**REPORT OF THE VIRGINIA**
**STATE CORPORATION COMMISSION**

# HB 2332 Data Access and Privacy (Chapter 399, 2019)

**TO THE GENERAL ASSEMBLY OF VIRGINIA**

# HOUSE DOCUMENT NO. 7

**COMMONWEALTH OF VIRGINIA**
**RICHMOND**
**2020**

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**STATE CORPORATION COMMISSION**
**DIVISION OF PUBLIC UTILITY REGULATION**

April 3, 2020

The Honorable Mark L. Keam
Member of the Virginia House of Delegates
P.O. Box 1134
Vienna, VA 22183

Dear Delegate Keam:

I am writing on behalf of Commissioners Christie and Jagdmann of the State Corporation Commission ("Commission") regarding HB 2332, Chapter 399 of the 2019 Acts of Assembly. This legislation required the Commission to establish a Data Access Stakeholder Group by September 1, 2019, to consider issues related to access to utility customer data. HB 2332 also required the Data Access Stakeholder Group to complete its work and provide a report to the Commission by April 1, 2020.

Attached is the Data Access Stakeholder Report ("Report"). This Report will be forwarded to the Division of Legislative Automated Systems to be uploaded on the Legislative Information System website and will be posted on the Commission's website.

Please contact me if you need additional information.

Respectfully submitted,

David R. Eichenlaub
Deputy Director, Public Utility Regulation

Attachment

# HB 2332 Data Access and Privacy

REPORT FROM THE VIRGINIA STAKEHOLDER PROCESS

Prepared on behalf of the Stakeholders by IMPACT Paradigm Associates, LLC

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# EXECUTIVE SUMMARY

## OVERVIEW

During the 2019 Virginia General Assembly session, the General Assembly approved HB 2332, which was signed by the Governor and required the State Corporation Commission (SCC) to convene a stakeholder process to obtain recommendations for nine (9) identified areas related to electricity data access and privacy and provide a report to the State Corporation Commission by April 1, 2020.

The SCC, using an independent facilitator, organized a stakeholder group of 73 individuals representing 46 different organizations, including Virginia electric utilities and electric cooperatives, energy efficiency organizations, housing organizations, gas and water utilities, and public policy organizations. Between October 1, 2019 and March 31, 2020, the group was able to meet three times. The stakeholders conducted the majority of its work between the meeting dates as sub-groups, which divided the nine topic areas into three sub-group committees.

## STAKEHOLDER GROUP FINDINGS

The stakeholder group was not able to reach consensus on a set of recommendations due to the complexity of issues addressed in the legislation and the compressed timeframe of the process. The stakeholder group generated three (3) core principles that should be centrally supported by any legislation, policy, or rulemaking. These are:

1) Protection of customer data privacy is imperative.
2) Sharing of customer data, which identifies a specific customer, must be done securely and with prior customer authorization. If data is to be shared on an aggregated basis, customers should be provided with an easy process to opt-out of aggregated data.
3) Any process established for sharing of customer data should be designed to mitigate and minimize and if possible, eliminate, risk to the utility, its physical and cybersecurity, or its infrastructure and systems.

The stakeholder group acknowledges more time is needed for the group to deliberate and generate recommendations that address the complexity of utility data access, sharing, and privacy in the Commonwealth. As a result of (i) these timing constraints; (ii) the lack of clear stakeholder consensus; and (iii) the complexity of the issues, it may be premature for any legislative directives; more study and time in the stakeholder process may be needed. It is strongly suggested by the stakeholder group and the independent facilitator that additional work is necessary to address the needs of the broad range of stakeholders prior to the enactment, by either the SCC or the General Assembly, of any requirements for new processes or rules.

The initial work conducted by the stakeholder group can be further acted upon to provide recommendations that will be effective, efficient, and cover the needs of the range of stakeholders.

What is presented in the report are the findings of each sub-group organized into "considerations." These considerations should not be considered recommendations or statements reflective of a group consensus. The considerations are organized by the nine Legislative Bullets.

### LEGISLATIVE BULLET #1: CUSTOMER PRIVACY CONSIDERATIONS

*1. Customer privacy considerations, including the establishment of the definitions for, and the protection of, personally identifiable information and energy usage data resulting from the deployment of advanced metering infrastructure by the electric utility.*

- Use the Term "Covered Information" Instead of Personally Identifiable Information – The term "personally identifiable information" is too limiting to define the totality of protected customer information. Covered information represents all information about customers that is protected by utilities.
- Define Primary Purpose vs. Secondary Purpose of Data Sharing - Data sharing may take on different purposes, therefore, it is important that a distinction be made whereby the primary purpose of data sharing

is for the delivery of a regulated utility service, or Commission-approved program, and secondary purpose, which is any other reason for data sharing. Depending on the purpose, different privacy and security treatments of customer data should apply.

- Define Eligibility Criteria for Third Party Recipients of Individual Customer Data - A key component of protecting privacy is determining *who* should be eligible to receive customer data. The General Assembly should consider that in defining third party eligibility requirements, third parties must be an adoptee of the U.S. Department of Energy's DataGuard code of conduct, which requires processes that allow the customer to control access to his or her data for secondary purposes (i.e., to authorize differential access to multiple Third Parties, limit the duration of access, keep a record of data releases, rescind authorizations, and dispose or de-identify data once authorization or the need for the data has expired).
- Define Enforcement Policy Against "Bad Actors" - The General Assembly and the Commission should establish a clear enforcement pathway against a third party who has violated the law or a customer's privacy. In other jurisdictions, the approach to enforcement varies depending upon the Commission's jurisdiction over third parties. There was no discussion or conclusions by stakeholders about what jurisdiction the SCC may have over third parties in Virginia.

### LEGISLATIVE BULLET #2 – DATA SECURITY

*2. The impact of data sharing on the physical and cybersecurity of utility infrastructure and systems.*

- More Time is Needed to Research and Understand the Physical and Security Impact of Data Sharing on Infrastructure and Systems - Each regulated utility (investor-owned and cooperative) has unique physical infrastructure that they will need to review dependent upon changing Federal and state mandates.
- The General Assembly and Commission Do Not Need to Regulate Physical and Cyber Security Standards - Virginia's utilities are already governed by a comprehensive suite of Federal and state laws related to cyber and physical security. If the Commission is to regulate a data access standard and third-parties' use of and access to that data, it should do so without intruding on the subject matter of cyber and physical security.

### LEGISLATIVE BULLET #3 – AGGREGATING ANONYMIZED DATA

*3. Aggregating anonymized energy usage data.*

- More Time is Needed to Define the Terms and Use of Anonymized and Aggregated Data – Each term is generally understood, but to ensure customer privacy, if data is to be shared with a third party, more discussion is needed to determine thresholds of aggregation that sufficiently maintain individual privacy, the different parameters needed for use of customer data compared to energy usage data, and the impact of data aggregation on rural cooperatives.

### LEGISLATIVE BULLET #4 – CUSTOMER AND USER-FRIENDLY FORMAT

*4. The format for data access that is customer-friendly and computer-friendly.*

- Aggregate data should be provided in a modern, timely, and systematic manner – To include streamlined data access (single unique identifier); secure, quick and convenient data transfer with capability to download in multiple formats; and calendarized data that is aligned with management and planning practices of commercial and residential customers.

### LEGISLATIVE BULLET #5 – NATIONALLY RECOGNIZED STANDARDS

*5. Ensuring that standards and practices for access to data adhere to nationally recognized standards and best practices.*

- Further Explore Recognized Standards and Best Practices and How They May Be Adopted by Virginia – The stakeholder group did not reach consensus on specific standards. National standards should be reviewed

and adapted specifically to Virginia with a potential starting point being the Green Button Connect My Data standard, which provides a set of standards for allowing secure, interoperable transfers of energy-usage and billing information between utilities and authorized third parties. The Green Button standard has been ratified by the North American Energy Standards Board (NAESB).

## LEGISLATIVE BULLET #6 – CUSTOMER OPT-IN/OPT-OUT

*6. Opt-in/opt-out conditions for access to customers' utility usage data by the electric utility, a contracted agent, and a third party.*

- Further Discussion is Needed to Define Customer Opt-In and Opt-Out Conditions – The stakeholder group suggested, if data is to be shared:
  - **Individual Data** should be consent-based when it is being shared with a third party. The customer should be able to opt-in and opt-out easily.
  - **Aggregated Data** assumes customer data is not re-identifiable and the customer can choose to opt-out as data aggregation thresholds and definitions of "covered information" and "unshareable" data are deemed sufficient to protect customer privacy.
  - **Anonymized Data** should be defined through a transparent process that allows appropriate input from the customer community.
  - Third party and eligibility definitions are needed.

## LEGISLATIVE BULLET #7 – CURRENT DATA ACCESS PROVISIONS

*7. Current data access and sharing provisions resulting from the deployment of advanced metering infrastructure implemented by other utilities in the Commonwealth.*

- A Portion of Future Provisions May Apply Regardless of Metering Technology - Within provisions for data access and sharing, defining the specific data type(s) for access and sharing should be considered. Consideration should be focused on energy usage data for billing (kW, kWh, etc.). In future legislation, policy or rulemaking, developers will need to also consider:
  - Provisions for recovery of incremental cost to provide customer data outside of standard availability
  - Further analyses of related rules and regulations (i.e. Privacy, Retail Access, etc.)

## LEGISLATIVE BULLET #8 – COST RECOVERY

*8. Costs of and cost recovery mechanisms for changes to electric utility infrastructure needed to implement regulations.*

- Cost Recovery Will Need to Be Adaptable to Different Utility Models -
  - Cost Recovery for Data Access for Consumers of Investor-Owned Electric Utilities - Costs undertaken by utilities to comply with data access laws and regulations should be recoverable through Virginia's current regulatory process . To the extent such costs are for additional infrastructure (*i.e.*, customer information system upgrades and cyber security), utilities may elect to recover those costs as part of a grid transformation project through its rates for generation and distribution services, and/or a customer credit reinvestment offset. The costs of fulfilling any special request are borne by the customer and should be based on the specifics of the data request and the associated costs of developing, processing, and transmitting the requested data.
  - Cost Recovery for Data Access for Consumers of Cooperative Electric Utilities - Costs undertaken by utilities to comply with data access laws and regulations should be recoverable. The costs of fulfilling any special request are borne by the customer and should be based on the specifics of the data request and the associated costs of developing, processing, and transmitting the requested data. Cost recovery for any program would be through base rates through Virginia's current regulatory process.

## LEGISLATIVE BULLET #9 – CUSTOMER DATA USAGE NOTIFICATION REQUIREMENTS

*9. Notice requirements by utilities to customers regarding the types of energy usage data being collected, how that data is used by the utility to provide the utility service, how customers can access their data, how the customer can manage and direct what specific information from their energy usage data can be shared, with whom this data can be shared outside the utility, and when the data can be shared.*

- Use Best Practices from Other Jurisdictions - Best practices from the Federal government and other states should be considered in Virginia. As an example, the Federal Fair Information Practices (FIPs) include:
  - **Notice/awareness**: Customers should be given notice of a utility's information practices
  - **Choice/consent**: Choice and consent in an online context means giving customers options to control how their data is used.
  - **Access/participation**: Customers should be able to view the data collected about them and be able to verify and or contest its accuracy.
  - **Integrity/security**: Utilities should ensure that data collected is accurate and protected against unauthorized access.
  - **Enforcement/redress**: There must be some enforcement mechanism(s) for consumers to seek a remedy from violators (see "Enforcement" above).

The FIPs have been incorporated into the U.S. Department of Energy's DataGuard Energy Data Privacy Program, as well as other state commission's policies, including California, Colorado, and Michigan.

## NEXT STEPS

The stakeholder group wanted to convey the following five points to the General Assembly as it considers next steps.

1. The Process Should Result in a Flexible Solution to Accommodate Different Stakeholder Needs - Any policy developed cannot be a one-size-fits-all approach but should allow for some variation to address different stakeholder needs.

2. Data access and privacy, as a concept to research and address, is complex, requires multiple perspectives to be considered, and needs additional time than was provided by the Legislation, to develop more specific recommendations.

3. Customer Focus is Paramount to Success - The stakeholders repeatedly noted the importance of protecting customer data and ensuring clarity on how energy-related data will be used, i.e. identifying that a critical driver between access and privacy is customer consent, and educating customers on data collection, use, and disclosure, will be critical.

4. Contextual Issues Must Be Considered - Any policy or legislation that might be proposed needs to include provisions that enable flexibility to adjust and adapt in an agile and feasible manner to changing conditions.

5. The Stakeholder Process Should Continue – So far, the Virginia stakeholder process has allowed stakeholders dedicated to energy efficiency and appropriate energy data use to provide a wide range of perspectives, share different models and approaches, and have deep discussions about the issues associated with data access, sharing and privacy. It is important that the stakeholders and the Commission Staff maintain a role in the development of potential legislation, policy, and implementation guidance to best inform the General Assembly and the SCC in their deliberations.

# INTRODUCTION

This report represents the collected input and feedback from stakeholders convened by the State Corporation Commission as required by HB 2332.

## LEGISLATIVE REQUIREMENTS

During the 2019 Virginia General Assembly session, the General Assembly approved legislation related to electricity data access and sharing, and data privacy. The bill, Chapter 399 [HB 2332][1], as approved, directed the State Corporation Commission (SCC) to convene and facilitate a Data Access Stakeholder group beginning by September 1, 2019, to provide input and feedback on several specific subjects. Nine specific areas for stakeholder consideration, as identified in the legislation, are:

1. Customer privacy considerations, including the establishment of the definitions for, and the protection of, personally identifiable information and energy usage data resulting from the deployment of advanced metering infrastructure by the electric utility.
2. The impact of data sharing on the physical and cybersecurity of utility infrastructure and systems.
3. Aggregating anonymized energy usage data.
4. The format for data access that is customer-friendly and computer-friendly.
5. Ensuring that standards and practices for access to data adhere to nationally recognized standards and best practices.
6. Opt-in/opt-out conditions for access to customers' utility usage data by the electric utility, a contracted agent, and a third party.
7. Current data access and sharing provisions resulting from the deployment of advanced metering infrastructure implemented by other utilities in the Commonwealth.
8. Costs of and cost recovery mechanisms for changes to electric utility infrastructure needed to implement regulations.
9. Notice requirements by utilities to customers regarding the types of energy usage data being collected, how that data is used by the utility to provide the utility service, how customers can access their data, how the customer can manage and direct what specific information from their energy usage data can be shared, with whom this data can be shared outside the utility, and when the data can be shared.

