City of Casa Grande, Arizona Solar Project –

Power Up and Save $$$!

Application for Performance Excellence Case Study

City of Casa Grande, Arizona
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The City of Casa Grande has completed its first ever solar photovoltaic project. The $3.3 million project installed solar covered parking at five City facilities. The City will own the panels, and will produce power that will offset the costs of the structures within 18 years.

Project Description

The City of Casa Grande installed solar covered parking structures at five sites across the city. These sites are City Hall, Grande Sports World, the North Operations Center, the Public Safety Facility, and the Main Library. The combined 1.0 megawatt project consists of over 3400 photovoltaic panels, which will help the City reduce its electricity usage by over one million kilowatt hours per year, which is roughly the amount required to power 114 homes. The resulting carbon dioxide offset of 1.9 million pounds is equivalent to preventing the annual emissions from 158 cars. The project will also reduce the City's utility costs by over $250,000 per year.

First of its kind

Ameresco, the City's consultant on the project, has said that the project represents the first time that a City has been able to purchase a solar system under the Guaranteed Energy Cost Savings program. Under a Guaranteed Energy Cost Savings contract, when a consultant installs a measure to reduce energy usage, they must provide a written guarantee that the measure will reduce the entity's energy usage by a stated amount. If the cost savings measure does not reduce energy usage by the stated amount, the consultant is then required to reimburse the entity for any shortfall.

Traditionally, cities and other government agencies from across the Country have obtained solar energy through the use of power purchase agreements (PPA) with third-party providers. Under that procurement method, panels are typically installed on a site, and are owned by a third-party provider. The entity then purchases the power produced by the third-party provider at a set rate. Upon completion of the agreement, the entities are given an opportunity to purchase the solar panels. Unlike with a PPA, the City will own the system starting on day one, and will not have any additional cost upon the conclusion of the financing.

The true benefits of procuring the panels through a Guaranteed Energy Cost Savings contract are numerous. First, if the panels do not produce the amount of energy required to meet the goals of the financial pro forma, our contractor (Ameresco) would be required to pay us the difference. This eliminates a lot of the risk that would traditionally exist under a direct procurement scenario.

Secondly, a Guaranteed Energy Cost Savings contract provides budgetary certainty for a large portion of utility costs. Without this project there could be great price fluctuation. By reducing our dependency on a utility provider, we reduce the impact that any rate increases would have on the City's budget.

Because the City owns the system, any overproduction that may occur would result in a direct cash flow to the City. If the production exceeds the conservative expectations of the pro forma, the extra money saved could be used to pay down the project cost faster or to further reduce electricity costs within the City organization. Under a PPA, the third-party provider reaps any benefit that is obtained if the panels outperform expectations.

Because of the established relationship with the contractor, the City was able to build the cost of extended warranty coverage for all components of the project into the project cost. These warranties will ensure that all vital parts of the system will function under manufacturer specifications for a length of time *to exceed the length of financing*. The first three years of maintenance and operation costs as well as training for Staff to maintain the panels was also built into the project costs. Each of these components helped to mitigate the City's risk in the project.

Finally, any generation that occurs after the financing is complete is "free" money to the City. As the City owns the system outright, any production that occurs after financing is complete will result in a direct cash flow to the City, with no need to pay off a capital debt or purchase a system from a PPA.

This is a new and innovative approach to becoming sustainable. By limiting the risks faced by the City, and by ensuring financial success, the project will be a hallmark of success for the community for many years to come.