CLEAN DEVELOPMENT MECHANISM
PROPOSED NEW METHODOLOGY: MONITORING (CDM-NMM)
Version 01 - in effect as of: 1 July 2004

CONTENTS

SECTION A. Identification of methodology

A.1. Title of the proposed methodology:

>>
Monitoring methodology and Life Cycle Assessment (LCA) for the production of sugar cane based anhydrous bio-ethanol for transportation use.
Version 2
Completed 29/06/05

A.2. List of category(ies) of project activity to which the methodology may apply:

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Transport

A.3. Conditions under which the methodology is applicable to CDM project activities:

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The monitoring methodology is to be used in conjunction with the proposed baseline methodology: Baseline methodology for the production of sugar cane based bio-ethanol for transportation using LCA.

The specific applicability for the baseline methodology that is relevant to the monitoring methodology is: It can be readily verified that the bio-ethanol will be used as a transportation fuel within the relevant national market.

A.4. What are the potential strengths and weaknesses of this proposed new methodology?

Its application is directly related to the baseline methodology outlined above, and it shares the strengths and weaknesses of the baseline methodology. Use of a life-cycle approach to emissions covers all potential emission sources but requires the use of external independent data in the case of baseline emissions and fairly extensive monitoring in the case of project emissions and leakage.

SECTION B. Proposed new monitoring methodology

B.1. Brief description of the new methodology:

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The methodology is designed for projects utilising the baseline methodology: Baseline methodology for the production of anhydrous sugar cane based bio-ethanol for use in transportation. Projects must therefore have satisfied the applicability conditions for that methodology. The key condition in relation to the monitoring methodology is that it can be readily verified that the bio-ethanol will be used as a transportation fuel within the relevant national market.
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The key element of the monitoring methodology is the determination of ex-post LCA GHG emissions from the production of anhydrous bio-ethanol at the project activity. The LCA of GHG emissions covers the following activities:

Emissions associated with diesel consumption from agricultural operations in the cane fields supplying the project activity
Emissions relating to the production of synthetic fertiliser that is used on the cane fields supplying the project activity
Soil N_2O emissions from synthetic and organic fertiliser use on the cane fields supplying the project activity
Non CO_2 GHG emissions from the field burning of crop residues
Transportation of sugar cane from the field to the sugar/bio-ethanol factory
Fossil fuel combustion in the industrial production of bio-ethanol
Electrical energy consumption in the industrial production of bio-ethanol

A total emission factor per tonne of cane produced is derived and this is combined with data on the mass of sugar cane or molasses required to produce a kilolitre of anhydrous bio-ethanol to determine total emissions from agricultural operations and industrial production.

Project emissions arising from transportation of bio-ethanol from the factory to the place of blending must also be accounted for in situations where the current distribution of displaced gasoline does not involve similar transport of fuel to a blend/distribution location.

The baseline methodology to which this monitoring methodology is allied provides a fixed emissions factors for the baseline fuel (gasoline). The baseline fuel emission factor is to be adjusted each year to reflect the proportions of domestic gasoline consumption supplied by imported and domestically produced gasoline. Total emission reductions are calculated as baseline lifecycle emissions minus project lifecycle emissions minus (if required) any emissions associated with the transport of the bio-ethanol from the distillery to the place of blending distribution minus any leakage

We have included the fixed gasoline GHG LCA emission coefficient in the monitoring in case further studies become available on the lifecycle emissions from gasoline. We do not envisage changing the ex-ante fixed coefficient within a crediting period, but monitoring of studies and developments will allow this to be considered at renewal of a crediting period.

The potential for leakage exists should the project activity lead, either directly or indirectly, to deforestation. This is included in the monitoring methodology.

Core to the methodology is the volume of anhydrous bio-ethanol produced by the project activity that is actually used in transportation. This variable is to be monitored as part of the monitoring methodology.

