

Alternative Energy Systems Consulting, Inc.

# Company Summary





Our mission is to develop innovative engineering, software, and management solutions to promote a clean energy future. Our dedication to our employees empowers them to deliver superior technical services to our clients and partners.

Energy Solutions for a Changing World

# Our Company

Founded in 1994, Alternative Energy Systems Consulting, Inc. (AESC) is an energy engineering and consulting firm that drives solutions in energy efficiency, renewable energy, distributed energy resources, and software for utilities, governments, and the private sector.

## Flexible and Creative Problem Solvers

We bring flexible, creative problem solving and a nimble operational approach to solve and deliver on our clients’ most complex energy and climate challenges.

## Industry Veterans and Innovators

We are proven thought leaders in energy engineering, program design, software development, and emerging technologies.

## Trusted By Clients

Trusted by a diverse set of utility and government clients based on decades of quality service delivery and integrity.

Addressing Today’s Energy Challenges

# Our Team

**100%**

Dedicated to Efficiency and Resiliency

**80%**

Engineers of Various Disciplines

**51%**

Hold Energy Industry Credentials

**45%**

Hold Advanced/Graduate Degrees

**35%**

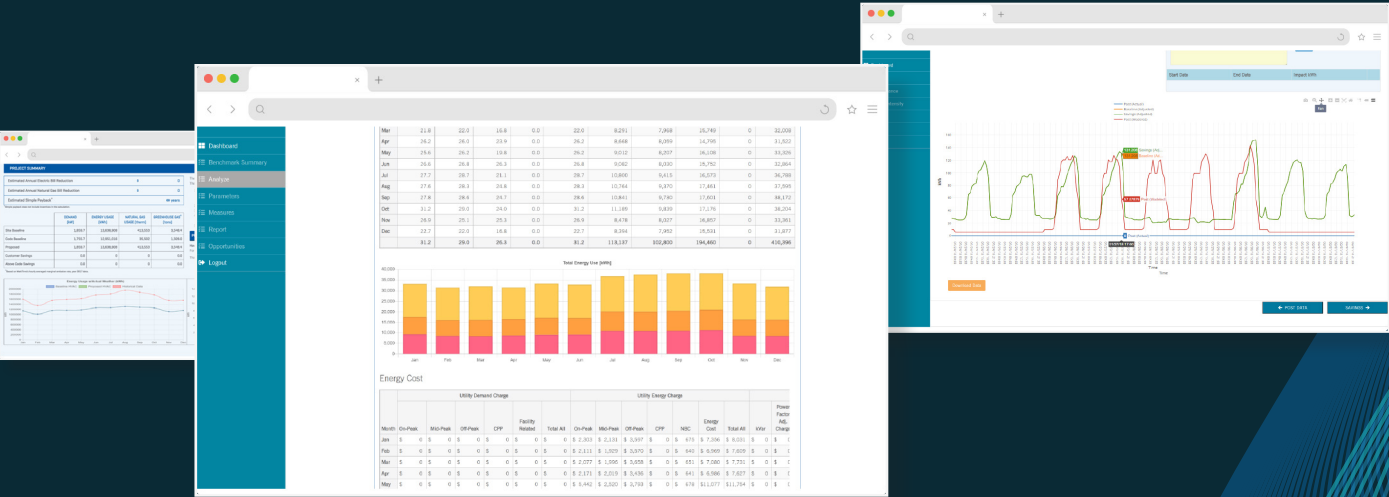
Licensed Professional Engineers

## Select Credentials

Licensed Professional Engineers and Engineers-in-Training in multiple states.

Other Technical Certifications: LEED Accredited Professional, Certified Practitioner of Energy Management Systems, Certified Measurement & Verification Professional, Certified Building Commissioning Professional, Existing Building Commissioning Professional, Certified Energy Manager, Certified Energy Auditor, Renewable Energy Professional, Building Energy Simulation Analyst





Our Core Services

# Engineering

We provide energy engineering, consulting, and program implementation services to utilities and their customers.

Energy Efficiency Engineering

Our team of engineers have degrees, credentials, and applied experience in mechanical, energy systems, chemical, electrical, and civil engineering disciplines.

Measurement and Verification (M&V)

We are experts in applying industry standards such as ASHRAE Guideline 14, International Performance Measurement and Verification Protocol (IPMVP), and Normalized Metered Energy Consumption (NMEC).

Water and Wastewater Optimization

From intricate systems to interdependent processes, we can optimize the operations of pumping, collection, treatment, and distribution systems.

Energy Modeling, Portfolio Benchmarking and Analysis

In addition to expertise with common industry tools (e.g., EnergyPlus, eQUEST), AESC engineers bring in-house software tools to create whole-building models, benchmarks, track changes, and visualize energy improvement over time.

Our Core Services

# Software

AESC’s dedicated software team develops software, tools, and calculators to support efficiency, renewable, and transportation programs and projects.

