



ADER Pilot Phase 4 – ADESR

ERCOT Market Design

WMS | October 07, 2026

New Phase

Phase 4 expands the ADER Pilot to enable nodal dispatch of aggregated distribution-connected energy storage.

New Model

The Aggregate Distributed Energy Storage Resource (ADESR): registered, modeled and dispatched substantially as a DESR, with targeted differences for an aggregation.

What it means

1. Dispatch moves to nodal. Settlement and metering do not change in Phase 4.
2. The draft is not yet posted – we are completing internal and external discussions
3. Posting on October 12, after those discussions and ahead of the October 19 DSWG

Key Takeaway

Phase 4 changes how an aggregation is dispatched, not how it is settled or metered.

Background and progression of the Pilot Project

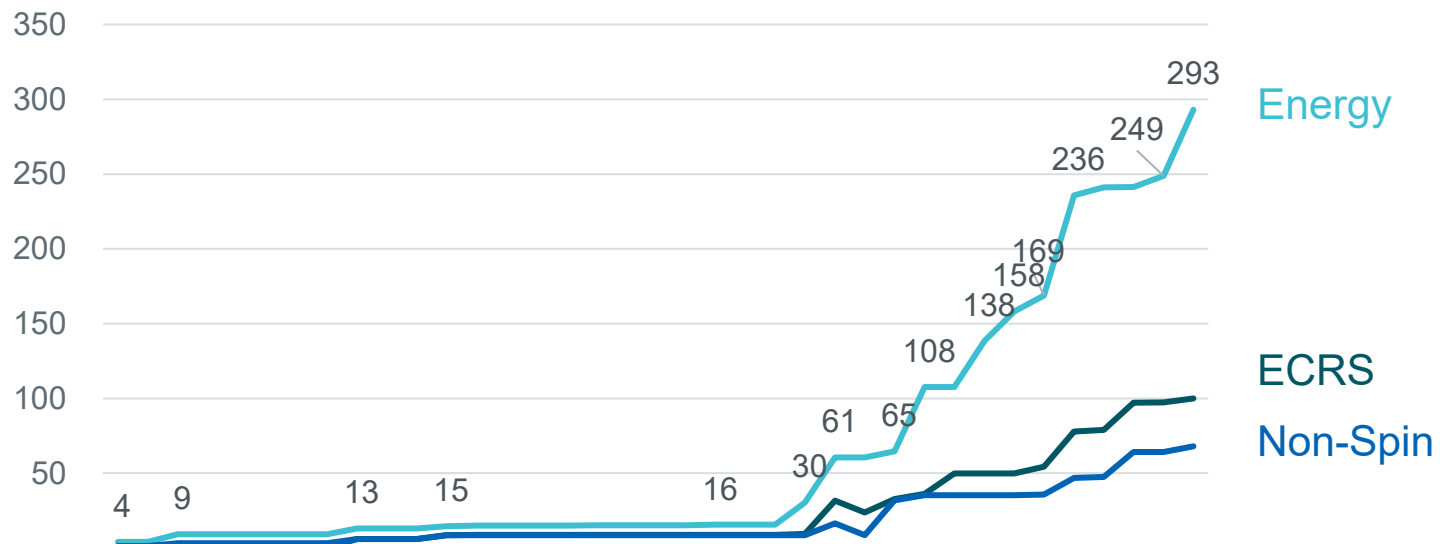
The Pilot has run since 2022, expanding participation in stages. Phase 4 responds to what the earlier phases showed about the limits of the existing framework.

Phase	Timing	What the phase added
Phase 1	August 2023	Established the Pilot Project. ADERs register and participate as Aggregate Load Resources
Phase 2	February 2024	Added ECRS eligibility and refined the telemetry requirements
Phase 3	June 2025	Added the non-Controllable Load Resource option and raised the participation limits
Phase 4	December 2026 (proposed)	Adds the ADESR participation option, dispatched using nodal shift factors

