



ADER Pilot Phase 4: ADESR Concept

ERCOT Market Design

DSWG Presentation | August 17, 2026

New Phase

Phase 4 proposes to expand the ADER Pilot to enable **nodal dispatch of aggregated battery storage**

New Model

The **Aggregate Distributed Energy Storage Resource (ADESR)**: registered, modeled, and dispatched as an Energy Storage Resource with specific locational requirements

How it works

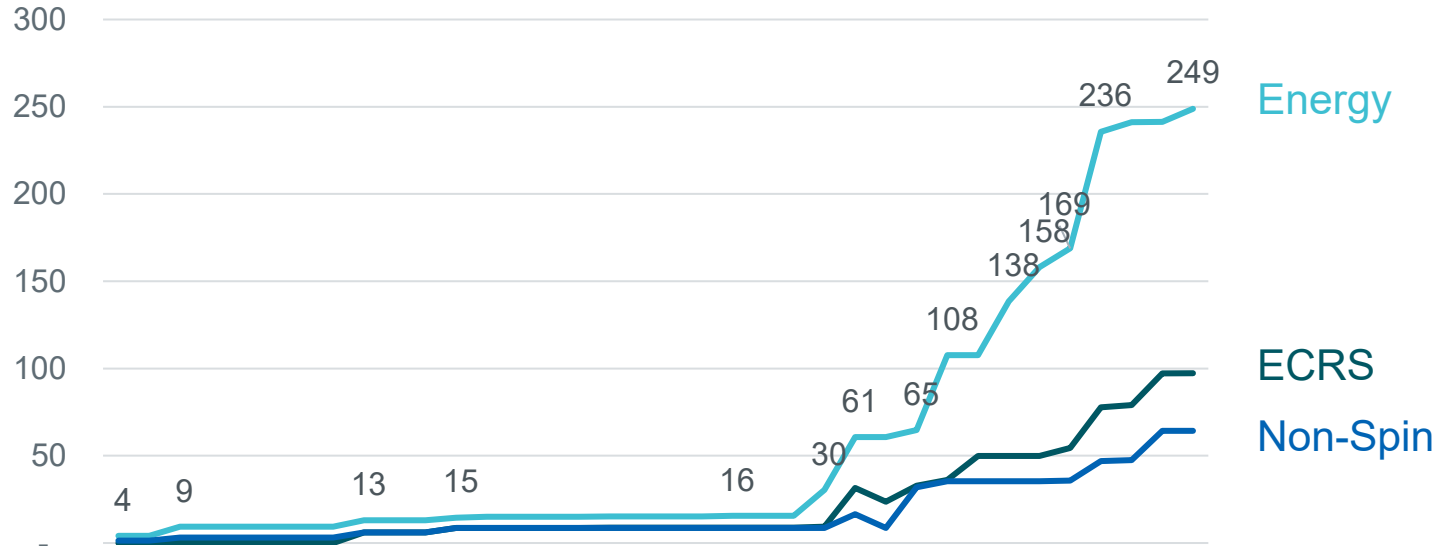
1. **Qualify & Register:** QSE registers aggregation as an ADESR. Details of the Aggregation (DOTA) form submitted to DSP and ERCOT for study and approval
2. **Nodal Dispatch via SCED:** ADESR dispatched through SCED using nodal shift factors—real SOC visibility for ERCOT
3. **Study & Scale:** Data informs nodal settlement design considerations and future protocol transition

Key Takeaway

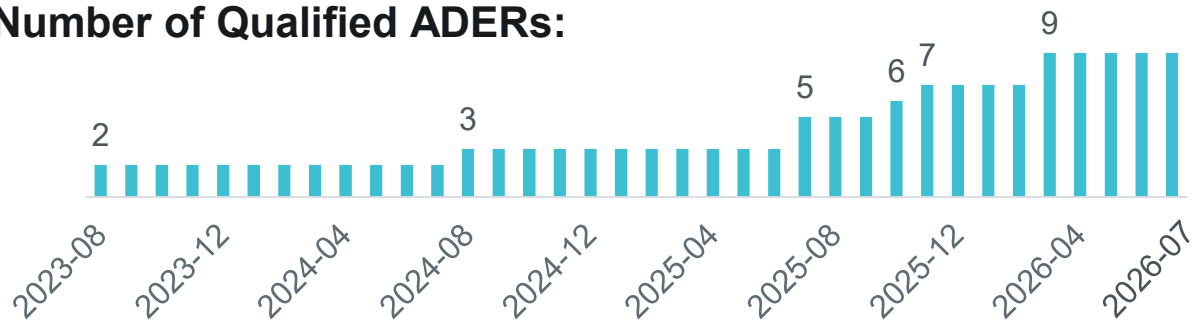
Phase 4 enables rapid, open deployment and learning — testing how aggregated battery storage can address network congestion beyond energy and Ancillary Services, in a competitive framework open to all qualifying participants.

