

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION

**Agenda ID: 18836
RESOLUTION E -5105
December 3, 2020**

R E S O L U T I O N

Resolution E-5105. Provides data requirements to Pacific Gas and Electric Company, San Diego Gas & Electric Company, Southern California Edison, Southwest Gas Corporation, and Southern California Gas Company for building decarbonization pilot programs authorized by Decision 20-03-027.

PROPOSED OUTCOME:

- Provides data submission requirements to Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), Southern California Edison (SCE), Southwest Gas Corporation (SWG), and Southern California Gas Company (SoCalGas), as required by Ordering Paragraph 25 of Decision (D.) 20-03-027 (Building Decarbonization Pilots); Rulemaking (R.) 19-01-011.

SAFETY CONSIDERATIONS:

- There are no safety considerations associated with this resolution.

ESTIMATED COST:

- This Resolution is expected to create some administrative costs for the California investor-owned utilities, which are not known at this time.

By Energy Division's own motion in compliance with Ordering Paragraph 25 of D.20-03-027, which was issued on April 6, 2020.

SUMMARY

This resolution directs the five large investor-owned utilities (IOUs) operating in California to release specified data pertaining to building decarbonization within 60 days from the date the resolution is issued, and annually thereafter by September 1 of each calendar year.

The purpose of this resolution is to (a) make non-confidential data accessible to stakeholders, (b) identify continuously needed IOU data through a stakeholder process, and (c) identify common data across proceedings

In developing this resolution, Energy Division staff also identified several key issues that indirectly affect the data requirements but need to be solved first in other proceedings or venues before relevant data can be required of the IOUs. Certain complex datasets are also excluded from these data requirements because they are either already submitted by the IOUs elsewhere (e.g., rate schedules) or have little to contribute toward building decarbonization planning.

To frame the data requirements, we adopt four categories of data that the IOUs either already have or can collect. Appendix A uses these categories to formulate the required data fields, template, and format for the IOUs to fulfill.

1. Physical characteristics:

- i. Behind-the-meter data (e.g., onsite generation, building type, building age, building square footage).
- ii. In-front-of-the-meter data (e.g., service line size, age, locational attributes, pipeline material).

2. Energy data:

- i. Usage data (e.g., customer billing data, hourly load profiles, and program-incented appliances installed on premise).
- ii. Generation and distribution data (e.g. feeder capacity)

3. Rates data:

- i. General rate information (e.g., hourly rates by customer class, baselines, tiers, and rate forecasts).

- ii. Customer-specific information derived from rates (e.g., number of customers on certain rate, equity need, and primary heating source).

4. Customer characteristic data:

- i. Customer-specific information (e.g., household size, responsiveness to programs, and other self-reported customer data collected through programs).

Each IOU shall maintain a copy of the submitted non-confidential data on a publicly accessible website and share the URL with the R.19-01-011 service list within 60 days from the date this resolution is issued. Energy Division staff is directed to post the URL for each IOU data submittal on the Commission's building decarbonization webpage.¹

D.20-03-027 requires annual updates to the dataset if no new data submission requirements are issued. Prior year data sets shall be maintained along with the updated data, so that historical trends and changes can be studied.

BACKGROUND

On March 26, 2020, the CPUC adopted Decision (D.) 20-03-027, which established the framework for two building decarbonization pilot programs: the Building Initiative for Low-Emissions Development (BUILD) program and the Technology and Equipment for Clean Heating (TECH) initiative, both authorized by Senate Bill 1477 (Stern, 2018).

This resolution originates from staff's own motion in response to Ordering Paragraph (OP) 25 of D.20-03-027.

OP 25 states:

"On September 1 of each year, each investor-owned utility shall release required data and maps needed for program planning and assessment. Details and format of what will be released shall be decided through an Energy Division staff-led workshop. Based on the

¹ <https://www.cpuc.ca.gov/buildingdecarb/>

workshop, Energy Division staff will finalize and publish the data requirements no later than 90 days from the adoption of this decision.

A footnote to OP 25 states:

Staff may conduct future workshops to revise the requirements, provided the new requirements are published by staff no later than July 1 of each year. In the absence of any new requirements, the investor-owned utilities shall annually update the datasets based on prior year requirements. In the event of a disagreement between parties, Energy Division staff and attorneys shall be the final authority in determining confidentiality status of any required data, as governed by existing laws and regulations. Where necessary data is not readily available, the CPUC staff shall consult with all relevant stakeholders to determine how this data can best be collected and by whom. CPUC staff may require investor-owned utilities to initiate data collection through their existing processes so that it can be made available to the public in subsequent years"

On June 17, 2020, Energy Division staff led a data workshop with presentations from environmental advocacy groups, CPUC staff, and California's five large investor-owned utilities (IOUs) focusing on the role and need of data in building decarbonization programs.²

CPUC staff presentation proposed four general data categories for stakeholder's consideration that could be used for developing data submittal requirements for IOUs: In addition to verbal comments at the workshop, subsequent written comments were received from eight parties.

