

# Meeting Minutes

## City Council Sustainability and Technology Subcommittee Meeting

March 7, 2024 | 10:30 a.m.  
City Hall 5<sup>th</sup> Floor Large Conference Room  
175 S. Arizona Ave., Chandler, AZ



### Call to Order

The meeting was called to order at 10:32 a.m.

### Roll Call

#### Subcommittee Attendance

Councilmember Matt Orlando  
Councilmember Mark Stewart  
Councilmember Angel Encinas

#### Staff Attendance

Steven Turner  
Tera Scherer  
Dawn Lang  
Alexis Apodaca

### Discussion

1. Presentation and Discussion of the Solar Feasibility Study

STEVEN TURNER, Sustainability and Performance Officer, opened the meeting and began the presentation. [The Solar Feasibility Study](#) (*click link to view presentation*) was initially approved by City Council in July 2023 as part of the Sustainability & Technology focus area within the Strategic Framework that highlights the need to pursue smart energy solutions that lower the cost of services and improve environmental resiliency.

Currently, there are two phases of solar in place at six different facilities, with the first phase constructed in 2013 and the second in 2015. The estimated size of that system is a little more than three megawatts.

The city entered into an agreement with Ameresco in July 2023 to look for ground and roof mounted and solar covered parking options throughout the city's facilities and has identified 25 potential sites to determine feasibility of solar at each location.

Historically, the benefits of available financial models have varied, with robust rebates no longer available for outright ownership. When previous rebates ended, many municipalities moved to a solar service agreement, the new term for a power purchase agreement. The Inflation Reduction Act that provides a 30 percent tax credit makes the cost of ownership of solar panels much more reasonable.

MR. TURNER provided a graph of the city's facility solar production, showing a decline between 2019 and 2021 due to faulty equipment, which has since been replaced by Tesla, who purchased Solar City, the original provider. Because of our guaranteed service agreement, Tesla did reimburse the city for the loss in savings caused by that faulty equipment. Mr. Turner stated that there will be degradation of equipment over time at an approximate rate of two percent yearly. He further stated that seeing the degradation in 2023 compared to 2022, he has begun difficult conversations with Tesla in an effort to get our current equipment is back to optimum performance.

COUNCILMEMBER ORLANDO asked why it took so long to discover the degradation of the equipment.

MR. TURNER responded that we now have access to a dashboard provided by Tesla that allows us to track solar production. Additionally, Tesla does monthly facility checks of equipment.

MR. TURNER continued the presentation, stating that the new solar proposal is a 20-year agreement. There have been 23 new locations identified for a nine plus megawatt system size.

COUNCILMEMBER STEWART asked what the cost of a megawatt is and whether that energy is being stored. He further asked for clarification on the proposed energy offset and whether we are storing the energy and then using it or if it is going off-site.

MR. TURNER stated that it is measured over the course of a year and that the energy produced is used in real time.

Further discussion was held among the group surrounding the cost per megawatt and the importance of payback figures.

MR. TURNER continued the presentation by stating that the Airport Water Reclamation Facility (AWRF) is the largest energy consumer, so there was a large focus on that area to offset energy usage, followed by the identification of other locations to maximize savings, with added amenities for residents to offer shaded parking structures in areas where that is not currently available. Mr. Turner stated that over 70 percent of savings would come from the utilities side, with AWRF, Ocotillo Water Reclamation Facility (OWRF) and Pecos Water Treatment facility as the top energy users identified. Two locations within the city, the Sunset Library and the Delaware Street parking lots, were not considered viable locations. The Sunset Library's roof no longer has the capacity to house panels, as it is at its weight limit, plus the library parking lot is not a city lot so the installation of shaded parking is not an option. The Delaware Street parking lot across from where the Development Services and IT buildings are located was also not considered ideal due to the shape, as traffic flow would be impeded, and redesign would significantly decrease the number of spaces available.

MR. TURNER gave a brief overview of the financial options available, pointing out that after the 20-year agreement, the city would begin to maximize the savings. He further stated that there is a 25-year warranty on panels, but currently carry a 25-35-year life expectancy, with the expectation of solar technology changing over that period providing the flexibility to update panels to accommodate any new technology that may become available.

COUNCILMEMBER ORLANDO asked if the financial projections include cost escalation of rates from SRP and APS.

MR. TURNER responded that it does, with the calculations based off recent history, as rates fluctuate often.

MS. LANG stated that rates were recently announced for municipalities at a little over five percent increase.

COUNCILMEMBER ORLANDO asked about access fees.

MR. TURNER responded in the affirmative, that there are some flat fees associated with solar and stated that the plan offsets over 80 percent of the energy at some sites, although the savings at those sites will not see that rate of savings due to those fees.

