

# Integrated Anaerobic Digester System Program

**Request for Proposals**

**&**

**Application Template**



**Proposals Due:** May 1, 2017 by 5:00pm CST

**Date of Issue:** January 3, 2017

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## Section 1 – General Information

### Introduction to the *Integrated Anaerobic Digester System Program*

The State of Wisconsin is exploring innovation in manure management that includes approaches to add efficiency to solids and liquids handling, decrease agricultural wastewater volumes, reduce hauling costs, improve the agricultural benefits of the materials that are land applied, address pathogens, and maximize the renewable energy benefits of anaerobic digesters. A successful proposal will involve the creation of a consortium of parties using contractual means to build, operate and maintain a system that includes renewable energy production, water treatment, pathogen reductions, and transport of manure to and from a centralized location, among other innovations suggested by applicants. The purpose of this document is to provide guidance and information to *Applicants* to submit complete project proposals.

### Background

The Public Service Commission of Wisconsin (PSC, Commission) has authorized *Focus on Energy* to spend up to \$20 million for Integrated Anaerobic Digester projects that meet *Focus on Energy* eligibility requirements. Through the formation of an interagency working group, the Commission strives to accomplish the following:

- Leverage and augment existing anaerobic digester infrastructure to improve manure management practices and to take advantage of the opportunity to produce cost-effective renewable energy at an economical scale;
- Improve manure management practices at smaller farms by providing an opportunity to cooperate with larger farms in a cooperative anaerobic digester system, as well as incorporate substrates from other regional organic waste producers through a hub-and-spoke system structure;
- Utilize other renewable energy resources in coordination with digesters to improve system output and economic efficiency;

- Ensure that existing and future anaerobic digester systems include water quality improvement projects and, where possible, leverage the expertise and excess capacity of regional municipal wastewater treatment infrastructure;
- Identify opportunities to provide regulatory flexibility and facilitate collaboration and cooperation between stakeholders and at agencies of state government; and
- Coordinate local, state and federal resources to promote efficient communication and enable cross-agency collaboration to maximize results for each of the goals above.

In Addition, the Commissioners stated that any proposal should prioritize existing anaerobic digester infrastructure in an integrated system proposal when possible and appropriate. The Commission recognizes that the **Focus on Energy**-related portions of the proposals will be one aspect for consideration of the overall innovative approach to manure management discussed in the responses to this document.

### Eligible Systems

The Public Service Commission of Wisconsin, in partnership with the Department of Natural Resources and the Department of Agriculture, Trade and Consumer Protection, is soliciting proposals from eligible **Applicants** for the technologies listed below.

Table 1 – Eligible systems by agency/administrator

Public Service Commission/ Focus on Energy*	Biogas Production and Conditioning Biogas Compression, Piping and Storage Electricity Production Renewable Natural Gas Production and Use Production of CNG (transportation fuel) Energy Efficiency and Other Renewables**
Department of Natural Resources	Liquid/Solid Separation Waste Homogenization Pathogen Reduction Water Treatment and Discharge Technologies
Department of Agriculture, Trade and Consumer Protection***	Manure/Effluent Storage Systems Manure Transfer/Piping

\* *These technologies must offset energy demand (in kWh or therms) that would otherwise be provided by a participating utility. **Focus on Energy** incentives can also be used toward grid interconnection costs and generators that utilize biogas.*

\*\* *Proposals with the most energy efficient systems will receive additional consideration through the evaluation process. This includes proposals that incorporate efficient lighting, HVAC, heat recovery (including Combined Heat and Power), variable speed drives, and renewable energy systems, such as solar, to reduce the energy demand of the proposed system. Additionally, we suggest **Applicants** meet with a certified [Focus on Energy Advisor](#) to receive guidance on how to make their proposal as energy efficient and as **Cost-effective** as possible.*

\*\*\* The Department of Agriculture, Trade and Consumer Protection (DATCP) provides funding to Wisconsin county land and conservation departments who in turn work with farmers on the practices and technologies listed above. DATCP funds are only available for distribution to non-permitted farms through the counties and are available at 70% cost-share rate. Farmers may be eligible for funding through their counties starting in 2018.

Additional resources for county Land and Water Conservation departments can be found [here](#).

### Request for Proposals (RFP) Process

The **Program** RFP will adhere to the following schedule:

RFP Timeline	Date
RFP issued	January 3, 2017
Deadline to register and to submit questions for inclusion in pre-proposal Seminar	January 20, 2017 by 5:00 pm CST
Pre-proposal Seminar	February 1, 2017
Proposals due	May 1, 2017 by 5:00 pm CST
Proposal Presentations	May 10-11, 2017
Deadline to respond to reviewer comments	May 26, 2017 by 5:00pm CST
<b>Applicants</b> notified of award status via e-mail	June 5, 2017
Last day for awardees to accept award	June 15, 2017

### Communication

All questions shall be submitted to:

**E-mail address:** OEI@wisconsin.gov

**E-mail subject line:** Integrated Anaerobic Digester Program

Written communication is required to ensure that all relevant information is made available to all interested parties. **Applicants** attempting to ask questions by telephone will be directed to submit questions by e-mail in the format above. Written responses to questions will be emailed to the applicant and also posted (without identification of the asking party) to <http://psc.wi.gov/biogas/rfp.htm>. Communications regarding the status of this RFP process, including any and all changes and addenda to this RFP or schedules, will be posted to <http://psc.wi.gov/biogas/rfp.htm>.

Questions submitted to OEI@wisconsin.com by January 20, 2017 by 5:00 pm CST will also be addressed during the pre-proposal Seminar in addition to being posted on the website. One pre-proposal Seminar will be held February 1, 2017 to review the process and answer **Applicant** questions. Please check <http://psc.wi.gov/biogas/rfp.htm> for details.

### *Seminar*

An event will be held on February 1, 2017 to provide **Applicants** with more information about this document, as well as provide an opportunity to meet with others who may be interested in forming a consortium to submit a proposal. To register for this event, please follow the link below to answer a short, 3-question survey.

Seminar survey link: <http://survey.constantcontact.com/survey/a07edl2zg6diwntgi2v/start>

Once you have completed the survey, you will be directed to a registration page for the Seminar. If you have any questions about this Seminar, please contact [OEI@wisconsin.gov](mailto:OEI@wisconsin.gov), subject line: **Seminar**.

The deadline for registration for the Seminar is January 20, 2017 by 5:00pm CST.

### *Submission*

No proposals will be accepted after the submission deadline.

**Submission Deadline:** May 1, 2017 by 5:00 pm CST

**Submission Instructions:** Each application must be submitted electronically to **OEI@wisconsin.gov**. File(s) included on a Compact Disc (CD) or Flash Drive and mailed to the physical address below will be accepted for the electronic submission. The preferred electronic file type is PDF. Additional submission requirements can be found in Section 5. Physical submissions are allowed and can be mailed to the following address:

**To:** *Public Service Commission of Wisconsin*

**Attention:** Integrated Anaerobic Digester Program

**Address:** PO Box 7854

Madison, WI 53707-7854

### *Reviewer Comment Period*

After the proposal submission deadline, **Program Administrators** may respond to submissions with clarifying questions or comments. **Applicants** will have until May 26, 2017 by 5:00pm CST to submit responses to the inquiries, failure to do so may result in termination of the evaluation process for the **Applicant's** proposal.

