

April 4th, 2024

LPSC EE Program Admin RFQ

Prepared for:

LPSC

Please direct questions to:

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Proposed Solution

Behind-the-meter demand flexibility is available from an ever-increasing range of technologies and business models.

The Recurve FLEXmarket virtual power plant is shovel-ready and can be deployed rapidly. Customer meter data is all that LPSC requires; once Recurve receives this data, FLEXmarket dashboards can be ready within weeks, and aggregators can begin submitting projects.

With a **FLEXmarket**, LPSC can better align demand with times when energy supply is low-cost and plentiful by deploying long-term energy efficiency and demand flexibility resources through a performance-based market. All energy efficiency measures create load-shape impacts and can be targeted at specific hours. For example, lighting upgrades and other lighting efficiency measures save energy when the lights are on. Finding buildings that use a lot of lighting during peaks is an opportunity to significantly reduce peak loads. In addition, unlike traditional energy supply, efficiency measures also provide important social benefits for customers, such as increased comfort, improved indoor air quality, and reduced energy costs.

Using a price signal tied to peak savings, the FLEXmarket incentivizes aggregators to pursue the measures and high-value customers who deliver the greatest reductions during these times. Using LPSC’s utility data, Recurve will help aggregators forecast the load-shape impacts of their interventions.

Many traditional energy efficiency programs are designed to target estimated annual savings rather than measured energy and peak demand savings. These programs frequently suffer from low realization rates, making cost-effectiveness a challenge. In contrast, FLEXmarket Programs consistently deliver more than 100 percent of predicted savings. For experienced aggregators, realization rates are even higher.

With access to an aggregator portal to track savings, aggregators can see how projects perform in near real-time. This allows them to adjust in flight, optimizing their offerings to meet performance goals. With these insights, aggregators often see their realization rates go from 60 percent or less to 100 percent or more.

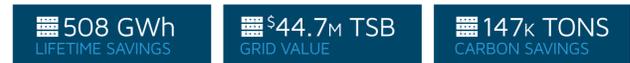
A Proven Track Record

Recurve’s FLEXmarkets have a proven track record of delivering to customers and the grid.

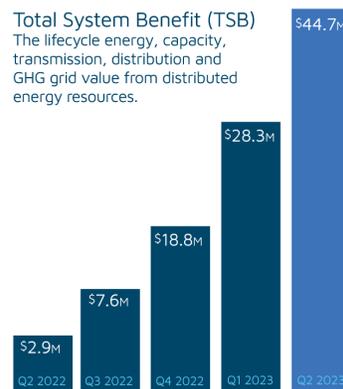
FLEXmarkets scale quickly and have consistently outperformed volume goals and forecasted impacts. While FLEXmarket may be new to LPSC, Recurve has proven the concept across eight (8) utility territories with 12 active markets in California, generating more than 508 GWh in lifetime forecasted savings and \$44.7M in total system benefits (grid value), over 100% realization rates compared to forecasted impacts, and 2.2x the value to the grid as the rest of the commercial EE portfolio.

FLEXmarket + Market Access

JUNE 2023
CA MARKETS



Total System Benefit (TSB)
The lifecycle energy, capacity, transmission, distribution and GHG grid value from distributed energy resources.



38%
INCREASE TO CALIFORNIA
COMMERCIAL TSB

2X
TSB/MWh
\$88 FLEXMARKET
TSB/MWh SAVED
vs.
\$40 CA COMMERCIAL EE
TSB/MWh SAVED

102%
PERFORMANCE/
REALIZATION RATE

LIFETIME TOTAL SYSTEM BENEFIT
GAS AND ELECTRIC COMBINED TSB FORECAST VALUE

GWh include lifetime forecasted energy savings from gas and electric
www.demandflexmarket.com/June2023

POWERED BY
RECURVE

With FLEXmarket, Recurve offers a transformative solution that supports the well-being of LPSC's customers, its short-term balanced portfolio goals, and its long-term objective of net zero direct greenhouse gas emissions by 2050.

Benefits of the Proposed Approach

FLEXmarket provides customer, grid, and societal benefits far exceeding traditional supply-side or renewable resources.

Cost Effective By Design

Because LPSC pays only for delivered impacts measured at the meter, the FLEXmarket is cost-effective by design. Payments are tuned so that LPSC can be confident that every dollar deployed will deliver cost-effective results. We suggest designing incentive rates for this program to work within a Utility Cost Test (UCT) framework. However, FLEXmarkets can easily adapt to different cost-effectiveness models to achieve company or policy goals. Recurve will collaborate with LPSC to set and achieve a target for the FLEXmarket, including modifying the proposed price signals to meet LPSC's specific cost-test requirements. In addition, by sending a clear price signal to the market based on the cost of the alternatives, FLEXmarkets are cost-competitive with supply-side resources.