These will be referred to hereafter as Legislative Bullets 1 through 9. For the stakeholder process, the SCC strove to include broad representation from the electric utilities, market providers, electricity customers, and any other interested stakeholders that the Commission deemed appropriate, or who volunteered, for inclusion in the process. The SCC also engaged an independent facilitator to facilitate the stakeholder discussion process and to facilitate the writing of the final report. The legislation directed that the stakeholder group shall conclude its work no later than April 1, 2020, and the Commission shall report the recommendations of the Stakeholder group to the Virginia General Assembly.

## MEMBERSHIP REPRESENTATION

The SCC invited 73 individuals, representing 46 different organizations to participate in the process. A list of the stakeholders is provided in Appendix I. Figure 1 on the next page represents the distribution of organizational types that were members of the stakeholder group. It is worth noting that there was no one representing themselves as just an energy customer. Aggregating the different types of organizations further, stakeholder representation was distributed between:

- Electricity Cooperatives – 23.3%
- Government organizations – 15.1%

[1] https://lis.virginia.gov/cgi-bin/legp604.exe?191+ful+HB2332ER

- Investor-owned Electric Utilities – 12.3%
- Energy related non-profits and associations – 12.3%
- Other Utilities – 12.4%
- Customer/Community-related non-profit organizations – 12.4%
- Advocacy/Public Policy Organizations – 6.8%
- Energy related companies – 2.7%
- Law firms – 2.7%

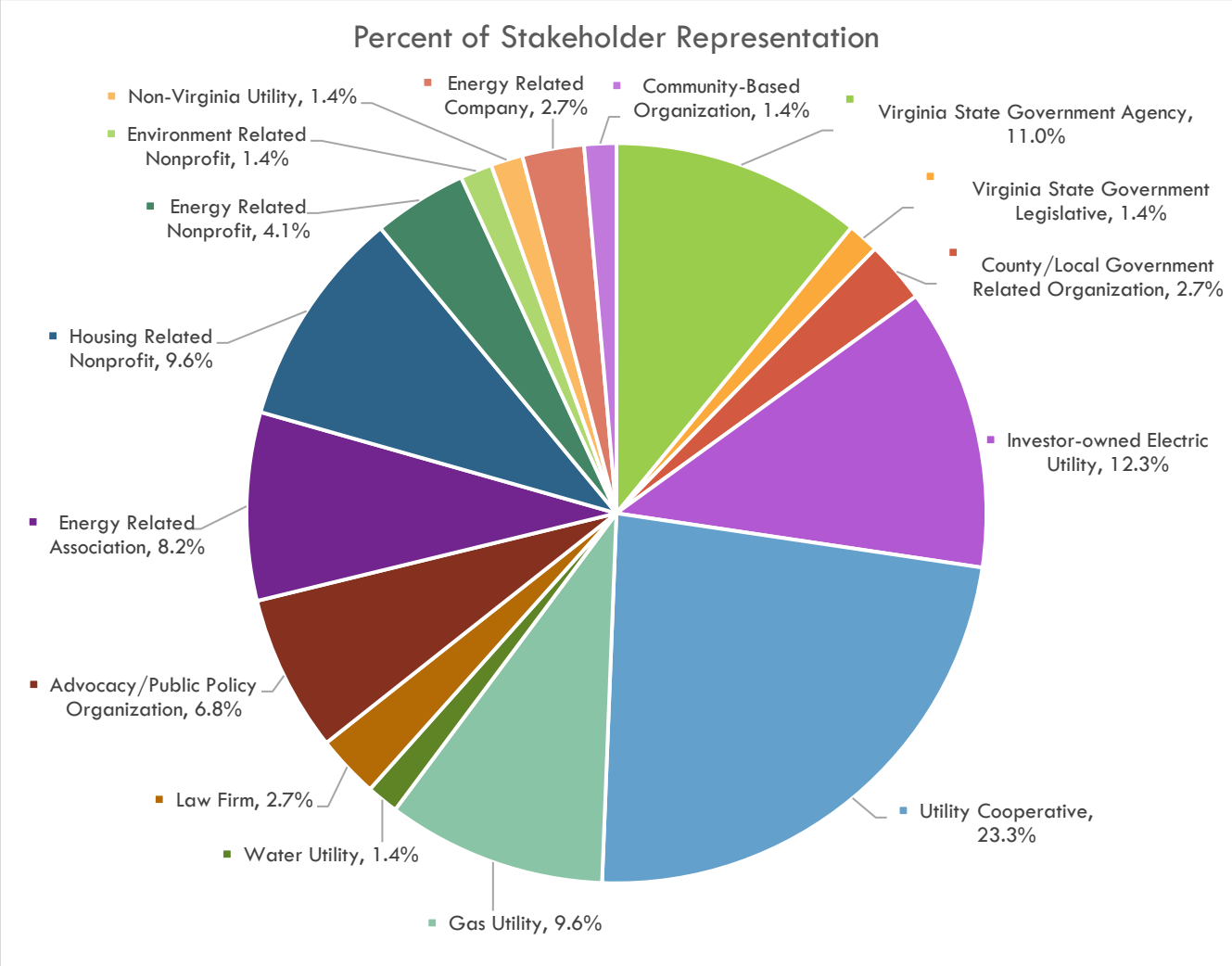


**Figure 1: Stakeholder Group Types**

## THE STAKEHOLDER INPUT PROCESS

To obtain the most amount of input and feedback from the stakeholders within the time allotted between legislation approval and the April 1, 2020 deadline for conclusion of the stakeholder process, the SCC and independent facilitator initially structured the process to convene two meetings of the entire stakeholder group, and use sub-groups to research specific issues and offer feedback and recommendations. The SCC grouped the nine Legislative Bullets into three sets. The three sets were used as the foundation for three sub-groups, for which stakeholders volunteered to participate. Table 1 on the next page shows the sub-group organization.

**Table 1: Sub-Group Topic Areas (Numbers in parenthesis refer to the corresponding Legislative Bullet number.)**

| Data Access and Privacy Standards Sub-Group | Data Security and Costs Sub-Group | Customer Data Management Sub-Group |
|---|---|---|
| • (1) Customer privacy considerations, including the establishment of the definitions for, and the protection of, personally identifiable information and energy usage data resulting from the deployment of advanced metering infrastructure by the electric utility.<br>• (5) Ensuring that standards and practices for access to data adhere to nationally recognized standards and best practices.<br>• (6) Opt-in/opt-out conditions for access to customers' utility usage data by the electric utility, a contracted agent, and a third party.<br>• (7) Current data access and sharing provisions resulting from the deployment of advanced metering infrastructure implemented by other utilities in the Commonwealth. | • (2) The impact of data sharing on the physical and cybersecurity of utility infrastructure and systems.<br>• (8) Costs of and cost recovery mechanisms for changes to electric utility infrastructure needed to implement regulations. | • (3) Aggregating anonymized energy usage data.<br>• (4) The format for data access that is customer-friendly and computer-friendly.<br>• (9) Notice requirements by utilities to customers regarding the types of energy usage data being collected, how that data is used by the utility to provide the utility service, how customers can access their data, how the customer can manage and direct what specific information from their energy usage data can be shared, with whom this data can be shared outside the utility, and when the data can be shared. |

The sub-groups voiced concern that there were areas of overlap among the sub-groups. It was decided that any overlap would be dealt with at stakeholder meetings and between the sub-group coordinators as issues emerged.

## MEETING SCHEDULE

Two meetings were initially scheduled, one on October 9, 2019 and the second on December 10. The first meeting was used to introduce the legislation, the process timeline, organize the sub-groups, set definitions, and solicit initial input from the stakeholders. The second meeting was designed to share initial input from the sub-group work that had occurred between October and December and to resolve overlapping issues and produce an initial report draft. At this time, the sub-groups had conducted initial research but had not yet been able to produce definitive statements. Each group expressed the need for additional time to discuss their initial research and to produce their findings. The SCC and independent facilitator added a third meeting, which was held on February 13, 2020. This meeting was intended to review input from each sub-group and to find common areas that might serve as recommendations.

It must be noted that a major constraint for the stakeholders was the timing of the process. First, the schedule for the work fell between major holidays in the fall/winter of 2019, which made it difficult for the sub-groups to convene to move beyond initial ideas and research. Second, the schedule for sub-group coordination occurred during the 2020 General Assembly legislative session. Given the significant volume of energy-related legislation considered during session, a majority of the stakeholders had limited availability or bandwidth to participate in the stakeholder process between January and March 2020. Because so many of the stakeholders were participating in the legislative session's energy-related activities, progress on recommendations for data access and privacy was significantly hindered. Third, the amount of time provided to research, discuss, develop and adapt recommendations for a large number of highly complex concepts related to data access, sharing, and privacy was limited by the compressed time requirements of the underlying legislation.

As a result of (i) these timing constraints; (ii) the lack of clear stakeholder consensus; and (iii) the complexity of the issues, it may be premature for any legislative directives. It is strongly suggested by the stakeholder group and the independent facilitator that additional work is necessary to address the needs of the broad range of stakeholders prior to the enactment, by either the SCC or General Assembly, of any requirements for new processes or rules.

It should also be noted that there is an existing ruleset relative to the sharing of customer information which was itself developed after a lengthy and effective stakeholder process dating back to the early 2000s. This ruleset covers competitive service providers ("CSPs") and aggregators and exists as part of the Commission's Retail Access Rules. The ruleset was designed to accommodate the needs of CSPs and aggregators who operate in multiple states without the need for them to significantly modify their systems for Virginia-only rules. The rules in their entirety (Chapter 312. Rules Governing Retail Access to Competitive Energy Services, with the customer information sharing rules at 20 VAC 5-312-60) clearly layout responsibilities for those obtaining data and those providing data, clearly states the Commission's role in governing the process and ensuring compliance, provides opportunity for consumers to opt-out, and requires customer authorization for any data requested beyond the a set of standard data called the "mass list." Any new policies should consider these historical rules.

## STAKEHOLDER GROUP FINDINGS

Due to the diversity of representation and interests of the stakeholder group and a relatively short turnaround time, the stakeholder group was not able to reach consensus on a set of recommendations. However, the stakeholder group was able to generate and agree upon three (3) core principles and five (5) overarching ideas that it wanted to communicate to the General Assembly. The findings related to each legislative topic area generated by the sub-groups are presented as considerations, all of which need further exploration by the stakeholder group or through a rulemaking process. For the final report, the stakeholder group was afforded the opportunity to express positions, suggestions and ideas from individual members, organizations, or groups of members as either supporting or dissenting views. These additional perspectives are included in Appendix III (Statement from the Virginia, Maryland, and Delaware Association of Electric Cooperatives) and Appendix IV (Statement from the Utilities – Dominion Energy, Appalachian Power, Old Dominion Power Company, and the Electric Cooperatives).

### CORE PRINCIPLES

Throughout the discussions of the stakeholder group and sub-groups, three core principles emerged that are important from the stakeholders' perspectives for any potential legislation, policy or rulemaking moving forward. These are:

1. Protection of customer data privacy is imperative. This means that, except in cases where a customer has provided explicit authorization for their data to be shared with a specific third-party, data access and sharing must be done in ways in which individual anonymity is maintained and access and sharing of data does not allow for intrusion into non-energy usage related data, such as account and payment information.
2. Sharing of customer data, which includes data from individual persons, households, buildings, or businesses, must be done securely and with prior customer authorization. If data is to be shared on an aggregated basis, customers should be provided with an easy process to opt-out of aggregated data.
3. Any process established for sharing of customer data should be designed to mitigate and minimize and if possible, eliminate, risk to the utility, its physical and cybersecurity, or its infrastructure and systems.

### OVERARCHING IDEAS

The stakeholder group was able to provide five high-level ideas, mostly related to the stakeholder process that it discovered from discussions during the process that the group suggested should be conveyed to the General Assembly.

1. The Process Should Result in a Flexible Solution to Accommodate Different Stakeholder Needs

Any policy, or implementation of access to certain customer data, developed cannot be a one-size-fits-all approach but should allow for some variation to address different stakeholder needs.[2] Results and conclusions stemming from policy discussion and development, needs to find, provide and strike a balance between providing access to data, supplying data, and protecting customer data. The results also need to accommodate the processes and operations of the utilities (investor-owned and cooperatives).

2. Data access and privacy, as a concept to research and address, is complex, requires multiple perspectives to be considered, and needs additional time than was provided by the Legislation, to develop more specific recommendations.

   HB 2332 provided a comprehensive array of complex topics to address. The stakeholder group acknowledged that complexity results from the various possible ways to understand data access, sharing, usage, and privacy, and that there are a number of varying positions on data issues among diverse stakeholders.

3. Customer Focus is Paramount to Success

   The stakeholders repeatedly noted the importance of focusing on utility customers as a key component of any potential recommendations. In serving the best interests of customers, the stakeholder group emphasized the importance of protecting customer data, identifying that a critical driver between access and privacy is customer consent, and educating customers on why and how the data is being requested and how it will be used will be critical. The stakeholders also noted that customer notification and consent processes should be simple and convenient for customers.

4. Contextual Issues Must Be Considered

   With changing evolving technology, political trends at the national, state and local level, and customer expectations, the concept of data privacy is a rapidly changing landscape. For any policy or legislation that might be proposed, it needs to include provisions, based on consistent principles, that enable flexibility to adjust and adapt in an agile and feasible manner to changing conditions.

