

ABCWUA solar & renewable energy production

(existing, under development and proposed)



Albuquerque Bernalillo County
Water Utility Authority

Existing solar & renewable energy facilitates:

- South Valley Water Reclamation Plant:
 - 1 solar array
 - 2 biogas fueled engines
- San Juan Chama Water Treatment Plant:
 - 2 solar arrays

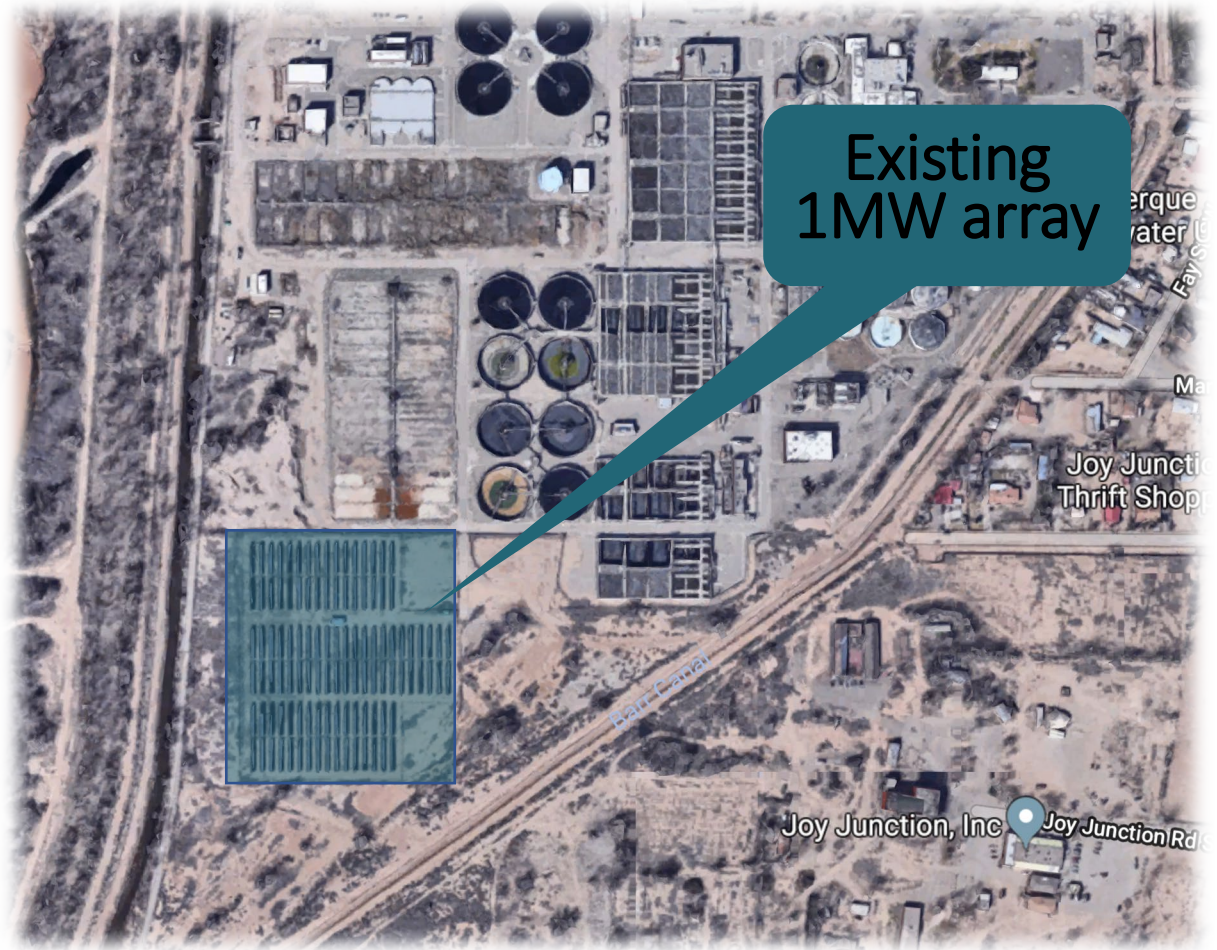


Albuquerque Bernalillo County
Water Utility Authority

South Valley Water Reclamation Plant

Total annual usage = 38,000,000kWh

- 1MW ground mount, single axis tracking solar array
 - Generates 6% of total usage
 - 20-year Power Purchase Agreement @ \$.054/kWh & 0% escalator, \$.087/kWh Renewable Energy Credit subsidy paid to owner from PNM (\$.141/kWh total to owner)
- 2 biogas fueled generators
 - 1.1MW each
 - Generates 19% of total usage with on-site biogas



