However, this option is not give for determining the carbon emissions factor for electricity consumed at the project site during the project activity:

In case the electricity is imported from the grid, CEF$_d$ should be calculated according to methodology ACM0002 ("Consolidated baseline methodology for grid-connected electricity generation from renewable sources"). If electricity generation is less than small scale threshold (15 GWh/year), the method for the calculation of the grid emission factor in the small scale methodology AMS.I.D could be used.

Both ACM0002 and AMS-I.D require data that in many countries is not easily available and require the collection and analysis of data which can be resource and time demanding. Given that the electricity required by the project and associated project emissions are relatively small, it is suggested that a default emission grid emission factor may be also applied for determining the carbon emissions factor for electricity consumed in the project scenario. Hence, it is suggested to include the following text for determining *CEF$_d$*:

In case the electricity is imported from the grid, CEF$_d$ should be calculated according to methodology ACM0002 ("Consolidated baseline methodology for grid-connected electricity generation from renewable sources"). If electricity consumption is less than small scale threshold (15 GWh/yr), use the default emission factor for a diesel generator with a capacity of more than 200 kW for small-scale project activities (0.8 tCO2/MWh, see Table I.D.1 in the simplified baseline and monitoring methodology AMS.I.D for selected small-scale CDM project activity categories).

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Revision of AM0021 to include GHG emissions related to the production of ammonia used for DeNO$_x$ unit within the project boundary
Call for inputs for DOE submissions of request for revisions of approved methodologies

Methodology AM0021: "Baseline Methodology for decomposition of N$_2$O from existing adipic production plants" is applicable for catalytic or thermal decomposition of the N$_2$O by-product from adipic acid production. In commercial available N$_2$O abatement technologies a DeNO$_x$ system can be included in the abatement system as shown in Fig 1 below for the INVISTA process. In AM0021 there is no identification of emissions related to the ammonia used for NO$_x$ reduction.

Reference is made to AM0028: "Catalytic N$_2$O destruction in the tail gas of Nitric Acid or Caprolactam Production Plants". In the definition of the project boundary the DeNO$_x$ unit is included as follows: "In case no SCR DeNO$_x$ unit has been installed prior to the start of the project activity, GHG emissions related to the production of ammonia used for NO$_x$ reduction will be considered as project emissions. In case a SCR DeNOx unit has been installed prior to the start of the project activity, GHG emissions related to the production of ammonia used for NO$_x$ reduction will not be considered as project emissions."

It is suggested that the same principle applies to AM0021 and that in case no DeNO$_x$ unit is installed prior to the start of the project activity then GHG emissions related to the production of ammonia used for NO$_x$ reduction should be considered as project emissions. Proposed text to be included in Project activity emissions are (reference is given to text in page 10 of AM0028):

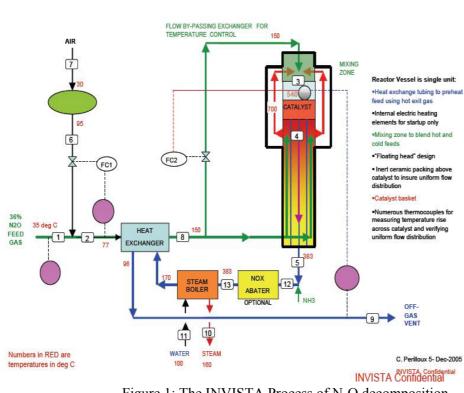***Ammonia Input to the destruction facility:***
In case an existing SCR DeNOx unit is already installed prior to the starting date of the project activity or has to be installed according to legal requirements, the project ammonia input will be considered equal to the ammonia input of the baseline scenario.

Should no SCR DeNOx unit be installed prior to the starting date of the project activity, project emissions related to the production of ammonia are considered as follows:
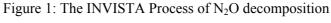
$$PE_{NH3,y} = Q_{NH3,y} \times EF_{NH3} \text{ (5)}$$

where:
$PE_{NH3,y}$ Project emissions related to ammonia input to destruction facility in year y (tCO$_2$e)
$Q_{NH3,y}$ Ammonia input to the destruction facility in year y (tNH$_3$)
EF_{NH3} GHG emissions factor for ammonia production (CO$_2$e/tNH$_3$)
Please note: Ammonia input for NO$_x$ emission reduction will not cause GHG emissions other than related to the production of ammonia.
A default factor of 2.14 tCO$_2$e/tNH$_3$ is suggested (GEMIS 4.2).

INVISTA CATALYTIC N₂O ABATEMENT

Figure 1: The INVISTA Process of N₂O decomposition

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Revision of AM0034 to extend the applicability to include catalytic reduction of N₂O inside ammonia oxidation burner of Caprolactam plants

As per Version 2 of AM0034, this methodology is applicable to projects at nitric acid plants exclusively.

Reference is made to AM_REV_0017: "Proposal to revise AM0028: Broadening the applicability to include caprolactam production process" (considered by the Meth Panel during their 4-8 September 2006 meeting) were the extension of applicability was granted to AM0028, version 3, "Catalytic N_2O destruction in the tail gas of nitric acid or caprolactam production plants", originally approved for nitric acid only.

The same principles of arguments as applied for AM0028 (reference is made to AM_REV_0017) is applicable to the methodology AM0034 since N_2O is generated as a side reaction during ammonia oxidation independently of the production process being nitric acid or caprolactam.

It is hence suggested to extend the applicability of AM0034 to cover caprolactam plants in addition to nitric acid plants in the same way as for AM0028.

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