B.2. Option 1: Monitoring of the emissions in the project scenario and the baseline scenario:

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B.2.1. Data to be collected or used in order to monitor emissions from the project activity, and how this data will be archived:

ID number *(Please use numbers to ease cross-referencing to table B.7)*	Data variable	Source of data	Data unit	Measured (m), calculated (c) or estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/ paper)	Comment
1	Bio-ethanol feedstock (sugar cane juice or molasses)	*Factory data*	*-*	*m*	*Annual*	*100%*	*electronic*	*Qualitative Variable*
2	Tonnes of sugar cane required to produce 1 kilolitre of bio-ethanol	*Factory data*	*t/kl*	*M*	*Annual*	*100%*	*electronic*	
3	Raw sugar recovery rate from cane	*Factory data*	*%*	*M*	*Annual*	*100%*	*electronic*	
4	Molasses recovery rate from cane	*Factory data*	*%*	*M*	*Annual*	*100%*	*electronic*	
5	Total reducing sugars content of molasses	*Factory data*	*%*	*M*	*Annual*	*100%*	*electronic*	
6	Total reducing sugars content	*Factory data*	*%*	*M*	*Annual*	*100%*	*electronic*	

	of raw sugar							
7	Tonnes of molasses required to make 1 kilolitre of bio-ethanol	*Factory data*	*t/kl*	*M*	*Annual*	*100%*		
8	Molasses yield from tonne of sugar cane	*Factory data*	*Kg/t*	*M*	*Annual*	*100%*	*electronic*	
9	Sugar cane yield per hectare	*Factory data*	*t/ha*	*M*	*Annual*	*100%*	*electronic*	
10	Recommended fertiliser application for cane farmers supplying bio-ethanol factory	*Extension service*	*l/ha*	*M*	*Annual*	*100%*	*electronic*	
11	Average diesel consumption in tractors from agricultural operations for cane farmers supplying bio-ethanol factory	*Extension service*	*l/ha*	*M*	*Annual*	*100%*	*electronic*	
12	Percentage of sugar cane land where trash is burned before harvest	*Extension service*	*%*	*E*	*Annual*	*100%*	*electronic*	
13	Fossil fuel combusted on site to supply non-electrical	*Factory data*		*M*	*Annual*	*100%*	*electronic*	*Qualitative Variable*

	energy to the bio-ethanol factory							
14	Emissions factor for fossil fuel combusted	*Factory data*	*tCO_2e/t*	*C*	*Annual*	*100%*	*electronic*	
15	Electricity utilised by bio-ethanol factory	*Factory data*		*M*	*Annual*	*100%*	*electronic*	
16	Shares of electricity supplied by grid and captive	*Factory data*	*%*	*M*	*Annual*	*100%*	*electronic*	
17	Source of captive power	*Factory data*		*M*	*Annual*	*100%*	*electronic*	
18	Emissions factor for captive power source	*Factory data*	*tCO_2e/MWh*	*C*	*Annual*	*100%*	*electronic*	
19	Grid combined margin emissions factor	*Factory data*	*tCO_2e/MWh*	*C*	*Annual*	*100%*	*electronic*	
20	Average distance travelled by trucks transporting cane from fields to sugar factory	*Extension service*	*Km*	*E*	*Annual*	*100%*	*Electronic*	
21	Share of cane transported by	*Extension service*	*%*	*E*	*Annual*	*100%*	*Electronic*	

	truck to factory							
22	Average truck capacity	*Extension service*	*%*	*E*	*Annual*	*100%*	*Electronic*	
23	Truck Fuel efficiency	*Manufacturer's data*	*km/l*	*M*	*Annual*	*100%*	*Electronic*	*This will be taken from vehicle records.*
24	Truck fuel carbon emission factor	*IPCC*	*CO_2/l*	*M*	*Annual*	*100%*	*Electronic*	
25	Average return distance travelled from bio-ethanol factory to place of blending	*Proprietary data*	*Km*	*E*	*Annual*	*100%*	*Electronic*	*Distance is measured if the contract is for delivered bio-ethanol by the project activity and will be estimated if the project activity has a factory gate contract.*
26	Bio-ethanol transporter capacity							
27	Bio-ethanol transporter fuel efficiency	*Manufacturer's data*	*km/l*	*M*	*Annual*	*100%*	*Electronic*	*This will be taken from vehicle records.*
28	Transporter fuel carbon emission factor	*IPCC*	*CO_2/l*	*M*	*Annual*	*100%*	*Electronic*	
29	TEC_y Operator	*Determined from evaluation of gasoline supply at blending/ distribution points*	*0/1*	*C*	*Annual*	*100%*	*Electronic*	*If value is set to 1 then transport emissions are calculated, if it is set to zero then transport emissions do not apply.*
30	AH_y Volume of anhydrous bio-ethanol produced and	*Factory and purchaser records*	*l*	*M*	*Annual*	*100%*	*Electronic*	*The verifier must obtain confirmation from the buyer that the volume of fuel has been used in transportation*

	used in transportation							

B.2.2. Description of formulae used to estimate project emissions (for each gas, source, formulae/algorithm, emissions units of CO_2 equ.):

