



Global Capacity
Alliance

FRONT-OF-THE-METER (FTM) NETTING

ERCOT NPRR PRIMER

SEPT 17, '26 LARGE LOAD WORKING GROUP MEETING

This presentation and the associated Nodal Protocol Revision Request (NPRR) draft to be submitted are sponsored by the Global Capacity Alliance (GCA)—an emerging industry coalition—to establish an open, resource-agnostic market standard.

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OUR SHARED CHALLENGE: SPEED-TO-POWER

The Demand Shock: The ERCOT grid is facing hundreds of GW of load requests that standard, multi-year transmission planning cycles cannot natively accommodate.

The Capital Readiness: Private capital is not just bringing load; developers are ready to fully fund and build net-new dispatchable generation to support it.

Our shared goal is to find a pathway for new load and generation to be built, at pace, ***integrated and visible to SCED within the ERCOT grid.***

THE NPRR IN A NUTSHELL: DYNAMIC REPRESENTATION

The Core Function: This proposed rule change enables the dynamic, real-time representation of large loads and their paired mitigating resources *together* within SCED.

The Protocol Link: FTM-Netting uses existing telemetry to logically link two **co-located, independently connected assets**, netting their local congestion impact so they can safely connect ahead of long-term transmission upgrades.

The Grid-Tied Alignment: FTM-Netting will enable developers to Bring Your Own Generation (BYOG) directly into the ERCOT system. It gives the load the curtailment mitigation required for bankability, while giving ERCOT the grid-connected visibility they require.

THE BANKABILITY GAP: VOLUME VS. VOLATILITY

Pricing Volume: Developers can underwrite a known budget of curtailed MWh. A predictable volume of downtime can be modeled.

The Physics of 5-Minute Dispatch: Compute infrastructure cannot safely drop 100+ MW in a 5-minute SCED window. Effective ramping requires a longer, predictable runway.

The Premium on Predictability: The industry is currently buying speed-to-power off-grid or in isolated Private Use Networks. They are not doing this to save on energy costs—they are doing it purely **to buy predictability.**

The Question: Can we offer early energization (speed) *and* operational predictability inside the ERCOT grid?

EARLY ENERGIZATION OPTION: PCLR

Provisional Controllable Load Resource (PCLR)

- **What it is:** Allows early energization above a firm floor by agreeing to be curtailable through ERCOT's 5-minute Security-Constrained Economic Dispatch (SCED).
- **The Challenge:** A "naked" PCLR exposes loads to unpredictable curtailment.
- **Uptime vs. Predictability:**
 - **Uptime:** A reduction in uptime is a loss of revenue.
 - **Predictability:** An unpredictable number of volatile curtailment events on 5-minute intervals will be challenging to finance.

PCLR is the only way to energize early **within the grid**. But there is no way to bring your own generation to support your load.

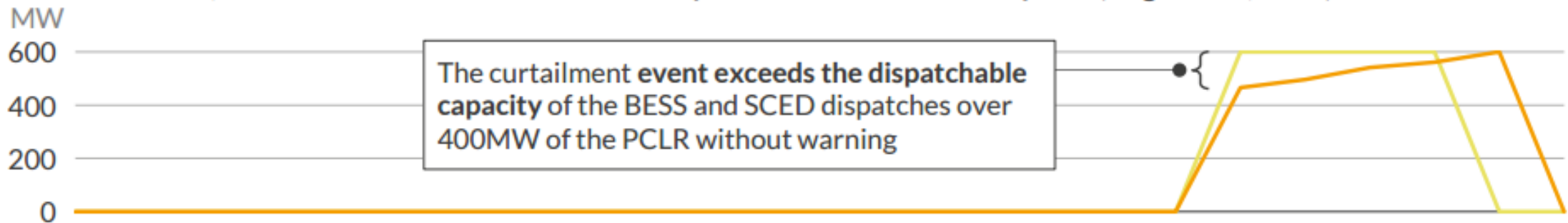
BYOG: PCLR WITH AN FTM RESOURCE

(NOT NETTED)

Standard Co-Located Front-of-the-Meter (FTM)

- **What it is:** Building load and dispatchable generation (e.g., BESS or gas) FTM at the same location on separate revenue meters.
- **The Challenge (The "Attributability Gap"):** Without a protocol mechanism to link them, SCED treats them as independent assets, dispatching the generator to help the grid while also curtailing the load—socializing the relief and leaving the load exposed.

Co-located FTM, non-netted case North Hub Site hourly curtailment and BESS dispatch (August 31st, 2028)



FTM-NETTING: SPEED-TO-POWER AND NET-NEW GENERATION

The Objective: Large loads require speed-to-power, and developers want to build this infrastructure integrated within the ERCOT grid.

The Constraint: PCLR provides speed, but there is no bankable way for a load to BYOG to mitigate curtailment risk.