To allow the time needed to complete the resolution drafting process, and pursuant to Rule 16.6 of the CPUC's Rules of Practice and Procedure, Energy Division staff sought an extension to the July 1 deadline to issue the data requirements. The request for extension was approved on September 1 by the CPUC's Executive Director and Energy Division staff was given until October 3, 2020 to issue the data requirements in the form of a draft resolution. This

² Workshop presentations are available at
<https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442465636>

resolution provides the necessary data requirements in accordance with the revised deadline for issuance.

In conjunction with other policy issues, D.20-03-027 recognized the role of data in helping market transformation programs succeed. The decision also recognized that granular customer-level data, while useful for public interest decarbonization research, is not publicly available due to current privacy and confidentiality laws.³ Recognizing those limitations, the decision found it reasonable that customers be given the option of voluntary public donation of their energy use data for public interest research.

This resolution supports the idea that reliable market characterization data aids market development. Based on observations of other industries such as healthcare, online retail, and consumer lending, information-empowered markets and consumers self-propel to long-term change.

NOTICE

Energy Division served Draft Resolution E-5105 to the service list for Rulemaking (R.) 19-01-011 on October 5, 2020

DISCUSSION

Staff Workshop Comments Received

Eight written comments were received on the proceeding listserv in response to the June 17, 2020 workshop. Comments were received from the following parties:

1. California Solar and Storage Association (“CALSSA”)
2. Environmental Defense Fund (“EDF”)
3. Mitsubishi Electric US (“Mitsubishi”)
4. Pacific Gas and Electric Company (“PG&E”)
5. Southern California Edison (“SCE”)
6. Southern California Gas Company (“SoCalGas”)
7. The California Environmental Justice Alliance, the Natural Resources Defense Council, and Sierra Club (“Joint Environmentals”)

³ CPUC D.20-03-027, Finding of Fact #19, p.98.

8. Vermont Energy Investment Corporation (“VEIC”)

The substance of parties’ comments is described and addressed in the section below.

Policy Issues Identified

In their comments, parties did not raise concerns about the four data categories proposed by Energy Division to formulate data submittal requirements for IOUs, but did raise various issues that are addressed below.

I. Collecting gas asset data

PG&E’s presentation at the workshop and later comments explain the complexity of how gas asset replacement is planned. They state that age alone is not a strong predictor of when distribution pipeline will be replaced and neither is remaining book value. Per PG&E, gas infrastructure does not depreciate on an asset-by-asset basis, so individual assets do not have their own depreciation schedule. Incurred capital costs are added to total costs and are recovered from customers. The retirement schedule of specific assets does not change the depreciation schedule of the gas system rate base. PG&E identified at least five variables that determine whether electrification is more feasible than gas infrastructure investments:

- 1) Hydraulic needs of the system
- 2) Total estimated cost of electrification versus cost of gas project
- 3) Meeting customer needs and reducing risk to the same or greater extent
- 4) All customers on the planned line accepting electrification offers
- 5) Availability of funds

VEIC comments state that managing the impact of broad-scale electrification on the gas system is a second-order problem that should be addressed at a later stage, the focus of this stage should be addressing the first-order problem of driving customer and market adoption through TECH, and targeting specific gas lines is out of scope for TECH.

We acknowledge and agree with VEIC’s perspective that targeting specific gas lines is out of scope for TECH (and also BUILD). We also agree that TECH and

BUILD's primary goal is to develop the market for low emission technologies. But we believe that the broadest possible data access for stakeholders (within the constraints of confidentiality rules) is a key ingredient for accelerating market transformation. Further, the interconnected nature of CPUC proceedings compels us to consider data collection and access more broadly. For example, data submitted for IOU infrastructure approvals is done within General Rate Case (GRC) proceedings and affects rates, which directly affects market transformation.

It is not clear from VEIC comments why gas asset data would not contribute toward market transformation planning. For example, if IOUs shared plans for customer conversion at a specific line location, that information is potentially helpful to program implementers to be able to divert incentives and resources to other areas and not duplicate efforts, or conversely, extend targeted outreach and program benefits precisely to those areas in coordination with the IOUs.

However, we agree with the general sentiment that gas asset replacement or extension projects involve many layers of information, planning and approval processes, comprehensively addressed in GRC proceedings. As part of their application, IOUs submit detailed cost estimates for planned infrastructure additions and improvements. A limited information set, such as number or location of planned gas asset replacement projects, or general information regarding known Aldyl-A pipelines, may be appropriate to include for building decarbonization data requirements.

We also reiterate that coordinated data collection among proceedings is not scope expansion. If this were the case, it would be impossible to streamline administrative processes as each proceeding would need to have its own data resolution.

Alternatives to planned gas investment are comprehensively addressed in General Rate Case proceedings. However, limited non-confidential data related to long-term gas planning is appropriate to include in this data resolution.

II. IOU baseline territories differ from CEC climate zones

The California Energy Commission (CEC) defines 16 distinct California climate zones⁴ that form the basis of the building energy code development work. However, California IOUs have their own climate-based zoning (23 in total)⁵ on which their customer energy use baselines are set. Although the CEC climate zones and IOU baseline territories are overlapping and not vastly different, the mismatch is a hinderance for cross-referencing data obtained from one system against the other.