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GHG emissions associated with the production of a tonne of sugar cane are calculated as follows:

1. Diesel consumption during agricultural operations:

$$PEDy = EFD \bullet \frac{ACDy}{Yy}$$

Where:
PEDy = Project emissions from diesel consumption in agricultural operations (kgCO_2e/tonne cane)
EFD = Emissions factor for diesel (kgCO_2e/kilolitre)
ACD_y = Average diesel consumption per hectare on agricultural land supplying project activity (kilolitre/ha)
Y_y = Average yield) on land agricultural supplying project activity (tonnes cane per hectare)

2a. Emissions from the production of synthetic fertiliser used

$$PEFy = EFP \bullet \frac{ACFy}{Yy}$$

Where:
PEFy = Emissions from production of fertiliser used (kgCO_2e/tonne cane)
EFP = Fertiliser production emissions coefficient (kgCO_2e/kg fertiliser)
ACFy = Recommended fertiliser application rate (kg/ha)
Y_y = Average yield on land agricultural supplying project activity (tonnes cane per hectare)

2b. Soil N_2O emissions from organic and synthetic fertiliser use.

$$N2Odirect - N = (FSN + FAM) \bullet EF1$$

Where
N_2O_{Direct} -N = Emissions of N_2O in units of Nitrogen
F_{SN} = Annual amount of synthetic fertiliser nitrogen applied per hectare adjusted for the amount that volatilises as NH_3 and NOx
F_{AM} = Annual amount of animal manure nitrogen intentionally applied per hectare adjusted to account for the amount that volatilises as NH3 and NOx
EF_1 = Emission factor for emissions from N inputs (kg N2O-N/kg N input)

Conversion of N_2O-N emissions to N2O emissions per tonne of cane is performed by using the following equation:

$$N2Ofert = \frac{N2Odirect - N \bullet 44/28}{Yy} \bullet 310 \quad \text{or} \quad \frac{N2Odirect - N \bullet 487}{Yy}$$

Where
N2Ofert = Direct N_2O emissions from Nitrogen fertilizer use ($kgCO_2e$/tonne cane)
N2Odirect –N = Emissions of N_2O in units of Nitrogen
Yy = Average yield on agricultural land supplying the project activity (tonnes cane per hectare)

3. *Emissions associated with the field burning of crop residues*

Carbon released/tonne cane = 0.14 • percentage of cane trash burned in field • fraction oxidised • carbon fraction (0.45)

CH_4 and N_2O emissions per tonne of cane are then calculated (in CO_2e) as:

$$CH4trash = Carbon\_released / tonne\_cane \bullet 0.005 \bullet \frac{16}{12}$$

$$N2Otrash = Carbon\_released / tonne\_cane \bullet 0.015 \bullet 0.007 \bullet \frac{16}{12}$$

And

$$ETBy = CH4trash \bullet 23 + N2Otrash \bullet 310$$

Where
ETBy = Emissions from the field burning of crop residues ($kgCO_2e$/tonne cane)
and 23 and 310 are the GWP for CH_4 and N_2O respectively

4. Emissions associated with the transport of cane to the sugar/bio-ethanol factory

$$TEF_y = \frac{Dy \bullet CEFi \bullet \beta}{FE \bullet TC}$$

Where:
TEF_y = Emissions from the transportation of sugar cane from the field to the bio-ethanol factory ($kgCO_2e$ per tonne cane)
D_y = Average return distance from field to factory (km)
FE = Fuel efficiency of transporter (km/l)
CEF_t = CO_2 emissions factor ($kgCO_2$/l)
ß = percentage of cane transported to factory by truck
TC = Truck capacity, tonnes

Total "Field" emissions on a $kgCO_2e$ per tonne cane are thus:

$$EFFy = PEDy = PEFy + N2Ofert,y + ETBy + TEFy$$

Where:
EFFy = Emissions from "Field" operations ($kgCO_2e$ per tonne cane)
PEDy = Project emissions from diesel consumption in agricultural operations ($kgCO_2e$/tonne cane)
PEFy = Emissions from production of fertiliser used ($kgCO_2e$/tonne cane)
N2Ofert,y = Direct N_2O emissions from Nitrogen fertilizer use ($kgCO_2e$/tonne cane)
ETBy = Emissions from the field burning of crop residues ($kgCO_2e$/tonne cane)
TEF_y = Emissions from the transportation of sugar cane from the field to the bio-ethanol factory ($kgCO_2e$ per tonne cane)

