SOUTHWESTERN PUBLIC SERVICE COMPANY
2023 New Mexico Integrated Resource Plan

February 15, 2024

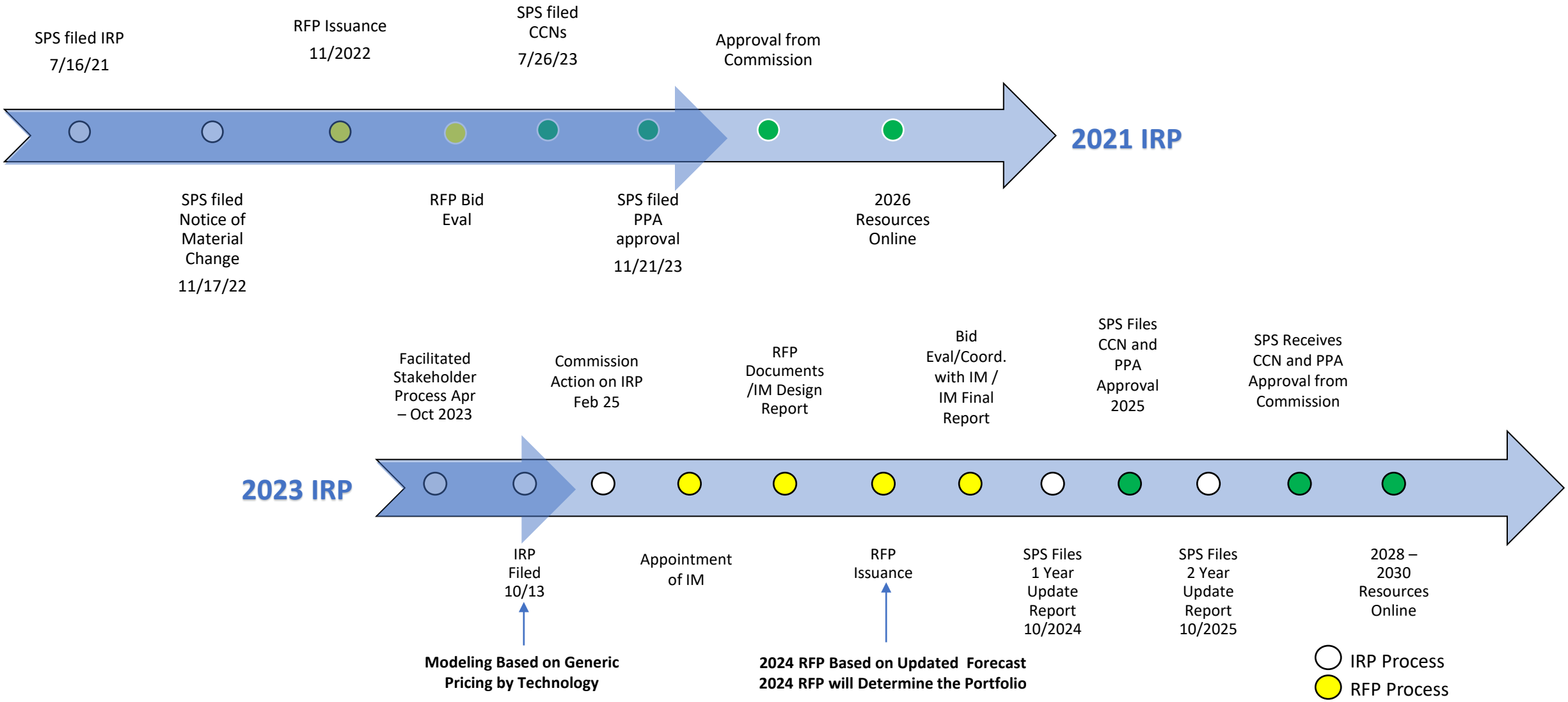
INTRODUCTIONS

Zoë Lees| Regional VP, Regulatory Policy
Ben Elsey | Director, Resource Planning & Bidding
John Goodenough | Director, Energy & Demand Forecasting
Jarred Cooley | Director, Strategic Planning

AGENDA

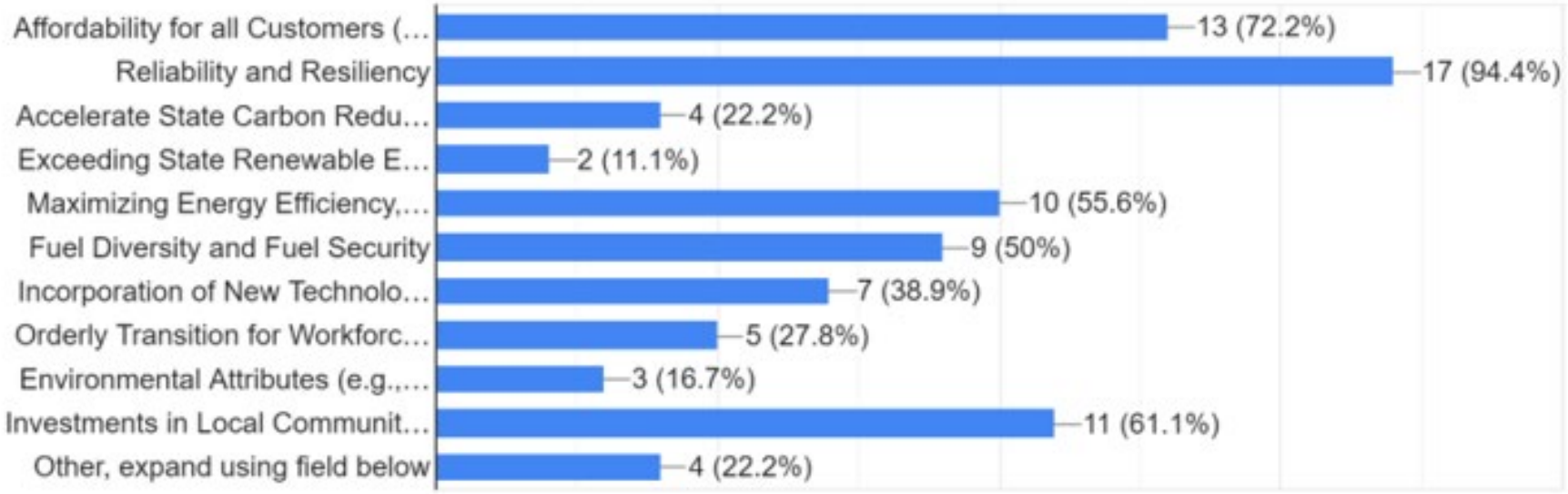
- Value of Stakeholder Process and Outcomes Achieved
- Load Forecasting to Determine Resource Needs
- Modeling and Determination of Statement of Need
- Action Plan
- Next Steps

