PAST PROJECTS
SELECTED EXAMPLES

JULY 17, 2023

SOUTH AREA TRANSFER STATION (SATS)

FIRST OF ITS KIND RNG PROJECT FOR WASTE HAULING FLEET

Funded by CleanWorld, the SATS project (2012 – 2018) was one of the first RNG projects in the US. It converted source-separate organic waste, collected and delivered by a range of waste haulers, to RNG and electricity in a patented digester specifically designed to handle high solids (<85% water), high strength organic waste streams. The RNG fueled the garbage trucks that fed the digester! Josh Rapport oversaw the design engineering, commissioning, and operations of the facility, including permit compliance, health and safety, and training, as well as management of day-to-day operations. He also managed several grants that help fund the facility.

ORGANIC AMMONIA FERTILIZER

NOVEL R&D PROJECT CREATING CONCENTRATED LIQUID AMMONIA FROM DIGESTER EFFLUENT

As VP of R&D, Josh created and tested a novel process for turning another waste stream — digester effluent — into a valuable product: pure bio-based ammonia fertilizer. Based on extensive field testing, the process filtered solids through several steps leaving a low concentration organic ammonia solution from which >90% of the ammonia was distilled out to create a highly concentrated liquid fertilizer (>5% N) that met OMRI standards for use as an input on organic farms. Josh patented the process on behalf of CleanWorld and designed the full-scale production facility, which unfortunately was never fully implemented.

30 DAIRY RNG FACILITIES IN 3 YEARS

BRIGHTMARK DAIRY RNG PORTFOLIO

As the sole subject matter expert, initially, Josh developed a screening tool that allowed Brightmark to acquire 30 RNG projects in 3 years, ranging from 100 to 1,000 mmBTU per day in production capacity. He also built the Center of Excellence, an engineering-focused support center for the company that employed 8 engineers and subject matter experts. His team was responsible for engineering reviews, CI score calculations, data collection and analysis, and operations support. His original screening models resulted in consistently accurate (>90%) prediction of biogas and RNG production rates.