### *Notification and Acceptance*

**Focus on Energy** will notify all **Applicants** whether their proposal has been awarded, awarded with contingency, or denied on June 5, 2017. Once notified of award, **Applicants**

must provide a signed letter of acceptance by June 15, 2017 to the **Program Administrator**. This letter may be submitted via email to [IntegratedAD@focusonenergy.com](mailto:IntegratedAD@focusonenergy.com), or by mail to the submission address listed in the above *Submission* sub-section. If Applicant fails to accept funds by June 15, 2017, the award will be rescinded and funds reallocated.

### ***Focus on Energy Incentive Levels***

The **Project's Focus on Energy** incentive amount is determined based on the evaluation criteria found in Section 4, and is available for all costs associated with the energy-related **Measures** in a proposal. Incentive amounts awarded to all **Applicants** may not exceed \$20 million in total. Proposals will also be evaluated on a cost-effectiveness basis (total project cost/biogas energy produced) and as described in the calculation that can be found in Section 5 – *Cost-Effectiveness Calculation*. The higher the kBTU or Therms produced or offset per dollar spent, the more **Cost-effective** the project and the better a proposal will fair during the evaluation process. Additionally, energy savings achieved through generation must be reduced by the amount of parasitic load of a proposal. More about parasitic load can be found in Sections 2 and 5.

Sample consortium/submissions can be found in Appendix 2 - Sample Submission Considerations.

### **Water Quality Related Grant Funding Opportunities**

**Program Administrators** anticipate that key aspects of a proposal may be eligible for important grant funding opportunities related to water quality management and improvement. **Focus on Energy** incentive recipients are encouraged to also evaluate the grant funding opportunities below for potential additional project funds. **Applicants** may consider which components in their proposals are eligible for one of the following funding sources related to improving or protecting water quality in the Lake Michigan watershed:

#### *Great Lakes Restoration Initiative (GLRI):*

The request for applications and information about applying for GLRI grants is available at [www.epa.gov/great-lakes-funding/great-lakes-restoration-initiative-2016-rfa](http://www.epa.gov/great-lakes-funding/great-lakes-restoration-initiative-2016-rfa).

The GLRI was launched in 2010 to accelerate efforts to protect and restore the largest system of fresh surface water in the world. The program has so far funded more than 3,000 projects to improve water quality, to protect and restore native habitat and species, to prevent and control invasive species and to address other environmental problems in the Great Lakes basin.

Priority will be given to on-the-ground projects that have near-term, direct and quantifiable impacts on water quality in the Lake Michigan watershed, including protecting critical natural habitats and making water resources more swimmable, fishable and drinkable.

Projects that demonstrate nutrient reduction through transfer of excess nutrients from the basin may compete well for funding.

For more information about the Great Lakes Restoration Initiative visit <https://www.glri.us>.

Grant awards range widely from \$20,000 to \$3,000,000 with a more common award of around \$300,000. The timeline from RFP to award is approximately 8-12 months

#### *Fund for Lake Michigan:*

The mission of the Fund for Lake Michigan is to support efforts, and in particular those in southeastern Wisconsin, that enhance the health of Lake Michigan, and its shoreline and tributary river systems, for the benefit of the people, plants and animals that depend upon the system for water, recreation and commerce.

Priority will be given to on-the-ground projects that have near-term, direct and quantifiable impacts on water quality in the Lake Michigan watershed, including protecting critical natural habitats and making water resources more swimmable, fishable and drinkable. Special consideration will be given to projects that leverage significant public and private investments from other Lake Michigan and Great Lakes donors. Priority will be given to projects in southeast Wisconsin.

The Fund for Lake Michigan generally funds projects in the range from \$10,000 to \$300,000 range. Grants are awarded twice a year in spring and fall.

Additional information about the Fund can be found at [www.fundforlakemichigan.org](http://www.fundforlakemichigan.org)

#### *Great Lakes Protection Fund:*

The Great Lakes Protection Fund is a private, non-profit corporation formed in 1989 by the Governors of the Great Lakes States. It is a permanent environmental endowment that supports actions to improve the health of the Great Lakes ecosystem. Each year Wisconsin receives an allocation to fund state projects under the [Wisconsin Great Lakes Restoration Strategy](#). Wisconsin's share of the Great Lakes Protection Fund varies from year to year depending on the performance of the endowment. Grants in Wisconsin are typically in the \$150-250K range

More information about the Great Lakes Protection Fund can be found at <http://glpf.org/>.

### **Technical Assistance**

In support of an *Applicant's* proposal, technical assistance is offered as described in the table below. These services are available to *Applicants* before, during and after the proposal period for this *Program*.



Table 2 – Technical Assistance

<b>Technical Assistance Offered by Agency for the <i>Integrated Anaerobic Digester System Program</i></b>	
Public Service Commission	Energy Efficiency and renewable energy-related items through <b><i>Focus on Energy</i></b> staff
Department of Natural Resources	Nutrient Management Plans ( <b><i>CAFOs</i></b> ) Permitting Assistance
Department of Agriculture, Trade and Consumer Protection	In-field Crop Management Practices In-field Conservation Practices Nutrient Management Plans (General)

### **Project Commencement**

Projects selected to receive ***Focus on Energy*** incentives through this ***Program*** must ***Ramp-up activities*** to start Project implementation within 120 calendar days of ***Date of Award***. Documentation of the date that ***Ramp-up activities*** begin must be provided in ***Applicant's*** schedule table in Table 7 (Project Timeline – Section 5). ***Projects*** that do not begin within the allotted time will risk losing their award.

*Projects with proposed completion dates before December 31, 2018 will receive favorable evaluation and scoring for incentive funding.*

### **Project Progress Reporting**

***Applicants*** that are selected to receive ***Focus on Energy*** incentives through this ***Program*** will be required to submit quarterly progress updates to ***Focus on Energy***, including additional information such as documentation of utility interconnection or operational maintenance plan. Further information will be provided upon acceptance of award.

### **Payment**

***Applicants*** will receive the full incentive award upon completion and verification of the system by ***Focus on Energy*** personnel, with standard processing and review times applied. ***Focus on Energy*** incentives serve as a reimbursement for verified installation and operation of the energy-related aspects of a proposal.

Any ***Vendor*** associated with a proposal will be subject to verification of financial solvency through financial background checks during the approval process. The ***Program Administrators*** reserve the right to reject any proposal based on this financial verification.



## **Multiple Funding Rounds**

In the event that a portion of the total funding allocation for this program remains unspent after awards have been claimed by successful *Applicants*, the *Program Administrators* may consider additional rounds of funding under this program. Terms and conditions in succeeding rounds may be altered from this and other preceding rounds.

