CleanEnergy States Alliance

NREL's Procurement Analysis Tool

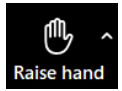
September 29, 2025

Webinar Logistics

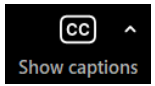
Attendees are in listen-only mode by default.

The **Chat function** is also enabled. You may submit questions and comments via the Chat.

During the Q&A portion, use the **Raise hand** button to join the queue for asking live questions. When it is your turn, your microphone will be enabled.



Automated **captions** are available



Speakers' bios will be made available in the chat

This webinar is being recorded. We will email you a webinar recording within 48 hours. This webinar will be posted on CESA's website at **www.cesa.org/webinars**

Celebrating 20 Years of State Leadership

Clean Energy States Alliance

The Clean Energy States Alliance (CESA) is a national, nonprofit coalition of public agencies and organizations working together to advance clean energy.

CESA members—mostly state agencies—include many of the most innovative, successful, and influential public funders of clean energy initiatives in the country.

CleanEnergy States Alliance

www.cesa.org

Federal Initiatives

Provides opportunities for CESA member organizations and all US states to:

- Learn about federal energy developments
- Exchange information to advance energy deployment in their state

www.cesa.org/projects/federal-initiatives

Webinar Speakers

NREL's Procurement Analysis Tool

Sushmita Jena

Researcher III – Complex Decision Analysis

National Renewable Energy Laboratory

Jeffrey Cook

Group Manager II – Policy Analysis

National Renewable Energy Laboratory

Warren Leon

Executive Director

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(Moderator)

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CleanEnergy States Alliance

Thank You

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Upcoming Webinars

Front-of-Meter vs. Behind-the-Meter Batteries: An Economic Comparison for Massachusetts (October 8)

MassCEC's Vehicle-to-Everything Demonstration Program (November 12)

Read more and register at
www.cesa.org/webinars

Procurement Analysis Tool (PAT) Informational Webinar for Clean Energy States Alliance

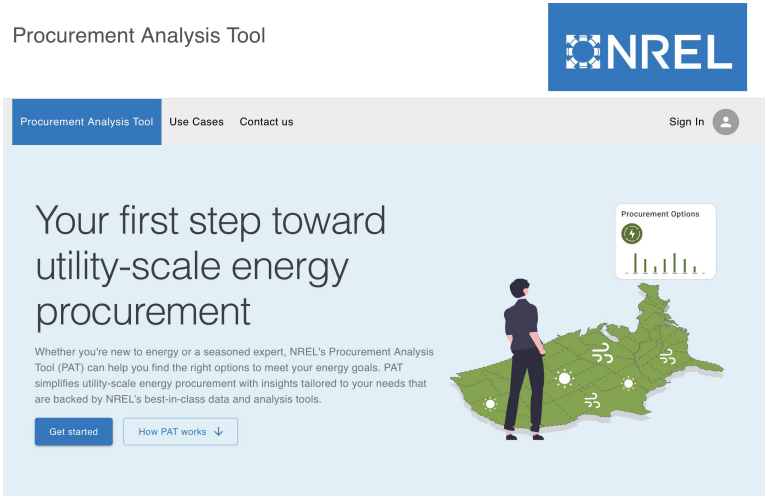
Sushmita Jena and Jeff Cook

Sep 29, 2025

Photo by Josh Bauer, NREL 61725

PAT: A Free Platform for Off-Site Energy Analysis

PAT HOMEPAGE



www.pat.nrel.gov

KEY QUESTIONS ADDRESSED BY PAT

- What energy procurement options exist by location?
- How do energy procurement options align with certain end user objectives?
- How does the value of different energy technologies vary by location?
- How do different resources and procurement options vary on costs/impacts?

PAT: Key Inputs and Outputs

SCENARIO SETUP

User enters the scenario title, energy goals (%), and any additional notes.