COUNCILMEMBER STEWART asked where the cash down is coming from, referring to the financial options presented.

MS. LANG responded that most of the savings is on infrastructure relating to wastewater, then water, so the enterprise funds are 70 percent of the investment, with the general fund contributing 30 percent, so the capital investment as well as the savings would be taken accordingly. Ms. Lang further stated that they are in the process of forecasting in the new year, and it is believed that the \$10 million down option would allow the use of funds from the wastewater fund, with conversations to be held among all of Council (at Budget Workshop #3) on March 21 when direction will be provided by Council. Ms. Lang further stated if the \$10 million option is decided upon, the wastewater fund would cover the largest portion, with a loan from the water fund to the general fund to cover the capital portion. The general fund would contribute the remaining balance of 30 percent.

Discussion was held on the financial options presented and the benefits to the estimated net savings projected.

COUNCILMEMBER STEWART asked if the gap that may be created if ever off-grid would be covered.

MS. LANG responded that the agreement is for a guaranteed annual savings.

Further discussion was held by the group relating to the annual savings.

COUNCILMEMBER ORLANDO asked for clarification on the \$10 million down, when the enterprise fund is depleted, about 10 years down the road, whether rates would be reduced.

MS. LANG responded that as soon as the capital investment is made and everything is completed, the city will start showing that savings in utility rates, so it will either reduce the rate or increase capacity for projects or keep it stable. On the general fund side, it is anticipated for a little over \$1 million a year guaranteed savings that is ongoing.

COUNCILMEMBER STEWART asked if there were any federal opportunities for grants for capital funding for this type of project.

MR. TURNER stated that he is actively looking into that but primarily the Inflation Reduction Act is where all the money for solar is coming from. There may be ways to increase the guaranteed 30 percent by meeting certain variables, but with the city's economic security it may be unlikely to surpass that guaranteed savings.

Discussion was held among the councilmembers to pursue opportunities through lobbyists they meet with.

COUNCILMEMBER STEWART inquired about the possibility of (energy) storage in future.

MR. TURNER stated that battery storage was part of the discussion with Ameresco, but they do not do much on the storage side, as the technology does not make it feasible at our scale at this time, but five years into the future that may be an option.

COUNCILMEMBER STEWART asked whether we would need to find a new company for that purpose, or if that would be an option with the same company.

MR. TURNER replied that during the RFP process, 10 to 12 companies responded and of those, the top four were selected for interviews for the project, with none of the companies proposing any storage options due to restrictions in place by SRP and APS on the number of panels we are able to install based on current usage and demand, which is what is needed for storage.

Further discussion was held surrounding home usage and the cost of solar batteries, with the added costs involved for a very limited return on investment for families home during the day, compared to those that are not running their major appliances during the day when the most solar energy is generated. The general thought was that perhaps city sites using less power during the day to run, such as fire stations that are not accessible to the public, could be candidates for generating power for storage and later consumption.

MR. TURNER stated discussions were attempted with SRP on the AWRF location and the 35 acres that could be built out to generate 10 megawatts alone; SRP was not willing to have that discussion, reiterating the restrictions placed by power companies.

The presentation continued with Mr. Turner providing an overview and potential plan for each of the proposed city sites. Mr. Turner presented the empty lot south of AWRF and the space available to add more solar, but with restrictions imposed, SRP will not allow the additional panels and that site will remain a four-megawatt system size. Additionally, at city hall, panels cannot be mounted on the roof of the main tower

due to the window washer anchors that are unable to be moved, as they are part of the structure. Mr. Turner stated there is plenty of roof space available on other campus structures.

Another noteworthy location discussed was location 12, McQueen Yard, for both rooftop and covered parking. For that area, moving cars awaiting maintenance and surplus property to another area on the site would allow for covered parking with solar arrays as shown on slide.

MS. LANG stated fire station number 4 is in the CIP for rebuild so will likely be pulled from the proposal until that project is completed.

COUNCILMEMBER STEWART asked if all the proposed plans have a 20-year life expectancy.

MR. TURNER responded that is correct, other than our buildings that already require a new roof or maintenance. Those buildings are not included in the plan presented today.

MR. TURNER continued the presentation with milestone two of the feasibility study, which is for City Council to approve the engineering plan that would then give three to five months to finalize plans and have final costs. Mr. Turner reminded councilmembers the estimates presented today are very conservative, so any changes to cost would not be significant. The next step would be for the final contract to go to Council for approval, with the plan for the final installation and construction completion approximately 10 months later, with all site's solar plans fully operational at that time. Construction will be happening across several locations at once, so there may be smaller sites that are operational prior to the estimated final completion date.

COUNCILMEMBER ENCINAS repeated his desire for grants to be researched and considered for costs.

