



Fluence

The Next Big Thing in Energy Storage

FLUENCE
A Siemens and AES Company

Unlock the **full potential** of your electric system.

Let's build the new energy network.



Electrify
everything.

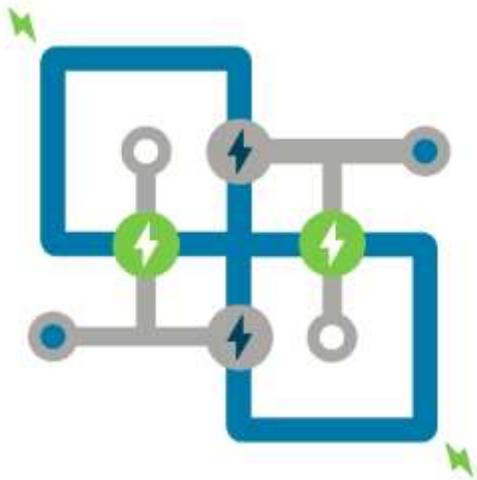


Accelerate
renewables.



Transform the grid with
energy storage.

Transform the grid
with **energy storage**.



The ability to store energy anywhere on the grid changes everything.

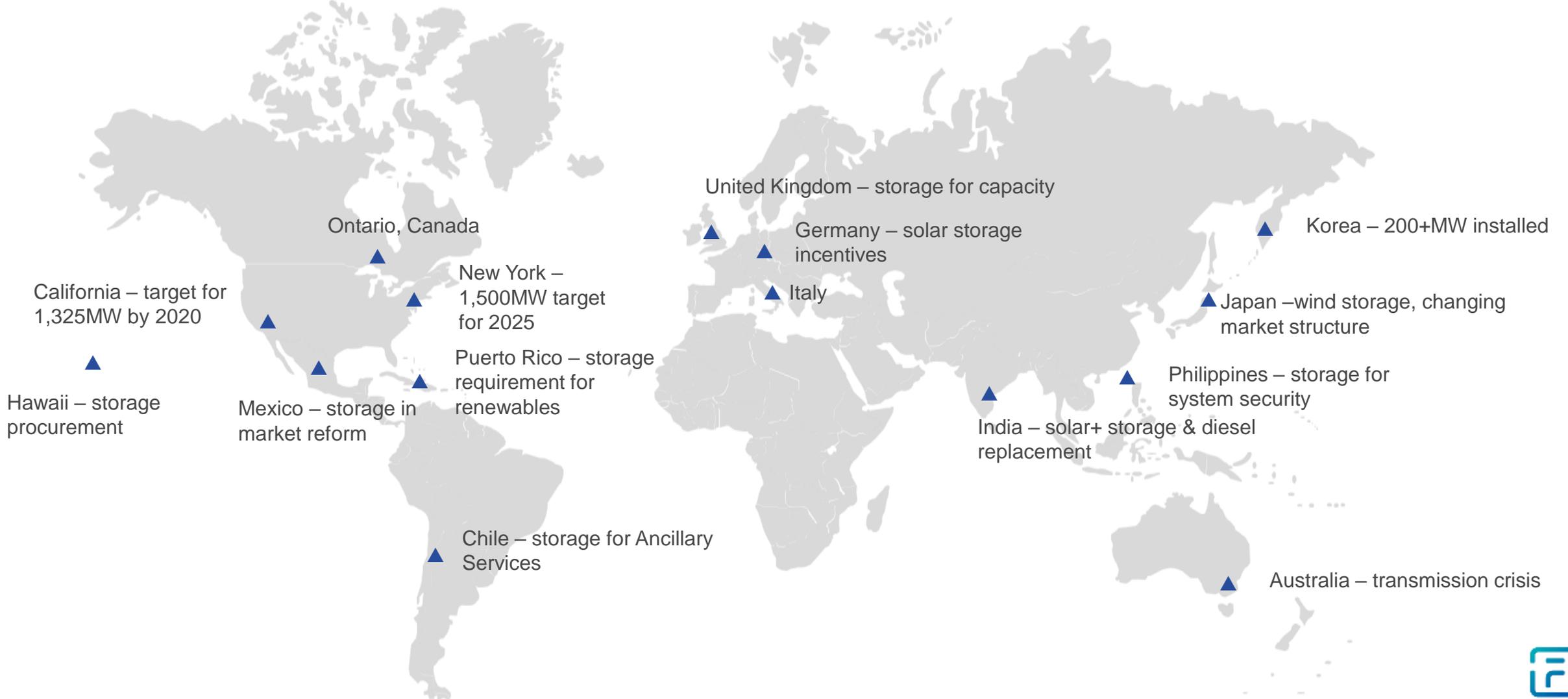
When, where, and how people consume electricity is changing.

