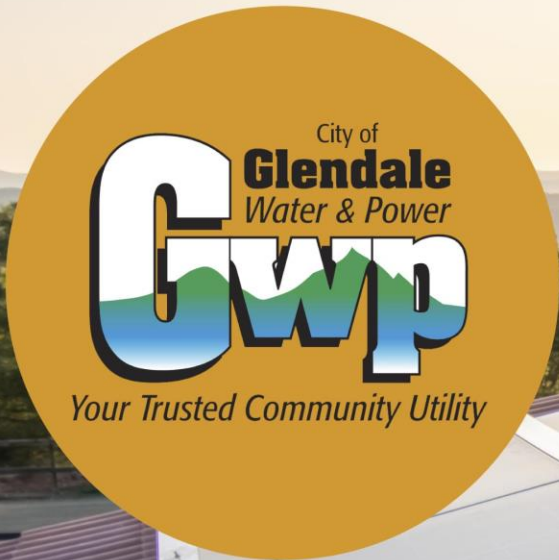




Energy+Environmental Economics

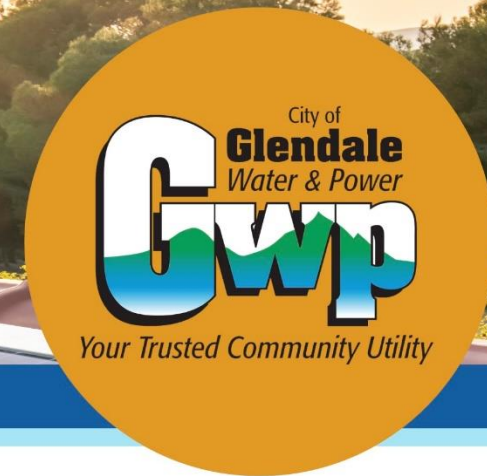


# Community Meeting

Glendale Water and Power's Plan to Increase Solar Adoption and Develop Additional Distributed Energy Resources



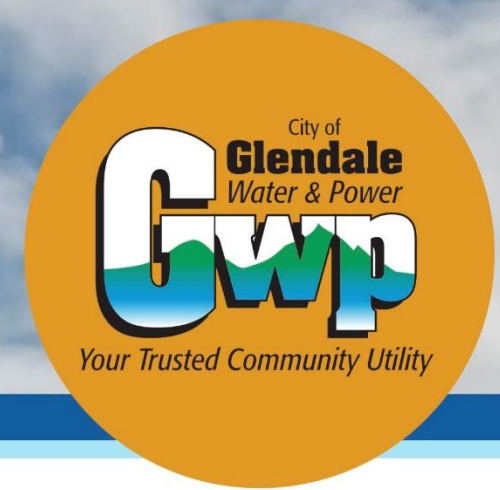
Saturday, March 2<sup>nd</sup>, 2024



# Welcome and Introduction

- **Introduction of meeting presenters and facilitators**
- **Welcome remarks**
- **Meeting objectives:**
  - Provide residents and business owners with information about the plan
  - Gather feedback from residents and business owners on what would help them be responsive to renewable energy programs
  - Gather information from residents and business owners about their barriers to distributed energy resource (DER) adoption
  - Understand other areas of concern

\*DER: Distributed Energy Resources



# Meeting Agenda



**Presentation on Project Overview and Introduction to Distributed Energy Resources (30 minutes)**



**Q&A (10-15 minutes)**

- Understanding Barriers to DER Adoption
- Equity and Environmental Justice
- Affordability and Cost Shifts
- Commercial and Industrial DER Adoption

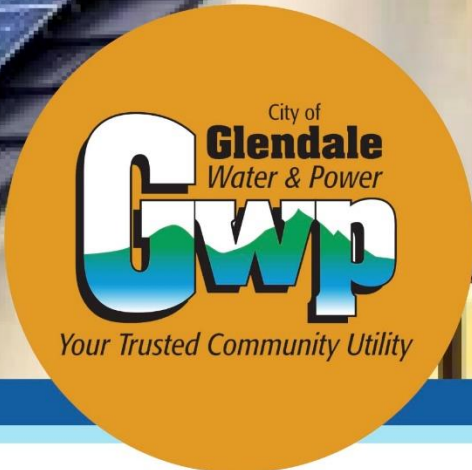


**Discussion Stations (60 minutes)**



**Closing Remarks and Future Engagement (10 minutes)**

\*DER: Distributed Energy Resources



# Team Members



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**Jonathan Baty**  
Primary Engineer – Willdan  
jbaty@willdan.com