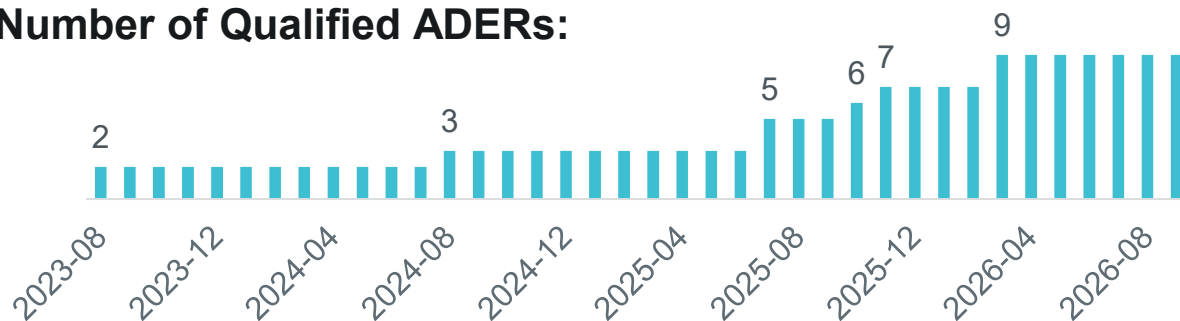
- The Pilot has grown rapidly, driven in significant part by residential battery installations
- The existing ALR option has been successful – it demonstrated that aggregate resources can be dispatched in SCED and provide Ancillary Services
- But the existing frameworks have limitations. These Resources are modelled using Load Zone shift factors
- The ALR framework does not provide ERCOT with State of Charge visibility, or represent the charging and discharging capability of the aggregate Resource

ADER Pilot participation has grown rapidly

Qualified ADER Capacity (MW):



Number of Qualified ADERs:



Key Observations

- Participation growth driven largely by residential battery installations
- Pilot now nearly fully subscribed under current participation caps
 - ECRS fully subscribed
 - Non-Spin ~68% utilized
- 293 MW of the 500 MW energy capacity limit

Phase 4 objectives and areas of evaluation

Phase 4 extends the purpose of the Pilot to the nodal dispatch of aggregated storage, and carries forward the objectives established in the earlier phases.

- ERCOT and stakeholders have identified a new opportunity within the Pilot – to evaluate the impact of aggregated distribution-connected energy storage with nodal dispatch
- This would expand the ability of ADERs beyond the provision of energy and Ancillary Services, to helping relieve local transmission congestion

Areas of evaluation in Phase 4

- Evaluate the dispatch of ADESRs at a nodal level using nodal shift factors, including the benefits for transmission congestion management
- Continue to evaluate the impacts to transmission system congestion management associated with the dispatch and Settlement of ADERs that participate as ALRs or NCLRs at a zonal level

Scope of the Phase 4 Governing Document revisions

Phase 4 revises the Pilot Governing Document to add a single participation option. The options established in prior phases, and the obligations that accompany them, are unchanged.

- The ADESR is added – how it is registered, modeled, dispatched, settled and evaluated
- New Phase 4 objectives and areas of evaluation
- Participation as an ALR or NCLR continues unchanged, with the same requirements, limits and Ancillary Service eligibility
- No new NPRR is required. The revisions are to the Governing Document only
- A significant portion of the redline is editorial: scoping provisions to identify the participation option they apply to, aligning defined terms, and restructuring for readability

What an ADESR is

Phase 4 introduces the Aggregate Distributed Energy Storage Resource (ADESR): same dispatch, same telemetry, same SCED as DESRs — with three targeted differences to accommodate aggregated resources.

Characteristics	Distribution Energy Storage Resources (DESRs)	Aggregate Distribution Energy Storage Resources (ADESRs)
Network Model	Mapped to the appropriate CIM Load in the network model	
Dispatch	SCED via nodal shift factor, bid/offer curves, SOC and base point following	
Telemetry & COP	DESR telemetry and Current Operating Plan data	
DAM & CRR	Standard Resource Node, biddable in DAM and CRR auctions	Resource Node is non-biddable in DAM and CRR
Metering & Settlement	Single physical meter at the Point of Interconnection and nodal settlement	No single physical meter; device-level telemetry aggregated to resource level and zonal settlement
Ancillary Services	Eligible if otherwise qualified	Ineligible; subject to future review

