

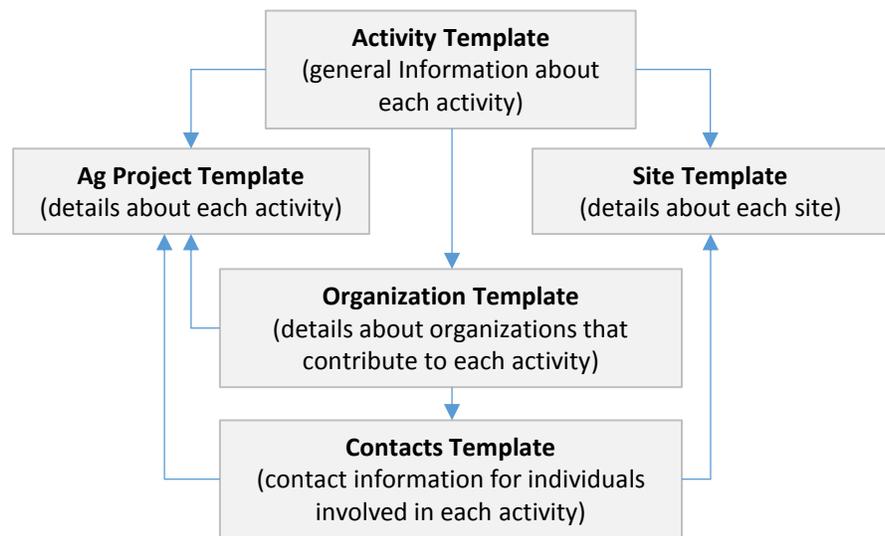


# GMI Agriculture Sector User's Guide for the Data Entry Workbook

The Global Methane Initiative (GMI) maintains a database with information about methane sites, active projects, studies, technical assistance documents, outreach events, trainings, workshops and meetings. Methane projects worldwide are featured on the GMI Map of Methane Sites ([globalmethane.org/sites/](http://globalmethane.org/sites/)). This guide provides detailed instructions for using the **GMI Agriculture Sector Data Entry Workbook** to compile data for anaerobic digestion (AD) projects that can be added to the GMI database and map. The workbook is divided into several tabs based on the type of information being collected. Each tab is described in more detail in the following sections, including instructions for entering information for each field (column) in the workbook. The tab name and column are identified for each field.

## Before You Begin

Several data fields in the workbook are related to each other. **Data should be entered on the Activity Template first.** Then, additional technical details for each activity are provided on the Ag Project Template. The Site Template, Organization Template and Contacts Template collect details about the farm and the organizations and people involved in the project.



## Activity Template

The Activity Template collects general information about activities, such as anaerobic digester projects or feasibility studies. This tab also captures the names of sites and organizations involved in the activity. Descriptions for each of the columns in the Activity Template are provided below.

<b>ACTIVITY NAME</b>	<b>Activity Template: Column A (Auto)</b>
The Activity Name will be populated automatically based on the data entered into other fields, as shown below. You cannot edit this column.	
<i>Auto-entry (formula)</i>	
For Ag Projects: "Ag" + Country + Site Name + "Digester"	
For Ag Studies: Year + "Ag" + Country + Site Name + "Digester"	
<b>COUNTRY</b>	<b>Activity Template: Column B</b>
Enter the country where the activity is located.	

**SITE NAME** Activity Template: Column C

Enter the name of the site (farm) where the activity/project is located.

**Relates to the Site Template:** Values entered into this field are used to make a pick list for the site name on the Site Template, where additional details for each site are collected.

**POST ON GMI SITE?** Activity Template: Column D

Select Yes if this project may be displayed on the GMI website ([globalmethane.org](http://globalmethane.org)).

**ACTIVITY TYPE** Activity Template: Column E

Select the appropriate type of activity.

Project – an activity that results in the direct capture and destruction of methane. Anaerobic digestion installations are considered to be Projects

Study – an activity that involves collecting site-specific data in order to evaluate the possibility of a future project, the performance of a current project or other aspects of the site or project (such as a feasibility study)

**SUB CATEGORY** Activity Template: Column F

Choose one of the following sub categories for each activity.

----- *Sub Categories for Projects* -----

Demonstration

Project

----- *Sub Categories for Studies* -----

Pre-feasibility Study – a broad analysis of site characteristics, such as the number of animals and type of manure management system, used to determine the type or types of methane reduction projects that would be most viable

Feasibility Study – more focused than a pre-feasibility study, typically analyzing both the technical and financial feasibility of a specific project type at a given site

Measurement Study – applies to performance evaluations, emission reduction verifications or similar evaluations

Other Study

**STATUS** Activity Template: Column G

Indicates the current stage of an activity. Options depend on the type of activity (i.e., projects or other activities). Only one selection is allowed for each activity.

----- *Status for Projects* -----

Planned – if a project has been determined to be feasible and is moving forward, but construction has not yet begun (for instance, there is a developer and contracts are being negotiated, etc.)