The rise of renewables and distributed generation are creating new challenges and opportunities for the electric power system.

Energy storage **decouples supply and demand** and introduces an unprecedented level of flexibility and control.

Energy storage continues to gain momentum worldwide

Battery-based energy storage assets serving constrained power systems with fast, flexible power



The energy storage market is entering a new growth phase and requires different and enhanced capabilities to lead.

The next 3-5 years will define the future market leaders in the industry



Source: Cumulative Installed Capacity - IHS (2016)

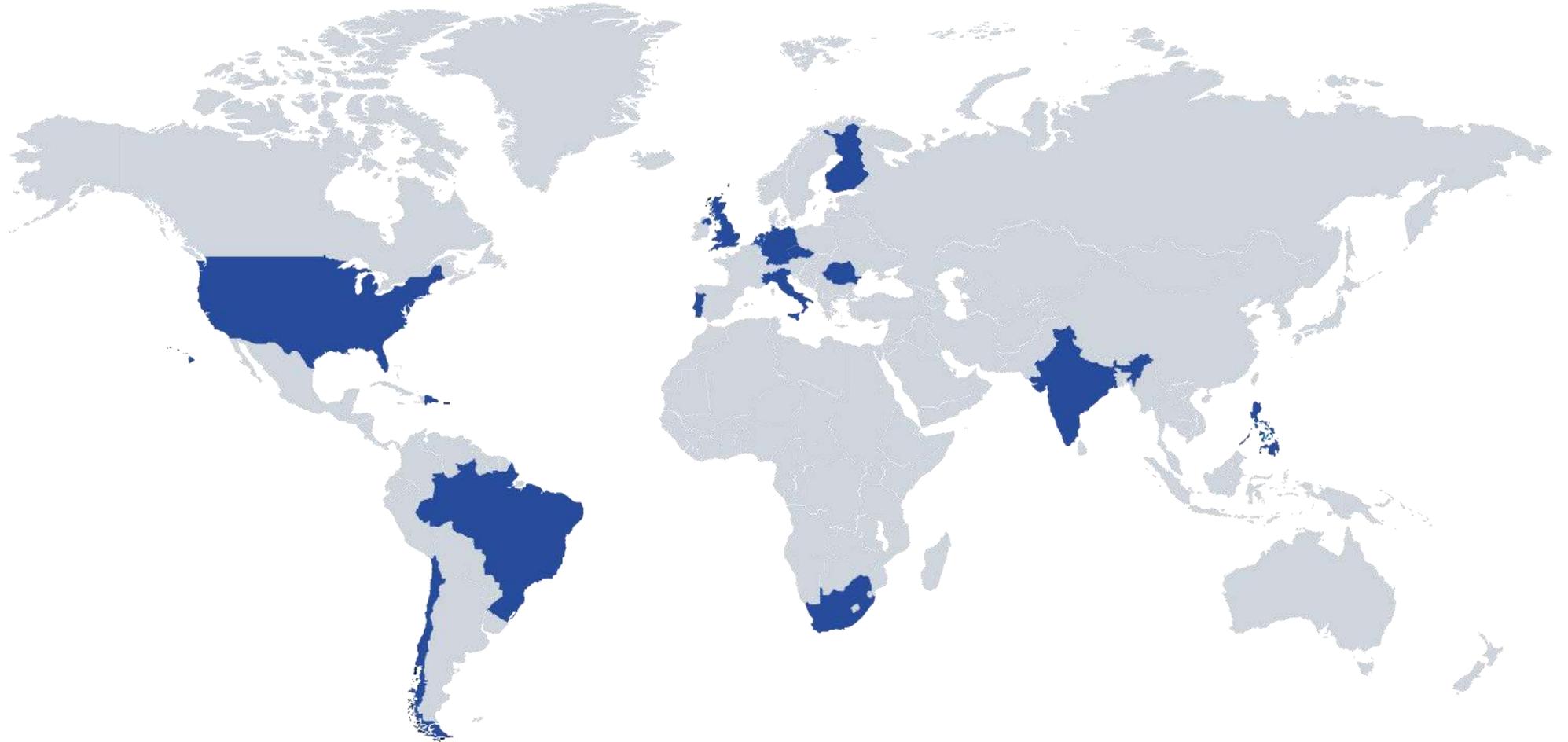


Fluence is the global leader in energy storage with nearly 500 MW in 15 countries