Aligning climate zones across agencies is long overdue. Unfortunately, it is beyond the scope of this resolution.

While we understand it is possibly easier for the IOUs to assemble the requested data based on their baseline territories, this proceeding involves pilot programs (such as the BUILD program and the proposed WNDRR program⁶) that will lean on the Title 24 Building Energy Code software (CBECC-Res) for program planning and implementation. The CBECC-Res software uses CEC climate zones to model parameters such as building energy use, hourly load profiles and GHG emissions. Thus, we require that the IOUs use the CEC climate zones to submit the required data.

We encourage the IOUs and stakeholders to submit their rationale if they prefer us to take a different approach.

CEC climate zones and IOU baseline territories are similar, but not fully aligned. Programs in this proceeding will need to use the CEC's CBECC-Res software to comply with the building energy code. Therefore, requiring data from IOUs aggregated by CEC's climate zones will enable an 'apples to apples' comparison.

⁴ <https://www.energy.ca.gov/files/building-climate-zones-map>

⁵ <https://www.cpuc.ca.gov/General.aspx?id=12186>

⁶ Wildfire and Natural Disaster Resiliency Rebuild Program, proposed as part of the Phase II staff proposal issued in R.19-01-011.

<https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M345/K591/345591050.PDF>

***III. 10-year gas service agreements between the IOUs and their customers
cannot be modified without CPUC approval***

PG&E's comments reiterated an important issue raised by stakeholders at the June 17, 2020 workshop. Per PG&E's comments, when gas service is first provided, a customer signs a 10-year service agreement with the gas company, this 10-year term has been established by CPUC. If the customer wishes to electrify before the 10-year period, the cost of infrastructure removal largely falls upon the customer, which becomes a barrier to electrification.

CPUC staff is looking into this issue, and it may be addressed in a later phase of this proceeding or in another proceeding.

In terms of relevance of this issue to data, PG&E explains that year of installation provides a good proxy to ascertain whether certain localities are past the 10-year service agreement mark, and can be therefore candidates for early electrification. Not only for identifying communities suitable for early electrification, we note that maps showing age of households (using meter installation date as a proxy) is a valuable data set by itself, as age of a dwelling can be a predictor of many other coincidental factors such as insulation levels (based on prevalent energy code, electrical panel size (based on prevalent electrical code), and presence of asbestos, etc. We also note that age of building is not considered confidential.

In this year's data resolution, we are not requiring year of installation data mapped to each service address, but instead as a less comprehensive customer characterization matrix shown in Appendix A. However, we do signal the need for this data in map form so that IOUs can start assembling it for 2021 data submittal.

Date of meter installation is a reasonable proxy to ascertain the age of a dwelling and is non-confidential data.

IV. Customer data access is difficult for a contractor, even after customer permissions

According to CALSSA, the Green Button⁷ portal available through IOU websites is frequently out of service, making it difficult to get interval data for the customer. Per CALSSA, efforts to get this data through e-mails to utilities even after customer authorization can take as long as 30 days. Solar and storage contractors need a simpler process for one-time download that does not require sophisticated contractor websites to connect with Green Button in the back end. Further, SCE comments highlight the lack of Green Button-enabled data access for gas customers. We acknowledge the importance of access to individual customer's energy data to third party service providers. This issue is already being addressed in the click-through authorization proceeding.

The click-through authorization process for customers to approve the provision of the customer's specific information to third party providers is being addressed in CPUC's proceeding A.18-11-015.

V. Public Disclosure of Hourly Energy Use Data

Staff presentation gave an overview of the data access rules established by D.14-05-041. In discussions following the workshop, Recurve Analytics raised the issue of unavailability of hourly energy use data for public use.

Staff recognizes that building decarbonization's most obvious "Achilles heel," as well as its biggest opportunity, is in balancing the electric grid through load management. Maximizing the use of generation from renewables in the daytime and shifting peak loads to the greatest extent possible is necessary in both demand side and supply side markets. To enable Distributed Energy Resource (DER) markets, Recurve Analytics argues that it is crucial that the markets have access to data at a level of granularity that influences decision-making. More specifically, hourly energy use data, which the IOUs collect from each customer account through ratepayer-funded smart meters, remains underutilized for

⁷ Green Button is a voluntary data access initiative and standard launched by the White House in 2011 and adopted by most California IOUs. It allows utility customers the ability to download their detailed energy use data by clicking on a "green button" from within their online customer dashboard on the utility website.

spurring market competition, even as we face rolling blackouts and see demand remain stubbornly high during peak hours.

Locationally and temporally granular data need not compromise customer confidentiality. Past CPUC decisions guard customer privacy and prevent any level of anonymized or aggregated customer hourly interval data to be available for public disclosure. CPUC's Energy Data Access decision- D.14-05-016- meant to provide the benefit of rich, smart meter-enabled data to various stakeholders, but it did not define aggregation thresholds⁸ for hourly interval data. Instead it defined them for monthly energy use data.⁹ D.14-05-016 also predates Assembly Bill 802 (Williams, 2015), which defined less conservative aggregation thresholds for customer data access for both residential and non-residential customers.