IRP and RFP Process



Facilitated Stakeholder Engagement Process

- Eight Stakeholder Meetings, including in-person meetings in Roswell and Hobbs
- 78 Organizations Represented
- Additional Interim Meetings – Modeling Working Group & Statement of Need Working Group
- During the August 1-2 meeting, Gridworks deployed a survey for stakeholders to submit priority needs. Results are below.



Statement of Need
Objectives

Building on input during the stakeholder process, SPS's objective in this IRP is to lay the groundwork for a portfolio of resources that:

- Maintains reliability and resiliency
- Meets the RPS requirements to the best of ability while considering affordability and system reliability
- Supports projected load growth and secure replacement energy and capacity for retiring resources
- Furthers diverse economic development in the state
- Meets evolving resource adequacy requirements
- Prioritizes affordability for all SPS customers, including residential and low-income customers, as the system transitions
- Provides a just and orderly transition for workforce, customers, and communities, including consideration of replacement generation in communities affected by accelerated retirements.
- Engages customers to help the utility reliably serve during grid constrained events

Statement of Need

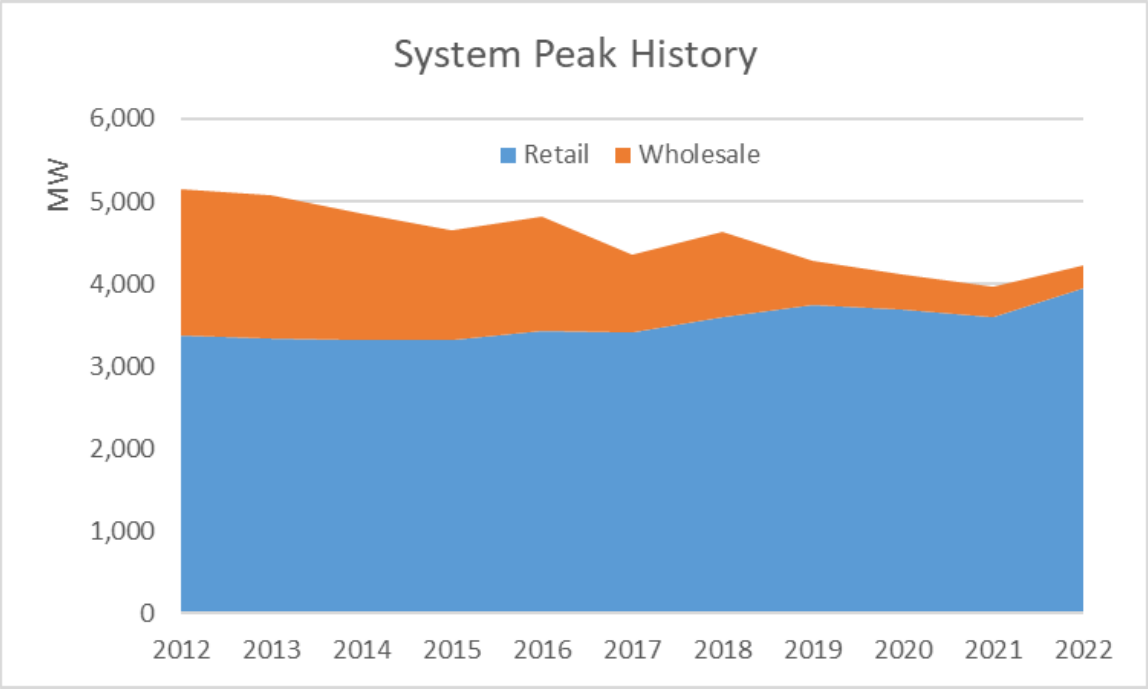
Resource Needs through the Planning Period (2028 – 2043) range from 12,595 MW to 23,610 MW, depending on planning assumptions

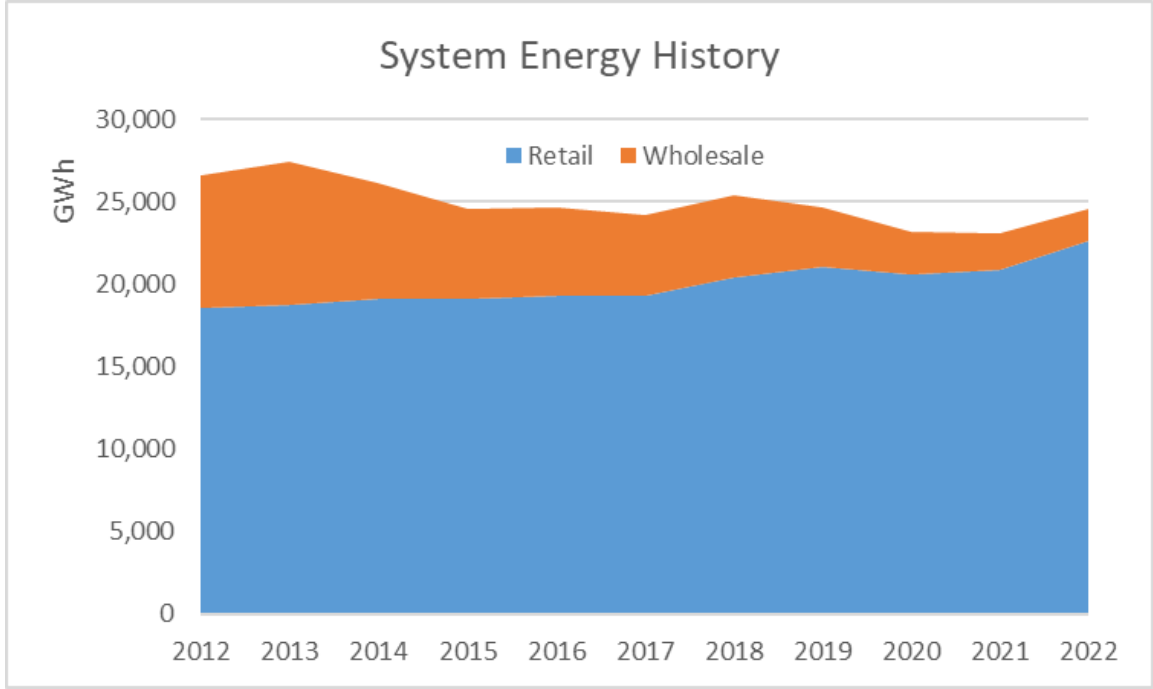
Resource Needs Near Term (2028 – 2030) range from 5,324 MW to 10,211 MW, depending on planning assumptions