As part of the calculation of total project emissions, the above emissions factor must be converted from a $kgCO_2e$ per tonne cane basis to a $kgCO_2e$ per kilolitre anhydrous bio-ethanol basis:

i) Where anhydrous bio-ethanol is produced directly from sugar cane:

$$EFAsug, y = CC \bullet EFFy$$

Where
EFAsug,y = Total “Field” emissions factor where bio-ethanol feedstock is sugar cane ($kgCO_2e/kl$)
CC = Cane to anhydrous bio-ethanol conversion factor (t/kl)
EFFy = Emissions from “Field” operations ($kgCO_2e$ per tonne cane)

ii) Where anhydrous bio-ethanol is produced from sugar cane molasses:

$$EFMy = \frac{M.SM}{M.SM + S.SS} \bullet \frac{1}{M} \bullet EFFy$$

Where:
EFM,y = Emissions from “Field” operations ($kgCO_2e$ per tonne molasses)
M = Molasses recovery rate from cane (%)
S = Raw sugar recovery rate from cane (%)
SM = Total reducing sugars (TRS) content of molasses
SS = Total reducing sugars (TRS) content of raw sugar
EFFy = Emissions from “Field” operations ($kgCO_2e$ per tonne cane)

And:

$$EFAmol, y = MC \bullet EFMy$$

Where:
EFAmol,y = Total “Field” emissions factor where bio-ethanol feedstock is sugar cane molasses ($kgCO_2e/kl$)
MC = Sugar cane molasses to anhydrous bio-ethanol conversion factor (t/kl)
EFM,y = Emissions from “Field” operations ($kgCO_2e$ per tonne molasses)

5. Emissions from the industrial production of bio-ethanol

$$PPEy = FFy \bullet CEFF + GMy \bullet CEFG + CPy \bullet CEFC$$

Where:
PPEy = Total emissions from the industrial production process of bio-ethanol ($kgCO_2e$)
FFy = Fossil fuel combusted to provide non-electrical energy to the bio-ethanol factory (tonnes)
CEFF = Emission factor for fossil fuel (kg $kgCO_2e$/tonne)
GMy = Imports from the grid to the bio-ethanol factory (kWh)
CEFG = Combined margin grid emission factor ($kgCO_2e$/kWh)
CPy = Captive electrical energy generation for the bio-ethanol factory (kWh)
CEFC = Captive generation emission factor ($kgCO_2e$/kWh)

6. Emissions associated with the transport of bio-ethanol to the place of blending/distribution

The methodology states that these emissions are to be added to the project lifecycle emissions only if the current distribution of the displaced gasoline does not involve similar transport of fuel to a blend/distribution location. Transport emissions are calculated from the volume of bio-ethanol transported and the fuel efficiency and appropriate CO_2 emissions factor of the transport vehicle. (The CO_2 emissions factor is taken from the IPCC again adding to the conservatism of the methodology.) As these transport emissions are only be included if the current distribution of gasoline does not involves the transport of fuel to a blend/distribution location, the variable TEC_y is set to 1 if the calculation is required under this test and 0 if their calculation is not required, the calculation of transport emissions are carried out through the following equation:

$$TE_y = \frac{D_y}{FE}.CEF_t.TEC_y$$

Where:

TE_y = Additional emissions from the transportation of bio-ethanol to the blend/distribution location, tCO_2e
D_y = Distance travelled by transporters in year y, km
FE = Fuel efficiency of transporter, km/l
CEF_t = CO_2 emissions factor, tCO_2/l
TEC_y = whether the calculation of transport emissions required (value = 0 or 1)

Total Project Emissions

Total project emissions are calculated as:

Where bio-ethanol is produced from sugar cane:

$$PEy = AHy \bullet EFAsug, y + PPEy + TEy$$

Where:
PEy = Project emissions, tCO_2e
AHy = Volume of anhydrous bio-ethanol produced and used in transportation, kl
EFAsug,y = Emissions from agricultural operations , tCO_2e/kl
PPEy = Emissions from the industrial production of bio-ethano, tCO_2e
TEy = Additional emissions from the transportation of bio-ethanol to the blend/distribution location, tCO_2e

