



Frequently Asked Questions

Question: Why does GBMSD need a new solids handling system?

Answer: The three main reasons for a new solids handling system are:

1. **Aging infrastructure** – most of the main equipment was started up in 1976. The equipment is passed its useful life and needs to be replaced. Many residents and businesses depend on continued, reliable, and cost-effective service, so GBMSD cannot let its equipment fail.
2. **Stricter environmental standards** – GBMSD must comply with new federal air permit standards by May 2016. Its current equipment will not meet the new standards.
3. **Increase capacity** – both incinerators operate at over 90% capacity daily in order to handle all of the wastewater demands. This has triggered a regulatory need to start facilities planning for replacing equipment.

Question: What is the new solids handling plan?

*Answer: The new solids handling plan recovers resources and generates electricity. The project is a **Resource Recovery and Electrical Energy** generation system or known as the **R2E2 Project**. We have shifted our thinking process to view what comes to our facility, not as a waste, but as a resource to be recovered and reused.*

Description of main components of the plan include:

- *Digesters for biogas production*
- *Generators for electrical energy generation*
- *Fluid-bed incinerator for heat recovery*
- *Steam turbine for electrical energy generation*

The project involves building two anaerobic digesters, which break down biodegradable material in the absence of oxygen, and reduce the volume of material to be processed.

In addition, the digesters will produce a methane gas, which will be captured and processed into a biofuel, used to produce electricity.

GBMSD will also recover the heat from a new incinerator, which will replace its two existing 35-year-old incinerators. Through thermal processing, the heat from the system will be recovered and used for building heat or electricity production.

The new equipment will be more efficient, effective, and meet the new, stricter environmental air permit standards.



Frequently Asked Questions

Question: How did you choose this plan?

Answer: GBMSD staff and consultants looked at over 70 different processes from all over the world. Over time, the process alternatives were narrowed down to 17, to 6, and then the R2E2 Project, based on if the technology was feasible, reliable, safe, stakeholder supported, environmentally friendly, and cost-effective. GBMSD used staff, external stakeholder, and customer input to help select R2E2 as the best plan.

Question: What are benefits of the R2E2 plan?

Answer:

- *It will generate about 50% of GBMSD's energy in the first year (equivalent to about \$2.2 million of energy)*
- *It will reduce greenhouse gas (CO₂) emissions by about 22,000 metric tons per year, which is the same as removing about 15,000 vehicles from the road*
- *It is the lowest cost plan over a 20-year planning period*
- *With producing much of its own energy, GBMSD will be able to minimize expenses as energy costs rise in future years*
- *It will accept different wastes (e.g., dairy, sugar, and food processing) that can boost energy production, which GBMSD cannot do today*
- *It will use about 90% less natural gas than current system*

Question: What does the plan cost?

Answer: The capital cost of the plan is \$147 million.

Question: How will R2E2 be paid for? What will it do to my rate?

Answer: The project will be paid for through GBMSD's municipal wholesale rate charge; that is the rate it charges its direct customers. Based on current conditions, GBMSD anticipates its wholesale rate will increase about 9% each year until 2016.

*It is important to note that **GBMSD does not bill residents and businesses directly for treatment service so rates will vary from municipality to municipality.** Generally, GBMSD's wholesale rate makes up less than half of the average household's sewerage charge, which is part of your combined water and sewer bill.*



Question: Why does GBMSD need to be concerned with air pollution permit standards?

Answer: GBMSD currently incinerates its solids. Its two incinerators require an air permit, which is issued by the Wisconsin Department of Natural Resources.

Question: What is the project timeline?

Answer: GBMSD will begin design in mid-2012 and start construction in 2014. The system will be online in early 2017.

For more information on the R2E2 Project, please visit www.gbmsd.org.