485
TOTAL MW


15
COUNTRIES


56
PROJECTS*



*Deployed or Awarded



Fluence brings unmatched experience at scale from the partner you can trust

EXPERIENCE

10+ years of experience in energy storage from two proven industry pioneers

- World's leading storage provider
- Deployed or been awarded 56 projects, in 10 countries, 486 MW

SCALE

Complete technology and service offerings delivered worldwide

- Proven technology platforms that address full spectrum of applications
- Delivery & integration in 160 countries
- Comprehensive services including financing

THE RIGHT PARTNER

Deep understanding of modern power markets, customer needs, and local market challenges

- Collaborate with customers to solve their energy challenges
- Avoid pitfalls of inexperienced packagers and integrators
- Strong financial backing and industry staying power

Created and backed by two industry powerhouses

SIEMENS
Ingenuity for life

+

 **AES**
we are the energy



Storage solving real world needs -
30 MW of energy storage for San Diego Gas & Electric, California, United States

—
Largest energy storage project in the world
Contract to online in 6 months
Sited on 1 acre, where a power plant could not be permitted



Renewable Integration

Hawaii, United States

28 MW Solar PV

20 MW, 5-hour (100 MWh) energy storage

KUIC

SERVICES

- Renewable integration
- Peak power/off peak mitigation

IMPACT

- Avoids oil and fossil fuels
- Lowers cost and supports 100% renewable energy

Solving peak energy demand through solar + storage in Hawaii



Microgrids & Islands

Isle of Ventotene, Italy

1MW / 1MWh

ENEL

IMPACT:

- Complex control developments for stable operation with existing gen sets.
- 15% Fuel savings demonstration on-islanded grids.
- Enable further integration of renewables.



Transmission & Distribution Enhancement

Arizona, United States

2 MW / 8MWh

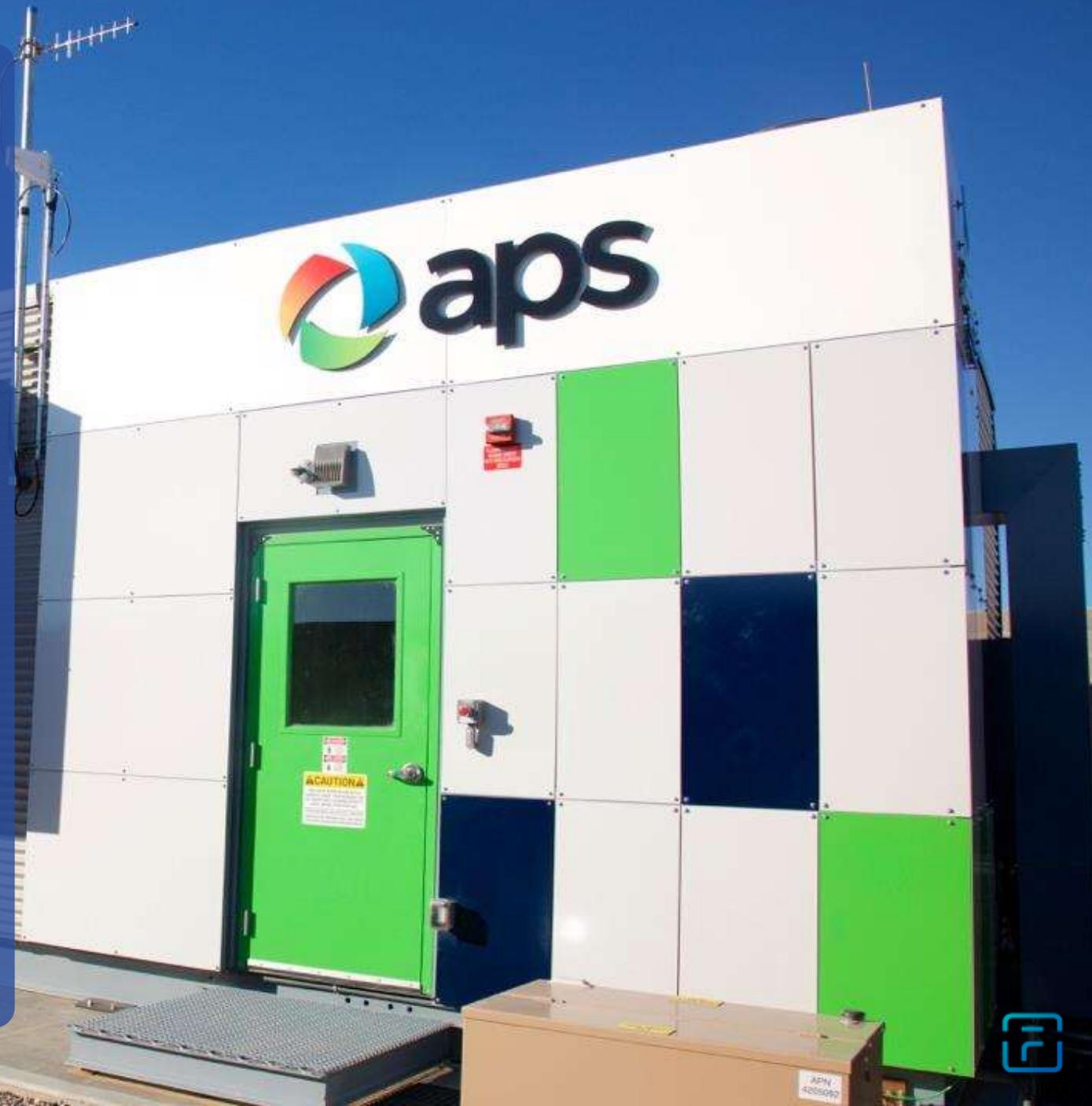
Arizona Public Service (APS), Punkin Center (under construction)

