The background features a grid of small, dark dots on a light gray background. A diagonal line runs from the bottom-left towards the top-right, separating the darker left side from the lighter right side.

Reinventing the grid with behind-the-meter storage

Will Fadrhonc, Grid Solutions, Stem, Inc.

stem

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Stem builds virtual power plants

Aggregating distributed storage is the fastest, cheapest, and cleanest way to solve grid-level capacity challenges.

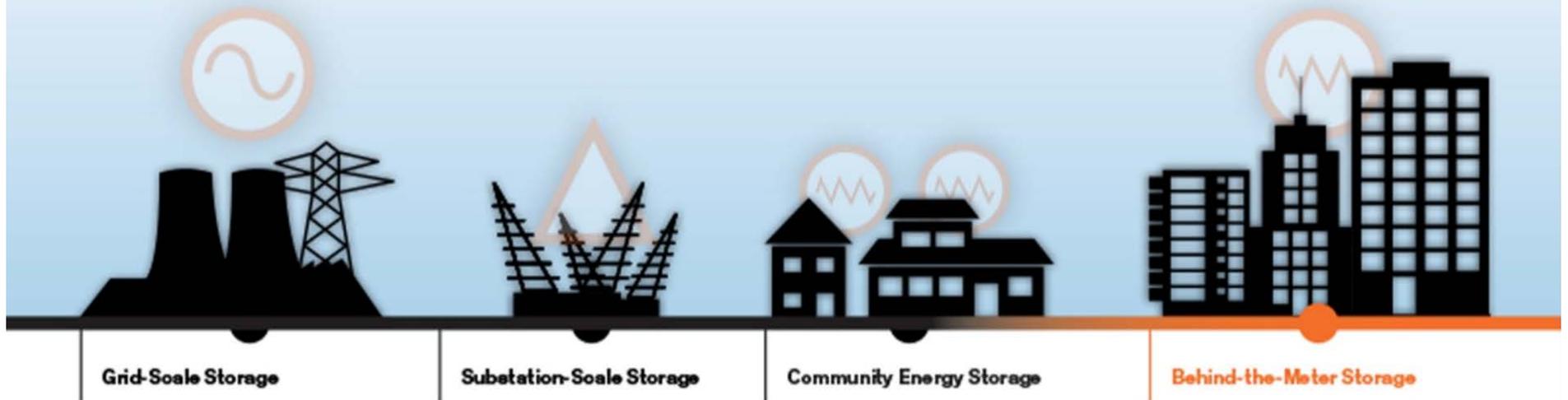
Company highlights

- 30+ systems installed
- 9.0+ MW capacity signed
- Industry's first storage finance agreement
- Certified per UL standards

36 kW PowerStore | San Jose, California
Light industrial

stem

Energy storage value chain



- Demand-side management
- Application aggregator
- Supports distribution circuit

Why behind-the-meter?

