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Pennsylvania Municipal Authorities Association

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# Solar Power for Authorities – A Good Match

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Retail electric rates soared over 60% in the last 18 months in some areas of the Keystone State. Power hungry water and wastewater plants count electric power costs as one of the largest components of Authorities' operating costs. Authority Managers struggle to meet the goals of appointed and elected officials to keep customer rates low in this inflationary environment in which all input costs seem to have risen quickly. Raging inflation is leading us into a future where it will be challenging to keep water and wastewater user rates from rising with inflation.

How can authorities hedge inflationary pressures now? A solar array may be the answer.

It may well be time to revisit the possibility of a solar generation component to your system. A simple solar evaluation can quickly determine whether the sunshine can be a balancing force in your utility ratemaking formula. Today, solar projects have a place in water-based utility operations. Authorities' wastewater treatment plants often have some suitable land nearby to support a solar array. Depending on the size of the plant and its power demand, even a few acres of solar generation can completely offset a treatment works' annual electric consumption. As an example, a treatment works that consumes 100,000 kWh monthly could install three acres of

solar. Assuming the solar site is relatively close to the treatment plant, the solar array will generate excess power during daylight hours. Net metering allows the treatment works to sell its solar generation directly into the grid for "full retail value." These solar-generated power sales offset the power use at the treatment plant. Solar project developers can design a system to offset up to 110% of the treatment plant's annual electric consumption. A well-designed solar project can provide both immediate savings in net power costs and long-term stability in electric consumption costs.

With electric costs being able to be accurately scheduled for 10-40 years, the wild variability in retail electric costs can be eliminated in favor of what every authority manager likes – near certainty of power costs for annual budgeting for the long term.

The process starts with an evaluation by a solar project developer. Supply only your power consumption data and costs, and the developer can quickly present a financial and construction project proposal for evaluation by Authority Management. If the system is blessed with a few acres of land gently sloping to the south, the optimal site characteristic for solar arrays in Pennsylvania (although relatively level land works fine), the treatment system

may be able to use some vacant land for less costly and more stable electric power.

On the business side, projects can take several forms. Among the simplest and most common is one where the authority provides the land via a lease or easement for nominal consideration to host the solar array. The solar developer and authority enter into an agreement whereby the solar developer provides the electric power through net metering at an agreed-upon price for a set number of years, most often 2-28 years. The solar developer owns and maintains the project at no cost to the authority, but the authority can have an option to buy the project in year six and periodically thereafter.

No capital outlay is required – the solar project developer finances

and installs the solar project at no cost to the authority. This is a huge plus that means no capital financing project is required to get started quickly. The annual escalator for the power is in the 2-3% range over the life of the project. Your financial advisor can help you calculate the potential costs savings by comparing the recent historical rise in retail “price to compare” (as noted, upwards of 60% in the last 18 months) and published inflation data and forecasts. Inflation pressures are avoided because the price the system pays for its electricity for the next few decades is set by contract for the entire term of the agreement.

As a type of bonus feature, solar generation projects also produce solar renewable energy credits, or “SRECs,” which can be owned by

the authority and sold for market prices. One SREC is equivalent to 1,000 kwh of solar production. In Pennsylvania, SRECs currently sell for \$42 (or 4.2 cents per kWh, but in nearby states trade for much more, currently \$234.50 in New Jersey and \$320 in the District of Columbia. The power pricing in the agreement is typically set without including SREC revenue; SREC sales produce value that reduces the real power cost to the authority even beyond that set out in the agreement.

Why is this the time for renewed interest in solar? The great increase in retail electric prices is dragging water and wastewater rates upward because of the outsized role input power costs play in water service rates.

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The regulatory environment is more solar-friendly than ever. Investor-owned electric utilities are required to obtain a portion of their power from solar and other renewable sources. These municipal solar projects help the electric companies meet their regulatory needs. Investor tax credits make banks hungry to finance new solar projects. Experienced solar project developers match investors, banks, and authority-owned treatment works to pull together mutually beneficial projects and are very efficient in doing so.

In Pennsylvania, solar power projects are not subject to bidding (but Solicitor review will confirm your approach to leases and power purchase agreements). Some solar developers are COSTARS approved. From evaluation to signing can take as little as a year. Many are surprised by how little acreage it takes to completely offset all power consumption with a single solar array.

With “virtual net metering,” an Authority’s other electric meters within two miles of the solar array can be included in the offsetting aspects of the project. Think of pumping stations – or even water treatment and wastewater treatment works – close enough that a single solar project can offset these electric bills as well. Although these projects justify themselves financially, the public seems more interested than ever about the carbon-offsetting nature of solar projects. Tours can include an educational component extolling the green nature of the

treatment plant powered entirely by the sun. What elected or appointed official would not enjoy boasting about the carbon-neutral nature of a wholly solar-powered treatment plant?

Consider whether it is time to request a solar evaluation and explore the possibility of a sun-powered operation.



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