2025 Integrated Resource Plan – Statement of Need

The Commission's IRP Rule at 17.7.3.10 NMAC explains that a Statement of Need is "a "description and explanation of the amount and the types of new resources, including the technical characteristics of any proposed new resources, to be procured, expressed in terms of energy or capacity, necessary to reliably meet an identified level of electricity demand in the planning horizon and to effect state policies." The Rule further explains that:

> The statement of need shall not solely be based on projections of peak load. The need may be attributed to, but not limited by, incremental load growth, renewable energy customer programs, or replacement of existing resources, and may be defined in terms of meeting net capacity, providing reliability reserves, securing flexible resources, securing demand-side resources, securing renewable energy, expanding or modifying transmission or distribution grids, or securing energy storage as required to comply with resource requirements established by statute or commission decisions.

The current summer peak demand of EPE's New Mexico system is approximately 485 MW. EPE is experiencing a significant and growing demand for electricity in New Mexico, necessitating a substantial increase in its generating capacity over the 20-year planning period. EPE's load forecast projections clearly support this escalating need, which is consistent with recent national demand trends.

Given that the lead time for new generating resources and energy storage can span several years, it is crucial to assess EPE's needs over both the full planning period and a shorter, more immediate period. Therefore, EPE's statement of need will cover both the entire planning horizon and the period through 2030. This 2030 timeframe is the earliest EPE anticipates being able to feasibly procure and integrate new resources at a significant scale to meet customer demands.

Section IX Determination of the Resource Portfolio provides more detail on the results of the modeling that supports EPE's Statement of Need.

Understanding the Capacity Gap

Based on a conservative base load forecast, which is largely driven by expected commercial load growth, EPE's accredited capacity need in New Mexico is projected to be:

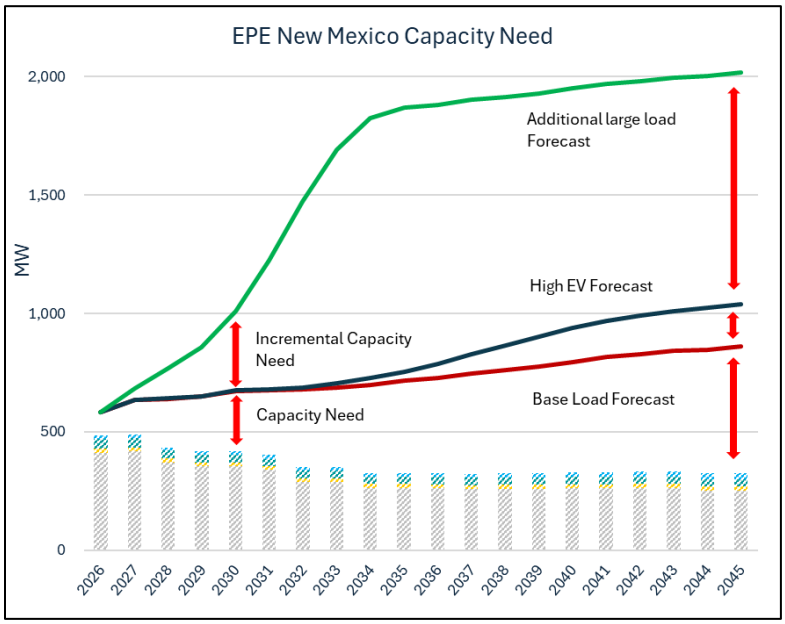
- 254 MW by 2030, and
- 537 MW by 2045

However, under more aggressive growth scenarios, which are described in more detail in **Section IX**, these needs escalate considerably:

- **Under the high electrification forecast:**
    - 257 MW by 2030
    - 713 MW by 2045
- **Under the additional large load customer forecast:**
    - 594 MW by 2030
    - 1,692 MW by 2045

Figure 1 below shows the capacity need for the three above-listed scenarios. *See* **Section IX Determination of the Resource Portfolio** for additional details.