Construction – once construction has officially begun on a project, it is considered to be under construction until the digester is fully functional and methane is being captured

Operational – a project is fully operational when gas is being consistently produced, captured and destroyed, either through flaring or some type of gas use

Shutdown – a project that was operational at one time but is no longer operating

Cancelled – a project that was planned or under construction but never became operational

Unknown

----- *Status for Studies* -----

Completed – applies to activities that have concluded

On-going – applies to activities that have been started but are not yet finished or are continuing (as opposed to one-time occurrences or events)

Not Started – applies to activities that are planned but have not yet taken place

**GMI FUNDED**

Activity Template: Column H

Select Yes if GMI provided any financial support for the activity/project.

**ACTIVITY START YEAR**

Activity Template: Column I

In what year did the project begin?

For projects, enter the year the project became or is projected to become operational.

For studies or similar activities, enter the year the study took place or the year the study began.

If unknown, enter “?”

**ACTIVITY END YEAR**

Activity Template: Column J

In what year did the activity/project end?

For projects, enter the year the project stopped operating/ shutdown.

For studies or similar activities, enter the final year of the study, if applicable.

**REASON FOR CLOSURE**

Activity Template: Column K

For projects that have shutdown, indicate the reason for shutting down.

**DESCRIPTION**

Activity Template: Column L

Enter a description of the project/activity. The description should provide a brief summary of the project with basic information about the feedstock material, biogas use and end users.

**SECTORS**

Activity Template: Column M (Auto)

This value will always be “Agriculture.” The field is populated automatically.

**USDOE FUNDING**

Activity Template: Column N

If the U.S. Department of Energy provided funding for the project, enter the amount (\$).

**USAID FUNDING**

Activity Template: Column O

If the U.S. Agency for International Development provided funding for the project, enter the amount (\$).

**USDA FUNDING**

Activity Template: Column P

If the U.S. Department of Agriculture provided funding for the project, enter the amount (\$).

**USTDA FUNDING**

Activity Template: Column Q

If the U.S. Trade and Development Agency provided funding for the project, enter the amount (\$).

**WB FUNDING**

Activity Template: Column R

If the World Bank provided funding for the project, enter the amount (\$).

**OTHER OUTSIDE LEVERAGED FUNDING**

Activity Template: Column S

If other organizations provided funding, enter the total amount (\$).

**OUTSIDE FUNDING ORGANIZATIONS** Activity Template: Column T

If other organizations provided funding for the activity/project, list them. Separate sources and funding by semicolons, as follows:

Organization A (\$xxxxx); Organization B (\$xxxxx)

**Relates to the Organization Template:** This field links to the Organization Template, where additional details are collected for each organization.

**OUTSIDE LEVERAGED FUNDING NOTES** Activity Template: Column U

Describe any leveraged funds received, such as through grant programs.

**CARBON CREDITS INVOLVED?** Activity Template: Column V

Select True if the activity/project is receiving carbon credits.

**CARBON FUND REGISTRY** Activity Template: Column W

Enter the name of the registry being used to certify carbon credits for the digester project.

**PROJECT END USE TYPE** Activity Template: Column X

Select the end use(s) for the biogas. Multiple selections are allowed.

Gas Sales to Pipeline – gas is sold and piped to another party for end use (typically the biogas must be treated to meet strict requirements before it can be added to the pipeline)

Electricity Generation

Gas to LNG – converting biogas to liquefied natural gas

Gas to CNG – converting biogas to compressed natural gas

Off-site Heat or Cook Fuel – biogas from a local project is piped into a town or village, typically for heating or cooking purposes

Industrial Use

Flaring Assigned – select only if *all* biogas is being flared

Back-up Flare – select if flare is used for excess gas

Hot Water

On-site Heat

On-site Cook Fuel

Other

**PROJECT LIFETIME YEARS** Activity Template: Column Y

Enter the estimated lifetime of the project or study undertaken.

**ADDITIONAL COMMENTS** Activity Template: Column Z

Provide additional comments about the project/activity.

## Ag Project Template

The Ag Project Template collects detailed technical data about anaerobic digester projects or studies. The digester project or study should be entered onto the Activity Template before entering details on this tab.

### **ACTIVITY NAME** Ag Project Template: Column A (Relates to the Activity Template)

Select from the list of activities. To streamline the data entry process, the list is generated automatically from the values in column A of the Activity Template. Only activities listed on the Activity Template are included in the pick list.

### **DAIRY LACTATING** Ag Project Template: Column B

Enter the average annual animal population (AAP)<sup>1</sup> of mature, lactating dairy cows whose manure feeds into the digester.

### **DAIRY DRY** Ag Project Template: Column C

Enter the average AAP<sup>1</sup> of mature dairy cows in the period between the end of lactation and calving whose manure feeds into the digester.

### **DAIRY HEIFER** Ag Project Template: Column D

Enter the average AAP<sup>1</sup> of dairy cows that have not produced a calf whose manure feeds into the digester.

### **CATTLE** Ag Project Template: Column E

Enter the average AAP<sup>1</sup> of cattle raised for meat production (as opposed to dairy cattle) whose manure feeds into the digester.

### **SWINE SOWS** Ag Project Template: Column F

Enter the average AAP<sup>1</sup> of adult female pigs whose manure feeds into the digester.

### **SWINE FARROW TO WEAN** Ag Project Template: Column G

Enter the average AAP<sup>1</sup> pigs that have not yet been weaned whose manure feeds into the digester.

