Benefits of Biogas

While building a biogas system has a significant initial cost, its many benefits can return the initial investment:

- Use renewable, clean gas for cooking
- Save at least 25% on gas each month

- Produce gas on-site, minimizing the need to purchase expensive, non-renewable petroleum based fuels.
- Make efficient use of animal manure and waste products to minimize foul odors
- Use the environmentally friendly, natural by-product to fertilize crops, making plants healthy and strong

PRINCESS SIRINDHORN'S PROJECTS

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PRINCESS SIRINDHORN'S PROJECTS

Biogas

Refer to the Biogas Video for more Information

Why Biogas?

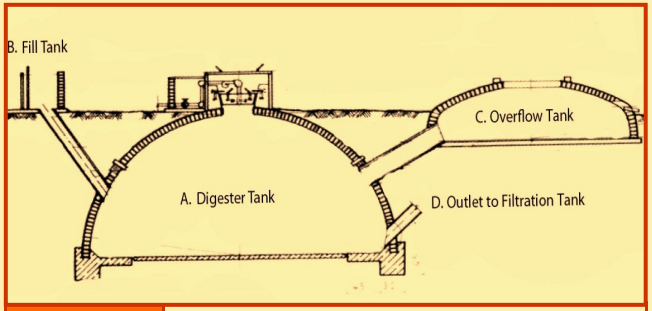
Biogas is an environmentally friendly renewable energy source that reduces reliance on traditional petroleum fuels.

A small-scale **biogas** plant makes use of animal manure and food waste by converting them into a gas that can be used for cooking.

"Biogas allows us to save money and helps to provide students with hot lunches each day" -Vasana P.

Additionally, **biogas** is an exciting and practical way for students to learn about the importance of science topics such as chemistry in their daily life. For example, students learn how to measure and maintain the pH level of the biogas system.

10 Simple Steps to Making Biogas in 9 Days



Digester Tank (A)	This is the tank where anaerobic digestion occurs and biogas is produced.
Fill Tank (B)	The Fill tank is where mixed food and animal waste enters the plant . It is connected to the Digester tank.
Overflow Tank (C)	The Overflow tank helps regulate the pressure that forms in the Digester tank as a result of anaerobic digestion.
Filtration Tank (D)	The Filtration tank collects a solid waste by-product from the anaerobic digestion process. This by-product may be used as a biofertilizers.
Plant Overview	Each of these tanks are **connected** to the Digester tank. They **capture** the gases from fermenting food and animal waste and turn them into **useable fuel**.

Step 6 (Day 2)	**Create** mixed waste for the Fill tank. Use the following ratios: • 1:3 ratio of chicken manure to water • 1:1 ratio of food waste to water
Step 7 (Day 2-8)	**Feed** the Fill tank with mixed waste daily or as frequently as possible.
Step 8 (Day 9)	**Wait** 7 days after the first filling for the anaerobic digestion process to take place. Gas is formed during this process.
Step 9 (Day 9)	**Connect** a hose to the valve to transfer the gas from the Digester tank to a gas stove.
Step 10 (Day 9)	**Mix** 1 part liquid by-product from the Overflow tank with 20 parts water. **Apply** to plants as a biofertilizers using a water can. For more details on this by-product, see the Biofertilizers brochure.