

Better Programs Through Data Analytics and Pay-for-Performance

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Rocky Mountain Utility Exchange

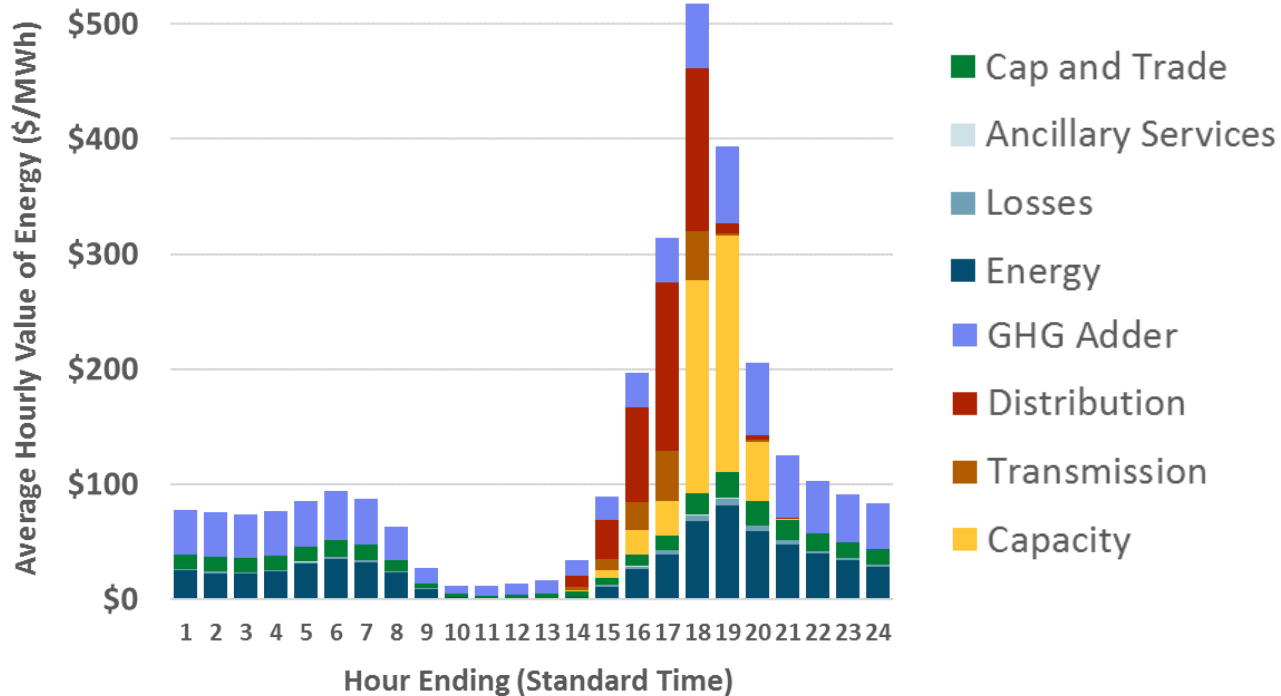
September 26, 2019

I'm glad to be back
in Colorado!



A Little (More) California Context

2024 Avoided Cost Profile



- Mid-day avoided costs disappearing due to over-generation/solar curtailment
- Evening ramp and peak-period avoided costs are up!

How are Priorities Changing? (The Adam Scheer Official Rankings)

2009

1. Annual EE Savings Goals
2. Cost Effectiveness
3. Customer Bill Savings
4. Grid Reliability and Security
5. Decarbonization
6. Demand Flexibility
7. Electrification

2019

1. Decarbonization
2. Grid Reliability and Security
3. Electrification
4. Cost Effectiveness
5. Demand Flexibility
6. Customer Bill Savings
7. Annual EE Savings Goals

The 2009 Status Quo in EE: Deemed/Custom Savings...

Regulators Need

- Transparency, Evaluability, **Results**

Utilities Need

- A **Dynamic**, Cost-Effective Resource

Implementers Need

- **Flexibility** and Accountability

Customers Need

- Individually-**Tailored** Solutions

Regulators Get

- Opaque, Inconsistent, **Reports**

Utilities Get

- A **Flat** Load Forecast Adjustment

Implementers Get

- Workpapers, **Limited** Measures

Customers Get

- The **Same** Thing as Their Neighbor

...A Dead End

A New Deal for 2019 and Beyond: Meter-Based Pay-for-Performance (P4P)

Lower risk for Regulators,
Utilities and Ratepayers;

Greater Reward for
Quality Implementers

Regulators, Utilities, Implementers, and Customers Get

**Transparency,
Consistency**

**Incentive
Alignment**

Flexibility

Accountability



Who's Making the Move?

