Developer Opportunities & Challenges for Energy Storage

March 19, 2024

Presented By:
Christopher Finley
Chief Commercial Officer

SunGrid

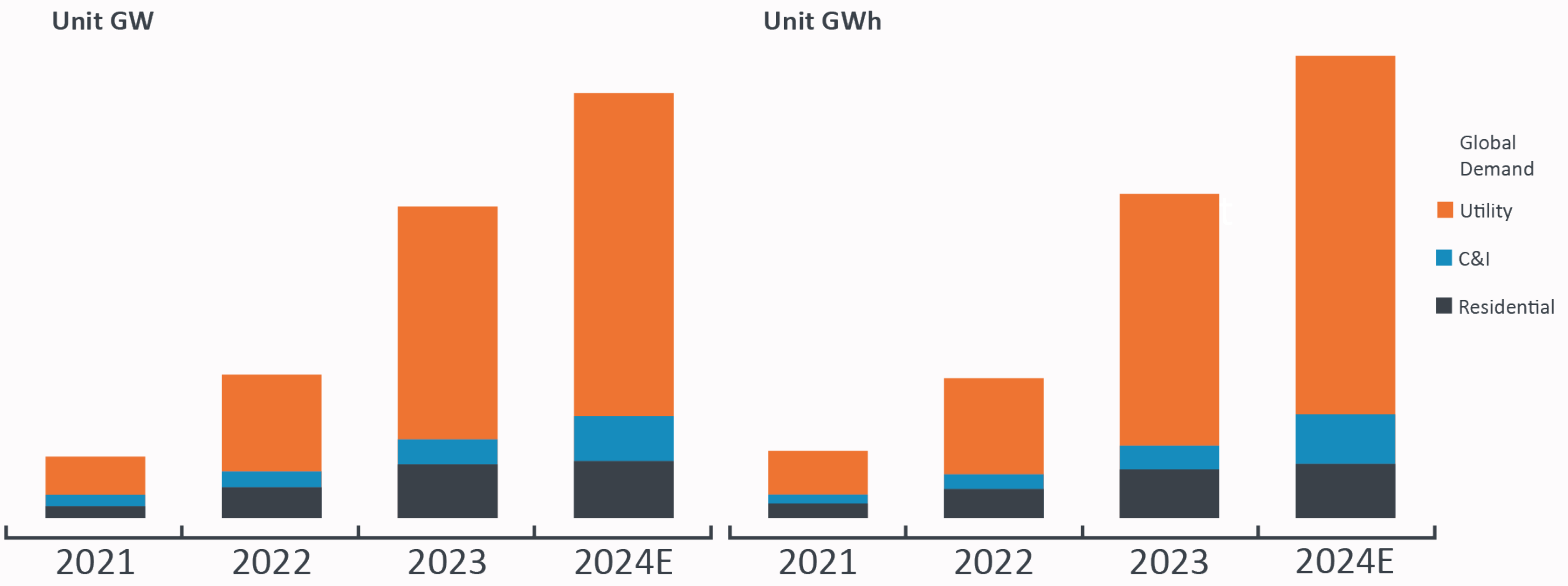
Agenda

- ESS Market Trends
- US Market Growth
- Challenges
- Opportunities
- EPiC Value Proposition

SunGrid

ESS Market Trends

Global Energy Storage Capacity

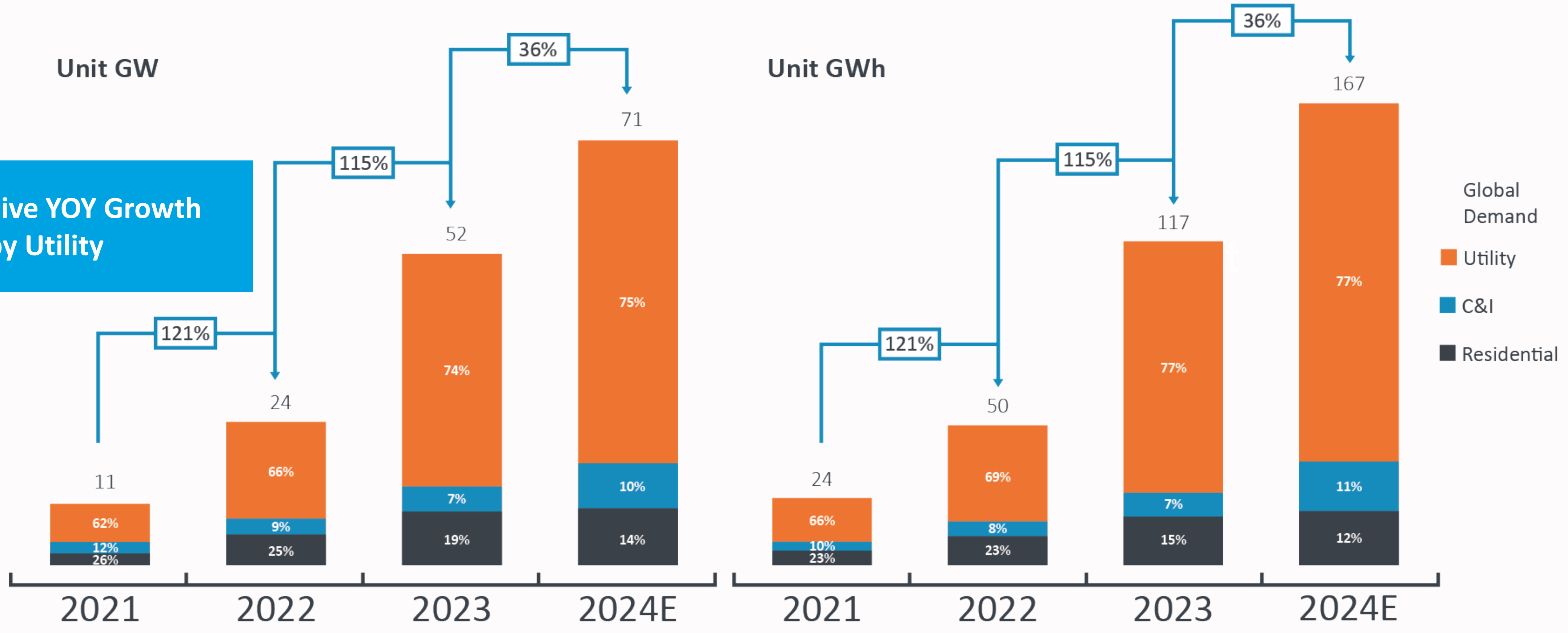


Global energy storage installs, with 2023 expected figures and 2024 forecasts, broken out by market segment. Image: EnergyTrend/Trendforce