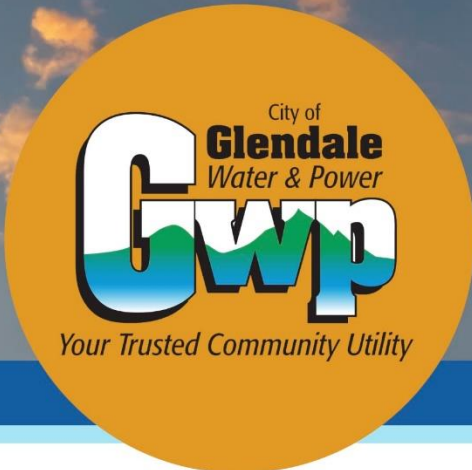
**Diane Farson**  
Energy Service Representative – Willdan  
tfarson@willdan.com



Community Outreach and Event Support

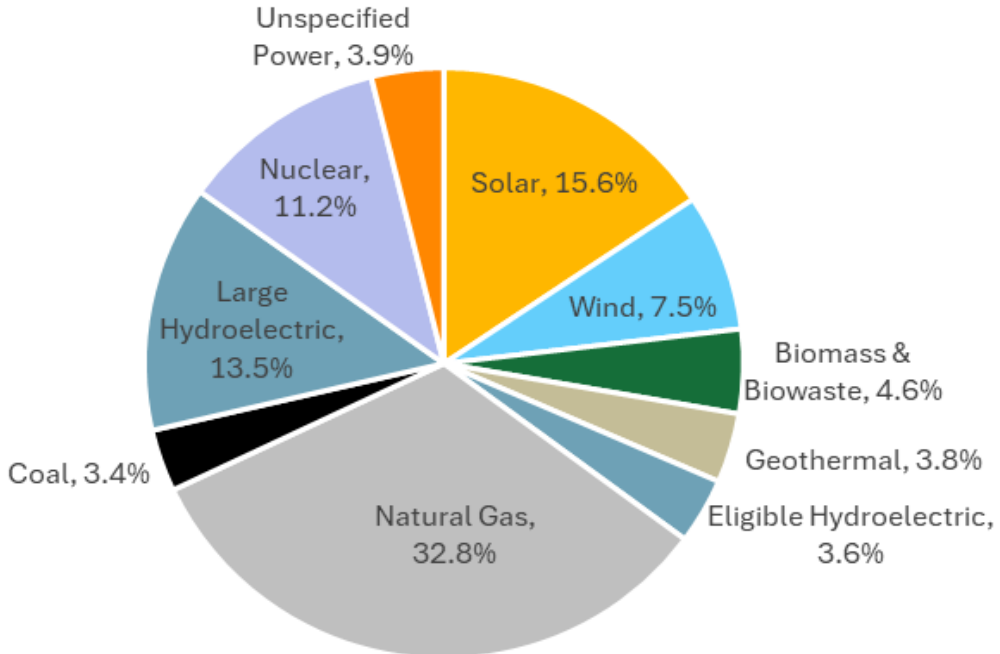
**Rick Taylor**  
Partner – Dakota Communications  
rick@dakcomm.com