- **Load Forecasts:**
    1. **Planning**
    2. **Electrification and emerging technologies**
    3. **Financial**

- Technology Cases:
    1. Multi-jurisdictional Baseline (“MJB”),
    2. Existing Commercially Available Carbon Free Dispatchable Technology Resources (“ET”),
    3. Long Duration Storage,
    4. Gas-to-hydrogen Conversion

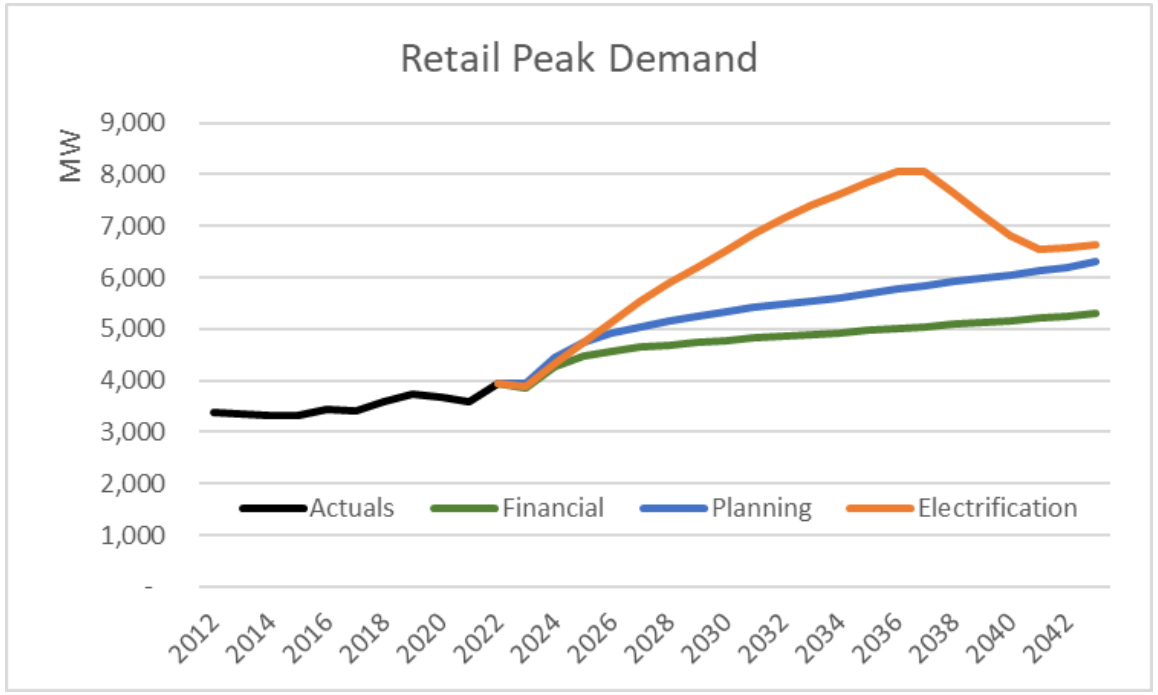
Recent Load Trends

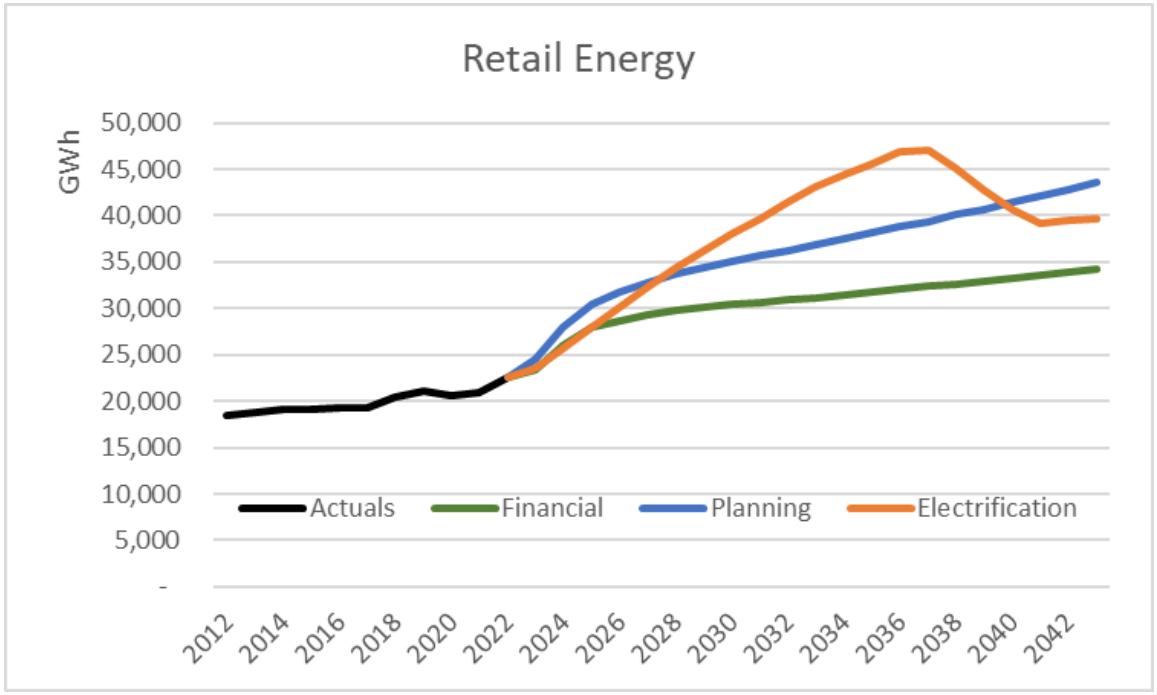




- System Peaks and Energy driven lower by loss of Wholesale load, Retail load has been increasing
- Wholesale load is expected to be zero by mid-2026
- Retail load growth is the focus of this IRP

