Errata & Clarification

Methodology for the Quantification, Monitoring, Reporting and Verification of the Greenhouse Gas Emissions Reductions and Removals from Avoided Conversion of Grasslands and Shrublands to Crop Production

March 27, 2020

This is a supplemental document to the ACR Methodology *for the Quantification, Monitoring, Reporting and Verification of the Greenhouse Gas Emissions Reductions and Removals from Avoided Conversion of Grasslands and Shrublands to Crop Production v 2.0*, posted for use in October 2019 ("the Methodology"). It is intended that topics in this document will be incorporated into the updated ACR Methodology *v 3.0*. As supplemental information or clarifications are needed on future versions of this methodology, updates may be found in this document.

1.1 Errata: Fertilizer N_2O Emissions and Livestock Emissions (March 27, 2020)

In version 2.0 of the Methodology, emissions from soil N_2O are addressed in sections 6.1.4 and 6.2.4 and include: 1) emissions of N_2O due to fertilizer application and 2) emissions of N_2O due to deposited urine and unmanaged manure from grazing cattle (i.e. manure and urine are deposited directly on the project field by the animal, not collected, composted and reapplied by the rancher or purchased and applied by the rancher).

Per this Errata and Clarification, ALL emissions associated with grazing livestock are now encompassed in the term $E_{Livestock,BL_{p,y}}$, which includes: 1) CH_4 emissions from enteric fermentation and 2) direct N_2O emissions from unmanaged waste deposited on fields by grazing livestock.

Section	Errata Description
2.2.2 Table 2	Livestock Emissions; N_2O Excluded → Livestock Emissions; N_2O Optional
	Emissions of N_2O from livestock waste are captured under soil management emissions.

	→ When livestock are present, direct emissions of N_2O from livestock waste must be included. They can be conservatively excluded in certain situations.
6.1 Equation 2	$E_{N_2O,BL_{p,y}}$ → $E_{Fert,BL_{p,y}}$
	$E_{FERM,BL_{p,y}}$ → $E_{Livestock,BL_{p,y}}$
6.1.4 Title	Accounting Baseline Emissions from Soil N_2O → Accounting Baseline Emissions from Fertilizer Application
6.1.4 Text	Accounting for this pool is required. Direct and indirect soil N_2O emissions in the baseline scenario result from nitrogen fertilizer application, both synthetic and organic, as well as the presence of N-fixing plant species such as legumes. Quantification of indirect N_2O emissions from nitrogen fertilizer application is highly uncertain. GHG benefits from this pool cannot be assured to be real and are therefore conservatively excluded from both the baseline and project scenario. → Accounting for this pool is required. Direct soil N_2O emissions in the project scenario result from nitrogen fertilizer application, both synthetic and organic. Quantification of indirect N_2O emissions from nitrogen fertilizer application is highly uncertain. GHG benefits from this pool cannot be assured to be real and are therefore conservatively excluded from both the baseline and project scenario.
6.1.4 Text	$E_{N_2O,BL_{p,y}}$ → $E_{Fert,BL_{p,y}}$
6.1.4 Equation 12	$E_{N_2O,BL_{p,y}}$ → $E_{Fert,BL_{p,y}}$

6.1.5 Title	Accounting Baseline Emissions from Enteric Fermentation → Accounting Baseline Emissions from Livestock
6.1.5 Text	Livestock, such as cattle, bison and sheep, produce CH_4 due to enteric fermentation in their rumen. Enteric fermentation emissions vary by species, breed, animal size, feed, environment and management systems (Ominski et al. 2007). Estimates of enteric fermentation can also vary widely depending on the level of specificity input data and use of defaults (Ominski et al. 2007). It is therefore encouraged that Project Proponents utilize the most representative input data where possible. Further, calves less than 6 months in age are assumed to have zero CH_4 emissions as their diet will be primarily milk (US EPA 2013). Accounting for GHG emissions from livestock enteric fermentation is required when livestock would be present in the baseline scenario. In some areas, it is common practice for livestock to graze cultivated fields in the winter or to graze stover following harvest. It must be shown at time of validation that:1) winter grazing is common practice in the region as part of the baseline crop management scenario, per the requirements in section 3.1.2, and 2) winter grazing is feasible and likely at the specific project location because cattle are already present or have been pre-sent in the project area41 or LCA area. Estimates of enteric CH_4 emissions are restricted to rangeland/pasture manure systems where manure is left unmanaged once deposited by livestock per the Applicability Conditions in Section 1.2. It is recognized that in Grassland ecosystems, the net contribution of livestock in the system may be net GHG sequestration (Liebig et al. 2010). Any stimulation to vegetation growth from soil nutrient amendments, grazing