**Jad Hagekhalil**  
Account Manager – Dakota Communications  
jad@dakcomm.com



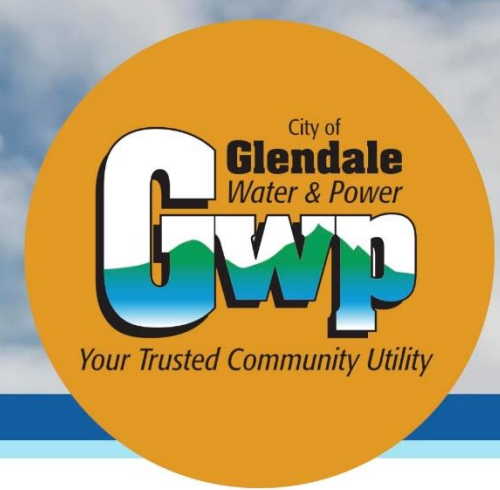
# Glendale Water and Power

- Glendale Water and Power (GWP) is a municipal utility that serves the community of Glendale, California, including over 34,000 water and 90,000 electric customers
- GWP’s vision is to deliver reliable, high quality, environmentally sensitive, and sustainable water and power services to customers in a caring and cost-competitive manner
- GWP helps residents and businesses manage energy costs at home and at work through different Customer Programs, Residential Water and Energy Efficiency Programs, and Business Programs
- In Fiscal Year 2022/2023, 35.2% of Glendale’s power supply came from eligible renewable resources\*, and almost 60% from clean energy resources when including nuclear and large hydroelectric
- GWP continues pursuing the goal of integrating the maximum amount of renewable, zero-carbon, and/or low-carbon energy and minimizing the amount of fossil fuel generation in GWP’s portfolio



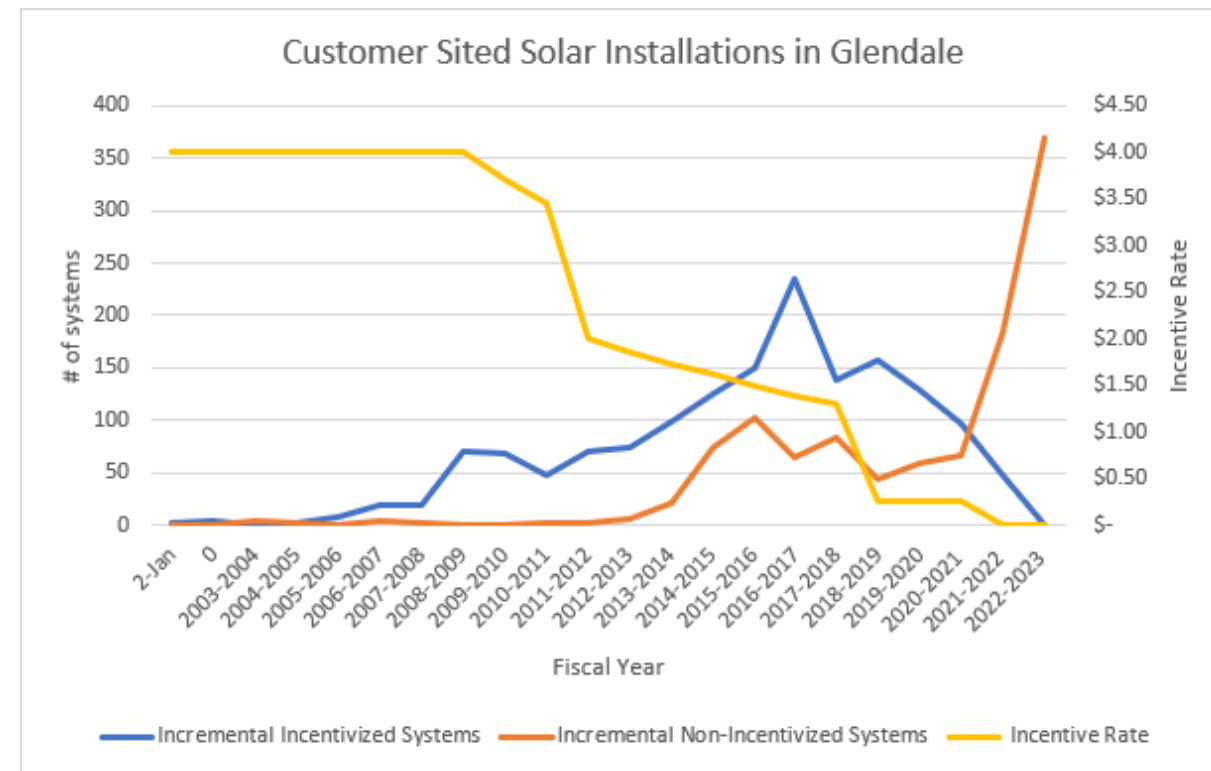
Source: GWP Power Content Label, <https://www.glendaleca.gov/government/departments/glendale-water-and-power/about-us/power-content-label>