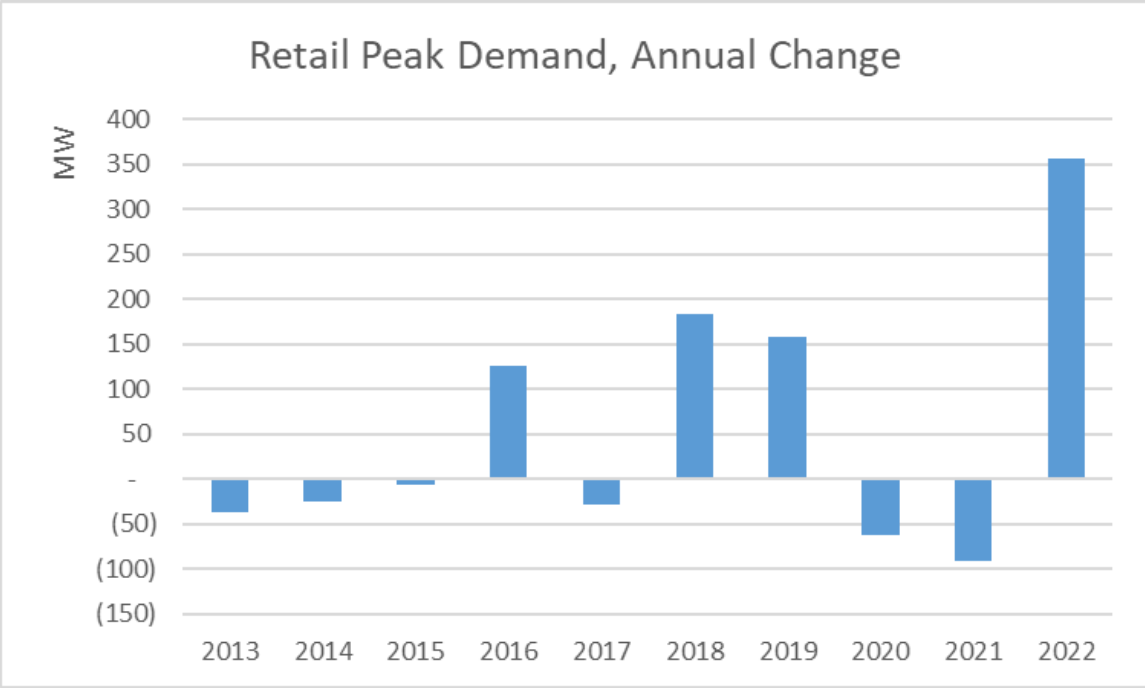
Retail Load Forecast

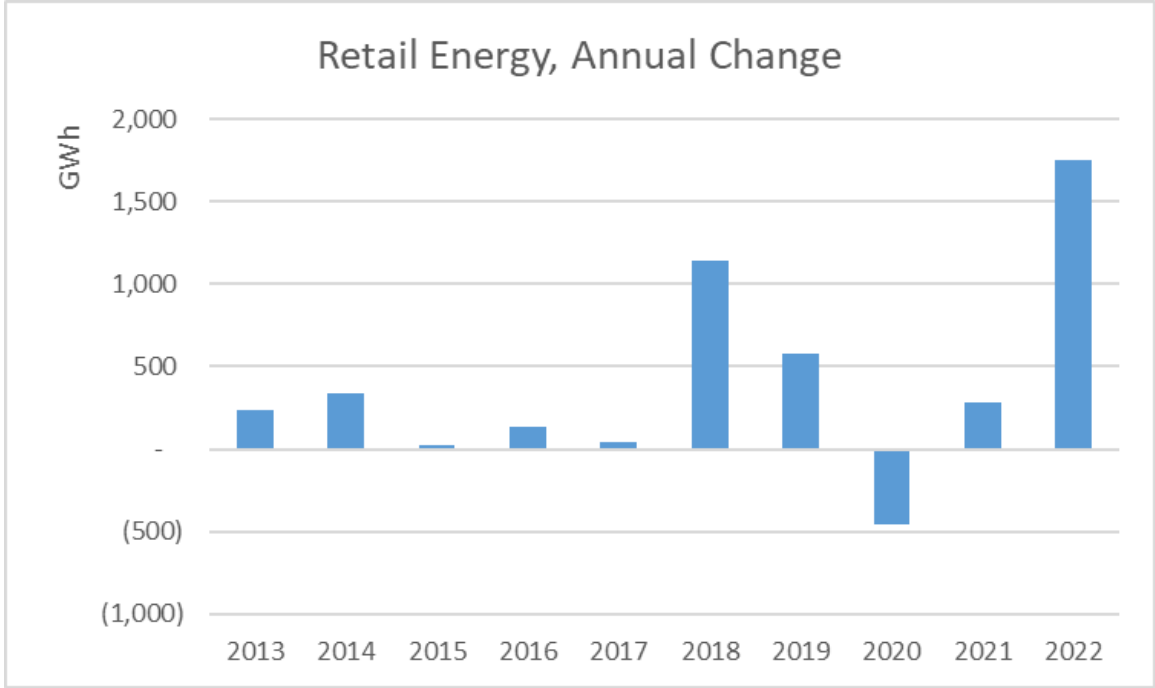




- Financial Forecast: Conservative outlook. Includes near-term customer requests deemed highly probable (>80%).
- Planning Forecast: Based on 85th percentile of probability distribution around financial forecast. Follows similar pattern with strongest growth mostly in the near-term.
- Electrification Forecast: Based on S&P Global study "Electrifying the Permian Basin"

