DOCKETED	
Docket Number:	22-MISC-03
Project Title:	Energy Data Modernization
TN #:	248674
Document Title:	CA Efficiency and Demand Management Council Comments - Council Comments to CEC Commissioner Workshop on Energy Data Modernization and Analytics
Description:	N/A
Filer:	System
Organization:	CA Efficiency and Demand Management Council
Submitter Role:	Public
Submission Date:	2/3/2023 11:39:19 PM
Docketed Date:	2/6/2023

Comment Received From: CA Efficiency and Demand Management Council
Submitted On: 2/3/2023
Docket Number: 22-MISC-03

Council Comments to CEC Commissioner Workshop on Energy Data Modernization and Analytics

Additional submitted attachment is included below.

TO: Docket 22-MISC-003
FROM: Joseph Desmond, Executive Director
DATE: February 2, 2023
SUBJECT: **Council Comments to CEC Commissioner Workshop on Energy Data Modernization and Analytics**

The Council is pleased to provide these comments in response to the CEC Commissioner Workshop on Energy Data Modernization and Analytics on January 13, 2023.

We appreciated the opportunity to participate on the Workshop's Panel on Data Analysis as a Service. Our comments here summarize and expand on those remarks, organized in the follow categories:

- Use Case Prioritization
- California Analysis Tool for Locational Energy Assessment (CATALENA)
- Development Needs for Demand Flexibility Success

Use Case Prioritization

The Council identified a range of use cases that are possible during the workshop and recommends the Commission prioritize use cases that leverage existing billing and interval data and impact policy objectives. In no particular order, we recommend the following:

1. Evaluation, Measurement and Verification (EM&V)
2. Customer Engagement
3. Load Forecasting

USE CASE 1: Evaluation, Measurement and Verification (EM&V)

CEC data can be used to:

- Understand and improve performance
- Verify contract performance
- Evaluate cost- effectiveness
- Support electricity system planning
- Validate demand flexibility value

- Support energy policies and programs

For example, meter data can be used to support Distributional Equity Analysis (DEA) for assessing customer equity.

An equitable energy system is one where the economic, health, and social benefits of participation extend to all levels of society, regardless of ability, race, or socioeconomic status. Achieving energy equity requires intentionally designing systems, technology, procedures, and policies that lead to the fair and just distribution of benefits in the energy system.[1]

Benefit-cost analysis ("BCA") assesses program cost-effectiveness, but is not able to fully assess energy equity, as it cannot account for structural or procedural equity, nor does it fully address distributional equity. Pursuant to the National Standard Practice Manual:

A better way to assess customer equity is through rate, bill, and participation analyses. These analyses provide information about the extent to which rates and bills might change for DER host customers relative to non-host customers. They also provide information about how many customers are host customers versus nonhost customers. Because DER host customers typically experience greater benefits than non-host customers, customer participation rates provide very useful information about customer equity (see NSPM 2020 Appendix A)[2]