5. The Stakeholder Process Should Continue

   Several stakeholders noted that other states have worked data access and privacy through regulatory dockets. Leading with a stakeholder process in Virginia has allowed stakeholders dedicated to energy efficiency and appropriate energy data use to provide a wide range of perspectives, share different models and approaches, and have deep discussions about the issues associated with data access, sharing and privacy. It is important that the stakeholders and the Commission staff maintain a role in the development of potential legislation, policy, and implementation guidance to best inform the General Assembly and the SCC in their deliberations.

   Any continuation or reestablishment of the stakeholder process should allow for the full and robust participation of the Commission Staff.

As noted, the stakeholder group did not reach consensus on a set of recommendations for the legislative areas described in HB 2332. What is presented in this report are the findings of each sub-group organized into "considerations." Each stakeholder member was provided opportunity to comment and/or edit each sub-group report. **All** considerations and feedback described below still require further discussion by the stakeholder group, or

[2] Policies and implementation guidance will need to allow for a range of use cases, such as utilities providing individual customer data to third parties with consent, to provision of aggregated data for public release or whole-building data for EnergyStar® benchmarking.

would need to be pursued through an identified, inclusive, and transparent rulemaking process. This is consistent with the statements provided by VMDAEC and the Electric Utilities in Appendices III, IV, V, and VI.

## LEGISLATIVE BULLET #1: CUSTOMER PRIVACY CONSIDERATIONS

*1. Customer privacy considerations, including the establishment of the definitions for, and the protection of, personally identifiable information and energy usage data resulting from the deployment of advanced metering infrastructure by the electric utility.*

### CONSIDERATION: USE THE TERM "COVERED INFORMATION" INSTEAD OF PERSONALLY IDENTIFIABLE INFORMATION

The best practice from other jurisdictions such as California, Colorado, and others are to avoid using the definition "personally identifiable information" (PII) in favor of the term "covered information." Covered information is *all* information about customers that is protected by utilities. In modern privacy law, PII has become obsolete because of the increasingly blurry line between PII and non-PII. Instead, it is more useful and productive to define the totality of protected information, and then define under what circumstances the information should be disclosed and how.

Several other states have defined covered information, which can be helpful to Virginia. California defines it this way:

> *"Covered information" is any usage information obtained through the use of the capabilities of Advanced Metering Infrastructure when associated with any information that can reasonably be used to identify an individual, family, household, residence, or non-residential customer, except that covered information does not include usage information from which identifying information has been removed such that an individual, family, household or residence, or nonresidential customer cannot reasonably be identified or re-identified. Covered information, however, does not include information provided to the Commission pursuant to its oversight responsibilities."*[3]

A subset of covered information could also be designated "unshareable information." In North Carolina's draft rules submitted February 10, 2020 to the North Carolina Commission by the Attorney General's Office, it was defined this way:

> *"Unshareable personal data means the birth date, social security number, biometrics, bank and credit card account numbers, driver's license number, credit reporting information, bankruptcy or probate information, health information, or network or internet protocol address of the customer or any person at the customer's location…"*[4]

### CONSIDERATION: DEFINE PRIMARY PURPOSE VS. SECONDARY PURPOSE OF DATA SHARING

It is essential to define the purposes for which covered information will be shared. Distinguishing a primary purpose – which is for the delivery of a regulated utility service – from a secondary purpose, which is any other purpose, is the most productive and helpful way to define legitimate and illegitimate uses of customer information in a rule.

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[3] California Public Utilities Commission D.11-07-056 Attachment D. http://docs.cpuc.ca.gov/PublishedDocs/PUBLISHED/GRAPHICS/140370.PDF. Note that California's definition, from 2011, is very focused on usage information from AMI; in retrospect, a broader definition encompassing all customer information would be more appropriate. Also note that this definition deals exclusively with customer information. That is to say, any AMI data would need to be "scrubbed" of operational or asset-related data before being provided to a third party.

[4] Note that "covered information" and "unshareable information" need not be definitions that are mutually exclusive. Both could be used. Covered information could be protected under a policy or regulation, while unshareable information could be restricted to utility use only.

California defines primary and secondary purposes in the following way:

> *Primary Purposes. The "primary purposes" for the collection, storage, use or disclosure of covered information are to: (1) provide or bill for electrical power or gas, (2) provide for system, grid, or operational needs, (3) provide services as required by state or federal law or as specifically authorized by an order of the Commission, or (4) plan, implement, or evaluate demand response, energy management, or energy efficiency programs under contract with an electrical corporation, under contract with the Commission, or as part of a Commission authorized program conducted by a governmental entity under the supervision of the Commission.*
>
> *Secondary Purpose. "Secondary purpose" means any purpose that is not a primary purpose.*

In a draft rule submitted to the North Carolina Commission by Mission:data and the North Carolina Attorney General's Office, a very similar definition was proffered:

> *The "primary purposes" for the collection, storage, use or disclosure of covered information are to:*
>
> *(i) Provide or bill for electrical power.*
> *(ii) Provide for system, grid, or operational needs.*
> *(iii) Provide services as required by state or federal law or as specifically authorized by an order of the Commission; or*
> *(iv) Plan, implement, or evaluate demand response, energy management, or energy efficiency programs under contract with a utility, under contract with the Commission, or as part of a Commission-authorized program conducted by a governmental entity under the supervision of the Commission.*
>
> *"Secondary purpose or use" means any purpose or use that is not a primary purpose or use.*

The benefit of the primary/secondary distinction is that it makes clear that utilities may share customer data with their contractors – payroll services, customer service/billing providers, cloud computing providers, demand response and energy efficiency programs, and for electric cooperatives, applicable affiliated entities to include wholesale power suppliers and related organizations, administrators (all of which constitute "primary" purpose services) – without customer consent so long as it is in the service of a regulated utility service or Commission-approved program. The Virginia General Assembly and the Commission should consider a similar distinction, with clearly defined terms, so that utilities are not inadvertently constrained in their use of vendors contractors to efficiently deliver regulated services.

### CONSIDERATION: DEFINE ELIGIBILITY CRITERIA FOR THIRD PARTY RECIPIENTS OF INDIVIDUAL CUSTOMER DATA

A key component of protecting privacy is determining *who* should be eligible to receive customer data. First, the term "third party" should be defined.

Michigan defines it this way:

> "***Third party***" means a person or entity that has no contractual relationship with the Company to perform services or act on behalf of the Company.

Several state commissions have established eligibility criteria for third parties requesting individual customer data with customer consent. The most lenient involves no requirements at all (e.g., Colorado) while the strictest involves a self-certification of certain data security practices (e.g., New York). In the middle are several other states that have established a limited set of requirements. Generally, states in this middle group require the third party to register with the utility and provide the following information:

1. Contact information

2. The third party's federal tax ID number
3. Agreement to certain terms and conditions regarding customer privacy
4. Not be on the list of "banned" third parties maintained by the Commission

The initial comments provided by North Carolina's Attorney General's Office indicate that North Carolina's draft rule is very similar to the above, but it adds a fifth requirement: a third party must be an adopter of the U.S. Department of Energy's DataGuard code of conduct.[5] Below is the relevant portion from the comment:

> *To be eligible to receive standard customer data, authorized third parties shall be required by utilities to: (1) demonstrate technical capability to interact securely with the utility's servers; (2) provide contact information and federal tax identification numbers to a utility; (3) acknowledge receipt and review of these privacy and access Rules; (4) not have been disqualified as an authorized third party provider in the past pursuant to processes outlined at (h)(2)-(4); and (5) adopt and comply with the most updated version of the 2015 Department of Energy's Voluntary Code of Conduct Final Concepts and Principles for Data Privacy and the Smart Grid (the "DataGuard Seal") or a similar nationally accepted eligibility standard approved by the Commission as a necessary, comparable, reasonable and appropriate alternative.*

One of the important concepts from DataGuard is that third parties must obtain customer consent for each *purpose*. The code of conduct requires processes that allow the customer to control access to his or her data for secondary purposes (i.e., to authorize differential access to multiple Third Parties, limit the duration of access, keep a record of data releases, rescind authorizations, and dispose or de-identify data once authorization or the need for the data has expired). For example, a customer may authorize a rooftop solar provider to access information in order to generate a price quote for solar installation. However, if the solar provider wishes to use customer information for another purpose – such as marketing an unrelated service or sharing such data with an affiliate - the solar provider must obtain a separate customer consent for that purpose.

DataGuard was developed in order to help fill the gap between third parties and commission jurisdiction, which is typically limited to regulated utilities. DataGuard works by third parties signing an adoption statement and submitting it to the Department of Energy, which maintains it on file and publicly lists the third party as a DataGuard adopter. If a third-party adopter then fails to comply with DataGuard, it would be subject to an action for misrepresentation under state law or Section 5 of the Federal Trade Commission Act barring unfair or deceptive acts or practices. Violators could also be subject to state-level equivalent laws barring unfair or deceptive trade practices. The idea is to put state regulators at ease by providing an enforcement mechanism against entities not traditionally regulated by commissions that breach customer privacy. DataGuard describes principles for voluntary adoption that:

1. Encourage innovation while appropriately protecting the privacy and confidentiality of customer data and providing reliable, affordable electric and energy-related services.
2. Provide customers with appropriate access to their own Customer Data; and
3. Do not infringe on or supersede any law, regulation, or governance by any applicable federal, state, or local regulatory authority

The General Assembly and the Legislature should consider all of these developments in crafting a thorough and detailed set of rules in Virginia. Table 2 on the next page provides a comparison of several states' approaches that Virginia may wish to consider.

[5] Retrieved from: https://www.dataguardprivacyprogram.org/downloads/DataGuard_VCC_Concepts_and_Principles_2015_01_08_FINAL.pdf.

Table 2: Individual data access policy attributes from various state public utility commissions (Sourced from various public data sources).

| *State* | *Energy usage data provided* | *Other non-usage data provided* | *Third party eligibility criteria* |
|---|---|---|---|
| **California** (E-4868, D1309025, Rule 24/32) | 48 months interval usage history; ongoing 15- or 60-minute readings every day | Bill details, account information such as premise addresses and account numbers, information necessary for participation in demand response programs | Must not be on the Commission-maintained list of "banned" third parties |
| **Colorado** (16A-0588E) | 15-minute readings every day (historical data length to be decided in 2021) | To be decided in 2021 | None. Rule 3027(e) says, "Nothing in these rules shall limit a customer's right to provide his or her customer data to anyone." |
| **Illinois** (17-0123, 15-0073, 14-0507) | 24 months interval usage history; ongoing 30-minute readings every day | None at this time | Agreement to terms and conditions contained in a tariff |
| **New York** (15-M-0180, 14-M-0101) | 24 months interval usage history; ongoing 5-minute or 15-minute readings every day | Billing amounts, service address(es), account number(s), meter number(s), "ICAP" tag needed for demand response, other items such as rate class | Must sign a Data Security Agreement |
| **Texas** (47472) | 24 months interval usage history, ongoing 15-minute readings every day | None, as Smart Meter Texas only has access to usage data | Agreement to certain terms and conditions |

## CONSIDERATION: ENFORCEMENT AGAINST "BAD ACTORS"

The General Assembly and the Commission should establish a clear enforcement pathway against a customer-authorized third party who has violated the law or a customer's privacy. The sub-group also discussed whether or not utilities should "police" third parties' party adherence to privacy laws, rules or practices. As a practical matter, it may be less than optimal for a utility to be the sole monitor of third-party behavior. It may be difficult for a utility to even be aware of a third party's violation of a standard, much less be able to "claw back" the data after it is transmitted to a third party "bad actor." Certainly, the utility has a role to play, but there is a role for government as well—whether that be through the Commission, another regulatory agency, or the Office of Attorney General. In other jurisdictions, the approach to enforcement varies depending upon the Commission's jurisdiction over third parties. There was no discussion or conclusions by stakeholders about what jurisdiction the SCC may have over third parties in Virginia. What follows below is an overview of California's enforcement process, which is the most clearly defined of any state. The text below is from Findings of Fact from the California Commission's decision D.13-09-025:

> *44. It is reasonable to require that if a utility reasonably suspects that a third party has violated the Commission's privacy rules, that the utility expeditiously informs the third party and the Commission's Energy Division with a notice of the suspected tariff violation, along with any information regarding possible wrongdoing and that the utility seeks to resolve the suspected tariff violations with the third party.*
>
> *45. It is reasonable to afford the utility and the third party a 21-day period in which to resolve the suspected violations, during which time the utility will continue transmission of data.*

*46. It is also reasonable that Energy Division staff, at their discretion, work to facilitate resolution of the issues between the utility and the third party, and for Energy Division staff to grant an additional 21 days for resolving the matter.*

*47. If the matter is not resolved during the period set for resolution, it is reasonable to require the utility to file a Tier 2 advice letter that seeks to move the third party to the list of entities ineligible to receive customer data. Notice of this filing should also be provided to all customers who have selected that third party to receive their usage data.*

*48. It is reasonable for the utility to continue transmission of data until Commission action resolves the matter, unless the customer revokes the authorization to transmit.*

*49. It is reasonable that a utility who acts consistent with the steps in findings 44 through 48 should not be deemed to have made a reckless transmission of data from the time of the notice until Commission action resolving the matter.*

*50. It is reasonable for the Commission, in its oversight of the utilities and smart meters, to take responsibility for ordering the suspension of third-party access to customer data. Under the procedures adopted in this decision, it is not necessary nor is it reasonable for a utility to suspend access to customer data based on suspicion that a third party may be violating tariffs.*

In North Carolina, the draft rules submitted by the Attorney General's Office contemplate a similar enforcement process as California:

*(2) Complaints Submitted to a Utility. If a utility disclosing standard customer data to a Commission-authorized or customer-authorized third party receives a customer complaint about the third party's misuse of data, the utility shall keep records of such complaints and submit a report to the Commission annually of any such complaints or suspected violations. If a utility believes it is necessary to terminate an authorized third party's access to customer data, the utility shall file a request with the Commission in accordance with paragraph (3) [below].*

*(3) Complaints submitted by a utility. If a utility has a reasonable suspicion that an authorized third party has engaged in conduct rendering it ineligible to access information under this Rule, the utility shall expeditiously inform the Commission and the Public Staff of any information regarding possible ineligibility.*

*(4) If the Commission confirms that a third party is or has become ineligible to receive information as an authorized third party under this Rule, the Commission shall allow the utility to refrain from providing or to discontinue providing standard customer data to that party.*

*A utility will not be deemed to have made a reckless transmission of covered information to an authorized third party if the utility acts consistently with the process described in paragraphs (2) and (3) above.*

*A utility is prohibited from unilaterally revoking access to an authorized third party for any reason other than a Commission order pursuant to paragraph (4) above or a good faith belief that the third party is ineligible under this Rule or poses an imminent danger to life, property or the cybersecurity of the utility's systems.*

The utilities have concerns that any "bad actor," once identified, should have their data access immediately removed pending an investigation, and that the Commission should have a role in any investigation as opposed to simply the utility investigating.