Located in load centers

→relieves local capacity constraints

Cheaper, faster, safer

→no grid upgrades required

→simple interconnection & permitting

→low voltage means less risk

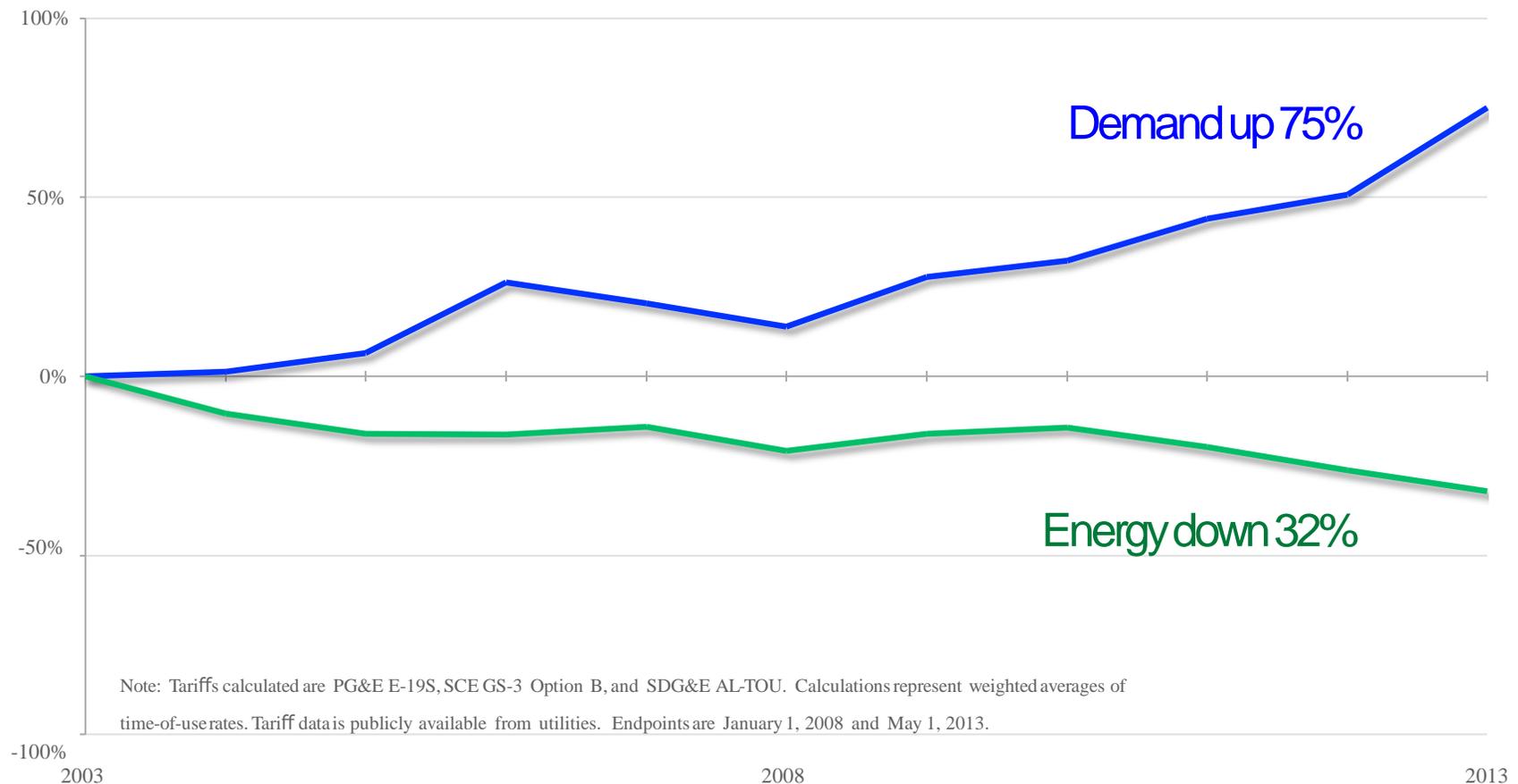
Customer participation without cost shift