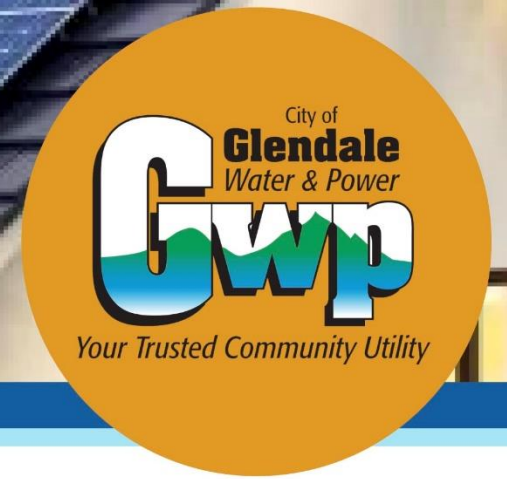
\*Eligible renewable resources include solar, wind, biomass and biowaste, geothermal, and eligible hydroelectric.



# Where We Stand Today

- 2,921 PV/Solar Systems Installed since 2001 for a total of 28 MW
- 2,800 Residential PV/Solar Systems Installed since 2001 for a total of 17 MW
- 121 Commercial PV/Solar Systems Installed since 2001 for a total of 11 MW
- Solar penetration is currently at 3.25%
- Solar system installations in Glendale have been increasing every year, despite the end of the solar incentive program in 2022 (see graph)





# Plan Context and Goals

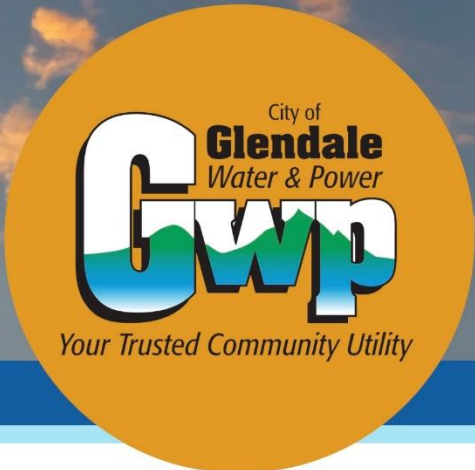
- In August 2022, the Glendale City Council passed a resolution expressing their intent to adopt policies and practices aimed at achieving the goal of having at least 10% of GWP customers adopt solar and energy storage systems by 2027, and to develop additional demand management measures, with a minimum total peak dispatchable and peak-load-reducing capacity of 100 MW
- GWP has partnered with Energy and Environmental Economics (E3) to create an equitable solar and energy storage adoption plan, with input from the community

