

A look at the past, present and future of the US biogas market

The best of times, the worst of times



Patrick Serfass, Executive Director of the American Biogas Council

We're feeling a lot of industry growth in terms of project development and interest from individuals and companies who want to engage in the biogas industry. However, while project development pipelines are very full for many companies, we haven't yet seen the related explosion of new projects breaking ground yet. We expect to see that coming, hopefully this year.

Since project developers are busy we're also seeing an uptick in activity from equipment and service providers as they respond to a growing number of projects in various stages of pre-development. They need to figure out how they're going to be able to deliver higher volume, assuming the projects in development get built.

What's behind this shift from electricity generation to RNG and vehicle fuel?

Mostly the much higher revenues that you can generate from the renewable fuel standard (RFS) compared to what most electric utilities will pay for renewable electricity from biogas. The RFS is a federal programme designed to increase the amount of renewable fuel of all kinds produced in the US, to offset fossil fuel use in the transportation sector. With it, you can sell your fuel and some credits that the programme generates. It's those credits, called Renewable Identification Numbers (RINs) that generate the additional revenue.

The RFS was originally created as a corn ethanol programme and then was expanded to cover non-corn biofuels, but mostly liquid non-corn biofuels. Since 2014, the biogas sector has become a key component of the non-corn biofuels section of the RFS. As a part of that, the prices for the RFS credits have been rising, which creates a significant business opportunity across the industry.

Overall in the RFS, liquid biofuels are still producing the vast majority of the renewable fuel volume, so biogas is still a minority across the entire programme, but it's the fastest growing sector.

Other than policies like the RFS, are there any other factors that affect the US biogas market?

At a national level, there's increased attention on managing the nutrients we put on our land because more and more are getting to our waterways and polluting them or creating harmful algae blooms. Biogas systems are a part of the solution that can be put in place to help address that and policymakers are starting to discover that. We're also hoping that interest in digestate-derived products will create new opportunities. There's a lot of attention on biogas products and we need to get more attention on digestate products.

Beyond that, nearly all the other significant market factors are at the state and local level. All around the

US, you can find favourable policies and market conditions that help biogas projects to be developed. California, for example, has a lot of favourable biogas policy that has been passed in the last two years. Vermont has a programme that will pay more for electricity from biogas than nearly any other state. And Florida recently passed regulations to allow RNG into their natural gas pipelines, just to name a few.

Were there any sectors of the industry that particularly struggled in 2017?

One area where we continue to struggle as an industry is breaking through to gas utilities that are resistant to allowing renewable natural gas or RNG into the natural gas pipeline system. Because of the focus on creating RNG and using it for vehicle fuel, predictably, we also have an increased interest in putting our RNG into the pipeline to get it from the biogas system to vehicles. Some utilities are interested and helpful. Some are not. And the unfortunate truth is that an unhelpful gas utility can kill a project. It shouldn't be this way. The RNG is high quality, often higher quality than the fossil-derived gas already in the pipeline when it's actually measured, but there's a perception by some gas utilities that the gas might not be high quality. It's mostly a fear of the unknown, so we have an education problem. Therefore, we have a heightened focus

As 2017 drew to a close, *Bioenergy Insight* spoke with the American Biogas Council's executive director Patrick Serfass about the direction of the US biogas market.

How was 2017 for the US biogas market?

In 2017 the biggest shift in the industry was away from electricity biogas projects – projects that generate electricity from biogas and don't have a lot of attention on how to generate revenue from their digestate – to projects that are mainly focused on upgrading their biogas to pipeline quality (renewable natural gas – RNG), mostly for vehicle fuel. There's also been a heightened focus on how to generate revenue from the digestate stream from biogas systems.

2017 was definitely a stronger year than 2016.

on identifying both the gas utilities who are interested in working with the biogas industry, and the utilities that are resistant. That way we can help companies navigate these challenges and try to address some of the challenges we're currently facing with resistant gas utilities.

So a version of Dickens' line is appropriate here: It's either the best of times or the worst of times. Either you find a utility willing to work with you and things go generally smoothly, or you develop a great project and then discover your utility is resistant and it kills your project. It's usually one or the other, we're not seeing much of a grey area in between.

The sector that is struggling the most is the electricity generation sector. That's for two reasons. There's a heightened interest in upgrading biogas to pipeline quality, which you generally don't do much of if you're generating electricity on site. And most utilities won't pay you much for any kind of renewable electricity thanks to the abundance of incredibly cheap fossil natural gas in the US.

This could change though if the Environmental Protection Agency (EPA) activated the renewable electricity pathway of the RFS. There is an existing, approved pathway to allow biogas projects that produce electricity and use that electricity to 'fuel' electric vehicles, whether they're battery- or fuel cell-electric vehicles, to participate in the RFS. It's the EPA's job to allow industry to use this already approved pathway.

Once the EPA follows through, existing projects whose PPAs are nearing expiration will be strengthened, a greater diversity of new biogas projects will be built across the country creating jobs and investment, and the agriculture industry



ABC Digester Operator Training UW-Oshkosh Day 3, image courtesy of the American Biogas Council

in particular will be strengthened. Of the 14,000 potential systems that could be built in the US, more than 8,000 of them are on farms. And these are the same farms that are coming under increasing scrutiny about the nutrients they're applying to their land because of the nutrient issues mentioned earlier. It would be a win for many sectors.

Why hasn't that pathway been activated yet?

EPA says there are technical issues with administering the pathway which still need to be addressed. The biogas industry believes that those technical issues have already been solved, as several solutions have already been sent to EPA, a year ago via public comments. As a result, we believe there's a lack of political will. Since the current administration is resistant to putting out new rules from the EPA, even though a new rule isn't required to activate the pathway, that is being used as an excuse not to take action. But the Administration will benefit if

they act because they would secure jobs (especially in the agriculture sector), create new jobs, catalyse investment, support their rural political base and even support environmental interests. We need them to recognise the upsides and act now.

What do you anticipate for the US biogas market in 2018?

I think we're going to see a lot more interest in RNG. I'm also hoping we're going to see more and more interest in creating products from digestate, and the use of our new national Digestate Certification Program. I think we'll see more interest in training biogas operators, to make sure every biogas system is operated optimally.

And then I hope we're going to see the EPA activate the renewable electricity pathway, so we don't only have project developers interested in working with RNG, but electricity as well. This would mean developers could make a decision based on the needs at a specific site, and not just try to capture the incentives that are available.

Are there any exciting developments happening in terms of using digestate in the US?

Yes. Biogas developers are motivated because you can't develop a project if your digestate management is going to cost the project money. Digestate should be making money — it's so valuable for our soils! So industry companies are developing different digestate-derived products and testing them in different markets. And the American Biogas Council is trying to help potential digestate customers get as comfortable buying digestate as they are buying compost or even synthetic fertilisers.

One way we're doing this is with the Digestate Certification Program. It helps to show digestate customers that the material that they're buying has met health and safety requirements, and they can trust the information on the product's label. ●

For more information:

Patrick Serfass is executive director of the American Biogas Council

Visit: www.americanbiogascouncil.org