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 ~67% utilized
 - 249 MW of the 500 MW energy capacity limit

The Pilot uncovered additional opportunities and challenges

Potential for residential batteries

Could be deployed as nodal resources to:

- Manage transmission congestion
- Provide locational headroom at specific points of interconnection

Barriers to facilitating scalable nodal resources

Existing ALR Workaround:

- Currently dispatched using load-zone shift factors instead of nodal shift factors
- Lacks State-of-Charge (SOC) visibility
- Does not present the withdrawal and injection capability of the aggregation of batteries

A solution for aggregated nodal resources can advance ahead of future batch studies. Expanding ADER participation frameworks in Pilot Mode allows for more rapid deployment and testing—ahead of developing protocols. This maintains the “learning by doing” ethos that has been a consistent feature of the Pilot.

ERCOT is proposing an additional Pilot Phase 4 with ADESRs

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 (initial phase 4)
Ancillary Services	Eligible if otherwise qualified	Ineligible; subject to future review

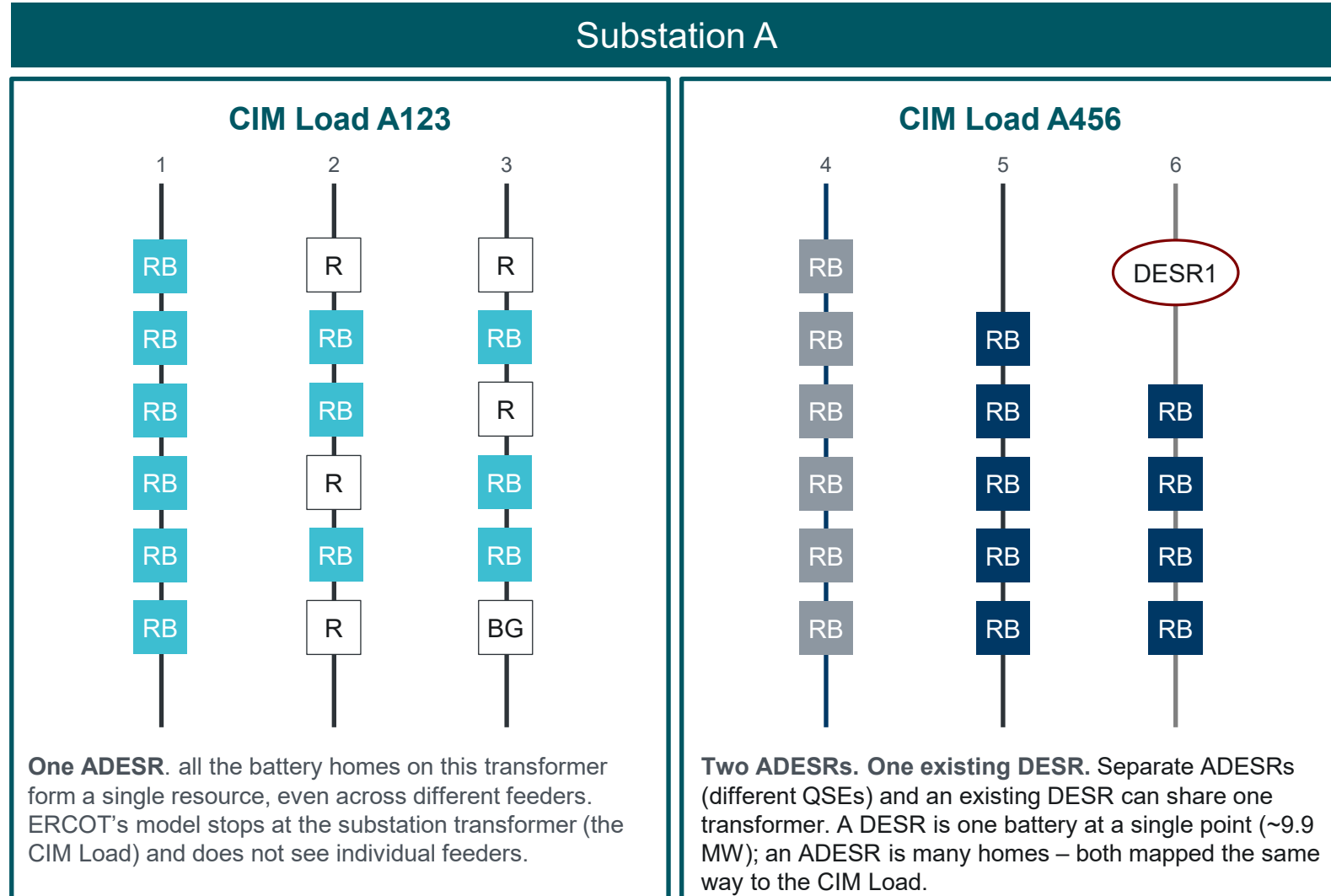
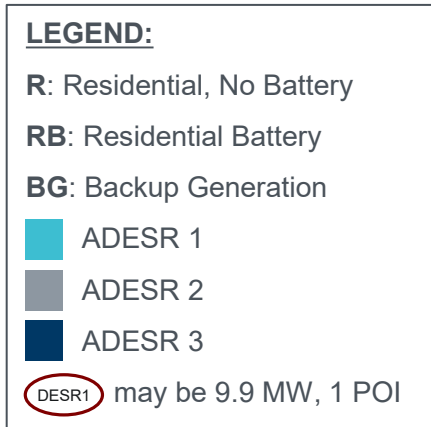
ADESRs simply need a non-biddable Resource Node, device-level telemetry, and a deferred Ancillary Service eligibility. Everything else follows existing DESR rules.

