

Lessons in Real Time

Evaluation of California's Building Decarbonization Push



ENERGY EVALUATION
EUROPE CONFERENCE 2025
SHOW ME THE EVIDENCE: EVALUATION AS THE DECISION
MAKER'S BEST RESOURCE
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Introducing the Authors



Rory Cox, Principal



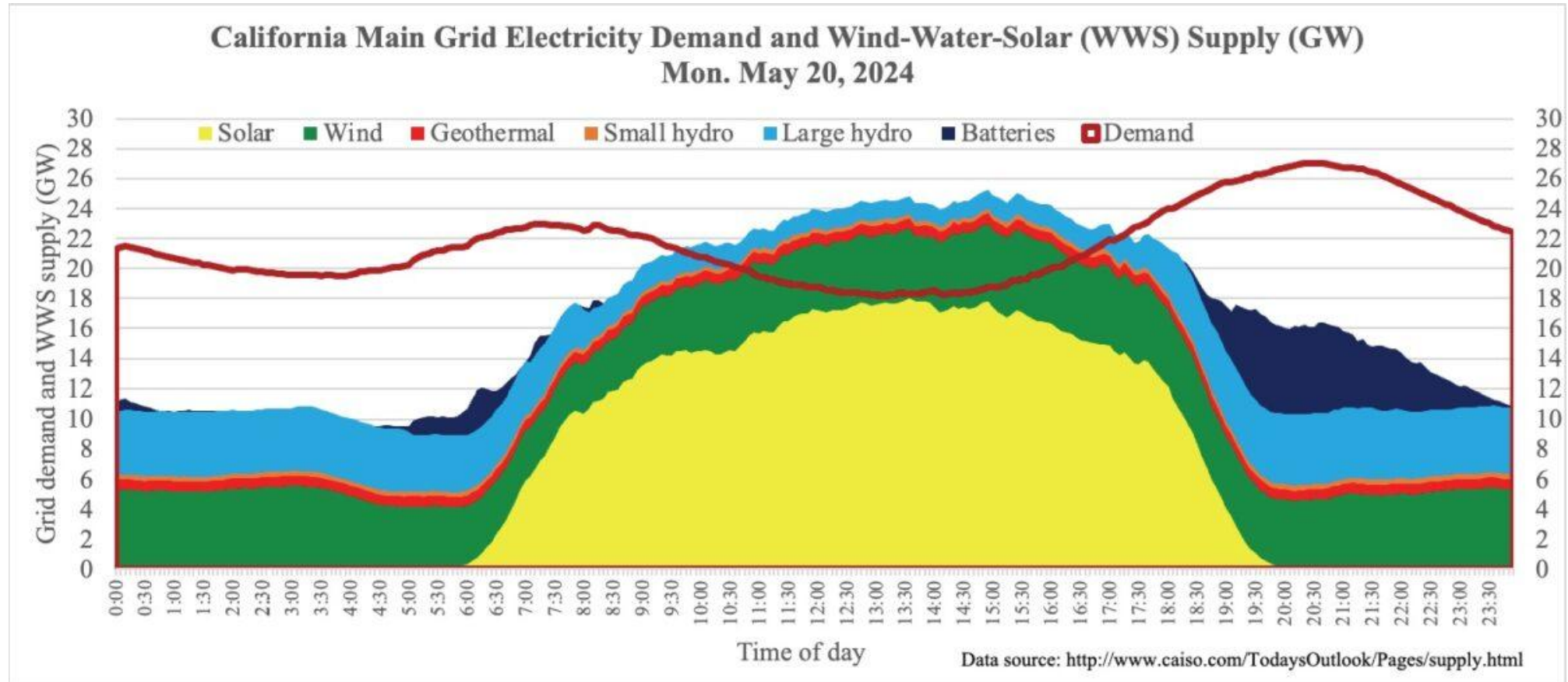
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California Produces Excess Renewables