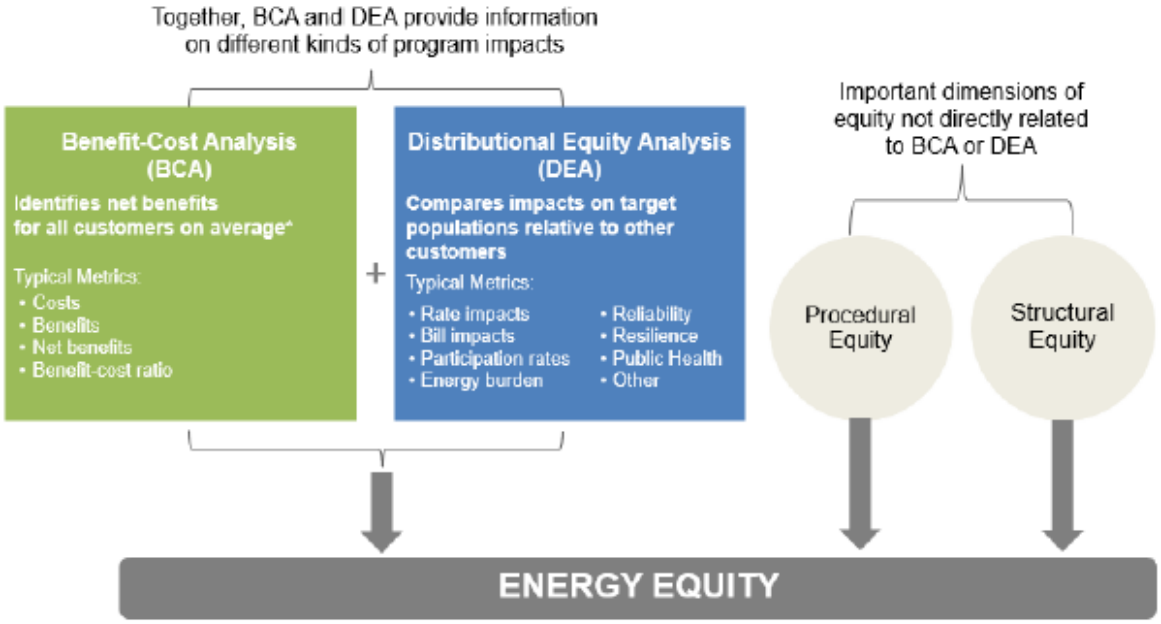
Rate, bill, and participation analyses address different answers from BCAs because they answer different questions:[3]

• BCAs typically address the question of which DERs will have net benefits across customers and perhaps society on average, and therefore might merit utility acquisition or support on behalf of all customers.

• Rate, bill, and participation analyses address the question of whether and how much will DERs increase or reduce rates for host customers and non-host customers. They also address the question of what portion of customers will be host customers and thereby experience greater benefits than non-host customers. This provides very useful information regarding equity between host and non-host customers. Distributional equity analyses ("DEAs") can help address the limitations of BCAs and rate, bill, and participation analyses in assessing energy equity because DEAs can explicitly account for the difference in impacts between target populations and other customers. The conceptual framework for how BCAs combined with DEAs can address energy equity issues and inform utility investment decisions is illustrated below. It also indicates how the procedural and structural dimensions of equity are not directly related to BCA practices.

Distributional equity analyses ("DEAs") can help address the limitations of BCAs and rate, bill, and participation analyses in assessing energy equity because DEAs can explicitly account for the difference in impacts between target populations and other customers. The conceptual framework for how BCAs combined with DEAs can address energy equity issues and inform utility investment decisions is illustrated

below.[4] It also indicates how the procedural and structural dimensions of equity are not directly related to BCA practices.



The Council encourages Commission Staff to support DEA Use Cases and recommends the Commission contact the Distributional Equity Analysis: Advisory Committee at Berkeley Lab – Electricity Markets & Policy. The framework can build upon the metrics identified in the CEC report[5], *California Clean Energy Equity Framework and Indicators: An Approach for Tracking Progress of Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities*.

USE CASE 2 - Customer Engagement

CEC data can support customer engagement. For example, many different load shapes exist within the same customer class. Analysis of those load shapes is important for clustering and can prove useful for program target marketing.

Supporting the development of Apps and Tools is another activity that increases the value of CEC's data.

USE CASE 3 – Load Forecasting

Several panelists from the Workshop, including the Council, spoke about the importance of load forecasting.

Analyzing times-series meter data in combination with other data sources to improve load forecasts is a high priority for many agencies in the state and should be a priority from the Commission.

California Analysis Tool for Locational Energy Assessment (CATALENA)

On February 2, 2023, the California Public Utility Commission ("CPUC") voted to approve Decision 23-02-002 DECISION ADDRESSING ENERGY EFFICIENCY THIRD-PARTY PROCESSES AND OTHER ISSUES. Amomd the many issues addressed, this decision confirms the CPUC's intent for the CATALENA tool to expand the Energy Atlas to statewide use, including both the public-facing database and the back-end geospatial relational database and making disaggregated demand data accessible to qualifying users.