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.



Proposed key features of the ADESR participation

- 1 Qualified Scheduling Entity (QSE) is required to complete registration of the ADESR
- 2 Data provided through the Details of the Aggregation (DOTA) form [Location (CIM Load), MW, MWh]
- 3 DSP review and approval. Substation and CIM Load information provided by the DSP
- 4 Telemetry Check Out Device Level Telemetry. ADESR telemetry is what the aggregation of the devices are doing (not premise level telemetry)
- 5 SCED Qualification Test
- 6 Ancillary Service Qualification Test (if they are eventually allowed to provide AS)
- 7 Set Point Deviation Charges
- 8 Existing System Impact Studies required for DESRs will be required for ADESRs
- 9 **There is no existing or planned approach that provides a “linkage mechanism” between generation and load that are not located behind the same Point of Interconnection”**

Key questions requiring further discussion

Market Design Component	Design Considerations
Metering & Settlement	• ADESRs settle at the Load Zone price (like current ADERs do today) allowing ERCOT to quickly validate nodal dispatch • Future state: nodal settlement for ADESRs. This may require device-level metering, DSP coordination, and Load Zone calculation updates
Resource Sizing	• ERCOT is evaluating capacity thresholds for ADESRs to prevent resource-node proliferation in SCED
Network Model & SCED Changes	• ERCOT must determine what modeling changes are needed to dispatch ADESRs using nodal shift factors in SCED • Identify new ADESR registrations and model submissions
PGRR 127: Planning Model Eligibility	• Would ADESRs, as structured under Phase 4, satisfy PGRR 127 requirements and qualify as Capital "R" Resources eligible for inclusion in ERCOT's planning models?
Role of Distribution Service Providers	• DSPs must review and verify all premises mapped to the same substation transformer and assess distribution reliability concerns

Proposed Pilot Phase 4 Stages

Start simple to move fast: the initial phase keeps zonal settlement so Phase 4 can launch on Board approval – with nodal settlement as the future state, pending further study.

Initial Phase 4 Stage	Future State
Nodal Shift Factor Dispatch + Zonal Settlement - No new metering required; uses existing TDSP interval meter data - ADESRs continue to settle at the Load Zone price, the same as other ADERs do today - DSP wholesale settlement system unchanged - Purpose: Validate nodal dispatch of ADESRs quickly, with minimal system impact - Serves as the starting point while target design details are worked out - ERCOT gains real SOC visibility and nodal dispatch data for study	Nodal Shift Factor Dispatch + Nodal Settlement - Intended final design; Meters within device cabinet feed the DSP, which derives the typical DESR meter data - Settlement receives virtual meter information for each ADESR (device-level, rolled up) - Requires DSP coordination and may require Load Zone Price calculation updates - Regulatory review needed; 16 TAC § 25.501(h) requires load settled at zonal price - Adopted once metering, DSP, and settlement questions are resolved
START HERE: activates upon Board approval	FUTURE: pending metering and regulatory resolution

Proposed timeline for the initial Phase 4 Pilot stage

A clear path from today's DSWG discussion to a December Board decision – achievable within the pilot, with stakeholder input welcomed at each step.



In parallel: The DOTA automation project proceeds independently of Phase 4 and kicks off internally in October 2026. It streamlines aggregation intake for the ADER Pilot regardless of the Phase 4 outcome – the two efforts are complementary, not dependent on each other.

Questions

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