## **Rejection of Proposals/Disclaimer**

The *Program Administrators* reserve the right to reject any proposal. The submission of a proposal under this RFP confers no right upon any *Applicant*. The *Program Administrators* are not obligated to award any *Focus on Energy* incentives under this RFP, to pay or reimburse any costs incurred by the *Applicant* during the preparation and submission of the proposal, or pay any incentive-related costs incurred prior to the *Date of Award*. The *Program Administrators* reserve the right to refrain from making any awards under this RFP, and to issue subsequent request for proposals, should the quality of applications be deemed inadequate. Review Eligibility Requirements/Grounds for Disqualification, Section 2 of this document, to understand possible reasons for rejecting proposals.

## Section 2 – Eligibility Requirements and Grounds for Disqualification

The **Program Administrators** will disqualify project proposals that do not satisfy all eligibility and technology-specific requirements to receive **Focus on Energy** incentives. Disqualified and incomplete projects will not be evaluated.

### Utility

The **Project** site must be located in a participating utility service territory. **Applicants** that are served by both a participating electric provider and participating natural gas provider will qualify for both electric and natural gas incentives. **Applicants** that are served by only one participating utility will qualify for (electric or natural gas) incentives, dependent on the energy type provided by the participating utility. **Applicants** who use Liquid Propane (LP) or other non-qualifying fuels will not qualify for any natural gas incentives.

To determine whether the **Project** is located in a **Participating Utility** service territory visit <http://focusonenergy.com/about/participating-utilities>.

### Utility Customer Type

Eligible **Applicants** include collaborative consortiums that include multiple farm locations, with at least one dairy farm operation with less than 700 animal units that are customers of **Participating Utilities**. Systems must be installed at a facility served by a **Participating Utility** (see Section 2 - Utility). Contractors and Trade Allies may submit proposals on behalf of an eligible **Customer** if the **Customer** prefers it. Residential rate class **Customers** are not eligible to submit proposals under the **Integrated Anaerobic Digester System Program**. A residential rate meter may not be combined with a non-residential rate meter.

### New Equipment or Upgrade

New installations of anaerobic digester systems are eligible for incentives through the **Integrated Anaerobic Digester System Program**. Retrofits to existing anaerobic digester infrastructure are also eligible for incentives under certain circumstances. These circumstances include, but are not limited to, new equipment associated with proposed retrofits or upgrades of existing anaerobic digester systems that results in a significant increase in the renewable energy generating capacity and output under this **Program**. For **Focus on Energy** incentives, the following documents must be provided with the proposal:

- (1) The **baseline** renewable energy output of the existing system, supported by acceptable measurement data as determined by **Focus on Energy**;
- (2) Calculations, assumptions, and other data supporting the estimated increase in the renewable energy output attributable to the proposed improvements, and;

(3) Calculations of the expected increase in renewable energy output attributable to the proposed improvements that are measurable and verifiable.

Applications that include updates to existing anaerobic digester infrastructure will be reviewed on a case-by-case basis. If ***Focus on Energy*** has not provided funding for an existing biogas system, no restrictions beyond what is outlined in this document apply for a proposed Project. If ***Focus on Energy*** has already claimed the lifecycle energy produced by existing systems, paying to bring systems back online if they were shutdown would not achieve new energy savings and would not be eligible for this ***Program***. Specific options for retrofitting the existing digesters may be eligible for Focus incentives, such as:

- **Increasing the output of the system:** If a digester could be retrofitted in a cost-effective manner to increase the output of the system as opposed to simply bringing it online at its existing capacity, the program could consider that project for funding. However, only the additional capacity could be counted as new energy savings. These projects will be reviewed on a case-by-case basis.
- **Reducing the parasitic load:** All else being equal, reducing parasitic load increases total savings from the system, by reducing the energy used in the digester's operation. Again, only the savings specific to reduced parasitic load could be eligible for support.
- **Adding renewable cogeneration:** If supplemental renewable generation on the site- such as solar panels- are connected to the digester, using the existing interconnection with the electric distribution system, to support baseload generation or make use of the electricity, the added generation could be eligible for support through this ***Program***. Consideration of this type of project would move forward as long as savings remain "inside the fence" on the customer site; savings can be measured based on the customer's overall usage.

### **Ineligible Expenses**

***Customers*** who have purchased equipment or otherwise began the ***Project*** prior to award acceptance are not eligible to participate in this ***Program***. Only after a ***Focus on Energy*** Incentive Agreement has been signed may new equipment be purchased for installation at the ***Project*** site. Repairs, maintenance, or replacement of components with identical or comparable components for existing renewable energy systems are not eligible under this ***Program***.

***Focus on Energy*** incentives through ***Integrated Anaerobic Digester System Program*** may **not** be used for the following:

- Purchase of real property (land or buildings)
- Internal personnel and labor expenses
- Feasibility studies and planning efforts
- Leasing equipment
- Equipment purchased prior to award

- Down payments or purchase orders made prior to award
- Non-energy related equipment or components

## **Warranty**

All proposals seeking *Focus on Energy* incentives must include warranties for both equipment and installation. All warranty terms must be clearly stated and reflect current industry standards.

## **Compliance**

The *Applicant* is responsible for identifying and obtaining all necessary permits and permissions, including local, state and federal permits needed to construct and operate the proposed system.

## **System Size**

The total energy produced by the *Project* may exceed either kWh and or Therms consumed by the *Customer* in a given year. If utility data from the previous year does not fully reflect what 100 percent of kWh and or Therms consumed will be in the future, such as for new construction or expansion, then the *Applicant* will provide written explanation of the expected annual energy consumption and supporting calculations.

## **Required Payback**

To receive *Focus on Energy* incentives, a *Simple Payback* of greater than 1.5 years is required. The *Payback* must not exceed the warranty period for the *Project*.

## **Matching Funds**

*Program Administrators* will evaluate proposals that outline a source of additional funding for the proposed *Project*, particularly for non-energy components of the proposal. Proposals that include lower ratios of *Focus on Energy* incentives to non-incentive funds will be evaluated more favorably. For example, a proposal that covers 20% of *Total Project Costs* with *Focus on Energy* incentives will receive more evaluation points than a proposal that covers 30% of *Total Project Costs* with *Focus on Energy* incentives.

## **Free Ridership**

If the *Program Administrators* believe that a proposed *Project* would go forward without *Focus on Energy* incentives, then the *Applicant* will be deemed a *Free Rider* and the proposal will be disqualified from receiving *Focus on Energy* incentives. However, incentives or funds from

other sources may not be subject to free ridership and will improve a proposal's evaluation scoring.

### **Project Changes**

If changes are made to the proposed *Project* after the *Date of Award*, the *Customer* must contact the *Program Administrator* as soon as possible to disclose the updates that have been made to the *Project*. Updated specifications and corresponding energy calculations must be provided for any and all changes to the *Project* from the initial *Project* proposal. Acceptance of material changes to *Project* scope is at the sole discretion of the *Program Administrator*, which reserves the right to modify or reject the updated proposal.

## Section 3 – Technology Specific Requirements

### Multiple Sites

*Applicants* may apply for *Projects* at multiple sites. Each *Project* site must be owned by at least one of the *Applicants*. *Applicants* may use one application for multiple systems that use the same technology or submit one application for each site. All applications will be evaluated individually.