The CPUC will now explore the feasibility of partnering with the CEC to implement CATALENA, and CPUC staff intend to seek a memorandum of understanding (MOU) or other agreement with the CEC to enable direct data exchange with the CEC and/or its CATALENA implementer.

In its Decision, the CPUC made clear that IOUs are required to provide program participation data to the CEC. Further, in recognition of the value of this tool to facilitate high DER analyses, the Commission and CEC may choose to expand the use of CATALENA to include data for other DER programs, including but not limited to, building decarbonization, transportation electrification, demand response, and energy storage. The IOUs must provide customer-level DER program data, as specified by the CPUC staff, and submit program participation data for DER programs to the CEC within 120 days of the issuance of this decision, to facilitate implementation of the tool.

The Council urges the Commission to prioritize the development of the CATALENA tool. We also recommend the Commission establish a working group to provide recommendations and feedback, including, but not limited to, the CATALENA tool's functionality, useability and user documentation.

Development Needs for Demand Flexibility Success

California has embraced the adoption of distributed energy resources (DERs) as an important strategy to meet its commitments to increase renewable and zero-carbon resources. In order to meet the full potential of DERs, and the State's load-shifting goals, modified or new approaches will be needed to accurately assess demand flexibility performance.

While existing practices are sufficient for most applications today, modified or new assessment approaches will be needed to assess demand flexibility[6] performance in the future.

- Continuous or near-continuous demand flexibility
- Using multiple demand flexibility modes

- Load modulation in sub-seconds to seconds
- Increased use of combinations of DERs
- Demand flexibility provided at the individual end-use level or individual device level
- Managed electric vehicle charging
- Reduced complexity for consumers and other market participants

Statewide ClearingHouse for Smart Meter Data

It is critical that Third Party Providers have the ability to help customers access their utility data information as easily as possible to participate and enroll them into utility programs like demand response programs while also maximizing the value of flexible demand management technologies.

To ensure equitable access to all consumers, there needs to be simple, electronic, automatic, web- and mobile-based methods for sharing their energy data and/or pairing devices with their meter with the minimum number of steps. Absent that ease of enrollment, there is a significant drop-off in customer enrollments for third party providers when a residential customer is asked to provide information that has not been memorized, such as their utility account number, or meter ID number or the name of their utility tariff.

Other states have demonstrated the success of having statewide clearing house. The Commission should evaluate ways to facilitate customer enrollment in utility programs, including consideration of a statewide clearing house (centralized or virtual) .

The Commission's 2023 Integrated Energy Policy Report proceeding is well suited to assembling information on how other jurisdictions, domestic and international, have addressed customer meter data access and data portability.

Grid-Edge Computing

The Commission should begin to explore how California can support high-performance "grid edge" computing, meaning a computer with distributed intelligence at a customer premise, whether integrated with, or separate from, advanced meters.

In order to support innovation, improve competition and provide choices for consumers, grid edge computing must support a mix of utility-facing and customer-facing software applications that drive meaningful outcomes, including enhancing resiliency, integrating DERs, and making new programs available to customers.

Similar to Utilities' Smart Meter Data access, the Commission's 2023 Integrated Energy Policy Report Commission may serve to gather information about the state of Grid-Edge Computing and options for the provision of data service.

[1] Pacific Northwest National Laboratory. (PNNL 2021). 2021. Review of Energy Equity Metrics. Tarekegne, Pennell, Preziuso, O'Neil.

[2] National Standard Practice Manual. https://www.nationalenergyscreeningproject.org/national-standardpractice-manual/ Chapter 9, Energy Equity, p.186

[3] Id., at p. 187.

[4] National Standard Practice Manual, at p. 188.

[5] Doughman, Pamela, Michael J. Sokol. 2017. California Clean Energy Equity Framework and Indicators: An Approach for Tracking Progress of Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities. California Energy Commission. Publication Number: CEC-300-2017-051-SD.

[6] State and Local Energy Efficiency Action Network. (2020). *Performance Assessments of Demand Flexibility from Grid-Interactive Efficient Buildings: Issues and Considerations*. Prepared by: Steven R. Schiller, Lisa Schwartz, and Sean Murphy, Lawrence Berkeley National Laboratory.