City of El Paso Renewable Generation Study

OCTOBER 2021

Review of Study Deliverables

9.5(b)1 - The technical feasibility of integrating utility-scale renewable generation into EPE's utility system and the changes and impacts EPE's transmission and distribution system

9.5(b)2 - Possible costs and operational impacts related to the integration of utility-scale renewable generation into EPE's Texas service territory

9.5(b)3 - Legislative or regulatory changes, if any, that may be required to increase utility-scale renewable generation in EPE's Texas service territory and the legislative strategies necessary to implement such legislative or regulatory changes

9.5(b)4 - Potential voluntary renewable generation program offerings to allow customers to increase their use of renewable resources within the El Paso, TX city limits and EPE's Texas service territory

9.5(b)5 - Reasonable commitments that EPE can make to increase the integration of renewable generation in EPE's Texas generation portfolio

9.5(b)6 - Grant opportunities for EPE, the City, or both to increase the integration of renewable generation in EPE's Texas generation portfolio

9.5(b)7 - Potential renewable generation programs to assist with low-income assistance programs such as the Low-Income Home Energy Assistance Program or additional incentives for distributed generation

Items addressed in the technical study: 9.5(b)1, 9.5(b)2, 9.5(b)5

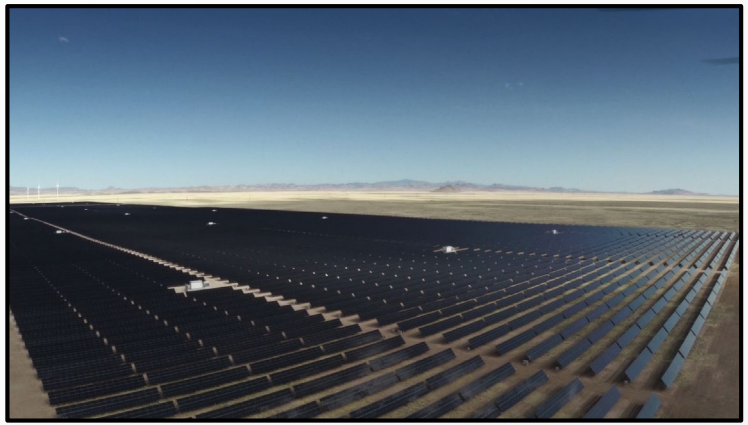
Legislative or Regulatory Changes - 9.5(b)3

- Technological improvements and price declines remove the need for legislative changes to increase renewable energy and battery storage
- A Renewable Portfolio Standard in Texas, for example, is no longer necessary as EPE established independent clean energy goals voluntarily

Proposed Dedicated Solar Plus Program (DSPP) - 9.5(b)4

- Partnership opportunity for the City of El Paso to partake in integrating more utility-scale solar
- A renewable energy supply alternative for educational, non-military governmental, large commercial, and industrial customers
- Program supplied by competitively procured utility-scale solar PV resources (estimated between 10 to 40 MW per facility)

- Current barriers to proceed:
  - securing land (approx. 80 acres)
  - procuring anchor customer



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Expand Community Solar / El Paso Airport - 9.5(b)4

- Evaluating building a 5 MW solar facility
  - 2 MW dedicated to El Paso Airport
  - 3 MW for expansion of Community Solar Program
- Consultant presented a site selection analysis to EPE and City of El Paso
- EPE working with El Paso Airport on land lease details and costs for potential site