SunGrid

Global Energy Storage Capacity

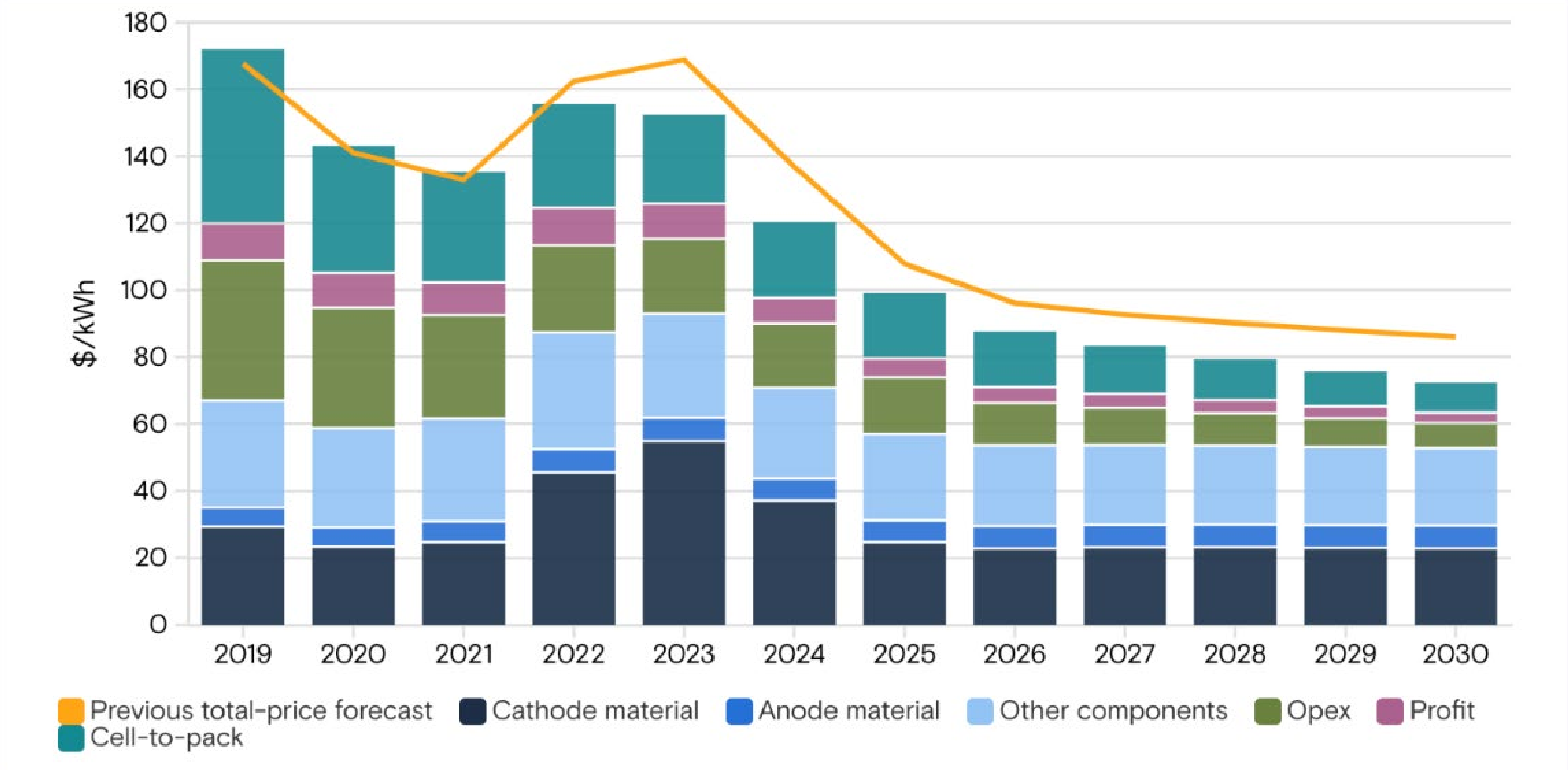
- Massive YOY Growth
- Led by Utility



Global energy storage installs, with 2023 expected figures and 2024 forecasts, broken out by market segment. Image: EnergyTrend/Trendforce