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South Valley Water Reclamation Plant

Total annual usage = 36,000,000kWh



1 MW SWRP solar array

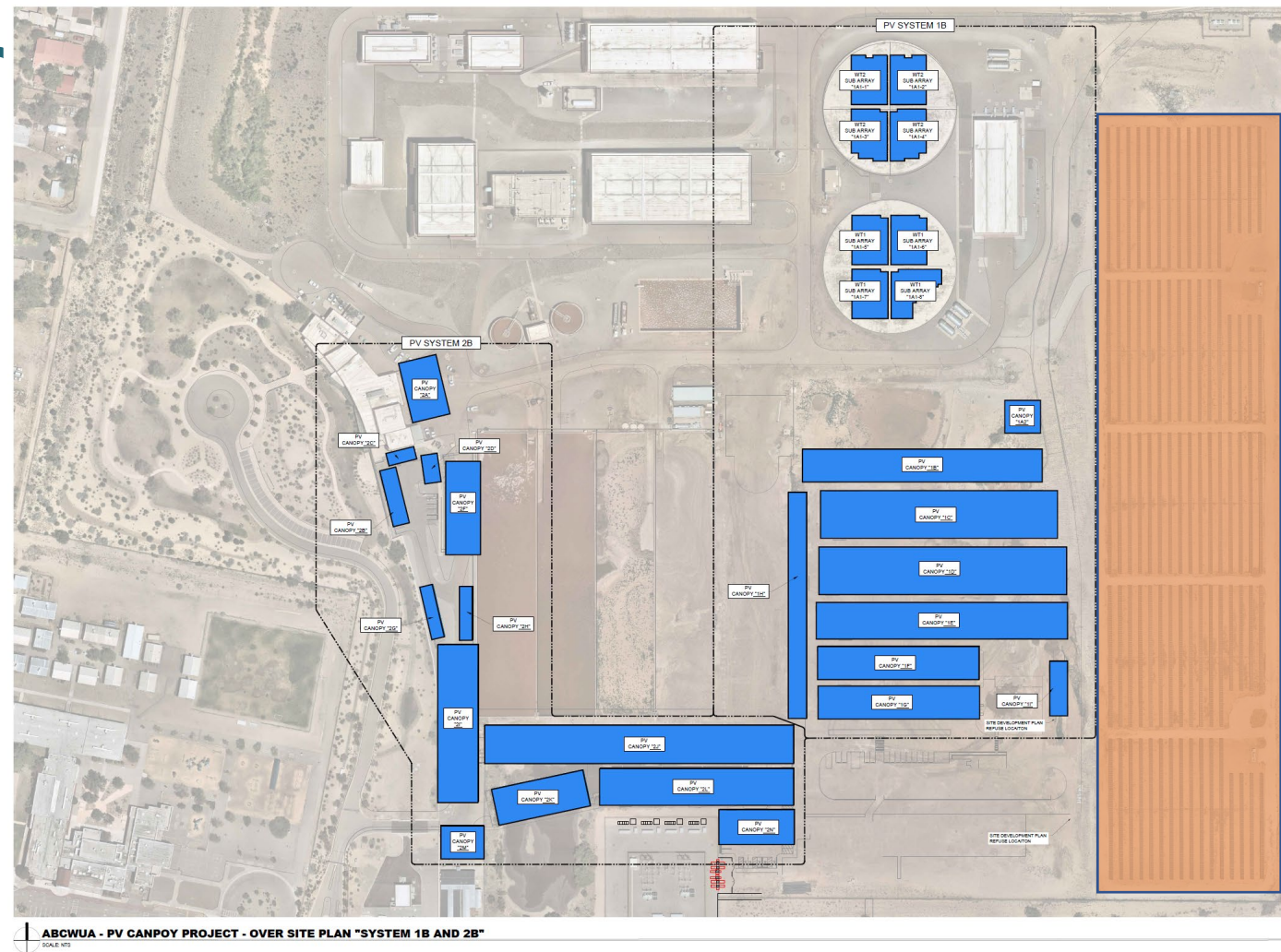


Biogas generators

San Juan Chama Water Treatment Plant

Total annual usage: 44,700,000kWh

- 1.9MW Single-axis ground mounted solar array
 - Generates 12% of total usage
 - 25-year Power Purchase Agreement @ \$.0775/kWh & 1.5% escalator
- 6.3MW Covered parking mounted solar array
 - Generates 24% of total usage
 - 30-year Power Purchase Agreement @ \$.057/kWh & 1.5% escalator
- Total solar generation = 36% of usage



San Juan Chama Water Treatment Plant

Total annual usage: 44,700,000kWh



1.9MW single axis tracking array



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San Juan Chama Water Treatment Plant

Total annual usage: 44,700,000kWh



6.3MW solar covered parking array



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Under development and proposed solar energy facilities:

- In planning stage:
 - Alameda Open Space Covered Parking
- Proposed projects:

	Facility	On-peak array sizing (kW)
4	ABCWUA VOLCANO PS&WP1&DELPS	619
5	ABCWUA GONZALES WELL #1	524
6	ABCWUA SANITARY LFT STA #20	511
7	ABCWUA SANITARY LFT STA #24	409
8	ABCWUA LEYENDECKER PS & W1	315
9	ABCWUA CHARLES WELLS PS & WP1	303
10	ABCWUA COLLEGE WELL #1	303
11	ABCWUA CORRALES TRUNK-WP1	298
12	ABCWUA CORONADO WP1 & RCOPS	222
13	ABCWUA GONZALES WELL #2	212
14	ABCWUA THOMAS PS&WP1	204
15	ABCWUA THOMAS WELL #5	168
	Subtotal =	4,087

Under development solar energy facilities:

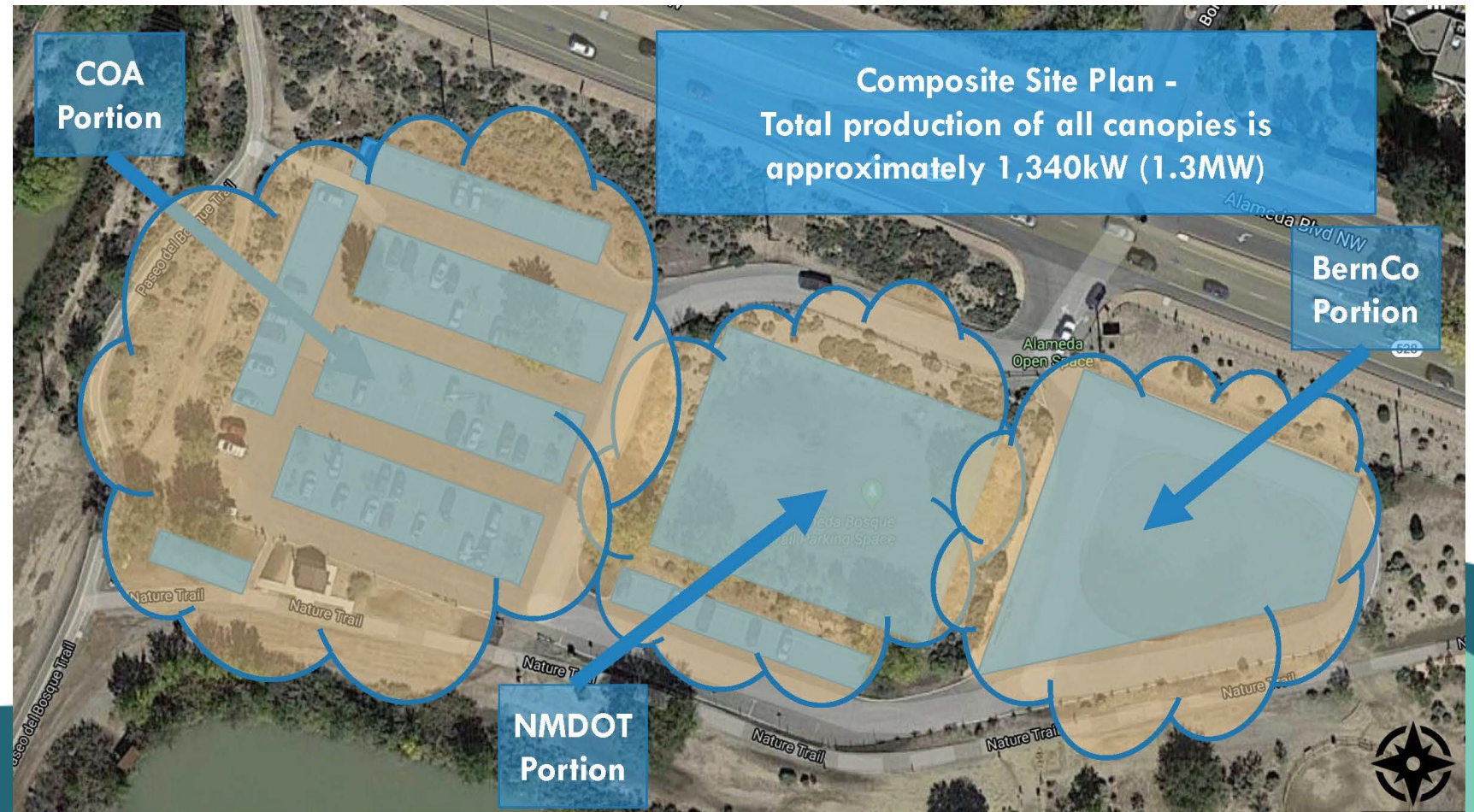
- Alameda Open Space Covered Parking – Joint project with Bernalillo County, NMDOT and City of Albuquerque
 - PROJECT BENEFITS:
 - SHADE FOR CARS AND PEOPLE ON HOT SUMMER DAYS
 - COVER FROM RAIN AND SNOW
 - LIGHTED PARKING AT NIGHT
 - LONG-TERM ENERGY COST SAVINGS FOR BERNALILLO COUNTY & CITY OF ALBUQUERQUE RESIDENTS
 - REDUCE THE RAW WATER PUMP STATION ENERGY BILL BY 50%
 - OFFSET 36% OF THE PUMP STATION ELECTRIC USAGE
 - SAVE CITY AND COUNTY RESIDENTS MONEY



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Under development solar energy facilities:

- Alameda Open Space Covered Parking



Proposed solar energy facilities:

- Proposed projects:

Facility		On-peak array sizing (kW)
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Subtotal =		4,087



Proposed solar energy facilities:

- Composite proposed projects have the potential to:
 - Provide 4 MW of additional solar energy generation to ABCWUA solar energy portfolio
 - Generate 7,000,000kWh of solar energy
 - Save \$420,000/year on ABCWUA electric energy bill
 - Not burn 1,720,000 pounds of coal or 210,000 gallons of gasoline
- With addition of the Alameda solar project
 - Water Authority will generate 17% of its own electrical usage
 - Adding the additional proposed solar will increase that to 21%



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Resiliency of using renewable energy:

- In-house renewable energy generation provides:
 - ✓ Independence from purchasing grid energy
 - ✓ Allows providing energy generation not consumed on-site back to the grid
 - ✓ Lowers electrical costs substantially
 - \$.18/kWh from grid vs \$.09/kWh from solar for 11B tariffs.