In addition to the UCT, given the magnitude of the avoided costs and the positive environmental externalities of our solution, we are confident that our proposed model can also successfully operate within the Societal Cost Test (SCT) requirements.

A Marketplace for Innovative Solutions

FLEXmarket creates a simple way for companies with the potential to control load to engage with LPSC and be paid for the value they deliver to the grid. Rather than running an RFP and picking specific vendors (aka aggregators), the FLEXmarket makes it easy for market players to engage with LPSC by paying aggregators only for the savings delivered at the meter. This enables innovation and competition to deliver solutions to customers and maximizes grid impacts. Rather than picking technologies in advance, Recurve will work with LPSC to attract the most innovative solutions, building on the existing aggregators already in our network, many of whom can scale up in LPSC territory.

Technology Agnostic

Many solutions can reduce load, and by keeping the solution mix non-prescriptive, LPSC can service its customer base holistically without leaving load flexibility opportunities stranded.

The price signal determines the optimal technology for the desired load shifting and reduction impacts. Recurve proposes a combination of technologies that can deliver the capacity goals. The following persistent and controllable technologies will be prioritized for reducing peak load in response to the price signal due to past performance delivering cost-effective peak reductions in FLEXmarket. This list will not limit aggregators from deploying alternative solutions.

- **Long-Term Persistent Load Shaping (Energy Efficiency).** Technologies that provide persistent and predictable load impacts over their effective useful life (often 10+ years). Measures include lighting,

refrigeration, insulation, and HVAC upgrades. Although these measures cannot be dispatched, their savings vary over time based on outside conditions such as temperature.

- **Load Following Controllable Load Shaping.** Technologies that shift load from constrained periods into lower-priority periods of renewable oversupply reduce must-take energy requirements. Measures include smart thermostats, energy storage, heat pump water heaters, managed EV charging, and vehicle-to-grid (V2G) technologies, which allow electric vehicles to store and release energy to the grid.

See Section [Relevant Experience and References](#) for details on the measures enrolled in operating FLEXmarkets.

Positive Societal Benefits

As a load reduction program that provides peak savings where grid needs, rates, and emissions are highest, FLEXmarket avoids negative societal impacts and provides tangible positive impacts in the form of GHG reductions, customer bill savings, and comfort. Drawing from experience, like the success witnessed in PG&E's commercial FLEXmarket, we've seen over 150,000 tons of GHG emissions mitigated and a peak load capacity enhancement exceeding 5 MW.

Avoided Cost Value

By reducing load, FLEXmarkets reduce T&D infrastructure investment costs, emissions, and lengthy interconnection processes. The benefits of enhanced system reliability, cost, and customer resilience are also captured. Through Recurve's advanced measurement and verification, Recurve can quantify the value of load impacts relative to LPSC's avoided costs and other tangible benefits.

Recurve is excited to offer LPSC an innovative yet proven approach to delivering Demand Flexibility as a procurable resource. FLEXmarket offers LPSC the peak capacity resources needed to ensure system reliability while providing a customer-centric solution to reduce energy bills.

The Recurve VPP Platform

Recurve's role as the operator of FLEXmarket includes regulatory support, program design, administration, meter-based advanced M&V, settlement-quality transaction tracking, and data-driven engagement support to identify customers with high savings potential.

The FLEXmarket Platform incorporates a comprehensive suite of tools to streamline utility operations and help deploy aggregated demand-side resources as virtual power plants.

Revenue-grade open-source advanced measurement and verification (AM&V) gives all parties confidence that savings are consistent, accurate, and fairly compensated.

Data-driven near-real-time telemetry gives program managers and implementors a feedback loop to visualize and analyze how their customers use energy, track their demand-side programs' performance, and enable more efficient program designs. By providing timely and granular insights, the platform equips utilities with the necessary tools to efficiently manage their demand-side resource portfolios and deliver highly cost-effective programs and flexibility markets.

