DOCKETED

Docket Number:	22-DECARB-02
Project Title:	Building Decarbonization and Electric Vehicle Charging Equipment Web Guide
TN #:	246092
Document Title:	Clean Power Research Comments - Clean Power Research Comments - Building Decarbonization and Electric Vehicle Charging Equipment Web Guide
Description:	N/A
Filer:	System
Organization:	Clean Power Research
Submitter Role:	Public
Submission Date:	9/14/2022 3:59:24 PM
Docketed Date:	9/14/2022

Clean Power Research Comments - Building Decarbonization and Electric Vehicle Charging Equipment Web Guide

Additional submitted attachment is included below.

September 14, 2022

California Energy Commission
Docket Unit, MS-4
715 P Street
Sacramento, CA 95814

Re: Docket No. 22-DECARB-02 – Building Decarbonization and Electric Vehicle Charging Equipment Web Guide

Dear Commissioners:

Clean Power Research appreciates the opportunity to provide information as part of the subject docket. We are pleased to share our perspectives on tools that advance and facilitate California's efforts towards building electrification, building decarbonization, and increased availability of electric vehicle (EV) charging infrastructure.

Key Challenges in Supporting Building Owners Making Crucial Decisions

The economics around adopting technologies that materially change a building's energy usage patterns is a complex matter. This complexity confounds many homeowners and property managers ("owners/managers"), especially in the context of building decarbonization, building electrification, and EV supply equipment (EVSE) adoption. As owners/managers endeavor to make informed decisions, they need to understand their current situation and how their investments might impact their building—both in terms of upfront investments and long-term expenditures. Without guidance, the owners/manager frequently encounter many uncertainties and questions that are difficult to resolve. Specifically, Clean Power Research observes three key challenges in supporting these owner/managers making informed decisions towards adopting relevant technologies:

1. **The economics behind technology adoption are complex.** When considering the economic justifications for investments towards electrification and decarbonization, it is difficult to convey important information clearly and concisely. Such an analysis either oversimplifies the problem, overburdens the owners/managers with onerous data input requirements, or both. Furthermore, the variables that play into the economics (e.g., utility tariffs, rebates/incentives, and financing mechanisms) all have complexities of their own that a typical owner/manager is not likely to be familiar with.

2. **The optimal approach to decarbonization/electrification/EV adoption varies widely from home-to-home and consume-to-consumer.** When it comes to topics relating to electrification, no two buildings are ever alike. Different owners/managers have different objectives (e.g., reducing carbon footprint, reducing energy costs, and ensuring reliability), and even if they shared a similar objective, the optimal investment would likely look very

different depending on a multitude of factors, including but not limited to geography, building characteristics, occupancy, and energy consumption patterns.

3. **The potential next steps for the consumer are often left unclear.** Even if the owner/manager were able to properly analyze the economics of electrification specific to their context, the concrete steps of action they must take are not clearly defined in many cases. How do they choose the right equipment? How should they plan and prioritize phased implementation of the technologies? How should they find a qualified contractor? What sort of permitting processes are required, if any? What processes must they take to apply for incentives and rebates for which they qualify?

Furthermore, it would be ideal for the relevant permitting and application processes to be automated and digitized, to reduce the burden on the owners/managers as well as their contractors. While we recognize this may be beyond the scope of this RFI, Clean Power Research believes that digitized, automated, and streamlined workflows to process these essential applications would provide the market with significant benefit towards increased adoption of relevant clean technologies.

What a Successful Solution Should Offer

In order to drive market interest towards increased adoption of relevant technology which advances decarbonization and electrification—while protecting the owners/managers by helping them make smart, informed decisions—a successful web-based customer education platform must have the following attributes:

- **Minimizes user friction:** A proper calculation of economic and carbon impacts associated with building decarbonization/electrification and EV charging requires complex processing of varied input data and assumptions. Onerous data entry requirements significantly degrade the user experience and are a significant factor in users abandoning a tool prior to getting results. A successful tool should provide a simplified user experience that reduces the user's data entry requirements to only impactful decision points while preserving the accuracy of the insights it delivers. Using data analytics to infer user-specific attributes (e.g., energy usage patterns, building efficiency levels, and technologies already adopted) from their historical energy consumption data is a particularly effective way to accomplish this without making overly simplistic assumptions.