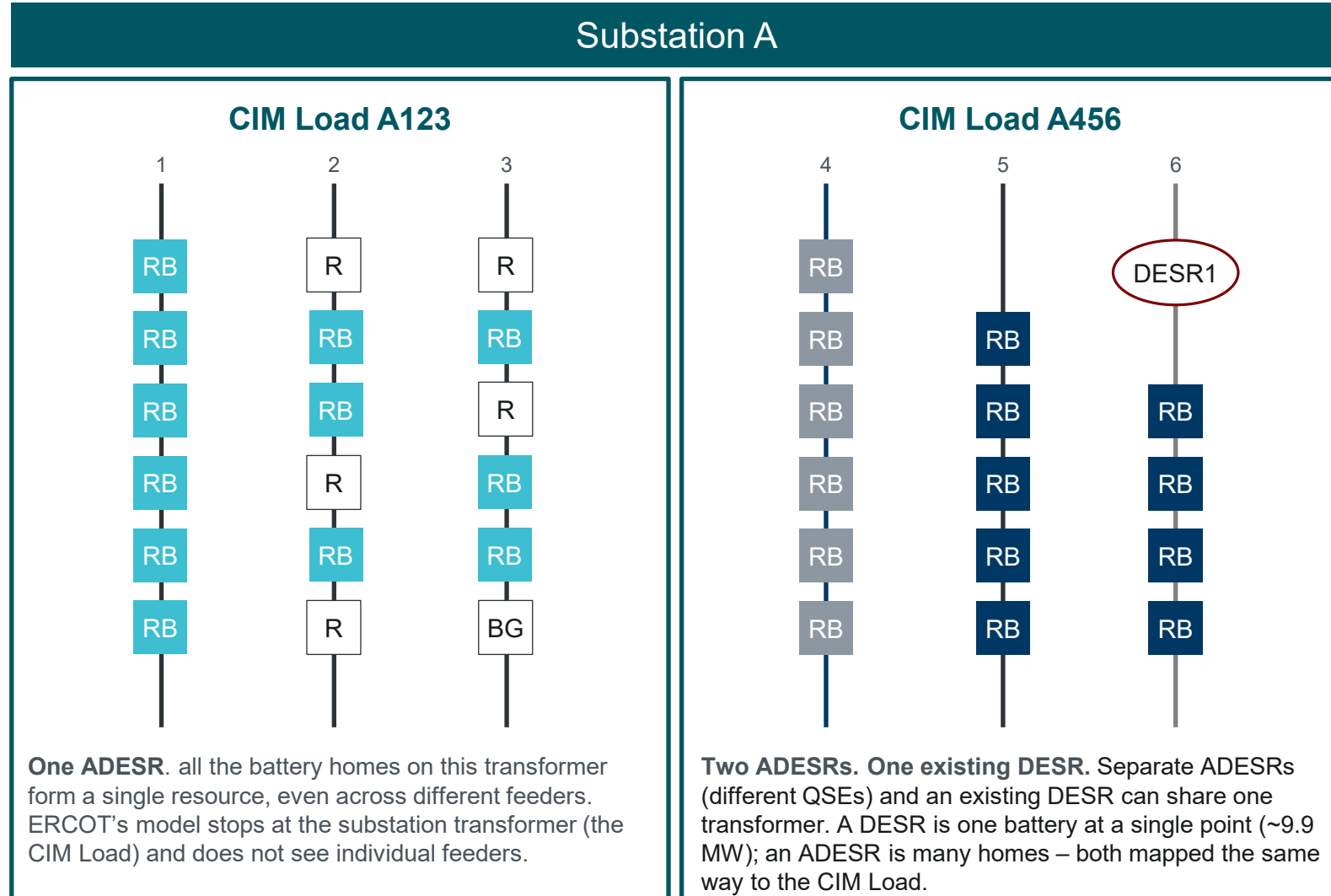
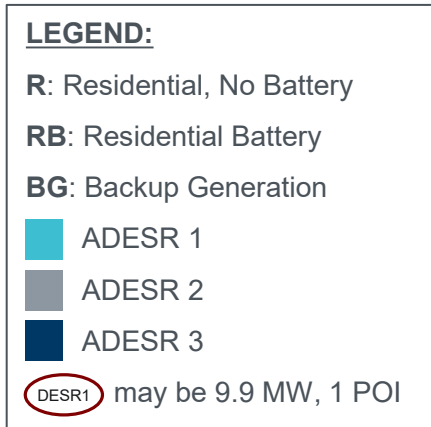
ADESRs simply need a non-biddable Resource Node, device-level telemetry, and a deferred Ancillary Service eligibility. Everything else follows existing DESR rules.

No new NPRR – only amendments to Governing Document.

No major tool or system changes are required. ADESR participation model activates upon Board approval of Phase 4. Will likely need a change to registration processes to capture that the ADESR is an aggregation.