→allocating costs and benefits appropriately

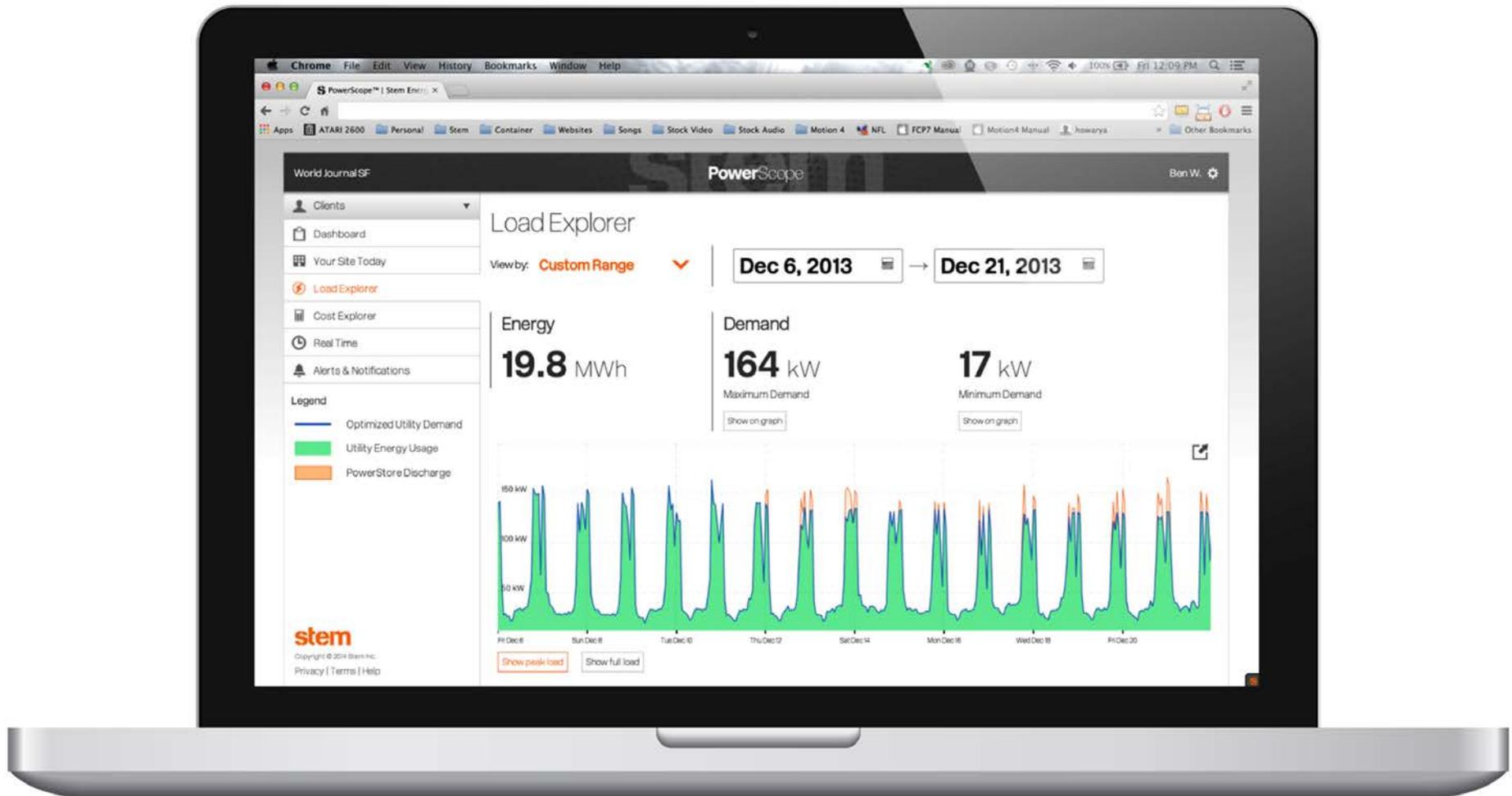
stem

Energy is cheap. Power is expensive

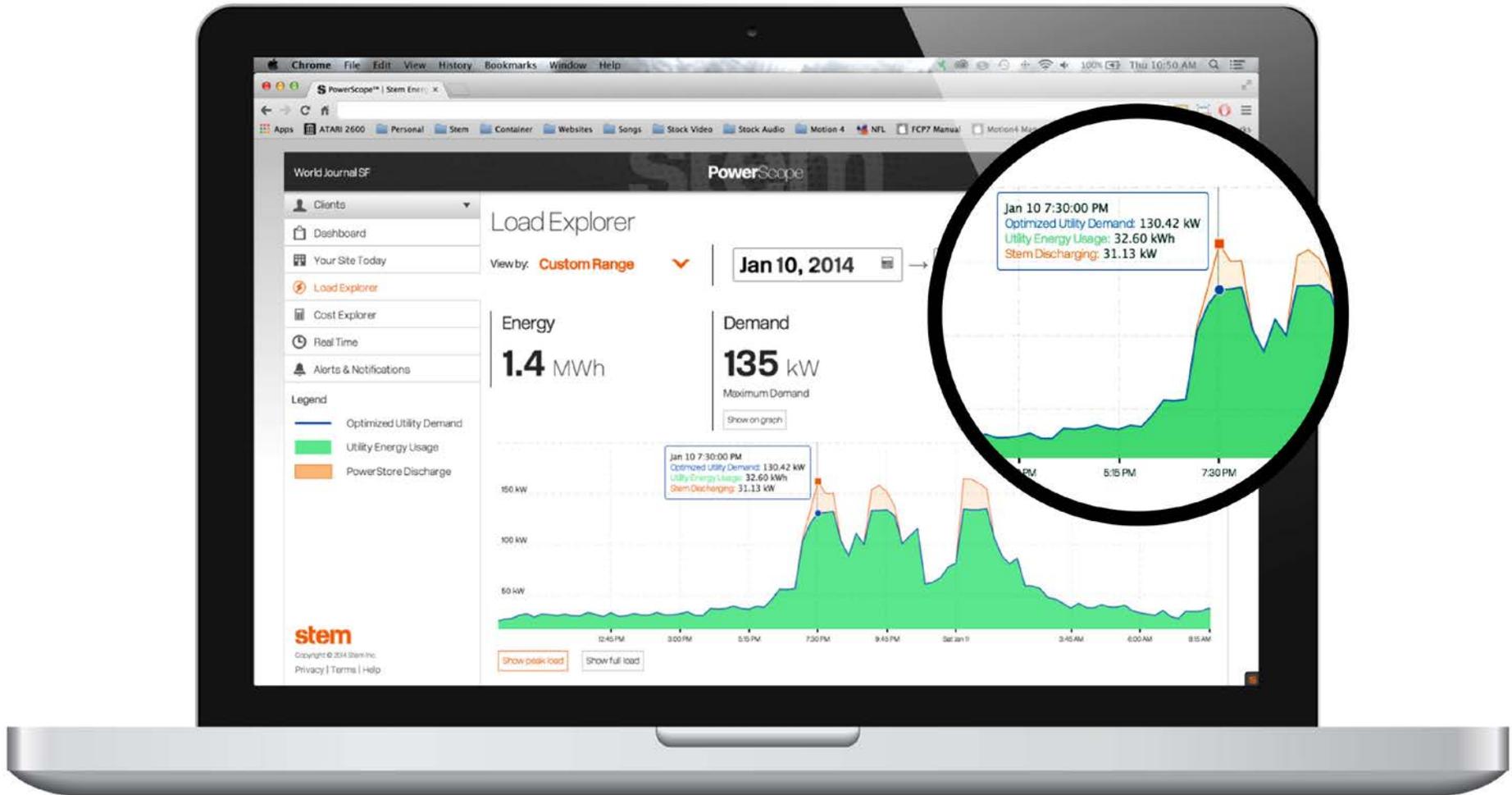
10-year trend for PG&E, SCE and SDG&E



Reducing peaks according to the tariff

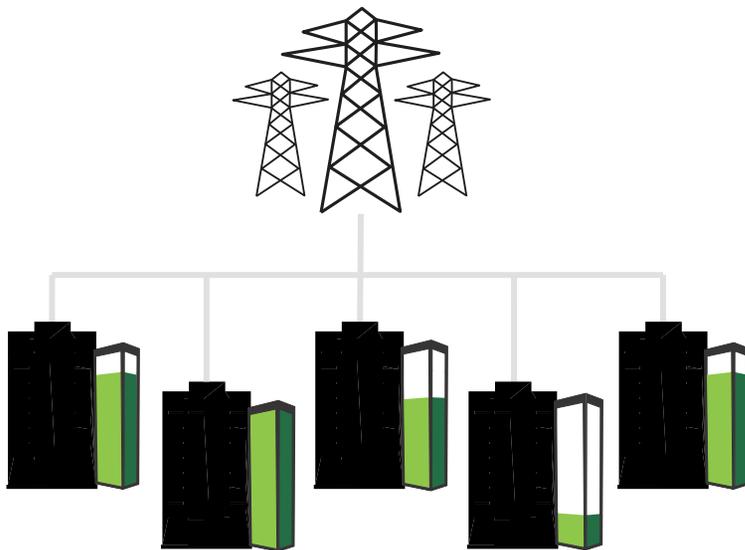


Reducing peaks according to the tariff



Stem as a utility resource

Aggregated PowerStores act as a virtual power plant in periods of high system-wide demand



- ✓ Fast responding, local capacity
- ✓ Predictive software selects storage systems that will not be in use by the host customer
- ✓ Enables hedging against real-time wholesale price swings or fuel price spikes host customer
- ✓ Utility contract structures ensure aligned discharge/charge with the needs of the system
- ✓ Enables hedging against real-time wholesale price swings or fuel price spikes

California leading the way

- Supportive incentive structures
- Progressive utilities
- Strong, early-adopter customers

CALIFORNIA REPUBLIC

Policy challenges



- Transparent procurement process
- Non-discriminatory market access
- Streamline interconnection process
- Wholesale / retail reconciliation
- Develop utility revenue model for storage projects



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Questions?