## LEGISLATIVE BULLET #2 – DATA SECURITY

*2. The impact of data sharing on the physical and cybersecurity of utility infrastructure and systems.*

### CONSIDERATION: MORE TIME IS NEEDED TO RESEARCH AND UNDERSTAND THE PHYSICAL AND SECURITY IMPACT OF DATA SHARING ON INFRASTRUCTURE AND SYSTEMS

Each regulated investor-owned and cooperative utility have unique physical infrastructure that they will need to review. Time in this process did not allow for this review to occur. As recommendations and policies are developed, the utilities will need to map their physical and cyber security infrastructure and systems to changing Federal and state mandates.

### CONSIDERATION: THE GENERAL ASSEMBLY AND COMMISSION DO NOT NEED TO REGULATE PHYSICAL AND CYBER SECURITY STANDARDS

Virginia's utilities are governed by a comprehensive suite of Federal and state laws related to cyber and physical security, including the Underground Utility Damage Prevention Act, Federal standards governing physical security of the bulk electric system, and the Federal Trade Commission standards on the storage and handling of personally-identifiable information. This varied and comprehensive set of laws and regulations provides important protection for electric and gas utilities and their customers, from the point of production to the point of use, and everywhere in between.

Generally, the Commission need not attempt to regulate cyber and physical security standards that are adequately addressed by other areas of law and regulation. It is possible, if the Commission is to regulate on the issue of data access, for the Commission to regulate a data access and privacy standard and regulate third-parties' use of and access to that data, without intruding on the subject matter of cyber and physical security *per se*.

## LEGISLATIVE BULLET #3 – AGGREGATING ANONYMIZED DATA

*3. Aggregating anonymized energy usage data.*

Aggregate and anonymized data is a topic area that needs significant further discussion and definition, if data is to be shared with third parties without individual customer consent. The sub-group as well as the larger stakeholder group were unable to reach consensus on definitions; however, they all agreed that more discussion is necessary and provided the following ideas for consideration.

### CONSIDERATION: IF DATA IS TO BE SHARED, IT SHOULD BE AGGREGATED AND ANONYMIZED

The sub-group suggests that in cases where energy usage data should not be allowed to be identifiable by the individual source and that there should be enough accounts to ensure anonymity. The sub-group considered the following definitions of the terms anonymized and aggregation:

- **Anonymization**: The process in which individually identifiable data is altered in such a way that it no longer can be related back to a given individual. Anonymization removes unique personal identifiers from a customer's individual data such that actual data can be released without it being attributable to a particular customer (Crandall, 2019).
- **Aggregation**: The total energy usage from multiple meters across multiple accounts.

  Data aggregation is a recognized means of protecting customer privacy. Customer privacy is protected by establishing a threshold number of tenants at or above which the utility can release aggregated energy usage data without customer authorization. Aggregation thresholds are typically expressed as X/X. The first value describes the minimum number of customers, which must be included in the dataset, and the second value is the maximum percentage of usage for any single customer in the data set. For example, some utilities provide information to building owners with a 4/50 ration where the dataset shall contain at least

four customers and no single customer shall consist of more than 50% of the monthly consumption. Others use a 15/15 threshold. Examples of various thresholds used by utilities across the country is provided in Figure 2. The group noted that other sub-groups also dealt with this topic. It is important to set a threshold high enough to protect customer privacy, but not so high that it excludes participation by a sizable percentage of properties without any added benefits or creates unnecessary burdens for energy management activities, such as the U.S. Environmental Protection Agency's EnergyStar® program.

| Utility (State) | Aggregation Threshold | Automatic Upload |
|---|---|---|
| Atlantic City Energy (NJ) | 5/-- | Yes |
| Austin Energy (TX) | 4/80 | No |
| Avista (ID, OR, WA) | | Yes |
| Baltimore Gas & Electric (MD) | 5/-- | Yes |
| California Investor-Owned Utilities | 3/-- | Yes |
| Clark Public Utilities (WA) | 2/-- | Yes |
| Commonwealth Edison (IL) | 4/-- | Yes |
| Consolidated Edison (NY) | 2/-- | No |
| Delmarva Power (DE, MD) | 5/-- | Yes |
| Enwave Seattle (WA) | 2/-- | Yes |
| Eversource (MA) | 4/50 | No |
| National Grid (MA, NY) | 4/50 | No |
| Pacific Power (CA, OR, WA) | 5/-- | Yes |
| PECO (PA) | 5/-- | Yes |
| Peoples Gas (IL) | 5/-- | No |
| Pepco (DC, MD) | 5/-- | Yes |
| PSEG Long Island (NY) | 2/-- | No |
| Puget Sound Energy (WA) | 5/-- | Yes |
| Rocky Mountain Power (ID, UT, WY) | 5/-- | Yes |
| Sacramento Municipal Utility District (CA) | 2/-- | Yes |
| Seattle City Light (WA) | 5/-- | Yes |
| Tacoma Public Utilities (WA) | | Yes |
| Veolia Energy (PA) | | Yes |
| Washington Gas (DC) | 5/-- | No |
| Xcel (CO, MI, MN, ND, NM, SD, TX, WI) | 4/50 | Yes |

TABLE 1. Electric and gas utilities that provide services to building owners for aggregated data access and/or automated energy data upload into Portfolio Manager.

**Figure 2: Aggregated data thresholds from various utilities. Source: Institute for Market Transformation. "Overview of Utility Engagement Issues." July 2017. Available at https://www.imt.org/wp-content/uploads/2018/02/IMT-PCC_Overview_of_Utility_Engagement_Issues.pdf**

## UNANSWERED QUESTIONS/CONSIDERATIONS

The sub-group in its deliberations identified other considerations related to aggregate or anonymized data, which included:

- The commonly accepted standard for analyzing and reporting energy usage data is aggregated data. A further review is needed to identify if there is a standardized definition of what comprises aggregated data.

- There is a difference between energy usage data and consumer data. Legislation, policies or rulemaking should limit the use of customer data as it tends to be personally identifying.
- Further review needs to be conducted to determine if aggregation may present more of a challenge to the electric cooperatives, as most are located in rural areas, which may make aggregation to the point of anonymity more difficult. The SCC should consider different aggregation thresholds for different purposes, e.g. for owners of multi-tenant spaces for the purposes of benchmarking e.g. EnergyStar®, or community-level data for valid purposes such as developing local climate plans. Several use cases reviewed by the sub-groups contain scenarios that may be useful. In particular, the sub-group noted scenario #3 in Appendix II "SCC Stakeholder Group Energy Data Access Use Cases". Another idea to resolve this issue for rural areas is to set up based on territory size (customer per square mile) or other data point.
- An unanswered, but important, question regarding re-identifiability of customer data is, "Would aggregate data combined with other public data pose privacy concerns?" More research and review are needed to answer this question.
- Another question raised by the sub-group and echoed by other members of the larger stakeholder group was, "Who vets the third parties so that data holders know who can and cannot be provided with aggregate or anonymized data? Is there a third-party registry?" Legislative Bullet #6 also addresses this issue. The sub-group outlined a contractor is an entity or person performing a function or service under contract with or on behalf of the utility. Conversely, a third party is a person or entity that has no contractual relationship with the utility to perform services or act on behalf of the company. The parties can be both "upstream" and "downstream," (distributors and re-sellers) as well as non-contractual parties. Service providers that are contracted by the customers would be required to meet the following eligibility third-party criteria for individual data:
    - Provide utilities its contact information, including federal tax ID number.
    - Provide a certificate of good standing from the state.
    - Agree to reasonable terms of utility data access.
    - Complete a technical interoperability test with a utility's GBC platform.
    - The SCC should administer third-party eligibility and maintain the list of eligible third parties.
    - Comply with Federal Data Guard privacy standard

  Requests from research institutions and government entities will continue to be evaluated on a case-by-case basis and require non-disclosure agreements. Depending on the circumstances, such requests may also have to qualify as third-party requests and would be responded to as third-party requests.[6] Data will generally only go to law enforcement agencies if subpoenaed or directed by court order.
- Another unanswered question raised by the sub-group is, "Who pays for the provision of aggregated data?"
- Related to infrastructure, the sub-group posed the question, "What if technology isn't available?" The group's initial thoughts were that data would be available only if smart meters are also available.[7]

The sub-group provided the following ideas for further exploration:

- Further research and discussion are needed to propose an aggregation formula for third party use of aggregated data. Depending on what data a utility has available, this could be: Zip code/zoning/tax locality + rate class (residential/commercial/industrial) + standard for a threshold amount of minimum accounts (could be based on a national standard) = proposed aggregation formula.
- Aggregation may need to be limited to residential customers only. Cities may want aggregate data for different customer-classes or all buildings by zip code in order to report on energy/climate targets or to identify opportunities for energy efficiency investments. See Scenario #3 in Subgroup 3's "SCC Stakeholder Group Energy Data Access Use Cases."
- The stakeholder group and the SCC need to obtain additional insight about the use of aggregate data for single-family homes by third parties.

[6] The State Energy Office (DMME) should continue to receive all energy data from state agency accounts as it currently does and is not considered a third-party.
[7] The sub-group notes that aggregated data at a monthly level is sufficient for EnergyStar® benchmarking.

- The SCC or governing body would need to set a high bar for security protocol or license registration for an entity to participate in a program where aggregated data is being utilized.
- Electric cooperatives traditionally rely on their close relationship with their member-consumers, and, consequently, may have additional concerns about any sharing of data that is not driven by the customer his/herself. Furthermore, the cooperative may have a basis and/or a need for sharing certain customer information outside of its provision of utility service (that is to say, by virtue of its structure as a member-owned corporation).

## LEGISLATIVE BULLET #4 – CUSTOMER AND USER-FRIENDLY FORMAT

*4. The format for data access that is customer-friendly and computer-friendly.*

It is important to distinguish between customer friendly and computer friendly. Customer friendly focuses on the user experience. Generally, this will mean:

- There is a streamlined, or simplified, electronic system for enabling participation by the customer.
- An easy to understand, transparent process for the customer, which includes clear terms and conditions and clear visibility into what customers are consenting to.
- A clear and easy revocation process, in which the customer can revoke their consent to data sharing and use at any time.

Computer friendly generally implies that there are standard data protocols, and data can be accessed and shared in multiple formats (e.g. xml, json, and csv). For example, the Green Button Download My Data standard allows customers to access and download their energy usage data into a format that can be effectively shared with third parties at the customer's discretion. When the customer receives the file, it will be in the Extensible Markup Language (XML), which is a computer-readable file. To properly read and determine the content of the file, the customer would need an application, such as Excel (or similar program). The North American Energy Standards Board's Energy Services Provider Interface (NAESB ESPI) standard serves as the basis for Green Button Connect My Data technology by providing a model for business practices, use cases, and an XML schema for the standard.[8]

### CONSIDERATION: AGGREGATE DATA SHOULD BE PROVIDED IN A MODERN, TIMELY, AND SYSTEMATIC MANNER

Best practices for customer friendly and computer friendly data design include:

- ***Streamlined Data Access*** – Experience from other jurisdictions suggests that it is crucial to provide a streamlined data access process, requiring a single unique identifier (e.g., an address or meter number) to retrieve whole-building data. However, the design and makeup of utility IT systems may or may not support this type of access.
- ***Secure Data in a Useful Format*** – Data transfer should be quick and convenient. The information should be available in a timely manner following the verification of the authorized third party, or their designee, and should be provided in a useful electronic format. The authorized third party should also have the option to download the data in an Excel (or Excel-readable) format. Additionally, the data format should support automated upload directly to commonly used benchmarking tools like ENERGY STAR Portfolio Manager.
- ***Calendarized Data*** – Most systems for managing and planning for building operations operate on a calendar year or fiscal year basis, both of which start at the beginning of specific months, which is not always the case

[8] Many utilities are implementing Green Button Download My Data which means that the utility customer can download their own energy consumption data directly to their own computer, and if they so choose, upload their own data to a third-party application. Green Button Connect My Data is a new capability which allows utility customers to automate the secure transfer their own energy usage data to authorized third parties, based on affirmative (opt-in) customer consent and control. Retrieved from: https://www.energy.gov/data/green-button.

with the utility billing cycle. Commercial and residential energy usage data should be calendarized so it aligns with other management and planning practices and can be easily integrated as a part of a broader management approach.