Figure 1: EPE New Mexico Capacity Need



Generation Retirements

Another driver of EPE's resource need is the planned retirement of existing generation facilities. These retirements will create capacity and energy deficits that must be filled by new resources to ensure continued reliability and compliance with state renewable and carbon-free energy policies.

EPE anticipates the following generation retirements and decommissioning within the planning horizon:

- **Through 2030:** EPE projects the retirement and decommissioning of 220 MW of nameplate generation capacity. This planned decommissioning, driven by aging generation, will directly contribute to EPE's immediate need for new firm capacity and energy.

- **Through 2045:** An additional 779 MW, for a total of 999 MW, of nameplate generation capacity is expected to retire by 2045, necessitating replacement resources that meet evolving state requirements for carbon-free and reliable power.

Resources	Installed Capacity (MW)	New Mexico Installed Capacity (MW)	Accredited Capacity (MW)	New Mexico Accredited Capacity (MW)
Rio Grande 6*	43	9	39	8
Rio Grande 7*	43	9	39	8
Newman 1*	73	15	68	14
Newman 2	61	13	52	11
Total through 2030	220	45	198	40
Copper	63	11	59	11
Roadrunner Solar	20	20	4	4
Newman 3	90	16	84	15
Newman 4	220	40	191	35
Rio Grande 8	139	25	124	22
Macho Springs Solar	50	9	10	2
Hatch Solar	5	5	1	1
SunE1 Solar	10	10	2	2
SunE2 Solar	12	12	2	2
Buena Vista I Solar	100	19	20	4
Buena Vista I Battery	50	9	37	7
Buena Vista II Solar	20	20	4	4
Additional by 2045	779	196	538	108
Total Retirement through 2045	**999**	**241**	**736**	**148**

**Inactive reserves excluded from the IRP*

The cumulative impact of these retirements and decommissions on the available capacity of EPE's system underscores the need of procuring new, carbon-free, and reliable resources to maintain service to our customers.

Meeting New Mexico's Renewable and Carbon-Free Energy Goals

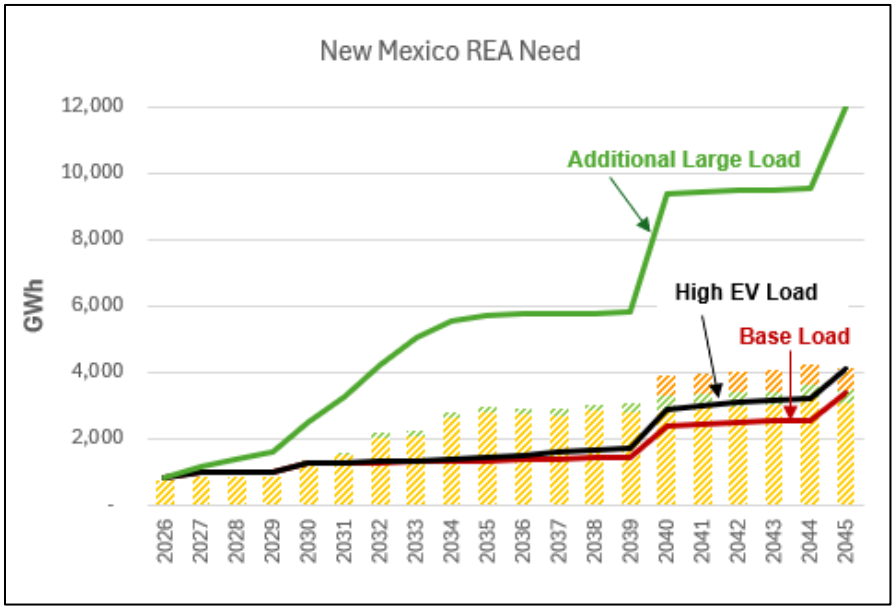
Beyond just meeting demand, EPE must meet New Mexico's Renewable Portfolio Standard ("RPS"). This means a significant portion of future energy must come from renewable sources. However, affordability and reliability considerations may act as a limitation to EPE's degree of compliance with the RPS over time.