	and/or natural manure management, present from pre-project conditions/practices, are assumed to be captured through the model parameterization of soil and biomass carbon pools in the project scenario. Any net sequestration benefits from these activities in the project scenario are conservatively excluded from this methodology but could be eligible for ERTs under a separate but complimentary Grazing Land and Livestock Management methodology. Manure deposited by livestock present in the project scenario shall be accounted for in Soil Nitrogen Emissions, Section 6.1.4 Soil Nitrogen Emissions. Baseline emissions from livestock due to enteric fermentation shall be calculated for each Participant Field in the Project Area according to Equation 15 and 16. → Livestock, such as cattle, bison and sheep, produce CH_4 due to enteric fermentation in their rumen. Enteric fermentation emissions vary by species, breed, animal size, feed, environment and management systems (Ominski et al. 2007). Estimates of enteric fermentation can also vary widely depending on the level of specificity input data and use of defaults (Ominski et al. 2007). It is therefore encouraged that Project Proponents utilize the most representative input data where possible. Further, calves less than 6 months in age are assumed to have zero CH_4 emissions as their diet will be primarily milk (US EPA 2013). The un-managed manure deposited by grazing livestock also produces direct emissions of N_2O. Estimates of enteric CH_4 and manure N_2O emissions are restricted to rangeland/pasture manure systems where manure is left

	unmanaged once deposited by livestock per the Applicability Conditions in Section 1.2. Accounting for GHG emissions from livestock enteric fermentation and waste is required when livestock would be present in the baseline scenario. In some areas, it is common practice for livestock to graze cultivated fields in the winter or to graze stover following harvest. It must be shown at time of validation that:1) winter grazing is common practice in the region as part of the baseline crop management scenario, per the requirements in section 3.1.2, and 2) winter grazing is feasible and likely at the specific project location because cattle are already present or have been present in the project area[1] or LCA area. It is recognized that in Grassland ecosystems, the net contribution of livestock in the system may be net GHG sequestration (Liebig et al. 2010). Any stimulation to vegetation growth from soil nutrient amendments, grazing and/or natural manure management, present from pre-project conditions/practices, are assumed to be captured through the model parameterization of soil and biomass carbon pools in the project scenario. Any net sequestration benefits from these activities in the baseline scenario are conservatively excluded from this methodology. Baseline emissions from livestock due to enteric fermentation and deposited waste shall be calculated for each Participant Field in the Project Area according to Equation 15, 16 and 29 [2].
6.1.5	Equation 15: Baseline Enteric Fermentation

[1] These emissions can be conservatively excluded in the baseline scenario if the project scenario does not also include grazing?

[2] Default or literature values may be used for equation 16 ($EF_{CH4,l}$) and select terms in Equation 29.

Equation 15 Title	→ Equation 15: Baseline Livestock Emissions
6.1.5 Equation 15	$E_{Ferm,p,y} = \sum_{l}^{L} P_{p,l} \times EF_l \times GD_{p,l,y} \times GWP_{CH_4} \div 1{,}000$ → $E_{Livestock,BL,p,y} = \left(\sum_{l}^{L} P_{p,l} \times EF_{CH4,l} \times GD_{p,l,y} \times GWP_{CH_4} \div 1{,}000\right) + \left(\sum_{l}^{L} P_{p,l} \times Nex_{p,l,y} \times EF_{N_2O,l} \times GWP_{N_2O} \div 1000\right)$
6.1.5 Equation 15	EF_l → $EF_{CH_4,l}$
6.1.5 Equation 16	EF_l → $EF_{CH_4,l}$
6.2 Equation 19	$E_{PR,N_2O_{p,y}}$ → $E_{Fert,PR_{p,y}}$
6.2 Equation 19	$E_{Ferm_{p,y}}$ → $E_{Livestock,PR_{p,y}}$
6.2 Equation 19	$E_{Fert,PR_{p,y}}$ = Emissions due to the use of fossil fuels in agricultural management in the project scenario on Participant Field p, in year y; MTCO2$_e$. → $E_{Fert,PR_{p,y}}$ =N_2O emissions due to application of synthetic and organic fertilizer from participant field p in year y; MTCO_2e.