A number of utilities across the country provide building owners with access to whole-building data through a Landlord Portal following the best practices outlined above. Examples include:[9]

- Commonwealth Edison's Energy Usage Data System (EUDS)
- Consumers Energy's Landlord Utility Services
- Pepco's Energy Benchmarking Services
- Xcel's Energy Benchmarking Service
- Georgia Power's Automated Benchmarking Tool
- Eversource's Energy Reporting Portal

## LEGISLATIVE BULLET #5 – NATIONALLY RECOGNIZED STANDARDS

*5. Ensuring that standards and practices for access to data adhere to nationally recognized standards and best practices.*

### CONSIDERATION: FURTHER EXPLORE RECOGNIZED STANDARDS AND BEST PRACTICES AND HOW THEY MAY BE ADOPTED IN VIRGINIA

The stakeholder group discussed but did not reach any conclusion about which standards to use. At a general level, the stakeholder group agreed that for term definitions, the stakeholder group should start with national standards and modify them to best align with conditions in Virginia. The sub-group identified a possible starting point utilizing the Green Button Connect My Data standard, which provides a set of standards for allowing secure, interoperable transfers of energy-usage and billing information between utilities and authorized third parties, meets national standards ratified under the North American Energy Standards Board (NAESB).

The sub-group acknowledges that stakeholders will need to further provide definitions for what is considered:

- Aggregated data
- Anonymized data

The sub-group needs to further explore options for adopting cost efficient best practices that protect consumer rights.

## LEGISLATIVE BULLET #6 – CUSTOMER OPT-IN/OPT-OUT

*6. Opt-in/opt-out conditions for access to customers' utility usage data by the electric utility, a contracted agent, and a third party.*

Much of the input for conditions related to customer opt-in and opt-out is addressed in other legislative bullets. The sub-group reviewed information from multiple organizations, including the Institute for Market Transformation (IMT), the State and Local Energy Efficiency Action Network (SEEAction), and Mission:data Coalition.[10] The sub-group arrived at similar ideas held by other stakeholders, namely:

[9] Energy Efficiency for All (2017) Utility Customer Systems for Landlords: System requirements for utilities to deliver information and tools landlords need, available at https://www.nrdc.org/sites/default/files/utility-customer-systems-for-landlords.pdf

[10] See, for example, "Energy Data: Unlocking Innovation with Smart Policy." Mission:data Coalition and Advanced Energy Management Alliance. December 2017. Available at http://www.missiondata.io/s/Energy-data-unlocking-innovation-with-smart-policy.pdf

- Individual Data should be consent-based when it is being shared with a third party. The customer should be able to opt-in and opt-out easily.
- Aggregated Data - Data from customers would be presumed allowed to be provided to a third party, either automatically, or as needed, as long as data aggregation thresholds and definitions of covered information and "unshareable" data are deemed sufficient to protect customer privacy.
    - Customers should have the ability to opt-out; however, more discussion about what this looks like is needed. A policy in Virginia could be informed by a review of opt-out policies that Dominion Energy is already subject to in California.
- The definition of Anonymized Data should be established through a transparent process that allows appropriate input from the customer community. More discussion by the stakeholder group is needed on this topic. It will be important to identify the use cases for anonymized data.

The group noted it is important to distinguish what data is accessed and shared and the source of the data.

### CONSIDERATION: THIRD PARTY DEFINITION AND ELIGIBILITY

The sub-group provided what it deemed as important information related to defining "third parties" who may access and share data. These ideas were also addressed by other groups. The information below is also provided in the response to Legislative Bullet #3.

Third parties are any person or entity that has no contractual relationship with the utility to perform services or act on behalf of the company. The parties can be both "upstream" and "downstream" (distributors and re-sellers).

Third parties should be required to meet the following eligibility criteria:

- Provide the utility its contact information, including federal tax ID number.
- Provide a certificate of good standing from the state.
- Agree to reasonable terms of utility data access.
- Complete a technical interoperability test with a utility's Green Button platform.
    - The SCC should administer third-party eligibility and maintain the list of eligible third parties.
    - Comply with the Federal DataGuard voluntary code of conduct.

As previously described in the response to Legislative Bullet #3, other interested parties and usage that needs to be considered are:

- Building owners who want access to aggregate data for the purposes of benchmarking through EnergyStar® Portfolio Manager.
- Requests from research institutions and government entities – the request would need to be evaluated on a case-by-case basis and require non-disclosure agreements, as currently exists, or potentially be treated as a regular third-party request.
- The State Energy Office (DMME) should continue to receive all energy data from state agency accounts as it currently does and should not be considered a third-party.
- Law enforcement - data will generally only go to law enforcement if subpoenaed or directed by court order.

## LEGISLATIVE BULLET #7 – CURRENT DATA ACCESS PROVISIONS

*7. Current data access and sharing provisions resulting from the deployment of advanced metering infrastructure implemented by other utilities in the Commonwealth.*

The sub-group working with current data access provisions and advanced metering used by other utilities conducted significant research. The group acknowledges that limited information was brought to or discussed by stakeholders about current data access and sharing provisions from non-electric utilities in Virginia. However, the group reviewed

several use cases related to data access at electric utilities. The use cases and responses represent circumstances with and without AMI.

### CONSIDERATION: A PORTION OF FUTURE PROVISIONS SHOULD APPLY REGARDLESS OF METERING TECHNOLOGY

Given the focus of data privacy in data access and sharing, a portion of future provisions should apply regardless of metering technology. Within provisions for data access and sharing, defining the specific data type(s) for access and sharing should be considered. Consideration should be focused on energy usage data for billing (kw, kwh, etc.). In any future legislation, policy, or rulemaking, consideration will need to include:

- Provisions for recovery of incremental cost to provide data outside of standard availability
- Further analyses of related rules and regulations (i.e. Privacy, Retail Access, etc.)

Some of the stakeholders commented that energy usage data obtained for short intervals – such as 15 minutes or 60 minutes – is very valuable for energy management purposes, and that consideration should also be given to data collected, analyzed and reported at monthly intervals, as well. Monthly meter readings and billing information can be very valuable for managing monthly utility bills for and by customers.

## LEGISLATIVE BULLET #8 – COST RECOVERY

*8. Costs of and cost recovery mechanisms for changes to electric utility infrastructure needed to implement regulations.*

### CONSIDERATION: COST RECOVERY WILL NEED TO BE ADAPTABLE TO DIFFERENT UTILITY MODELS

The sub-group researching cost recovery provided the following ideas related to how policy could be designed.

Cost Recovery for Data Access for Consumers of Investor-Owned Electric Utilities

Costs undertaken by utilities to comply with data access laws and regulations should be recoverable through Virginia's current regulatory process and deemed reasonable and prudent. To the extent such costs are for additional infrastructure (*i.e.*, customer information system upgrades and cyber security), utilities may elect to recover those costs as part of a grid transformation project subject to a rider under Va. Code § 56-585.1(A)(6), through its rates for generation and distribution services, and/or a customer credit reinvestment offset, as applicable. In most cases, functionality for data access may not be available until advanced systems are put in place. Fulfilling non-standard requests that require special, including manual, data processing that is not a part of normal utility service results in expenses that would not otherwise be incurred. Such requests are fulfilled at the discretion of the utility within the parameters of existing privacy policies and subject to applicable law. The costs of fulfilling any special request are borne by the customer and should be based on the specifics of the data request and the associated costs of developing, processing, and transmitting the requested data. For investor-owned utilities exempt from provisions of Chapter 23 of Title 56 pursuant to Va. Code § 56-580(G), cost recovery would be through base rates.

Cost Recovery for Data Access for Consumers of Cooperative Electric Utilities

Costs undertaken by utilities to comply with data access laws and regulations should be recoverable. The costs of fulfilling any special request are borne by the customer and should be based on the specifics of the data request and the associated costs of developing, processing, and transmitting the requested data. To the extent that some future program for data access for consumers is implemented at electric cooperatives -- to the extent such programs do not exist today -- cost recovery for that program would be through base rates through Virginia's current regulatory process.

Cost Recovery for Data Access for Consumers of Gas Utilities

Costs associated with data access would be recovered in accordance with Chapter 10 of Title 56 of the Code of Virginia provided that such costs meet the statutory and regulatory standards for recovery in a natural gas utility's base rate. To the extent costs are incurred as part of a Commission-approved energy efficiency program (in accordance with Va. Code § 56-600 *et seq.*) or other Commission-approved program that allows for cost recovery through a Commission-approved rider (such as infrastructure replacement, system expansion, or qualifying economic development projects), costs may be recovered through a rider mechanism as part of the associated program costs.

## LEGISLATIVE BULLET #9 – CUSTOMER DATA USAGE NOTIFICATION REQUIREMENTS

*9. Notice requirements by utilities to customers regarding the types of energy usage data being collected, how that data is used by the utility to provide the utility service, how customers can access their data, how the customer can manage and direct what specific information from their energy usage data can be shared, with whom this data can be shared outside the utility, and when the data can be shared.*

### CONSIDERATION: USE BEST PRACTICES ALREADY IN PLACE IN OTHER JURISDICTIONS

Best practices from the Federal government and various states should be considered in Virginia. The Federal standards, the Federal Fair Information Practices (FIPs) developed in the 1970s and 1980s are a useful conceptual model that have formed the basis of domestic and international privacy laws and standards over time. The FIPs include:

1. **Notice/awareness**: Consumers should be given notice of a utility's information practices
2. **Choice/consent**: Choice and consent in an online context means giving consumers options to control how their data is used.
3. **Access/participation**: Consumers should be able to view the data collected about them and verify and be able to contest its accuracy.
4. **Integrity/security**: Utilities should ensure that data collected is accurate and protected against unauthorized access.
5. **Enforcement/redress**: There must be some enforcement mechanism(s) for consumers to seek a remedy from violators (see "Enforcement" above).

California's privacy rules, adopted by the California Public Utilities Commission in 2011, follow the same conceptual framework as the FIPs. For example, California's rules state the following:

> *2. Transparency (Notice). (a) Generally. Covered entities shall provide customers with meaningful, clear, accurate, specific, and comprehensive notice regarding the accessing, collection, storage, use, and disclosure of covered information. Provided, however, that covered entities using covered data solely for a primary purpose on behalf of and under contract with utilities are not required to provide notice separate from that provided by the utility.*
>
> *(b) When Provided. Covered entities shall provide written notice when confirming a new customer account and at least once a year shall inform customers how they may obtain a copy of the covered entity's notice regarding the accessing, collection, storage, use, and disclosure of covered information, and shall provide a conspicuous link to the notice on the home page of their website, and shall include a link to their notice in all electronic correspondence to customers.*

Similar notices to customers are required in states such as Colorado, Illinois, and Michigan.

Another aspect of notice is the language presented to customers to aid them in a decision whether or not to share data with a third party. This is distinct from common annual privacy policy notices customers receive from other entities such as banks or insurance companies. The sub-group provides two examples of "authorization language". The first example is the authorization language approved by the Illinois Commerce Commission for electric utilities

Ameren Illinois and Commonwealth Edison.[11] The second example on page 25, from California's Pacific Gas & Electric, depicts the authorization language seen by a customer on a mobile device. Each aims to name the third party and succinctly describe the data to be transferred and over what time period (both historically and into the future).

> *I, [CUSTOMER NAME], understand that [NAME OF THIRD PARTY] seeks access to my electricity usage information. This information includes my electricity usage levels for distinct time periods no longer than 60 minutes to the extent this information has been recorded and retained by [UTILITY]. I authorize [UTILITY] to provide my electricity usage information to [NAME*
>
> *OF THIRD PARTY] solely for the purpose of:*
> *_____[PURPOSE]_____.*
>
> *I do not authorize my data to be used for purposes other than those I have explicitly authorized in this document. [NAME OF THIRD PARTY] may disclose my electricity usage information to its contracted third party vendors or its affiliates for this purpose only. [NAME OF THIRD PARTY], its affiliates, and its third-party vendors will not sell or license my electric usage information to any other party for any purpose. I authorize [UTILITY] to provide [NAME OF THIRD PARTY] my usage information for the previous 24 months as well as 24 future months. This authorization to access and use my electricity usage information will expire 24 months after this authorization is executed or upon notification by me to [UTILITY] that I have revoked [NAME OF THIRD PARTY]'s authorization to access my usage information.*
>
> *I understand that I can report any concerns about my rights under this authorization and [NAME OF THIRD PARTY]'s or [UTILITY]'s compliance with its duties under this disclosure to:*
>
> *ILLINOIS ATTORNEY GENERAL'S CONSUMER FRAUD DIVISION*
>
> *http://www.illinoisattorneygeneral.gov/consumers/index.html*
>
> *Chicago: 800-386-5438; 800-864-3013 (TTY)*
>
> *Springfield: 800-243-0618; 877-844-5461 (TTY)*
>
> *Carbondale: 800-243-0607; 877-675-9339 (TTY)*
>
> *OR*
>
> *ILLINOIS COMMERCE COMMISSION*
>
> *CONSUMER SERVICES DIVISION*
>
> *800-524-0795*

[11] As approved in Illinois Commerce Commission Docket No. 15-0073. Final Order, dated March 23, 2016. Available at https://www.icc.illinois.gov/downloads/public/edocket/424241.pdf