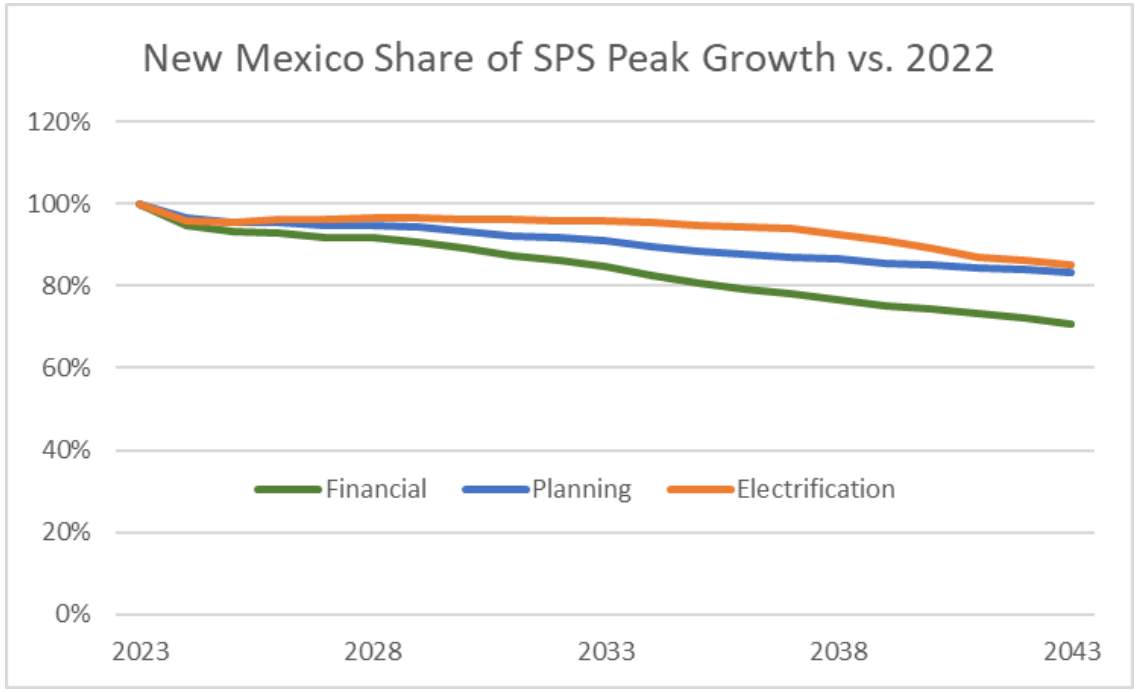
Changing Nature of Load Growth

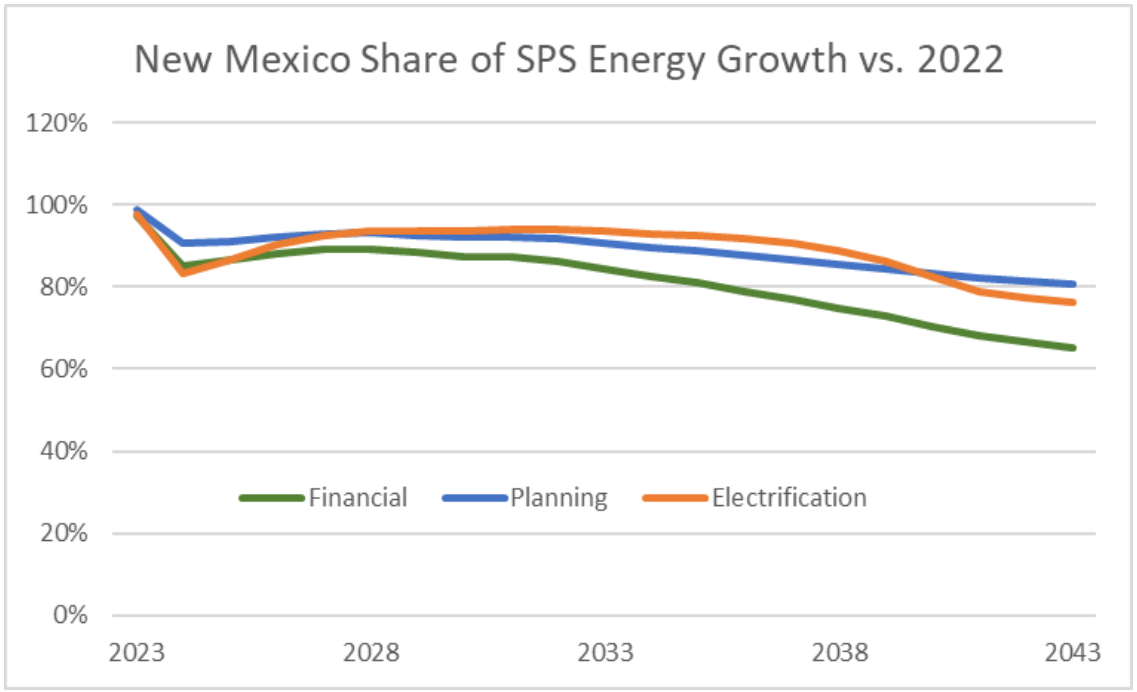




- Retail Peak Demand and Retail Energy have shown substantial year-over-year growth 3 out of the past 5 years
  - Years with slower growth impacted by low oil prices
- Customer Requests for additional load outpacing historical trends
- S&P Global study indicates 5.3 GW of additional load in SPP (~4 GW in SPS territory) by 2032 due to electrification