Listed below is the additional renewable energy[1] (in GWh) EPE will need to procure:

- **Conservative Base Forecast:**
  - 412 GWh by 2030
  - 2,301 GWh by 2045
- **Under the high electrification forecast:**
  - 423 GWh by 2030
  - 3,048 GWh by 2045
- **Under the additional large-load customer forecast:**
  - 1,663 GWh by 2030
  - 10,919 GWh by 2045

Figure 2 below shows the capacity need of the three forecasts listed above.

Figure 2 : New Mexico REA Need

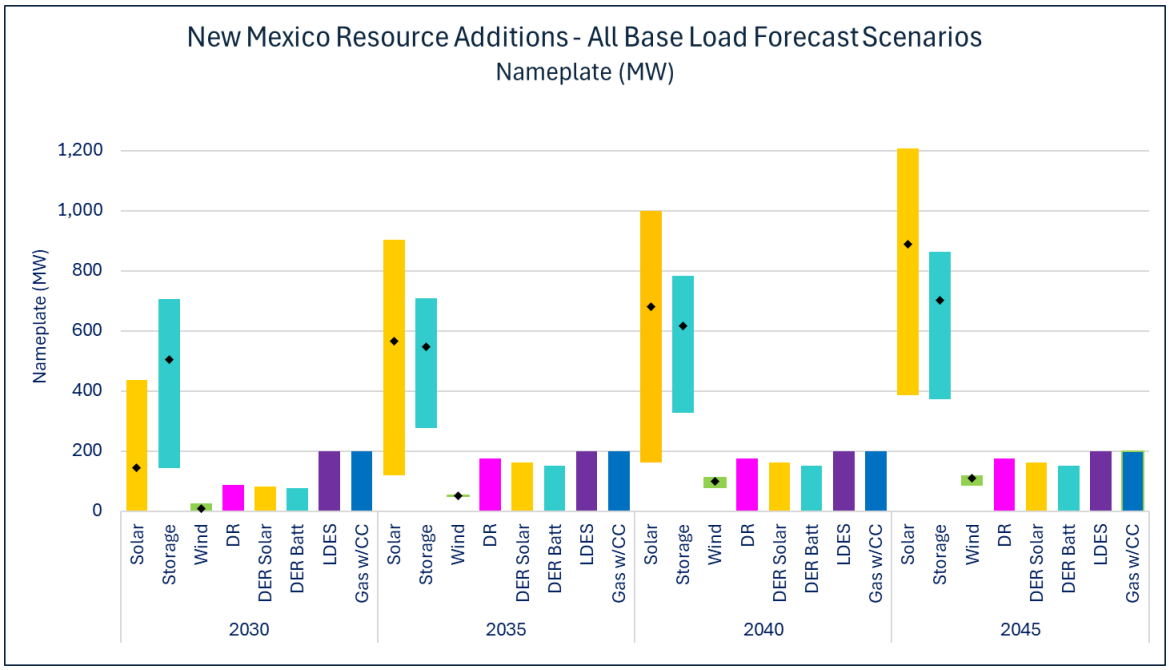


[1] Which we are discussing this in terms of renewable energy, note that the REA allows the additional compliant energy between 2040 and 2045 to be "carbon-free" and not specifically renewable.