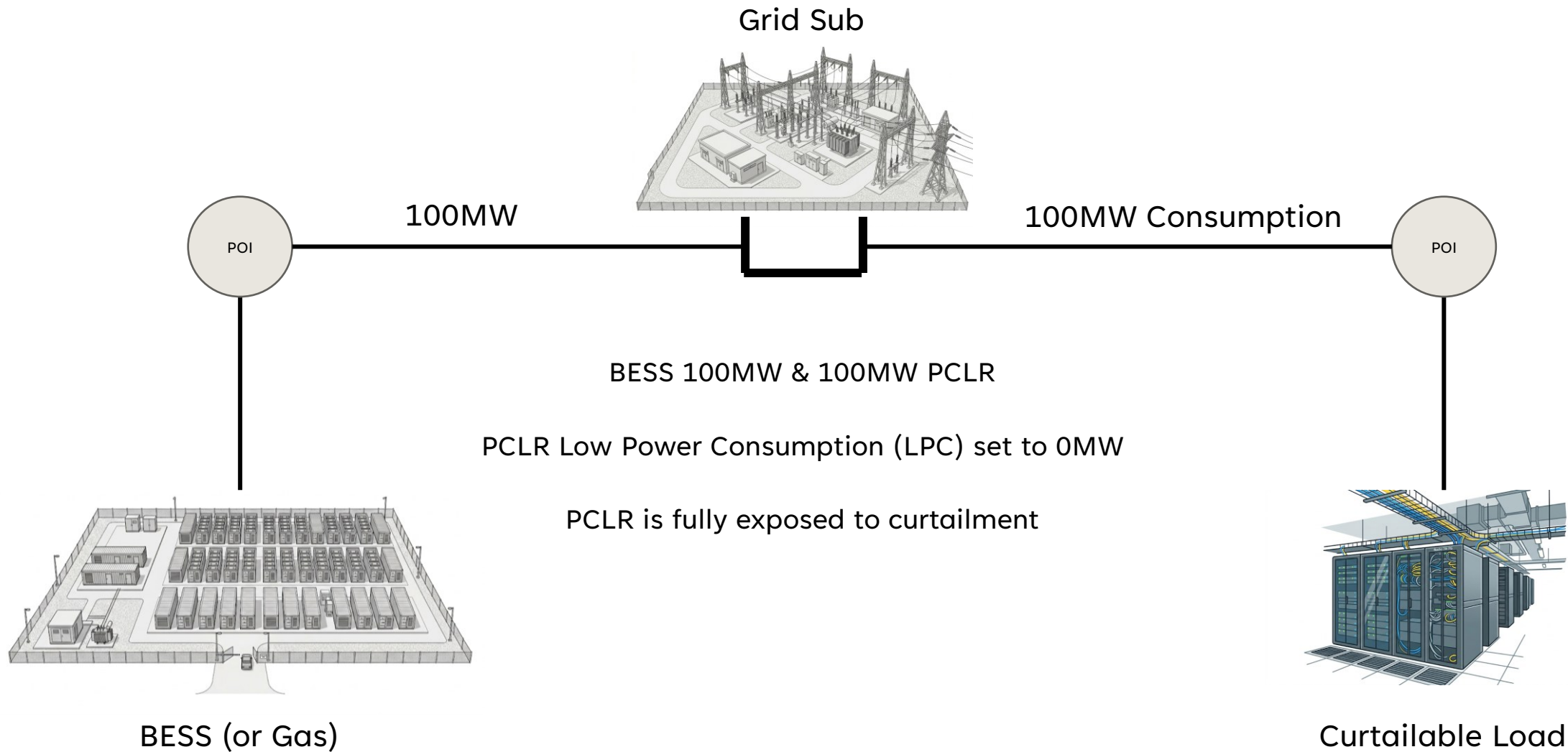
New Generation Is Coming: GWs of new generation will be built, paid for by new load that needs speed-to-power.

The Solution:

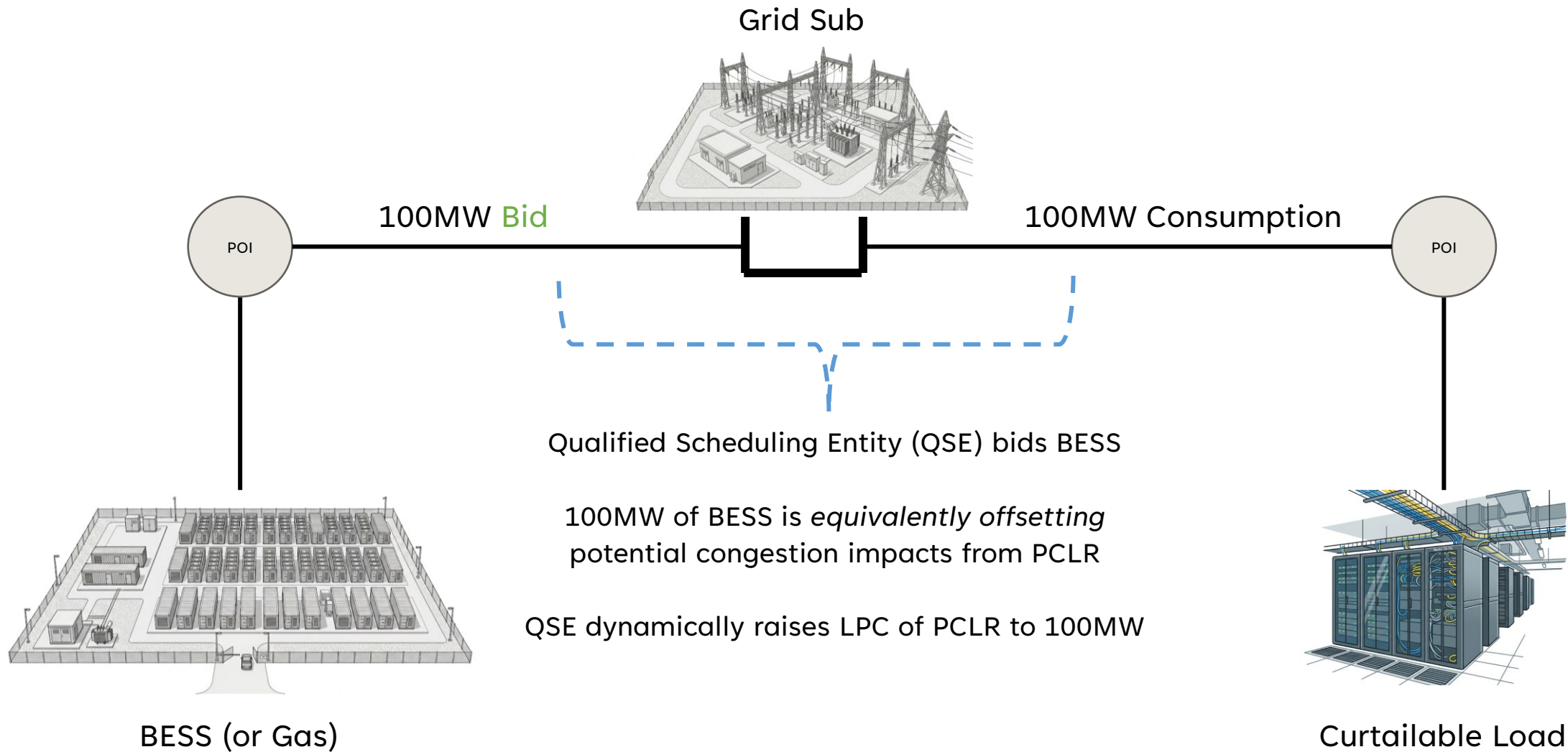
- FTM-Netting provides the missing protocol link that allows new generation to support new load while waiting for grid upgrades.
- Bankable for the developer, grid-integrated within SCED.