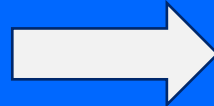


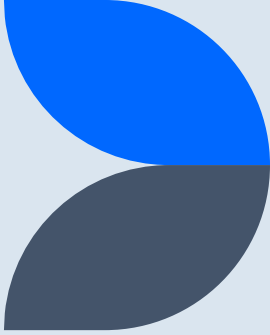
- Under some conditions, renewable supply outstrips demand in California



California's Decarbonization Challenge

- 24% of California's GHG Emissions come from buildings
- Much of this is from gas appliances that heat rooms, water, and food
- The state has prioritized replacing gas appliances with efficient, electric models



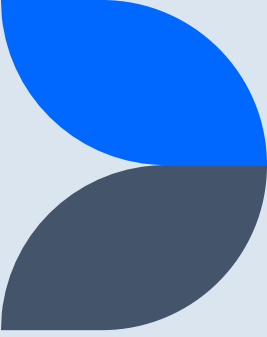


- **California's building decarbonization market transformation program**
- **\$400 million+ budget**
- **Multi-prong approach that includes incentives, contractor training, regional pilots, financing, and data reporting**
- **Ambitious targets – State goal is to grow from 1.5 million units today to 6 million by 2030.**

	Current	Needed by 2030
Heat pump water heating	 < 2% market share	 > 50% market share
Heat pump HVAC	 < 10% market share	 > 50% market share

What is Developmental Evaluation?

	Traditional Evaluation	Developmental Evaluation
Roles and Relationships	Positioned as outsider.	Positioned as internal team function.
Measurement	Measure performance against pre-determined goals and SMART outcomes.	Develops measures and tracking mechanisms quickly as outcomes emerge.
Evaluation Results	Detailed formal reports; validated best practices. Can engender fear of failure.	Rapid, real-time feedback; diverse, user-friendly forms of feedback.
Accountability	Focused on external authorities and funders based on explicit and pre-ordinate criteria.	Centered on the innovators' values and commitment to make a difference.
Standards	Methodological competence and commitment to rigour, independence; credibility with external authorities and funders.	Methodological flexibility, eclecticism, and adaptability.



Developmental Evaluation for TECH Clean CA

- TECH’s Evaluator, Opinion Dynamics, is employing “Whole Independent System Evaluation,” or WISE. WISE uses the following components:
 - **Market Watch** – Publishes literature reviews and “Voice of the Market” reports on technology adoption and changes to market barriers.
 - **Program Watch** – Provides rapid feedback to the implementer. Tactics include program theory and logic development, “Voice of the Participant” panel, mystery shoppers, social network analysis, and others.
 - **Technology and Policy Watch** – Publish the “TECH and Policy Brief” every 6 months, provide an overview of the industry, innovations in heat pump technology, market investments.



Methodology for Paper

- **Policy review**
- **Literature review**
- **TECH Clean CA website review**
- **Stakeholder Interviews**
 - California Public Utilities Commission
 - Energy Solutions
 - Recurve
 - Opinion Dynamics



TECH Course Corrections, 2022 – 2024

Opinion Dynamics “WISE” approach led to the following program changes:

- Installation of 75 circuit timers for real time data
- Finding regarding who installs water heaters
- Ownership change of website user data
- Usability of contractor portal
- Data collection improvements



Photo: Bradford White



Lessons Learned

- **Developmental Evaluation is appropriate for some, but not all, pilots and market transformation programs**
- **There is strong support for Developmental Evaluation among all stakeholders**
- **No stakeholder expressed any conflict-of-interest concerns**
- **Utility meter data is critical for market transformation programs**
- **Roles and Responsibilities need to be clearly conceived of and communicated**
- **Do not underestimate the willingness of customers to volunteer their usage data**



Final Thought

“Developmental evaluation is more like having a tutor than having a teacher—if you’re going to take an exam at the end of the year, whatever grade you get you get, but having developmental evaluation makes you feel like you have a tutor where you get an assessment to see where you’re at, and get you from a C to an A by the end of the year.”

-Evan Kamei, Energy Solutions



Discussion Question

Do any of you have experience with Developmental Evaluation? If so, how did it go?





Thank you

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