Meeting the Need: A Blend of Renewables and Storage

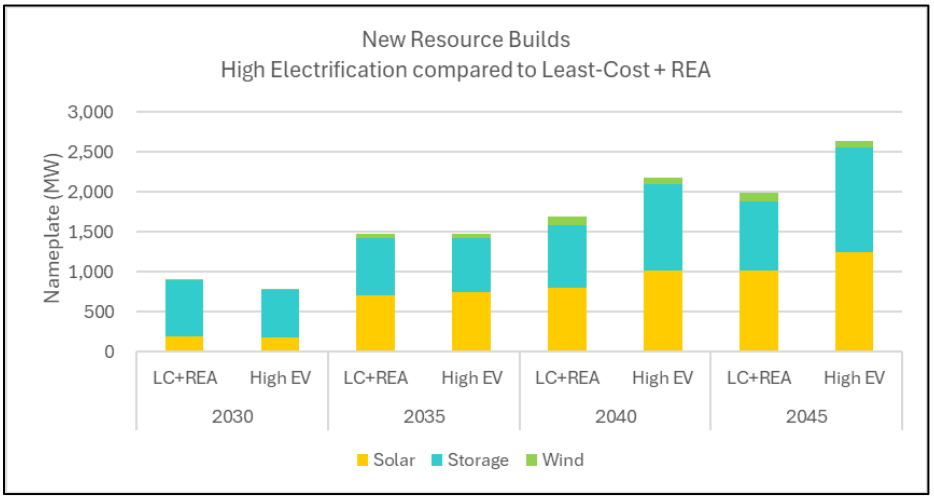
To bridge these capacity gaps and meet EPE's RPS obligations, EPE's robust modeling process points to strategically procuring a mix of renewable energy resources (*i.e.*, solar, wind) and dispatchable BESS. The charts below (**Figures 3** through **6**) visually represent the planned resource additions for each modeled scenario, with the aggregated totals summarized in the subsequent table.

Figure 3: Resource Additions under Conservative Base Load Forecast



This graph illustrates the steady, consistent build-out of new renewable energy resources and dispatchable BESS required to meet demand and RPS targets under EPE's most conservative load projections. Although, there is a significant initial ramp-up of solar and storage to address immediate needs, it is worth noting these results are based on generic cost assumptions. The results from a competitive procurement may provide a more balanced selection between wind and solar.

Figure 4: Resource Additions under High Electrification Load Forecast



As depicted in **Figure 4**, the higher growth trajectory of the High Electrification Load Forecast necessitates an accelerated and larger scale of resource deployment. This scenario shows an increased rate of additions across all three resource types, particularly in the later years of the planning horizon, to keep pace with the more aggressive demand growth.

Figure 5: Resource Additions under Additional Large Load Customers Load Forecast

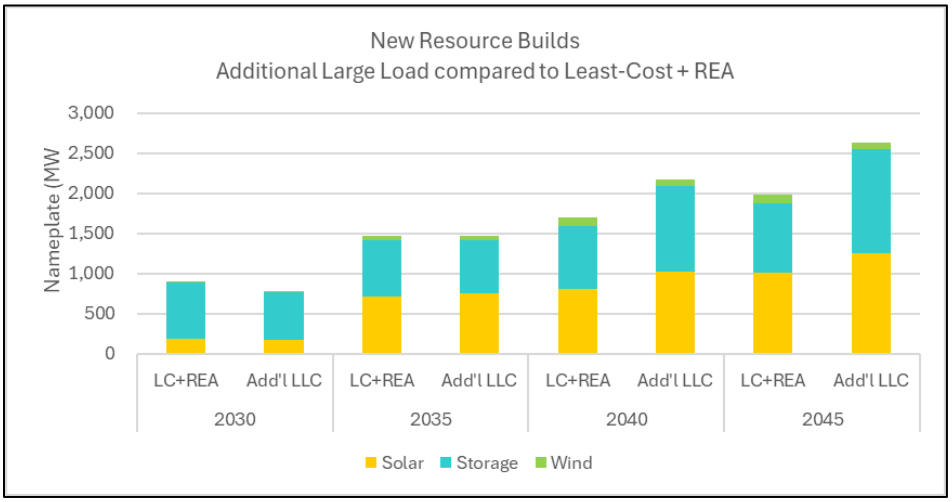


Figure 5 demonstrates the most aggressive resource build-out. Under the Additional Large Load Customers Load Forecast, the need for new capacity and energy is significantly higher, leading to the most substantial and rapid deployment of solar, wind, and BESS across the planning period.

