

Fresno Yosemite Airport unveils 14 new electric vehicle chargers

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Fresno Yosemite International Airport announced the opening of 14 electric vehicle charging stations in its short-term and long-term parking lots.

That brings the total of EV chargers at FYI to 20, making it the largest cluster of chargers in the region.

Fresno Yosemite International Airport received a \$30,000 grant from the San Joaquin Valley Air Pollution Control District's CHARGE Up! program for the installation of six Level 2 Telefonix charging stations in the short-term lot. The CHARGE UP! program provides grant funding to Valley businesses, agencies and the public to provide access to eligible charging stations. For travelers using the long-term public parking lot, eight Level 1 Telefonix chargers are now available.

"We are pleased to offer this customer service amenity to our passengers and guests; many who drive from the surrounding communities to fly now have convenient access to charge their vehicle while away and return to a fully energized vehicle at no cost." said Director of Aviation Kevin Meikle. "Partnering with the San Joaquin Valley Air Pollution Control District supports Fresno Yosemite International Airport's ongoing commitment to be sustainable in the way we serve the community and the traveling public."

Turning cow poo into moo-lah

By Danielle A Martin

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California has the largest concentration of dairies in the nation, with a majority right here in the Central Valley.

While dairy cows produce milk and contribute to other tasty treats like yogurt, cheese and ice cream, they are also a major source of methane. Methane is highly potent and is largely produced by manure.

With that said, it's no surprise that California has some of the highest regulations when it comes to air quality.

One local company is looking to change the game in the nation's largest milk-producing state with a simple fix – reduce, reuse and recycle.

CH4 Power Inc. partnered with DVO Inc. and uses its original anaerobic digester to design, develop, install and maintain anaerobic digesters customized for each dairy in California.

While anaerobic digesters aren't new to the dairy industry, most haven't been very successful.

President and CEO of CH4 Power Inc., Ray Brewer, studied the failed models, used new innovative technology to create a generator that produces sustainable green energy.

The solution exceeds the new Greenhouse Gas Emission Standards and will substantially decrease the amount of methane production by 95 percent, he said.

How it works

Almost all dairies operate digestive systems such as covered lagoons, tanks and plug-flow systems.

"In tanks and covered lagoons, you separate the solids before because they just fill up faster," Brewer said. "When you separate those solids you just have a big wet pile of stinky manure. That's energy."

CH4 Power Inc. wants the manure to make post-digested solids.

"Our system takes the cow's digestive tract and literally mechanically stretches it out for 22 days," Brewer said. "We capture all the methane so the material isn't sitting on the ground emitting."

After the manure collects in the digester, it's separated into liquid, solid and biogas and is turned into one of three resources; liquid for fertilization or flush water, compost for bedding and energy for electricity.

The digester will generate 4.3 megawatts per hour. A small dairy will generate 10 times more energy than it uses.

"We take waste heat from the generation and we keep the digester at an ideal 101 degrees, like the cow," Brewer said. "Which makes it super efficient and capable of digesting all the material."

The best part is – no odor and it's the only digester in the world that can do this, designers said.

Who does it benefit

Dairymen—Senate Bill 1122 created requirements that each of California's three major electrical utilities must procure 250 megawatts of electricity from renewable energy sources originating from biogas processed from wastewater, food waste, manure or forest waste.

SB 1122's rate for electricity generated from generators powered by biogas is 12.7 cents per kilowatt.

With the CH₄ Power Inc. agreement the dairymen will supply the company with manure and a space for the generator and digester and in return will receive 10 percent of the gross money.

"For this particular dairy, about 2,500 milking 2,500 replacement there ten percent would be 159,000 a year, and that's with no investment," Robert Zamarripa, a marketing and sales executive said.

The best part about the company's deal, it comes at zero cost to the dairymen.

"In our world, we're the guys that come in with the fund," Brewer said. "All the dairymen have to do is collect the money."

Ron Koetsier of Tulare is the first of many dairymen in California to jump on board with CH₄ Power Inc. Contractors will begin the building process at the first of the year.

"We started gathering more dairies to get a package together to utilize roughly \$150 million worth of projects.," Brewer said

It brings in extra cash for the dairymen that will always be there and adds extra value to the dairy.

The inorganic nutrients produced can be applied directly to the alfalfa crop which causes less use artificial fertilizers.

Local businesses and Central Valley citizens—As of right now, the company is getting ready to deploy 38 new dairy projects.

"We're trying to A, keep it local, and B, increase employment," Brewer said.

It will take about four months to fully build a generator and digester. Each project will employ 259 temporary jobs and create nine full-time positions. The company, with five contractors, can build approximately 49 projects just in one year.

Environmentalists and regulators— The company recently got a letter from the air board stating that their current engine exhaust after treatment meets all foreseeable future regulations.

The company's products are environmentally friendly and help the dairymen meet current and future deals. It also creates cleaner air and reduces health problems.

"We can eliminate 95 percent of the methane and that's a big deal," Brewer said. "It's valuable, it's good energy, and it's renewable."

Brewer teamed up with Terry R. Galloway, founder and chief technology officer of Intellergy, to use the post-digested compost into yet another resource.

They can also take the post-digested material and convert it into plant-based fuel by steam reforming.

"This will make dairies completely sustainable," Brewer said. "When we finish here, the only thing one of our dairies will produce when were done is milk, electricity and jet fuel or diesel."

For dairymen, it's an added bonus for California, it's a mean to sustainability.

"We're always doing innovation, we're an engineering company we're not just trying to develop on project," Brewer said. "We're trying to do long term sustainability, renewable electricity and renewable aviation fuel and diesel."