It is beyond the scope of this resolution to take up this issue.

VI. Coordination with other Proceedings

Both staff and SDG&E's presentation mentioned a previous decision from the energy efficiency proceeding (D.18-05-041) which requires SCE as the lead IOU to establish a statewide energy use data analytics and mapping tool to enable data access for the public and local governments. The decision directs the IOUs to assign up to \$2 million within their energy efficiency portfolio budgets to fund the tool.¹⁰ Multiple parties also mentioned in verbal comments at the workshop the complementary value of such a tool to the data requirements of this resolution.

Staff acknowledges that the market characterization data envisioned to be collected through this resolution would benefit many other proceedings since all proceedings are aligned to statewide DER goals. Conversely, as more

⁸ Aggregation threshold is the degree to which data is summed or aggregated- across customers (combining data from more than one customer), across time (combining data across more than one time period), or a combination of both.

⁹ CPUC Decision 14-05-016.

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M090/K845/90845985.PDF>

¹⁰ 2018 Energy Efficiency Business Plan Decision D.18-05-041. OP 32, pg. 189.

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M215/K706/215706139.PDF>

sophisticated energy data access tools, such as the one required by D.18-05-041 are developed, IOUs can streamline this resolution's data submittal requirements through them.

Future energy data access tools currently under development in other proceedings may alleviate data reporting requirements of this resolution.

Guidance for the BUILD Program and TECH Initiative evaluator

I. Program metrics should consider both 2030 and 2050 goals

SCE in its comments outlines many statutes, proceedings, decisions, and regulatory work, some even outside of CPUC, that currently shape California's building decarbonization policies. Each of these is informed by data in some form, and we acknowledge that there are many overlaps in terms of required data and that some of it is not necessarily collected by the IOUs, which is the focus of this resolution.

SCE recommends that any data metrics for building decarbonization keep both 2030 and 2050 targets in mind, specifically while assessing system costs. While some of the 'least-cost' system analysis will be outside the scope of this proceeding, we recommend that the program evaluator who will be evaluating both the BUILD Program and the TECH Initiative pursuant to the requirements outlined in D.20-03-027 consider short-, mid-, and long-term building decarbonization goals for setting program metrics.

The program evaluator should consider statewide short-, mid-, and long-term building decarbonization goals for setting program metrics.

II. Data on barriers to electrification, customer health and safety, and community resilience

The Joint Environmentals emphasize equity considerations, including language barriers, customer health and safety, and community resilience for program planning and assessment. Program metrics would be developed by the BUILD and TECH program evaluator. Once the program evaluator is on board, Energy Division staff can issue data requests to develop and evaluate these metrics. The

process of shaping those metrics is not part of this resolution and will be led by the evaluator. However, we identify certain related data (such as number of reported gas leaks by customer class, by climate zone) to provide some initial data to stakeholders and enable deeper inquiries into the co-relation between electrification, customer health and safety, and community resilience.

We request stakeholders to identify specific data fields related to electrification barriers, customer health and safety, and community resilience that they believe are available from the IOUs. Energy Division staff will revise the requirements based on comments received.

Data Requirements for IOUs

I. Non-confidential Data

Energy Division staff compiled a matrix of data requirements (Appendix A) derived from prior staff data requests sent to the IOUs and stakeholder comments received in response to the June 17 workshop. The data submittal requirements are structured around the four data categories that were shared in the staff workshop. These are: (1) Physical characteristics (2) Energy data (3) Rates data and, (4) Customer characteristic data. Parties did not raise any objections to the data categories, and therefore we consider them reasonable for formulating the data submittal requirements at least for the first year.

Considerations for Data Requirements:

Understanding stakeholder needs in conjunction with what is available, or can be made available, by the IOUs is an iterative process. OP 25 of D.20-03-027 allows Energy Division staff to issue the data resolution annually, which enables the opportunity to build upon these initial data requirements.

We limit the extent of data requirements for this first data resolution based on our understanding of what will immediately be helpful for enabling market transformation and program planning. This will also limit the burden and associated costs to the IOUs and, consequently, ratepayers. For example, we are not requiring map-based data showing age of households (using year of meter installation as a proxy). We are also not requiring any prior program impact or

participation data such as from energy efficiency, self-generation incentive, solar, Electric Vehicle (EV) charging or other DER programs. Additionally, at this time we are not requiring any data related to square footage of households, although previous proceedings have required IOUs to report metrics based on square footage.¹¹ For future requirements we anticipate, for instance, that maps showing areas by service line size could be helpful (as not all capacities are easily able to support additional electrical loads, and other amperage management strategies become necessary).

To the extent possible, we have tried to formulate the data submittal requirements for this year to be based on IOU billing databases.

Since BUILD and TECH programs have not launched yet, program assessment data cannot be included. Also, individual participant data is most valuable for evaluations. It can generally not be shared due to confidentiality restrictions unless the customer has agreed to share their data for public use.