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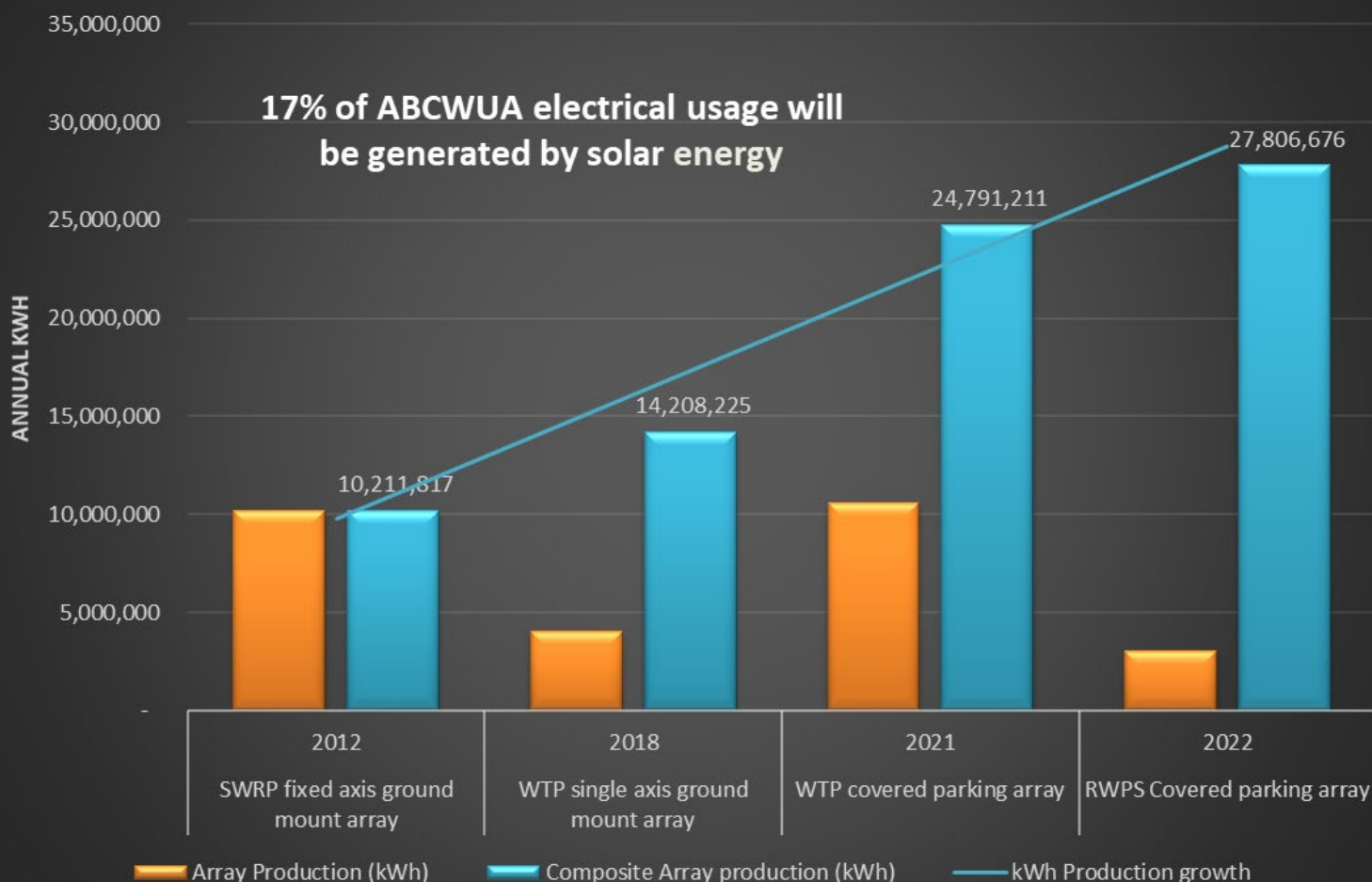
Resiliency of using renewable energy:



Current solar projects provide a **cost savings of \$1,970,000 per year**

Resiliency of using renewable energy:

ABCWUA Solar Array Interconnection Timeline



With completion
of the Alameda project in
2022

**17% of electrical usage
will be provided by solar**

Questions or comments?



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