And where bio-ethanol is produced from sugar cane molasses:

$$PEy = AHy \bullet EFAmol, y + PPEy + TEy$$

Where:
PEy = Project emissions, tCO_2e
AHy = Volume of anhydrous bio-ethanol produced and used in transportation, kl
EFAmol,y = Emissions from agricultural operations , tCO_2e/kl
PPEy = Emissions from the industrial production of bio-ethano, tCO_2e
TEy = Additional emissions from the transportation of bio-ethanol to the blend/distribution location, tCO_2e

B.2.3. Relevant data necessary for determining the baseline of anthropogenic emissions by sources of greenhouse gases (GHG) within the project boundary and how such data will be collected and archived:								
ID number *(Please use numbers to ease cross-referencing to table B.7)*	Data variable	Source of data	Data unit	Measured (m), calculated (c), estimated (e),	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/ paper)	Comment
31	*AH_y Volume of anhydrous bio-ethanol produced and used in transportation*	*Factory and purchaser records*	*l*	*M*	*Annual*	*100%*	*Electronic*	*The verifier must obtain confirmation from the buyer that the volume of fuel has been used in transportation*
32	*Q Relative fuel efficiency of anhydrous bio-ethanol and gasoline*	*Local studies*	*N/A*	*M/C*	*N/A*	*100%*	*Electronic*	*Fixed factor derived at validation from local studies.*
33	*EFP Carbon emission factor*	*LBST study*	*tCO_2e/l*	*Constant*	*Annual*	*100%*	*Electronic*	*The data represents the baseline emissions constant in the baseline methodology. Although a constant, annual monitoring of new studies is to be carried out and these will be evaluated at renewal of the crediting period.*
34	*M Share of national gasoline consumption imported*	*National/International Statistics*	*%*	*C*	*Annual*	*100%*	*Electronic*	

B.2.4. Description of formulae used to estimate baseline emissions (for each gas, source, formulae/algorithm, emissions units of CO_2 equ.):

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$$BE_y = AH_y \cdot Q \cdot EFP$$

Where:
BE_y = Baseline emissions, tCO_2e
AH_y = Volume of anhydrous bio-ethanol produced by the project activity and used in transportation, l
Q = Relative fuel efficiency of anhydrous bio-ethanol compared to gasoline ($0<Q<1$)
EFP = Gasoline lifecycle emissions coefficient, tCO_2e/l

As discussed in the baseline methodology, the baseline emissions factor must be adjusted to take account of the share of national gasoline supply provided for by imports. Thus:

$$EFP = M.TTW + (1 - M) \bullet WTW$$

Where:
M = Share of total gasoline supply provided for by imports (%)
TTW = Tank-to-Wheel baseline coefficient
WTW – Well-to-Wheel baseline coefficient

And as outlined in the baseline methodology, Q is calculates as:

$$Q = \frac{FEP - FEG \bullet X}{FEG - FEG \bullet X}$$

Where:

Q = Relative volumetric fuel efficiency coefficient of anhydrous bio-ethanol
FEG = Fuel efficiency of gasohol (l/km)

FEP = Fuel efficiency of gasoline (l/km)
X = Blend of gasoline in gasohol (0.8>X<1)

FEG and FEP will be typically be available from national oil company or authority data. However, where FEG and FEP are not provided in the host country, a value for Q must be derived based solely on energy content as below. (FEG and FEP must be country specific variables as they are at least partially related to country specific factors).

$$Q = \frac{ECE}{ECP}$$

Where:

Q = Relative volumetric fuel efficiency coefficient of anhydrous bio-ethanol
ECE = Energy content of ethanol (MJ/km)
ECP = energy content of gasoline (MJ/km)

B.3. Option 2: Direct monitoring of emission reductions from the project activity:

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B.3.1. Data to be collected or used in order to monitor emissions from the project activity, and how this data will be archived:

ID number *(Please use numbers to ease cross-referencing to table B.7)*	Data variable	Source of data	Data unit	Measured (m), calculated (c), estimated (e),	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/ paper)	Comment

B.3.2. Description of formulae used to calculate project emissions (for each gas, source, formulae/algorithm, emissions units of CO_2 equ.):

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B.4. Treatment of leakage in the monitoring plan:

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Project proponents are required to obtain written confirmation from the host DNA that it will not approve any fuel switch CDM project activities that utilise the bio-ethanol produced by the project activity and which would therefore conflict with the project boundary. In addition to this as part of the monitoring process all CDM project activities registered in the host country are to be recorded to ensure that none conflict with the project boundary for the project activity. This will ensure no double counting of emissions reductions occurs.

