

PIEDMONT COMMUNITY POOL

Decarbonization &
Electrification

Picture of the updated design of
the Piedmont Community Pool

Introduction to the Project

The Piedmont Community Pool, slated to open in Spring 2025, has been a long-awaited project. Piedmont's former pool served the small city for over 50 years until being decommissioned due to age. In November 2020, voters passed a \$20 million bond measure to construct a new aquatics facility on the old pool site.

As the largest capital project in nearly 100 years, the new pool offered a rare opportunity to lead by example and model the clean energy choices that the city encourages residents to make in their own homes. Before the old pool's closure, over 75% of natural gas use in City facilities came from pool heating.

To meet the city's decarbonization goals, outlined in its Climate Action Plan, stakeholders prioritized sustainability in the pool's design. Despite higher upfront costs, Piedmont took the bold step of designing the new pool as an all-electric facility – the second of its kind in California.

The California Energy Design Assistance (CEDA) program played a key role in this effort, providing technical guidance and energy modeling to support the design team's electrification strategies. CEDA's analysis helped optimize system performance and demonstrated the long-term energy cost savings of an all-electric facility, reinforcing the city's decision to pursue sustainability.

Project Goals

With a water area that is about twice as large, the greenhouse gas emissions for the new aquatics center would have been nearly 1.5 times greater than those of the former pool had it relied on conventional heating. By opting instead for an all-electric facility, Piedmont is able to reduce carbon equivalent emissions to zero. Participation in the CEDA program provided results that reinforced the decision to pursue electrification despite higher upfront costs.

The facility's two pools – which represent 80% of site energy use – will be fueled by an all-electric heat pump system. The energy model helped the team evaluate how a combination of Solar Photovoltaic Thermal (PVT) and Photovoltaic (PV) panels integrated on the pool building could potentially offset 25% of the facility's energy demand, although these measures were not incentivized by the CEDA program.

A 25-year lifecycle cost analysis estimated that despite higher upfront costs, the all-electric facility would provide over \$1.8 million in energy cost savings.

Overview Facts

- **Location:** Piedmont, CA
- **Construction type:** New construction
- **Project type:** Community pool
- **Project area:** 7,350 sq. ft.

Project Team

- **Project team owner:** City of Piedmont
- **Design team:** Guttman & Blaevoet Consulting Engineers and ELS Architecture and Urban Design

Estimated Energy Savings & Incentives

 **263,100 kg**
Annual CO₂e Savings

 **42,627**
Annual Avoided Therms

 **\$ 82,800**
Total Incentive



Client Testimonial

The variety of fund types that we've been able to bring into the fold, including the CEDA award, made this project possible. By not being wholly dependent on just one source, but being creative about people and organizations we can partner with, Piedmont is able to build a facility that reflects our values as a community.

- Rosanna Bayon Moore
City Administrator, City of Piedmont



Project Financing

As a small city, Piedmont has often needed to get creative to deliver significant capital projects – and the new community pool was no exception. The pool construction budget includes a competition and recreation pool, pool building, rooftop deck, site amenities, pool electrification, offsite improvements (road, sidewalk, landscaping), and site security. Rising construction costs, combined with the upfront expense to electrify the facility, left the city with a substantial funding shortfall.

As they have done in the past, the community came together to bridge the gap. Volunteers organized a yearlong capital campaign, privately raising over \$2 million to support pool construction. Still, funding fell short.

Ultimately, the city brought together a total of 10 different funding sources, each contributing a critical slice of the total project budget. Among these was an \$82,800 incentive from the CEDA program. By providing financial support for the heat pump water heaters, a design team incentive, and technical guidance to optimize energy performance, CEDA played a part in helping the city overcome one of the most significant cost barriers to its all-electric vision. In doing so, the project sets a precedent for future pool facilities to follow, demonstrating that sustainability and energy efficiency are achievable even in budget-constrained projects.

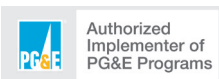


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 CaliforniaEDA.com



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