**Occupational Role Profiles**

**for On-farm Biogas Systems**

**Introduction to On-Farm Biogas Systems**

Though on-farm biogas systems have been used in Europe for decades, these new sustainable energy production systems are now becoming more popular on Canadian farms. Biogas systems use on-farm materials (e.g., manure, unused material from crops) and materials brought onto the farm (e.g., restaurant waste) to generate electricity. These materials are brought into a digester and kept at a specific temperature to create methane and oxygen in a process called anaerobic digestion. These gasses are then burned in a generator to generate electricity for use on the farm or to be sold back on to the grid.

**Occupational Role Profiles**

The Canadian Agricultural Human Resources Council (CAHRC) has developed new voluntary standards that inform producers of the knowledge and skills required to implement and operate an on-farm biogas system. These documents can be used to evaluate if a producer is ready to take on these new systems; determine if they need to hire new staff, vendors and consultants; or improve process and training for producers who have already implemented the systems.

There are two separate standards for On-farm Biogas Systems: *Planning and Implementation* and *Operations and Maintenance*. A summary of these standards is found on the next page of this information sheet.

**Development**

The On-farm Biogas System standards development was overseen by an advisory group of producers, researchers and industry association representatives. In addition, producers throughout Canada reviewed and provided feedback on these documents to ensure they accurately captured all of the knowledge and skills that are required when implementing and operating an On-farm Biogas System.

**Using the On-farm Biogas System Standards**

These standards are voluntary, meaning that they provide information to help producers implement and operate these systems without being an industry requirement. Producers can take the information and adapt it as needed or only use the sections of the documents that they find the most useful.

Some potential uses of these documents include:

- Developing procedural documents
- Creating job postings and job descriptions for new staff
- Performing a self-assessment or assessing your staff
- Developing an implementation plan
- Determining implementation or operation steps requiring a vendor or consultant
Skill Summaries
The following is a snapshot of the skills that can be found in the On-farm Biogas System standards. For the full documents visit our website at www.cahrc-ccrha.ca.

The On-farm Biogas System Standards are divided into two documents. The first, Biogas System Planning and Implementation describes the skills and knowledge required when planning out a new system, receiving the required approvals, designing the system and having it installed. The second document, Biogas System Operations and Maintenance describes all of the skills required to ensure that the system is operational as well as the required maintenance and testing.

Both documents cover all of the required knowledge and skills. Producers may find that some or all of what is described could be performed by a consultant and vendor. CAHRC has designed the documents so that those who choose to perform every step can, and those who choose to contract some pieces out are informed of what vendors will be performing.

Please note that the skills in each document are not sequential – they might be performed in any order. Here is a sample list of the skills, knowledge and competencies outlined in the Occupational Role Profile.

<table>
<thead>
<tr>
<th>Biogas System Planning and Implementation</th>
<th>Biogas System Operations and Maintenance</th>
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<tbody>
<tr>
<td>- Identify legislation policies and procedures</td>
<td>- Abide by legislation, policies and procedures</td>
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<tr>
<td>- Describe biogas systems</td>
<td>- Describe biogas systems</td>
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<tr>
<td>- Secure financing</td>
<td>- Operate equipment</td>
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<tr>
<td>- Establish feedstock requirements</td>
<td>- Maintain digester biology</td>
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<tr>
<td>- Establish process to manage digestate and by-products</td>
<td>- Maintain equipment</td>
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<tr>
<td>- Design the system</td>
<td>- Manage systems operations</td>
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<tr>
<td>- Construct facilities and install equipment</td>
<td>- Maintain health and safety</td>
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<tr>
<td>- Perform equipment and product testing</td>
<td>- Manage human resources</td>
</tr>
<tr>
<td>- Plan health and safety</td>
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How we Help
The staff at CAHRC are available to answer any of your questions about the standards and guide you through the process of using them on your farm.

Contact us at:
1-866-430-7457 :: 613-745-7457 :: info@cahrc-ccrha.ca