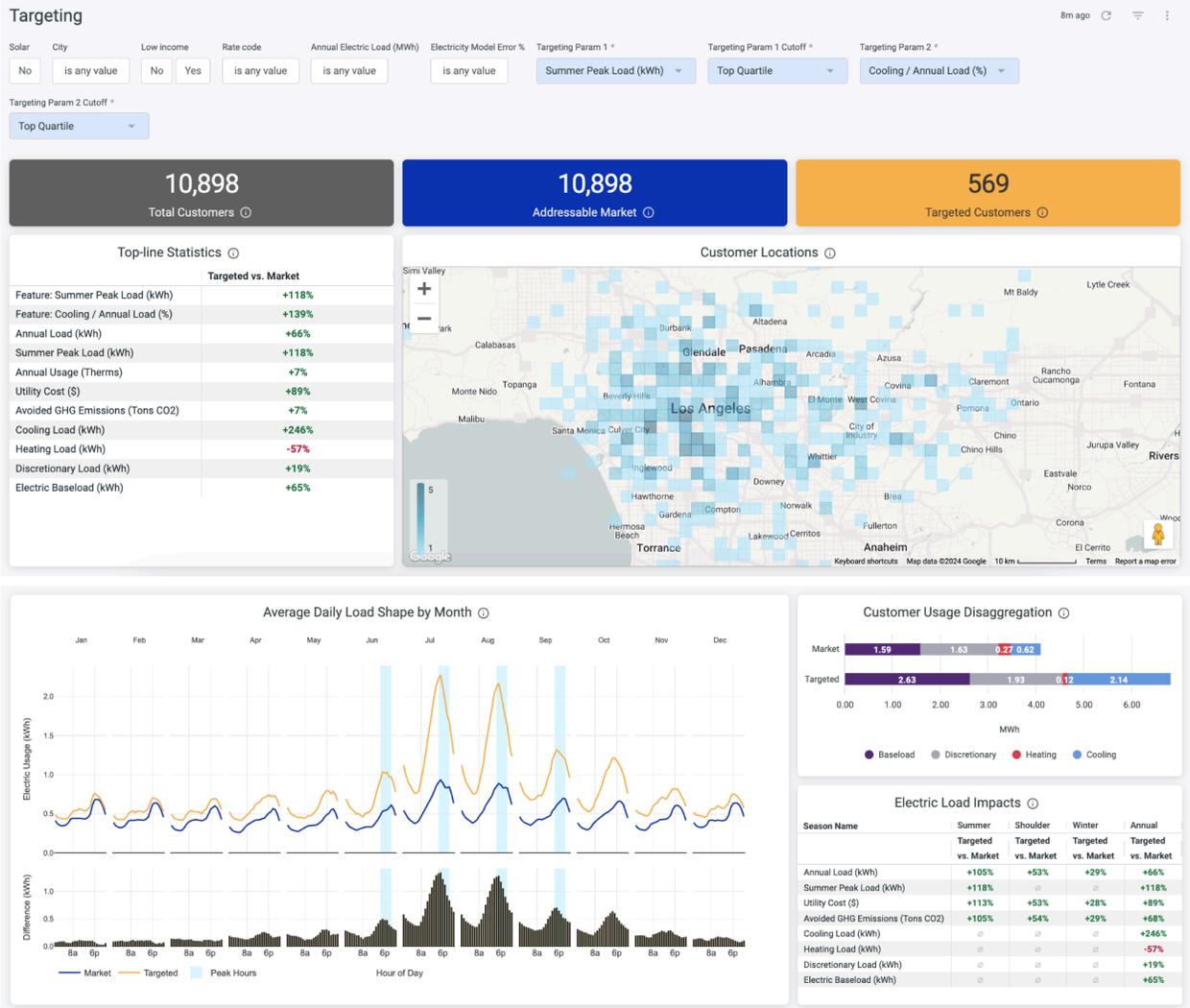
Recurve Data Platform

The Recurve Platform and FLEXmarket turn distributed behind-the-meter assets into virtual power plants that can be seamlessly integrated into the utility supply mix. The data platform pulls project, meter, and site data in high-capacity processes, allowing datasets of virtually any size to be loaded and analyzed in near real-time. A scalable relational database structure allows instant querying of any building, meter, or project to determine usage, history, and status. Once data is received, dashboard setup is rapid and typically delivered in under a week.

