

Community solar power plant proposed

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A recent proposal by Flux Energy GS for a greener way of producing electricity in the Eloy area could also produce a little more "green" for the city. Flux Energy, a solar thermal plant technology company, has recently proposed siting a 40-acre plant on city land located at Houser and Eleven Mile Corner Road, just north of the Public Works Facility. The proposed plant, Flux President Robert Orsello says, will not only help the city save money, but make money. And what's better, it won't cost the city a cent to build.

Flux Energy is located in the Solar Valley of Phoenix, Ariz., and builds 10 to 100 megawatt solar power plants, which services 1,500 to 15,000 homes. The company has 26 years of designing engineering experience. Founded by Orsello, Flux is actually a partnership between four engineering firms, for mechanical, civil, electrical and structural.

Eloy was brought to the company's attention through the Economic Development Group of Eloy (EDGE)'s director, Gail Cooper, earlier this year.

Flux has designed a new type of technology, called the Sun Dial design, which is not only environmentally friendly, but cost effective, as well. The new design, a dry air condensing system, leaves a "soft environmental footprint." That means no water is necessary, which allows placement on land, and is lower in value; it also does not utilize steam or out gassing, no water usage for cooling, an aboveground raised mirror array for less than two percent of ground impact of the land area.

Environmentally, instead of cooling down the infrastructure with water, it is let back into the environment – the earth. The mirrors move and allow every portion of ground to receive daily sunlight exposure, allowing the sun's heat to be returned to the environment it was intended for. They did this by creating a closed system. The solar panels take the sun's rays and reflect it to a central tower that stores the energy (which can then create energy on demand). But then the tower has to then get rid of the heat; so instead of using water to cool the infrastructure, for every five units of energy it creates and stores, one goes out as electricity at 20 percent efficiency, while the remaining four has to go back out into the environment. So then the radiator dissipates it into the original intended receiver – the ground.

And once built, the service life of the facility is good for up to 50 years.

What is also different about Flux's proposal is the facility itself. A typical solar farm being built in America and abroad Orsello likened to a nuclear power plant, generating about 400 megawatts. The system is designed for two to three facilities to be put in the middle of nowhere. Instead, what Flux wants to do is not only build smaller plants, approximately 10-megawatt plants, but also build more of them to spread out the power availability, as well as assimilate it into the surrounding community.

What's more, it would be designed as a profit center for the resident community. The facility would generate approximately 22,000 megawatts or 22 million kilowatts, annually. With a power company paying the city 16 cents per kilowatt hour, and the money the city will save from generating its own power for free, it could potentially bring in \$8 billion a year, with operating costs being about \$7-800,000 a year.

"We think it's an exciting project where we would be owners of a power plant and generate energy and generate some money," City Manager Joseph Blanton commented.

"It's a very exciting prospect for us," echoed Orsello. "We would have solar energy provided to our homes without anybody having to have any solar panels on their homes, because it would be based from a solar plant that would be located on our own land. It's exciting technology. There are several plants already located around the world with a similar type of technology.

"I'm a big advocate of community-scale solar. Renewable energy is a system in America that is filled with opportunity: It provides jobs, it's free fuel, and its incentives really bring money into an economic base that should be spread out...I believe it makes sense for small communities to get involved like this and spread the wealth instead of letting these big huge companies build things out in the desert and take all the money back."

But the entire project hinges on finding an energy company who will buy the city's solar energy. Earlier this month, Orsello, spoke to City Council who was being asked to approve the submittal of an interconnect agreement application to APS, as a possible partner. If agreeable to the terms, APS would then purchase the energy, which is typically a 15- to 20-year

agreement.

The incentive for the building of such a facility is that the federal government is offering assistance in paying for construction costs. Projects started in 2010, with applications made by 2011 and construction completed by 2016, the government will pay 30 percent of capital costs - in cash. Flux has also been in negotiations with colleges like ASU and UofA for partnerships in the project. The federal government would be looking to give low interest loans to finance projects over a long period of time, as well. A utility company like APS, if coerced, will get very favorable power purchase agreements to help subsidize costs.

And that's good news for the city, as well. Not only would the city be generating its own electricity at virtually no cost (instead of paying seven cents a kilowatt hour in utility bills), they'll be getting incentive payments from government and utility company in exchange for use of those renewable energy credits.

The goal is to bring capital costs down as much as possible, and make it a favorable deal for APS to agree to. But if they don't, the city can go to any other Arizona power company such as Tucson Electric Power (TEP), or in the southwest such as California, who has had a jump on utilizing this new technology.

At last month's regularly scheduled City Council meeting March 8, Councilman Joel Belloc and Mayor Byron Jackson were concerned about being locked into using Flux Energy technology.

"Starting this interconnect doesn't marry you to flux energy," Orsello explained. "It would give you the opportunity to start a process that would also let you look at other solutions and technologies. It's best to go in with eyes wide open, but this would not close any doors for you. You are setting a precedent with this."

Councilwoman Etta Ruth Amerson asked if the city even had 40 acres to dedicate to this kind of large-scale project. Orsello explained that the facility only interrupts two percent of the ground that it helps to develop, and does not grade or change the landscape in any way.

"The other solutions actually have to grade it all out flat, and it sterilizes the ground, and cover it all with panels. Our system is extremely environmental. You could make a city park out of that same land, or make mixed use or dual purpose out of it."

The Council unanimously approved the application to APS. The \$500,000 phase one includes securing right-of-ways for interconnection, aerial mapping for site plans, hydrological analysis and drainage report, native plant inventory, civil site plan development, access and utility permitting, landscaping plans, and storm water pollution prevention plan and ADEQ NOI submittal.

For more information on Flux Energy, visit their Web site at www.flux.

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