### **SWINE WEAN TO FEED** Ag Project Template: Column H

Enter the average AAP<sup>1</sup> of weaned pigs that have not yet entered the growing phase whose manure feeds into the digester.

### **SWINE FEED TO FINISH (GROWERS)** Ag Project Template: Column I

Enter the average AAP<sup>1</sup> of immature male or female pigs that have entered the growing phase and have not reached finishing weights whose manure feeds into the digester.

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<sup>1</sup> Average annual animal populations (AAP) for static populations (e.g., dairy cows) may be estimated by performing an animal inventory or review of facility records. Average AAP for growing populations (e.g., meat animals such as beef and market swine) may be estimated using the equation:

$$\text{AAP} = \text{Days onsite} \times (\text{NAPA}/365), \text{ where}$$

Days onsite = Average number of days the animal is kept at the facility, by animal type, and

NAPA = Number of animals produced annually.

This equation is derived from Equation 10.1 in 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4, Chapter 10.

<b>SWINE BOARS</b>	Ag Project Template: Column J
Enter the average AAP <sup>1</sup> of uncastrated male pigs whose manure feeds into the digester.	
<b>SWINE TOTAL</b>	Ag Project Template: Column K
Enter the average AAP <sup>1</sup> of total number of swine head whose manure feeds into the digester.	
<b>POULTRY</b>	Ag Project Template: Column L
Enter the average AAP <sup>1</sup> of turkeys or other domestic fowl whose manure feeds into the digester.	
<b>POULTRY BROILERS</b>	Ag Project Template: Column M
Enter the average AAP <sup>1</sup> of broilers whose manure feeds into the digester.	
<b>POULTRY LAYERS</b>	Ag Project Template: Column N
Enter the average AAP <sup>1</sup> of layers whose manure feeds into the digester.	
<b>POULTRY DUCKS</b>	Ag Project Template: Column O
Enter the average AAP <sup>1</sup> of ducks whose manure feeds into the digester.	
<b>ANIMALS OTHER</b>	Ag Project Template: Column P
Enter the average AAP <sup>1</sup> of any animals not included in the categories above whose manure feeds into the digester.	
<b>OTHER ANIMAL TYPE</b>	Ag Project Template: Column Q
Specify the type of other animal if “Other” amount is entered in ANIMALS OTHER.	
<b>ANIMALS DESIGN VS ACTUAL</b>	Ag Project Template: Column R
Select whether the animal populations are design values or actual values.	
<b>BASELINE WASTE STORAGE SYSTEM</b>	Ag Project Template: Column S
Indicate how manure is or would be stored without digester project. Multiple selections are allowed.	
<p>Storage Pit: Deep Pit – a series of one or more pits where manure is collected until it is utilized or transferred to a storage or treatment structure; a pit is considered a “deep pit” if emptied less frequently than once per month</p> <p>Storage Pit: Shallow Pit – a series of one or more pits where manure is collected until it is utilized or transferred to a storage or treatment structure; a pit is considered a “shallow pit” if emptied at least once per month</p> <p>Storage Tank or Pond</p> <p>Storage Tank – A concrete or metal tank designed to store manure and wastewater until it can be utilized; storage tanks are not designed to treat manure</p> <p>Storage Pond – an earthen basin designed to store manure and wastewater until it can be utilized; storage ponds are not designed to treat manure</p> <p>Storage Lagoon – a large holding or detention pond, usually with earthen dikes, used to contain wastewater while sedimentation and biological treatment or stabilization occur</p> <p>Storage Stack – solid or dry manure scraped from a barn, feedlane, dry lot or other similar surface and stored in a pile until it can be utilized</p>	
<b>MANURE COLLECTION PROCESS</b>	Ag Project Template: Column T
Describes how manure is collected from barns, feedlanes, dry lots or milking centers.	

- Freestall Barn – a totally or partially enclosed structure where animals are confined, but not in individual stalls
- Feedlane – area where animals feed
- Drylot – a fenced area free of vegetation where the animals can move about freely
- Milking Center – facility where lactating cows are managed during milking, also referred to as a parlor

Methods include:

- Scrape or Vacuum – manure collection methods that use a mechanical or other device to regularly remove manure from barns, buildings, dry lots or other similar areas where manure is deposited
- Flush – manure collection system that collects and transports manure using water
- Pull Plug Pit – one or more shallow pits beneath slatted barn floors where manure is collected and stored for a short period of time (typically a week) until it is transferred outside to land application or a storage or treatment structure
- Deep Pit – one or more pits beneath slatted barn floors where manure is collected and stored for at least one month; deep pits have more capacity than pull plug pits and are therefore able to store manure for longer periods of time
- Pit Recharge – manure management system in which a pit is periodically drained by gravity to a lagoon and then refilled with new liquid, usually recycled lagoon water

Select all of the processes used to collect manure. Multiple selections are allowed.

Dairy Drylot: scrape or vacuum

Dairy Drylot: flush

Dairy Drylot Feedlane: scrape or vacuum

Dairy Drylot Feedlane: flush

Dairy Milking Center: scrape

Dairy Milking Center: flush

Dairy Freestall Barn: scrape or vacuum

Dairy Freestall Barn: flush

Swine: flush

Swine: pull plug pit or pit recharge

Swine: deep pit

Poultry: flush

Poultry: pull plug pit or pit recharge

#### **PRETREATMENT TANKS**

Ag Project Template: Column U

Select TRUE if pretreatment tanks are used.