SunGrid

Global Battery Pack Price Trend

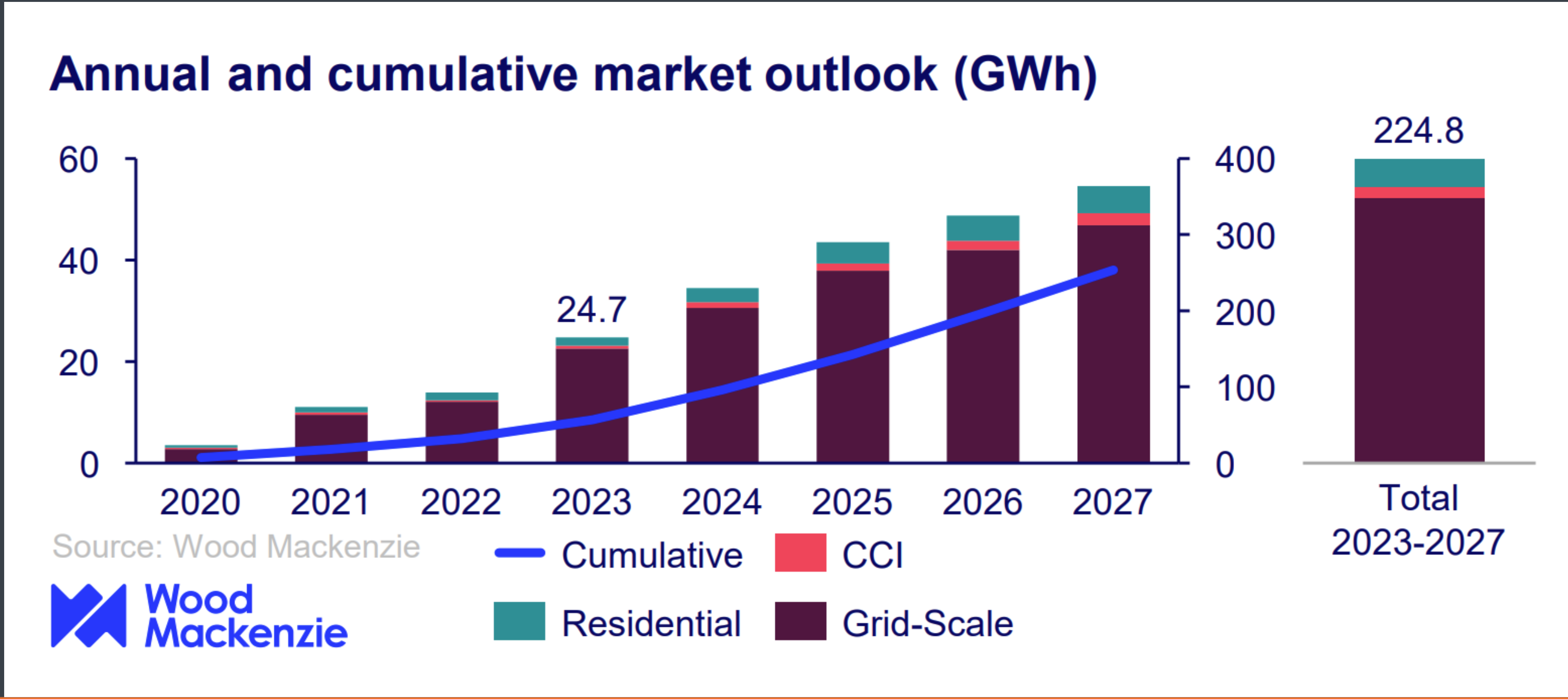


Global Average battery pack prices (Source: Company data, Wood MackEnzie, SNE Research, BNEF. Goldman Sachs research data from 2023 are forecasts.