- **Offers accurate, personalized insights:** To deliver truly personalized insights, the tool must rely on, and accurately reflect, proven financial and energy data, including but not limited to correct utility tariffs, comprehensive coverage of incentives and rebates, and accurate weather data (for analytical purposes). Furthermore, the tool must have the capability to accept user inputs to tailor the analysis as the users sees fit. Such inputs might include changing the analysis scope (e.g., selecting different technologies), replacing assumed data points with actual data (e.g., importing actual energy consumption information), or more.

- **Captures interacting effects of adopting multiple technologies:** Investments towards decarbonization and electrification often call for combining multiple technologies to achieve a justifiable return on investment. However, the economics of these investments change dynamically based on how a user might phase and combine these technologies. For example,

reducing on-site energy use through energy efficiency measures changes how an on-site renewable generation system accrues financial benefits (e.g., offsetting on-site energy consumption vs. getting compensated for surplus energy), and implementing energy storage or EVSE may call for the owner/manager to change their utility rate plan, thereby impacting the expected bill savings from energy efficiency and how any energy generated from solar might be used. The insights offered by the tool must account for these interdependencies to provide accurate information to its users.

- **Provides actionable guidance throughout the customer lifecycle:** For the platform to be truly successful, it must provide the users with clear guidance on the *next* best action for them to take. In early stages of the user journey, these may include initiation of an application process, connecting with qualified contractors and dealerships, or further research into details that may be of particular importance to specific projects. Ideally, the tool should offer continued support to users throughout the customer lifecycle, as users who have already implemented decarbonization and electrification measures will continue to face questions around optimal schedules to charge/discharge energy storage devices, best practices for vehicle charging, the best rate plan given their implementations to date, or utility and third-party programs their technology may qualify for. The platform should include a call-to-action element to guide users towards the next action they should take, offering seamless integration to other third-party services and solutions as appropriate and possible.

About WattPlan®

WattPlan®, a software solution provided by Clean Power Research, is designed to address the challenges associated with raising awareness among home and building owners about clean energy transition. It is the utility industry's leading cloud-based software for automating customer education in distributed energy resources adoption. Currently licensed by over 30 utilities and energy agencies, the software increases program participation while boosting customer satisfaction by delivering a personalized experience, trusted calculations, and actionable insights.

WattPlan® is designed to help home and building owners make informed energy decisions through:

- Modeling economic impact to users over the lifetime of equipment usage (including costs and benefits) based on specific rate plans
- Cataloguing of available incentives and rebates for switching to clean energy technologies
- Evaluating multiple options for clean energy technologies (including but not limited to electric vehicles and rooftop PV systems) through a modern, self-service interface.

WattPlan® leverages proven financial and energy models—including Clean Power Research's SolarAnywhere® (satellite-based irradiance and weather data) and PowerBill® (in-depth bill calculation engine designed to support a wide range of rate plans and rate components)—and integrates with PowerClerk® (workflow automation solution) to deliver a robust program enrollment experience as well as customer-level reporting of program performance. Furthermore, we are planning to enhance WattPlan's analytics capabilities with an integration with Clean Power Research's Virtual Energy Audit, an analytics solution that creates an energy model for a given building based

primarily on historical energy usage data. The Virtual Energy Audit was recently applied to successfully assess residential housing stock across SMUD's service territory.

WattPlan® is a software-as-a-service (SaaS) offering, typically licensed by and white-labeled for utilities, with its fees typically paid by the utilities for unlimited free use by their customers. A demo version of this software is available at https://www.wattplan.com/EV/. Below are selected screenshots of the WattPlan user interface.