### Anaerobic Digester System Requirements

**Biogas Cleaning.** The *Program Administrators* strongly encourage *Biogas Projects* to include installation of a *Biogas* conditioning system. *Biogas* conditioning system costs should be included in *Total Project Cost*, and any proposed systems which will not utilize a biogas cleaning system must document the reason why a system is deemed unnecessary. The *Applicant* must also document how the system longevity will not be adversely affected by the lack of a *Biogas* conditioning system.

**Methane Meter.** Projects are required to install a *Biogas* or methane meter, so as to measure the quantity of *Biogas* or methane produced and used for the proposed energy application.

### Water Management System Requirements

The proposal should include installation of technologies that homogenize the manure and off-farm organic waste (if applicable), and treat the effluent from the digester to reduce or eliminate pathogens and separate nutrients to allow for alternative disposal methods, including clean water reuse, discharge of effluent to receiving waters, irrigation, land spreading, or other alternatives that may be identified. Projects may involve piping to and from hub locations and wastewater treatment with discharge to receiving waters in a manner that it is allowed under WPDES permitting requirements. WPDES permits are those that contain all the monitoring requirements, special reports, and compliance schedules appropriate for the facility being permitted.

### Nutrient Management System Requirements

Proposals should include manure storage at participating farms and systems for transferring manure among and between farm participants. All participants must have a nutrient management plan that complies with the NRCS 590 Nutrient Management standard and fully describes how all manure and wastewater components will be utilized on participating farms.

DATCP cost-share dollars may be available through your county in 2018 at a 70% cost-share rate for manure storage system, design and construction, transfer system development, and nutrient management plan development.

## Section 4 – Evaluation and Scoring

### Evaluation Criteria

Proposals will be reviewed initially for completeness and inclusion of all required information and attachments. Incomplete applications will not be scored. An Evaluation Committee will then review proposals according to the scoring criteria in Table 3 – Evaluation Criteria. **Projects** must achieve a **minimum of 235 points** to be considered for a **Focus on Energy** incentive.

Table 3 – Evaluation Criteria

Evaluation Criteria	Points
<p><b><u>Anaerobic Digestion/Biogas:</u></b>  <b>Demonstrated Operating Success of the Proposed Anaerobic Digestion System:</b> <i>Applicants</i> shall supply supporting documentation regarding the integrated anaerobic digestion system proposed for this project. Please also provide location(s), production data such as but not limited to system size, location, annual hours of operation, MMBTU of biogas, kWh produced, biogas quality, and other relevant operating information. Additional points will be awarded for proposals that leverage existing anaerobic digester infrastructure.  <b>Ability of the Consortium to Successfully Operate an Anaerobic Digester and a Biogas Energy Generation System:</b> <i>Applicants</i> shall describe their technical knowledge, skills and experience with operating and maintaining systems similar to anaerobic digestion systems. <i>Applicants</i> should describe the resources such as labor (in hours per year) that will be dedicated to the operation and maintenance of the system. <i>Applicants</i> will also be evaluated based on the establishment of contracts or MOUs between relevant project participants. If system operation is to be contracted for or hired, identify the company or person to be employed and provide their qualifications.</p>	<p style="text-align: center;"><b>50</b> (Minimum Required 25)</p>
<p><b><u>Water Quality Management:</u></b>  <b>Demonstrated Operating Success of the Proposed Water Treatment System:</b> <i>Applicants</i> shall supply supporting documentation regarding the water treatment system proposed for this project. Please also provide location(s) of current installation(s) (if applicable), the volume of waste being treated, the volume of different waste streams being produced, data regarding effluent quality of the discharge from the treatment system, information regarding disposal of the final effluent and any sludge or other byproducts, and other relevant operating information.  <b>Ability of the Consortium to Successfully Operate the Proposed Water Treatment System:</b>  <i>Applicants</i> shall describe their technical knowledge, skills and experience with operating and maintaining water treatment systems similar to the proposed systems. <i>Applicants</i> should describe the resources such as labor (in hours per year) that will be dedicated to the operation and maintenance of the system. <i>Applicants</i> will also be evaluated based on the establishment of contracts or</p>	<p style="text-align: center;"><b>50</b> (Minimum Required 25)</p>



<p>MOUs between relevant project participants. If system operation is to be contracted for or hired, identify the company or person to be employed and provide their qualifications.</p> <p><b>Pathogens and Nutrients:</b> <i>Applicants</i> shall describe how the proposed water quality management system will reduce the amount of pathogens and excess nutrients that enter into ground and surface water environments within the consortium’s operating location.</p>	
<p><b><u>Nutrient Management:</u></b></p> <p><b>Scale of the Proposed Consortium:</b> <i>Applicants</i> shall describe:</p> <ul style="list-style-type: none"> <li>• How the proposed project will improve and manure management practices for the participants including how the project will impact smaller farms by having them cooperate with larger farms through a hub-and-spoke system structure (15 pts).</li> <li>• The number of farms in the applying consortium with fewer than 700 animal units (25 pts, <b>at least 1 farm in this category is required for evaluation</b>): <ul style="list-style-type: none"> <li>○ 1-3 farms (5 pt)</li> <li>○ 4-6 farms (10 pts)</li> <li>○ 7-10 farms (20 pts)</li> <li>○ 11 or more farms (25 pts)</li> </ul> </li> <li>• The number of animal units as part of the consortium (10 pts): <ul style="list-style-type: none"> <li>○ 4,999 animal units minimum (2 pts)</li> <li>○ 5,000-9,999 animal units (4 pts)</li> <li>○ 10,000-14,999 animal units (6 pts)</li> <li>○ 15,000-24,999 animal units (8 pts)</li> <li>○ 25,000 animal units or more (10 pts)</li> </ul> </li> </ul>	<p><b>50</b> (Minimum Required 25)</p>
<p><b><i>Customer Cost-effectiveness: Focus on Energy</i></b> will calculate a <b><i>Customer Cost effectiveness</i></b> of the renewable energy components of the proposed project using the formula below. The proposals will be ranked by most <b><i>Cost-effective</i></b> projects by technology.</p> <ul style="list-style-type: none"> <li>• Proposed annual kWh or kBTU produced or offset / Digester cost plus <b><i>Measures</i></b></li> </ul> <p>Other cost-effectiveness considerations include:</p> <ul style="list-style-type: none"> <li>• Capital expense of water treatment technologies and annual operation and maintenance costs</li> </ul> <p>Reasonability of Savings Estimate:  <b><i>Applicants</i></b> shall provide clear, reasonable calculations of energy savings, and well-documented and reasonable assumptions for savings estimates.</p>	<p><b>50</b></p>
<p><b><i>Focus on Energy Impact on Project:</i></b> Evaluated based on the <b><i>Applicant’s</i></b> commitment to move forward with the project if they receive <b><i>Focus on Energy</i></b> incentives. Specific considerations include:</p> <ul style="list-style-type: none"> <li>• Likelihood of project to move forward with and without <b><i>Focus on Energy</i></b> funding</li> </ul>	<p><b>25</b></p>