All required data is for residential sector only, except for natural gas infrastructure data, which is expected to cover all sectors due to its nature. Unless otherwise specified, data is required to be aggregated to CEC climate zones falling within each IOU territory, so that aggregation thresholds set my previous proceedings are duly met.¹²

Appendix A provides the spreadsheet template for submittal of non-confidential data.

Number of Customers by Rate Schedule

The first tab asks for the number of single family and multifamily customers by rate schedule, and current delivered fuel type. The purpose of this tab is to

¹¹ Ibid. D.18-05-041 requires IOUs to report several portfolio metrics, including energy savings per square foot in both single family and multifamily sectors. A, pg. A2-A3.

¹² D.14-05-106 requires an aggregation threshold of 100 residential customers per zip code (pg. 26). Climate zones are larger than zip codes. However, if the threshold of 100 customers (service accounts) is not met, IOUs should not report a value for that data field and instead mark it as "Aggregation threshold not met"

understand residential market size, current preferred rate choices, and prevalence of onsite generation and storage. In response to NRDC comments, we also ask for number of master-metered customers to develop a shared understanding of the prevalence of such accounts.

The same information is requested for customers on California Alternative Rates for Energy (CARE) as a means of characterizing low-income customers. We understand that not all low-income customers are on CARE, but this seems to be the most straightforward way to understand this demographic through existing IOU billing databases.

Finally, we believe it is important to understand how many customers are in need of medical baseline and are more vulnerable during times of power shut-offs. Even though climate zone level data will not help with targeted customer outreach, it will help us understand the minimum scale at which resiliency efforts are needed.

Customer Bills as a Function of Rate

Customer rates are expected to have a strong impact on the market for electrification. The second tab asks for average customer bills by rate schedule, for single family and multifamily customers and their current delivered fuel type. The purpose of this tab is to understand whether particular rates are especially unfavorable towards electrification, or appear to be so, and warrant further inquiry.

Average bills and number of customers by climate zone from the previous tab can also be used to compute sum total of bills for a climate zone. This can help understand which climate zones currently bear the highest bills per household. In conjunction with census data (not part of IOU data requirements), such as income and household size, this data could shed light on equity needs and energy burden in specific climate zones.

Customer Energy Use as a Function of Rate

Customer bills (required in the previous tab) may or may not be an accurate predictor of customer energy use. So, looking at average customer energy use as

a function of rates is also necessary. For example, this data could shed light on the overall impact of time of use rates on energy use.

Median energy use, as opposed to average, may also be useful, as outliers can skew the mean. We propose to limit it to one statistic this year, but will consider stakeholder comments as to whether other statistics may be better.

Energy Use as a Function of Dwelling Age

The energy use tab asks for number of customers and energy use data as a function of age of dwelling. Year of meter installation is assumed to be a proxy for the construction year.

Older dwellings tend to be less energy efficient, as stricter building energy code over time likely means that dwellings have better thermal envelope (notwithstanding code compliance issues).

There are a number of ways this data would inform policy and stakeholders. For example, electrifying leaky, higher energy use structures of certain vintages in pre-dominantly low-income climate zones could increase their energy burden, and energy efficiency upgrades may be needed first. Understanding how many households have undergone comprehensive upgrades through programs like the Energy Savings Assistance Program will provide clues to their readiness for electrification by distinguishing between energy efficient structures and others that might be more likely to result in wasted energy.

Gas Infrastructure Data

As explained under Policy issues, Section IV, we propose collecting only certain limited data related to gas infrastructure. Tab 5 in Appendix A requires IOUs to submit high-level information related to planned infrastructure development, presence of Aldyl-A pipes and number of reported gas leaks. Detailed information by project is not being sought in this proceeding.

II. Confidential Data

This resolution does not provide requirements for confidential data, that typically contain specifications for individual customer information, for the following reasons:

- 1) The obligation to preserve customer privacy means that such confidential data can only be released to certain entities under specific situations (e.g., to CPUC or CEC staff, or their consultants under specific non-disclosure agreements, or to IOU consultants under specific agreements), and cannot be made part of the public process.
- 2) Once the program evaluator for BUILD and TECH is under contract, that entity will likely have its own data needs based on its evaluation plan. These data needs can be facilitated by Energy Division staff through data requests to the IOUs at the necessary time.
- 3) Stakeholders have not expressed interest regarding what kind of data the CPUC or its consultants routinely request or intend to request.
- 4) As programs launch, program implementers could provide the option of voluntary public donation of energy use data to participating customers, in line with the findings and conclusions of D.20-03-027. For customers who agree to make their data non-confidential, their energy use data can be included in future data requirements.

III. Data Format

IOUs shall provide the required data in a Comma Separated Value (.csv) format using the template provided with this resolution in Appendix A.

We acknowledge that this format is not ideal for customizable queries. Setting pre-assigned two-dimensional parameters, such as energy use as a function of rates, limit the ways in which market characteristics can be visualized. Ideally, an interactive, user-friendly tool would allow various information sets to be analyzed against each other, and across time.