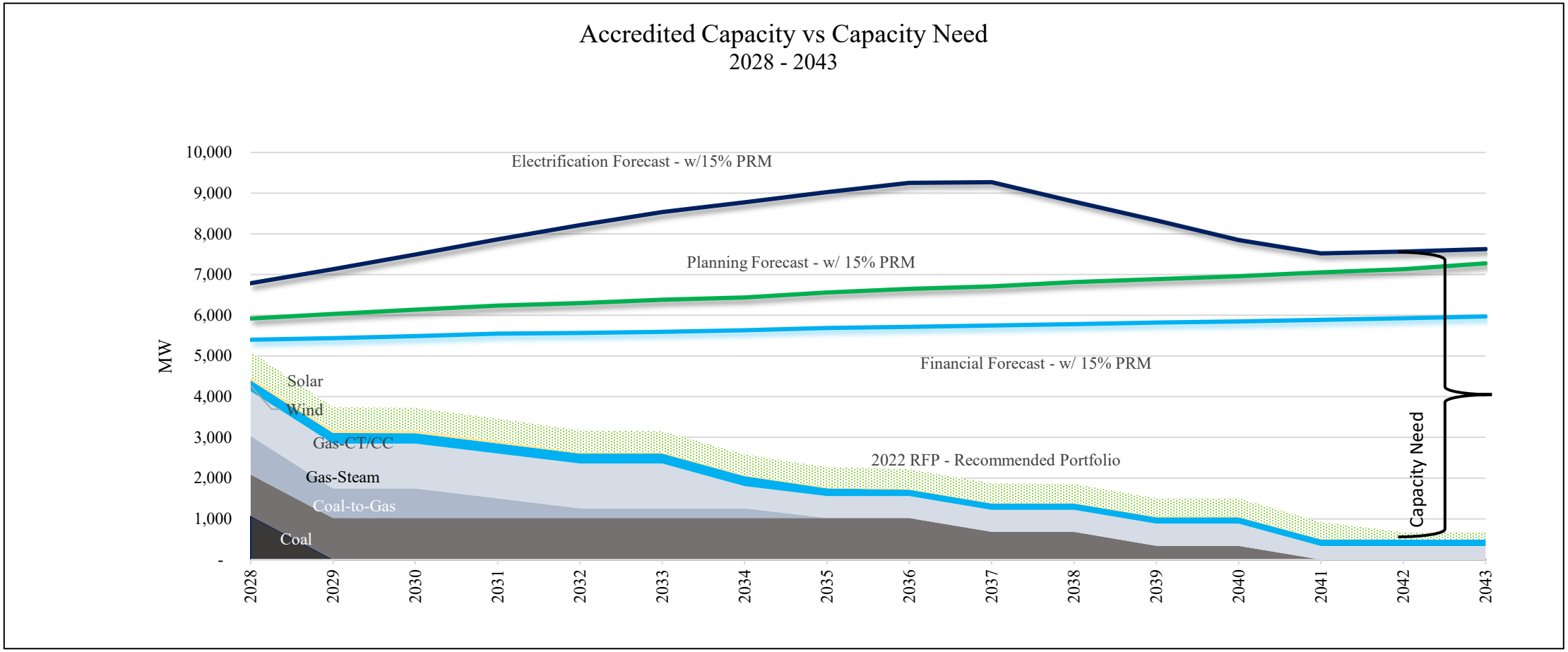
Growth Primarily in New Mexico in all Scenarios





- Retail Peak and Energy growth mainly in the New Mexico portion of the SPS service territory
- Driven by growth and electrification in SE New Mexico

Load Forecast



Statement of Need

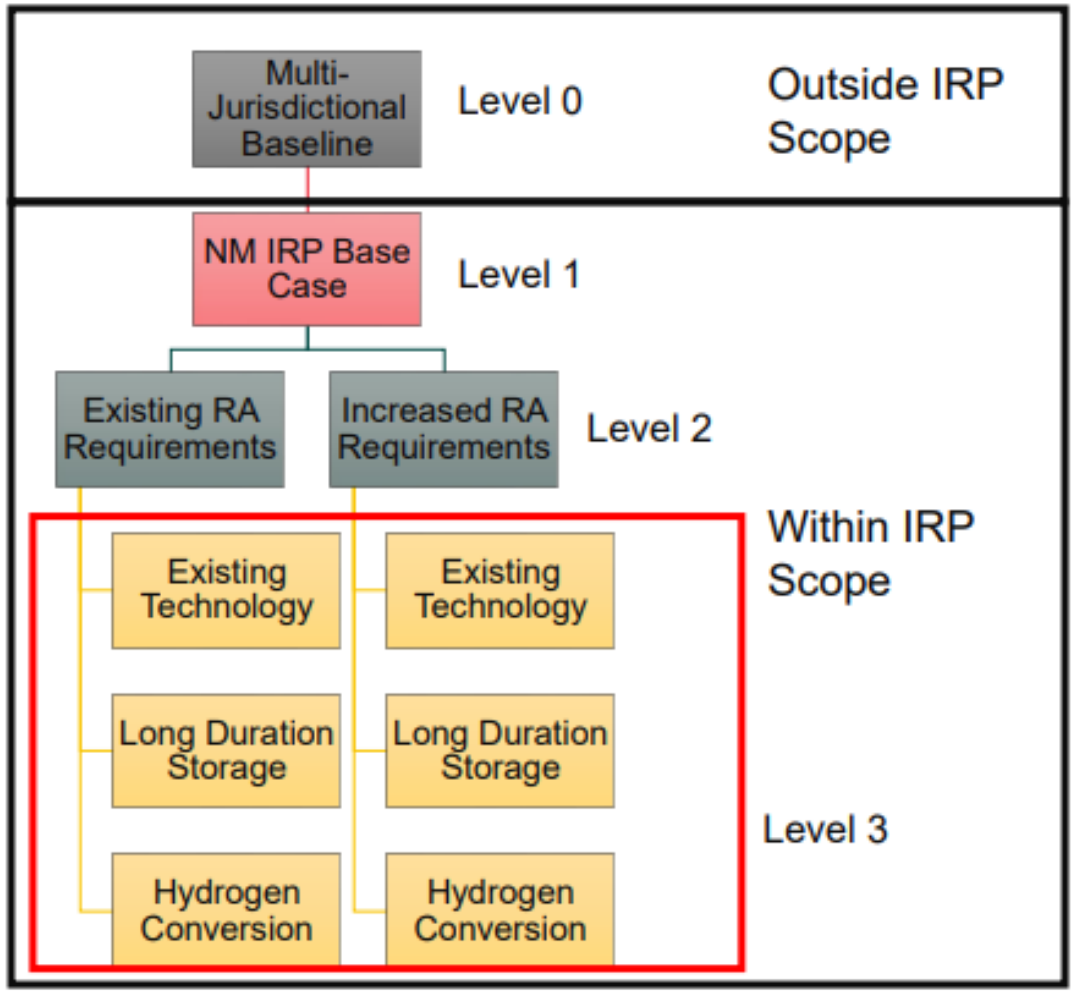
Resource Needs through the Planning Period (2028 – 2043) range from 12,595 MW to 23,610 MW, depending on planning assumptions

