

CCX Requirements for Crediting Methane Reductions

CCX eligibility requirements for methane reductions from anaerobic digesters include:

- The project must demonstrate clear ownership rights of the emission reductions from the destruction of methane. In cases of split ownership (i.e. owner and manager), a written agreement as to ownership rights by the parties must be provided.
- Projects eligible to earn offsets during the years 2003 through 2010 are those placed into service on or after January 1, 1999.
- Monitoring, measurement, and verification protocols in the CCX Handbook must be followed. (http://www.chicagoclimatex.com/docs/offsets/CCX_Rulebook_Chapter09_OffsetsAndEarlyActionCredits.pdf) Producers considering the feasibility of a CCX methane project should contact an approved aggregator or verifier to get professional assistance on the required procedures.
- Exchange Methane Offsets (XMO's) are issued on the basis of the equivalent amount of metric tons of CO₂e at the rate of 21 metric tons CO₂ per metric ton of methane destroyed.
- Facilities seeking to earn offsets through agricultural methane destruction should follow practice standards published by USDA Natural Resources Conservation Service, available as Appendix F from <http://www.epa.gov/outreach/agstar>.

Recordkeeping and Verification

Projects relying on measured methane destruction must use instruments contained inside the digester that are capable of measuring methane concentrations every 15 minutes, along with records of precision and accuracy, initial and periodic calibration. Records must be maintained for at least 2 years.

At least once per year, methane concentration measurements, records, and procedures must be verified by a CCX-approved verifier under the CCX protocol. This time and expense will be negotiated in the contract between the landowner and the aggregator.



CCX: Agricultural Methane Destruction Offsets (XMOs)

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Critical Thinking Questions

Given methane is 23 times as potent as CO₂ from fossil fuel based electricity production, how many more credits will a farm earn by installing a digester (with the possibility of generating renewable electricity credits, see FS C3f) as opposed to simply covering a storage pit and flaring the methane? That is, what is the opportunity/expense ratio of credits accrued from methane destruction vs. renewable electricity from an expensive digester?

Definition of Agricultural Methane Destruction

Exchange Methane Offsets (XMOs) are issued to qualified projects carrying out the collection and destruction of methane from livestock manure management facilities that would have otherwise been emitted to the atmosphere. XMOs will be issued by CCX to owners of GHG emission reductions achieved by methane collection and combustion systems placed into operation on or after January 1, 1999.

Eligibility of Agricultural Methane Destruction Projects

Projects eligible for agricultural methane destruction offset credits must have prior (baseline) manure management practices where manure is handled as a liquid and with significant methane-emitting potential, including:

- *Liquid/slurry storage*, where manure is stored as excreted or with some minimal addition of water to facilitate handling and is stored in either tanks or earthen ponds, usually periods less than one year.
- *Pit storage below animal confinement*, where manure is collected and stored usually with little or no added water typically below a slatted floor in an animal confinement facility. Typical storage periods range from 5 to 12 months, but must exceed one month.
- *Anaerobic Lagoons*, which are uncovered lagoons designed and operated to combine waste stabilization and storage. Anaerobic lagoons are designed with varying lengths of storage (up to a year or greater), depending on the climate region, the volatile solids loading rate, and other operational factors.

Baseline Calculations for CCX Methane Offset Credits

Eligible methane offset credits are calculated from a baseline that is the amount of methane that would be emitted to the atmosphere in the crediting period in the absence of the agricultural methane destruction project. The baseline is calculated for each year of the crediting period by two methods, and the lower of the two values is used. The methods are:

- The actual monitored amount of methane captured and destroyed by the project using CCX monitoring protocols and a Global Warming Potential (GWP) for methane of 21. The default methane combustion efficiency for flared biogas from anaerobic digesters is 90%. The default methane combustion efficiency for biogas utilized by electricity generation facilities is 100%.
- The methane emission calculated ex ante based on the amount of animal manure that would decay anaerobically in the absence of the project activity, using the most recent country-specific IPCC tier 2 approach. (Instructions for this approach, which is based on livestock numbers and state-based emission factors, can be found in the CCX protocol.)

For assistance in estimating a particular farm's potential, contact a CCX aggregator that specializes in methane reduction

(<http://www.chicagoclimatex.com/content.isf?id=64>).