LOAD AGGREGATION GROUPS

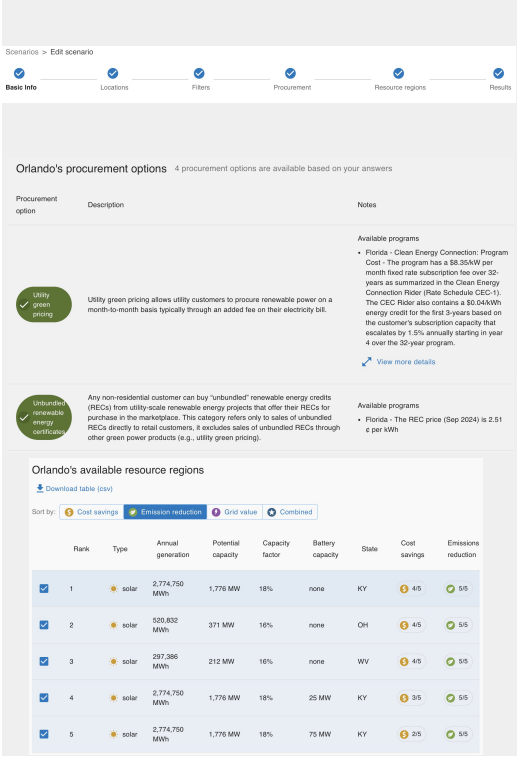
User aggregates electricity load by region, type of facility, and/or load size. User inputs specific facility information, such as annual load (MWh), address, and the utility/load-serving entity.

REFINEMENT BASED ON USER PREFERENCES

User answers 7 questions about their procurement preferences and knowledge of the process.

Contracting Experience	Price Certainty	Location Preference	Cost, Emissions, Grid Value, or a Combination
Financial Risk Tolerance	REC Ownership	Balancing Authority	

PAT



PROCUREMENT OPTIONS

PAT shows procurement options such as green tariffs, competitive suppliers, green pricing, unbundled Renewable Energy Certificates (RECs), community solar, and/or Power Purchase Agreements (PPAs) based on the combination of user preferences and available offerings from the load-serving entity.

RESOURCE REGIONS

Select resource regions are optimized based on wholesale power markets, cost, grid value, emissions reduction, or a combined score.

Under the Hood: How PAT Optimizes

Annual Technology Baseline (ATB)

Consistent set of technology design and cost data

Energy Supply Curves

Clustered to identify best resource locations for each ReEDS balancing region

Cambium

Modeled cost, hourly emission, and operational data for a range of possible futures of the U.S. electricity sector through 2050

PAT

Leverages System Advisor Model (SAM) for system performance and battery dispatch considering cost reduction and emissions if participating in the wholesale markets as a merchant plant.

