



# How Methaplanet Is Using CPM Technology to **Revolutionize Biogas Production**

A CASE STUDY







## The story of Methaplanet's Maximizer, a technology that can increase biogas outputs by as much as 5x, starts with a girl who loved horses.

There's nothing unusual about a girl loving horses, but for the daughter of Methaplanet founder Xander Sandell, that love turned into serious athletic pursuit, and she joined the world of international equestrian show jumping, competing in France and the rest of Europe.

As Xander proudly followed his daughter from equestrian event to equestrian event, he

noticed an inescapable fact about horses: They produce a lot of waste, largely in the form of manure.

"Every place we went to a competition," said Xander, "there were these huge piles of straw-based manure."

What Xander noticed at his daughter's equestrian events is true around the world on a much broader scale.



## BY THE NUMBERS

# 20x

Warming impact of methane versus CO<sub>2</sub>

# 40%

Global methane emissions produced by agriculture

# 32%

Overall global methane emissions from animal manure and fermentation

# 20,000

Biogas plants operating in the European Union

# 1,322

Biomethane plants in the European Union

## Methane Challenges & Opportunities

Methane is a powerful greenhouse gas, with a warming impact that's more than 20x stronger than CO<sub>2</sub>.<sup>1</sup> Agriculture is responsible for about 40% of all global methane emissions, with animal manure and fermentation accounting for about 32% of overall emissions.

But, while methane emitted directly into the atmosphere represents a significant threat to our climate, methane that's captured represents a tremendous opportunity. It can be used in electricity generation, in heating and cooling, to create fuels like natural gas, as a cooking fuel, and in the production of organic fertilizer.

These challenges and opportunities have created a boom in the number of biogas plants coming online every year. These plants capture methane from sources like manure, keeping it from entering the atmosphere and making it available as a valuable resource.

As of 2022, there were more 20,000 biogas plants operating in just the European Union, and more than 1,322 biomethane plants.<sup>2</sup>

<sup>1</sup> [https://energy.ec.europa.eu/topics/carbon-management-and-fossil-fuels/methane-emissions\\_en](https://energy.ec.europa.eu/topics/carbon-management-and-fossil-fuels/methane-emissions_en)

<sup>2</sup> <https://www.europeanbiogas.eu/record-breaking-year-for-biomethane-production-shows-eba-gie-biomethane-map-2021/>



## Innovation Inspired by Horse Manure

After encountering the challenge of horse manure at his daughter's equestrian events, Xander couldn't let it go. In fact, over the next eight years, he would invest a lot of money developing Maxximizer, the core technology behind Methaplanet.

**"I'm not a scientist, but I know that if you go step by step, you move forward," said Xander.**

Xander and the company he founded focused on technology that could make biogas plants more efficient. One of the biggest barriers to biogas

processing plants is a lack of high-yielding feedstock, which affects their cost-effectiveness. By allowing these plants to create more biogas from the same amount of input materials, they can become significantly more cost-effective.

"After many tests," said Xander, "we came to pellets, and that's when we met CPM."

Methaplanet had developed a specialized pelletizing process that could increase biomethane production of difficult-to-handle feedstocks by up to 500%. Now, they had to put it into practice.



## Beyond Just Pellet Mills

**"For us," said Xander, "the very-good products that CPM makes are only about 30% of the reason we do business with them. The other 70% is the relationship."**

On the CPM side, that relationship is represented by Oskar Schaap — the Sales Director for CPM Industrial Solutions.

"It's true that our hammer mills and pellet mills are essential to producing pellets that can meet the quality requirements for the Maximizer," said Oskar. "But the other thing we're providing them is our process expertise."

CPM's engineers and process experts worked closely with Methaplanet's staff to plan, develop, build, and launch the company's first plant in France. Now, that plant is up and running, and Methaplanet is looking to its future growth.



### TOP TO BOTTOM

7900 Series Pellet Mill  
Op-Flo Cooler  
Conditioner

### TOP TO BOTTOM

HDHC Heavy-Duty Horizontal Dryer/Cooler  
Hammer Mill  
Dies





CASE STUDY

CPM X METHAPLANET

## A Partnership With CPM

During his research phase, Xander and his team frequently traveled all over Europe and even to Kyiv, which has long been a leading academic research center for straw technologies. Methaplanet partnered with researchers from multiple universities and/or research centers in developing their core technology.

During one of his trips, Xander was taken to a facility at the university in Kyiv that was pelletizing straw-based manure for a Methaplanet study.

**“There was a CPM pellet mill that was at least 25 years old,” said Xander. “It was dusty. It didn’t look like it had been very well maintained. But the professor told me it had been running nearly 24/7 since it was installed, without any problems.”**

When Xander began looking for an equipment provider for Methaplanet’s pelleting needs, that same professor told him, “Don’t look further; these are the best.”

But, like any good company, Methaplanet needed to do his due diligence. After evaluating pellet mills from several other providers, Xander came to agree with the professor.

“We tested several different manufacturers,” said Xander. “But with CPM, the machines had more parameters we could adjust to get the result that we needed, and the result was much better.”



## The Future of Methaplanet

Xander and his colleagues see significant opportunities for the growth of Methaplanet and its Maxximizer technology. The company is currently developing opportunities in the Netherlands, Germany, Poland, and Spain, and sees future opportunities around the globe.

"We're currently focused on the European market, but looking to Asia and the Americas in the future," said Xander.

He sees significant opportunities with the biogas industry in the United States, as well as countries like India, where pollution from burning straw can cause significant environmental challenges.

**"We have the tools, we have the right partners, and we all want to make this planet a little better," said Xander.**







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