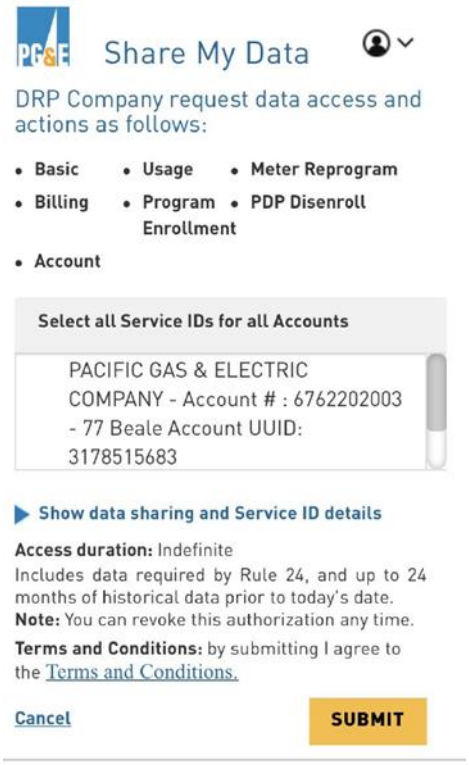


**Figure 3: Authorization Language for Pacific Gas & Electric**

## APPENDIX I - STAKEHOLDER PARTIPANT LIST

H2332 Stakeholder Participation List – Alphabetical by Organization

| Organization | First Name | Last Name |
|---|---|---|
| **A&N Electric Cooperative** | Leo | Radkowski |
| **A&N Electric Cooperative** | Lori | Shreaves |
| **Appalachian Power Company** | Victoria | Allinson |
| **Appalachian Power Company** | Will | Castle |
| **Appalachian Power Company** | Ron | Jefferson |
| **Appalachian Power Company** | Jennifer | Sebastian |
| **AQUA Virginia, Inc.** | John | Aulbach |
| **Arlington County Dept. of Environmental Services** | John | Morrill |
| **Atmos Energy** | Matt | Davis |
| **BARC Electric Cooperative** | Greg | Cook |
| **Center for Economic & Policy Studies, UVA** | Bill | Shobe |
| **Central Virginia Electric Cooperative** | Gary | Wood |
| **Charlottesville Climate Collaborative** | Caetano | de Campos Lopes |
| **Collegiate Clean Energy** | Guy | Chapman |
| **Columbia Gas of Virginia** | Susan | Larsen |
| **Columbia Gas of Virginia** | Bryan | Stogdale |
| **Community Housing Partners** | Chase | Counts |
| **Community Housing Partners** | Amory | Fischer |
| **Dominion Due Diligence Group** | Stephen | Evanko |
| **Dominion Energy Virginia** | Sarah | Cosby |
| **Dominion Energy Virginia** | Tim | Faherty |
| **Dominion Energy Virginia** | Heather | Jennings |
| **Dominion Energy Virginia** | Kevin | Painter |
| **Dominion Energy Virginia** | Paul | Pfeffer |
| **Good Company Associates** | Robert | King |
| **Green & Healthy Homes Initiative** | Michael | McKnight |
| **Legislative Aide to Delegate Keam** | Meredith | Nakayama |
| **Kentucky Utilities Company d/b/a Old Dominion Power Company** | Rick | Lovekamp |
| **Local Energy Alliance Program (LEAP)** | Chris | Meyer |
| **Local Energy Alliance Program (LEAP)** | Ratliff | Wilson |
| **McGuire Woods** | Lisa | Crabtree |
| **MDV-Solar Energy Industries Association** | David | Murray |
| **MDV-Solar Energy Industries Association** | Rachel | Smucker |
| **Mission Data** | Michael | Murray |
| **National Housing Trust** | Dana | Bartolomei |
| **Northern Neck Electric Cooperative** | Richard | McLendon |
| **Northern Neck Electric Cooperative** | Greg | White |

| Organization | First Name | Last Name |
|---|---|---|
| **Northern Virginia Electric Cooperative** | Howard | Spinner |
| **Office of Attorney General** | Meade | Browder |
| **Prince George Electric Cooperative** | Renee | Chapline |
| **Rappahannock Electric Cooperative** | Matt | Faulconer |
| **Rappahannock Electric Cooperative** | Tom | Handley |
| **Rappahannock Electric Cooperative** | David | Johnson |
| **Richmond Region Energy Alliance** | Andrew | Grigsby |
| **Roanoke Gas** | Tommy | Oliver |
| **Shenandoah Valley Electric Cooperative** | Mike | Aulgar |
| **Shenandoah Valley Electric Cooperative** | Vicky | Fitzgerald |
| **Shenandoah Valley Electric Cooperative** | Morgan | Slaven |
| **Southern Environmental Law Center** | Will | Cleveland |
| **Southside Electric Cooperative** | Rob | Brooks |
| **Southside Electric Cooperative** | Tim | Kreis |
| **Southside Electric Cooperative** | Jason | Loehr |
| **The Vectre Corporation/PJM** | Phil | Abraham |
| **ThompsonMcMullan** | Cliona | Robb |
| **Virginia Advanced Energy Economy** | Harry | Godfrey |
| **Virginia Association of Counties** | Joe | Lerch |
| **Virginia Department of Mines, Minerals & Energy** | Al | Christopher |
| **Virginia Department of Mines, Minerals & Energy** | Larry | Corkey |
| **Virginia Energy Efficiency Coalition** | Chelsea | Harnish |
| **Virginia Institute for Public Policy** | Lynn | Taylor |
| **Virginia Municipal Electric Association** | Tom | Dick |
| **Virginia Natural Gas** | Shepelle | Watkins-White |
| **Virginia Poverty Law Center** | Carmen | Bingham |
| **Virginia Poverty Law Center** | Dana | Wiggins |
| **Virginia State Corporation Commission** | Arlen | Bolstad |
| **Virginia State Corporation Commission** | David | Eichenlaub |
| **Virginia State Corporation Commission** | David | Essah |
| **Virginia State Corporation Commission** | Andy | Farmer |
| **Virginia State Corporation Commission** | Bernard | Logan |
| **Virginia, Maryland & Delaware Association of Electric Cooperatives** | Sam | Brumberg |
| **Viridiant** | KC | Bleile |
| **Washington Gas** | Scott | McGeary |
| **Washington Gas** | Patti | Stiffler |

## APPENDIX II – SCENARIO USE CASES

# Energy Data Access Use Cases with Utility Responses

Historic building energy and cost data is vital to effectively analyze building energy use and performance. Property owners, Energy Service Providers, and local governments need this data to benchmark building performance, identify energy-efficiency opportunities, access various green financing programs, and assess progress toward energy policy goals. However, often multifamily and commercial buildings are separately metered for tenants who pay their utility bills directly to the local utility. This frequently creates a barrier for property owners to acquire the energy usage data. Many stakeholders and utilities have collaborated across the US to reduce this barrier.

To better explain the required energy data, it is useful to explore the various use cases for the energy data. We share two frameworks which may help outline different data needs. The first framework highlights the level at which the data may be aggregated across multiple meters or accounts. The second framework highlights the different types of energy data that may be required for energy analysis.

Framework A: Aggregation Level of the Data

1. Account-level data for a household (e.g. single-family home or single dwelling unit)
2. Building-level aggregate data for multifamily and multi-tenant commercial
3. Community-level aggregated data for local governments

Reference: https://aceee.org/sector/local-policy/toolkit/utility-data-access

Framework B: Specificity of the energy data

1. Monthly energy consumption (e.g. monthly kWh used)
2. Interval energy consumption (e.g. 15-minute kWh usage)
3. Additional detailed consumption (demand, etc.) – critical for energy audits on larger commercial accounts, energy demand management, etc.

Many groups have already researched different approaches to accessing energy data for various types of energy analysis. For instance, "Rethinking Energy Data Access: Conquering Barriers to Achieve Local Climate Goals" has addressed several of the use cases mentioned in this paper and highlighted examples of utilities across the US who are provided this energy data.

**Scenario 1: Account-level Energy data for Energy Efficiency Retrofit (Pre and Post) Energy Monitoring: Monthly data**

- Request: Monthly (calendarized) unit-level total kWh for a single-family home, multifamily apartment unit or commercial tenant
- Purpose: Required input for Energy Audits and to assess Energy Efficiency Programs (e.g. EM&V)
- User: Property owners or their designee such as a property manager, or contracted third-party like an energy services company

Account level energy data is valuable for owners, tenants and energy analysts to analyze trends in energy usage and identify changes in behavior or equipment. With pre and post renovation energy usage data, analysts can better confirm the effectiveness of equipment upgrades and energy efficiency retrofits. Analysis for right-sizing solar PV installations also requires monthly account-level energy data.

Since this request involves account-level data, we expect that each request would have a customer authorization release signed by the accountholder. Utilities should publish their customer authorization release form on their websites or declare that they accept general customer authorization releases.

*Response of Electric Utilities (hereinafter, the "Utilities"):*

*Any request authorized by an accountholder (hereinafter, this person or entity will be referred to as a "customer," including a member of an electric cooperative) for his/her own data will generally be honored. Some utilities require letters of authorization, physical signatures, or an authenticated electronic login through a portal for customers to complete these types of requests. Generally, there is no charge for these types of request. Utilities will only turn over to the customers the data that they have available, i.e., no analysis, benchmarking, or other data manipulation will be done to the data. Because they have no formal business relationship with any third-party, the Utilities will generally give customer data only to the customer. That being said, there are no restrictions on what the customer can do with that data, and the customer is free to send that data on to a third-party for further review, analysis, compilation, benchmarking, manipulation, etc. The Utilities are generally not comfortable with a third-party being interposed between the customer and the Utility. Regarding the use of the Green Button standard, the Utilities agree that a common standard could be useful, and that the Green Button standard should be one of the standards up for discussion. Many of the Cooperatives and Appalachian Power Company use the Green Button "Download My Data" ("DMD") option for customers today. Dominion Energy uses Green Button DMD for customers with interval or AMI data today.*

**Scenario 2: Aggregated Monthly Energy Data for Energy Benchmarking and Audits:**

- Request: Monthly (calendarized) property-level total kWh including all meters at the building address
- Purpose: Benchmarking using Energy Star Portfolio Management and inputs to Energy Audits
- User: Property owners or their designee such as a property manager, or contracted third-party like an energy services company

Many green financing programs from HUD, Fannie Mae, and Freddie Mac require that multi-family properties perform energy benchmarking using the ENERGY STAR Portfolio Manager tool. To benchmark properties, owners, or their designee, need to access at least 12-months of both the owner and tenant energy usage. In addition, some of these properties opt to pursue the ENERGY STAR Existing Building Certification which requires 100% of the energy usage at the property over a 12-month period. ASHRAE Level 2 Energy Audits are required by many programs. In order to comply with ASHRAE guidance, the audit must look at data over a 24-month period.

Many utilities now provide whole-building aggregated energy data, which is essentially a sum of the monthly energy consumption (e.g. kWh) for every meter at the building's address. This analysis can also be performed with property-wide aggregated energy data (i.e. combining multiple buildings).

For benchmarking it is not essential to secure monthly dwelling unit energy consumption data provided ***individually*** for each unit[12]. By aggregating the consumption from all the units into a single monthly value, privacy can be protected while still permitting us to benchmark the performance of the building. Numerous national studies have shown that once the data is aggregated for 4 or more dwelling units, you cannot assess individual tenant information.[13] Some regions have also instituted restrictions to cap the maximum percentage of total energy consumption allowed by a single tenant/account in order for aggregate data to be provided without tenant authorization from the high-energy user. For instance, if one tenant used more than 50% of the total building consumption, then the landlord may need to secure authorization from that tenant. This is more typical in benchmarking commercial office buildings than in multi-family properties.

- Scenario 2a: Multifamily property energy management/benchmarking **(4 or more units)**
  - Property owner or their designee can request whole-building aggregated data without securing individual releases from the tenants.
- Scenario 2b: Multifamily property energy management/benchmarking **(<4 units)**
  - Property owner or their designee would need to secure individual releases from each tenant to secure the monthly energy consumption data.

[12] In some cases, landlords may need utility usage of specific tenants in the building, but these instances would assume the owners obtains requisite permissions from the tenant

[13] ENERGY STAR. Utilities Providing Energy Star Data for Benchmarking in ENERGY STAR Portfolio Manager (August 2018). Retrieved from: https://www.energystar.gov/buildings/tools-and-resources/utilities_increase_access_energy_data_help_commercial_customers_benchmark

- Alternatively, the property owner could opt to aggregate multiple buildings together so the number of units in the aggregation is more than four (4).

When completing the benchmark, Energy Analysts need to confirm that energy data includes every meter at the building. The energy data provided should indicate the number of meters included in the aggregated data. Energy Analysts will need to confirm if the common/house meter was included in the aggregated data or if they will need to secure that energy data from the owner bills.

Accessing the full 12-month consumption for every dwelling unit (e.g. the total kWh usage tracked by the meter attached to that unit) is vital to this analysis. Since there is tenant turnover in these properties, the dwelling unit energy usage could include usage across several customer accounts. The aggregation logic employed by the utilities must ensure that all meters at the property address are included over the full 12-month or more time period.

Many utilities provide the whole-building energy data based on a request that includes the address of the property. Some utilities will request all the meter identification numbers in order to pull the data. Further, some other utilities provide landlords with a portal where they can self-select meters to include in the whole-building aggregation. Numerous approaches to securing whole-building aggregated energy data have been highlighted in the *Better Buildings "Best Practices for Providing Whole-Building Energy Data: A Guide for Utilities"* and the *"Energy Efficiency for All: Utility Customer Systems for Landlords – July 2017"* reports.

See example from IMT: https://www.imt.org/wp-content/uploads/2019/02/USE-CASE-WHOLE-BUILDING-ENERGY-USAGE-DATA.pdf

*Response from the Utilities:*

*The Utilities agree that account-level energy usage data should be made available to customers in an online platform or otherwise. A majority of Virginia's Electric Cooperatives, Appalachian Power Company, and Dominion Energy already provide these tools to their members, through an online portal. Some portals feature the Green Button DMD function as well as tools that provide analysis and recommendations to the customer based on individual usage data. Our first priority is to ensure that PII and PCI standards are adhered to if there is any overlap between jurisdictions in the case of rules that differ between jurisdictions, i.e. federal, state, and local. All the Utilities serve multiple local jurisdictions across individual Utilities' service territories. Many serve multiple states, not just Virginia. Also, for the Cooperatives, Appalachian Power Co., and Dominion Energy, adherence to federal standards for data protection is already mandatory, and a countermanding state standard would create confusion and difficulty. The Utilities believe that if a customer trusts a third-party, that customer should be free to share his or her data with the third-party directly. This is the most secure, simple, and automatic method possible. The Utilities routinely work with their customers (most often with nonresidential customers) to ensure a seamless transfer of data, with consent of the customer, to those customers' lawyers, consultants, and other parties. This has been the case going back decades.*

*All of the Utilities have an established process for property owners to request whole-building, aggregated data. Most of those processes involve obtaining consent from individual customers. Dominion Energy would share whole-building, aggregated data with a property owner without individual customer consent provided that the data would be structured not to allow individual customer data to be reidentified but would need meter numbers. The data would consist of figures for the whole building, not individualized anonymous unit or tenant data. Appalachian Power Company and Kentucky Utilities/LGE would not share such data but would work with the property owner to enable him/her to get consent from individual customers. Most Cooperatives responded that they would not share such data but would work with the property owner to enable him/her to get consent from individual customers. Some Cooperatives would voluntarily share whole-building, aggregated data upon request, as Dominion Energy would. Utilities that do not have geolocation data on individual meters would need to work closely with the property owner to locate the meters that were connected to the building; in some urban areas the divisions between "buildings" and "meters" can become complicated. In any case for all Utilities, whole building data that includes individual unit usage profiles would require individual customer consent. Releases or authorizations from customers are needed to protect the Utilities from liability and/or customer "anger" about having their data shared with a property owner.*

**Scenario 3: Community-level aggregated monthly energy data for benchmarking and sustainability reporting**

- Request: Energy Usage at a City/Zip level for Municipal Sustainability Reports and Analysis
- Purpose: Data can help local governments calculate carbon emissions, set policy goals, track program progress, and identify outreach opportunities such as building energy efficiency
- User: Local Government Offices (City, County, etc.), or their contracted agents.