<ul style="list-style-type: none"> <li>• Capital budget available for <i>Project</i></li> <li>• Other funding opportunities and/or loans, etc.</li> <li>• No penalty for Tax-exempt <i>Applicants</i> ineligible for Federal Tax Credits</li> </ul>	
<p><b>System Design and Optimization:</b> <i>Applicants</i> shall demonstrate system optimization. Specific considerations include:</p> <ul style="list-style-type: none"> <li>• Utilization of the proposed system to meet <i>Customer's</i> energy needs</li> <li>• Optimization of engineering design (e.g. waste heat or other methods utilized)</li> <li>• Reduction in total manure transport mileage OR reduced piping mileage</li> <li>• System production aligns with peak demand schedule (if applicable)</li> <li>• System reduces energy use by systems upstream or downstream of the project (e.g. anaerobic pretreatment, water treatment)</li> <li>• Use of off-farm substrates</li> <li>• Efficiency of pathogen removal</li> <li>• Efficiency of nutrient removal/concentration</li> <li>• Scalability of energy, water treatment and nutrient management systems, and overall system compatibility with future expansion</li> <li>• Treatment of waste streams to allow alternative disposal/application methods</li> <li>• Favorable accounting of waste streams coming from spoke farms to the hub, and nutrients returning to spoke farms where granted in collaborative agreements</li> </ul>	<b>25</b>
<p><b>Project Location:</b> <i>Applicants</i> shall describe their proposed project's impact on the following:</p> <ul style="list-style-type: none"> <li>• The Lake Michigan watershed (25 pts)</li> <li>• Geographic features related to the discharge of nutrients (25 pts) <ul style="list-style-type: none"> <li>○ Managing the manure resources in areas with a large number of animal units</li> <li>○ Areas with high sensitivity to agricultural discharges due to Karst topography or thin soils, etc.</li> </ul> </li> </ul>	<b>50</b> (Minimum Required 20)
<p><b>Demonstrated Capability of the Vendor(s) for the Anaerobic Digester(s), Biogas Energy Generation System(s), Nutrient Management System(s), and Water Treatment System(s):</b></p> <p><i>Applicants</i> shall describe the experience of the company or companies with this size and type of system that are engineering, procuring and constructing the various biogas, water treatment, and nutrient management systems proposed in this project. Describe the warranties, system startup services and ongoing support services to be provided. The vendor should be able to demonstrate their experience and capability of constructing similar systems and providing on-going service.</p>	<b>50</b> (Minimum Required 25)

<p>Other items:</p> <ul style="list-style-type: none"> <li>• Completion date (by the December 31, 2018 preferred)</li> <li>• Cost-effectiveness of treatment technologies (if applicable) including capital and long-term operation and maintenance</li> <li>• Expected efficiency of pathogen removal and nutrient removal/concentration by proposed technology</li> <li>• Expected organic waste volume reduction by proposed technology</li> </ul>	
<p><b>Total Available Points</b></p>	<p><b>350</b> (Minimum Required 235)</p>

Sample consortium/submissions can be found in Appendix 2 - Sample Submission Considerations.

## Section 5 – Application Submission Template

**Applicants** must submit proposals which contain all of the following items. Proposals which do not include all of the following items will be disqualified. If applicable, short (1-3 paragraphs) written summaries are expected for each section.

- Cover Page with Signature
- Key Project Metrics
- Scope of Work
- Project Overview
- Demonstrated Operating Success of the Proposed Anaerobic Digestion System
- Ability of Applicants to Successfully Operate an Anaerobic Digester
- Demonstrated Operating Success of the Proposed Water Treatment System
- Ability of Applicants to Successfully Operate the Proposed Water Treatment System
  
- Demonstrated Capability of the Vendor
- System Design and Optimization
- Renewable Energy Analysis
- Cost-Effectiveness Calculation
- Project Budget
- Work Plan and Project Timeline
- Focus on Energy Impact on Project
- Utility History
- Digester Input
- Supporting Documentation:

**Applicants** may use the Application Submission Requirements as a Template. The written portion of the proposal has a maximum 40-page limit. Each page will adhere to the following guidelines:

- 8.5” x 11” page size
- 1” margins
- 12-point font size
- Font type:
  - Times New Roman
  - Garamond
  - Bookman Old Style

Attachments shall be limited to supporting documentation (listed at the end of the document) and are not included in the 40-page limit. Marketing materials will not be accepted.

## Cover Page

The Cover Page Template must be submitted with the proposal. Please copy the template and ensure it is signed by an authorized representative.

Table 4 - Cover Page Template

<b>Applicant(s)</b>	Applicants' Names (add lines as necessary)		Tax Identification Number (9-digit FEIN or SSN)
	1.		
	2.		
	3.		
<b>Project Site Location</b>	Project Name		
	Site Address		
	City		County
	State: WI		Zip
	Electric Provider		Electric Acct. #
	Natural Gas Provider		Natural Gas Acct. #
<b>Customer Primary Contact and Mailing Address</b>	Name		
	Address		
	City		County
	State		Zip
	Phone		Fax
	E-Mail		
<b>Members of the Consortium/ Role and Responsibility</b>	Total number of participating farms [    ]		
	Farm Size(s) (in animal units, by farm)		
	<ul style="list-style-type: none"> <li>• Farm 1 [    ]</li> <li>• Farm 2 [    ]</li> </ul>		

<b>Project Summary</b>  <b>(less than 200 words)</b>		
<b>Authorized Signature</b>	Signature	Date
<b>Optional: Contractor Information</b>	Contractor Name	
	Address	
	City	County
	State	Zip
	Phone	Fax
	E-Mail	

## Key Project Metrics

**Applicants** must complete Table 5 - Key Project Metrics, provided below. Further instructions for completing Table 5 - Key Project Metrics are found throughout Section 5 – Scope of Work. Failure to provide this information may result in disqualification of the proposal.

Table 5 - Key Project Metrics

Key Project Metrics	
(a)	Net change in electricity (kWh) from <b>Biogas</b> system
(b)	Net change in natural gas (Therms) from <b>Biogas</b> system
(c)	\$/kWh proposed
(d)	\$/Therm proposed
(e)	Total Incentive Amount Requested [(a)(c)+(b)(d)]
(f)	<b>Total Project Cost</b> (\$)
(g)	<b>Project</b> Completion Date (M/D/YY)
(h)	Average Monthly Peak Demand Offset (kW)
(i)	Expected Useful Life of <b>Biogas</b> system(years)
(j)	New Construction (Yes or No)
(k)	Annual Electricity Consumption in 2015 (kWh)*
(l)	Annual Gas Consumption in 2015 (Therms)*
(m)	*Penalty Agreed to if applicant fails to meet Project Completion Date (%)
(n)	Levels of pathogens in effluent
(o)	Concentration of nutrients in effluent
(p)	Percentage of water removal from effluent (%)

*Note: Enter N/A for any metric that does not apply to the proposed system.*

*\*Describe by utility customer or by farm*

*\*Applicants will be required to provide written commitment to potential reduction upon award, see Section 5 Project Timeline and Completion Date for details.*



## Scope of Work

The scope of work includes the following sections:

### *Project Overview*

Include a brief narrative providing:

- A description of the proposed system including how the project aligns with the program intentions outlined in Section 1 - Background (including project background information, specific site location(s), and **Project** objectives);
- The expected benefits of the system, including bioenergy production, nutrient management and water quality improvement (where applicable);
- An explanation for why incentives are being pursued.