US Market Growth

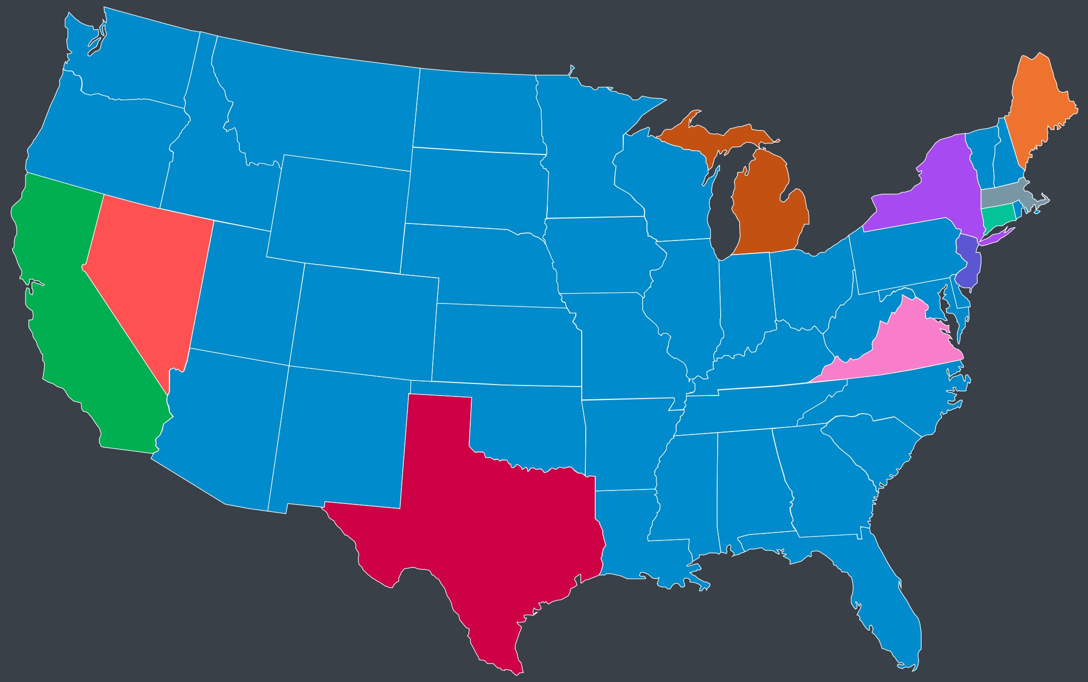
SunGrid

Energy Storage Deployment Forecast



U.S. Market Outlook

Targets By State



California
15 GW by 2032

New York
6 GW by 2030

Texas
5 GW by 2030

Michigan
4 GW by 2040

Virginia
3.1 GW by 2035

New Jersey
2 GW by 2030

Nevada
1 GW by 2030

Massachusetts
1 GW by 2026

Connecticut
1 GW by 2030

Maine
0.5 GW by 2030

SunGrid

Energy Storage Policy Drivers

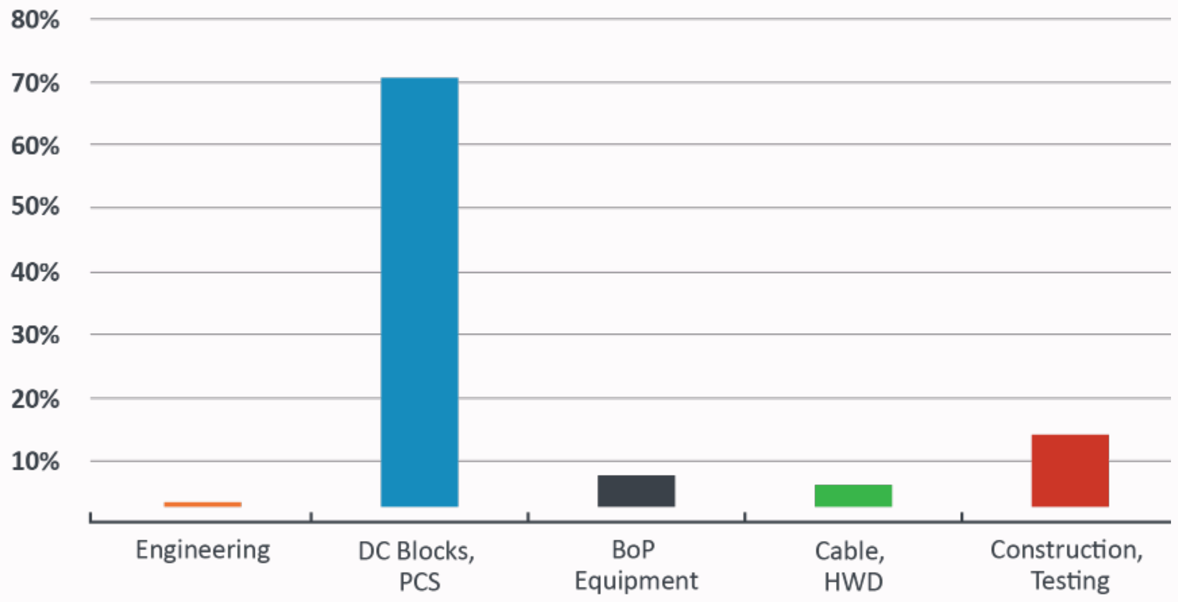
- Procurement Targets
- Regulatory Adaptation
- Demonstration Programs
- Financial Incentives
- Consumer Protections

SunGrid

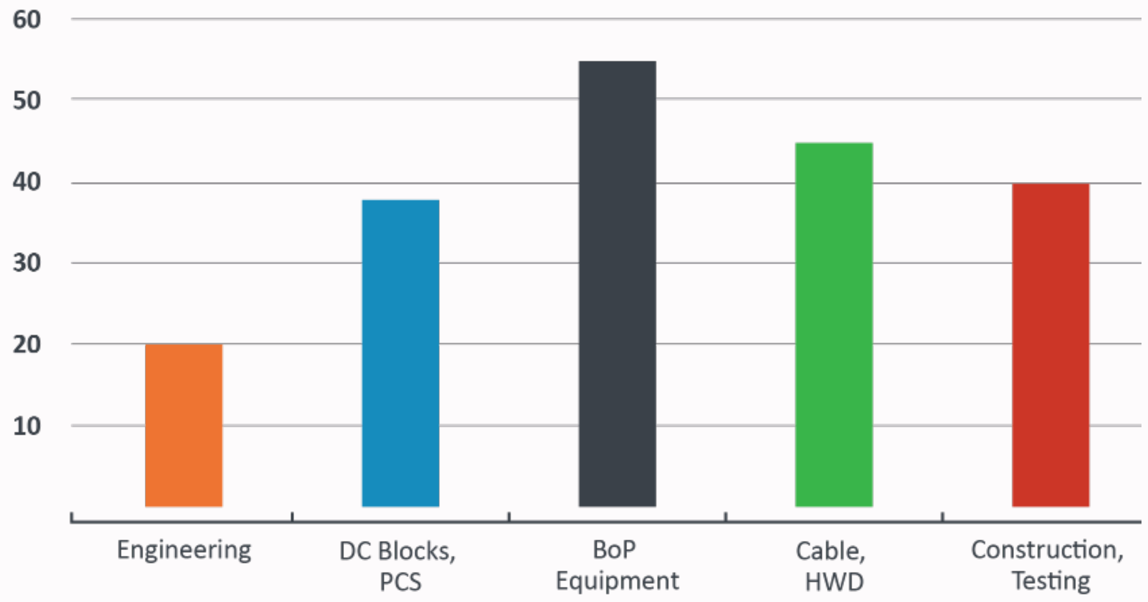
Challenges

EPiC Development Cycle

AVG BESS Cost Breakdown (%)



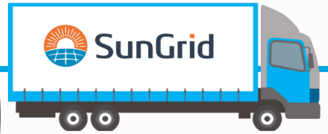
AVG BESS Lead Time (Weeks)