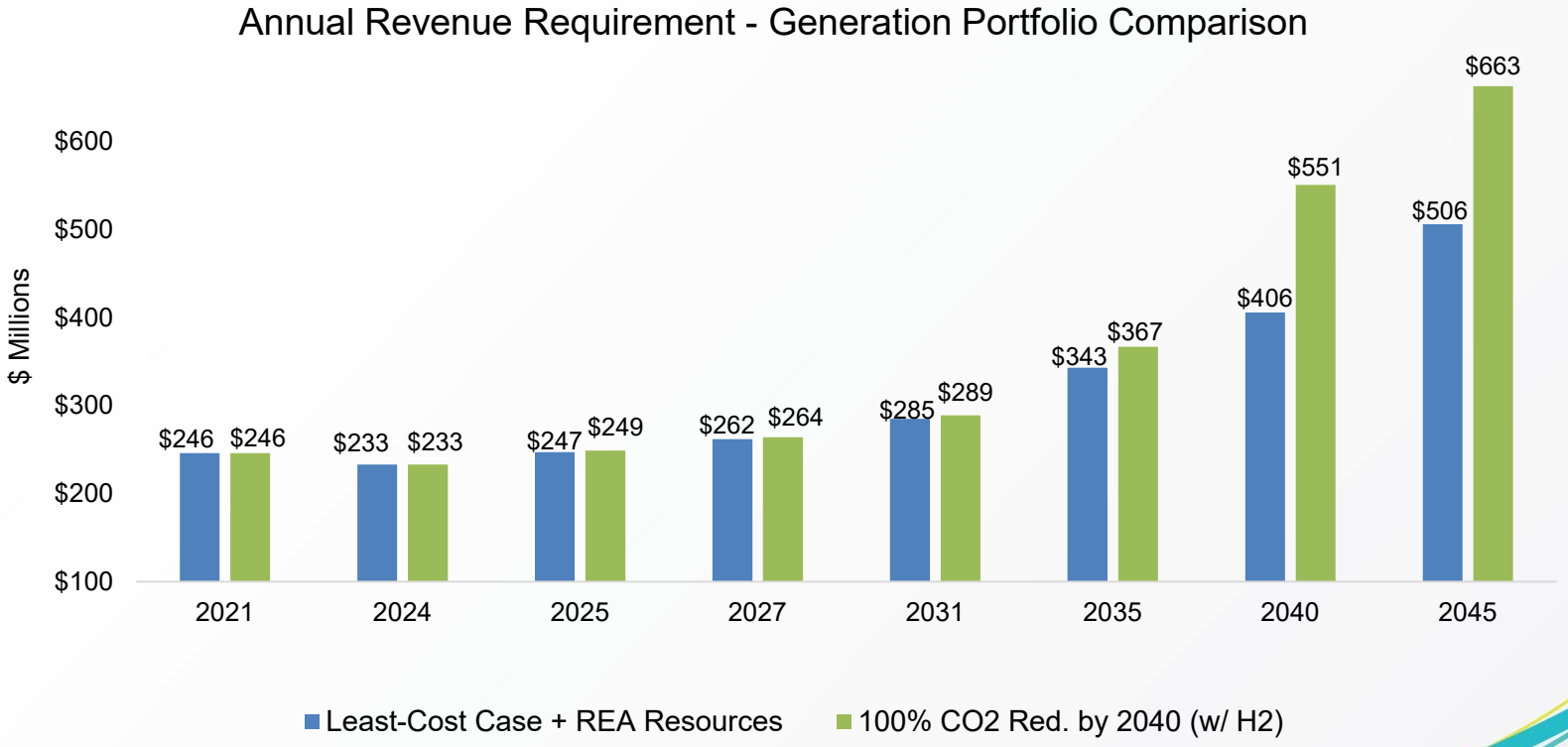
- To keep energy affordable, managing overall project costs is a priority

Clean Energy Goals - 9.5(b)5

El Paso Electric established carbon-free energy goals independent of the New Mexico Renewable Portfolio Standard and absent a requirement in Texas

Entity	Milestone 1	Milestone 2	100% Carbon-Free Requirement Mandated by the State
El Paso Electric	80% Carbon-free energy by 2035	100% decarbonization of generation portfolio by 2045	Texas - No
New Mexico Renewable Portfolio Standard	80% Carbon-free energy by 2040	100% carbon-free by 2045	Yes

Clean Energy Goals - 9.5(b)5



*Breakdown of capacity additions by resource type in Appendix

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Grant Opportunities - 9.5(b)6

Sec. 30483. Low-Income Solar-The Build Back Better Act invests $2.5 billion for planning and installing solar facilities and community solar projects that serve low-income households or multi-family housing complexes. Eligible community solar projects must reserve at least 50% of capacity for low-income households.