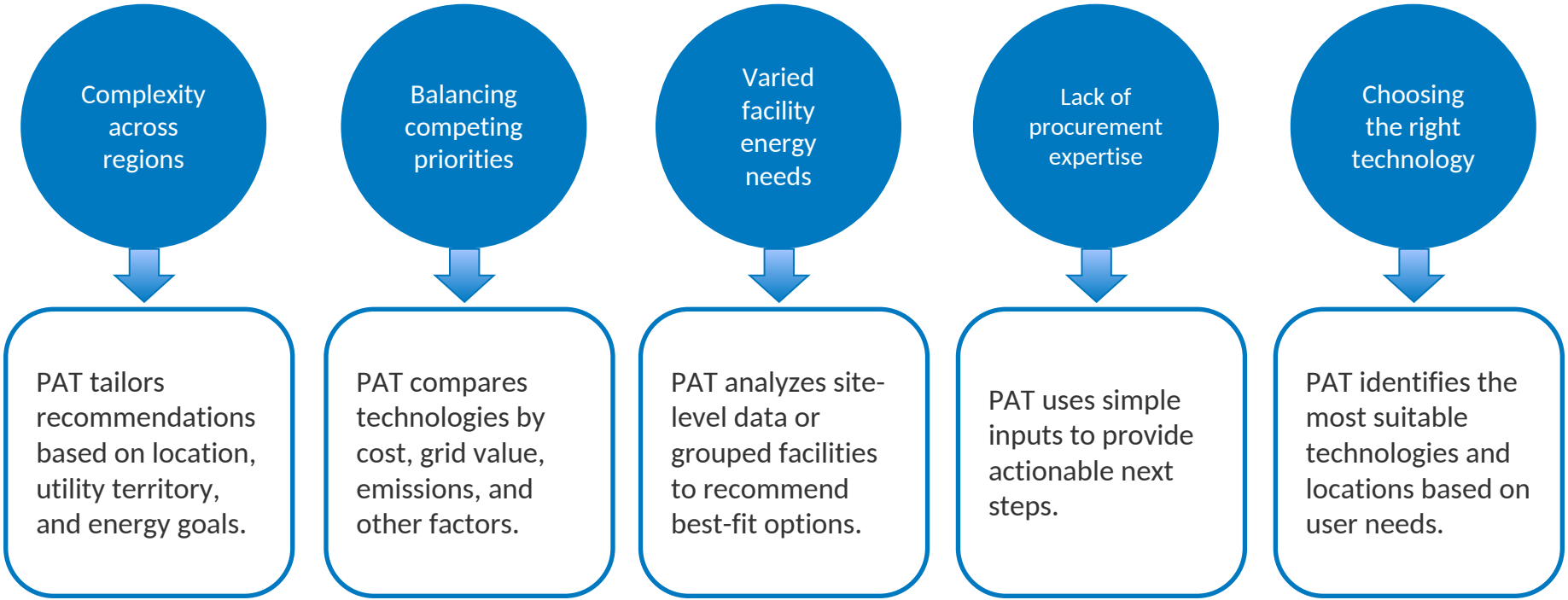
Output

Comparative Data based on marginal cost, grid value, and emissions for fixed system sizes calculated over a 25-year system lifetime.

PAT Can Analyze Multiple Customer Use Cases

User Group:	How PAT Helps:
🏢 **Commercial & Industrial Buyers**	Evaluate off-site procurement options across multiple facilities nationwide.
🏛 **Local Governments & Agencies**	Assess options for powering city operations or jurisdiction-wide demand.
🎓 **Colleges, Universities & Campuses**	Plan energy procurement for labs, classrooms, housing, and campus services.
⚡ **Utilities & Energy Providers**	Analyze customer demand and assess feasibility for procurement programs (e.g., green tariffs).
⚖ **Regulators & Commissions**	Plan for voluntary utility-scale programs and shifting customer energy strategies.

Key Procurement Challenges And Solutions



Live Demo

www.pat.nrel.gov

PAT Analysis Is the First Step in Your Energy Procurement Journey

What To Do Next:

PAT provides foundational analysis to support your energy procurement journey. If you are interested in pursuing energy further, you might consider the following next steps.

1

Analyze Procurement Options

Review the available procurement options identified for your groups. Compare attributes like pricing, contract terms, and procurement processes to make informed decisions.

2

Engage Key Stakeholders

Collaborate with internal teams, regulators, and utilities to assess feasibility. If needed, initiate discussions with consultants to support your decision-making.

3

Negotiate and Develop

Partner with utilities and project developers to finalize contract terms and implementation plans. Define stakeholder roles and responsibilities for new projects.

4

Request and Evaluate Proposals

Issue Requests for Information (RFI) or Proposals (RFP) as needed. Carefully review submissions, considering associated risks and alignment with your goals.

5

Finalize Procurement and Track Benefits

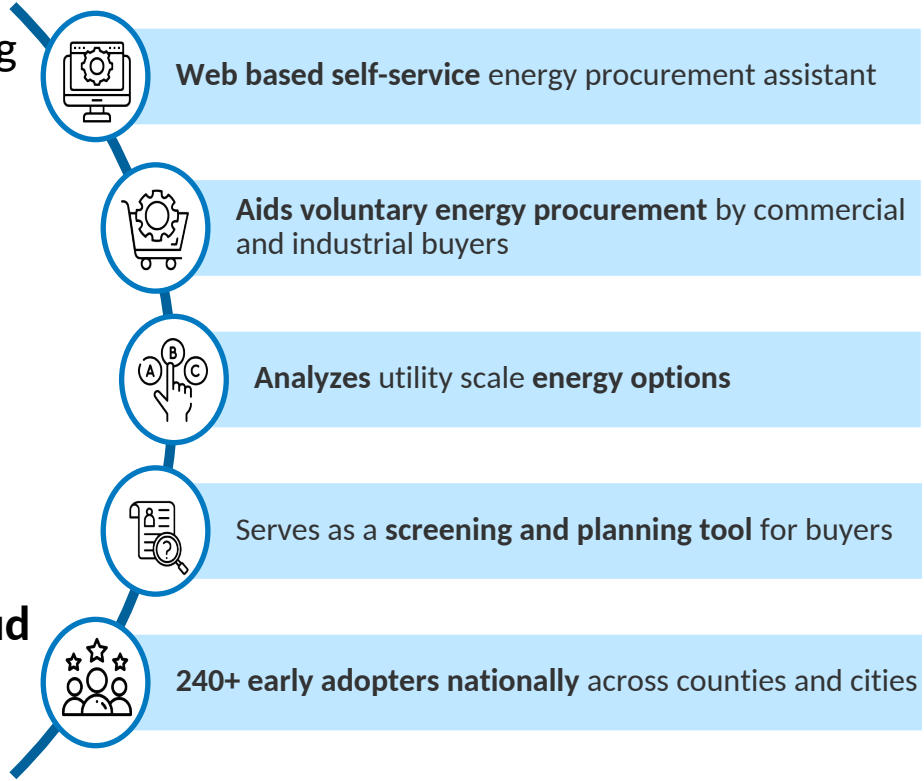
Sign contracts and begin implementation. Monitor key metrics like energy production, avoided emissions, cost savings, and price variability to ensure success.