WattPlan can be configured to show the implications of a hypothetical DER adoption in terms of bill savings, available incentives, carbon impact, and more.
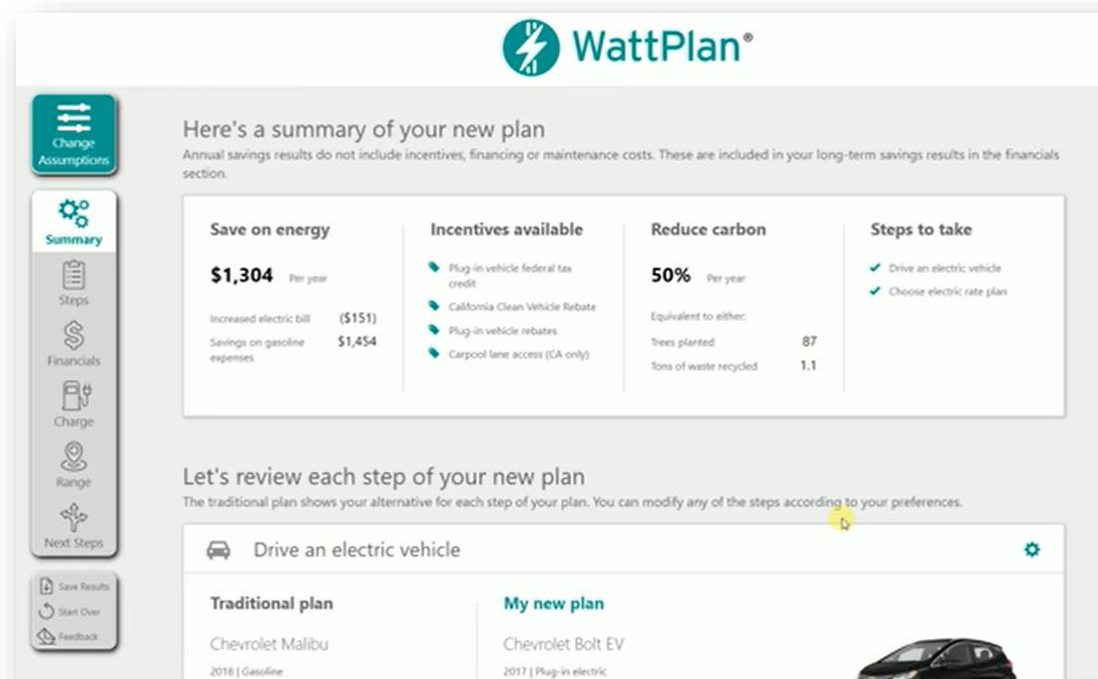
WattPlan's user interface is optimized to relay complex information regarding the interactive effects of DER adoption and associated changes in the utility rate plan.
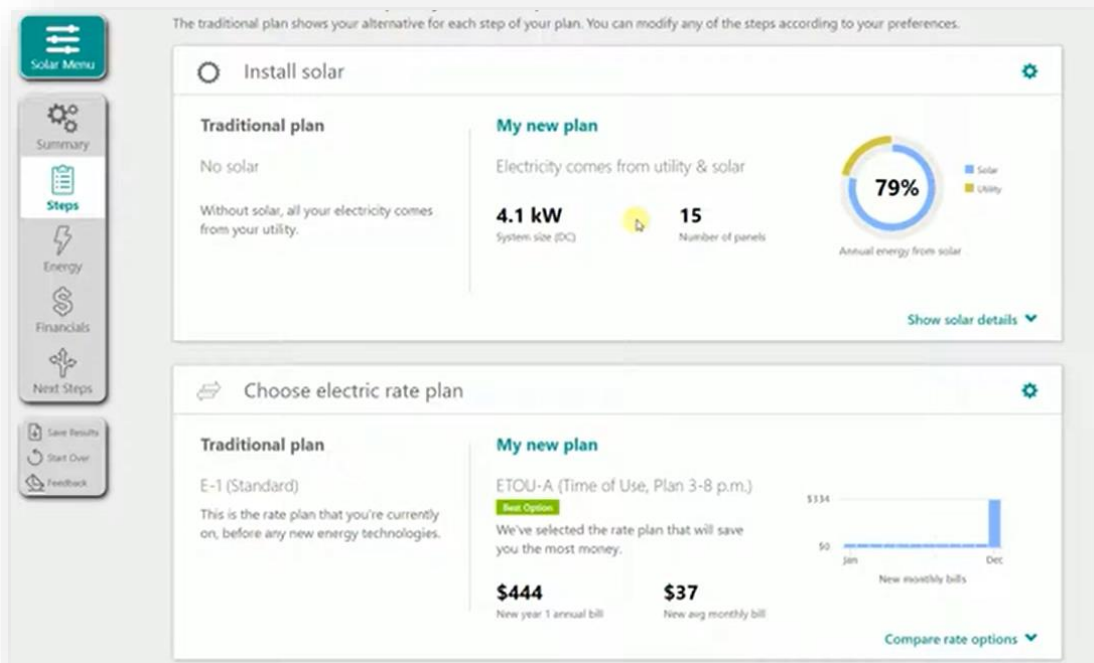
WattPlan can present the financial impact of DER adoption scenarios in terms of upfront cost, monthly expenses, lifestyle savings, and other characteristics.
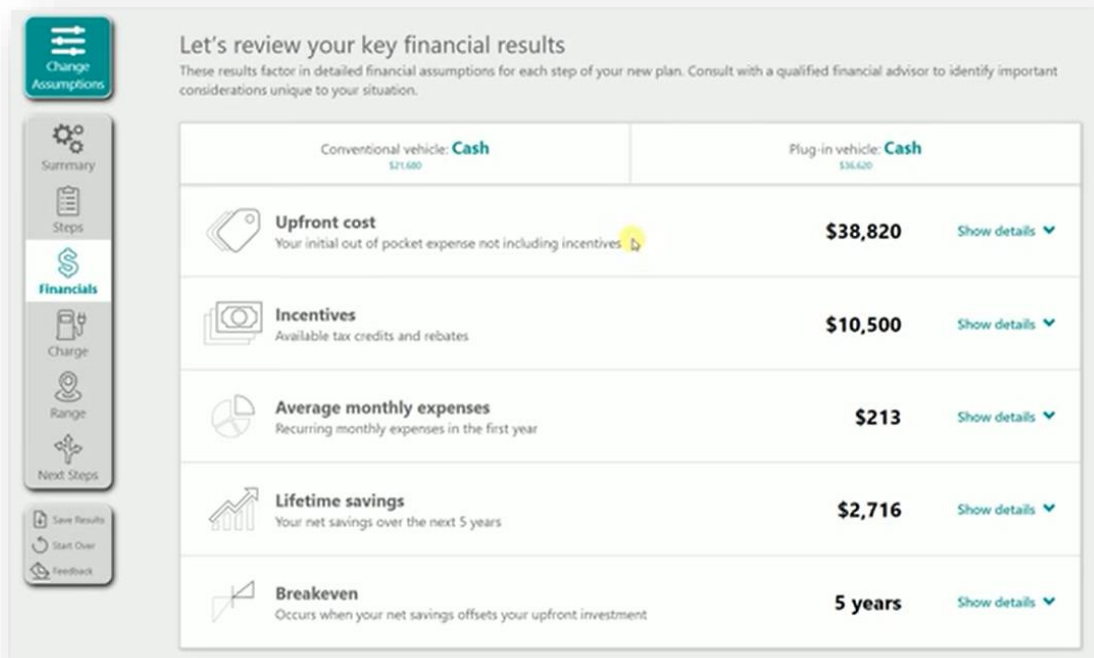
About Clean Power Research

