



Energy Resilience and Deep Decarbonization Panel

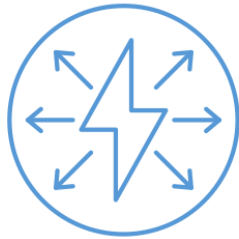
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Vice President - Energy Innovation



SDG&E Net Zero by 2045



Decarbonization: Reducing the carbon content of energy is central to interdicting and decarbonizing the industrial, transportation and power generation sectors. Over time, the electrons and molecules delivered to customers will need to become less carbon intensive.

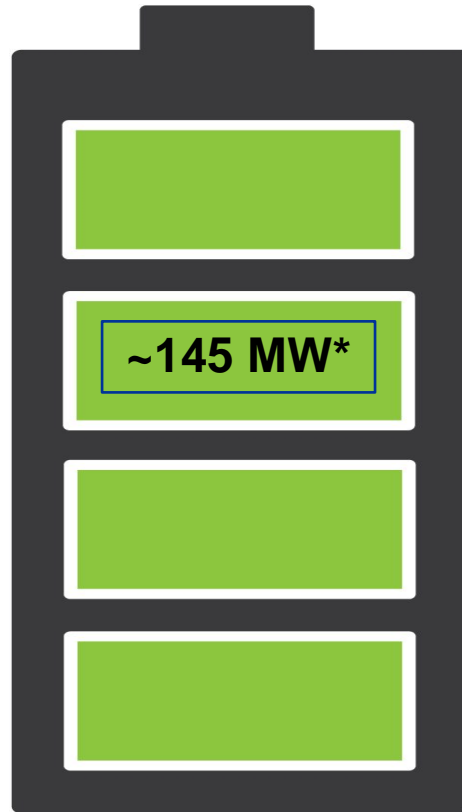


Diversification: Bringing new lower- to zero-carbon fuel choices to every market is a central part of the global solution, coupled with expansion of distributed networks and storage to improve resiliency.



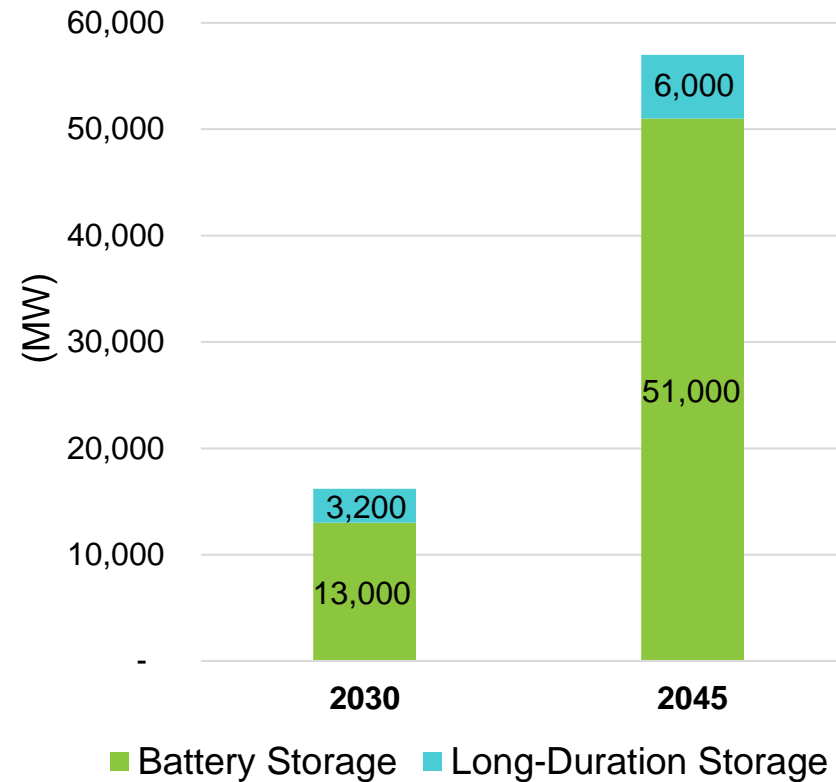
Digitalization: Improving operational efficiency, safety and service will turn on the integration of real-time information and cutting-edge analytics, benefiting network operators and consumers.