6.2 Equation 19	$E_{FF,PR_{p,y}}$ Emissions due to the use of fossil fuels in project management, fermentation in Participant Field p in year y; MT CO_2e (optional) → $E_{FF,PR_{p,y}}$ Emissions due to the use of fossil fuels in project management in Participant Field p in year y; MT CO_2e (optional)
6.2.4 Title	Accounting Project Emissions from Soil N_2O → Accounting Project Emissions from Fertilizer Application
6.2.4 Text	Direct soil N_2O emissions in the project scenario result from nitrogen fertilizer application, both synthetic and organic. Quantification of indirect N_2O emissions from nitrogen fertilizer application is highly uncertain. GHG benefits from this pool cannot be assured to be real and are therefore conservatively excluded from both the baseline and project scenario. $\mathrm{E}_{PR,N_2O_{p,y}}$ may be determined by: -> Accounting for this pool is required. Direct soil N_2O emissions in the project scenario result from nitrogen fertilizer application, both synthetic and organic. Quantification of indirect N_2O emissions from nitrogen fertilizer application is highly uncertain. GHG benefits from this pool cannot be assured to be real and are therefore conservatively excluded from both the baseline and project scenario. $\mathrm{E}_{\mathrm{Fert},PR_{p,y}}$ may be determined by:
6.2.4	Equations 23-27

	→ Equations 23-25
6.2.4 Equation 23	$E_{N_2O,PR_{p,y}} = E_{PR,N_2O,direct_{p,y}} = [\left(F_{PR,SN_{p,y}} + F_{PR,ON_{p,y}}\right) \times EF_N + F_{PRP_{p,y} \times EF_{MNR}}] \times \frac{44}{28} \times GWP_{N_2O}$ → $E_{Fert,PR_{p,y}} = E_{PR,N_2O,direct_{p,y}} = \left(F_{PR,SN_{p,y}} + F_{PR,ON_{p,y}}\right) \times EF_N \times \frac{44}{28} \times GWP_{N_2O}$
6.2.4 Equation 26	Delete. No change in numbering. Incorporated into equation 15.
6.2.5 Equation 27	Move to AFTER Equation 29. No change in numbering.
6.2.5 Title	Accounting Livestock Emissions from Enteric Fermentation → Accounting Project Emissions from Livestock
6.2.5 Text	Livestock, such as cattle, bison and sheep, produce CH_4 as a result of enteric fermentation in their rumen. Enteric fermentation emissions vary by species, breed, animal size, feed, environment and management systems (Ominski et al. 2007). Estimates of enteric fermentation can also vary widely depending on the level of specificity of input data and use of defaults (Ominski et al. 2007). It is therefore encouraged that Project Proponents utilize the most representative input data where possible. Further, calves less than 6 months in age are assumed to have zero CH_4 emissions as their diet will be primarily milk (US EPA 2013).