However, as mentioned in Section VI under policy issues, we believe that the statewide energy data analytics tool required by D.18-05-041 can be designed to achieve this functionality when it is operational, and could incorporate future data requirements of this proceeding without need for additional funding.

Therefore, we find it unreasonable, at present, to require IOUs to spend resources for a more sophisticated data dissemination method.

IV. Data Submittal Procedure

Each IOU shall publish the required data on a publicly accessible website and share the URL with the R.19-01-011 service list within 60 days from the date this resolution is issued. Energy Division staff are directed to post the URL for each IOU data submittal on the Commission's building decarbonization webpage.¹³

D.20-03-027 requires annual updates to the dataset if no new data submission requirements are issued. IOUs shall maintain prior year data sets with the updated data, so that historical trends and changes can be studied. In future years, if more sophisticated energy data analysis tools required by other proceedings are developed, IOUs may choose to use them or point to them to fulfil these data submittal requirements, provided that the required data is accessible to the public.

COMMENTS

Public Utilities Code section 311(g)(1) provides that this resolution must be served on all parties and subject to at least 30 days public review. Please note that comments are due 20 days from the mailing date of this resolution. Section 311(g)(2) provides that this 30-day review period and 20-day comment period may be reduced or waived upon the stipulation of all parties in the proceeding.

The 30-day review and 20-day comment period for the draft of this resolution was neither waived nor reduced. Accordingly, this draft resolution was mailed to parties for comments, and will be placed on the Commission's agenda no earlier than 30 days from today.

FINDINGS

1. D.20-03-027 directed Energy Division staff to issue data requirements for the California investor-owned utilities to inform program planning and

¹³ <https://www.cpuc.ca.gov/buildingdecarb/>

assessment. A staff workshop was held on June 17, 2020 to gather stakeholder feedback for framing the data requirements.

2. Alternatives to planned gas investment are comprehensively addressed in General Rate Case proceedings. Certain non-confidential data related to long-term gas planning is appropriate to include in this data resolution.
3. CEC climate zones and IOU baseline territories are similar but not fully aligned. Programs in this proceeding will need to use the CEC's CBECC-Res software for program planning and implementation.
4. Date of meter installation is a reasonable proxy to ascertain the age of a dwelling and is non-confidential data.
5. Current CPUC rules do not allow public disclosure of anonymized or aggregated hourly customer energy use data.
6. The data submittal requirements, submittal procedure and format set forth in this resolution are reasonable.

THEREFORE IT IS ORDERED THAT:

- 1) Pacific Gas and Electric Company, San Diego Gas & Electric Company, Southern California Edison, Southwest Gas Corporation, and Southern California Gas Company are hereby ordered to provide the non-confidential data required in Appendix A within 60 days of the date that this resolution is issued, and annually thereafter by September 1 of each calendar year.
- 2) Energy Division staff may revise the data requirements through another resolution which shall be issued no later than July 1 every year.
- 3) Each IOU is directed to maintain a copy of the non-confidential data required by this resolution on a publicly accessible website and share the URL with the R.19-01-011 service list.
- 4) Energy Division staff are directed to post the URL for each IOU data submittal on the Commission's building decarbonization webpage.¹⁴ IOUs shall publish annual updates to the dataset if no new data submission requirements are issued. Prior year data sets shall be maintained along with the updated data, so that historical trends and changes can be studied.

¹⁴ <https://www.cpuc.ca.gov/buildingdecarb/>

This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on December 3, 2020; the following Commissioners voting favorably thereon:

Rachel Peterson
Acting Executive Director

APPENDIX A

- 1) "Instructions": Provides instructions and clarifying definitions . Also provides staff contact for questions
- 2) "# of Cust Rates CZ": Total Number of Residential Customers per Climate Zone by Rate Schedule; All customers, CARE Customers; Medical Baseline Customers
- 3) "Bills Rates CZ": Customer Average Annual Bills per Climate Zone by Rate Schedule; All customers, CARE Customers; Medical Baseline Customers
- 4) "Energy Rates CZ": Customer Average Energy Usage per Climate Zone by Rate Schedule; All customers, CARE Customers; Medical Baseline Customers
- 5) "Energy Age CZ": Number of Customers per Climate Zone by Age of Dwelling, Average Energy Usage per Climate Zone by Age of Dwelling; All customers, CARE Customers; Medical Baseline Customers
- 6) "Gas Infrastructure": Gas Asset Information per Climate Zone