\*DER: Distributed Energy Resources

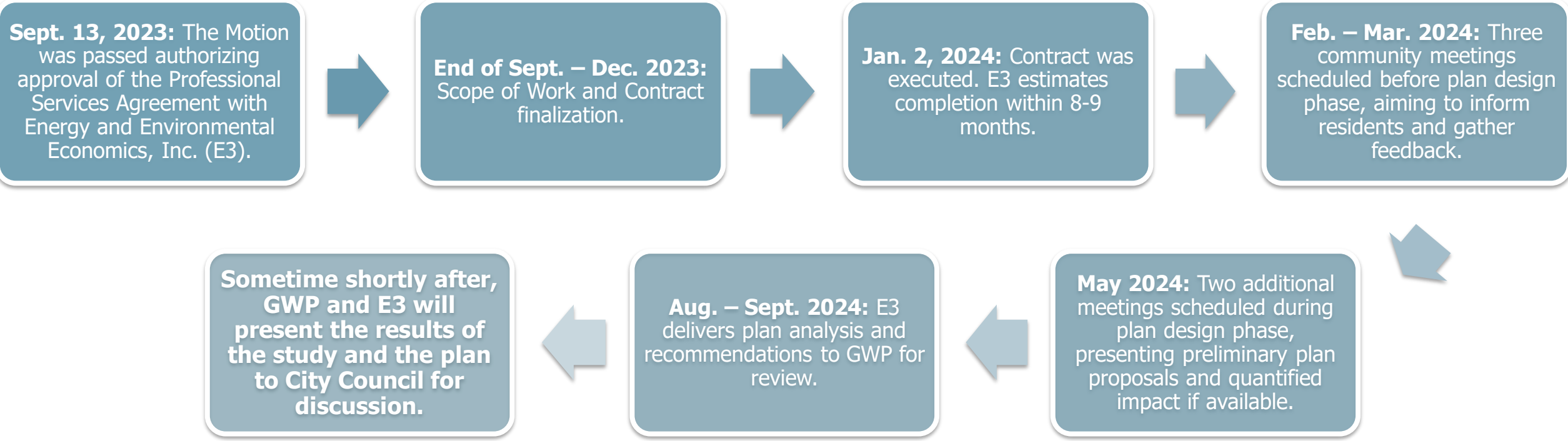


## Goals of the Plan

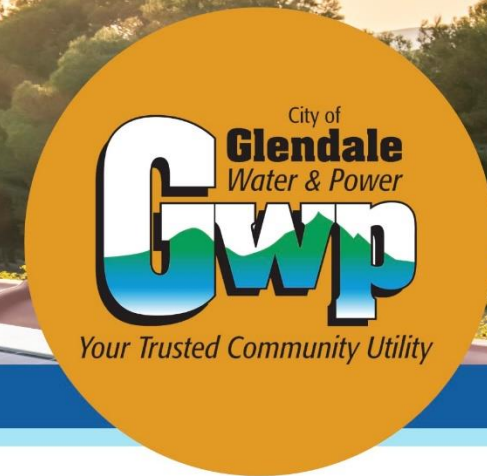
- Maximize the use of renewable energy to serve the current and future energy needs of Glendale residents
- Maximize local solar and energy storage with the goal of a minimum penetration rate of 10% by December 2027
- Maximize the use of distributed energy resources (DERs) with a minimum total peak dispatchable and peak-load-reducing capacity of 100 MW
- Minimize the impact of cost shifts to low-income customers
- Maintain overall system reliability



# Plan Timeline







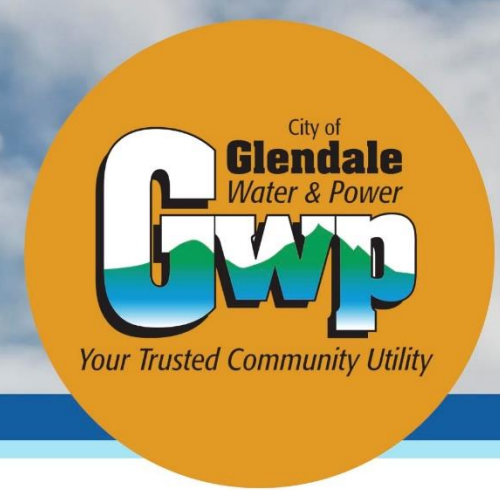
# Plan Scope and Expected Outcomes

## The solar and energy storage plan will include:

- An evaluation of the solar and energy storage adoption potential, including the feasibility of achieving the City Council's goals
- If the evaluation finds that the goals are not achievable, an estimate of when the goals can be achieved
- Policies and incentives to achieve the adoption and capacity goals
- Policies and incentives aimed at low-income customers, customers in heavily pollution-burdened areas, multifamily properties, and rental properties
- An analysis of the benefits and costs including direct and indirect economic, environmental, societal, and other noneconomic benefits and costs
- Direct and indirect impacts to low- and moderate-income households

## Policies and Incentives Considered

- **Upfront Rebates**
- **Performance-Based Incentives**
- **Feed-In-Tariff (FIT) Program**
- **Net Energy Metering (NEM)**
- **Equity Strategies & Policies**
- **Community Solar Projects**
- **Energy Efficiency**
- **Demand Reduction**



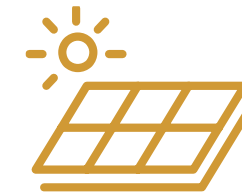
# DER Technologies and Their Importance

- Distributed Energy Resources (DERs) refer to a variety of technologies that provide electricity or capacity at or near where it will be used
- DERs are an important strategy to increase renewable, zero-carbon, and/or low-carbon energy
- For residents and business owners, DERs can reduce energy costs and be a net positive investment once paid in full
- For utilities, DERs can reduce incremental system costs and may increase local reliability, depending on the mix of resources available
- There are a variety of DER opportunities for residential, commercial, and industrial customers as well as renters and low- and moderate-income customers