SERVICES

- Transmission upgrade deferral
- Peak management

IMPACT

- Power reliability at half the cost of a transmission



Here's where we are going. 100's of MW Scale, Peaking Power.

Long Beach, California, United States

100 MW, 4-hour (400 MWh)

AES Alamitos, COD Jan 1, 2021

SERVICES

- Capacity, local reliability
- Peak power/off peak mitigation
- Ancillary services

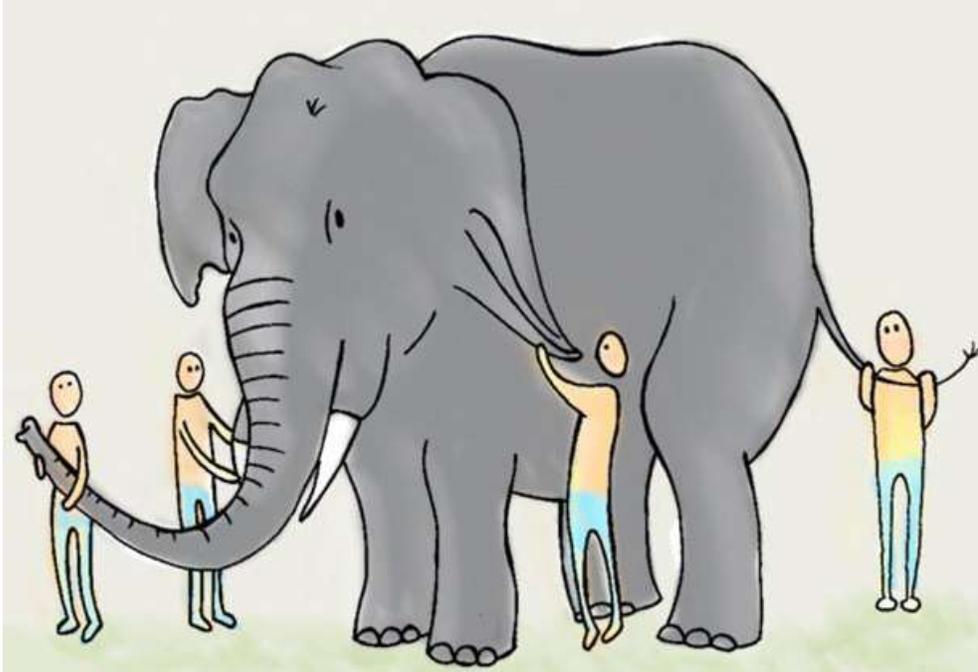
IMPACT

- Competitive bid vs thermal peaker, cost effective
- Replaces environmental retired units
- Meets flexibility (duck curve)

World's largest contracted
energy storage project



What role can policy play in accelerating the adoption of energy storage?



- Planning stages
 - Design – Include storage as an option in IRP's with right characterization of costs and benefits.
 - Modeling - Analyze optimal resource portfolio
- Procurement stages
 - Design – Solicitations should be “resource-neutral”.
 - Modeling – Include all benefits of storage while performing evaluations.

Planning and Procurement are two key pillars to advance forward. State policies have emerged outside of California that can serve as great examples (AZ, NM, MA, WA)



Thank you

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