### *Demonstrated Operating Success of the Proposed Anaerobic Digestion System*

**Applicants** shall supply supporting documentation regarding the anaerobic digestion system proposed for this **Project**. Please also provide production data such as but not limited to:

- System size
- Location
- Annual hours of operation
- MMBTU of **Biogas**
- kWh produced
- **Biogas** quality
- Cost per kWh or Therm produced

Acceptable documentation could include system specification documentation, utility billing data, invoices for gas sold for other uses, documentation related to the size of the farm on which the system was installed.

### *Ability of the Farm/Applicants or Operating Entity to Successfully Operate an Anaerobic Digester and, if applicable, a Biogas Generation System*

Anaerobic digesters and **Biogas** generators are complicated and highly technical systems to operate. **Applicants** should describe any experience they have previously operating digesters or similar complex systems. **Applicants** should also describe any trainings they will take related to system operation. **Applicants** should also describe the labor resources they have allocated to system operation. If the system is going to be operated by a third-party the **Applicant** should describe the experience and capability of the firm that will be providing the on-going service.

### *Demonstrated Operating Success of the Proposed Water Treatment System*

Applicants should describe the type of system being proposed for water treatment including all major components (e.g., ultra-filtration, reverse osmosis, deionization, ultraviolet light

treatment, other similar major components). Identify the volume of each treatment stream produced by the treatment system on a percentage basis. Applicants should describe the results achieved through the treatment system including test results. At a minimum, test results for the following should be provided for any waste stream that will be land applied:

- Pathogens (Fecal coliform, Total Coliform, E. coli, salmonella, enteric viruses, and viable helminth ova.)
- Total Nitrogen
- Total Available Nitrogen
- Total Phosphorus
- Total Available Phosphorus
- Chloride

In addition, at a minimum, test results should be provided for any treatment stream that is proposed to be discharged to surface water:

- Total Phosphorus
- Ammonia Nitrogen
- Chloride
- Temperature,
- Hardness,
- pH,
- Dissolved Oxygen,
- Total Suspended Solids
- Biological Oxygen Demand
- Pathogens (Fecal coliform, Total Coliform, E. coli, salmonella, enteric viruses, and viable helminth ova.)
- Residual Chlorine

Applicants should also describe the disposal methods of the effluents and any sludge or other byproducts of the water treatment system, the necessary qualifications and experience required to operate the system and the qualifications and experience of the proposed operator.

#### *Ability of Applicants to Successfully Operate the Proposed Water Treatment System*

Wastewater treatment facilities are complicated and highly technical systems to operate. **Applicants** should describe any experience they have previously operating the proposed systems. **Applicants** should also describe the labor resources they have allocated to system operation. If the system is going to be operated by a third-party the **Applicant** should describe the experience and capability of the firm that will be providing the on-going service.

### *Demonstrated Capability of Vendor(s)*

The vendor should be able to demonstrate their experience and capability of constructing similar systems and providing on-going service. A vendor profile that includes company operating history, number of projects completed, bios for key staff involved in the design and operation of the system to be installed and applicable insurance policies held by the vendor. Also provide an operation and maintenance budget for the proposed system(s).

Support letters from the vendor and their **Project**-relevant associates is also encouraged and will not be included in the 40-page limit.

### *System Design and Optimization*

Describe the system's capacity, utilization, infrastructure integration, and optimization in a brief narrative that includes the following:

- Utilization of the proposed system to meet **Customer's** energy needs
- Optimization of engineering design (e.g. waste heat or other methods utilized)
- Reduction in total manure transport mileage OR reduced piping mileage
- System production aligns with peak demand schedule (if applicable)
- System reduces energy use by systems upstream or downstream of the project (e.g. anaerobic pretreatment, water treatment)
- Use of off-farm substrates
- Efficiency of pathogen removal
- Treatment of waste streams to allow alternative disposal methods

Favorable accounting of waste streams coming from spoke farms to the hub, and nutrients returning to spoke farms where granted in collaborative agreements.

Up to **twenty-five (25)** points may be awarded to **Applicants** based on system design and optimization.

### *Renewable Energy Analysis*

Provide all calculations and assumptions made to determine the energy input and output (kWh, Therms) for the proposed system. Provide documentation justifying assumptions, including the capacity factor, used in calculations. Include parasitic loads in calculating the net energy offset or production. For detailed guidance on calculating renewable energy production, please refer to the Public Service Commission of Wisconsin Standard Calculation Recommendations for Renewable Energy Systems:

[http://www.focusonenergy.com/sites/default/files/standardcalculationrecommendationsCY10\\_evaluationreport.pdf](http://www.focusonenergy.com/sites/default/files/standardcalculationrecommendationsCY10_evaluationreport.pdf).

Enter first year net change in kWh and Therms values (Output – Input) from the energy analysis in lines (a) and (b) of Table 5 - Key Project Metrics. Enter electrical peak demand offset in line (h) in Table 5 – Key Project Metrics.

*Cost-Effectiveness Calculation*

For the **Focus on Energy** incentive:

Enter the proposed \$/kWh rate in line (c) and the proposed \$/Therm rate in line (d) of Table 5 – Key Project Metrics. Projects will effectively receive more points by accepting less than the maximum proposed incentive values in line (c) and (d), as **Projects** are evaluated on **Program Cost-effectiveness**. Total incentive amount shall be calculated as follows:

Line (a) x Line (c) + Line (b) x Line (d)

Where:

- Line (a) = Net change in electricity (kWh) from renewable technology
- Line (b) = Net change in natural gas (Therms) from renewable technology
- Line (c) = \$/kWh proposed
- Line (d) = \$/Therm proposed

**Projects** with parasitic energy loads (additional kWh or Therms used as a result of the project) should enter a negative kWh or Therm value in the equation above so that the parasitic loss is deducted from the final incentive amount. Enter total incentive amount requested in line (e) of Table 5 – Key Project Metrics.

Up to **fifty (50)** points may be awarded to **Applicants** based on reasonability of the project’s savings estimate.

*Project Budget*

Provide a description of the **Project** budget, as well as an itemized list of proposed equipment and the **Total Project Cost**. Indicate which of the expenses you anticipate **Focus on Energy** funds will be directed to should your proposal be selected for a **Focus on Energy** incentive.

Table 6 - **Total Project Costs** is provided below as a template. Additional lines may be added to this table. Once the **Total Project Cost** is calculated, enter the total amount into line (f) of Table 5 – Key Project Metrics.

