



REQUEST FOR STATEMENTS OF INTEREST (RSOI) IN THE DEVELOPMENT OF BIOMASS GASIFICATION FOR COMBINED HEAT & POWER (CHP) APPLICATION

The Sacramento Municipal Utility District (SMUD) is soliciting your interest in the implementation of a Biomass Gasification project for CHP application in Sacramento, California.

Objective of this RSOI: identify a qualified and experienced project developer that will implement a Biomass Gasification project for CHP application in partnership with SMUD and the project site host. The developer will finance, design, build, own, and operate the project under SMUD's grant disbursement and power purchase agreement (PPA) requirements.

Biomass Gasification for CHP Application Overview: through passage of a bioenergy feed-in tariff (FIT) bill (SB 1122), California has recently recognized the benefits that small-scale bioenergy applications bring the state, such as, local, distributed renewables generation, GHG emissions reductions, support for economic development in urban and rural communities and local environmental benefits (e.g., landfill diversion, converting problem wastes into energy resources, reducing risk of wildfire). SB 1122 will provide guaranteed funding for biomass gasification projects smaller than 3 MW. However, this ratepayer-funded incentive is only available to investor owned utilities (IOUs). Publicly owned utilities (POUs), such as SMUD, do not benefit from this incentive program.

Nonetheless, SMUD wants to incentivize the development and deployment of small-scale bioenergy projects in its service territory. SMUD has been successful in tapping into local biomass resources to develop biomass-to-energy projects in the Sacramento County. SMUD partnered with private and public entities to help build 4 (four) dairy digester projects, which are currently in operation, with a fifth one under construction and a facility at the local waste water treatment plant to receive, process and inject food waste as well as fats, oil and grease (FOG) into one of the digesters for co-digestion with sludge, increasing biogas production (the biogas is piped and used at SMUD's Cosumnes combined cycle power plant). In addition, SMUD provided support for the development of two local food waste centralized digesters producing biogas for electricity generation and transportation fuels. SMUD also has PPAs with the Sacramento County for the purchase of electricity



from local power plants using landfill gas as well as a PPA for power from a biomass combustion plant located in an adjacent county.

SMUD is seeking a developer to help accelerate the demonstration and deployment biomass gasification in the SMUD service territory. There are several successful operating commercial gasifiers worldwide, and this technology is well suited to utilize locally available biomass waste streams. The project would use clean wood wastes (urban wood, forest thinning, construction and demolition debris, and lumber mill wastes). SMUD has allocated \$1.15 million from its AB-32 Cap & Trade allowances initiative program for this project. This incentive allows SMUD to be on par with the incentives provided to the IOUs.

SMUD does not intend to own the project. Our interest is to promote and support the development of local biomass to energy projects using problem wastes.

Technology Requirements: a turn-key, full-scale commercial gasification system to process primarily wood waste from resources adjacent to the project site. The project developer and technology vendor must provide a track record of successful technical and economic project implementation and ongoing operation. The proposed project must be able to meet all local, state, federal and all applicable permitting requirements.

SMUD's Contribution: SMUD is offering the AB-32 \$1.15 million funding, help securing the project site, a long-term (e.g., 10-, 15-, 20-year) power purchase agreement (PPA), assistance obtaining permits and assistance with grid interconnection. SMUD has identified an ideal potential location that can provide enough area for the plant and for fuel storage and a site host that is interested in offtaking the waste heat, HP Hood LLC (Hood), contingent on negotiations with the project developer. The site is also located amid abundant wood waste streams to sustain at least 3 MW of power generation. SMUD requests that the respondents do not contact Hood during or after the solicitation process in respect to their privacy.

RPS Eligibility: all electricity purchased from the project under SMUD's PPA must be California RPS eligible. Please consult with the California Energy Commission (CEC) for eligibility of your technology under the CEC's RPS Program.

Project Schedule: operational by August 2017 or sooner.

Contents of Response: at a minimum, responses should include the following in order to be considered for further evaluation and potential shortlisting:



1. Letter of Transmittal (1 page), includes contact information of developer/applicant, signed by a company official.
2. Detailed project description that include technical description of the gasification and power generation system, preliminary design layout, preliminary mass and energy balance, etc.; identification of resources required (e.g., plant footprint, fuel storage area required, amount of fuel required, parasitic electrical and thermal loads, equipment required for air emissions compliance, etc.), estimated syngas production, estimated electricity generation, and any other requirement or output the respondent may deem relevant.
3. Track record of successfully securing feedstock supply agreements, demonstrating that respondent has a reasonable probability to obtain feedstock supply agreement for this project.
4. Detailed scope of work and schedule that describe the approach or methods to be used on how tasks will be executed and coordinated in a timely manner with team members.
5. Estimated installed capital cost and O&M costs, pro-forma of the project that includes calculation of levelized cost of electricity (LCOE in \$/MWh); technical and economic feasibility of proposed gasification and power generation system; estimated price of electricity and term of PPA. **VERY IMPORTANT:** successful PPA will be heavily contingent on the final price of electricity to SMUD.
6. Team Qualifications: Organizational & administrative structure, clear roles & responsibilities, team lead skills, proven track record with previous experience working with federal and state grants, extensive experience with implementing biomass gasification projects. Statement of qualifications of the team (developer, manufacturer/vendor, and subcontractors) including experience with gasification technologies and power generation systems, staff resumes, contact information of individuals responsible for currently operating systems and available operating histories and references.
7. Financial standing of the company proposing to build the project as well as financial standing of the technology vendor demonstrating that the respondent(s) have solid financial capability to carry out the project and has a reasonable likelihood of obtaining all the financing necessary to implement the project in a timely manner; strength of the company in terms of net worth and assets, ratio of assets and liabilities, number of years in business (US and abroad).



8. Disclosure of any involvement in law suits related to project development for the past 5 (five) years.

Selection Criteria: responses will be evaluated based on the following main criteria:

1. Information requested above, in the **Contents of Response**, must be submitted with sufficient clarity and completeness to determine if the respondent is ready and capable of successfully implementing the project.
2. Respondent must provide proof of successful implementation and operation of gasification-to-electricity projects as well as proof of sound financial standing of the company.

Deadline for Responses: November, 26th 2014 at 5:00 PM (Pacific). Only electronic replies will be accepted in MS Word, MS Excel and/or PDF formats. Please submit responses to Marco Lemes at marco.lemes@smud.org and state, "***Biomass Gasification Project - RSOI Response - [your company name]***" in the subject field of your email response. Please limit your responses to no more than 20 pages.

Deadline for Written Questions: respondents can submit your questions until November 10, 5:00 pm (Pacific). We will strive to respond in a timely manner as much as possible. A Q&A transcript containing all questions and answers will be sent to all that submit questions.

Contact: all communications should be directed to Marco Lemes, tel. 916-732-5871, or Valentino Tiangco, tel. 916-732-6795.