Resource Planner

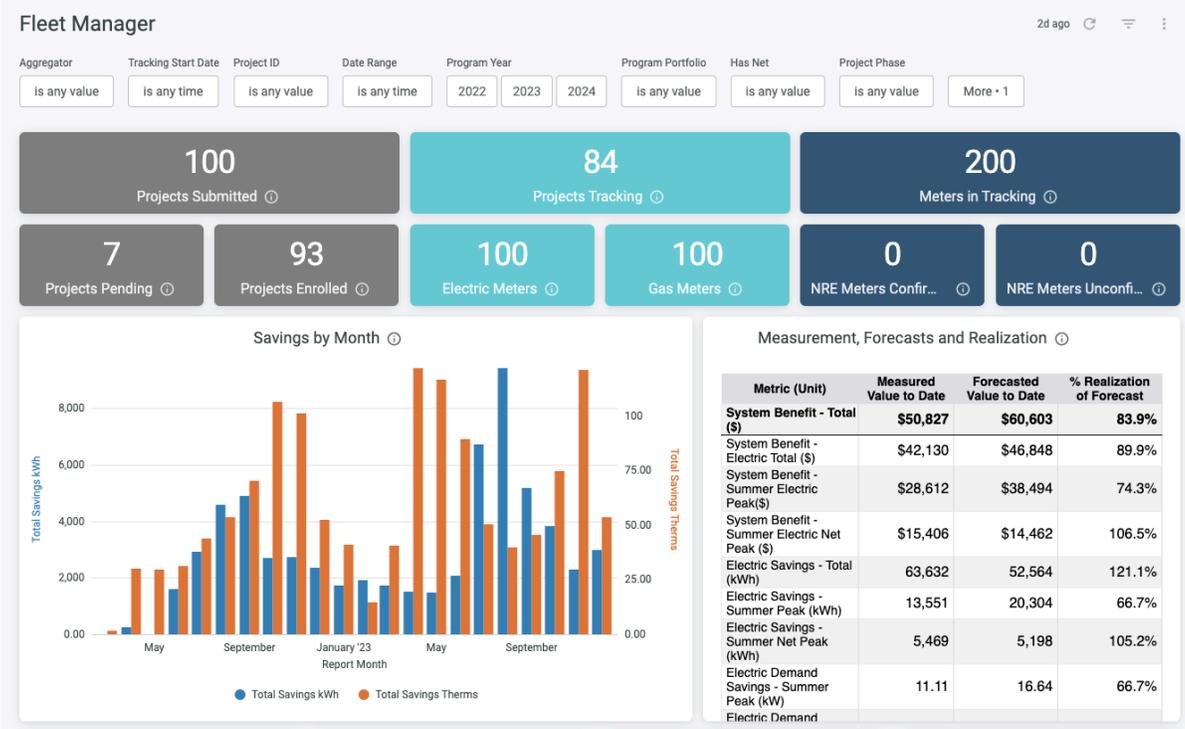
Using advanced, open-source M&V methodologies and utility data, Recurve's Resource Planner provides individual meter-level analytics. This allows utilities to understand and visualize the load-shape impacts of any intervention across their entire service area in real time at a meter level. Data-driven customer targeting based on energy use patterns allows targeted marketing to reach customers most likely to benefit and provide grid value for a given measure.

For example, Resource Planner was used to identify 25% of customers in the TECH Clean California program who had the potential to save 500% more on their bills than the average program customer. One Southwestern utility increased its program savings by 36% per customer simply by using Resource Planner to target its outreach to the top half of high-savings potential customers.



Fleet Manager

Fleet Manager helps both Utility Program Managers and market aggregators track their portfolio of projects. The measured impacts of each project in a portfolio are refreshed regularly, allowing all parties to follow the performance of each demand-side asset (HVAC replacement, lighting upgrade, heat pump installation, insulation) using open-source, revenue-grade measurement. Aggregators receive secure, limited access to their portfolios of projects that let them evaluate and optimize performance.



The **FLEXmarket** integrates these tools into a platform that transforms behind-the-meter demand-side resources into virtual power plants. It combines customer targeting to maximize impact at the project and portfolio levels with near real-time visualization of the measured results.

Resource Planner

Optimize programs and markets to target the highest ROI customers.

- DER Targeting
- EV Detector
- SOLARmeter
- RATEmeter / Optimization
- VPP / DER Forecasting

Fleet Manager

Track, manage, optimize, pay for distributed energy resources.

- Program Telemetry
- EE+DR Integration
- NRE Event Manager
- Engagement Manager
- Channel Manager
- Bill Impacts
- Cost-Effectiveness

FLEXmarket

VPP marketplace platform including Resource Planner and Fleet Manager.

- Fleet Manager
- Aggregator Portal
 - Eligibility
 - Enrollment
 - NRE Manager
 - FLEX Ledger