Highest Cost Contributor ≠ Critical Path

Supply Chain Volatility

Shared Risk Approach

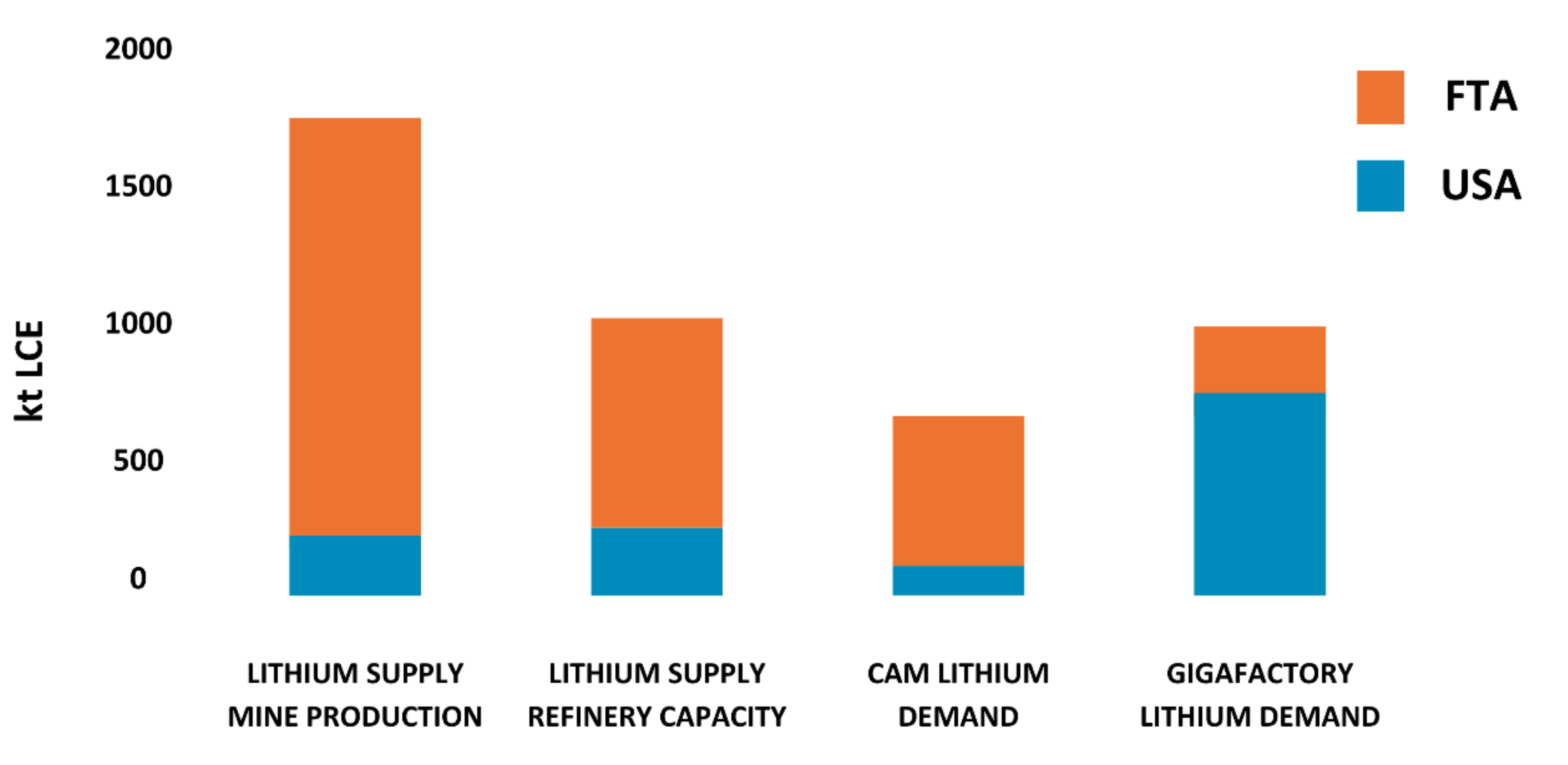


- Lead time
- Cost Variations
- Design

SunGrid

Lithium Supply Chain Balance

Domestic capacity will grow to over **630 GWh**!



SunGrid

Environmental, Social & Governance

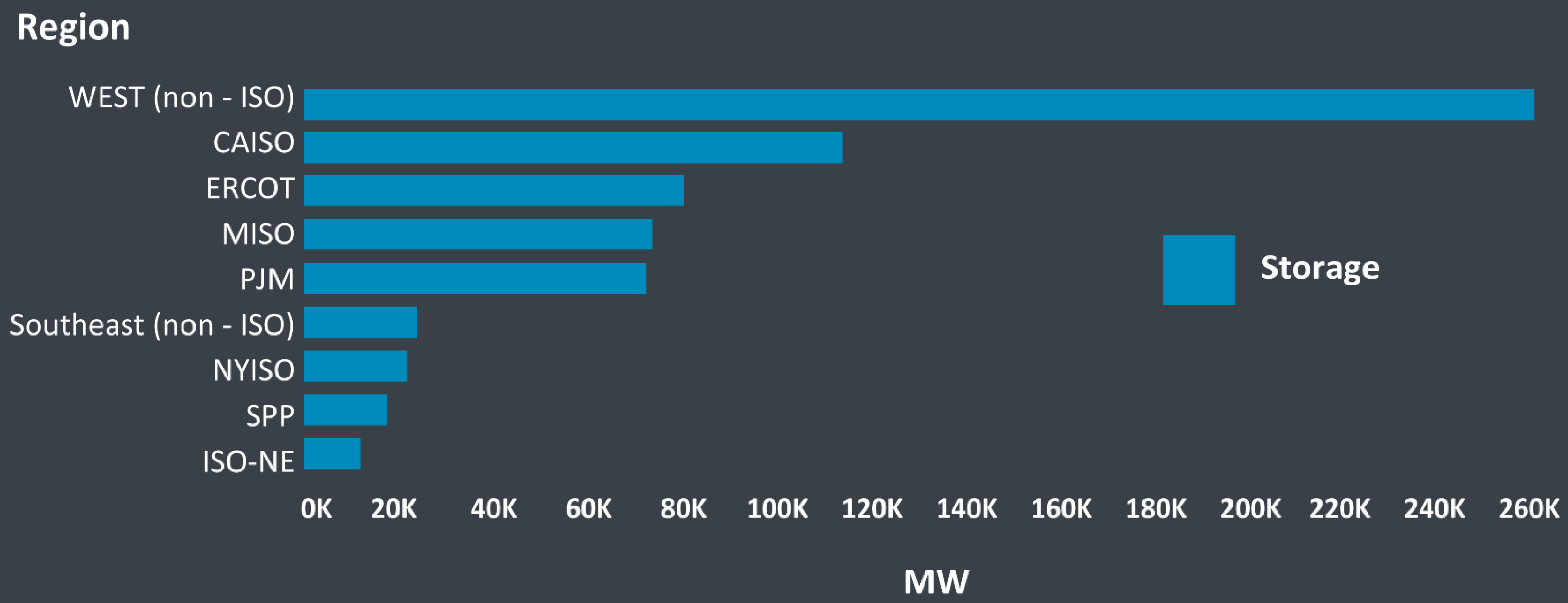
- Greenhouse gases
- Air pollution
- Water pollution
- Radioactive pollution

- Child or forced labor
- Discrimination and harassment
- Protecting Indigenous rights

- Customer health and safety
- Anticompetitive practices
- Sustainable supplier management
- Corruption and bribery

SunGrid

Regional Queues for Battery Storage



SunGrid

Unlocking the domestic content bonus tax credit

$$\frac{\text{Total cost of U.S. Manufactured Products} + \text{Total eligible costs of Non-U.S. Manufactured Products}}{\text{Total cost of Manufactured Project Components}} > \textbf{40\% DOMESTIC CONTENT}$$

