

Green Phoenix Initiative

Proposed Utility-Scale Solar Plant Development at SR-85 Landfill, Buckeye, AZ

Conceptual Overview

The City wishes to lead by example in promoting clean energy generation, investment and local job creation in renewable energy by industries in this region through its Policy goals:

- Renewable Energy Target: 15% renewable energy by 2025 (solar, landfill gas and digester gas).
- Climate Action Plan (GHG Reduction Goal): Reduce GHG emissions for City operations to 5% below the 2005 levels by 2015.

Project Background

The City of Phoenix (City) has a long-standing commitment to energy efficiency, energy management and renewable energy resources. Over the past 15 years the City has engaged a number of different financing and partnership mechanisms to install solar photovoltaic (PV) systems and landfill gas to energy systems on City facilities. They include park security lighting, canopy lighting, PV systems on facilities like a Park & Ride, the Phoenix Convention Center, a community center and a parking garage, and a gas turbine projected for the Skunk Creek Landfill. The City is now interested in developing a large-scale (utility-scale) solar plant and/or combined with a landfill gas to energy project on available land owned by the Public Works Department.

Overview

The City of Phoenix Public Works Department is proposing to offer an area not to exceed (NTE) 1,200 acres at the SR-85 Landfill site for a solar project development and/or a landfill gas project development for a period of 20 years. Depending on technology, the City estimates a plant output of 150 - 200 MW. The successful bidder will develop and own the solar plant and/or landfill gas to energy plant and its output, with the City receiving monetary benefit from this arrangement. The City seeks to maximize revenue over the life of the project and at its option may elect to participate in plant ownership and/ or power output of the plant, including but not limited to renewable energy credits (RECs) and future carbon credits. Economic benefit over the plant's lifetime will be analyzed using present worth methodology.

The City of Phoenix SR-85 Landfill is currently permitted to conduct landfill operations on 640 acres containing three landfill cells with a waste disposal area of approximately 368 acres. These three cells are anticipated to meet the City's landfill needs for the next 25 to 30 years. The Landfill began operation on January 2, 2006 and has 3.247 million tons of municipal solid waste in place as of January 31, 2009.

Key Points of Proposed Solar Plant:

- **Pre-Proposal Conference: May 19, 2009 at 9:00 a.m.**
- **Site Visit: May 20, 2009 at 9:00 a.m.**
- **Proposal Due Date: June 22, 2009 at noon**
- Available land (SR-85 Landfill) is in the utility corridor with electric transmission lines and gas pipeline in the vicinity.
- Available landfill gas may be incorporated into the project. The Landfill has a landfill gas collection system in place and is currently collecting and flaring landfill gas at a rate of 400 cubic feet per minute (CFM) containing 45% methane. The gas flows are expected to increase over time as the landfill size increases. The City currently has flare capacity in place to handle the gas collection from the first three cells.
- Area NTE 1,200 acres owned by the Public Works Department.
- Projected plant size: 150- 200 MW depending on technology used.
- Water requirements: Dry cooling technology (minimize water use).
- Technology options: open to all solar technology options and may include landfill gas technology options.
- Third party development with options for City: land lease/revenue generation (based on gross sales formula), partnership w/developer for part ownership of plant and/or power output.
- Developer will meet all Federal, State and local regulatory requirements.
- Project will involve linkages with local schools, colleges and universities.

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