

# Accelerating the **Net Zero Grid**

Equipping our utility partners with innovative monitoring and analytics solutions that improve the capacity, resilience, and safety of the grid.





#### 3 Steps to Net Zero

Decarbonize Generation



Expand the Grid



Electrify Everything







#### A new way to build grid capacity

Grid Enhancing Technologies like DLR combine advanced non-contact sensors and analytics to increase the carrying capacity, resilience and safety of the transmission grid.

- Safely unlocks up to 40% additional capacity on existing lines
- Reduces grid congestion, integrates more renewables and saves consumers money Avoids traditional obstacles to building grid
- capacity
  - <u> Permitting</u>
  - Cost (<5% of unit cost of new transmission)
  - Time (months vs 5+ years



Project aims to proactively alleviate bottlenecks on the grid and more efficiently utilize renewable generation from the 700 MW of UARP hydropower.

"This has the potential to help unlock additional capacity on SMUD's existing transmission lines, allowing more renewable generation assets to be added to the grid." Frankie McDermott. COO. SMUD



#### GETs and New Transmission - Better Together



Timing	Target Lines	Benefit
<b>Before</b> Construction	Congested lines, including lines scheduled for upgrade	<b>40%+</b> congestion cost reduction
<b>During</b> Construction	Parallel/Contingent lines	<b>40%+</b> reduction in outage- driven congestion
<b>After</b> Construction	Upstream & downstream constraints	<b>16%</b> increase in utilization on new/upgraded lines

"These technologies are highly complementary to transmission expansion through new lines. They can magnify the cost effectiveness and capabilities provided by new transmission investments. They provide short-term solutions to temporary operational challenges, such as during transmission outages or the construction of new lines, and bridge gaps until permanent expansion solutions can be put in place."

### GETs present low-hanging fruit solutions

# Two primary ways to integrate GETs: Transmission Planning & Interconnection

- i. System planners could be required to evaluate GETs like DLR to address congestion
  - 1. \$500,000 congestion in past year + payback period <5 years = install
- Require operators to provide power flow study results and asset condition and performance data for projects that are proposed and have an initial cost estimate of more than \$10 million
  - 1. NY Advanced Technology Working Group focused on DLR, APFC, storage; critical involvement in state's Coordinated Grid Planning Process
- iii. Interconnection Leverage GETs in CAISO's Interconnection Process Enhancement (IPE) initiative



#### GETs present low-hanging fruit solutions

# Leverage federal/state funding opportunities to address GETs deployments

State: California's Electric Program Investment Charge (EPIC) Program

 NY - NYSERDA's Smart Grid Program included in the State's Clean Energy Fund (CEF) Grid Modernization Program (\$110 million through 2026)

**Federal**: \$14 billion in GETs eligible programs

- Preventing Outages and Enhancing the Resilience of the Electric Grid Grants
  - -Matching grants for industry 40101(c)
  - -State and tribal formula grants 40101 (d)
- Smart Grid Investment Grants 40107
- Grid Innovation Program 40103(b)
- Energy Improvement in Rural & Remote Areas Program (ERA) 40103(c)

States are grantees in 40101(d), Smart Grid, Grid Innovation, ERA Utilities are grantees in 40101(c), Smart Grid, ERA (nonprofits only)