Table 6 - Total Project Costs

Total Project Costs	
Line Item Cost Description	Cost (\$)
1.	\$
2.	\$
3.	\$
4.	\$
<b>Total Project Cost</b>	\$

*Project Timeline and Completion Date*

Submit a detailed **Project** timeline that describes all tasks, deliverables and **Project** milestones. A sample project timeline table is provided as Table 7 – Project Timeline; however, **Applicants** may submit a Gantt chart or equivalent. Enter the estimated **Project Completion Date** (see definition) in line (g) of Table 5 – Key Project Metrics.

Table 7 - Project Timeline

<b>Project Timeline</b>	
<b>Task</b>	<b>Quarter/Year Completion Date</b>
1.	\$
2.	\$
3.	\$
4.	\$
<b>Estimated Project Completion Date</b>	(enter specific date)

The **Applicant** commits to having this **Project** fully installed and operating and all paperwork correctly submitted to **Focus on Energy** by the date specified in line (g) of Table 5 – Key Project Metrics.

*Focus on Energy Impact on Project*

Describe why **Focus on Energy** funding is needed to move forward with the **Project**, including the likelihood of the **Project** to move forward with and without **Focus on Energy** funding. Identify any other additional funding sources in Table 8 – Funding Sources. Additional lines may be added to this table. Additional funding sources may include those from public and private entities that may be used to assist in the development of non-energy related systems or components.

Table 8 - Funding Sources

Project Funding Sources				
Source	Use/Purpose	Funding Amount (\$)	% of Total Project Cost	*Application for Funding Complete? (Y/N)
1.				
2.				
3.				

*\*Please provide confirmation of application to additional funding source in supporting documentation if available.*

*Utility History*

Attach utility statements for all **Customers'** (all non-residential utility customers that are members of a proposed consortium) energy consumption in 2015 (January 1, 2015 through December 31, 2015). If statements for all of 2015 are not available, please provide the most recent bills for an effective year. Enter the 2015 annual electricity consumption and natural gas consumption in line (k) and (l), respectively, in Table 5 – Key Project Metrics.

If the proposed system is to be installed as part of a new construction **Project** that does not have 2015 utility data, explain the expectations of annual energy consumption for the facility and provide supporting calculations or a building energy model. Indicate whether the **Project** is associated with new construction by answering yes or no in line (j) of Table 5 – Key Project Metrics.

*Digester Input*

Describe the way in which this *Integrated Anaerobic Digester System* project will utilize off-farm substrates as part of normal operation of the system, if applicable. This may include the type, origin and biogas-production strength of the substrate that should also be documented in Table 5 – Key Project Metrics where the substrates may affect the life of the proposed anaerobic digester system. **Applicants** should also specify if these off-farm substrates are to be secured with a formal contract and the length of the contract term.

**Supporting Documentation (All Attachments required unless explicitly stated otherwise):**

- Copies of utility data (not required for new construction facilities)
- System specifications
- Vendor quote(s)
- Project support and commitment letters
- Warranty information
- Calculation of energy production
- Matching funds and match source requirements
- Collaborating entity/Consortium contracts and MOUs, etc.

Sample consortium/submissions can be found in Appendix 2 - Sample Submission Considerations.



## Appendix 1 - Definitions

**Annual Cost Savings** is the amount of energy cost savings during a year that results from the implementation of a **Project**. This value is calculated by multiplying the expected net change in kWh, Therms, and/or kW peak demand by the customer's historical cost per kWh, kW, and therm.

**Applicant(s)** refers to a **Customer**, a group of **Customers**, or a **Consortium**, submitting a proposal for the **Integrated Anaerobic Digester System Program**. **Applicants** that form a **Consortium** may include (but are not limited to) farmers, digester and water treatment project developers, engineering firms, nutrient/fertilizer production or refining companies, natural gas and/or electric utility companies, and trucking or transportation companies.

**Baseline** refers to the current or projected annual energy usage without the proposed **Project**.

**Biogas** means a mixture of gases created during the anaerobic digestion of nutrient rich materials. Anaerobic digestion generates methane and other flammable gases that can be combusted to generate energy.

**Biomass system** means equipment that utilizes biological materials, including trees, grasses, and agricultural wastes, among others. Systems that use coal, fuel oil and propane, or other non-Renewable Fuel sources such as used tires, are not eligible.

**Business Day(s)** includes Monday(s) through Friday(s), excluding Saturday, Sunday or Federal Holiday(s).

**CAFO** means Concentrated Animal Feeding Operation and is defined in [NR243.03\(12\)](#) of Wisconsin Administrative Code.

**Completion Date** is the date that the **Project** will be entirely constructed and operational and all paperwork has been correctly submitted to **Focus on Energy**.

**Consortium** is an association of interested parties that must include at least one **Customer**. See also, **Applicant**.

**Cost-effectiveness** refers to the economic analysis that compares the relative outcomes of an investment and the costs. For example, **Focus on Energy** looks at **Cost-effectiveness** from both a program perspective (total annual kBTU produced or offset / incentive \$) and a **Customer** perspective (total annual kBTU produced or offset / **Total Project Cost** excluding any incentive monies). The higher the kBTU produced or offset per dollar spent, the more **Cost-effective** the project.

**Customer(s)** means a current non-residential ratepayer within the service area of a **Participating Utility**. To receive **Focus on Energy** incentives for renewable electricity production, the **Applicant** must be a customer of a participating electric utility. To receive **Focus on Energy** incentives for renewable natural gas production, the **Applicant** must be a customer of a participating natural gas utility.

**Date of Award** means the effective date an official notice to proceed is issued by **Focus on Energy** for **Projects** selected under this solicitation.

**Focus on Energy** refers to Wisconsin utilities' statewide energy efficiency and renewable energy program specified under Wis. Stat. § [196.374\(2\)\(a\)](#).

**Free Rider** means a **Customer** who would have installed **Program Measure(s)** in the absence of the **Program** incentive.

**Measure** refers to the qualified energy efficiency or renewable energy producing components of a **Project**. **Measures** include **Biogas** renewable energy **Projects**. These components include but are not limited to anaerobic digesters, gen-sets, generators, interconnection equipment, biogas compression and biogas cleaning equipment.

**Net-Change** is the result of the **Baseline** energy consumption minus the proposed energy consumption after the implementation of a **Project**. These net-changes are calculated for each energy source (electricity, natural gas, etc.). Some technologies may have a negative **Net-Change** for Therms or kWh, but a positive **Net-Change** for kWh or Therms respectively.

**Participating Utility** is an electric or gas utility that participates in **Focus on Energy**. A list of **Participating Utilities** is available at: <http://focusonenergy.com/about/participating-utilities>.

**Payback (simple payback)** means the amount of time (in years) needed for **Annual Cost Savings** derived from the **project** to equal the **Total Project Cost**. For purposes of this Program this **does not include** incentives from **Focus on Energy** or any other incentives.

**Program** refers to the **Integrated Anaerobic Digester System** activity outlined in this document, which is administered in part by the **Focus on Energy** Program, defined as the energy efficiency and renewable resource program established under §[196.374](#) of Wisconsin Statutes.