#### **PRETREATMENT SOLIDS SEPARATION**

Ag Project Template: Column V

Select TRUE if solids are separated before treatment.

#### **SOLIDS SEPARATION METHOD**

Ag Project Template: Column W

Select the method of pretreatment solids separation. Only one selection is allowed.

Gravity – usually involves a settling basin in which suspended solids separate from the liquid by sinking to the bottom

Mechanical – includes devices such as inclined screens, vibrating screens, belt presses or screw presses  
 Other/Unknown

<b>DAIRY MILK PROCESSING</b>	Ag Project Template: Column X
Enter the amount of waste water that is fed into the digester (m <sup>3</sup> /day) from applicable sources.	
<b>TAPIOCA PRODUCTION</b>	Ag Project Template: Column Y
Enter the amount of waste water that is fed into the digester (m <sup>3</sup> /day) from applicable sources.	
<b>DISTILLERIES</b>	Ag Project Template: Column Z
Enter the amount of waste water that is fed into the digester (m <sup>3</sup> /day) from applicable sources.	
<b>FRUIT VEGETABLE PROCESSING</b>	Ag Project Template: Column AA
Enter the amount of waste water that is fed into the digester (m <sup>3</sup> /day) from applicable sources.	
<b>PALM OIL</b>	Ag Project Template: Column AB
Enter the amount of waste water that is fed into the digester (m <sup>3</sup> /day) from applicable sources.	
<b>SLAUGHTER HOUSES</b>	Ag Project Template: Column AC
Enter the amount of waste water that is fed into the digester (m <sup>3</sup> /day) from applicable sources.	
<b>FOOD WASTES</b>	Ag Project Template: Column AD
Enter the amount of food wastes that are fed into the digester (m <sup>3</sup> /day) from applicable sources.	
<b>AGRICULTURAL RESIDUES</b>	Ag Project Template: Column AE
Enter the amount of agricultural residues that are fed into the digester (m <sup>3</sup> /day) from applicable sources.	
<b>FATS, OILS, AND GREASES</b>	Ag Project Template: Column AF
Enter the amount of fats, oils, and greases that are fed into the digester (m <sup>3</sup> /day) from applicable sources.	
<b>PROCESS WATER</b>	Ag Project Template: Column AG
Enter the amount of process water that is fed into the digester (m <sup>3</sup> /day) from applicable sources.	
<b>FEEDSTOCK OTHER</b>	Ag Project Template: Column AH
Enter the amount of other feedstock that is fed into the digester (m <sup>3</sup> /day) from applicable sources.	
<b>FEEDSTOCK OTHER TYPE</b>	Ag Project Template: Column AI
Specify the type if “Other” amount is entered in FEEDSTOCK OTHER.	
<b>FEEDSTOCK DESIGN VS ACTUAL</b>	Ag Project Template: Column AJ
Specify if the numbers provided for feedstocks are design values or actual values.	
<b>DIGESTER TYPE</b>	Ag Project Template: Column AK
Select the type of digester.	
<ul style="list-style-type: none"> <li>Covered Lagoon – an anaerobic lagoon fitted with an impermeable, gas- and air-tight cover designed to capture biogas resulting from the decomposition of manure</li> <li>Plug Flow – a constant volume, flow-through, controlled temperature biological treatment unit designed to maximize biological treatment, methane production and odor control</li> </ul>	

Complete Mix – a controlled temperature, constant volume, mechanically mixed vessel designed to maximize biological treatment, methane production and odor control

Attached Media – an anaerobic digester in which the microorganisms responsible for waste stabilization and biogas production are attached to some inert medium, also referred to as a fixed film digester; the waste is digested as it flows through the microorganisms

Fixed Dome – an anaerobic digester having a fixed, gas-collecting dome, usually made from concrete or bricks and mortar and built below-grade

Bag Digester – an anaerobic digester consisting of a tube or balloon made of flexible material, having a slurry inlet, a digested slurry outlet and a gas outlet

Floating Cover – an anaerobic digester consisting of a cylindrical digester tank and a floating water-sealed cover, which acts as a gas storage chamber and can rise to accommodate the amount of gas being produced

Other

<b>DIGESTER OTHER TYPE</b>	Ag Project Template: Column AL
Specify the type of digester if “Other” is selected as the digester type in Column AC.	

<b>HRT DAYS</b>	Ag Project Template: Column AM
Enter the hydraulic retention time (HRT) in days.	

<b>HRT DESIGN VS ACTUAL</b>	Ag Project Template: Column AN
Specify if the HRT Days is a design value or actual value.	

<b>SRT DAYS</b>	Ag Project Template: Column AO
Enter the solids retention time (SRT) in days.	

<b>SRT DESIGN VS ACTUAL</b>	Ag Project Template: Column AP
Specify if the SRT Days is a design value or actual value.	

<b>DIGESTER MIX TANK</b>	Ag Project Template: Column AQ
Select TRUE if a digester mix tank is used.	

<b>DIGESTER OPERATING VOLUME</b>	Ag Project Template: Column AR
Enter the design operating volume of the digester (m <sup>3</sup> ).	