“Instructions” Worksheet

Instructions and Definitions	
<i>All required data is for residential customers only, unless otherwise specified.</i>	
All-Electric/Gas Only	Single fuel utilities will mark 'NA' in the cells for which they have no information. For e.g. SoCalGas will only report on its (gas) customers and will have no data to report for all-electric customers
CZ	Climate Zone: Each IOU shall report for each CZ within their territory. Please use CEC Climate zones
Dual Fuel	Customer account where natural gas is used for both space heating and water heating
Electric Space Heating [Customers]	Customer account where space heating is electric but gas service is provided for other end uses
Multifamily	Multifamily is defined as at least two residential housing units, consistent with energy efficiency portfolio metrics reporting requirements established under R.13-11-005, Business Plan Decision D.18-05-041
Rate Schedules/tariffs	Please footnote each rate with the weblink for the latest rate schedule. E.g. PG&E E-6: { http://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_SCHEDS_E-6.pdf }
Reporting Year	Where annual data is required, please use calendar year 2019. For future updates, please use last completed calendar year (Jan 1-Dec 31)
Dwelling Age/ Construction Year	Year of Meter Installation may be used as a proxy for year of construction. Additions to a service address when no new utility connection was requested can be ignored. Aggregating service address to a building is not required at this time. For simplicity, service address will be considered synonymous to dwelling
Please direct questions to:	Abhilasha Wadhwa, Analyst, Building Decarbonization and Alternative Fuels, Energy Division, CPUC abhilasha.wadhwa@cpuc.ca.gov

Total Number of Residential Customers (Including CARE) by Rate Schedule								
Climate Zone →	CZ [-] [Add Columns for CZs in your service territory]							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Rate Schedule ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
Non-TOU rates								
E.g. E-1	[# of Customers]							
[Add rows as needed]								
Total [footnote any caveats when summation differs from total]								
TOU Rates								
E.g. E-6								
E-TOU-A								
TOU Prime								
[Add Rows as needed]								
Total [footnote any caveats when summation differs from total]								
Solar PV Customers								
Number of Customers with Onsite Solar Generation								
Number of Customers with Onsite Solar +Battery storage								
Number of Customers who have participated in ESA program in the past 7 years								
Master-metered Customers								
Number of Master-metered customers								

Number of CARE Customers by Rate Schedule								
Climate Zone →	CZ [-] [Add Columns for CZs in your service territory]							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Rate Schedule ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
Non-TOU rates								
E.g. E-1	[# of Customers]							
[Add rows as needed]								
Total [footnote any caveats when summation differs from total]								
TOU Rates								
E.g. E-6								
E-TOU-A								
TOU Prime								
[Add Rows as needed]								
Total [footnote any caveats when summation differs from total]								
Solar PV Customers								
Number of Customers with Onsite Solar Generation								
Number of Customers with Onsite Solar +Battery storage								
Master-metered Customers								
Number of Master-metered customers								

Number of Medical Baseline Customers by Rate Schedule								
Climate Zone →	CZ [-] [Add Columns for CZs in your service territory]							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Rate Schedule ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
Non-TOU rates								
E.g. E-1	[# of Customers]							
[Add rows as needed]								
Total [footnote any caveats when summation differs from total]								
TOU Rates								
E.g. E-6								
E-TOU-A								
TOU Prime								
[Add Rows as needed]								
Total [footnote any caveats when summation differs from total]								
Solar PV Customers								
Number of Customers with Onsite Solar Generation								
Number of Customers with Onsite Solar +Battery storage								
Master-metered Customers								
Number of Master-metered customers								

“Bills Rates CZ” Worksheet

Customer Average Annual Bills by Rate Schedule: Dollars								
Climate Zone →	CZ [-] [Add Columns for CZs in your service territory]							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Rate Schedule ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
Non-TOU rates								
E.g. E-1	[Dollars]							
[Add rows as needed]								
Total [footnote any caveats when summation differs from total]								
TOU Rates								
E.g. E-6								
E-TOU-A								
TOU Prime								
[Add Rows as needed]								
Solar PV Customers								
Customers with Onsite Solar Generation								
Customers with Onsite Solar +Battery storage								
Customers who have participated in ESA program in the past 7 years								
Master-metered Customers								
Number of Master-metered customers								

CARE Customer Average Annual Bills by Rate Schedule: Dollars								
Climate Zone →	CZ [-] (Add Columns for CZs in your service territory)							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Rate Schedule ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
Non-TOU rates								
E.g. E-1	[Dollars]							
[Add rows as needed]								
Total [footnote any caveats when summation differs from total]								
TOU Rates								
E.g. E-6								
E-TOU-A								
TOU Prime								
[Add Rows as needed]								
Solar PV Customers								
Customers with Onsite Solar Generation								
Customers with Onsite Solar +Battery storage								
Master-metered Customers								
Number of Master-metered customers								

Medical Baseline Customer Average Annual Bills by Rate Schedule								
Climate Zone →	CZ [-] (Add Columns for CZs in your service territory)							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Rate Schedule ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
Non-TOU rates								
E.g. E-1	[Dollars]							
[Add rows as needed]								
TOU Rates								
E.g. E-6								
E-TOU-A								
TOU Prime								
[Add Rows as needed]								
Solar PV Customers								
Customers with Onsite Solar Generation								
Customers with Onsite Solar +Battery storage								
Master-metered Customers								
Number of Master-metered customers								