A community-wide energy usage data request may seek the total of kWh or therm consumption for the utility's customers within specific geographic boundaries. With this aggregated request, individual addresses, account numbers or billing information are not required. With proper aggregation thresholds, customer privacy related concerns can be avoided. Depending on the specific purpose, these requests may include the following categorization,

- Time-based: For instance, multiple calendar years to compare progress to a baseline, or a request for monthly data to enable weather-normalization.
- Geographic-based: For instance, based on zip codes or zip+4, Census blocks, neighborhoods, etc. to enable deeper analysis
- Industry-based: For instance, split out based on customer class (residential, commercial, industrial), rate class, or industry code (e.g., NAICS, SIC)

See example from IMT: www.imt.org/wp-content/uploads/2019/02/USE-CASE-COMMUNITY-WIDE-ENERGY-USAGE-DATA.pdf

To address privacy related concerns, the aggregation threshold should ensure that at least four accounts are included in the category. If there are not four accounts included in that category, the aggregation level should be rolled up to the next highest level.

*Response from the Utilities:*

*Utilities provide this already on a case-by-case basis as requests are received. The Utilities will all respond to a request from a local government requesting data concerning electric use and emissions attributable to that locality. All such requests require individual processing and are handled on an individual case basis.*

*Creation of elaborate systems to provide highly granular or customized data could be highly costly, administratively burdensome, and would require significant investments in new systems, even for Utilities that already have AMI, MDM, and customer information portals. The Cooperatives especially noted their concern that any new investment required could displace the significant investment most have already made in AMI and MDM systems.*

*The investor-owned Utilities are able to do a report at the ZIP Code or locality level, but not at a more granular level. Even the Cooperatives, some of which have more geolocation data, cannot process data by census tract. All such locality-specific reports would include generally include hundreds or more customers and would be aggregated and anonymized accordingly. Customer privacy must be maintained. The inclusion of NAICS or SIC codes also would compromise customer privacy, similar to data by rate class. Some utilities may not have complete and/or accurate NAICS/SIC information. Also, this is not data relevant for billing purposes, so utilities are not responsible for maintaining this data. Data broken down by rate class may be susceptible to easy dis-aggregation.*

*The Utilities highlight that these sorts of request can also create jurisdictional issues, not only in terms of local government entities, but also for those utilities that operate across state lines (including Dominion Energy, Appalachian Power Co., four Cooperatives, and KU/LGE).*

*Privacy concerns remain, but our main concern is the administrative and technical burden. Finally, there may be unintended security and other consequences from this data leaving a Utility's hands.*

**Scenario 4: Interval Energy Usage Data**

Option 1: Interval-Data for Single Family Home, Single MF apartment, Commercial, etc. Interval data could be necessary for detailed energy audits and/or solar analysis that use interval usage (e.g. 15-minute intervals; given the detailed account-level information in this data we expect these requests should require a customer authorization release to protect customer data)

Option 2: anonymized energy usage profiles for rate change analysis

See example from IMT: https://www.imt.org/wp-content/uploads/2019/02/USE-CASE-ANONYMIZED-ENERGY-USAGE-PROFILE-DATA.pdf

*Response from the Utilities*:

*Many of the Cooperatives, Appalachian Power Co., and Dominion Energy, already offer Green Button DMD but are not comfortable with "Connect" functionality as it presents several cybersecurity concerns which, if not resolved, could place them in breach of federal standards. Utilities generally preferred a process which prioritizes the customer and his/her privacy. If the customer can drive the process, through written consent, signature, or authenticated portal login, DMD should be sufficient for most of these purposes.*

**Scenario 5: Energy Efficiency Program Savings and Participation**

- Request: Energy Savings and program participation
- Purpose: Data can help local governments and third-party energy services companies understand trends in energy efficiency program participation, identify low-participation areas, assess which measures are
- User: Local Government Offices (City, County, etc.) and third-party energy services companies

Energy efficiency program data requests will likely seek program participation by the utility's customers within specific geographic boundaries. Requests could include the following data and aggregation,

- Time-based: Energy Usage before and after implementation of the program
- Geographic-based: For instance, participation and energy savings based on zip codes or zip+4, Census blocks, neighborhoods, etc.
- Industry-based: For instance, aggregated based on customer class (residential, commercial, industrial), rate class, or industry code (e.g., NAICS, SIC)
- Measure-based: Participation based on different implementation measures (e.g. Heat Pump Tune-up, low-flow aerators, etc.)

Similar aggregation thresholds as mentioned above would avoid customer privacy concerns.

See example from IMT: https://www.imt.org/wp-content/uploads/2019/02/USE-CASE-ENERGY-EFFICIENCY-PROGRAM-SAVINGS-AND-PARTICIPATION.pdf

*Response from the Utilities*:

*Utilities' publicly filed reports will contain almost all of this data, which is best suited to be disclosed and filed at the Commission. All parties to those proceedings will have secure access to the reported data. To the extent additional data is requested, those proceedings are the appropriate venue.*

**Other Potential Use Cases Not Covered**

Distribution Grid Performance

www.imt.org/wp-content/uploads/2019/02/USE-CASE-DISTRIBUTION-GRID-PERFORMANCE.pdf

*Response from the Utilities*:

*The Utilities believe that the issue of distribution grid performance is outside the scope of this stakeholder process, and that the issue is best addressed at the Commission in a grid mod proceeding.*

**Appendix:**

Resources:

- EEFA's: Utility Customer Systems for Landlords.

## APPENDIX III – STATEMENT FROM VMDAEC

### Organizational Statement

### Virginia's Electric Cooperatives

Virginia's Electric Cooperatives were happy to participate in the stakeholder process to gather information on the issue of data access. We would like to make some broad observations as the process draws to a close:

- The stakeholder process was broadly about gathering information; very few items were reached as "consensus" items. As a result, very few items could qualify as "recommendations" from the group.
- The overall time for the stakeholder process was relatively short (and spanned the 2020 General Assembly), especially given the numerous, varied, and complex issues involved.
- Many different Cooperatives participated in the process; it should be noted that they are all different: they have different memberships, they have different information technology, SCADA, and meter data management systems, they have different numbers of staff, they have different resources to bring to bear on data access, and they are not vertically integrated like the Commonwealth's investor-owned utilities.
- While we believe that the Commission is the appropriate venue to continue these important discussions, we do not believe the stakeholder process has ripened to the point where we are ready to initiate a rulemaking without further stakeholder discussions, and, possibly, a deeper, 50-state survey of standards and practices. Enabling legislation may also be helpful in some respects.
- Many Cooperatives use Green Button "Download My Data" (GBDMD), though not all are able to make this resource available to their member-consumers. Each Cooperative's technologies and systems is unique. Broadly speaking, we are supportive of GBDMD, but not the "Connect My Data" function, which is susceptible to cybersecurity concerns.
- As a broad proposition, we believe that customer data should remain in the hands of the customers, and that they should then be able to share it with whomever they wish.
- If Cooperatives are forced to administer data access for non-customer third parties, we believe that express customer consent, confirmed in writing, is the "gold standard" when addressing data access requests. This could be done through the Cooperatives' membership agreements, or otherwise. An affirmative opt-in should be the standard. The Cooperatives would also need to address any costs involved in making data available to third parties.

- We are aware of no complaints from any Cooperative member-consumers concerning access to their data, and as a result believe that existing Cooperative policies and procedures are the appropriate mechanisms to maintain data access at this time.
- The Virginia Cooperatives would always work constructively with landlords and other third-party providers seeking to institute energy efficiency measures in a multi-family or multi-tenant building. To date, no member-consumer has expressed concern to us or has been charged for such data access.
- There is never any cost for a Cooperative member-consumer to access her own data.

# APPENDIX IV – STATEMENT FROM THE UTILITIES: DOMINION ENERGY VIRGINIA, APPALACHIAN POWER COMPANY, OLD DOMINION POWER COMPANY, & ELECTRIC COOPERATIVES

HB 2332 Data Access and Privacy Stakeholder Report – Electric Utility Positions

**Overarching Comments and Themes**

- The electric utilities are sensitive to customer concerns about the confidentiality and privacy of personal information and are committed to respecting customer privacy.
- The electric utilities' primary goal is to ensure customers can access, use, and understand customer data. The electric utilities are also supportive of third parties receiving customer data in a user- and computer-friendly format and secure manner, when authorized by the customer.
- Electric utilities are subject to robust security and privacy standards regarding customer data that stem from internal policies, state tariffs, federal requirements and oversight from the Federal Trade Commission, and customer trust and expectations of expectations.
- Electric utilities have internal policies and provisions in place today for customers to view and access customer data, authorize third parties to receive customer data, and provide aggregated data. Broadly speaking, these appear to be working well, and the electric utilities are not aware of significant complaints from customers regarding access to data.
- However, if stakeholders wish to pursue new processes or rules for consideration, the electric utilities propose that the Commission recommend that a formal rulemaking process be initiated. This recommendation is due to the limited consensus gained through the Stakeholder process, the complexity of the topic, and the need for comprehensive analyses of related rules, regulations, and policies. It would also provide a formalized process for all parties to follow and result in Commission rules and ensuing oversight.
    - Virginia's Electric Cooperatives would also advocate for some amount of legislative guidance, which may be helpful, in advance of a rulemaking proceeding. Additional stakeholder discussions over a longer period could also be undertaken.

**Electric Utility Comments by Topic as outlined in HB 2332**

*1. Customer privacy considerations, including the establishment of the definitions for, and the protection of, personally identifiable information and energy usage data resulting from the deployment of advanced metering infrastructure by the electric utility.*

Comments

- Consensus from all stakeholders on definitions was not reached.
- Definitions were brainstormed, but there were no further discussions by stakeholders on definitions.
- Personally identifiable information (PII) has working definitions in place. Any changes in PII definitions would need comprehensive analyses of related rules, regulations, and policies.
- Defining related terms such as "covered information," "customer data," "energy usage data," "primary" and "secondary purposes," and "third party" requires additional discussion.

Considerations for Future Rulemaking

- Consider a prescriptive definition of "covered information," which more precisely defines the totality of protected customer information. For example, Michigan utilizes the following definition:

  *"**Customer Data**" means any combination of Personal Data, Customer Account Information, and Consumption Data.*

i. ***"Personal Data"*** *means information collected or known by the Company that merit special protection including the standard types of personally identifiable information used to establish an account. Personal Data is limited to name and address in conjunction with birth date, telephone number, electronic mail address, Social Security Number, financial account numbers, driver's license number, credit reporting information, bankruptcy or probate information, health information, network, or Internet protocol address.*

ii. ***"Consumption Data"*** *means customer specific electric usage data, or weather adjusted data, including but not limited to kW, kWh, voltage, var, power factor, and other information that is recorded by the electric meter for the Company and stored in its systems. Consumption Data also includes payment and service history, account number, and amount billed.*

iii. ***"Customer Account Information"*** *means personally identifiable information including Personal Data and Consumption Data. Customer Account Information also includes information received by the Company from the customer for purposes of participating in regulated utility programs, including, but not limited to bill pay assistance, shutoff protection, renewable energy, demand-side management, load management, or energy efficiency.*

- Note that this definition is exclusive to customer information. Thus, AMI data provided to a third party would need to be scrubbed of any asset or operational data.

- Consider California's definitions of "primary" and "secondary purposes". However, consider updating Subsection 4 of the definition of "primary purposes" to include all utility regulated services and Commission-approved programs. In another example, Michigan utilizes the following definition of "primary purpose", which is provided below:

> **"Primary Purpose"** means the collection, use, or disclosure of information collected by the Company or supplied by the Customer in order to: (1) provide, bill, or collect for, regulated electric service; (2) provide for system, grid, or operational needs; (3) provide services as required by state or federal law or as specifically authorized by an order of the Commission; (4) plan, implement, or evaluate programs, products or services related to energy assistance, demand response, energy management, energy efficiency, or renewable energy by the Company or under contract with the Company, under contract with the Commission, or as part of a Commission-authorized program conducted by an entity under the supervision of the Commission, or pursuant to state or federal statutes governing energy assistance; and (5) disclosure of customer name and address to a provider of appliance repair services in compliance with MCL 460.10a(9)(a), or to otherwise comply with the Code of Conduct.