## DER Examples



**Energy Efficiency**



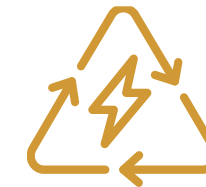
**Customer-Sited Solar**



**Energy Storage**



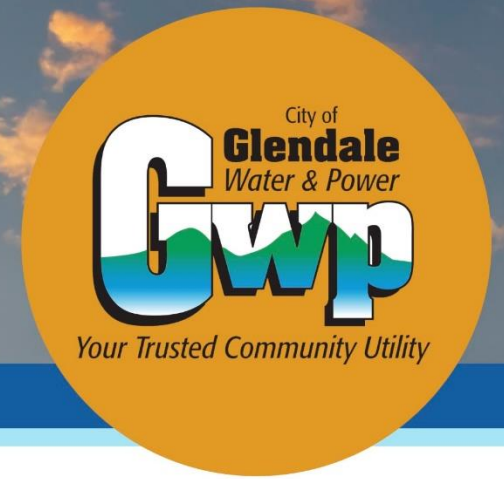
**Electric Vehicles**



**Flexible Loads**



**Demand Response**



# GWP's Existing Programs and Incentives



**Net Energy Metering (NEM) Program:** solar customers are eligible to receive a bill credit for excess generation produced by their solar system



**Electric Vehicle Charging Station Rebate:** rebates for installing charging stations at residences or businesses

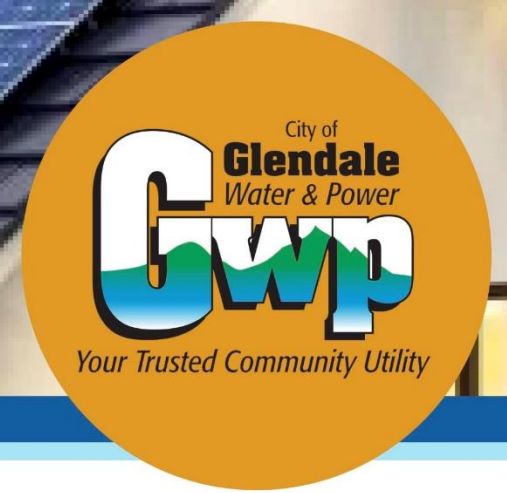


**Peak Savings Program:** receive a financial incentive for reducing demand during critical peak demand periods



**Off-Peak Electric Vehicle Charging Rebate Program:** incentives for residential customers to charge between 9pm and 12pm the next day

Visit the GWP website to learn more about these programs as well as other programs offered by GWP:  
[www.GlendaleWaterAndPower.com](http://www.GlendaleWaterAndPower.com)



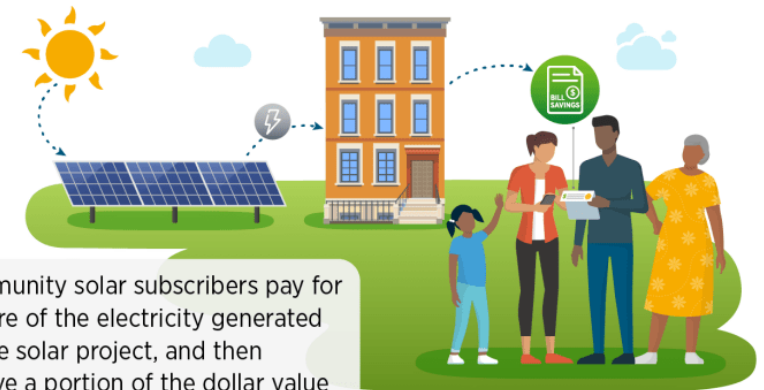
# Multifamily Property Considerations

- Glendale has around 24,000 single family homes, but about 53,000 multifamily and condo units that may face barriers from landlords when adopting solar
- GWP is committed to ensuring that multifamily and rental properties are incorporated into the plan
- **Potential programs for multifamily and rental properties:**
  - ✓ **Community solar:** a local solar facility whose electricity is shared by community members who often cannot or prefer not to install solar panels on their properties. Potential challenges include its higher cost compared to utility-scale solar and a lack of available land.
  - ✓ **Virtual net energy metering (VNEM):** a bill crediting system where net metering credits from a shared solar system are shared between subscribers, such as between both property owners and tenants. Potential challenges include administrative complexities in managing billing and credits among multiple users.