How ADESR aggregation would work

Multiple ADESRs and a traditional DESR can coexist on the same substation transformer, each mapped to a CIM Load, each can be represented by a different QSE, each dispatched independently by ERCOT via SCED.



ADESR definition and participation

The core design parameters are settled. An ADESR is defined by its mapping to a single CIM Load, and is sized by its aggregate injection capability. Because it is dispatched nodally and provides State of Charge visibility, exposure is managed through the interconnection process and DSP approval.

- An ADESR is an aggregation of distribution-connected energy storage devices that map to the same CIM Load – the substation transformer
- ADESRs will be modeled in substantially the same manner as a DESR
- There are no participation limits for ADERS participating as ADESRs
- The Pilot Program's energy, Non-Spin and ECRS limits therefore do not apply to ADESRs

DSP study and approval of the Details of the Aggregation applies to an ADESR, as it does to any other ADER, irrespective of participation type.

Proposed exceptions to ERCOT Protocol requirements

An ADESR participates as a DESR in accordance with all Protocol requirements applicable to DESRs, except with respect to the following Pilot-specific treatment. Each exception arises from the Resource being an aggregation rather than a single facility.

1. Where a Resource Node is created for the ADESR, it is non-biddable in the DAM and CRR markets
2. An ADESR is not currently eligible to provide Ancillary Services
3. An ADESR is identified as an aggregation at the time of registration
4. Registration, qualification and commissioning reflect that the devices are already installed, energized and interconnected at the distribution level
5. An ADESR is not currently subject to the requirements of Protocol Section 3.8.6
 - Section 3.8.6 provides that Distribution Generation Resources and Distributed Energy Storage Resources on an interconnecting distribution circuit will not be disconnected during an EEA Level 3 or an under-frequency or under-voltage Load shedding event. The exception reflects that an ADESR is not providing Ancillary Services in Phase 4.

ADESR registration and qualification

The registration path has been worked through with ERCOT's Resource Integration team. An ADESR registers through the existing RIOO application, identified as an aggregation, using an ADESR-specific Details of the Aggregation form.

- The Resource Entity registers the Resource through the RIOO application, using the process designated by ERCOT for an ADESR, and the registration must identify it as an aggregation
- The DOTA uses an ADESR-specific form covering one CIM Load, identifying the participating devices, the applicable DSP, and the aggregate charging, discharging and energy capability
- The Resource Entity and QSE are jointly responsible for maintaining the ADESR population information and submitting updates for DSP and ERCOT approval

Settlement approach

No change to metering or Settlement is proposed in this draft.

- ADESRs are dispatched at a nodal level using nodal shift factors, while Zonal Settlement is retained during Phase 4
- An ADESR settles at the applicable Load Zone price, as ADERs do today
- No new metering is required – existing TDSP interval meter data is used, and settlement system is unchanged

Why a move to nodal Settlement is not part of Phase 4

- It would require changes to settlement systems and to the Protocols, which is deeper than a pilot should go
- An ADESR has no single physical meter at a Point of Interconnection. The premise meter records one net value – the household and the battery combined – and separating them would require device-level data
- Metering behind the Point of Delivery carries cost, tariff and ownership implications, and those have not been quantified
- ERCOT may develop a concept paper, and may work with one or more Market Participants and DSPs on a proof of concept
- Progress will be reported through the six-month reviews, and any proposed approach will be brought back to stakeholders before it is adopted

Distribution Service Provider role and authority

Phase 4 does not change the Distribution Service Provider's control over what connects to the distribution system.

- Every Details of the Aggregation is reviewed and approved by the DSP, which verifies the mapping to the substation transformer and provides the CIM Load information
- The DSP may reject all or a portion of a proposed aggregation, on a non-discriminatory basis, for reasons of safety, reliability or regulatory impediments, and provides the reason for any rejection
- That authority applies to additions over the life of an aggregation, not only at registration
- The existing interconnection process for a DESR continues to apply. The Details of the Aggregation is an additional layer, not a replacement

Stakeholder process and timeline

Stakeholder discussions through September and early October are complete. The draft posts next, and the path to Board consideration in December is unchanged.

October 5-8	October 12	October 19	November 4	November 18	December 7
Continue internal and external stakeholder discussions	Draft Governing Document posted on the DSWG page	DSWG discussion of the draft	WMS endorsement	TAC endorsement	ERCOT Board approval

Comments and questions may be sent to pilotprojects@ercot.com. ERCOT is available to meet individually with stakeholders on the draft.

Questions

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