California, New York, Oregon, Washington...

Regulators, Implementers, Utilities

Municipalities, CCAs, RENs, Co-ops

The Heart of P4P: Standardized M&V

 OLF ENERGY



OPEN  METER

 CALTRACK

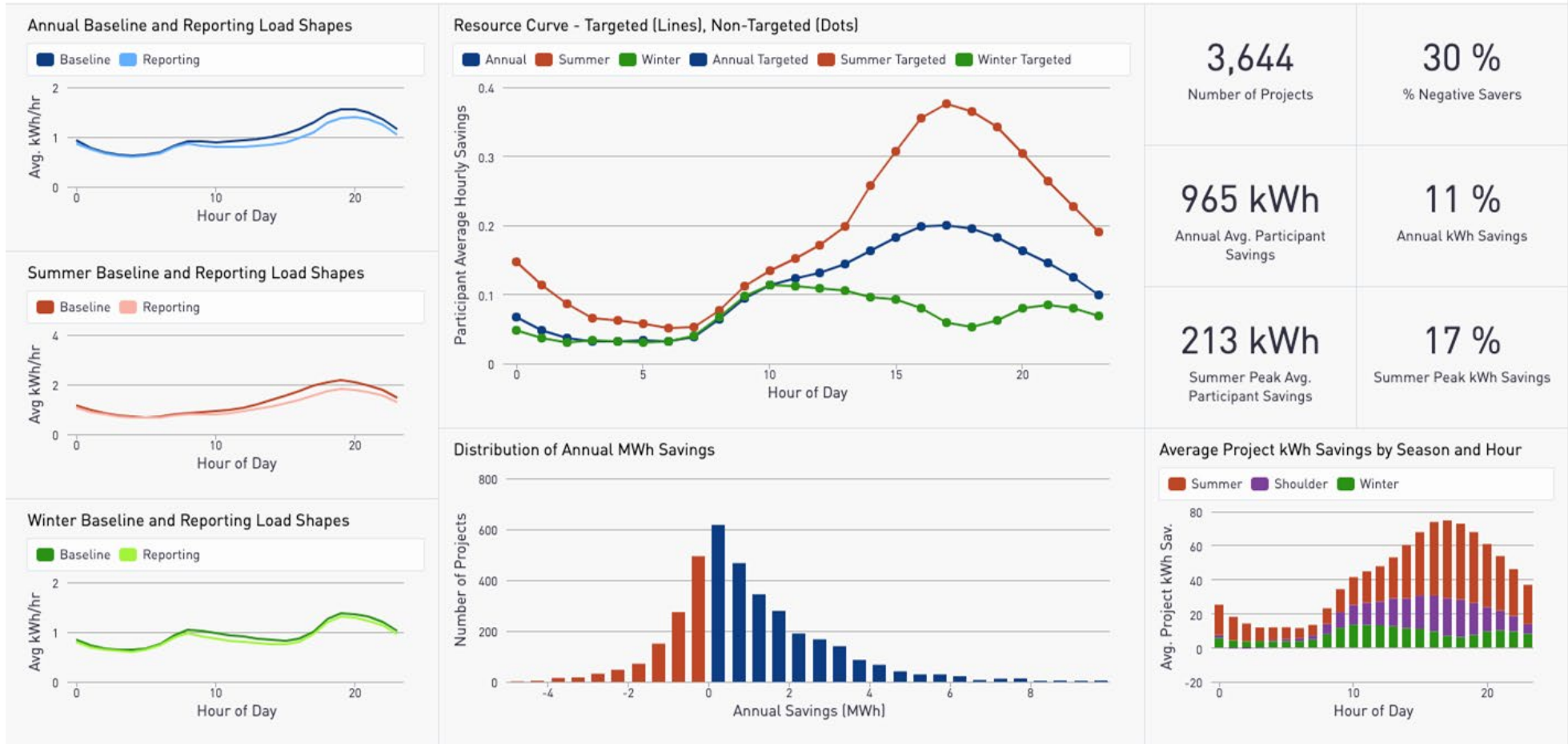
- Python CalTRACK Engine
- Open Source
- Available Without Restriction

- Standard Calculation Methods for Energy Efficiency and Electrification
- Monthly, Daily, and Hourly
- Public 60 Stakeholders Empirical Process

What Does P4P/CalTRACK Analytics Look Like In Practice?