Sec. 30422. High-Efficiency Electric Home Rebate Program-The Build Back Better Act offers appliance and building efficiency and electrification rebates, including home energy efficiency retrofits, and conversion from inefficient fuel-burning furnaces, water heaters, dryers, and cooktops to efficient electric alternatives such as heat pumps and induction cooktops.

- Low-to-moderate income (LMI) households are eligible for higher rebates and more than 60 percent—$5.5B out of $9B electrification funds—are reserved for LMI and tribal households.

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Low-Income Assistance - 9.5(b)7

- Merger with IIF allocated $1 million to be paid in equal installments over 5 years to support enhancements to EPE's low-income energy efficiency programs
- The first payment of $200K was not spent in 2020 due to COVID
- August 2021 - EPE's EE met with the City's Sustainability Coordinator and Community and Human Development
- EPE and City of El Paso are working together on identifying projects and payment processes
- Energy Efficiency Enhancements:
  - Roofing, HVAC, evaporative coolers, ceiling insulation, windows

Clean Transportation - Partnership

- **Electric Vehicle Charging Stations – Partnership with City of El Paso**
  - 8/6/21: Walking tour of downtown scheduled by EPE with City of El Paso, Camino Real Regional Mobility Authority and Downtown Management District to identify sites
    - Pending El Paso's ADA requirements so EPE can begin design process on selected sites
  - 8/19/21: Presented to Uptown Benefit Parking District Advisory Committee to identify sites in Cincinnati District

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Clean Transportation - Partnership (cont.)

- **El Paso Airport Fleet**
  - September 2021: EPE prepared a Total Cost of Ownership Model (TCOM) for the Airport's fleet electrification
  - City's Community and Human Development Department will schedule a meeting between EPE and the Airport to present the TCOM study
  - EPE is prepared to assist the City with a TCOM, or any assistance requested, once it's ready to proceed with electrification of its fleet

APPENDIX

Capacity Additions	2021	2024	2025	2027	2031	2035	2040	2045
Least-Cost Case + REA Resources	46 MW Demand Response 18 MW Solar	228 MW Gas Combustion Turbine 270 MW Solar 50 MW Battery Storage 8 MW Demand Response 47 MW BTM Solar	203 MW Wind 159 MW Solar 126 MW Battery Storage 3 MW Demand Response 15 MW BTM Solar	1 MW Battery Storage 5 MW demand response 29 MW BTM Solar	251 MW Solar 283 MW Battery Storage 10 MW Demand Response 57 MW BTM Solar	141 MW Gas Combustion Turbine 689 MW Solar 607 MW Battery Storage 10 MW Demand Response 56 MW BTM Solar	134 MW Gas Combustion Turbine 28 MW Wind 306 MW Solar 179 MW Battery Storage 13 MW Demand Response 68 MW BTM Solar	108 MW Gas Combustion Turbine 69 MW Wind 624 MW Solar 487 MW Battery Storage 78 MW BTM Solar
100% CO2 Reduction by 2040 (w / H2)	46 MW Demand Response 18 MW Solar	228 MW Gas Combustion Turbine 270 MW Solar 50 MW Battery Storage 8 MW Demand Response 47 MW BTM Solar	282 MW Wind 127 MW Solar 126 MW Battery Storage 3 MW Demand Response 15 MW BTM Solar	1 MW Battery Storage 5 MW Demand Response 29 MW BTM Solar	413 MW Solar 268 MW Battery Storage 10 MW Demand Response 57 MW BTM Solar	20 MW Gas Combustion Turbine 946 MW Solar 940 MW Battery Storage 10 MW Demand Response 56 MW BTM Solar	400 MW Wind 629 MW Solar 570 MW Battery Storage 13 MW Demand Response 68 MW BTM Solar	14 MW Wind 1,055 MW Solar 891 MW Battery Storage 78 MW BTM Solar

- BTM Solar – Behind the Meter Solar, meaning that BTM Solar is produced behind a customer's meter (e.g., roof-top solar)
- Demand Response - Programs that ask consumers to lower their energy use during peak hours or events that limit the system's overall capacity