Given the LCA method adopted for estimation of project and baseline emissions, the key leakage potential examined is any deforestation that may occur due to and increase in the area of land used for sugar cane production as a result of the project activity.

As outlined in the methodology, project proponents must first establish whether deforestation has occurred in the project host country. This may well not be possible to determine at the time of annual verification due to a lack of data. Should up-to-date data be available and these show no deforestation in the host country has occurred, then leakage can be excluded. Where data are not available, an evaluation is to be made of whether the area of sugar cane supplying the project activity facility has increased as a result of the project activity. Should the cane area be found to have increased as a result of the project activity, the conservative assumption is that an equivalent area of land will be deforested. Leakage emissions from this deforestation are calculated and deducted from CERs. The project activity is not to receive any CERs until cumulative emission reductions exceed cumulative leakage.

Where bio-ethanol is produced from sugar cane molasses, any increase, as a result of the project activity, in the cane area supplying the sugar factory(ies) which provide molasses to the project activity, must be apportioned between sugar and molasses. This apportionment is to be carried out on the basis of sucrose content, in the same way as with project emissions from agricultural operations in the production of a tonne of sugar cane.

In the case that land-use leakage cannot be ruled out, it should be calculated as per as per IPCC good practice guidelines. The biomass dry matter stock of forest before conversion is available in Annex 3A.1 of the GPG-LULUCF, 2003. This should be multiplied by 0.5 to obtain the carbon stock and by 44/12 to arrive at CO_2e.

B.4.1. If applicable, please describe the data and information that will be collected in order to monitor leakage effects of the project activity:
Monitoring of leakage is focussed on the potential for the project activity to increase the area of sugar cane planted and to therefore potentially cause deforestation.

ID number *(Please use numbers to ease cross-referencing to table B.7)*	Data variable	Source of data	Data unit	Measured (m), calculated (c) or estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/ paper)	Comment
35	*All registered CDM project activities in host country*	*UNFCCC*	*N/A*	*M*	*Annual*	*100%*	*Electronic*	
36	*Area of cane supplying project activity*	*Factory records/extension service*	*ha*	*M*	*Annual*	*100%*	*Electronic*	
37	*Dry matter content of forests in host country*	*IPCC*	*t/ha*		*Annual*		*Electonic*	*Most recent data to be used.*

B.4.2. Description of formulae used to estimate leakage (for each gas, source, formulae/algorithm, emissions units of CO_2 equ.):

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The cane area increase that could be attributable to the project activity is multiplied by the biomass dry matter stock of forest before conversion (available in Annex 3A.1 of the GPG-LULUCF, 2003) and then multiplied by 0.5 to obtain the carbon stock and by 44/12 to arrive at CO_2e.

B.5. Description of formulae used to estimate emission reductions for the project activity (for each gas, source, formulae/algorithm, emissions units of CO_2 equ.):

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$$CER_y = BE_y - PE_y - LEy \quad (4)$$

Where:

BE_y = Baseline emissions, tCO_2e
PE_y = Project emissions, tCO_2e
LEy = Leakage, tCO_2e

B.6. Assumptions used in elaborating the new methodology:

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The key assumption is the use of externally sourced lifecycle emissions data for gasoline.

B.7. Please indicate whether quality control (QC) and quality assurance (QA) procedures are being undertaken for the items monitored:

Data *(Indicate table and ID number e.g. 3.-1.; 3.2.)*	Uncertainty level of data (High/Medium/Low)	Explain QA/QC procedures planned for these data, or why such procedures are not necessary.
1-9	*Low*	*Standard factory date.*
10-12	*Low*	*Standard extension service data.*
13-19	*Low*	*Factory data Cross-checked with receipts*
20-22	*Low*	*Factory /Extension service data.*
23-24	*Low*	*Manufacturers' data.*
25-31	*Low*	*Factory/Extension service data.*

B.8. Has the methodology been applied successfully elsewhere and, if so, in which circumstances?

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No

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