Praxis Cloud-Based Platform

Praxis is a comprehensive customer engagement platform taking the user through the complete lifecycle of an energy project, from project scoping to modeling, reporting, and performance verification. Praxis helps utilities, energy consultants, trade allies and customers simply and cost effectively navigate and analyze energy management opportunities for a site or portfolio of buildings.

Custom Software Development

AESC’s software practice delivers custom tools for utility incentive programs and to fulfill the need for quick yet robust and defensible energy engineering calculations.





Our Core Services

# Programs

We help utilities and program implementers achieve their goals through engineering services, trade ally coordination, quality assurance, measurement and verification (M&V), and policy support.

**State of California Energy Strategy and Support (SOC ESS) Program**

AESC designed and currently implements this statewide program for more than 50 of California’s state agencies on behalf of PG&E, SCE, SDG&E and SoCalGas. Through strategy, engineering and project implementation support, AESC delivers efficiency, electrification, and resiliency to support utility and California energy, environmental and reliability goals.

**Market Access Program (MAP)**

AESC is a Lead Implementer for PG&E’s Market Access Program, an innovative new meter-based energy efficiency and peak load reduction program delivered through trade allies that offers pay for performance incentives based on time-specific energy reductions in the year following project implementation. AESC leads trade ally market engagement, project qualification and incentive estimation, savings M&V and quarterly incentive payments.

**PG&E RAPIDS Wastewater Optimization Program**

AESC designed and currently implements this innovative program to deliver energy and process optimization for PG&E’s wastewater treatment plants through risk assessment, process improvement and decision support services. The program delivers energy efficiency, demand response and load optimization.

**CalNEXT – California’s Statewide Emerging Technologies (ET) Program**

AESC is a key team member implementing the California IOU’s statewide emerging technologies program, CalNEXT. AESC supports ET technology family roadmaps, selects and supports external project proposals, and implements technology field and market characterization studies in numerous technology areas.

**Energy Resiliency Services**

AESC leverages our innovative software solutions to offer building portfolio managers, utilities and local governments cost effective energy resiliency services including remote portfolio analysis and site targeting, onsite site assessments, system design and cost estimating, and implementation support.

**Self-Generation Incentive Program (SGIP)**

Since 2001, AESC has been the leading technical consultant supporting the California Investor-Owned Utilities with SGIP which offers incentives for self-generation, storage and electrification technologies. AESC is also the primary consultant to the SGIP Working Group, providing technical comment CPUC legislation, developing and revising the SGIP handbook, and reviewing new technologies.

**Staff Augmentation**

For decades, AESC’s combination of energy engineering, program and policy expertise has made us a natural choice to provide trusted staff augmentation services to our utility customers implementing programs and key initiatives.

**Strategic Energy Management (SEM) Programs**

AESC designs and implements commercial, industrial, and multi-family SEM programs. Through energy coaching, engineering support, training cohorts, and energy savings modeling and M&V, AESC has helped instill energy management and continuous energy improvement capabilities at more than 200 sites. AESC also has CP EnMS credentialed staff to drive implementation of energy management systems and 50001 Ready certification.

Our Core Services

# Technology

AESC offers technology expertise and thought leadership across energy efficiency, load flexibility, energy resiliency, and transportation electrification.

**Emerging Technology Studies**

We execute emerging energy efficiency technology studies for all major California investor-owned utilities, including HVAC, motor designs, plug controls, new refrigeration applications, lighting upgrades, pumping systems, wastewater treatment, grid-integrated efficient building (GEB) technologies and controls, and smart electric meters.

**Distributed Energy Resources (DERs)**

We are the DER system integrators, experts in interconnection and the distributed grid, that enable transactive energy. AESC brings specific technology expertise with Photo Voltaic (PV), battery storage, thermal energy storage (TES), combined heat and power (CHP), as well as the management systems (DERMs) that optimize building loads, utility tariffs and grid needs.

**Microgrid and Virtual Power Plant (VPP) Studies**

AESC helps assess, plan, and recommend technology solutions for microgrids and VPPs, allowing power supply to shift to alternate energy sources for cost savings and resiliency purposes. AESC manages the coordination of DERs in concert with microgrid energy needs.

**Transportation Electrification**

For more than a decade, AESC has been helping governments and utilities plan for and develop infrastructure for electric vehicles and implement EV programs. We develop EV assessments and road maps, online program portals, charging infrastructure studies, and site assessments.