**Program Administrator** means the entity assigned to develop and administer the **Integrated Anaerobic Digester System** alongside **Focus on Energy**, the energy efficiency and renewable energy programs under Wis. Stat. §[196.374\(2\)\(a\)](#), in coordination with other representatives from the Wisconsin Department of Natural Resources and the Department of Agriculture, Trade and Consumer Protection. Under this Request for Proposals, The Public Service Commission of Wisconsin is **Program Administrator**.

**Project** means all engineering, procurement and construction (EPC) items involved for completion, including a **Measure** or a group of **Measures** included within an **Applicant's** Proposal.

**Ramp-up activities** refer to the first step(s) taken toward implementation of a renewable energy **Project**. Examples include issuing Purchase or Work Orders, filing for Building Permits, and soliciting bid proposals.

**Renewable Fuel(s)** means fuel sources that are generated from renewable sources; this does not include oil, conventional natural gas, propane or gasified coal.

***Total Project Cost*** includes renewable energy generating equipment, materials, ancillary improvements required to construct a fully functional renewable energy system, components related to manure or nutrient management, water treatment and water discharge systems, and installation labor costs. Feasibility studies and other investigation costs are not included in ***Total Project Cost***. If costs would be incurred in the absence of the ***Project***, they are not considered part of the ***Total Project Cost***.

***Vendor*** refers to entities that supply eligible ***Measures***, goods and/or services that are required to complete the construction or installation of a proposed ***Project***.

## Appendix 2 – Sample Submission Considerations

The agencies (PSC, DNR, DATCP) envision that a successful proposal will involve a consortium, partnership, or other collaborative approach to meet the goals of the RFP. This RFP is intended to foster innovation in producing renewable energy while improving manure management and reducing water quality impacts. Rather than prescribing a single approach, the RFP is intended to elicit proposals that include a wide range of collaborative, cooperative, and public-private partnerships. While all proposals must meet the basic requirements of the RFP, the particular contracts or arrangements between entities involved in any single proposal is intentionally left undefined. To assist in developing competitive proposals, the following ideas are provided for illustrative purposes only. A successful proposal may incorporate some of these elements or develop others altogether, depending on the particular situation and entities involved.

A successful proposal must include three basic components: 1) an anaerobic digester to process manure produced by livestock operations; 2) a system for producing renewable energy (biogas that offsets natural gas or electricity demand on a *Participating Utility*); and 3) a system for treating the system's effluent to capture nutrients and reduce pathogens. While the primary funding source for this RFP (Focus on Energy) can be used only to offset costs related to the production of renewable energy or increased energy efficiency, potential projects are encouraged to seek funding from alternative sources for other components of the system. The RFP includes a list of potential sources of funding for the manure, treatment, water treatment, manure storage and handling, and nutrient management components of a project.

### **Livestock Producers**

The digester system is intended to serve multiple producers utilizing a central location for collecting and processing manure, with multiple satellite farms providing the manure substrate to the digester system. The specific contractual arrangements between the producers are not defined in the RFP. The digester system may be operated by a contractor, a farm, or a collection of farms. For example, one possible arrangement could be for a single producer to own and operate the digester system and contract with satellite farms to collect and treat their manure and return certain products (e.g., bedding, nutrients) to participating farms along with payments for a portion of the renewable energy production. An alternative arrangement could be the formation of a cooperative of livestock producers to own and operate a digester system on behalf of its members. Similarly, the preferred approach for materials transport to and from the digester is not specified. It may be feasible to transport raw manure and treated digester effluent products to and from satellite farms via truck, or it may be preferable to use piping to transport materials. Proposals may also include the collection of additional substrates, such as food waste, to enhance biogas production from the digester.

### **Energy Production**

The RFP encourages the production and collection of biogas for use as a substitute to natural gas rather than for electricity generation. The collection, treatment, and transport of the biogas could be integrated into the operation of the digester, or it could be contracted to a third party as part of a consortium of companies submitting a project proposal. The third party could be an energy provider or a contractor. The biogas could be used to generate electricity, used as a transportation fuel for on-farm equipment or trucks (as long as it reduces natural gas demand on a *Participating Utility*), or as a substitute for natural gas use on the farm. However, there may be situations where electricity generation is a cost-effective alternative to biogas production and collection, and such proposals are not precluded from competing under this RFP. In such cases, it may be feasible to include a coordinated renewables approach, such as the installation of solar photovoltaic generating systems that can take advantage of the required utility interconnections to produce renewable electricity in tandem with biogas-fired generators.

### **Wastewater Treatment**

The RFP requires the installation of technologies that homogenize the manure and off-farm organic waste (if applicable), reduce manure volumes, reduce manure pathogens, and produce treated water. Projects may involve piping to and from hub locations and effluent treatment that results in the potential to discharge to receiving waters in a manner that it is allowed under WPDES permitting requirements. Operation and maintenance of the wastewater treatment equipment could be performed by the owner/operator of the digester or it could be provided by a municipality or third party contractor.

### **Other Value-Added Products**

The RFP encourages proposals to include systems for producing additional value added products, such as bedding or pelletized manure for sale. Creative proposals will include partnerships and processes designed to maximize the value of the integrated anaerobic digester system for all parties involved.

### **Example 1**

A single anaerobic digester is owned and installed at a large livestock operation (CAFO) that has entered into a partnership with 5 small dairy and livestock farms located nearby. The partners have a contract that specifies obligations for the delivery of raw manure to the digester and for the return of valuable products to the partners including bedding and nutrients in the form of digested manure. The wastewater treatment system is owned by the CAFO, but is operated under a contract with a third party. Similarly, biogas production, collection, treatment, and transport is handled by a third party, who contracts with the owner of digester. The biogas producer pays the owner of the digester based on the amount of biogas produced and a portion of this revenue is shared with the participating digester partners.

## **Example 2**

A number of livestock producers enter into a joint venture to build, own, and operate a digester that can handle waste from a substantial number of cows. The joint venture establishes contracts with participating farms for the delivery of manure and return of valuable digester by-products. The joint venture hires its own employees to operate and maintain the wastewater treatment and the biogas collection, cleaning, and compression systems. The finished biogas product is used as a transportation fuel on-farm and sold to a third-party energy provider. Revenues from the joint venture are returned to its owners.

## **Example 3**

One large livestock operation and several small dairies enter into a joint venture with a third party biogas developer. The biogas developer owns and operates the digester, storage facilities and nutrient concentration system. The farms choose to pipe or daily haul their manure to the digester, depending on their existing infrastructure and equipment. The digester brings in additional substrates to increase biogas potential and introduces tipping fees that are distributed to all farm participants. The farms each receive nutrients in return (as a liquid or solid, in the amount stipulated in their agreement with the consortium) and are able to utilize their existing on-farm waste storage structures and spreading equipment and the storage facilities housed at the digester site. Following the digestion process, the manure is pumped to screw press separators and then the solids and fiber are placed into a windrow composting building on the site of the digester. A nutrient concentration system is then used to further separate the manure in the liquid portion of the effluent and results in the ability to discharge clean water, substantially reducing the volume of the raw manure for each farm.