The Offer: We are **bringing SCED new generation.**

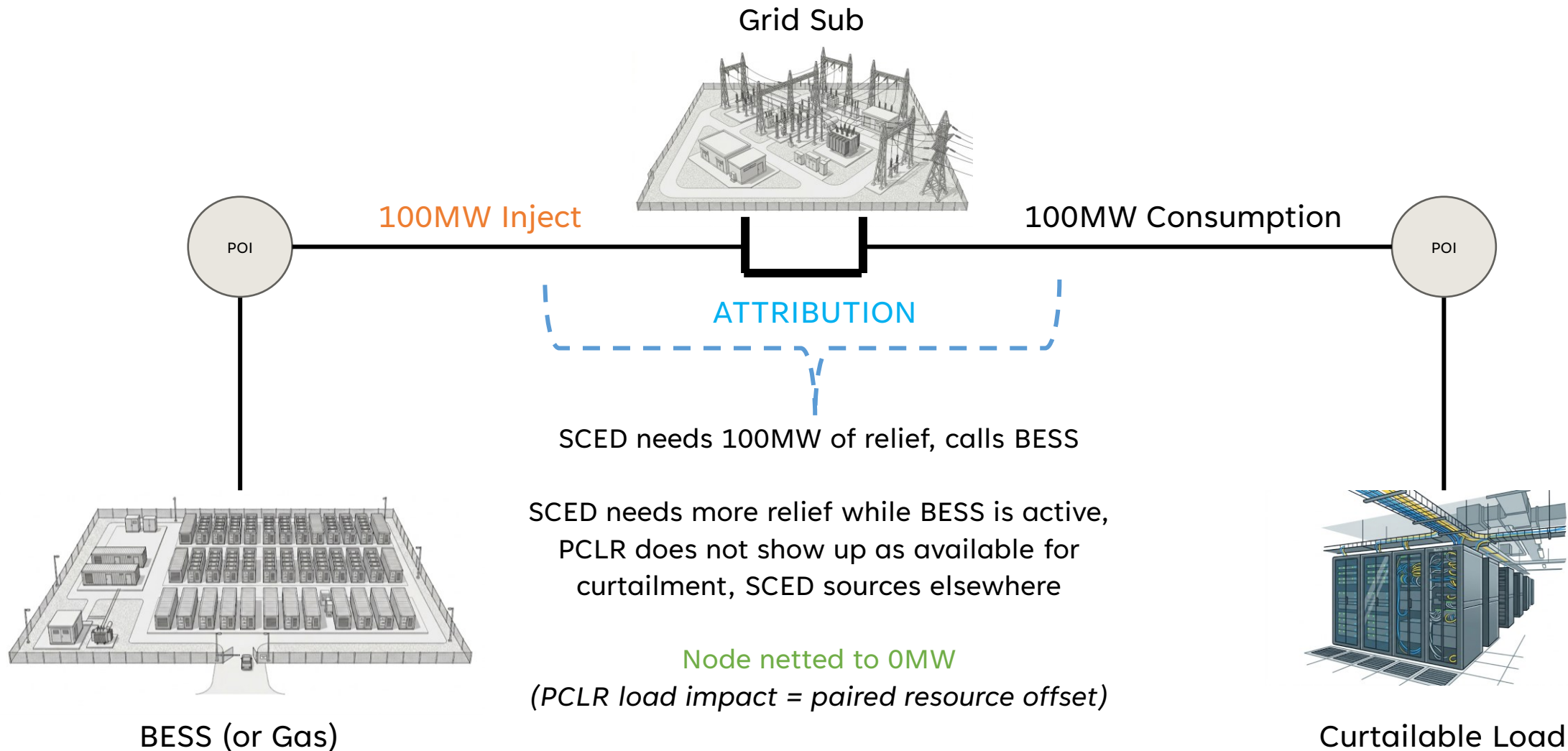
ILLUSTRATIVE FTM-NETTING: THE SET-UP



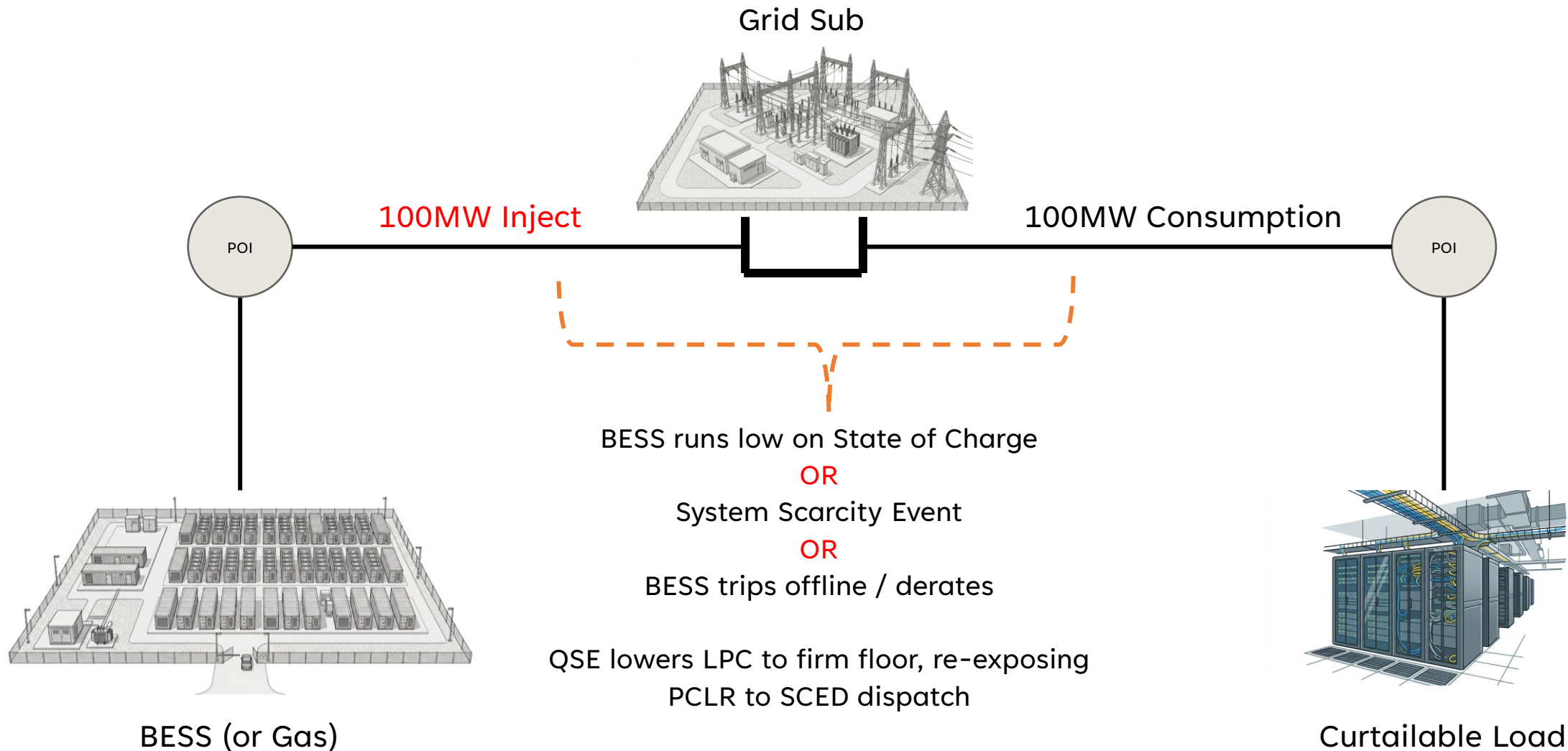
ILLUSTRATIVE FTM-NETTING: STEP 1 – THE BID



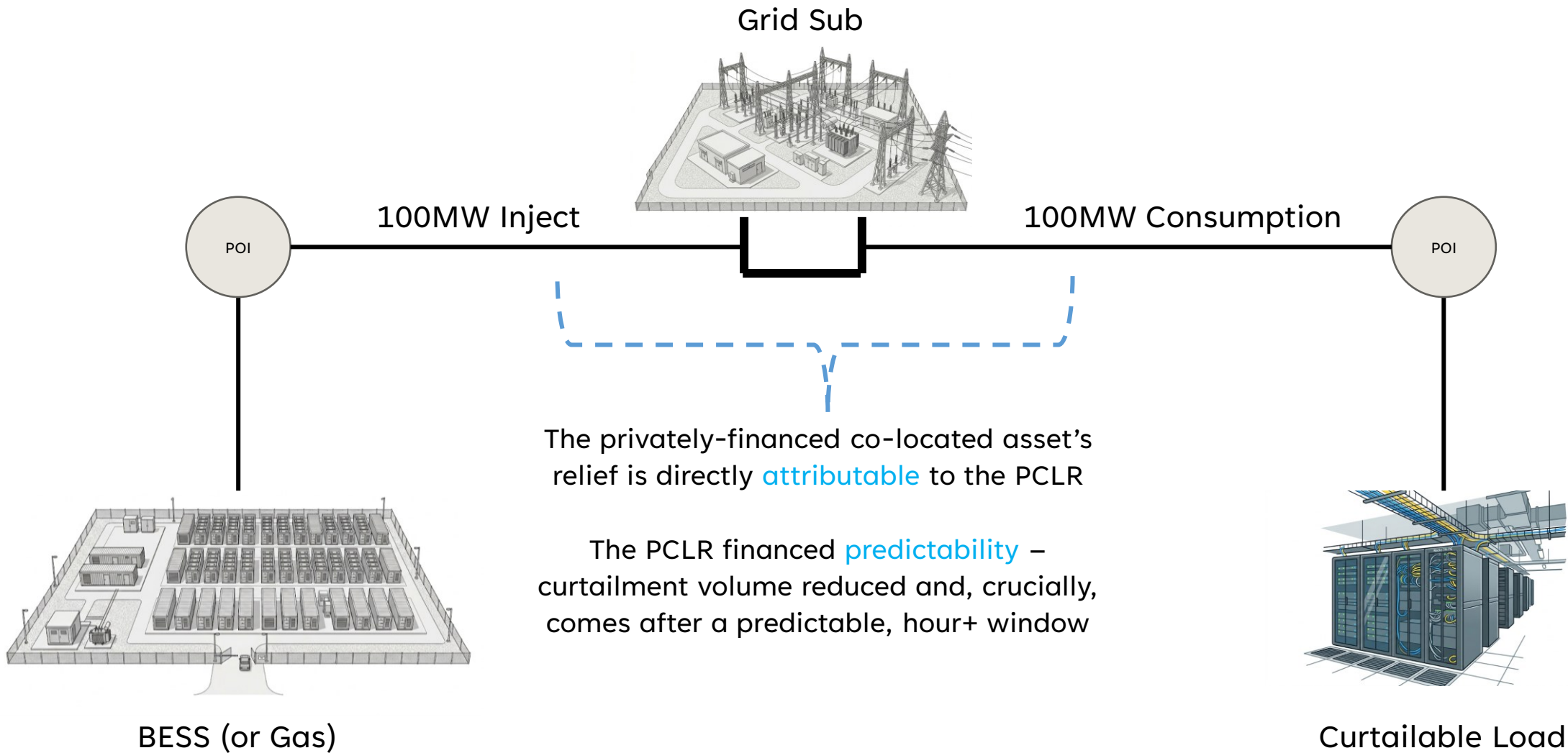
ILLUSTRATIVE FTM-NETTING: STEP 2 – THE SHIELD



ILLUSTRATIVE FTM-NETTING: STEP 3 – THE YIELD



FTM-NETTING: THE PAYOFF



HOW IT WORKS:

PHYSICAL & DISPATCH MECHANISM

Feature	Mechanism
Telemetry Shield	FTM-Netting enables the Qualified Scheduling Entity (QSE) to dynamically raise the PCLR's telemetered Low Power Consumption (LPC) limit to match the real-time offset capacity of the paired resource. This effectively shields the load from Security-Constrained Economic Dispatch (SCED) curtailment while the offsetting capacity is actively offered.
Net-Zero Nodal Math	Because the load and the mitigating asset share a Resource Node, the paired generation's injection acts as an equivalent offset to the PCLR's impact on localized transmission constraints. SCED deploys the equivalent physical counter-flow from the paired asset as necessary during normal operations.
Economic Equivalency	To clear the merit order equivalently to the shielded load, the paired resource is automatically mitigated via the same Adjusted Bid Cap (ABC) methodology or Mitigated Offer Cap (if gas) as the PCLR. This ensures native SCED compliance and prioritizes the paired resource for local congestion relief without causing market power or price distortion.
Respecting SCED	FTM-Netting requires no changes to SCED, which continues to optimize each interval's submitted bid and LPC value. QSE's manage their private commercial reality and capabilities (PPAs, hedges, retail obligations). FTM-Netting changes what a QSE submits, not what SCED does with it.