- Boost domestic production and supply chains
- Developers actively seek & prioritize U.S. manufactured products

SunGrid

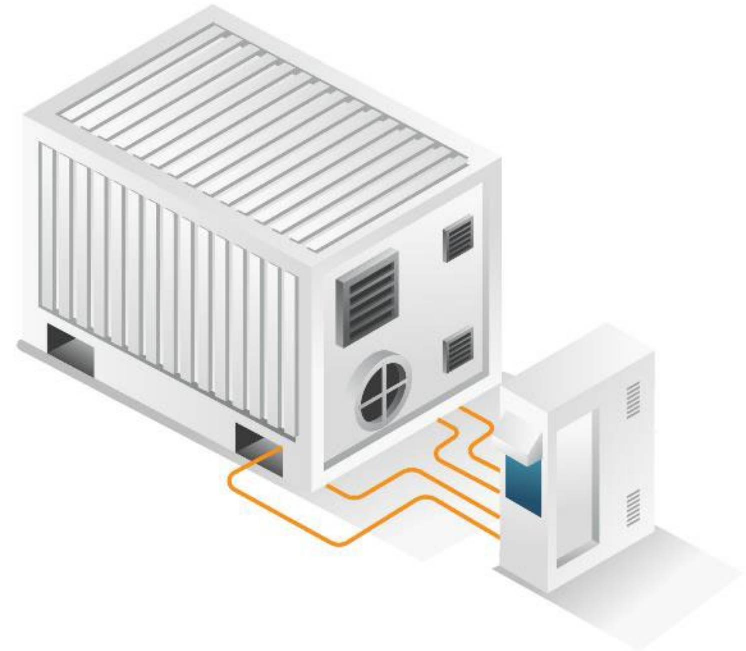
Powerful Examples

BESS plant at US Florida, Q4 2023

Facility at US Idaho (capacity of 12 GWh)

Factory in Lathrop, California (capacity of 40GWh)

Launches US$3.5 billion for battery manufacturing



SunGrid

Opportunities

Comparing: Capacity vs. Demand

Opportunities:
Technology-Agnostic Approach

Trina Storage
Elementa
2.5 MWh

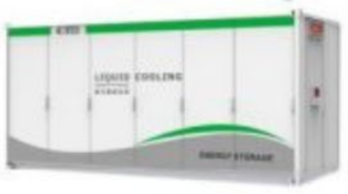
Risen/ SYL
SU Series
3.4 MWh

Gotion
ESD1126
2.7 MWh

Mitsubishi
Emerald
3.7 MWh

Tesla
Megapack 2XL
2.8 MWh

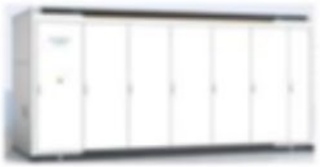
Clou
Aqua C-1
3.7 MWh



Energy Vault
B-Vault
3.2 MWh

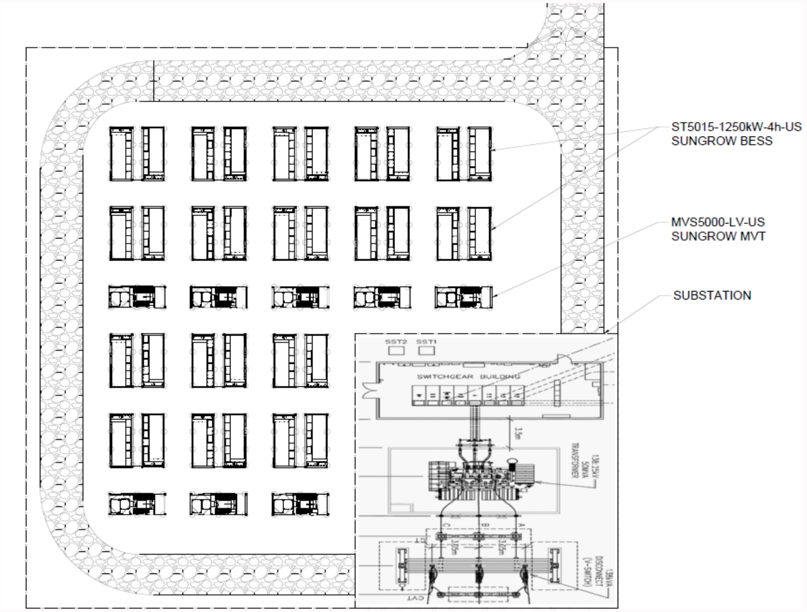
AESI
TeraStor
3.8 MWh

Opportunities: Technology-Agnostic Approach

Samsung SBB 3.8 MWh		Sungrow Titan 2.0 5.0 MWh	
CATL EnerOne 4.1 MWh		Hithium Block 5.0 MWh	
Sunwoda Noah X 4.2 MWh		BYD MC Cube 5.1 MWh	
Canadian Solar Solbank 4.8 MWh		REPT A16 5.1 MWh	