What PAT does not do:

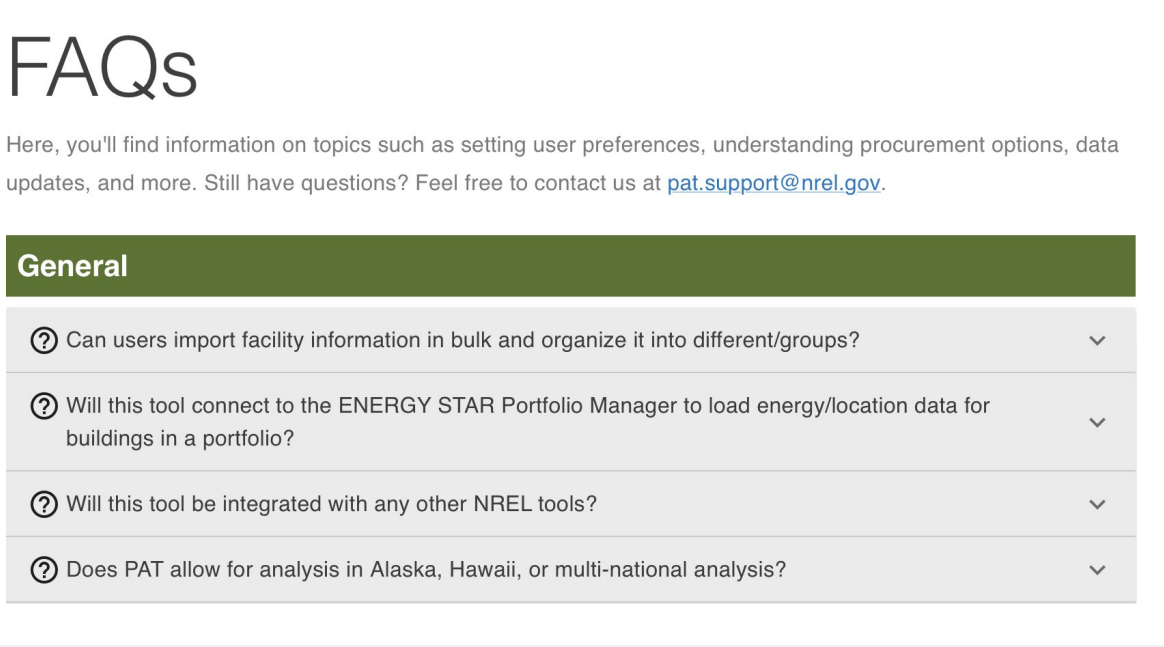
- PAT is not intended to present the user with a specific set of existing generation assets.
- PAT does not perform detailed financial analyses on potential resource regions.

Key Takeaways from PAT

- Supports **customized scenario analysis** using user-entered facility and consumption data.
- Helps users **evaluate energy resources** and **compare procurement pathways** (e.g., PPA, tariffs).
- Enables decisions that balance **cost, grid value, emissions, any buyer preferences**
- Serves a wide range of users: **software, cloud operators/IT, cities, campuses, companies, utilities, and regulators.**



User Support and Contact



- ❑ For questions, check out the FAQ section on the tool's site.
- ❑ For user support, and feedback, contact us at: PAT.Support@nrel.gov

Q&A

www.nrel.gov

Need help? Email us at pat.support@nrel.gov.

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