HOW IT INTEGRATES: RELIABILITY GUARDRAILS

Feature	Mechanism
The Scarcity Yield	During system-wide emergencies (EEA Level 1+), the QSE must drop the telemetry shield within 60 seconds and without intentional delay. This deterministic release ensures both the flexible load and the newly built generation are fully returned to SCED when grid reserves are most threatened.
Day-Ahead (DRUC) Alignment	Current Operating Plan (COP) reporting is bifurcated by technology to prevent ERCOT's Day-Ahead Reliability Unit Commitment (DRUC) engine from double-counting the paired assets. • BESS: The QSE zeros out the reserved High Sustained Limit (HSL) and Target State of Charge (SOC) in the COP while the PCLR shows up as fully dispatchable due to State of Charge (SoC) limitations of the BESS. • Gas: The generator submits an On-Line COP while the PCLR reports as unavailable via a raised LPC.
Status Protection: Base Point Grace Period	If the paired resource trips offline (Forced Outage or physical derate), the QSE immediately lowers the LPC shield. Base Point deviations incurred within this ramp window are exempt from compliance evaluation, removing the risk of PCLR-status revocation during an unexpected generator trip.

HOW IT SETTLES:

“IT-LITE” IMPLEMENTATION

Feature	Mechanism
Post-Day Settlement	FTM-Netting avoids conditional netting logic in the real-time SCED algorithm. ERCOT natively verifies compliance using the telemetry, meter data, and offer curves it already collects, mirroring the existing Telemetry Validation methodology currently applied to Controllable Load Resources (CLRs).
Five-Point Settlement Check	To waive uninstructed deviation charges, the following are verified for every 15-minute Settlement Interval: • Volumetric Equivalency: Available FTM Offset Capacity = load's Offset LPC MW. • Offer Sufficiency: Verify a valid Energy Offer Curve (or Bid/Offer Curve). • Ancillary Service (AS) Independence: High Sustained Limit (HSL) minus AS responsibility must cover offset. • Latency Compliance: Ensure Scarcity Yield occurred within the mandated 60 seconds. • Nodal Price Alignment: Divergence of Real-Time Locational Marginal Prices requires unshielding.

SENATE BILL 6 AND POLITICAL ALIGNMENT

Statutory Alignment: Advancing the Goals of SB 6

- **Provable Additionality:** FTM-Netting enforces a "12-Month Rule," requiring the paired generation to achieve its Commercial Operations Date no more than 12 months before the PCLR's synchronization, driving net-new generation to the ERCOT grid.
- **The Scarcity Yield (Exceeding SB 6):** SB 6 dictates that non-firm large loads must remain curtailable to protect system reserves. FTM-Netting goes further: during an EEA Level 1+, the load drops, and the privately financed generation is immediately yielded to SCED. It transforms a passive load reduction into an active, dispatchable grid asset when Texas needs it most.
- **Phantom Load Protection:** By utilizing the PCLR mechanism to energize ahead of multi-year transmission buildouts, FTM-Netting eliminates the "phantom load" flight risk targeted by the legislature. Developers stay engaged and physically connected to the macro-grid.

STAKEHOLDER ALIGNMENT: BUILDING ON THE GRID

Net-New Generation - Fully Financed, Natively Integrated:

- **BESS:** Acts as a localized counter-flow to net out the PCLR's congestion impact during normal operations, and guarantees an unencumbered injection of capacity into the macro-grid scarcity.
- **Dispatchable Gas:** Shields the load from curtailment while also operating like any standard price-responsive generator—injecting continuous energy, providing physical rotational inertia, and delivering 24/7 macro-level scarcity support.

Protecting TSP Revenue: The FTM arrangement puts the load on an un-netted revenue meter, paying 100% of transmission costs, keeping utilities whole.

Preserving WSL Integrity: By remaining Front-of-the-Meter across distinct EPS meters, paired batteries preserve Wholesale Storage Load (WSL) tax exemption.

PURA Compliance: Both assets interact independently across the ERCOT utility boundary, avoiding PURA "retail wheeling" and joint-ownership legal friction.