Resource Needs Near Term (2028 – 2030) range from 5,324 MW to 10,211 MW, depending on planning assumptions

- Load Forecasts:
    1. Planning
    2. Electrification and emerging technologies
    3. Financial

- **Technology Cases:**
    1. **Multi-jurisdictional Baseline (“MJB”),**
    2. **Existing Commercially Available Carbon Free Dispatchable Technology Resources (“ET”),**
    3. **Long Duration Storage,**
    4. **Gas-to-hydrogen Conversion**

SPS – Modeling Hierarchy



Existing Technology
Modeling will not include any new gas generation. The only new supply-side generating resources available for selection will be solar, wind, and 4-, 6-, and 8-hour lithium-ion battery energy storage systems ("BESS")

Long Duration Storage
As existing technology, plus addition of 100-hour long duration BESS

Hydrogen Conversion
Allow new firm and dispatchable gas generation assuming conversion to 100% hydrogen before 2040

Statement of Need – Planning Period

	Resources Added 2028-2043 (Nameplate Capacity)							
	Dispatchable				Variable Energy Resources			
	Firm Peaking	CC	Storage	Sub Total	Wind	Solar	Sub Total	Grand Total
Financial Forecast								
Multi-Jurisdictional Baseline*	4,666	-	130	**4,796**	4,740	3,059	**7,799**	**12,595**
Existing Technologies	-	-	7,960	**7,960**	7,720	2,769	**10,489**	**18,449**
Long Duration Storage	-	-	4,470	**4,470**	8,140	2,839	**10,979**	**15,449**
Hydrogen Conversion	933	837	4,710	**6,480**	7,080	2,769	**9,849**	**16,329**
Planning Forecast								
Multi-Jurisdictional Baseline*	4,899	837	390	**6,126**	6,120	4,209	**10,329**	**16,455**
Existing Technologies	-	-	10,390	**10,390**	9,840	2,769	**12,609**	**22,999**
Long Duration Storage	-	-	6,000	**6,000**	10,210	3,649	**13,859**	**19,859**
Hydrogen Conversion	933	837	7,090	**8,860**	9,640	2,799	**12,439**	**21,299**
Electrification & Emerging Technologies								
Multi-Jurisdictional Baseline*	3,500	2,511	570	**6,580**	5,700	3,869	**9,569**	**16,149**
Existing Technologies	-	-	11,200	**11,200**	8,730	3,680	**12,410**	**23,610**
Long Duration Storage	-	-	6,530	**6,530**	9,080	4,759	**13,839**	**20,369**
Hydrogen Conversion	933	837	8,140	**9,910**	8,740	2,750	**11,490**	**21,400**

**Multi-jurisdictional baseline provides information for SPS's other jurisdictions and does not incorporate New Mexico's Energy Transition Act. ET, LDS, HC as shown in this table are all NM ETA compliant.*

Statement of Need – 2030 Resource Needs

	Resources Added 2028-2030 (Nameplate Capacity)							
	Dispatchable				Variable Energy Resources			
	Firm Peaking	CC	Storage	Total	Wind	Solar	Total	Grand Total
Financial Forecast								
15% PRM								
Multi-Jurisdictional Baseline*	933	-	130	**1,063**	3,390	1,021	**4,411**	**5,474**
Existing Technologies	-	-	1,380	**1,380**	3,500	1,021	**4,521**	**5,901**
Long Duration Storage	-	-	1,280	**1,280**	3,500	1,091	**4,591**	**5,871**
Hydrogen Conversion	933	-	110	**1,043**	3,250	1,021	**4,271**	**5,314**
18%/20% PRM								
Existing Technologies	-	-	1,670	**1,670**	3,500	1,021	**4,521**	**6,191**
Long Duration Storage	-	-	1,540	**1,540**	3,500	1,091	**4,591**	**6,131**
Hydrogen Conversion	933	-	410	**1,343**	3,500	1,021	**4,521**	**5,864**
Planning Forecast								
15% PRM								
Multi-Jurisdictional Baseline*	700	837	100	**1,637**	3,500	1,301	**4,801**	**6,438**
Existing Technologies	-	-	2,220	**2,220**	3,500	1,021	**4,521**	**6,741**
Long Duration Storage	-	-	1,980	**1,980**	3,500	1,831	**5,331**	**7,311**
Hydrogen Conversion	933	837	170	**1,940**	3,500	1,051	**4,551**	**6,491**
18%/20% PRM								
Existing Technologies	-	-	2,530	**2,530**	3,500	1,021	**4,521**	**7,051**
Long Duration Storage	-	-	2,310	**2,310**	3,500	1,771	**5,271**	**7,581**
Hydrogen Conversion	933	837	360	**2,130**	3,500	1,021	**4,521**	**6,651**
Electrification & Emerging Technologies								
15% PRM								
Multi-Jurisdictional Baseline*	933	2,511	10	**3,454**	3,500	1,211	**4,711**	**8,165**
Existing Technologies	-	-	3,810	**3,810**	3,500	2,271	**5,771**	**9,581**
Long Duration Storage	-	-	3,260	**3,260**	3,500	3,011	**6,511**	**9,771**
Hydrogen Conversion	933	837	1,580	**3,350**	3,500	1,341	**4,841**	**8,191**
18%/20% PRM								
Existing Technologies	-	-	4,290	**4,290**	3,500	2,371	**5,871**	**10,161**
Long Duration Storage	-	-	3,580	**3,580**	3,500	3,131	**6,631**	**10,211**
Hydrogen Conversion	933	837	1,990	**3,760**	3,500	1,021	**4,521**	**8,281**