	Estimates of enteric CH_4 emissions are restricted to rangeland/pasture manure systems where manure is left unmanaged once deposited by livestock per the Applicability Conditions in Section 1.2. It is recognized that in Grassland ecosystems, the net contribution of livestock in the system may be net GHG sequestration (Liebig et al. 2010). The effects of vegetation stimulation and soil nutrient amendments that grazing and natural manure management, as maintained from pre-project conditions, are assumed to be captured through estimates of soil and biomass carbon pools in the project scenario. Any net sequestration benefits from these activities in the project scenario are conservatively excluded from this methodology but could be eligible for ERTs un-der a separate but complimentary Grazing Land and Livestock Management methodology. Manure deposited by livestock present in the project scenario shall be accounted for in Soil Nitrogen Emissions, Section 6.2.4 Soil Nitrogen Emissions. Project emissions from livestock due to enteric fermentation shall be calculated for each Participant Field in the Project Area according to Equation 28 and 29. → Livestock, such as cattle, bison and sheep, produce CH_4 as a result of enteric fermentation in their rumen. Enteric fermentation emissions vary by species, breed, animal size, feed, environment and management systems (Ominski et al. 2007). Estimates of enteric fermentation can also vary widely depending on the level of specificity of input data and use of defaults (Ominski et al. 2007). It is therefore encouraged that Project Proponents utilize the most representative input data where possible. Further, calves less than 6 months in

	age are assumed to have zero CH_4 emissions as their diet will be primarily milk (US EPA 2013). The un-managed manure and urine deposited by grazing livestock also produce direct emissions of N_2O. Estimates of enteric CH_4 and manure and urine N_2O emissions are restricted to rangeland/pasture manure systems where manure is left unmanaged once deposited by livestock per the Applicability Conditions in Section 1.2. Accounting for GHG emissions from livestock enteric fermentation and waste is required when livestock are present in the project scenario. It is recognized that in Grassland ecosystems, the net contribution of livestock in the system may be net GHG sequestration (Liebig et al. 2010). Any stimulation to vegetation growth from soil nutrient amendments, grazing and/or natural manure management, present from pre-project conditions/practices, are assumed to be captured through the model parameterization of soil and biomass carbon pools in the project scenario. Any net sequestration benefits from these activities in the project scenario are conservatively excluded from this methodology. Project emissions from livestock due to enteric fermentation and deposited waste shall be calculated for each Participant Field in the Project Area according to Equation 27, 28 and 29[3].
6.2.5 Equation Title	Equation 28: Project Enteric Fermentation → Equation 27: Project Livestock Emissions

[3] Default or literature values may be used for equation 28 ($EF_{CH4,l}$) and select terms in Equation 29.

6.2.5 Equation 28 (now 27)	$E_{Ferm,p,y} = \sum_{l}^{L} P_{p,l} \times EF_l \times GD_{p,l,y} \times GWP_{CH_4} \div 1{,}000$ → $E_{Livestock,PR,p,y} = \left(\sum_{l}^{L} P_{p,l} \times EF_{CH_4,l} \times GD_{p,l,y} \times GWP_{CH_4} \div 1{,}000\right) + \left(\sum_{l}^{L} P_{p,l} \times Nex_{p,l,y} \times EF_{N_2O,l} \times GWP_{N_2O} \div 1000\right)$
6.2.5 Equation 29 (now 28)	EF_l → $EF_{CH_4,l}$

1.2 Errata: Changes to Table A.1 (March 27, 2020)

Section	Errata Description
Table A.1 Parameter: $C_{AGB_{b,y=0}}$	Used in Eq. 20, 22 → Used in Eq. 20, 21, 22
Table A.1 Parameter: $C_{AGB,PR\ p,y}$	Used in Eq. 4, 19,21 → Used in Eq. 4, 19, 20
Table A.1 Parameter: $C_{AGB_{grass},BL_{p,y}}$	Used in Eq. 3 → Used in Eq. 3, 4

	Carbon stock of (remaining, pre-existing) above ground for Participant Field p in year y in the baseline scenario, as calculated from Section 6.2.1 → Carbon stock of above ground biomass for Participant Field p in year y in the baseline scenario, as calculated from Section 6.2.1
Table A.1 Parameter: $C_{AGB_{crop},BL_{p,y}}$	Used in Eq. 5 → Used in Eq. 3, 5,
Table A.1 Parameter: $C_{AGB_{crop},BL_{b,y}}$	Used in Eq. 5,6 → Used in Eq. 5,6,9
Table A.1 Parameter: $C_{BGB_{grass},BL_{p,y}}$	Carbon stock of (remaining, pre-existing) belowground biomass from Participant Field p in year y in the baseline scenario. → Carbon stock of belowground biomass from Participant Field p in year y in the baseline scenario.
Table A.1 Parameter: $E_{N2O,BL/PR_{p,y}}$	$E_{N_2O,BL/PR_{p,y}}$ → $E_{Fert,BL/PR_{p,y}}$
	Total N_2O emissions from Participant Field p in the baseline/project scenario in year y. Indirect emissions are conservatively excluded. → Total N_2O emissions due to application of synthetic and organic fertilizer from