This highlights the importance of timely procurement and development under high-growth conditions.

Figure 6: Aggregate Resource Additions for New Mexico

Resource Type	By 2030	By 2045
Renewable	28 MW to 462 MW	472 MW to 1,329 MW
Storage	142 MW to 705 MW	372 MW to 863 MW

These new renewable energy resources are projected to deliver substantial renewable energy to our New Mexico retail customers:

- **By 2030: 412 GWh** of renewable energy.
- **By 2045:** Growing to **2,301 GWh** annually.

Because solar resources are exceptionally strong in the region, EPE's modeling consistently prioritizes adding more solar capacity over new wind generation. This trend is shifting EPE's critical reliability periods - the times when customer demands on the system are greatest - from the traditional system peak to later in the day. As a result, it is crucial to integrate dispatchable resources to maintain reliable service, and given New Mexico's 2045 carbon-free requirement, these dispatchable resources must also be carbon-free.

Critical for Reliability: Battery Energy Storage (4-hour nameplate MW)

To ensure grid stability and reliability as EPE integrates more renewables, EPE also requires significant battery energy storage:

- **By 2030:** An additional **142 MW to 705 MW**

- **By 2045:** Increasing to between **372 MW and 863 MW**

It is worth noting that EPE's modeling consistently favored 4-hour battery energy storage resources, even as their ELCC value declined. As EPE moves into the implementation phase of its IRP, it is possible that longer-duration energy storage solutions, such as 8-hour battery energy storage, could be selected. Opting for these longer-duration resources could, in turn, reduce the total nameplate capacity of storage required while providing equivalent or enhanced reliability.

Demand-Side Alternatives

Continuing to rely solely on adding more renewable energy resources and relatively short-duration dispatchable energy storage could become increasingly cost-prohibitive. Much of our extensive public stakeholder engagement process therefore focused on the potential for demand-side solutions. These include strategies like demand response programs, the integration of distributed energy resources, and rate- solutions such as time-of-use rates. EPE evaluated the following demand-side alternative solutions allocated evenly between New Mexico and Texas:

- **100 MW** of C&I demand response
- A DER solution consisting of:
    - **30 MW** of 8-hour BESS
    - **325 MW** of residential rooftop solar
    - **350 MW** of demand response
- Mandatory Time-of-Use rates for residential customers.

The inclusion of these demand-side alternative solutions results in fewer supply-side resources being required. This is reflected in the ranges shown above in **Figure 3**. As described in the Action Plan, EPE's future RFP will consider both supply side and demand side solutions.

Detailed results of EPE's modeling regarding these approaches are described in **Section IX** of EPE's IRP document. EPE's intended next steps for implementing demand-side solutions are outlined in the Action Plan. Ultimately, the successful adoption of additional demand-side solutions could significantly reduce the amount of solar and short-duration energy resources EPE needs to procure.

The Evolving Landscape of Emerging Technologies

It is also important to recognize that this statement of need will likely evolve in subsequent IRPs due to the ongoing development of new and exciting emerging technologies. EPE's modeling clearly indicates a need for carbon-free, affordable, and dispatchable resources to ensure reliability and complement its increasing renewable generation fleet. It is probable that a portion of this future need will be met by technologies that were not selected as part of the most cost-effective portfolio of resources in this particular modeling effort. On this point, note again that the REA allows the 2045 goal to be "carbon-free" energy. The energy landscape is dynamic, and future innovations will undoubtedly play a crucial role in shaping our resource plans. As described in **Section IX** of EPE's IRP Report, EPE evaluated scenarios that included:

- **200 MW** of 100-hour iron-air long duration energy storage
- **200 MW** of CC with carbon capture.

The inclusion of these emerging technologies results in fewer supply-side resources being required. This is reflected in the ranges shown above in **Figure 3**. As described in the Action Plan, EPE's future RFP will consider emerging technologies as it is planned to be an all-source RFP.