Meter Analytics Platform

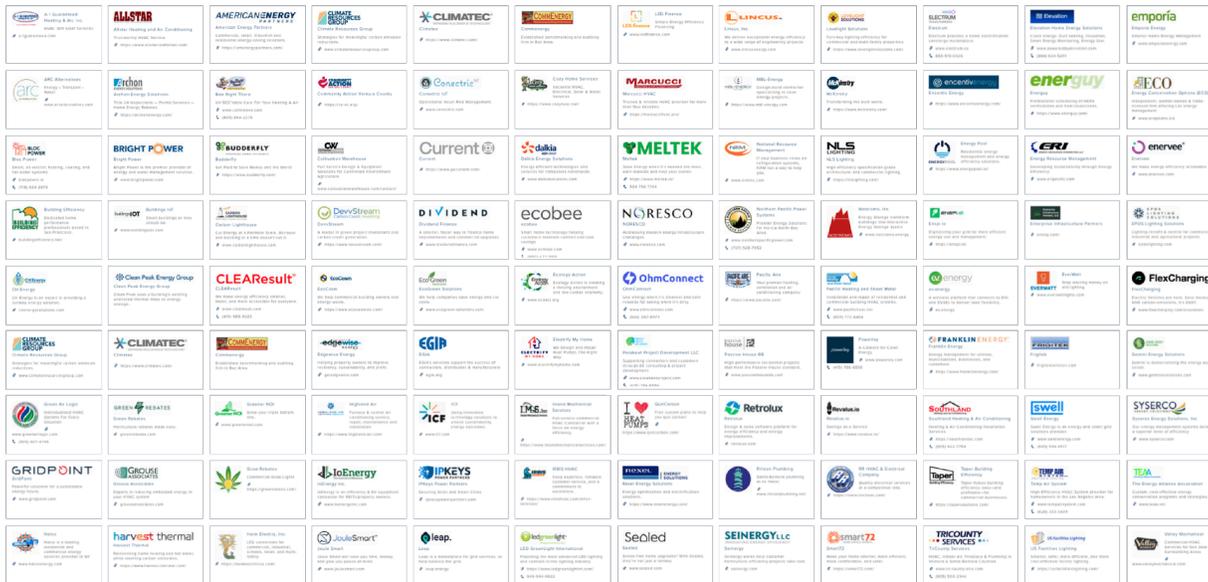
Recurve's platform for automated data intake, paralyzed cloud-based processing, open-source modeling, and automated analytics built on SOC 2 and NIST security and data privacy

The FLEXmarket Aggregator Network

To deploy a FLEXmarket, Recurve designs and builds an open market where risk is diversified across technologies and innovative solution providers. These providers, called [aggregators](#), implement technology and services for customers (projects). Projects are enrolled in the market in response to a market price signal, where aggregators receive incentive payments for the measured savings they deliver to the grid. Recurve proposes a price signal that favors load reductions from 3-9 p.m. MST (peak window) from June to September.

Recurve's [FLEXmarket network](#) includes more than [180 companies](#). Several aggregators, such as Franklin, Ecobee, and ICF, already operate in LPSC's service territory with a range of tested business models. These providers' familiarity with the FLEXmarket model provides an opportunity for seamless onboarding and rapid launch of a LPSC FLEXmarket Program.

Instead of a one-size-fits-all solution, FLEXmarket encourages the participation of diverse resources, ensuring that various solutions and business models are available to address different customer and system needs.



As the market operator, Recurve will deploy a cloud-based software platform and aggregator tools to make participation easy. Simplicity and transparency enable the market to scale rapidly. With the tools provided by Recurve, aggregators can quickly determine customer eligibility (described in the [Project Development Schedule](#)) and enroll projects with less administrative burden than traditional programs. Once installed, project impacts are tracked continuously in Fleet Manager, and aggregators are paid incentives based on measured performance at a cost-effective rate, with transparency at every step.

Aggregator Portal & Tools

The Recurve Aggregator Portal is a self-service software platform that streamlines engagement with the Market. By empowering Aggregators to manage prospecting, project enrollment, project status tracking,

and paperwork management in one place, Recurve Streamlines operations to reduce transaction costs, improve accuracy, and enable transparency to all parties.

Aggregators have access to tools that support their success in all (3) phases of a project lifecycle:

1. Project Identification

- a. Pipeline Management - enables aggregators to track and manage their project pipelines in real-time, with immediate feedback on project status
- b. Eligibility - check projects for past program participation, model fit, and data sufficiency in real time to ensure prospective customers meet program rules and are eligible to participate. Recommended criteria include:
 - i. The customer/site must be in LPSC’s service area and receive electric distribution and natural gas service from LPSC.
 - ii. A minimum of 12 consecutive months of usage data is needed to build an accurate hourly baseline and forecasting model.
 - iii. The meter must have a model fit < 1.0 CVMSE, indicating a strong correlation between the counterfactual baseline and meter data.
 - iv. The customer cannot participate in an ongoing LPSC demand-side program or has participated in the past 12 months.
 - v. Any other specific eligibility requirements aligned between LPSC and Recurve.
- c. Customer Engagement - A built-in customer screening tool offers trade allies and aggregators additional insight into offers for prospective customers based on how each customer uses energy

The screenshot shows the 'Project Value Estimator' interface. At the top, there's a navigation bar with 'RECURVE', 'Projects', 'Green Energy Co.', and 'phil+qarestricted@recurve.com'. Below this, the page title is 'Project Details' and 'Project Value Estimator'. On the left, a sidebar shows 'Step 6 of 6' with a list of steps: Project, Program, Measures, Customer, Site, and Meters (which is selected). The main content area is titled 'Meter Identifiers' and includes a sub-header: 'Provide utility meter identifiers to support measurement of impacts. Where can I find the correct meter identifiers?'. There are four columns: 'Include?' with a toggle switch, 'Meter ID' with a text input containing '8773325491', 'Meter Type' with a dropdown menu set to 'Electric', and 'Identifier Type' with a dropdown menu set to 'Service Premise ID (SPID)'. The 'Eligibility Status' column shows 'No Eligibility Data Available' with a trash icon. Below these fields, there are three red bullet points: 'Required for eligibility check', 'Required for enrollment', and 'Required for enrollment'. At the bottom, there are 'Previous', 'Cancel', and 'Save' buttons.