<b>POST TREATMENT SOLIDS SEPARATION</b>	Ag Project Template: Column AS
Select TRUE if solids are separated after treatment.	

<b>EFFLUENT</b>	Ag Project Template: Column AT
Specify how the solids and liquids are stored and/or used after they exit the digester. Multiple selections are allowed.	
Liquid Effluent Storage: Tank – concrete or metal structure used to store liquid effluent before use or disposal	
Liquid Effluent Storage: Pond – earthen basin used to store liquid effluent before use or disposal	
Solid Effluent Storage: Stack – separated solids stored in a pile before use or disposal	
Liquids Disposal: On-site – liquid effluent is land-applied or recycled at the site (e.g. recirculated through digester to maintain correct solids content, used as sulfur filter in biogas scrubber, etc.)	

Liquids Disposal: Off-site – liquid effluent is transported elsewhere for land-application or other disposal method

Solids Disposal: On-site – digester solids are used on-site for bedding, fertilizer or other uses

Solids Disposal: Off-site – digester solids are sold or transported elsewhere for bedding, fertilizer or other uses

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**DIGESTER HEATING**

Ag Project Template: Column AU

Specify the digester operating temperature.

Mesophilic – 90-105 °F (32-40 °C)

Thermophilic – 135-155 °F (57-68 °C)

Unheated – ambient temperature

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**DIGESTER MATERIALS**

Ag Project Template: Column AV

Select the characteristics that most accurately describe the construction of the digester. Multiple selections are allowed.

In-ground Digester

Above-ground Digester

Digester Material: Concrete

Digester Material: Steel

Digester Material: Other

Digester Cover: Rigid

Digester Cover: Flexible

Digester Cover: Modular Lagoon Cover

Other Gas Storage

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**OTHER DIGESTER MATERIAL**

Ag Project Template: Column AW

Specify the type of digester materials if “Digester Material: Other” is selected in DIGESTER MATERIALS.

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**OTHER GAS STORAGE TYPE**

Ag Project Template: Column AX

Specify the gas storage type if “Other gas storage” is selected in DIGESTER MATERIALS.

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**BIOGAS PRODUCTION**

Ag Project Template: Column AY

Enter the amount of biogas produced (m<sup>3</sup>/day).

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**BIOGAS DESIGN VS ACTUAL**

Ag Project Template: Column AZ

Specify if the amount of biogas produced is a design value or actual value.

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**BIOGAS USE**

Ag Project Template: Column BA

Select the uses of the biogas. Multiple selections are allowed.

Flared Full-time

Electricity

Cogeneration – waste energy from electricity generation is captured and used to produce heat; for the purposes of our data collection, please select co-generation only if waste heat is being used for something other than maintaining digester temperature (e.g., heating household, providing hot water, drying solids, etc.)

Cook Fuel

Boiler/Furnace Fuel  
Boiler/Furnace Back-Up Only  
Refrigeration  
Pipeline Gas  
Methanol

<b>BIOGAS CLEANING PROCESS</b>	Ag Project Template: Column BB
If applicable, enter the process used to clean the biogas.	
<b>GENERATOR SET TYPE</b>	Ag Project Template: Column BC
Select the generator set type (engine, microturbine).	
<b>GENERATOR SET SIZE</b>	Ag Project Template: Column BD
Enter the engine or microturbine rated capacity (kW).	
<b>GENERATOR SET OUTPUT</b>	Ag Project Template: Column BE
Enter the engine or microturbine output (kW).	
<b>GENSET OUTPUT DESIGN VS ACTUAL</b>	Ag Project Template: Column BF
Specify whether the generator set output is a design value or an actual value.	
<b>BOILER FURNACE SIZE</b>	Ag Project Template: Column BG
Enter the boiler or furnace rated size (Btu/hr).	
<b>BOILER SIZE DESIGN VS ACTUAL</b>	Ag Project Template: Column BH
Specify if the boiler size is a design value or actual value.	
<b>TOTAL TCI</b>	Ag Project Template: Column BI
Enter the total capital investment (TCI) for the entire digester project (\$). TCI refers to the one-time costs paid for the installation of the digester system, after which only recurring operational or maintenance costs will be incurred. TCI may include the cost of equipment, construction labor, contractor fees and/or other start-up costs.	
<b>TCI DESIGN VS ACTUAL</b>	Ag Project Template: Column BJ
Specify if the TCI is an estimate (choose "design") or the actual amount spent.	
<b>TOTAL O&amp;M</b>	Ag Project Template: Column BK
Enter the total operations and maintenance (O&M) cost for the entire digester project (\$/year). O&M costs are the annual costs required to keep the digester system operating. O&M may include labor, electricity, monitoring, annual inspections, repair and/or other regularly incurred costs.	
<b>TOTAL O&amp;M DESIGN VS ACTUAL</b>	Ag Project Template: Column BL
Specify if the total O&M cost is an estimate (choose "design") or the actual costs.	
<b>DIGESTER TCI</b>	Ag Project Template: Column BM
Enter the total capital investment (TCI) for the digester itself (\$).	
<b>DIGESTER TCI DESIGN VS ACTUAL</b>	Ag Project Template: Column BN
Specify if the TCI for the digester is an estimate (choose "design") or the actual amount spent.	