	Participant Field p in the baseline/project scenario in year y.
Table A.1 Parameter: $E_{Livestock,BL/PR_{p,y}}$	NEW. $E_{Livestock,BL/PR_{p,y}}$ = CH_4 emission from enteric fermentation and N_2O emissions from deposited, un-managed manure and urine due to livestock on Participant Field p in year y; Used in Eq: 2, 15, 19, 27
Table A.1 Parameter: $Nex_{l,p,y}$	Annual average N excretion per head of species/category l, Participant Field p in year y → Annual average N excretion per head of livestock type l, Participant Field p in year y
	Used in Eq: 26, 27 → Used in Eq: 15, 27, 29
Table A.1 Parameter: $E_{FERM_{p,y}}$	$E_{FERM_{p,y}}$ → $E_{Livestock,BL/PR_{p,y}}$
	CH_4 emission from enteric fermentation due to livestock on Participant Field p in year y → CH_4 emission from livestock enteric fermentation and N_2O emissions from deposited, un-managed waste from livestock on Participant Field p in year y
	Used in Eq: 28 →

	Used in Eq: 2, 15, 19, 28
Table A.1 Parameter: LE_y	Added to Table A.1
Table A.1 Parameter: LD_y	Added to Table A.1

1.3 Errata: Changes to Table A.2 (March 27, 2020)

Section	Errata Description
Table A.2 Parameter: $C_{AGB_{b,y=0}}$	Measured, modeled, values from literature → Approved models, direct measurements, remote sensing, data published in scientific literature
	Used in Eq: 20, 22 → Used in Eq: 20, 21, 22
Table A.2 Parameter: $C_{SOC_{i,y=0}}$	Measured, modeled, or literature. Where un-available, default values from IPCC 2006 AFOLU GL, Table 2.3 may be used. → Approved models, direct measurements, data published in scientific literature. Default values from IPCC 2006 AFOLU GL, Table 2.3 may be used.
Table A.2 Parameter: CF_b	Literature, Table 11.2 IPCC 2006 GL AFOLU → Data published in scientific literature. Default values from IPCC 2006 AFOLU GL, Table 11.2.

Table A.2 Parameter: D	Measured, Modeled, literature, or default value of 20 years (IPCC 2006 AFOLU GL, Ch. 2). → Approved models, direct measurements, data published in scientific literature. Default value of 20 years (IPCC 2006 AFOLU GL, Ch. 2.3.2.2).
Table A.2 Parameter: $DM_{b,y=0}$	Measured, Modeled, literature → Approved models, direct measurements, data published in scientific literature.
Table A.2 Parameter:	Default value for Cattle in Cool Climate Zone: 1; default for Temperate or Warm Climate Zone: 2. Source: Chapter 10, Table 10.14, IPCC 2006 AFOLU GL → Default values from IPCC 2006 AFOLU GL, Table 10.4 (Cattle, N. America, values are annualized)
	Used in Eq.: 28, 29 → Used in Eq.: 15,16, 27, 28
Table A.2 Parameter: EF_f	Footnote added: https://www.eia.gov/environment/emissions/co2_vol_mass.php
Table A.2 Parameter: EF_l	EF_l → $EF_{CH_4,l}$
	Default value for Cattle in Cool Climate Zone: 1; default for Temperate or Warm Climate Zone: 2 Source: Chapter 10, Table 10.14, IPCC 2006 AFOLU GL → Default values from IPCC 2006 AFOLU GL, Table 10.4 (Cattle, N. America; values are annualized)
	Used in Eq: 28, 29