Energy Storage



SDG&E-Owned

Energy Storage Needed to Meet SB 100 Targets

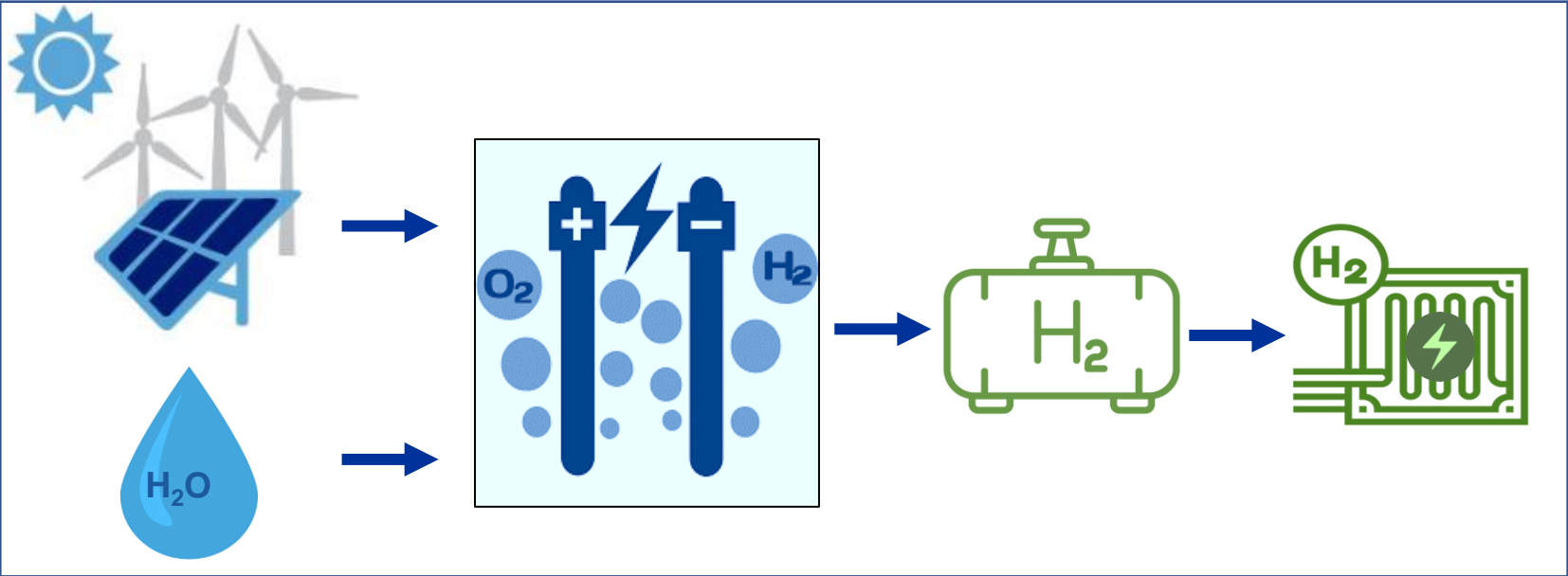


*SDG&E-owned energy storage expected in-service by end of 2022

Note: Assumes 38 MMT case from IRP and CEC SB100 Core scenario



Hydrogen



Long-duration energy storage



Provide resiliency to existing microgrid

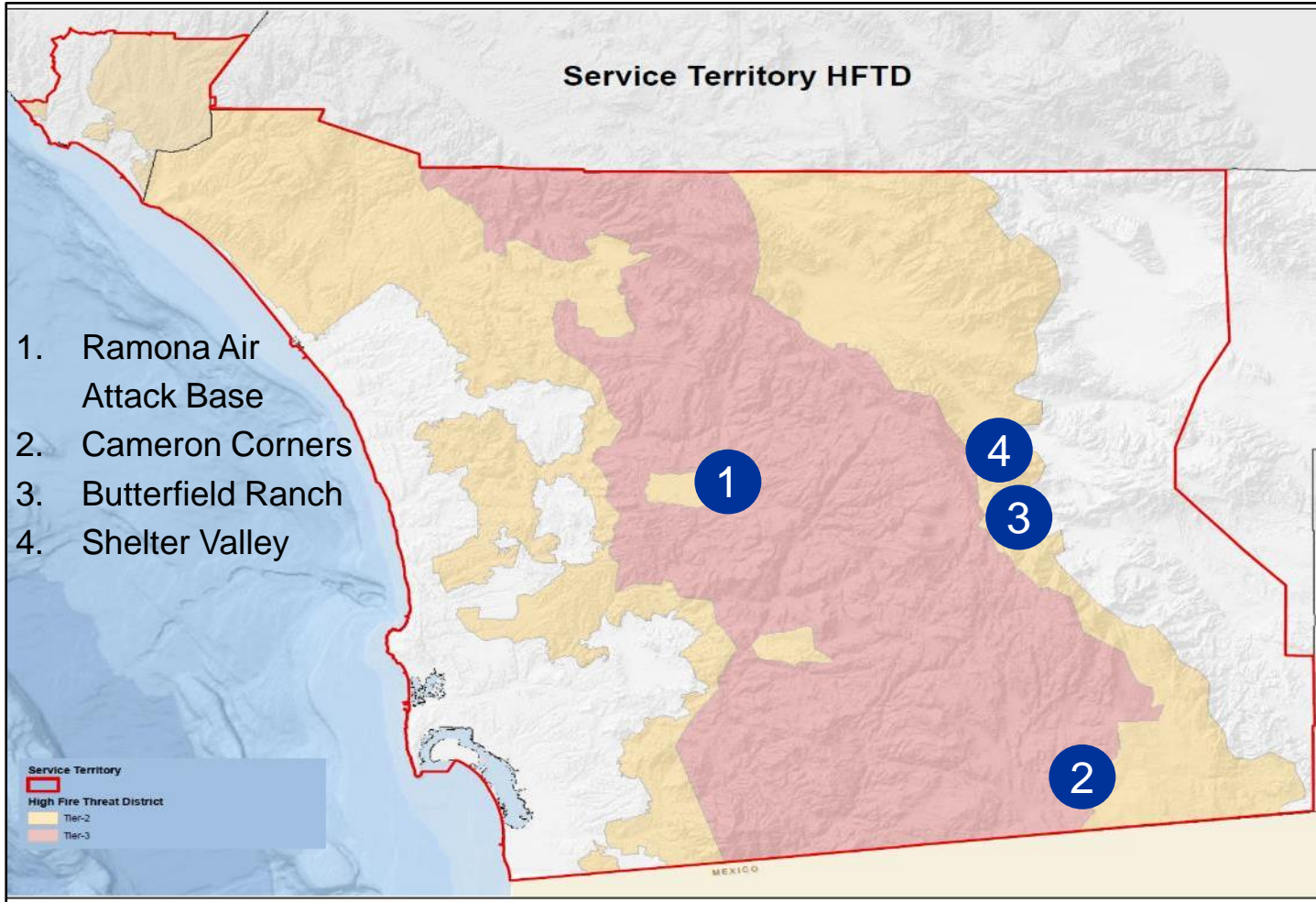


Hydrogen as market (CAISO) asset



Future expansion of H_2 use at Borrego

Microgrids



Vehicle-to-Grid Technology



ENERGY MANAGEMENT SYSTEM

ENERGY BILL SAVING

NUVE

AGGREGATOR

CONTROL SIGNALS



PAYMENT FROM ENERGY MARKET

GRID DATA SIGNALS



GRID SERVICES BI-DIRECTIONAL ENERGY FLOW



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