Programs deliver a **distribution** of project-level metered savings that in **aggregate** yield reliable results

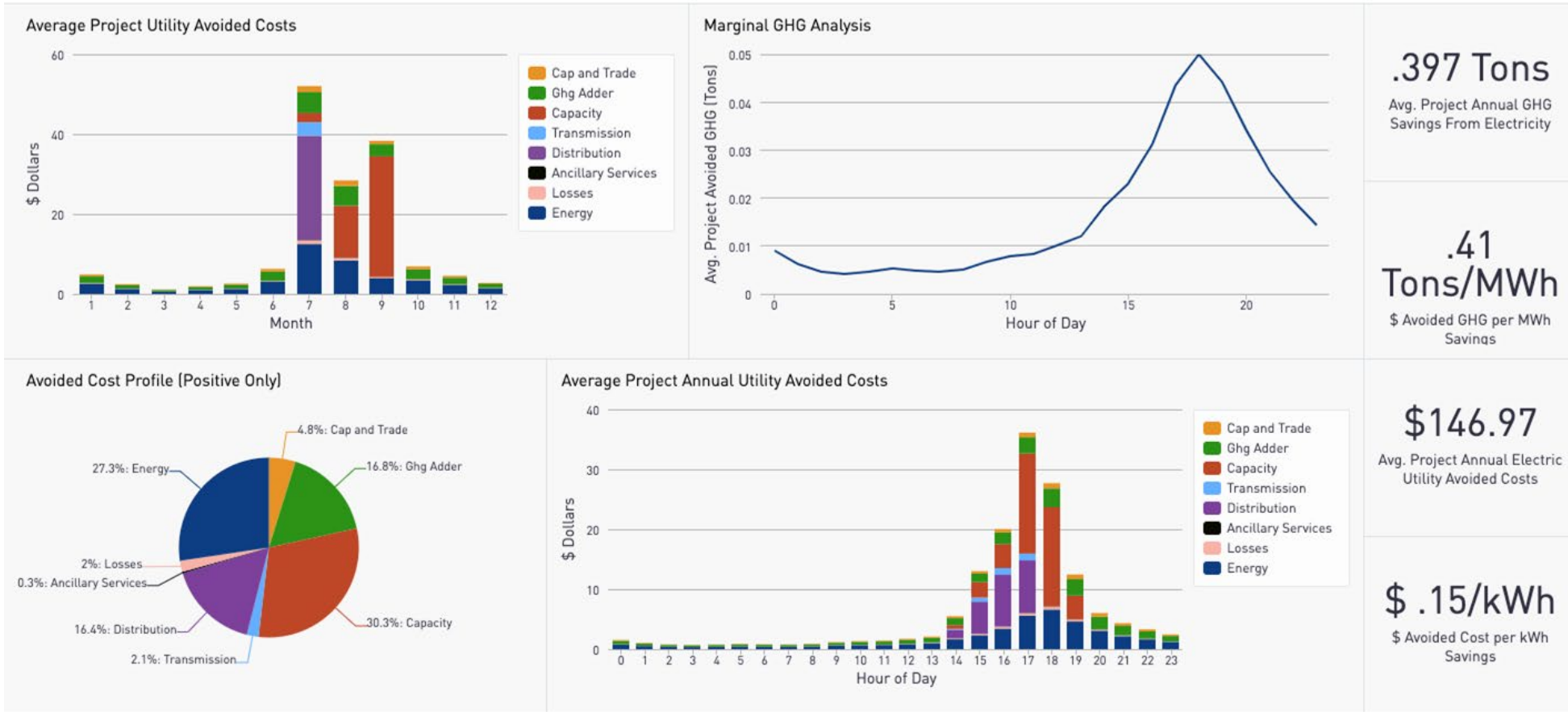
Electric Load Shape, Savings, Resource Curve, and Targeting Analysis