INTERCONNECTION ARCHITECTURE: *DUAL POI & QUEUE PRESERVATION*

Queue Preservation (Non-Material Modification):

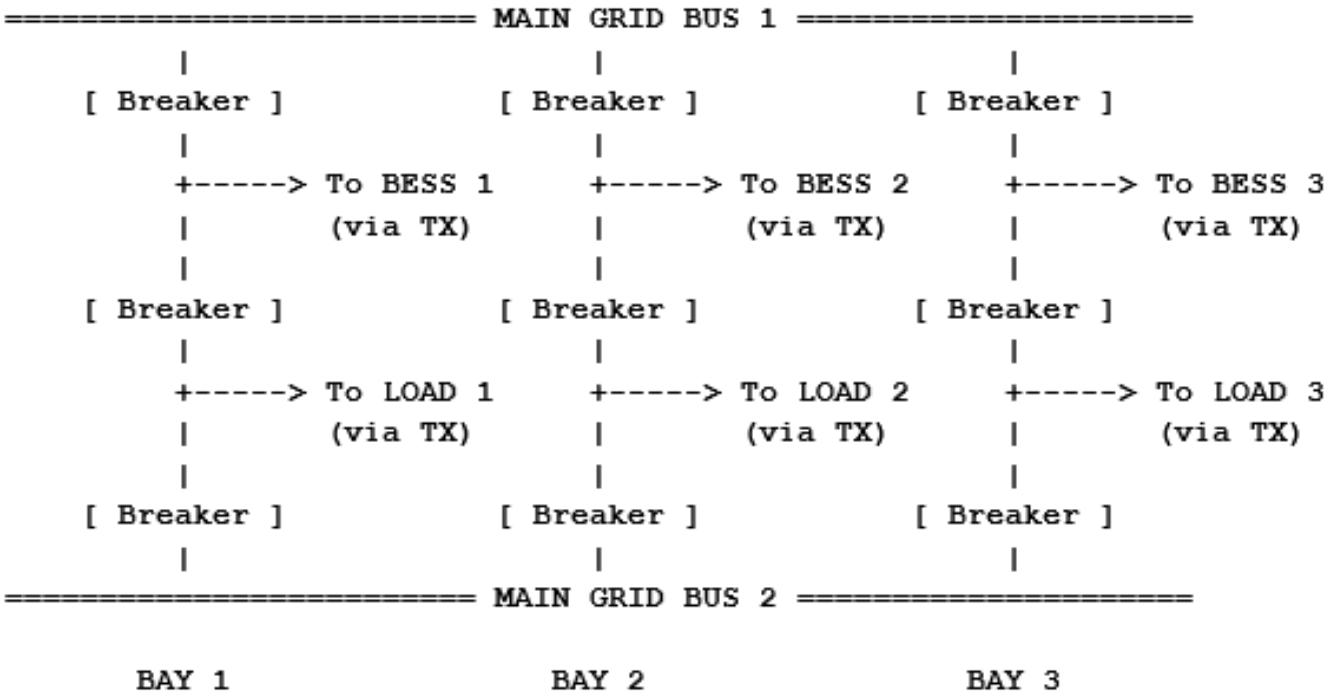
Requesting the TSP to construct two terminal bays off a shared bus bar should not constitute a "Material Modification," because the GPS site location, voltage, and MW rating don't change.

Post-Study Engineering (FIS & LLIP Alignment):

The specific physical layout of the dual-POI breaker bays is finalized directly with the TSP during the detailed engineering phases of both processes—specifically, during the generator's Full Interconnection Study (FIS) and the TSP reliability upgrade assessments within the load's Large Load Interconnection Process (LLIP). This allows the TSP to build a coordinated, shared-bus switchyard.

Topological Equivalence (Shift Factor Neutrality):

Because both terminal bays drop from the same TSP switchyard bus bar, ERCOT's Network Operations Model (NOM) maps them to the identical Electrical Bus, ensuring their shift-factor vectors are identical.



FTM-NETTING IS A POSITIVE-SUM BRIDGE

Concern: A paired resource can look like it is being reserved for one load rather than made fully available to the system

Market Reality: Without a grid-integrated path, assets will still get built – private capital moves BTM into a WLPUN or fully off-grid. ERCOT loses new generation, dispatch, and scarcity rights.

The Positive Sum Bargain: The load gets a bankable path to speed-to-power. ERCOT gets new front-of-meter capacity that is visible, metered, and responds during emergencies.

Firming Asset	What the Load Gets (The Shield)	What ERCOT Gets (The Yield)
Battery / ESR	A predictable buffer against 5-minute SCED curtailments	A front-of-meter asset that yields 100% capacity during EEA 1+, while the un-netted load pays its full transmission tariff.
Gas / dispatchable gen	Durable, 24/7 firming support without a state-of-charge limitation	Daily market energy, rotational inertia, local reliability, and scarcity release

NEXT STEPS: NPRR SUBMISSION

A Pre-Vetted Foundation: This framework has been diligently pressure-tested privately across the industry, incorporating feedback from load and generation developers, banks, insurers, technical engineers, QSEs and reliability experts.

Formal Submission: We will be formally submitting the FTM-Netting NPRR to enter the official ERCOT stakeholder process.

Public Engagement: We welcome the rigorous, public evaluation that the ERCOT process provides. We look forward to engaging with this working group, System Operations, and Market Design as the revision moves through the process.