Aggregator Project Eligibility Tool

2. Project Enrollment

- a. Project Value Estimator - enables aggregators to estimate a project's value based on the available payable rates, forecasted resource curves (savings load shapes), deemed estimates, and project and customer costs.
- b. Project Entry - enables straightforward project entry, collecting the minimum required information to administer and optimize the program.
- c. Project Submission - Aggregators can directly enroll projects in the appropriate market after completing all qualifying criteria. This feature simplifies administrative procedures, automatically generates program paperwork, tracks incentive levels and remaining budgets, and streamlines administrative tasks to reduce time and delays.

Project Enrollment Form

3. Post Project Review & Payment

- a. QA - Third Parties, such as the program administration staff, project review teams, or engineering review professionals, can see the project submissions and portfolios as they are built, reducing approval times and enabling aggregators to track progress and engage with reviewers when necessary.
- b. Savings & Payment—This is integrated with Fleet Manager to give insight into portfolio performance, project-specific metered savings impacts, and aggregators' associated earnings. Payment calculations are stored in the Ledger, enabling seamless accounting of the current portfolio value and past payments. The ability to reference Ledger calculations for the portfolio significantly streamlines invoicing.

- c. Feedback Loop - The aggregators can analyze performance to identify and optimize their delivery, including targeting high-value customers, crews, or subcontractors' performance for performance benchmarking relative to others in the market.

Account - Demo P4P March 21st, 2020 [Create New Payment](#)

99 Projects	164 Meter Assets	\$8,234.55 Base Value	\$0.00 Kicker Value	\$64.10 Assigned Value	\$8,298.65 Total Value	\$4,220.00 Upfront Credit	\$12,518.65 Total Value + Upfront Credit	\$6,265.74 Previous Payments	\$6,252.91 Balance
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164 Meter Assets [Show filters](#) Showing 1 to 10 of 164 Meter Assets [Prev](#) [Next](#)

METER ID	METER TYPE	PROJECT ID	PROJECT MATURITY	STATUS	DISQUALIFICATION REASON	BASE VALUE	KICKER VALUE	ASSIGNED VALUE	TOTAL VALUE	U
M127-gas	gas	PROJ123127	13 months	ACTIVE		\$389.62	\$0.00		\$389.62	
M190-gas	gas	PROJ123190	13 months	ACTIVE		-\$212.69	\$0.00		-\$212.69	
M206-gas	gas	PROJ123206	13 months	ACTIVE		\$228.30	\$0.00		\$228.30	
M255-gas	gas	PROJ123255	13 months	ACTIVE		\$1.20	\$0.00		\$1.20	
M33-gas	gas	PROJ12333	13 months	ACTIVE		-\$226.00	\$0.00		-\$226.00	
M74-gas	gas	PROJ12374	13 months	ACTIVE		\$3.03	\$0.00		\$3.03	
M87-gas	gas	PROJ12387	13 months	ACTIVE		-\$647.43	\$0.00		-\$647.43	

Flex Ledger

These tools provide enhanced operational visibility, improved accuracy, reduced transaction costs, and a feedback loop that ensures optimal program performance.

Recurve's Qualifications and Experience

Recurve is accelerating the transition to a clean energy economy by supporting the integration of demand-side resources into the emerging carbon-free energy grid.

Recurve brings a host of policy, regulatory, impact evaluation, and energy data analytics experience. Recurve qualifications include:

- Open-source software supported by a modern and scalable computing platform that can analyze trillions of AMI data points across millions of customers.
- Energy data analytics experience, including standardized methods for meter-based measurement, comparison group adjustments, and calculating grid value, approved by CAISO for market-integrated demand response.
- Rigorous data security protocols. Recurve is SOC 2 Type II compliant and has developed differential privacy methods that enable data sharing while protecting customer privacy.
- The program team has experience managing subcontractors and aggregators and resolving disputes. It also has previous experience with program contract management.
- Excellent fiscal management and controls. In a 2023 independent audit of Recurve's financials, Recurve received an unqualified audit opinion, the best-case scenario.

Team Qualifications

Colin Clark - Senior Director of Customer Solutions

Colin Clark will be responsible for all deliverables and oversee the efforts of key staff. His role will be pivotal in ensuring the successful execution of the project's objectives.