“Energy Rates CZ” Worksheet

Customer Average Energy Usage by Rate Schedule: kwh, mmbtu								
Climate Zone →	CZ [-] (Add Columns for CZs in your service territory)							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Rate Schedule ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
Non-TOU rates								
E.g. E-1	[kwh]		[mmbtu]		[mmbtu]			
[Add rows as needed]								
TOU Rates								
E.g. E-6								
E-TOU-A								
TOU Prime								
[Add Rows as needed]								
Solar PV Customers								
Customers with Onsite Solar Generation								
Customers with Onsite Solar +Battery storage								
ESA Program participants (last 7 years)								
Master-metered Customers								
Master-metered customers								

CARE Customer Average Energy Usage by Rate Schedule								
Climate Zone →	CZ [-] (Add Columns for CZs in your service territory)							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Rate Schedule ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
Non-TOU rates								
E.g. E-1								
[Add rows as needed]								
TOU Rates								
E.g. E-6								
E-TOU-A								
TOU Prime								
[Add Rows as needed]								
Solar PV Customers								
Customers with Onsite Solar Generation								
Customers with Onsite Solar +Battery storage								
ESA program participants (last 7 years)								
Master-metered Customers								
Master-metered customers								

Medical Baseline Customer Average Energy Usage by Rate Schedule								
Climate Zone →	CZ [-] (Add Columns for CZs in your service territory)							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Rate Schedule ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
Non-TOU rates								
E.g. E-1								
[Add rows as needed]								
TOU Rates								
E.g. E-6								
E-TOU-A								
TOU Prime								
[Add Rows as needed]								
Solar PV Customers								
Customers with Onsite Solar Generation								
Customers with Onsite Solar +Battery storage								
Master-metered Customers								
Master-metered customers								

“Energy Age CZ” Worksheet

Number of Customers by Age of Dwelling (Year of Meter Installation)								
Climate Zone →	CZ [-] (Add Columns for CZs in your service territory)							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Year of Meter Installation ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
	[# of Customers]							
2020 and after								
2014-2019								
2008-2013								
2002-2007								
1996-2001								
1990-1995								
1978-1989								
1977-1961								
1960 and before								

Number of CARE Customers by Age of Dwelling (Year of Meter Installation)								
Climate Zone →	CZ [-] (Add Columns for CZs in your service territory)							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Year of Meter Installation ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
2020 and after	[# of Customers]							
2014-2019								
2008-2013								
2002-2007								
1996-2001								
1990-1995								
1978-1989								
1977-1961								
1960 and before								

Number of Medical Baseline Customers by Age of Dwelling (Year of Meter Installation)							
Climate Zone →	CZ [-] (Add Columns for CZs in your service territory)						
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only
Year of Meter Installation ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily Multifamily
2020 and after	[# of Customers]						
2014-2019							
2008-2013							
2002-2007							
1996-2001							
1990-1995							
1978-1989							
1977-1961							
1960 and before							

Average Annual Energy Use by Age of Dwelling (Year of Meter Installation)								
Climate Zone →	CZ [-] (Add Columns for CZs in your service territory)							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Year of Meter Installation ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
2020 and after	[kwh]				[mmbtu]			
2014-2019								
2008-2013								
2002-2007								
1996-2001								
1990-1995								
1978-1989								
1977-1961								
1960 and before								

Average Annual Energy Use of CARE Customers by Age of Dwelling (Year of Meter Installation)								
Climate Zone →	CZ [-] (Add Columns for CZs in your service territory)							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Year of Meter Installation ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
2020 and after								
2014-2019								
2008-2013								
2002-2007								
1996-2001								
1990-1995								
1978-1989								
1977-1961								
1960 and before								

Average Annual Energy Use of Medical Baseline Customers by Age of Dwelling (Year of Meter Installation)								
Climate Zone →	CZ [-] (Add Columns for CZs in your service territory)							
	All-Electric		Electric Space Heating		Dual Fuel		Gas Only	
Year of Meter Installation ↓	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily	Singlefamily	Multifamily
2020 and after								
2014-2019								
2008-2013								
2002-2007								
1996-2001								
1990-1995								
1978-1989								
1977-1961								
1960 and before								

“Gas Infrastructure” Worksheet

Asset Information	CZ [-] [Add Columns for CZs in your service territory]		
	Vintage** 1965-1972	1973-1985	Unknown manufacturer or year
Total length of Natural Gas distribution pipelines	[miles]		
Total Length of Aldyl-A pipelines			
Total Length of bare steel pipes	[report by CZ only]		
Gas Leaks	Single family	Multifamily	All other
Number of reported gas leaks by CZ	[unitless]		
Planned Gas Projects	CZ [1]		
Length of Planned Aldyl-A replacement distribution pipeline*			
Length of Planned bare steel replacement distribution pipeline			
Budget of Planned Aldyl-A replacement distribution pipeline*			
Budget of Planned bare steel replacement distribution pipeline			
Planned NG-to-Electric replacement projects			
Number of households on planned NG-to-NG replacement distribution pipeline			
* Assume Planned to be same as "Application submitted to CPUC"			
** The year ranges in this table are taken from the 2014 CPUC Hazard Analysis and Mitigation report on Aldyl A Gas Pipelines (pg.12).			