

BIOGAS REUSE TO MOTOR FUEL

STATE PROGRAM: Kansas Department of Environment

ASSISTANCE RECIPIENT: Dodge City

ASSISTANCE AMOUNT: \$36M



PROJECT DESCRIPTION

Dodge City adopted an innovative approach to processing their wastewater byproducts. In recent years, the Dodge City South Wastewater Treatment Plant received an EPA grant towards a project to reuse 100 percent of its 1.7 billion gallons a year of treated effluent as irrigation for over 3,000 acres of agricultural fields, conserving groundwater for the public water supply. This treatment process produced a significant amount of carbon dioxide and methane gas, which were then burned off in a flare.

This new project plans to clean and pressurize the biogas to high quality natural gas that can be used as fuel. This process will occur by removing water from the gas and using pressure swing adsorption molecular sieves to separate the gasses. A more purified methane biogas will then be pumped to a nearby gas line and entered into the commercial market as a renewal resource. The methane will be sold by the City as motor vehicle fuel across the Midwest. The project costs are expected to be less than \$10 million and the City expects to receive about \$2.5 million a year in revenue from methane sales. The annual amount of methane fuel produced is estimated to be the equivalent of 3.5 million gallons of gasoline per year.

To read more about this case study, please visit [epa.gov/sites/default/files/2018-11/documents/pisces_2018_compendium_0.pdf](https://www.epa.gov/sites/default/files/2018-11/documents/pisces_2018_compendium_0.pdf).