

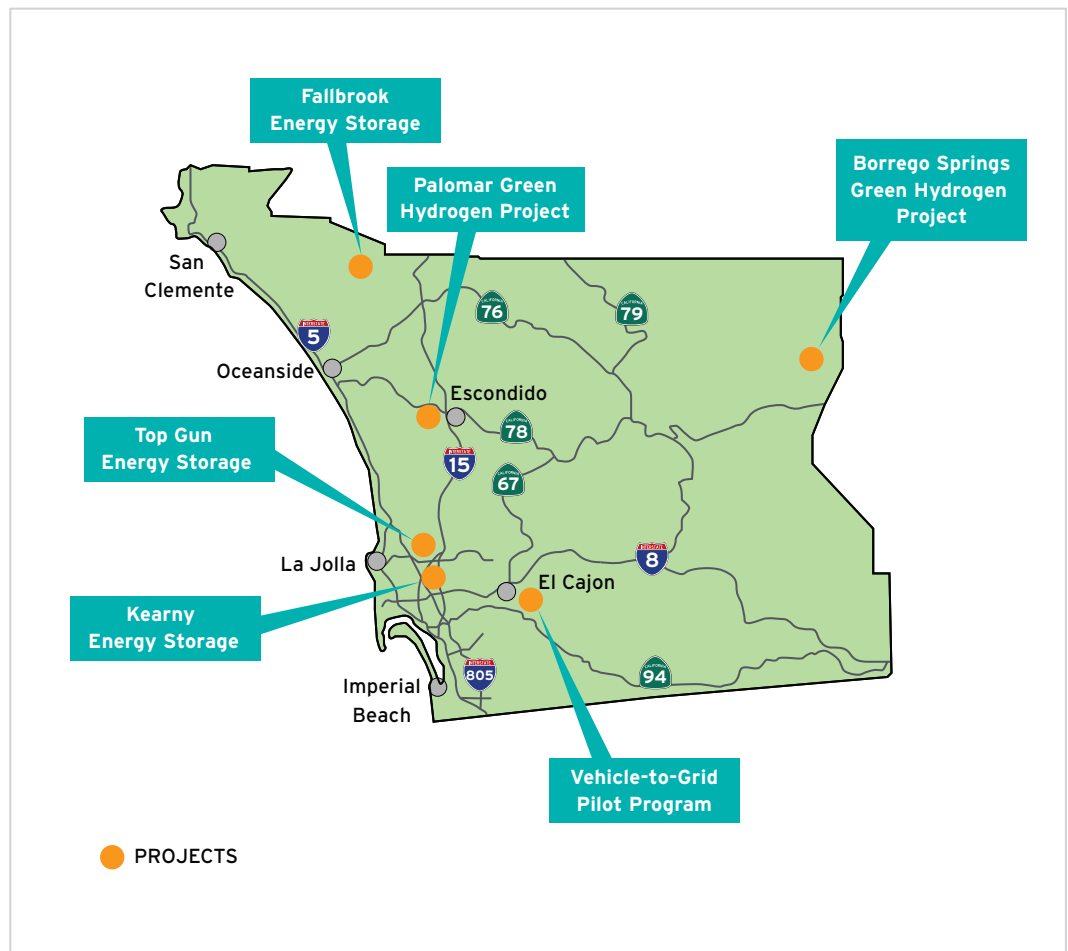
Paving the way to a Net Zero future



Our commitment

To learn more about our sustainability strategy and goals, visit sdge.com/sustainability

Building on its 2020 sustainability strategy, San Diego Gas & Electric® (SDG&E®) has made a commitment to reach net zero greenhouse gas emissions by 2045. The company's climate pledge calls for eliminating all emissions associated with its operations and those generated by customers' consumption energy delivered by SDG&E. These projects illustrate some of the concrete steps SDG&E is taking to deliver on its sustainability commitments.





PILOTING GREEN HYDROGEN INNOVATIONS

California frequently curtails solar production in the middle of the day because supply far exceeds demand on the grid. Surplus solar energy can be leveraged to produce hydrogen – a versatile, clean molecule that has a variety of uses. Hydrogen produced in this manner is commonly referred to as “green hydrogen.” SDG&E is developing two green hydrogen projects.

Borrego Springs Green Hydrogen Project

Where: Next to SDG&E’s existing Borrego Springs Microgrid in east San Diego County

What: The project will pilot hydrogen as long-duration energy storage; as a microgrid asset; and as a resource for dispatch by the California Independent System Operator (CAISO) to support grid reliability. SDG&E will install hydrogen storage containers that can support more than ten hours of energy storage for a fuel cell. An electrolyzer will produce hydrogen when solar energy is abundant, and the fuel cell will convert the hydrogen into electricity when needed by the grid, like during peak demand periods. The hydrogen assets will be integrated with the microgrid so they can help power the remote desert community during emergencies or other contingencies.