Colin is an accomplished professional with extensive experience in the energy sector. He currently serves as the Director of Client Operations and Markets at Recurve, where he applies his wide-ranging industry knowledge and managerial expertise to drive client services and market strategies. Before Recurve, Colin was a Product Owner at Taper. In this role, he led a cross-functional team under the Agile framework, focusing on delivering high value to partners and managing external Market Access Program relationships. This experience allowed him to expand markets further and drive heightened revenue.

In earlier roles, Colin served as the Director of Sales Operations at Taper and held various strategic positions at Ecology Action. These roles saw him manage large-scale projects, lead crucial contract negotiations, and develop innovative strategic initiatives. Colin's ability to effectively handle contract, budget, and client management demonstrates his leadership and strategic planning skills. A University of California, Santa Barbara graduate, Colin holds a B.A. in Psychology.

Alyssa Baker-Blanc - Senior Program Manager

Alyssa has over ten years of experience in EE and DR program management and implementation. As the team lead overseeing the delivery of Recurve's FLEXMarket portfolio, she deeply understands what makes a market successful. Before Recurve, she managed other first-of-their-kind programs across the Pacific Northwest. Alyssa strives for superior client satisfaction through on-time, to-goal delivery.

Previous to Recurve, Alyssa led and delivered Portland General Electric's "Schedule 25" Small Business Demand Response program and The Northwest Energy Efficiency Alliance's Hot Water Solutions program at Ecology Action.

Brian Gerke - Director of Forecasting and Methods

Brian has more than ten years of experience as an energy researcher focusing on informing policy. He is a skilled data scientist, Python programmer, and mathematical modeler with demonstrated success designing new modeling frameworks and managing the design and implementation of large, complex databases. In addition to his expertise as an individual contributor, Brian is a seasoned technical manager with experience leading multiple diverse teams in software development, data science, and analytical research. He is a thought leader in energy research and policy, with expertise in energy efficiency, demand response, and transportation, with broad experience presenting research results to researchers, funders, decision-makers, and industry stakeholders, including serving as the project lead for two phases of the CPUC's Demand Response Potential Study.

Carmen Best - Chief Policy Officer

As Chief Policy Officer at Recurve, Carmen brings expertise in policy and advocacy for distributed energy resources and grid integration. Her experience includes strategic policy initiatives, regulatory guidance, and participation in collaborative working groups.

Carmen is a policy expert with 15+ years of experience with the CPUC and Recurve.

She served as Supervisor of the Energy Division-Energy Efficiency Commercial Program & Evaluation Oversight at the California Public Utilities Commission.

Additionally, Carmen has managed a team of twenty analysts and external consultants in defining research needs, completed field evaluation activities, including site visits, surveys, bill analysis, and metering, and informed energy efficiency policy direction in California and beyond with the results.

Adam Scheer, Ph.D. - VP of Applied Data Science

As VP of Applied Data Science, Adam’s background in energy efficiency, renewable energy, and biofuel research, along with his work in smart meter data analytics, positions him as a key asset in our data-driven approach.

Adam has 10+ years of energy efficiency experience with PG&E and Recurve, including evaluation, implementation, and policy. He has served as the Principal of Energy Efficiency Policy and Strategy for Pacific Gas and Electric Company and led the authorship of several impactful whitepapers and conference papers on energy efficiency evaluation best practices and data-driven customer targeting to enhance energy savings.

Relevant Project Experience & Resume of Projects

Recurve operates 12 FLEXmarkets in California, with six (6) markets providing capacity to the grid and the other six beginning to ramp. These six markets have contributed significantly to California’s grid, adding more than 38% to the overall statewide commercial total system benefit (TSB) in 2022. [Adopted by the CPUC](#) in 2021, TSB is a dollar-value expression of a utility's program portfolio's lifecycle energy, capacity, and GHG benefits.

See the Appendix for letters of support from participating aggregators.

Recurve’s FLEXmarket Experience

Project Name	Program Start Date	Contract Model	Project Technology	Project Location	Aggregate Capacity Over Time	Project Capacity
PG&E Market Access Program	2022	LMA	Lighting, HVAC, RFG, BRO*	California	6.0 MW	5.4 MW
MCE Peak FLEXmarket	2021	LMA	Lighting, HVAC, RFG	California	1.24 MW	1.24 MW
3C-REN Residential FLEXmarket	2022	LMA	HVAC, Lighting	California	.02 MW	.02 MW
BayREN Small Business FLEXmarket	2022	LMA	Lighting, HVAC, RFG	California	.1 MW	.1 MW
SCP FLEXmarket	2022	LMA	Lighting, HVAC, RFG	California	.12 MW	.12 MW
SDCP FLEXmarket pilot	2023	LMA	Lighting	California	.05 MW	.05 MW
Total					7.53 MW	6.93 MW

*Behavior, Retro-commissioning, and Operational

FLEXmarket enables participation from various technologies and business models. High-performing technologies, where Recurve has measured performance within operating FLEXmarkets, include

