Spiral Water™
Technologies, Inc.

Insights from Spiral Water: Biogas and RNG Applications

Spiral Water is well known for our advanced automatic self-cleaning filters for high solids separation and concentration – the most reliable automatic filters for TSS over 200 ppm on the market today. Our award-winning technology is widely used in many industries and applications, where its efficacy is well established. This also includes the growing biogas/RNG market, where our filters have generated a solid record of success from the very beginning, whether used in a simple digestate process or full-blown RNG & biogas systems, both pre- and post-anaerobic digestion.

We invite you to learn more about our advanced automatic self-cleaning filters and discover why they are uniquely suited for use in the rapidly growing industry biogas & RNG market.

Biogas Americas 2025: Another Great Experience

Spiral Water is pleased to have been part of Biogas Americas 2025, where we exhibited our advanced automatic self-cleaning filters for high solids separation and concentration.

Held in Denver, Colorado from April 28-30, the show was a record-breaking event for the North American biogas market. Always an exciting and informative affair, it brought together more than 2,000 attendees and focused on the latest advancements in biogas and RNG technology, among other topics. And of course, it provided the perfect platform for networking and knowledge sharing within the biogas community.

Sessions explored a wide range of topics, from policy and regulation to growth opportunities, technological advancement, financing and investment, and more, It also covered strategies for expanding the biogas market, including international opportunities, the potential for biogas-based fuels like SAF (Sustainable Aviation Fuel) and renewable ammonia, and the growth of the voluntary clean fuel market.

To this last point, it’s worth pointing out one of the questions posed during keynote remarks: “Did you know biogas from organic waste can power and heat homes, fuel vehicles, or generate electricity, and organic fertilizer is a byproduct of biogas production which helps support soil health?”

This puts the broad use for biogas and its potential for growth in the spotlight: In 2024 alone, there were 125 new projects and a total of nearly 2,500 biogas capture facilities in the US, with a potential to reach more than 17,000 biogas systems.

Other discussion points included the expanding biogas-electricity market (particularly within the context of escalating data center demand and the

need for energy security), and the potential of RNG to meet utility heat and thermal demand.

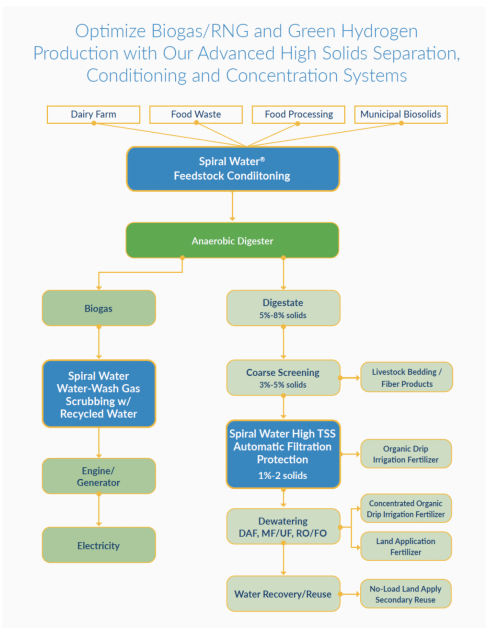
Here are some other insights that we gleaned at the show:

- There is an increased push for more advanced technology and automation in the biogas/RNG sector to create more efficient systems with higher optimized methane production. The more methane captured = the more $$ generated. And Spiral Water's smart controls can handle sudden upsets automatically, leading to reduced downtime and more efficient operations.

- Modular systems that can be shipped and installed rapidly are gaining popularity for smaller applications. These systems can then be scaled for future applications. Scalable technology (like Spiral Water's) can easily be adapted for incorporation into these systems.

- There are increased government incentives for farmers and companies to take advantage of for capturing methane. More funding means more opportunities across the country.

Spiral Water Filtration Solutions in Biogas Production



Download Chart

Water filtration plays a significant role in RNG production, and Spiral Water's filters provide powerful solutions. The RNG production process involves turning off-gassing products and decomposing material into a useful energy product, which requires a **high degree of filtration** to maintain a consistent quality of gas and to protect the processing equipment from byproducts in unfiltered material. By incorporating a water filtration step in the production process, companies can build a more scalable, repeatable process.

Biogas sources need to be conditioned before they can be turned into renewable natural gas. Spiral Water's products are used in the **prefiltration process** for many biogas applications. Treatment processes at the beginning of this cycle include:

Gas Scrubbing

Water gas scrubbers are highly effective at removing a wide range of impurities from gas streams. They are easily scalable, depending on the size of your plant and because they use water (a non-toxic solvent) it is an environmentally friendly process. Gas scrubbers play a key role in the practical implementation of biogas and green hydrogen technologies by removing impurities and cooling the gas stream. Spiral Water's high solids variable TSS self-cleaning filters enable a side stream water reuse configuration to reduce water usage and waste for this scrubbing.

Feedstock Conditioning

Spiral Water's feedstock conditioning systems are placed before anaerobic digesters to condition feedstock and condition to a homogeneous micron size while removing non digestible contaminant before entering the digester. This helps increase gas production.

Anaerobic Digestion (AD) Pressurized Dewatering

One of the byproducts of anaerobic digestion is the large volume of water that has been separated during digestion. If the AD sludge can be dewatered and removed while remaining pressurized, there are numerous benefits to be gained – including odor reduction, dewatering with minimized gas loss, and lower hauling costs at the end of the gas cycle. Additionally, the water that has been removed can be sent back to the feedstock mixing pits or tanks to be used in feedstock slurry processing.

Digestate Processing

After the gas cycle is completed, the digestate is removed from the digester for further treatment.

Learn More

Renewable natural gas is a rich energy source. By using the right water filtration system, you can separate out solid particles before introducing the waste products to an agitator. Afterwards, you can extract value further by separating the filtered water from the digestate.

At Spiral Water, we design and develop water filtration systems built to help you harness the full power of renewable natural gas. **Contact us today** to learn more.

Spiral Water Technologies | 732-629-7553 | info@spiralwater.com | spiralwater.com