<b>DIGESTER O&amp;M</b>	Ag Project Template: Column BO
Enter the total operation and maintenance (O&M) cost for the digester itself (\$/year).	
<b>DIGESTER O&amp;M DESIGN VS ACTUAL</b>	Ag Project Template: Column BP
Specify if the total O&M cost for the digester is an estimate (choose “design”) or the actual costs.	
<b>GAS USE TCI</b>	Ag Project Template: Column BQ
Enter the total capital investment (TCI) for gas use equipment (\$). These costs include items such as capital costs for flare, generator, boiler, gas upgrade equipment, etc.	
<b>GAS USE TCI DESIGN VS ACTUAL</b>	Ag Project Template: Column BR
Specify if the TCI for the gas use equipment is an estimate (choose “design”) or the actual costs.	
<b>GAS USE O&amp;M</b>	Ag Project Template: Column BS
Enter the operations and maintenance (O&M) cost for gas use equipment (\$/year). Costs include annual O&M for items such as a flare, generator, boiler, gas upgrade equipment, etc.	
<b>GAS USE O&amp;M DESIGN VS ACTUAL</b>	Ag Project Template: Column BT
Specify if the O&M cost for the gas use equipment is an estimate (choose “design”) or the actual amount spent.	
<b>EFFLUENT STORAGE TCI</b>	Ag Project Template: Column BU
Enter the total capital investment (TCI) for effluent storage equipment (\$).	
<b>EFFLUENT STORAGE TCI DESIGN VS ACTUAL</b>	Ag Project Template: Column BV
Specify if the TCI for effluent storage equipment is an estimate (choose “design”) or the actual costs.	
<b>EFFLUENT STORAGE O&amp;M</b>	Ag Project Template: Column BW
Enter the annual operations and maintenance (O&M) cost for effluent storage (\$/year).	
<b>EFFLUENT STORAGE O&amp;M DESIGN VS ACTUAL</b>	Ag Project Template: Column BX
Specify if the effluent storage O&M cost is an estimate (choose “design”) or the actual costs.	
<b>ELECTRICITY GENERATED</b>	Ag Project Template: Column BY
Enter the amount of electricity generated per year (kWh/year) by the digester project.	
<b>ELECTRICITY GENERATED DESIGN VS ACTUAL</b>	Ag Project Template: Column BZ
Specify if the amount of electricity generated by the digester project is an estimate (choose “design”) or the actual amount spent.	
<b>HEAT GENERATED BTU YR</b>	Ag Project Template: Column CA
Enter the amount of heat generated from boiler or other heat-generating projects (BTU/year).	
<b>HEAT GENERATED DESIGN VS ACTUAL</b>	Ag Project Template: Column CB
Specify if the amount of heat generated is a design value or an actual value.	
<b>UTILITY CONTRACT TYPE</b>	Ag Project Template: Column CC
Select the type of contract governing the sale of electricity from the digester project to a utility. Only one selection is allowed.	
<p style="padding-left: 40px;">Surplus Sale – arrangement where a farm produces electricity using a system that is directly connected to the utility, allowing the system to run at a constant output, regardless of farm demand. Excess production is then sold to the utility at avoided cost (the cost the</p>	

utility would have incurred had it supplied the power itself) and excess electricity consumption is purchased from the utility at the retail rate.

Sell All – agreement where the utility continues to sell the farm all electricity requirements and then buys all the generator output.

Net Metering – a method of crediting customers for the electricity that they generate which is in excess of the electricity that they consume. Net metering requires the farm’s system to be directly connected to the utility. The electric meter subtracts the amount of excess electricity generated from the amount of electricity consumed. If the customer generates more electricity than is used in a billing period, the net excess generation may be credited to the customer’s account (in many cases at the retail price), carried over to a future billing period or ignored.

No Sale – no electricity generated on-site is sold to a local utility.

Other

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**UTILITY CONTRACT TYPE OTHER**

Ag Project Template: Column CD

Identify the type of utility contract if “Other” is selected in UTILITY CONTRACT TYPE.

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**ASSOCIATED DEVELOPERS AND TECHNOLOGY PROVIDERS**

Ag Project Template: Column CE

List any project developers, technology providers, manufacturers and installers involved in the digester project and the role they played, separated by semicolons. For example:

RCM International, Inc. (Developer); Environmental Fabrics, Inc. (Lagoon Cover Installer)

This field links to the Organization Template, where additional details are collected for each organization identified.

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**BASELINE FUEL REPLACED**

Ag Project Template: Column CF

Specify the amount of propane, coal, oil, etc., replaced by biogas. Include the units of measure for the amount.

---

**GHG CREDITS**

Ag Project Template: Column CG

Enter the amount of annual income received from greenhouse gas credits associated with the digester project (\$).

---

**RECS**

Ag Project Template: Column CH

Enter the annual income received from renewable energy certificates associated with the digester project (\$).

---

**GRANT AMOUNT GMI**

Ag Project Template: Column CI

If the project received a grant from GMI, enter the amount awarded (\$).

---

**GRANT AMOUNT NON GMI**

Ag Project Template: Column CJ

If the project received a grant from another source, enter the amount awarded (\$).

