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BESS & Long-Duration Storage

Regulatory perspective: New Mexico storage activity, lifecycle value, public risk, and customer protection

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Storage is Now a New Mexico Regulatory Tool

NMPRC approved storage where the record showed need, net benefit, and customer protections.

SPS Storage Approval

Six long-term purchased power agreements approved: 570 MW total, all four-hour battery storage.

Roswell / Chaves County

Chaves Energy Storage 50 MW + Roswell Energy Storage 50 MW, both four-hour projects in Chaves County.

Why it Made Sense

Immediate capacity need; selected through SPS's 2023 IRP and 2024 RFP; safe and reliable service at lowest reasonable cost.

How Customers are Protected

Capacity-cost recovery and allocation stay in rate cases; price increases remain subject to prudence review.

Final Order in Docket 25-00085-UT approved six four-hour battery storage agreements.

Source: Docket No. 25-00085-UT Final Order (June 5, 2026). Planning references remain separate.

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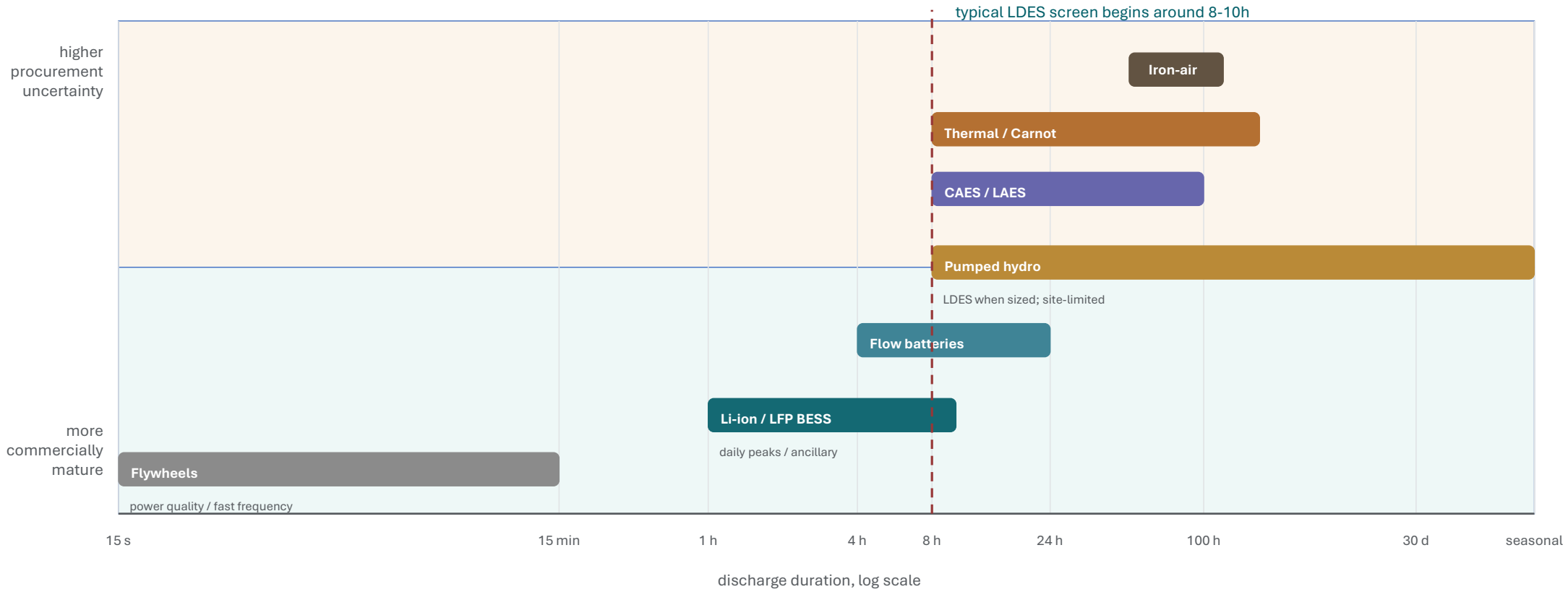
Storage is Not One Technology

Align storage with need: do not buy 100 hours for a 4-hour problem, and do not pretend 4 hours solves a 48-hour reliability event.



Duration is a use-case screen. Pumped hydro can be LDES; flywheels are fast-response assets, not multi-hour substitutes.

Illustrative placement. Generic ESS specs can support background only; project approvals need RFP bids, duty cycle, interconnection, warranty, safety, and financing evidence.

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Cost and Lifecycle: Compare on the Right Unit

$/kWh alone is a trap. Storage has power cost ($/kW), energy cost ($/kWh), duration, efficiency, and life.