When: Vendor selection complete. Expected to be operational in 2022.

Palomar Green Hydrogen Project

Where: The existing Palomar Energy Center in the City of



Construction of the Top Gun Energy Storage facility, which is expected to be operational in June 2021.

Escondido in northern San Diego County

What: SDG&E will install an electrolyzer powered by new onsite solar canopies to produce hydrogen onsite. This hydrogen will be used as a cooling gas for generators and as a fuel for its first fuel cell fleet vehicles. Additionally, SDG&E will blend this hydrogen with natural gas as fuel feed for the electric generators and install a hydrogen fueling station.

When: Vendor selection complete. Expected to be operational in 2022.

SCALING UP ENERGY STORAGE

Solar energy is abundant in the middle of the day but goes away after the sun sets. For that reason, the ability to store surplus solar energy produced midday for use at later times is critical to grid reliability. SDG&E expects to have 135MW of utility-owned energy storage integrated into the local grid with the addition of the new energy storage projects noted below. Currently SDG&E owns and operates 13 energy storage projects, totaling about 45MW of energy storage.

Top Gun Energy Storage

Where: Existing Miramar Energy Facility in the Miramar area of the City of San Diego



Top Gun Energy Storage is so named because it is located near Marine Corps Air Station Miramar, former home of the Top Gun naval aviation training program.



What: This 30MW/120MWh lithium-ion facility can provide the energy equivalent of serving 20,000 residential customers for four hours.

When: Construction is completed, and commissioning process is underway. Facility to begin operation in June 2021.

Kearny Energy Storage

Where: SDG&E's construction and operations facility in the Kearny Mesa area of the City of San Diego

What: This 20MW/80MWh lithium-ion battery facility can provide the energy equivalent of serving more than 13,000 residential customers for four hours.

When: Breaking ground in April 2021. Facility anticipated to begin operation in summer 2021.

Fallbrook Energy Storage

Where: Unincorporated community of Fallbrook in northeast San Diego County

What: This 40MW/160MWh lithium-ion facility can provide the energy equivalent of serving more than 26,000 residential customers for four hours.

When: Groundbreaking is imminent and completion expected in late 2021 / early 2022.



In 2017, SDG&E built what was then the largest lithium-ion battery (30MW/120MWh) in the City of Escondido.



SDG&E's vanadium redox flow battery (2MW/8MWh) located in south San Diego County was the first battery of its kind to be connected to the CAISO market.



DRIVING FORWARD CLEAN TRANSPORTATION

Transportation is the largest source of air pollution and greenhouse gas emissions in California. To facilitate the transition to zero-emission transportation – a key strategy for meeting California’s climate action goals, SDG&E has been working aggressively to expand the electric vehicle (EV) charging infrastructure in our region. In addition to implementing multiple EV infrastructure programs, SDG&E is also piloting vehicle-to-grid technology.

Vehicle-to-Grid Pilot Program

Where: Cajon Valley Union School District facility in the City of El Cajon in east San Diego County

What: This five-year V2G pilot will connect six electric school buses to 60kW bi-directional DC fast chargers. The batteries onboard the buses will soak up energy during downtime and when clean energy is abundant on the grid (such as midday when solar energy production is at its peak) and discharge energy to the grid during peak demand hours in the afternoon and evening. The goal is to help ease strain on the grid, reduce energy costs for the school district and explore a new technology to support the pathway to net zero.

When: Groundbreaking in April/May 2021. Construction completion in June 2021.

Charging infrastructure for medium/heavy-duty vehicles and equipment

Where: Throughout SDG&E’s service territory (San Diego & southern Orange counties)

What: This EV infrastructure program will build charging infrastructure to serve a minimum of 3,000 on-road and off-road class 2-8 vehicles at 300 sites, such as vans, school buses, transit buses and forklifts.

When: In March, SDG&E energized the first EV chargers built under Power Your Drive for Fleets. Expect to complete the program by end of 2026.



SDG&E is piloting vehicle-to-grid (V2G) technology with electric school buses at the Cajon Valley Union School District.

Bringing chargers to schools, parks & beaches

Where: Throughout SDG&E’s service territory

What: This program will bring 336 EV chargers to over 50 sites: Level 2 (208-240 volt) chargers that can provide up to 10-20 miles of range per hour of charging and DC fast chargers (480 volt) that can provide about 50-60 miles per hour of charging.

When: Broke ground in April 2021 on the first chargers under this program. Expected to complete the program in 2023.