Diverse Clientele

# Who We Work With

**Investor-Owned Utilities and Program Administrators**

Arizona Public Service  
Center for Sustainable Energy  
DC Sustainable Energy Utility  
Duke Energy (NC, SC, IN, OH, FL)  
Energy Trust of Oregon  
Pacific Gas and Electric Company  
San Diego Gas and Electric  
Southern California Edison  
Southern California Gas Company  
Arizona PoCenter for Sustainable Energy

**Corporations**

Ally Energy  
Glumac / Tetra Tech  
Enviser / Southland Industries  
TRC Environmental  
Energy Solutions  
Vermont Energy Investment Corporation  
Dr. Bronner's

**Federal, State, and Local Government**

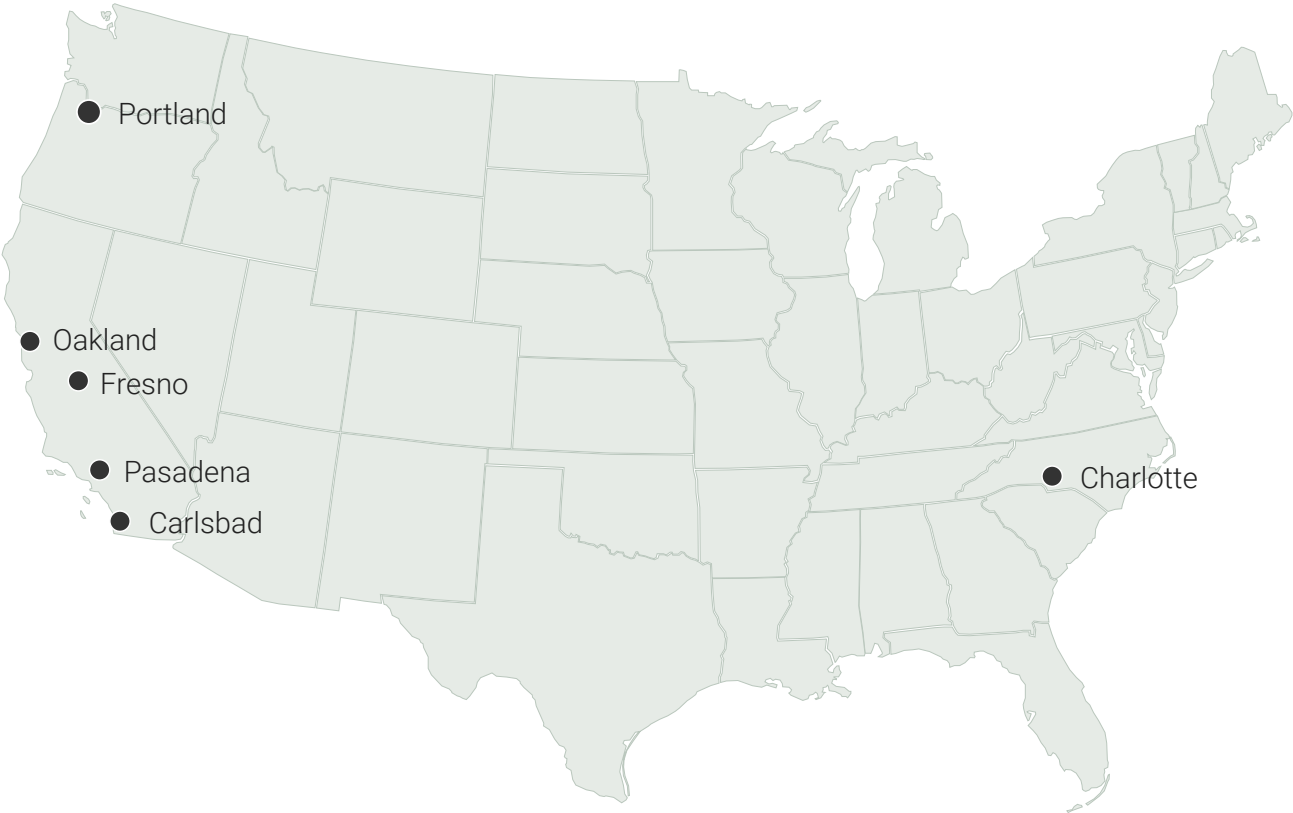
California Dept. of Corrections  
California Energy Commission  
City of Los Angeles  
City of Phoenix  
City of San Diego  
County of San Diego  
Department of Energy  
General Services Administration  
Los Angeles Department of Water and Power  
Pasadena Water and Power  
Moreno Valley Utility  
Orlando Utilities Commission  
Redding Electric Utility  
Silicon Valley Power  
Silicon Valley Clean Energy (SVCE) CCA  
State of California  
Southern CA Public Power Authority  
U.C. San Diego





We Look Forward to Hearing from You

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Values-Driven Energy Consulting

# Our Core Values

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| <br><b>Work Safely</b>    | <br><b>Act with Integrity</b> | <br><b>Deliver Excellence</b>         | <br><b>Be Accountable</b>       |
| <br><b>Inspire Change</b> | <br><b>Play as a Team</b>     | <br><b>Pursue Growth and Learning</b> | <br><b>Live a Balanced Life</b> |