Total installed cost ≈ Power cost ($/kW) + Energy cost ($/kWh) × duration | Then add O&M, augmentation, replacement, taxes, safety, and end-of-life

Technology	Screening Cost Basis	Life / Performance	Best Fit	Staff Caution
Li-ion / LFP	NREL 2025: 4h system $334/kWh; power+energy split $372/kW + $241/kWh	15 yr selected life; 85% RTE	2–6h daily cycling	Degradation, augmentation, replacement, fire/siting, warranty dispatch limits
Flow battery	NREL SFS screen: $483/kWh + $137/kW (2018 values)	15 yr; 10k cycles; 68% RTE	4–12+h shifting	Bankability, electrolyte, pump parasitics, O&M, project-specific quotes
Iron-air	Limited independent public cost data; manufacturer-rated 100h product	Emerging commercial data	multi-day reliability	RTE, footprint, warranty, dispatch limits, first projects, full EPC price
Pumped hydro	Use $/kW/site class. ATB closed-loop avg ~ $3,029–$4,454/kW (10h classes)	40+ yr; ~80% RTE	8h to seasonal	Water/land/topography/permitting; duration depends on reservoir sizing
CAES/LAES/Thermal	SFS screen: CAES $3.66/kWh + $1,153/kW; LAES/PTES emerging	25 yr; RTE varies ~52–60%	8–100+h	Geology/tanks, turbomachinery, fuel use for diabatic CAES, siting
Flywheels	High $/kWh; economic as power-quality asset, not bulk energy	20 yr; very high cycles	seconds–minutes	Useful, but not a substitute for LDES capacity

Sources: NREL battery cost projections; NREL Storage Futures Study; NREL Annual Technology Baseline pumped-storage hydro. Screening values only; use docket bids for approvals.

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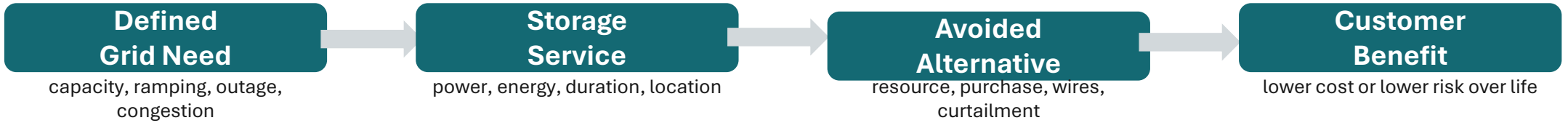
Why BESS Makes Sense in New Mexico

Customer savings come from avoided costs and reduced risk; social benefits count when they are quantified once.



Savings mechanisms that can be modeled

- Avoided or deferred capacity additions
- Shift daytime solar into evening peak
- Reduced renewable curtailment
- Ancillary services and operational flexibility
- Locational T&D deferral, if deliverable
- Outage/resilience value when quantified

Social benefits belong in the same test

- Resilience for critical services, including wildfire-season outages
- Reduced fossil peaker operation and local emissions, if dispatch shows displacement
- Public safety and first-responder readiness
- Local tax base, jobs, and land-use impacts when project-specific

Do not double-count them.

Planning anchor: PNM 2023 IRP Supplemental Analysis says solar and 4-hour storage complement each other by shifting daytime solar to evening/night.

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Public Safety and Wildfire Risk are Economic Issues

BESS fire risk is real, manageable, and part of the public-interest record - not a side conversation.

Safety affects cost recovery, public confidence, insurance, emergency response, permitting, schedule risk, and prudence.

UL / Fire testing

UL 9540 listing; UL 9540A-type thermal-runaway data where applicable; chemistry-specific hazards.

Emergency Response Plan

Incident command, site access, water/suppression strategy, isolation zones, signage, and contact tree.

Monitoring and Dispatch

BMS/EMS alarms, 24/7 monitoring, operator authority, dispatch rights, and shutdown authority.

First Responders

Site familiarization before operation; recurring training; AHJ and local fire involvement.

Siting and Community

Setbacks, defensible space, vegetation management, drainage, access roads, noise, visual impacts, and land use.

End of life

Decommissioning, recycling/disposal, augmentation plans, warranty handoff, and financial security.

New Mexico wildfire lens: dry fuels, wind, access distance, and rural response times. PNM PSPS shutoffs can last from hours up to 48 — poorly sited storage can add fire risk; well-planned storage keeps critical loads energized.

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Five Questions Before Customers Pay

Technology comes second to need, avoided cost, deliverability, and risk allocation.

1	**What problem is being solved?**	Daily ramp, evening peak, local reliability, renewable drought, outage resilience, or transmission constraint?
2	**What alternative is being avoided?**	Gas CT, market purchase, demand response, curtailment, wires, solar overbuild, or transmission?
3	**Is the duration actually needed?**	Match the hours and cycling to the modeled problem. This is where BESS and LDES diverge.
4	**What is the true lifecycle cost?**	CAPEX + O&M + degradation + augmentation + replacement + safety + taxes + end-of-life.
5	**Who carries the risk?**	Customers should not absorb speculative technology, warranty, interconnection, or merchant-revenue risk by accident.

Docket 25-00085-UT shows the approach - approve needed storage, preserve review, and protect customers from unassigned risk.

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Source Anchors

Final orders and utility filings are the source for project-specific claims.

SPS BESS Final Order

25-00085-UT approved six four-hour storage agreements: 570 MW total; 100 MW in Chaves County.

Project List

Chaves 50; Roswell 50; Lorenzo 50; Wildcat Ranch 120; Mammoth Plains 150; Palo Duro 150 MW.

Customer Protections

Capacity-cost recovery and allocation in rate cases; cost increases tracked and not presumed prudent.

Follow-up Ordered

SPP accreditation review, 2026 IRP procurement discussions, and stakeholder cost-allocation work.

PNM Planning/Resources

PNM list totals 621 MW installed/planned; Case 23-00409-UT accepted Statement of Need and Action Plan.

Technology Background

NREL cost sources and Hunt et al. support generic background; docket bids and contract terms support approvals.

NMPRC is approving storage that addresses need while preserving safety review and customer protections.