MR. TURNER agreed that staff will continue to monitor for any options that may become available.

COUNCILMEMBER STEWART asked if this is something the city can afford.

MS. LANG responded affirmatively that the city is ready with the \$10 million investment.

COUNCILMEMBER STEWART asked if this will cause any planned projects to be delayed.

MS. LANG stated that it will not, but at the upcoming Budget Workshop #3, projects will be discussed, with utility rate models being discussed in detail, as well as aging infrastructures overlapping putting pressure on our rates. Ms. Lang further stated there are some inter-fund loan options available to us to finance this project, which will not affect timelines for other capital projects.

COUNCILMEMBER STEWART asked when Chandler the residents might begin to see some of the savings from this type of project.

MS. LANG responded that utilities are expensive and balancing those costs with the infrastructure costs is something that continues for our city to keep rates at a level that our residents can appreciate. She further

stated that John Knudson, the city's Public Works director, will be presenting some very high-profile projects that have impacted our plans at the upcoming budget meeting.

COUNCILMEMBER ORLANDO asked if this is about water.

MS. LANG responded that it is about the increases to water costs, with every city facing these same increases.

COUNCILMEMBER ENCINAS asked if that with the \$10 million option requiring a loan, will the \$5 million option presented require the need for a loan.

MS. LANG responded that she was referring to an inter-fund loan; the general fund would be loaning that dollar amount over time to the utility fund account, then where there are savings to utilities it will allow that loan to be paid back over time to the general fund.

COUNCILMEMBER STEWART asked if the general fund overages (savings) could be written off over time, rather than paid back to the fund from which they are borrowed.

MS. LANG replied that it has never been our financial policy to do something like that, as enterprise funds should pay for enterprise needs. The process presented would still have an interest rate, with the only fund affected being the water fund, which is the smallest fund. Additionally, contingencies are included with capital projects, so cost savings could then be the payment on the loan, which would not impact water utility rates, as we budget using estimated costs for projects. Ms. Lang reiterated that once we get farther into the budget process, if there is additional funding that can be found, we can then consider a higher investment, but right now \$10 million is the most feasible.

COUNCILMEMBER ORLANDO asked if we get credit on energy we give back.

MR. TURNER stated we are looking to appropriately size panels to our needs. We do not want to maximize to 100 percent electricity, as the best method would be to build up to the amount of energy we consume, since a municipality cannot sell back additional energy.

COUNCILMEMBER ORLANDO asked what staff needs from the subcommittee members.

MS. LANG responded that it sounds like the consensus is to move forward on this project with engineering estimates from Ameresco to be completed next. Secondly, before the budget is completed, it sounds like everyone is okay with starting with the \$10 million investment option based on estimate today, with the possibility of taking that up to \$15 million during budget discussions. She stated again her recommendation is \$10 million based on the figures available to her today.

Discussion was held among the subcommittee members and the consensus is that they agree with the \$10 million investment cost.

COUNCILMEMBER STEWART stated again that his biggest concern is passing savings down to our customers, but he does understand the bigger picture and is in agreement with the group.

(COUNCILMEMBER STEWART left the meeting at this time).

COUNCILMEMBER ORLANDO asked for clarification on the annual savings and whether it is beneficial to increase the dollar amount down for the larger annual cash savings.

MS. LANG restated she is recommending the \$10 million down based on what is being proposed in our CIP projects. Next week they will be getting more details on projects and costing, plus impacts of our bond efforts. When looking at all that information, the remaining funds show the \$10 million option is the best recommendation, but if those numbers can be refined, we may be able to have a larger down payment, which is the ultimate goal for the larger cost savings in the future. Since 70 percent of this benefits the enterprise funds, the wastewater fund receives the largest benefit, and that fund can afford the \$10 million investment without the need for interfund loans. Anything over that will cause an offset in rates.

COUNCILMEMBER ORLANDO asked if we can do \$10 million from wastewater fund and \$5 million from the general fund.

MS. LANG responded that further discussion would need to be held and that would be a policy decision by Council, as right now enterprise pays for enterprise. She reminded them that putting more money towards this project may mean not doing another project proposed.

COUNCILMEMBER ORLANDO referenced a chart provided to them last year with a crossover for operating costs and asked if the use of one-time dollars to save on ongoing costs would reduce the curve.

MS. LANG stated again that everyone is in agreement with the \$10 million down and if more can be found we would do more. She stated they will take a look and see how the number can be refined before that Thursday budget workshop to free up more to increase the down payment amount for the purpose of increasing ongoing savings.

The remaining subcommittee member reiterated their agreement.

## **Adjourn**

The meeting was adjourned at 11:20 a.m.

  
Recording Secretary