## Community Solar

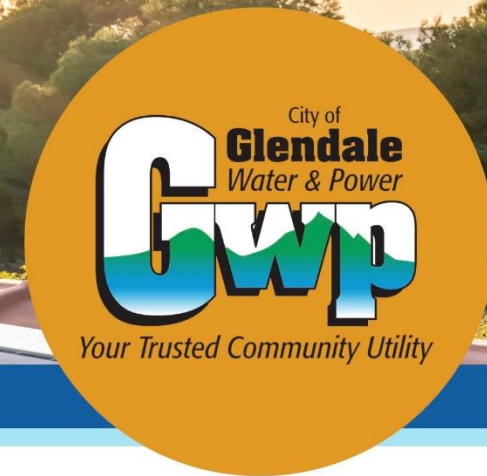
### How does it work?

Community solar projects generate electricity from sunlight and the electricity flows to the electricity grid. Project owners can sell this power to their local utility.



Community solar subscribers pay for a share of the electricity generated by the solar project, and then receive a portion of the dollar value generated by the project as a credit.

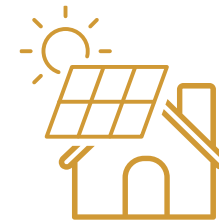
Source: <https://www.energy.gov/eere/solar/community-solar-basics>



# DER Benefits and Costs

- The plan will include an analysis of the benefits and costs including direct and indirect economic, environmental, societal, and other noneconomic benefits and costs
- Participant benefits and costs are those that accrue to residents or business owners who install DERs or participate in DER programs
- Utility ratepayer benefits and costs are those that accrue to all utility ratepayers, resulting in either an increase or decrease in electricity rates
- Societal benefits and costs, including equity considerations, are those that accrue to society at large
- Some benefits and costs are difficult to quantify as they are not directly monetized and may lack a robust quantification methodology or concrete data

## Examples of Benefits and Costs



### Participant

- Bill savings
- Upfront costs
- Federal, state, and utility incentives
- Resilience



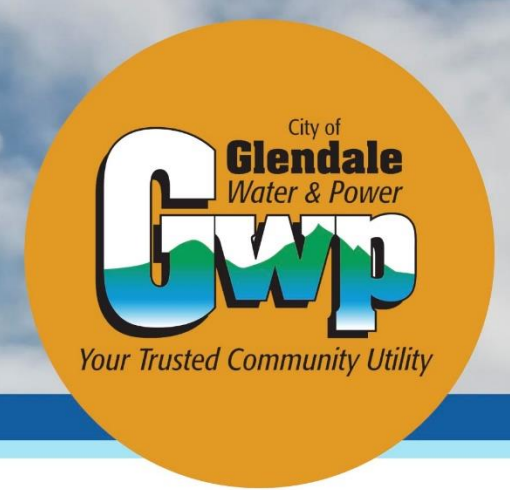
### Utility Ratepayer

- Utility avoided costs
- Customer compensation



### Society

- Reduced criteria pollutant emissions
- Reduced greenhouse (GHG) emissions
- Reduced land use impacts
- Employment opportunities



