



California Lottery | Santa Fe Springs, CA
Credit: LPAS Arch+Design



FACT SHEET

Design Process & Fundamentals

Achieving ambitious energy goals for any new construction or deep renovation project requires an engaged, committed team with buy-in from owner, designers, and others.

An integrated design process including iterative modeling helps align the vision among all stakeholders and gives the project team the information they need to optimize performance without blowing the budget.

Custom energy modeling can help the design team address the details in the owner's project requirements and can protect key energy efficiency strategies from being "value-engineered" out of the final design.

The benefits of considering energy efficiency strategies early with custom energy modeling can go well beyond energy, helping design teams deliver healthy, resilient, affordable, beautiful buildings that are assets to their communities.

Energy Modeling as a Design Tool

- 1 Project Startup**
Define efficiency target in Owners Project Requirements.
- 2 Early Design**
Use CEDA's complimentary energy modeling for preliminary analysis.
Get real-time evaluation of energy efficiency measures and bundle potential whole-building strategies for further analysis.
- 3 Ongoing Design**
Optimize building systems for efficiency and performance with iterative energy modeling.
Choose the strategies bundle that best aligns with your project goals, from which projected energy savings and utility incentives are determined.
- 4 Construction**
CEDA confirms project was constructed to plan and issues incentives.

California Energy Design Assistance Program

The California Energy Design Assistance (CEDA) program provides complimentary custom energy modeling to analyze energy efficiency options and potential energy savings for new construction and major alteration projects. Based on the energy savings, projects can qualify for financial incentives to offset the costs of energy-saving measures. Publicly owned, commercial, high-rise multifamily, industrial, and agricultural projects in Pacific Gas and Electric Company (PG&E), SCE, SoCalGas, or SDG&E territory are eligible to apply for the program.

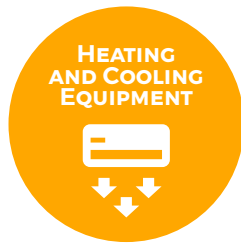
Contact ceda@willdan.com for more information.

Design Fundamentals

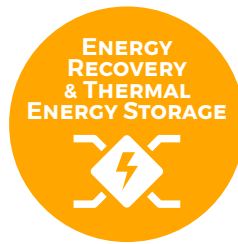
Through technical modeling assistance, CEDA provides actionable information to designers to help optimize building energy consumption.



A high performing building envelope needs to consider air tightness, insulation levels, glazing attributes, roof reflectivity, mass, and the orientation of the building to sunlight, wind, and the elements. Ultimately the envelope should help optimize the other building systems.



Deploy heat pumps and other high-performance mechanical systems. Decouple the ventilation and heating and cooling components to save significant mechanical system energy consumption. Utilize temporary (night flush) or permanent passive ventilation to further reduce or eliminate mechanical space conditioning needs.



Energy recovery systems such as heat recovery ventilators (HRVs) can offer energy savings by harvesting heat from exhaust to pre-condition incoming air or vice versa. Thermal energy storage strategies like enhanced thermal mass, ice, and hot water tanks empower buildings to shift energy usage away from peak hours, saving money by lowering demand charges and optimizing for time of use electricity rates.



Building controls are critical to integrating multiple high-performance systems and recognizing potential energy savings associated with mechanical, lighting, and plug load strategies. Daylighting and efficient electric lighting combined with integrated controls can substantially reduce electric lighting loads. Controls integrators help ensure that all system controls will communicate and operate as designed.

Financial Incentives Now Available

CEDA offers financial incentives that vary based on implemented energy efficiency measures, energy savings compared to the CEDA baseline, and fuel sources. Higher incentives may be available for all-electric buildings and specific project types.

Contact
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for more information



The CEDA program is funded by California utility customers and administered by Pacific Gas and Electric Company (PG&E) under the auspices of the California Public Utilities Commission, through a contract awarded to Willdan Energy Solutions. Program funds, including any funds utilized for rebates or incentives, will be allocated on a first-come, first-served basis until such funds are no longer available. This program may be modified or terminated without prior notice. Customers who choose to participate in this program are not obligated to purchase any additional goods or services offered by Willdan Energy Solutions or any third party.