

Project Overview

The Calistoga Resiliency Center (CRC) is a hybrid energy storage facility that couples two commercial clean energy technologies: hydrogen fuel cells and lithium-ion batteries. The system is designed to provide 48 hours of continuous energy, and a peak instantaneous power output of 8.5MW during regional Public Safety Power Shutoff (PSPS) events. When Calistoga's local microgrid is islanded from the regional electrical network during a PSPS event, the CRC will utilize clean hydrogen in fuel cells to generate electricity, providing power to the local community. This integrated system results in zero point-source greenhouse gas emissions and is fully compliant with California's Renewable Portfolio Standard (RPS), meeting Calistoga's unique ultra-long duration energy storage needs. This complex system is managed by Energy Vault's technology-agnostic VaultOSTM Energy Management System (EMS), which is able to provide full control and coordination across all project subsystems in order to provide a seamless operational experience for Calistoga. More information can be found at <https://www.energyvault.com/projects/calistoga>.

Craig R. Horne, Ph.D. serves as Senior Vice President of Advanced Energy Storage Development at Energy Vault and is responsible for the company's portfolio expansion of energy storage solutions. Dr. Horne joined Energy Vault with deep domestic and international experience and over 30 years working with energy storage technologies. Dr. Horne has led the deployment and development of electrochemical energy systems and technologies spanning a range of underlying technology classes (flow, lead-acid and lithium-ion batteries as well as fuel cells). Dr. Horne formerly served as the Board Chair of the Energy Storage Association (ESA) and was an active participant in regulatory and legislative processes such as California's landmark energy storage initiative (AB2514). Prior to joining Energy Vault, Dr. Horne served as Managing Director of Energy Storage at Wellhead Electric, Senior Director at Swinerton Renewable Energy (SRE), Vice President at Renewable Energy Systems (RES), and founding CEO and Chairman of Energy Vault where he raised over \$25M in venture and grant funding. Dr. Horne currently serves on the Advisory Board for the University of Florida Herbert Wertheim College of Engineering, has over 15 publications, and has been awarded 22 U.S. Patents. Dr. Horne holds degrees in Material Science and Engineering from UC Berkeley (Ph.D), UCLA (M.S.), and the University of Florida (B.S. with High Honors).