---

**DATA COLLECTED BY**

Ag Project Template: Column CK (Relates to the Contact Template)

Select a name from the list of contacts. To streamline the data entry process, the list is generated automatically from the names entered in the Contact Template. Only names entered on the Contacts Template are included in the pick list. If the name of the person who collected the data does not appear in the pick list, first enter the person’s name on the Contact Template and then return to the Ag Project Template to select the name from the list.

**DATA COLLECTED ON**

Ag Project Template: Column CL

Enter the date that the information was collected (mm/dd/yyyy).

## Site Template

The Site Template captures general information about the site at which the activity is located.

**SITE NAME**

Site Template: Column A (Relates to the Activity Template)

Select the site name from the list. The list is generated automatically from the site names entered in Column C on the Activity Template. If the name of the site does not appear in the pick list, first enter the site name on the Activity Template and then return to the Site Template to select the site name from the list.

**RECORD TYPE**

Site Template: Column B (Auto)

This will always be "Ag Site."

**COUNTRY**

Site Template: Column C (Relates to the Activity Template)

Select the country where the farm/project is located. The list of countries is generated from the Activity Template.

Select the country from the list. The list is generated automatically from the countries entered in Column F on the Activity Template. If the country does not appear in the pick list, first specify the country on the Activity Template.

**SITE TYPE**

Site Template: Column D

Select the term that best describes the location and source(s) of feedstock for the digester project.

Farm Scale – the site comprises only one farm or household with livestock; that is, the digester is located at a farm or household and all of the digester feedstock is generated by that farm

Facility Scale – the site comprises only one agro-industrial facility (such as a distillery); that is, the digester is located at a facility and all of the digester feedstock is wastewater generated by that facility

Multiple Farm/Facility – more than one farm or agro-industrial facility is included in the site; that is, the digester is located at one farm or agro-industrial facility, but some portion of the digester feedstock is generated by neighboring farms, households or agro-industrial facilities

Centralized/Regional – the site is entirely separate from any farms, households or agro-industrial facilities; that is, the digester is built as a stand-alone facility that receives feedstock from nearby farms, households or agro-industrial facilities

**FARM TYPE**

Site Template: Column E

Select the type(s) of farm or facility that supplies feedstock to the digester. Multiple selections are allowed.

- Dairy
- Swine
- Caged Layer
- Beef

Duck  
Broiler  
Dairy Plant (milk processing)  
Tapioca Production  
Distilleries  
Fruit and Vegetable Processing  
Palm Oil  
Slaughterhouses  
Other

---

**OTHER FARM TYPE****Site Template: Column F**

Specify the farm type if “Other” is selected for Farm Type.

---

**SITE STATUS****Site Template: Column G**

Select the status of the digester project at the site.

Active – site has operational project or project is under construction.

Inactive – no project is planned, site no longer has operating projects or site is not viable for future projects.

Potential – project is planned and site is shovel ready.

---

**SITE DESCRIPTION****Site Template: Column H**

Provide a description of the farm/project.

---

**PRIMARY CONTACT****Site Template: Column I (Relates to the Contact Template)**

Select the primary contact for the farm/project from the list of contacts generated automatically from the names entered in the Contact Template. If the name does not appear in the pick list, first enter the person’s name in the Contact Template and then return to the Site Template to select the name from the list.

---

**OWNER CONTACT****Site Template: Column J (Relates to the Contact Template)**

Select the primary contact at the owner organization from the list of contacts generated automatically from the names entered in the Contact Template. If the name does not appear in the pick list, first enter the person’s name in the Contact Template and then return to the Site Template to select the name from the list.

---

**OWNER (Organization)****Site Template: Column K (Relates to the Organization Template)**

Select the owner organization from the list generated automatically from the organizations entered in Column A in the Organization Template. If the organization name does not appear in the pick list, first enter it in the Organization Template and then return to the Site Template to select the organization from the list.

---

**OPERATOR CONTACT****Site Template: Column L (Relates to the Contact Template)**

Select the primary contact at the operator organization from the list of contacts generated automatically from the names entered in the Contact Template. If the name does not appear in the pick list, first enter the person’s name in the Contact Template and then return to the Site Template to select the name from the list.

<b>OPERATOR (Organization)</b>	Site Template: Column M (Relates to the Organization Template)
Select the operator organization from the list generated automatically from the organizations entered in Column A in the Organization Template. If the organization name does not appear in the pick list, first enter it in the Organization Template and then return to the Site Template to select the organization from the list.	
<b>LOCATION DETAIL</b>	Site Template: Column N
If this farm/project does not have a specific address, use this field to enter a general description of the location relative to the nearest address.	
<b>LATITUDE</b>	Site Template: Column O
Enter a latitude coordinate for this project/activity.	
<b>LONGITUDE</b>	Site Template: Column P
Enter a longitude coordinate for this project/activity.	
<b>STREET ADDRESS</b>	Site Template: Column Q
Enter the street address. To break the line, use the combination key of Alt+Enter.	
<b>CITY</b>	Site Template: Column R
Enter the city where the farm/project is located.	
<b>STATE PROVINCE</b>	Site Template: Column S
Enter the state or province where the project/activity is located.	
<b>DISTRICT</b>	Site Template: Column T
Enter the district where the project/activity is located.	
<b>REGION</b>	Site Template: Column U
Enter the region where the farm/project is located.	
<b>POSTAL CODE</b>	Site Template: Column V
Enter the postal code for the project/activity.	
<b>SECTOR</b>	Site Template: Column W (Auto)
This will always be "Agriculture."	