	→ Used in Eq: 15, 16, 28, 29
Table A.2 Parameter: $\mathrm{EF_{MNR}}$	$\mathrm{EF_{MNR}}$ → $\mathrm{EF}_{N_2\mathrm{O,l}}$
	Literature, Default values may be found Table 11.1, Chapter 11 IPCC 2006 AFOLU GL → Data published in scientific literature. Default values from IPCC 2006 AFOLU GL, Table 11.1.
	Used in Eq: 23 → Used in Eq: 15, 27
Table A.2 Parameter: $\mathrm{Frac_{ON}}$	Default value of 0.20 Source: Chapter 11, Table 11.3, p. 11.24, IPCC 2006 AFOLU GL → Default value of 0.20. IPCC 2006 AFOLU GL, Table 11.3.
Table A.2 Parameter: $\mathrm{Frac_{SN}}$	Default value of 0.10 Source: Chapter 11, Table 11.3, p. 11.24, IPCC 2006 AFOLU GL → Default value of 0.10. Default value of 0.20. IPCC 2006 AFOLU GL, Table 11.3.
Table A.2 Parameter: $\mathrm{GWP_{CH_4}}$	Used in Eq: 28 → Used in Eq: 15, 27
Table A.2 Parameter:	Used in Eq: 12, 23 →

GWP_{N_2O}	Used in Eq: 12, 15, 23, 27
Table A.2 Parameter: Y_m	Suggested Default for Cattle or Buffalo-grazing: 6.5%; Lambs (<1-year-old): 4.5%; and Mature Sheep: 6.5% Source: Chapter 4, Tables 10.12 and 10.13, IPCC 2006 AFOLU GL → Default values: 6.5% (Cattle or Buffalo grazing); 4.5% (Lambs < 1 year); 6.5% (Mature Sheep). IPCC 2006 AFOLU GL, Tables 10.2 and 10.3.
	Used in Eq: 29 → Used in Eq: 16, 29
Table A.2 Parameter: R_b	Literature, Craine et al. 2005, Mokany et al 2006; or IPCC 2006 AFOLU GL → Data published in scientific literature (grass and crops) including Craine et al. 2005, Mokany et al 2006. Default values from IPCC 2006 AFOLU GL, Table 6.1.
Table A.2 Parameter: 44/28	Used in Eq.: 12 → Used in Eq.: 12, 23
Table A.2 Parameter: $LE_{M,y}$	Added to Table A.2

1.4 Errata: Changes to Table A.3 (March 27, 2020)

Section	Errata Description
Table A.3 Parameter: $DM_{BL,b,y}$	Harvest Index: ratio of economic product dry mass to plant aboveground dry mass. Alter-natively, Values from literature, where none are available use of may be used, or the IPCC

	default value of 5.0 MT C (ha)-1 for annual crops following one year after conversion (IPCC 2006 AFOLU GL, Table 5.9) → Data published in scientific literature. Harvest Index applied to crop yield guides for the Project Region where the Harvest Index is ratio of economic product dry mass to plant aboveground dry mass. Default value of 0.5 MT C (ha)-1 for annual crops following one year after conversion, Source: IPCC AFOLU GL, Table 5.9.
Table A.3 Parameter: $F_{PRP_{p,y}}$	Deleted. Embedded in equations 15 and 28.
Table A.3 Parameter: $FSOC_{LU}$	Literature, model, measured, or IPCC defaults Table 5.5 AFOLU GL 2006 → Approved models, direct measurements, data published in scientific literature. Default values from IPCC 2006 AFOLU, GL Table 5.5.
Table A.3 Parameter: $FSOC_{MG}$	Literature, model, measured, or IPCC defaults Table 5.5 AFOLU GL 2006 → Approved models, direct measurements, data published in scientific literature. Default values from IPCC 2006 AFOLU, GL Table 5.5.
Table A.3 Parameter: $FSOC_{IN}$	Literature, model, measured, or IPCC defaults Table 5.5 AFOLU GL 2006 → Approved models, direct measurements, data published in scientific literature. Default values from IPCC 2006 AFOLU, GL Table 5.5.
Table A.3	Used in Eq: 27, 28