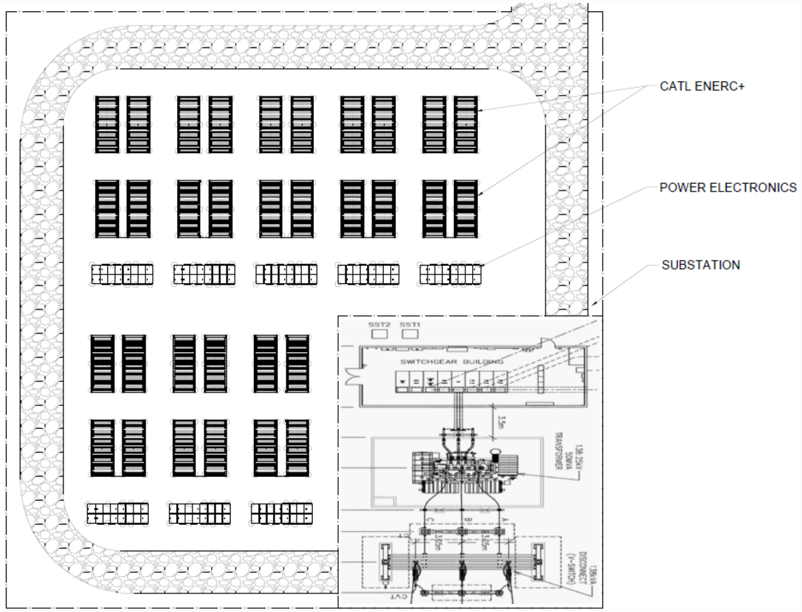
Energy Density / Acre

Typical AC Coupled System



160 MWh/acre

Typical DC Coupled System



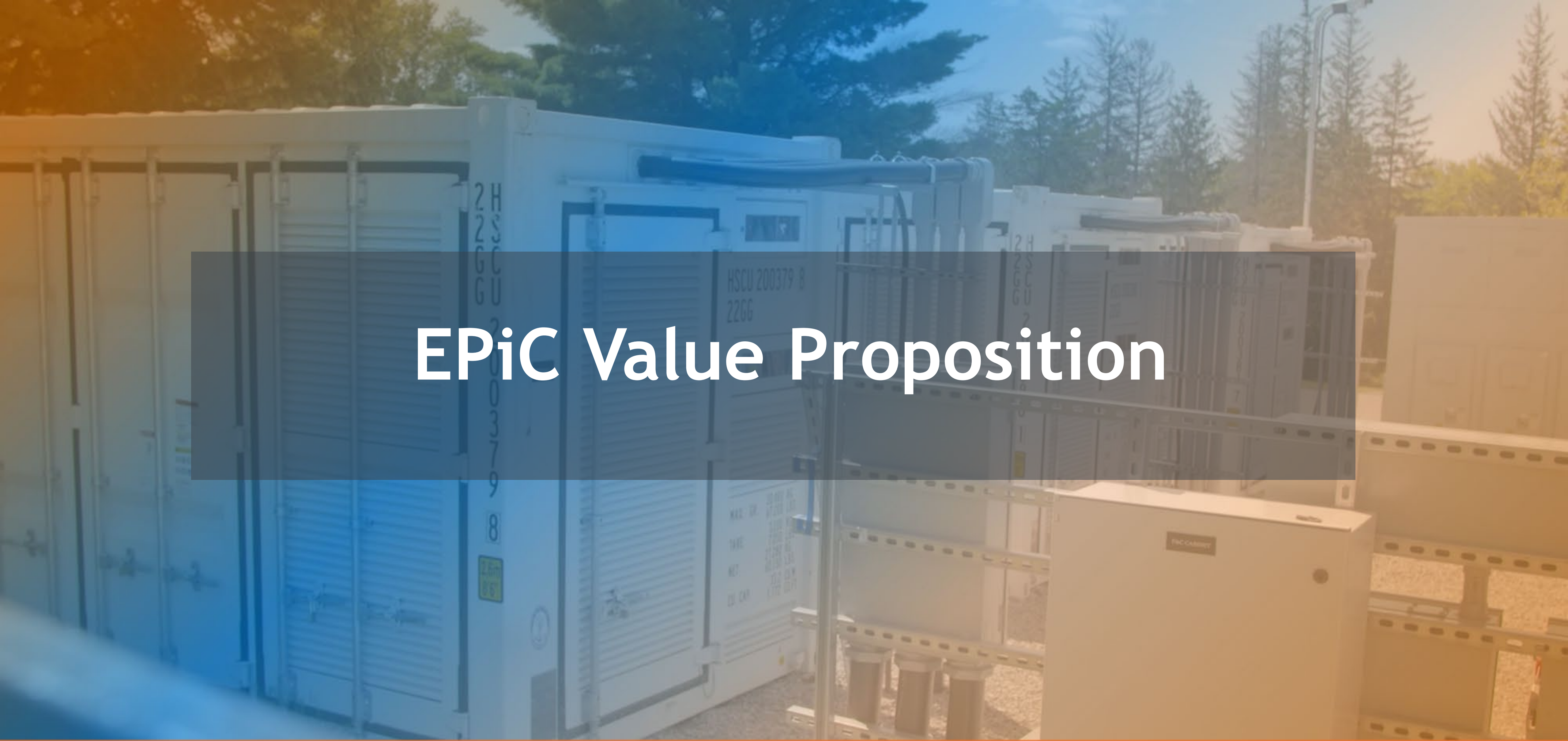
130 MWh/acre

SunGrid

Winning Strategy?

Oversizing	Augmentation
More certainty	Lower CAPEX
Lower OPEX	Better technology
Higher CAPEX	More Downtime & Higher OPEX
Degradation management	Space requirement