## Organization Template

The Organization Template includes fields to collect information about organizations associated with the activity, such as funding organizations, developers and technology providers. Each organization should be entered on a separate line.

<b>ORGANIZATION NAME</b>	Organization Template: Column A
Enter the full name of each organization involved in the project or activity. Each organization should be entered as a separate row. The values entered into this column are used to automatically generate a pick list that is used for other data entry fields.	
If known, use the English equivalent. Do not use accented characters; replace them with their non-accented equivalent. Enter abbreviations in parentheses after the full organization name.	

*Example: A Sample Organization (ASO)*

**NAME IN NATIVE LANGUAGE** Organization Template: Column B

Enter the full name of the organization in its native language (if different than the organization name entered in ORGANIZATION NAME). Include abbreviations in parentheses after the full name.

**ORGANIZATION CATEGORY** Organization Template: Column C

Select the category that best describes the type of organization. Only one selection is allowed.

- Association
- Contractor
- Financial Institution
- Government
- International
- Nongovernmental Organization (NGO)
- Private Sector
- Research
- University
- Other

**WEBSITE** Organization Template: Column D

Enter the complete URL of this organization's website. The URL should be in the format shown in the example below.

*Example: <http://www.example.com>*

**EXPERTISE** Organization Template: Column E

Enter a description of the organization's area of expertise.

**COUNTRY** Organization Template: Column F

Enter the country where the organization is based.

**STREET ADDRESS** Organization Template: Column G

Enter the street address. To break the line, use the combination key of Alt+Enter.

**CITY** Organization Template: Column H

Enter the city where the organization is based.

**STATE** Organization Template: Column I

Enter the state/province where the organization is based.

**POSTAL CODE** Organization Template: Column J

Enter the postal code where the organization is based.

## Contact Template

The Contact Template Includes fields to collect information about individuals associated with the activity. Each individual should be entered on a separate line. Fields that are displayed on the GMI website are noted with .

### LAST NAME Contact Template: Column A

Enter the last name of the individual associated with the project/activity. The values entered into this column are used to automatically generate a pick list that is used for other data entry fields.

 *This field is displayed on the GMI website.*

### FIRST NAME Contact Template: Column B

Enter the first name of the individual associated with the project/activity. The values entered into this column are used to automatically generate a pick list that is used for other data entry fields.

 *This field is displayed on the GMI website.*

### SALUTATION Contact Template: Column C

Select the appropriate salutation for the contact person.

Ms.

Mrs.

Mr.

Dr.

Prof.

Hon.

### POST ON GMI SITE? Contact Template: Column D

Select whether or not this contact may listed on the GMI website.

### COUNTRY Contact Template: Column E

Specify the country in which this contact works.

### MAILING STREET Contact Template: Column F

Enter the street address for the contact's mailing address. To break the line, use the combination key of Alt+Enter.

 *This field is displayed on the GMI website.*

### MAILING CITY Contact Template: Column G

Enter the city for the contact's mailing address.

 *This field is displayed on the GMI website.*

### MAILING STATE Contact Template: Column H

Enter the state, province or region, as appropriate, for the contact's mailing address.

 *This field is displayed on the GMI website.*

### MAILING POSTAL CODE Contact Template: Column I

Enter the postal code for the contact's mailing address.

 *This field is displayed on the GMI website.*

---

**MAILING COUNTRY** Contact Template: Column J

Enter the country for the contact's mailing address.

 *This field is displayed on the GMI website.*

---

**PHONE** Contact Template: Column K

Enter a telephone number for the contact. Enter the country code in parentheses and then use spaces (no hyphens or periods) between blocks of numbers.

*Example: (91) 11 24198715*

Country codes can be found at: <http://countrycode.org/>

 *This field is displayed on the GMI website.*

---

**FAX** Contact Template: Column L

Enter a fax number for the contact. Enter the country code in parentheses and then use spaces (no hyphens or periods) between blocks of numbers.

*Example: (91) 11 24198715*

Country codes can be found at: <http://countrycode.org/>

 *This field is displayed on the GMI website.*

---

**MOBILE PHONE** Contact Template: Column M

Enter a mobile phone number for the contact.

 *This field is displayed on the GMI website.*

---

**EMAIL** Contact Template: Column N

Enter the contact's email address.

 *This field is displayed on the GMI website.*

---

**ORGANIZATION** Contact Template: Column O

Select the contact's organization from the list generated automatically from the organizations entered in Column A on the Organization Template. If the organization name does not appear in the pick list, first enter it on the Organization Template and then return to the Contact Template to select the organization from the list.

---

**DIVISION DEPARTMENT** Contact Template: Column P

Enter the contact's organizational division or department.

---

**TITLE** Contact Template: Column Q

Enter the contact's title.

---

**STATUS** Contact Template: Column R (Auto)

This will always be "Active."

---

**AREAS OF INTEREST** Contact Template: Column S (Auto)

This will always be "Agriculture."

---

**ALTERNATE EMAIL ADDRESSES** Contact Template: Column T

Enter an alternate email address for the contact.