**Multi-jurisdictional baseline provides information for SPS's other jurisdictions and does not incorporate New Mexico's Energy Transition Act. ET, LDS, HC as shown in this table are all NM ETA compliant.*

Action Plan

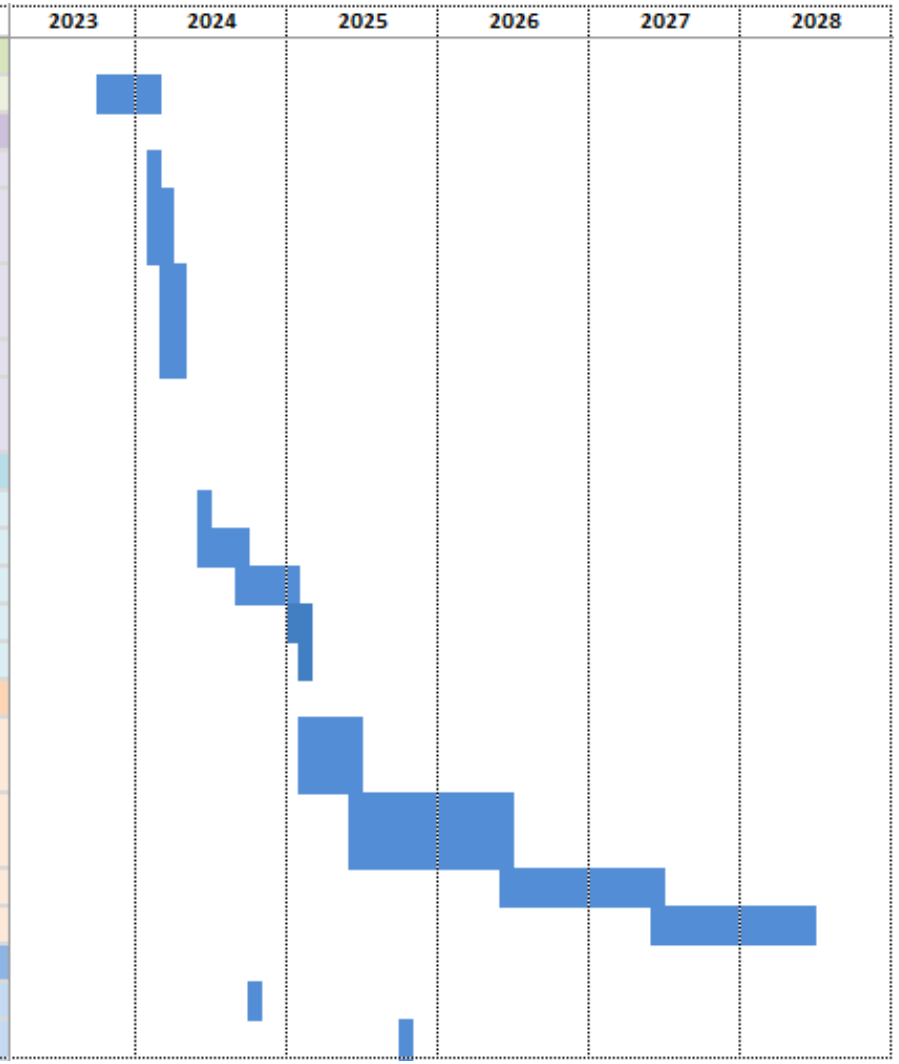
- RFP within 5 months of Commission Action
- SPS commits to evaluating the cost-effectiveness of extending the life of its gas-steam units as potential resources for comparison against received bids
- Following the completion of the RFP process, SPS will file applications for generation CCNs and PPA pre-approvals
- SPS will also be advancing its efforts to build its renewable energy customer programs.

Through the stakeholder process, SPS and stakeholders developed a list of mutually supported items to include in the Action Plan. In addition to the general steps described above, SPS and stakeholders agree that SPS will:

- Evaluate existing generation life extensions for SPS-owned units as discussed above;
- Evaluate Demand Response options, including the Interruptible Credit Option, and request regulatory approval where appropriate;
- Include an interruptible tariff request in Energy Efficiency Reconciliation filing;
- Evaluate Renewable*Connect expansion as discussed above;
- Conduct a TOU study according to the rate case stipulation in Case No. 22-00286-UT.
- Develop and issue an RFI for long-lead time emerging dispatchable resources ahead of next IRP cycle; and
- Develop RFP bid evaluation documents that include appropriate reliability and resiliency assessments.

Illustrative Timeline

TASK	START	END
Integrated Resource Plan Filing & Subsequent Processes		
Deadline for Commission to Act on Filed IRP	October 13, 2023	February 25, 2024
Independent Monitor		
Commission Appoints Independent Monitor	February 25, 2024	February 28, 2024
SPS Provides Parties with RFP Documents and Timelines	February 28, 2024	May 30, 2024
Parties Submit Comments on RFP Documents and Timeline	May 30, 2024	June 20, 2024
Independent Monitor Files Design Report	May 30, 2024	June 27, 2024
Comments Received on Independent Monitor's Design Report	June 27, 2024	July 11, 2024
RFP Issuance		
SPS Issues RFP	July 25, 2024	July 25, 2024
RFP Bid Deadline	July 25, 2024	October 23, 2024
Provide Independent Monitor with Evaluation of Bids	October 23, 2024	February 20, 2025
Independent Monitor Files Final Report	February 20, 2025	March 22, 2025
SPS Conveys Results to Bidders and Awards Proposals	March 22, 2025	March 23, 2025
Generation CCN and PPA Pre-Approval Applications		
SPS Files CCN(s) and/or PPA Pre-Approval Applications	March 23, 2025	July 1, 2025
SPS Receives Commission Decision on CCN and PPA Pre-Approval Applications	July 1, 2025	July 1, 2026
SPS and Developers Procure Equipment and Materials	July 1, 2026	July 1, 2027
New Generation Resources Online	July 1, 2027	June 30, 2028
Post IRP Reporting		
SPS Files One-Year IRP Update Report	October 13, 2024	October 13, 2024
SPS Files Two-Year IRP Update Report	October 13, 2025	October 13, 2025



QUESTIONS ?