Parameter: $GD_{p,l,y}$	→ Used in Eq: 15, 27, 29
Table A.3 Parameter: GE	Used in Eq: 29 → Used in Eq: 16, 28
Table A.3 Parameter: $N_{BL/PR,ON_k}$	Producer of nitrogen if a commercially produced product. Otherwise IPCC defaults or values from the literature. → Product label or product manufacturer specifications if commercially produced. Data published in scientific literature. Defaults available from IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, Chapter 4, Background Paper, N_2O: Direct Emissions from Agricultural Soils[4].
Table A.3 Parameter: $N_{BL/PR,SN_j}$	Producer of fertilizer → Product label or product manufacturer specifications
Table A.3 Parameter: N_{rate_l}	Default values may be found in Table 10.19, Chapter 10 IPCC 2006 AFOLU GL → Default values from IPCC 2006 AFOLU, GL Table 10.19.
Table A.3 Parameter: $P_{p,l}$	Used in Eq: 26, 28 → Used in Eq: 15, 27

[4] https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/4_5_N2O_Agricultural_Soils.pdf

Table A.3 Parameter: TAM_l	Used in Eq.: 27 → Used in Eq.: 29
Table A.3 Parameter: L	Used in Eq: 26, 28 → Used in Eq: 15, 27

1.5 Errata: Miscellaneous Changes (March 27, 2020)

Section	**Errata Description**
Equation 34 Term PE_y	PE_y = Project emissions in year y (Equation 16) MTCO2e → PE_y = Project emissions in year y (Equation 18) MTCO2e
Equation 4 Term $C_{AGB,PR_{p,y}}$	Carbon stock of aboveground non-woody biomass for Participant Field p, in the project scenario, as determined from Section 6.2.1; $MTCO_2e$ → Carbon stock of aboveground biomass for Participant Field p, in the project scenario, in year y as determined from Section 6.2.1; $MTCO_2e$ (above ground biomass is defined in Section 6.1.1. and includes woody and non-woody and crops)
Equation 8 Term $C_{BGB_{grass},BL_{p,y}}$	$C_{BGB_{grass},BL_{p,y}}$ = Carbon stock of belowground woody and non-woody biomass from Participant Field p in year y in the baseline scenario; $MTCO_2e$ →

	Carbon stock of belowground biomass from Participant Field p in year y in the baseline scenario; $MTCO_2e$
Equation 23 Term EF_N	Emission factor for emission from N inputs; MT N_2O-N (MT N input)-1 → Emission Factor for emission from N inputs; MT N_2O-N (MT N input)-1. A default emission factor of 0.0254 (2.54%) of applied synthetic fertilizer N and 0.02 (2%) of applied organic fertilizer N can be assumed to be emitted (Davidson 2009).

1.6 Clarification: Eligibility Criteria (June 19, 2020)

Section	**Clarification**
1.2 Applicability Criteria All Participant Fields enrolled in the Project Area must be subject to a qualified Land Conservation Agreement (LCA) entered into by the Project Participant prohibiting the conversion of the land from Grassland or Shrubland for the duration of the minimum Project Term or longer. The area bound by the LCA does not have to match the Project Area nor Participant Field enrolled; however, the entire area of the Participant Field must be included in the area covered by the LCA. The LCA must also explicitly prohibit grassland conversion to another land use—often referred to as a "sod-buster" clause—such that avoidable reversals are sufficiently precluded as long as the LCA is enforced[5]. If the easement allows for alternative land use other than grassland preservation, such as building	• This eligibility criterion includes the addition of a sod-buster clause to a pre-existing LCA that allowed for cultivation and conversion to cropland. • In this case, the Start Date is the date of recording of the sod-buster clause to the easement. • In this case, the Additionality Assessment and the Baseline Determination are conducted at the Start Date. • In this case, all other requirements in the ACR Standard and the current version of the methodology apply.

[5] ERTs will not be issued for any period of non-conformance with the LCA

envelopes, gravel sites, road development, etc., those areas must be delineated and removed from the eligible portion of the Participant Field. The LCA must be recorded on the deed of the property encompassing all Participant Fields to ensure transferability among ownership.	