SunGrid



EPiC Value Proposition

ENGINEERING PROCUREMENT INTEGRATION CONSTRUCTION

Safety Always

Pre-qualification ensures adequate programs in place

Knowledge of all applicable standards and practices

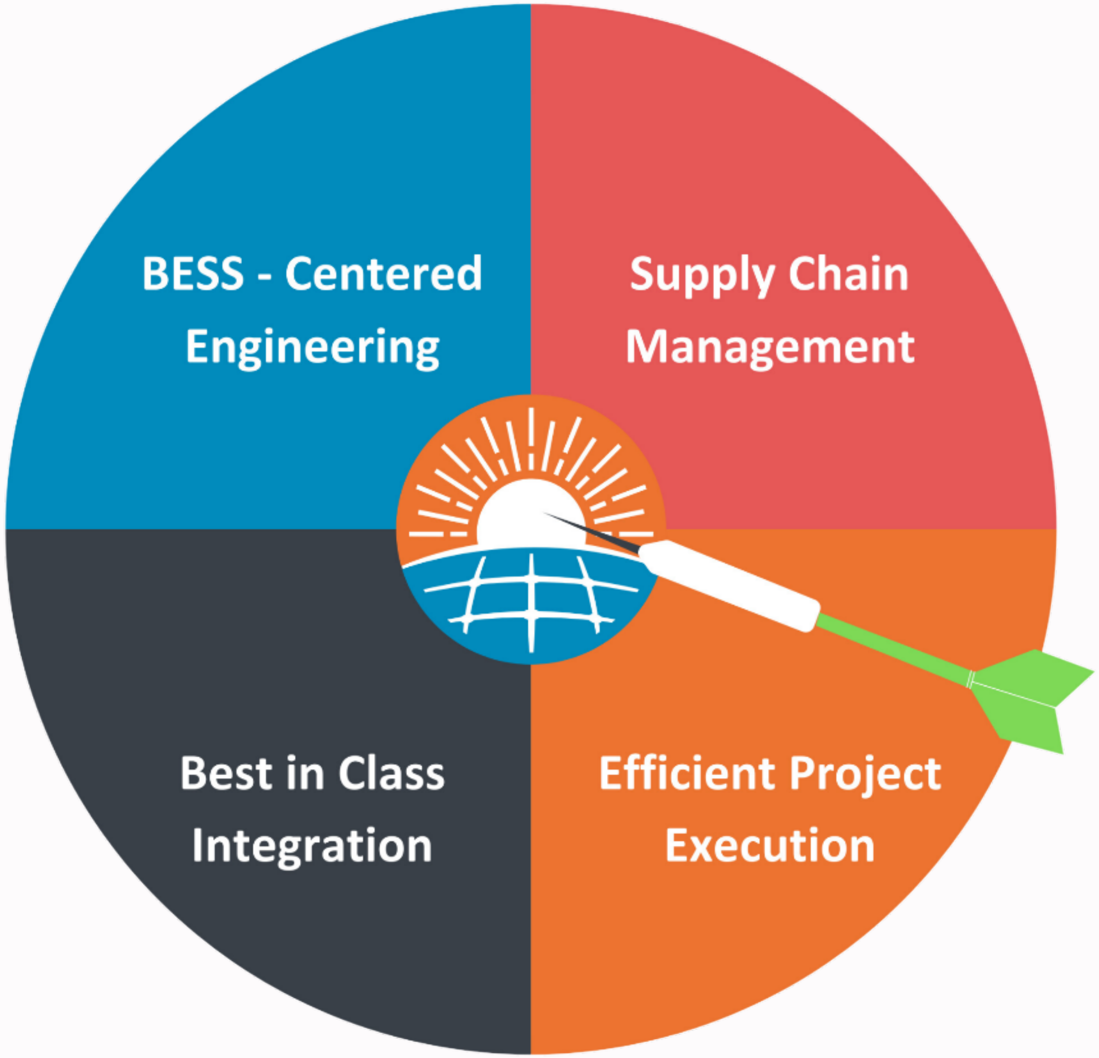
2023 Stats:

TRIR = 0.00

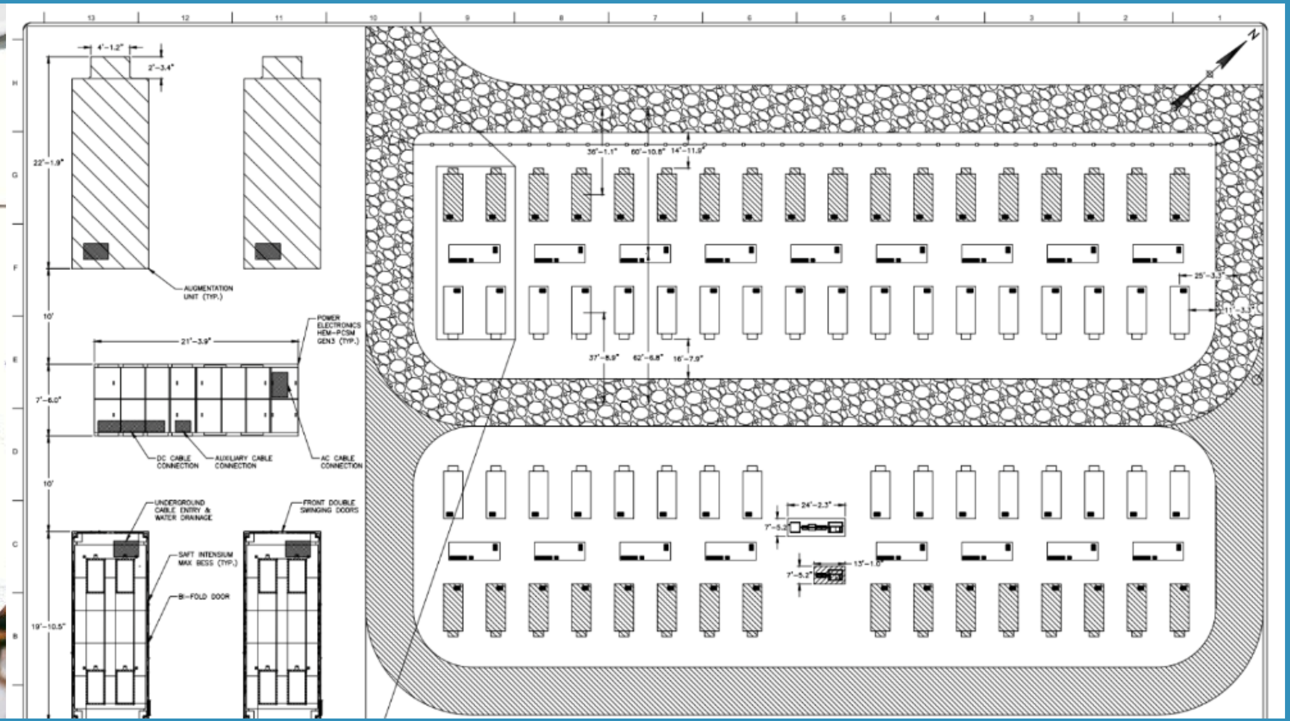
LTIR = 0.00

SunGrid

Why work with an EPiC company?



BESS-Centered Engineering



Procurement - Supply Chain Efficiency

Integration Services

Construction - Project Execution

OPERATIONS

MAINTENANCE

Summary

- YoY Industry growth, led by Utilities
- US market growth due to numerous policy drivers
- Common challenges: Lead times, interconnection
- Incentives, a diverse offering of technologies
- The importance of working with a trusted partner

SunGrid

Thank You!

If you have any questions, please visit the SunGrid booth.