THANK YOU

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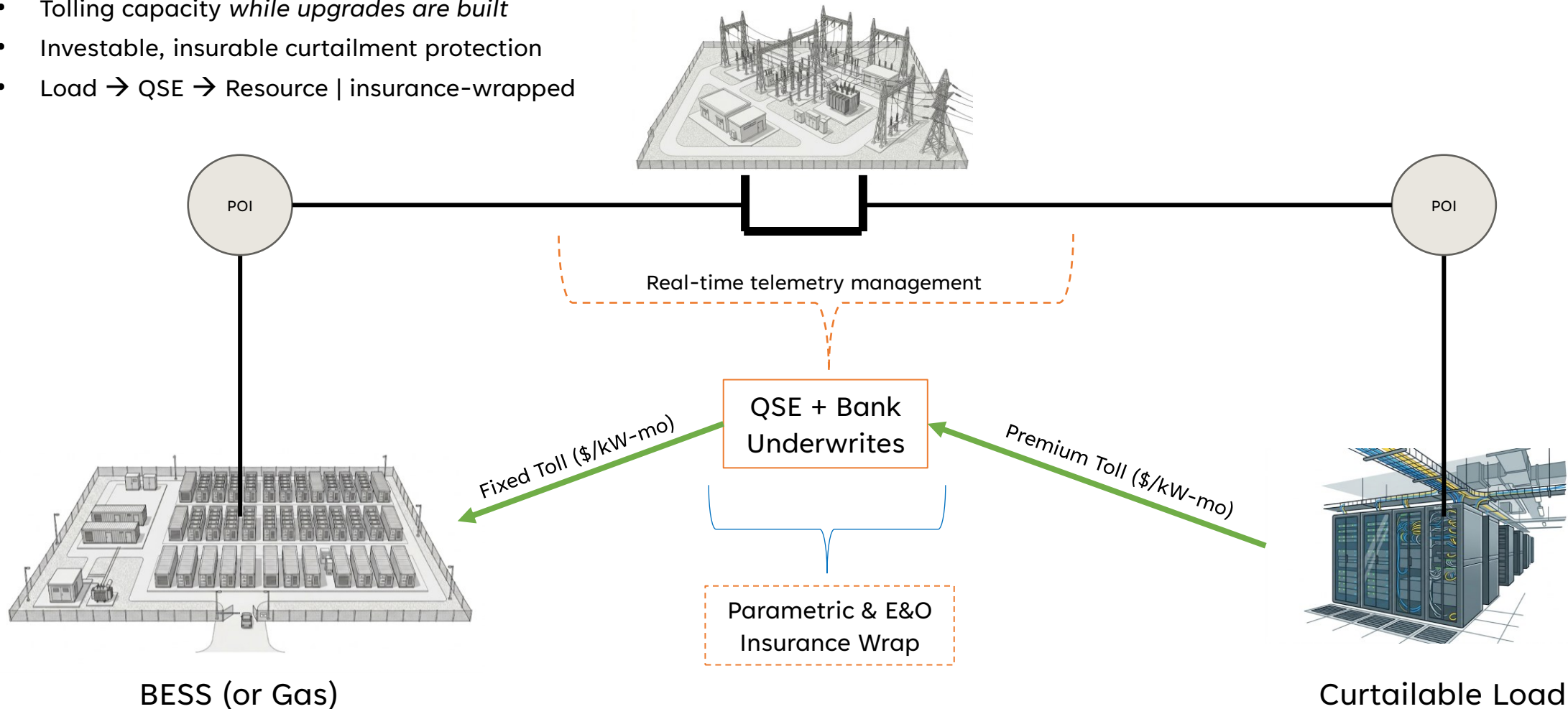
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THE COMMERCIAL PRODUCT

FTM-NETTING AGREEMENT

Bi-Lateral Contract between Load and Resource:

- Tolling capacity *while upgrades are built*
- Investable, insurable curtailment protection
- Load → QSE → Resource | insurance-wrapped



ALIGNING CAPITAL FOR TEXAS RELIABILITY

TURNING PRIVATE RISK MANAGEMENT INTO PUBLIC GRID ASSETS

	Path A: Off-Grid	Path B: Grid-Integrated FTM-Netting
Private Capital Deployed	\$500M+ CAPEX / 100MW	\$20M / year Toll for 5 years (100MW BESS)
Effective Power Cost	\$100-160 / MWh locked in 20 years	\$55 – 70 / MWh grid mix
Operational Predictability	Unproven at scale <i>(pipeline outages, plant reliability, etc.)</i>	Grid-level + predictable occasional downtime
ERCOT Grid Resilience	0 MW contributing to Grid ecosystem	Fully integrated into wider Grid ecosystem

The Desire for Grid Integration: Developers are ready to spend billions of dollars to build gas and battery capacity in Texas. Load operators want to be grid-connected.

The Capital Flight: Without predictability, private capital seeks off-grid or BTM configurations—putting GW in the ground that ERCOT cannot see or dispatch during a system emergency.

The Shared Solution: FTM-Netting bridges this gap. It gives operators the predictability they need while capturing new privately funded generation for the ERCOT grid for system reliability.