- **Indoor and Exterior Lighting Retrofits.** Aggregators follow the price signal and target large commercial buildings with long hours of operation. Retrofits with lights on through the peak at grocery stores, large retail stores, and warehouses are proven to provide high-value savings.
- **HVAC Replacement, Variable Frequency Drive (VFD), and Control Technologies.** Efficiency upgrades with controls for improved efficiency and Demand Response enablement make HVAC measures a key part of the market. All building types benefit from these measure types.
- **Refrigeration.** Motors, compressors, and controls. Refrigeration usage corresponds with afternoon and summer peak. The aggregator's focus is upgrading motors, adding controls, and retro-commissioning existing systems in grocery stores, gas stations, large retail stores, and convenience stores.

Similar Projects and References

Sonoma Clean Power (SCP) & Peninsula Clean Energy (PCE) FLEXMarket (July 2022 - present)

Contact information:

Felicia Smith, Sr. Program Manager / (707) 871-0571 / Fsmith@sonomacleanpower.org

Peter Levitt, Programs Manager, Distributed Energy Resources / (650) 381-9233 / plevitt@peninsulacleanenergy.com

Customer Sector Served: Residential, Commercial

Recurve Role: Design and Implementation, including aggregator management, meter-based targeting, and meter-based M&V

Recurve implements Sonoma Clean Power & Peninsula Clean Energy's FLEXmarket, which offers an innovative and flexible approach to delivering energy efficiency projects by working directly with Aggregators and project managers. Aggregators and project managers can deliver a wide portfolio of various projects across the SCP/PCE territory and be incentivized to achieve energy savings across the portfolio.

The FLEXmarket is a pay-for-performance program that sets incentives based on an hourly avoided cost value for the useful life of projects installed. The hourly framework promotes peak period reductions by valuing peak hour savings at higher incentive levels. The useful life framework provides higher incentives for projects that provide sustained energy efficiency over time. In the FLEXmarket, aggregators and project managers can develop their projects and targeted solutions for energy efficiency and optimize them for real-world savings to decrease customer energy costs and reduce strain on the electricity grid.

<https://sonomacleanpower.org/programs/flexmarket>

PG&E Market Access Program (2022 - Present)

Contact Information: Alison Erlenbach, Meter-based EE Lead / (415) 933-0407 / A1EG@pge.com

Customer Sector Served: Commercial

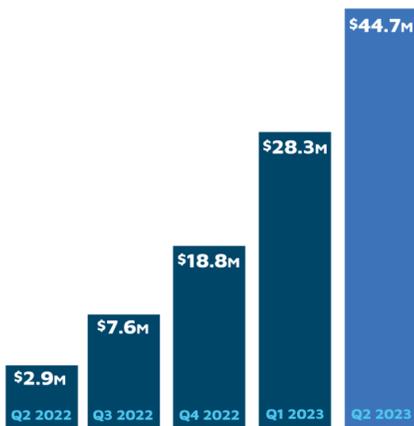
Recurve Role: Design and Implementation, including aggregator management, meter-based targeting, and meter-based M&V.

This CPUC-led statewide energy efficiency response to Governor Newsom’s Summer Reliability Emergency was based explicitly on the success of the MCE FLEXmarket jointly developed by MCE and Recurve. The Market Access Program awarded \$150M to IOUs and MCE to focus on summer peak savings.

Recurve implements the Market Access Program, which offers aggregators financial incentives to reduce energy usage during high grid stress. The program's goal is to avoid rotating outages while minimizing customer costs.

Recurve has recruited over 180 aggregators statewide and exhausted commercial funding for MCE and PG&E. Current projects are delivering over 100% realization rates with over 130% of forecast during the net peak summer periods. Each MWh delivered through FLEXmarket and Market Access through Recurve is delivering over 2x the grid impact of the overall commercial portfolio in California. Recurve's MAP and FLEXmarket programs alone have added 38% to the state's grid impact of commercial efficiency.

LIFETIME TOTAL SYSTEM BENEFIT
GAS AND ELECTRIC COMBINED TSB FORECAST VALUE



38%
INCREASE TO CALIFORNIA
COMMERCIAL TSB

2X
TSB/MWh
\$88 FLEXMARKET
TSB/MWh SAVED
vs.
\$40 CA COMMERCIAL EE
TSB/MWh SAVED

102%
PERFORMANCE/
REALIZATION RATE

https://www.pge.com/en_US/large-business/save-energy-and-money/energy-management-programs/energy-incentives/market-access-program/market-access-program.page?WT.mc_id=Vanity_marketaccess

Additional media coverage on the program

<https://www.canarymedia.com/articles/grid-edge/can-a-new-approach-to-demand-flexibility-help-save-california-from-rolling-blackouts>