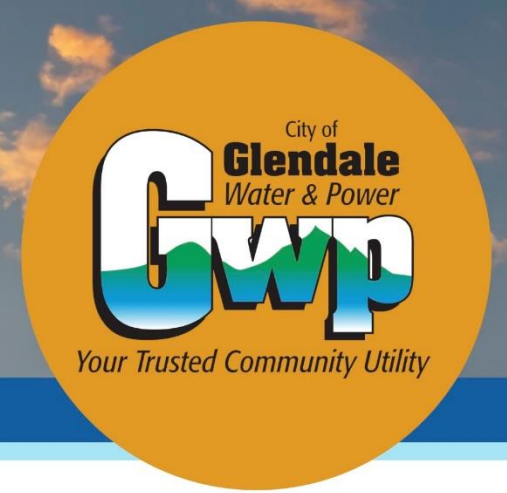
# DER Opportunities and Challenges

## Opportunities

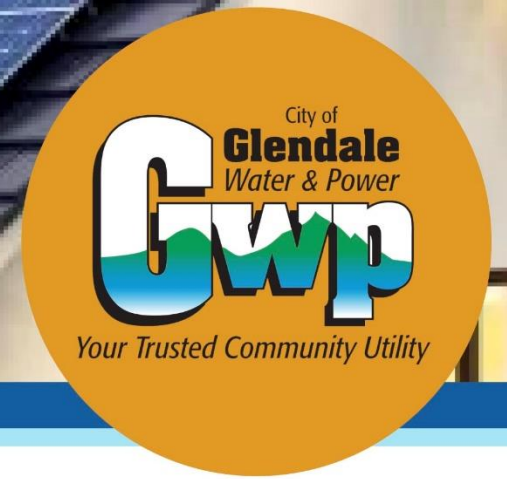
- **Increase renewable, zero-carbon, and/or low-carbon energy**
- **Reduce energy costs for residents and business owners**
- **Reduce or avoid utility system costs and increase local reliability**
- **Relieve constraints on the transmission and distribution systems**
- **Provides a variety of energy options to residential, commercial, and industrial customers as well as renters and low- and moderate-income customers**

## Challenges

- **Upfront costs may be prohibitive for residents and business owners, especially for low- and moderate-income households**
- **The installation of DERs may require upgrades to homes and businesses such as new electrical panels and/or structural improvements to the building**
- **Renters may not be able to install DERs since they do not own the building**
- **Multifamily residents (both renters and unit owners) face challenges in getting approval from property owners**
- **Reductions in utility revenues can result in cost shifts to non-participants**



## Q&A (10-15 minutes)



## Discussion Stations (60 minutes)

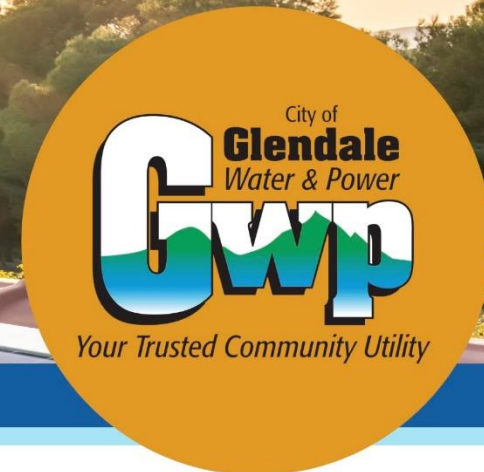
**Please visit a discussion station to learn more about the following topics:**

- **Understanding Barriers to DER Adoption**
- **Equity and Environmental Justice**
- **Affordability and Cost Shifts**
- **Commercial and Industrial DER Adoption**

Comment Cards are available at the check-in table for any unanswered questions or additional thoughts.

Each discussion station will have a dedicated staff member taking notes to capture your input.





# Closing Remarks and Future Engagement



**Thank you for attending today's community meeting!**  
We appreciate your participation and feedback to incorporate into the plan design phase.



**Please complete a comment card to ensure we have documented your thoughts, questions, or suggestions.**



**Please consider attending a future community meeting where we will present the plan's proposals and provide residents with the opportunity to ask questions and provide comments before the plan is finalized.**

- Wednesday, May 15<sup>th</sup>, 6-8pm  
at the Adult Recreation Center
- Thursday, May 30<sup>th</sup>, 6-8pm  
at Sparr Heights Community Center



**To view the most up-to-date meeting times and locations, or to learn more about the plan, visit the Glendale Water and Power website:**  
[GlendaleCA.gov/Solar-DER-Plan](http://GlendaleCA.gov/Solar-DER-Plan)



**Do you have additional questions?**  
Email GWP at [solar-der@glendaleca.gov](mailto:solar-der@glendaleca.gov)