Clean Power Research has served the energy and utility industry with software, research, and consulting services for over 23 years, with an emphasis on supporting the energy transition and grid modernization with solutions for customer engagement and process automation. More than 60 utilities and energy agencies across the United States—including Pacific Gas & Electric, Southern California Edison, Sacramento Municipal Utility District, NV Energy, PacifiCorp, Arizona Public Service, American Electric Power, Consolidated Edison, Avangrid, and Eversource Energy, among others—actively use our cloud-based software solutions to address a wide range of challenges relating to distributed energy resources (DER) and beyond.

In addition to WattPlan®, Clean Power Research also offers PowerClerk®, workflow automation software designed to help utilities and energy agencies digitize customer application processing for a variety of purposes, including but not limited to DER interconnections, rebate and incentive programs, and new service delivery. For more information on Clean Power Research and its solution offerings, please visit https://www.cleanpower.com/solutions/utility-solutions/.

We believe a publicly available web-based solution for customer education and decision support is crucial in advancing building decarbonization, building electrification, and EVSE adoption, and fully support the California Energy Commission for its leadership in bringing focus on this important opportunity.

Clean Power Research would like to thank the Commission for the opportunity to share our perspectives on this matter. We look forward to answering any questions the Commission may have.

Sincerely,

Jeffrey S. Ressler
Chief Executive Officer