Timely Tracking of Utility Avoided Costs and *Marginal* GHG Impacts

Connecting program results to grid realities

Electric Avoided Cost and GHG Analysis



Customer Targeting

Deemed programs reward: Recruiting lots of customers

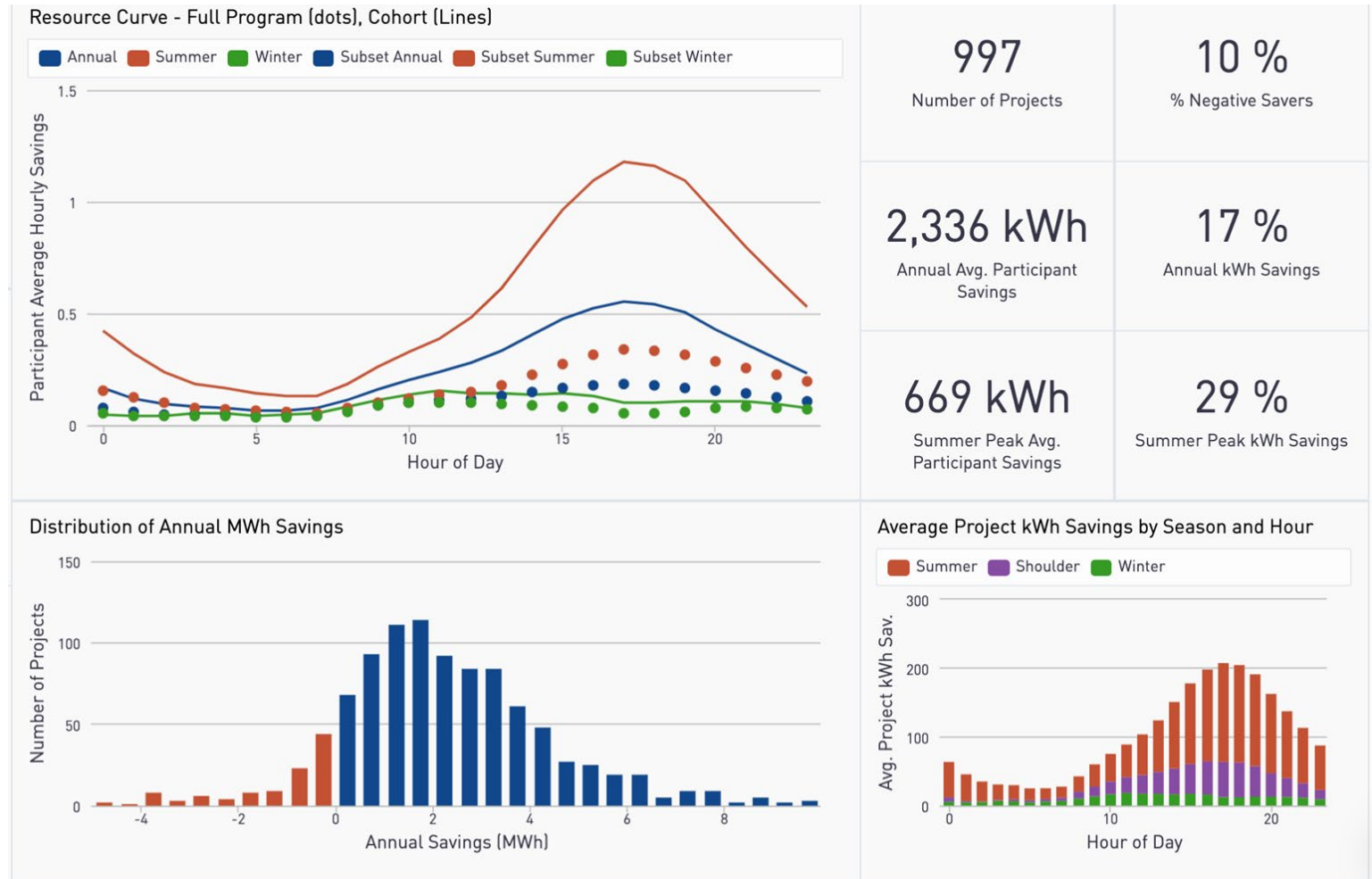
P4P rewards: Recruiting the right customers and delivering the right solutions.

The Opportunity: Getting Smarter with Targeting via Data Analytics

Targeting top quartile of summer kWh and top half of temp-to-load correlation

Average project savings increase by a factor of 2.4

Negative Savers down by 66%



Recipe for Shared Success with P4P

1. Transact in “standard kWh” with transparent, open-source M&V
2. Distribute performance risk appropriately among parties
3. Recruit high potential customers with customer targeting
4. Orient programs to real grid needs and pay more when/where savings are worth more
5. Flexible programs that deliver customers solutions on an individual basis
6. Manage performance with continual tracking of metered savings

References

1. CalTRACK: www.caltrack.org
2. General Info/P4P www.recurve.com and www.recurve.com/blog
3. Want to learn more about customer targeting?
 - *Customer Targeting for Residential Energy Efficiency Programs: Enhancing Electricity Savings at the Meter*, A.M. Scheer, S. Borgeson, K. Rosendo, 2017
 - *Energy Efficiency Program Targeting: Using AMI Data Analysis to Improve At-the-Meter Savings for Small and Medium Businesses*, S. Borgeson, A.M. Scheer, R. Kasman et. al. 2018
 - *Customer Targeting via Usage Data Analytics to Enhance Metered Savings*, 2018 ACEEE Summer Study, A.M. Scheer, S. Borgeson, R. Kasman et al.