

**Item # 5**  
**November 3, 2010**  
**Energy Commission Business Meeting**

**City of San Jose**

**Grant Agreement ARV-10-016**  
**for the**

**City of San Jose Biomethane Project**

**Summary**

The City of San Jose will demonstrate a gasification technology that uses recycled feedstocks such as urban wood waste, yard waste, and biosolids at the Santa Clara Water Pollution Control Plant in San Jose. The City will conduct a feasibility study in the first phase of the project to determine optimal siting of a demonstration scale gasification facility on location at the San Jose /Santa Clara Water Pollution Control Plant, along with an analysis of all permitting, engineering, and feedstock issues as they relate to the project. They will then construct a demonstration facility using urban wood waste, yard waste, and biosolids as feedstock. The facility will use gasification to produce biogas, which will undergo a proprietary methanation process to increase the biomethane content of the biogas (and thus the energy content).

The project can produce an estimated 18.5 million standard cubic feet of compressed biomethane annually and displace 150,000 gallons of diesel.

The Energy Commission will provide \$1,900,000.00 in Alternative and Renewable Fuel and Vehicle Transportation Program funds and the project team will provide match funding of \$4,214,624.00.

The objective of the project is to demonstrate that Agnion Technologies' proprietary heatpipe-reformer gasification process, in combination with the innovative one-stage Agnion Methanation Reactor, can produce biomethane suitable for upgrading and compression to transportation fuel from urban wood waste, yard waste, and biosolids feedstocks, and that such facilities can be successfully operated at a decentralized, distributed-energy scale.

**Benefits**

Environmental benefits include estimated GHG reduction of 82 percent: over 1,600 metric tons of CO<sub>2</sub> equivalent annually or 48,000 metric tons over the thirty-year life of

the project. All of the feedstock will be from municipal solid waste, reducing the amount of solid waste to be land filled. Additionally, there is the potential for beneficial recycling of water used in the project.

Energy benefits include the generation of high-quality renewable fuel through a net energy-producing process; reduced reliance on imported oil and all fossil fuels; and possibly the eventual production of surplus energy as electricity and heat.

Economic benefits include the transformation of waste liabilities into a revenue stream, and avoided annual transportation fuel costs of \$450,000 from green energy. The City of San Jose will determine the number of long-term operational jobs for this project during the feasibility study. Approximately 15 construction jobs will be created for the demonstration project.

### **Participants**

The City of San Jose will act as the lead agency, coordinating feedstock management, processing infrastructure, and garbage fleet fuel-use functions

Harvest Power, Inc. will provide technology management and project development capabilities.

Agnion Technologies GmbH is the primary technology provider for this facility, which will use Agnion's proprietary gasification process and the Agnion Methanation Reactor.

The San Jose/Santa Clara Water Pollution Control plant will provide the plant site.

### **Implementation Schedule**

October 2011: Complete Phase 1 planning and initial feasibility studies.

June 2012: Complete construction of demonstration facility

30 June 2014: Complete Phase 2 plant operation and feedstock testing.