- Defining primary and secondary purposes provide a distinction, which enables utilities to share customer data with its contractors, vendors, and affiliates without informed customer consent so long as it falls under a primary purpose. Furthermore, informed customer consent should be required before use or disclosure of customer information for a secondary purpose.
- Consider defining "third party" and "contractor" to enable the continued sharing of customer information with utility contractors, vendors, and affiliates for normal business operations (i.e., the provision of regulated utility services and programs). Michigan defines these terms as follows:

> ***"Third party"*** *means a person or entity that has no contractual relationship with the Company to perform services or act on behalf of the Company.*
>
> ***"Contractor"*** *means an entity or person performing a function or service under contract with or on behalf of the Company, including customer service, demand response, energy efficiency programs, payment assistance, payroll services, bill collection, or other functions related to providing electric service.*

- Consider that there should be no differentiation between different types of third parties. Non-profits, research institutions, and government agencies must be held to the same privacy and security standards as all other third parties to receive and utilize customer information.
- Consider supporting continued utilization of the existing Letter of Authorization (LOA) processes, which serves as the vehicle to provide informed customer consent as well as register the third party with the utility.
- Consider requirements for third parties to adopt the DOE DataGuard privacy standard, which provides an enforcement mechanism against non-regulated entities who breach customer privacy. Additional comments on standards are included in Topic 5 and additional considerations for third party requirements are included in Topic 6.
- Consider the enforcement process and language from California legislation. However, it is important to keep in mind the Commission's lack of legal authority over third parties, and thus, the utilization of eligibility criteria/authorization process that highlights the limits of the expected use of the data is vital.

*2. The impact of data sharing on the physical and cybersecurity of utility infrastructure and systems.*

Comments

- Consensus on mechanisms and policies around data sharing was not reached in stakeholder discussions, therefore the impact is unknown.
- Utilities anticipate that changes in practices for data sharing will need additional infrastructure, systems, processes, and controls.
- The length of time needed to update current systems and processes or put in place advanced systems to provide functionality for data access is currently unknown. Similarly, the level of investment depends on specific requirements of data sharing.
- Should rulemaking lead to changes in practices for data sharing, utilities will assess cyber security and infrastructure needs, and address the associated risks to the utilities' network security.

Recommendations

- While impacts of data sharing on the physical and cybersecurity of utility infrastructure and systems was not thoroughly discussed, stakeholders were able to reach broad consensus that the costs for such infrastructure shall be recoverable and deemed reasonable and prudent. Recommendations on costs and cost recovery mechanisms are in Section 8.
- The Commission need not establish a broad cyber or physical security standard in order to address data access issues.

*3. Aggregating anonymized energy usage data.*

Comments

- Consensus on aggregation was not reached in stakeholder discussions.
- Data aggregation can present a challenge, and may not be available, in more rural locations or among smaller aggregation groups as a certain number of accounts are needed to ensure anonymity.

Considerations for Future Rulemaking

- Consider the following definitions of "Aggregate Data" and "Anonymized Data" from Michigan:

  *"**Aggregated Data"** means any Customer Data the Company assembles and compiles into an aggregated data set from multiple individuals, residences, tenants or commercial buildings.*

*"**Anonymized Data**" means any Customer Data, from which all identifying information has been removed so that the individual data or information of a customer cannot be associated with that customer without extraordinary effort.*

  - Furthermore, by definition, all aggregate data has been anonymized.
  - Informed customer consent is not required for disclosure of this type of customer data.
- Electric utilities support the 15/15 Rule, which states that data cannot be released if there are fewer than 15 entries within the dataset, or one entry comprises more than 15% of the aggregated data.
- Consider discussions on fulfilling nonstandard aggregated data requests. Similar considerations are noted in Topic 4.
- Consider that the SCC should set a minimum data security standard for all third parties receiving customer data regardless of whether the customer data is individual or aggregated.
- The Cooperatives all have different systems and processes for providing data to their member-consumers. In some cases, systems may need to be upgraded (in some cases at great cost) in order to provide aggregated data to third parties.

*4. The format for data access that is customer-friendly and computer-friendly.*

Comments

- Broad consensus was not reached, although some stakeholders agree on including Green Button Download My Data (GBDMD) as a data format.
- Currently none of the electric utilities in Virginia use Green Button Connect My Data (GBCMD).
- Additional comments on GBCMD:
  - Costs to implement required systems that enable such capability was a significant component of stakeholder discussions.
    - Utilities' experience in other jurisdictions indicate that a very small percentage of customers utilize such data access systems. Therefore, there are questions regarding the cost-effectiveness and prudency to customers incurring costs needed to implement these systems that are primarily being sought by third parties with private commercial interest in accessing customer data.
  - Stakeholders recognized that utilities are implementing customizations around GBCMD, which has limited the benefits of standardization.
  - Consider the need to include non-digital data access requests. Any future rules, regulations, or policies considered in rulemaking cannot contradict rules, regulations or laws that require use of written signatures or written consent.
  - Consider that customer ease-of -use must be balanced with notice, consent, and privacy.
  - In order to protect network security, strict cyber security standards associated with the transfer of customer data will be required. Many third parties have been unable to meet these standards in jurisdictions that have adopted GBCMD resulting in low utilization. Additional comments on cyber security are included in Topic 2.
  - Stakeholders have not thoroughly discussed vetted third-party compliance with related rules and regulations (i.e. who is policing third parties that are authorized by customers). Consider that a future rulemaking should address how third parties are monitored and enforced. Additional considerations regarding the eligibility of third parties are included in Topic 6.
  - Stakeholders had limited discussions on the format of the authorization process (consent time frame, reauthorization, etc.). Any changes to requirements would require further analysis and discussion.

Recommendations

- Electric utilities support the adoption/utilization of GBDMD.

- This standard allows customers to access and download their energy usage data into a format that can be effectively shared with third parties at the customer's discretion. When the customer receives the file, it will be in the Extensible Markup Language (XML), which is a computer-readable file. To properly read and determine the content of the file, the customer would need an application, such as Excel (or similar program). The North American Standards Board's Energy Services Provider Interface (NAESB ESPI) standard serves as the basis for Green Button technology by providing a model for business practices, use cases, and an XML schema for the standard.
- Dominion and APCo currently offer data in a customer-friendly and computer-friendly manner including GBDMD.
- The Cooperatives support GBDMD; however, not all Cooperatives have GB compatible systems at this time.

Considerations for Future Rulemaking

- Consider further discussions on fulfilling non-standard requests. Such requests require special data processing that is not a part of normal utility service, which results in expenses that would not otherwise be incurred. Consider that such requests should be fulfilled at the discretion of the utility within the parameters of existing privacy policies and subject to applicable law. Consider the costs of fulfilling any special request should be borne by the requestor and be based on the specifics of the data request and the associated costs of developing, processing, and transmitting the requested data. For example, consider the below language from Michigan regarding requests for Customer Data:

  *Fulfilling certain requests for Customer Data is consistent with the provision of normal utility service to customers. When the data requests are of the same nature and format of Standard Usage Information, the request will be fulfilled without charge. Some requests for information extend beyond Standard Usage Information. Fulfilling these requests requires special data processing that is not a part of normal utility service and results in expenses that would not otherwise be incurred. Such requests are fulfilled at the discretion of the Company within the parameters of this Customer Data Privacy tariff. The costs of fulfilling any special request shall be borne solely by the Customer and be based on the specifics of the data request and the associated costs of developing, processing, and transmitting the requested data.*

*5. Ensuring that standards and practices for access to data adhere to nationally recognized standards and best practices.*

Comments

- Electric utilities are governed by several different state and Federal laws and regulations in regard to data privacy and protection.
- Consensus from all stakeholders on standards was not reached.
- Limited discussion on standards other than Green Button; no consensus reached.
- Consider other standards, such as DOE DataGuard privacy standard.

Recommendations

- Should standards be established for data sharing, the Commission should consider the responsibility of data security of the information and its use or misuse. Once the data is shared with a customer or an authorized third party, the electric utility should not be responsible for data security or any ensuing use of that data.
- Do not support the Commission establishing regulation governing cybersecurity for its regulated entities.

*6. Opt-in/opt-out conditions for access to customers' utility usage data by the electric utility, a contracted agent, and a third party.*

Comments

- Stakeholders reached broad consensus, with electric utility support, that Customers should have ability to grant consent to provide data to third parties (i.e. opt-in with informed customer consent).
- The stakeholder group did not reach a consensus on conditions for sharing data to third parties. Many electric utilities did not wish to have any direct contact or privity with third parties, and preferred that data be provided directly to customers.
- Opt-out provision circumstances were not discussed by the stakeholder group.
- As referenced in the Topic 1 comments, the stakeholder group did not reach consensus on definitions. Conditions and methods of sharing data remain unresolved. Further discussions are needed on relevant definitions including "PII," "covered information," "customer data," "energy usage data," "aggregated data," "anonymized data," "contracted agents," and "third party." Considerations in Topic 1 include sample definitions.
- Consider further discussion on definitions prior to discussion on opt-in and opt-out.

Considerations for Future Rulemaking

- Consider SCC administration of third-party eligibility and maintenance of a registry of eligible third parties.
    - Consider third party eligibility criteria for service providers that are contracted by the customers to include:
        - Provision of contact information, including federal tax ID number.
        - Provision of a certificate of good standing from the state.
        - Agreement to reasonable terms of utility data access to include indemnity and protection for the utility in the case of a third-party data breach); and
        - Compliance with the DOE DataGuard privacy standard.

*7. Current data access and sharing provisions resulting from the deployment of advanced metering infrastructure implemented by other utilities in the Commonwealth.*

Comments

- The stakeholder group developed five use cases as example situations that would benefit from data access and sharing. Electric utilities responses highlighted that internal policies and provisions in place today provide the ability for customers to view and access customer data, authorize third parties to receive customer data, and provide aggregated data.
- Electric utilities internal policies and provisions related to data access and sharing provisions encompass all metering types. Therefore, there are no specific provisions for customer with AMI meters.

*8. Costs of and cost recovery mechanisms for changes to electric utility infrastructure needed to implement regulations; and*

Recommendations

- Electric utilities currently support the position developed and reported by Subcommittee (electric utilities included), which received broad consensus from Stakeholders.

    *Cost Recovery Cost Recovery for Data Access for Consumers of Investor-Owned Electric Utilities*

    *Costs undertaken by utilities to comply with data access laws and regulations shall be recoverable and deemed reasonable and prudent. To the extent such costs are for additional infrastructure (i.e., customer information*

*system upgrades and cyber security), utilities may elect to recover those costs as part of a grid transformation project subject to a rider under Va. Code § 56-585.1(A)(6), through its rates for generation and distribution services, and/or a customer credit reinvestment offset, as applicable. In most cases, functionality for data access may not be available until advanced systems are put in place. Fulfilling non-standard requests that require special data processing that is not a part of normal utility service results in expenses that would not otherwise be incurred. Such requests are fulfilled at the discretion of the utility within the parameters of existing privacy policies and subject to applicable law. The costs of fulfilling any special request are borne by the customer and be based on the specifics of the data request and the associated costs of developing, processing, and transmitting the requested data. For investor-owned utilities exempt from provisions of Chapter 23 of Title 56 pursuant to Va. Code § 56-580(G), cost recovery would be through base rates.* 8

*Cost Recovery for Data Access for Consumers of Cooperative Electric Utilities*

*To the extent that some future program for data access for consumers is implemented at electric cooperatives—to the extent such programs do not exist today—cost recovery for that program would be through base rates.*

*9. Notice requirements by utilities to customers regarding the types of energy usage data being collected, how that data is used by the utility to provide the utility service, how customers can access their data, how the customer can manage and direct what specific information from their energy usage data can be shared, with whom this data can be shared outside the utility, and when the data can be shared.*

Considerations for Future Rulemaking

- While best practices should be followed, specific recommendations related to notice were not thoroughly discussed by the stakeholder group due to the dependencies of consensus and recommendations on the other data access elements (i.e. topics 1 through 8).
- The development of requirement for notice in future rulemaking requires comprehensive analyses of related rules, regulations, and policies. Currently notice requirements are being considered in other states. Similarly, a comprehensive analysis of other state rules should be considered in rulemaking.

**Summary and Conclusion**

- The electric utilities appreciate the opportunity to participate in comment and discussion on the important issues of data access and privacy. Data access are privacy are complex topics. Each of the topics as outlined in the legislation include numerous details, some of which were discussed by stakeholders in length. Yet several topics and associated details were not discussed thoroughly, and some details were not discussed at all.
- Stakeholder consensus was not reached.
- There were issues associated with data access and privacy that were not thoroughly vetted and deserve further exploration. To the extent that there needs to be additional activity in this area, it needs to be deliberately conducted by the Commission in the context of a rulemaking. Should a formal rulemaking process be initiated, it would provide a formalized process for all parties to follow, and result in Commission rules and ensuing oversight.
- Future considerations also require comprehensive analyses of related rules, regulations, and policies.

## APPENDIX V – STATEMENT FROM DOMINION ENERGY VIRGINIA

600 East Canal Street, Richmond, VA 23219
P. O. Box 26666, Richmond, VA 23261
DominionEnergy.com


March 27, 2020

RE: Report from the Virginia Stakeholder Process on HB 2332 Data Access and Privacy

Dominion appreciates the opportunity to participate in comment and discussion on the important issues of data access and privacy. We support the efforts of Commission Staff and all parties to this stakeholder group to develop considerations relevant to customer access and authorization to obtain energy usage data. Dominion believes it is important that additional dialogue and process occur before prescriptive rules and regulations are promulgated as the stakeholder group did not reach consensus recommendations on many of the topics outlined within House Bill 2332.

Sincerely,

Robert M. Blue
President, Dominion Energy Virginia

## APPENDIX VI – STATEMENT FROM APPALACHIAN POWER COMPANY

**Appalachian Power**
PO Box 2021
Roanoke, VA 24022-2121

**Brad Hall**
External Affairs Vice President
540-982-7435
Bnhall@aep.com


March 30, 2020

**Re: House Bill 2332-An Act to require the State Corporation Commission to convene a stakeholder group on consumer data protection issues.**

House Bill 2332 required the State Corporation Commission to convene and facilitate a Data Access Stakeholder group to review and consider certain elements of electric utility customer privacy considerations, including data sharing, protection of customers' personally identifiable information, opt-in/opt-out conditions for access to customers' utility usage data by the electric utility, and notice requirements by utilities to customers regarding energy usage data being collected. The measure required the Data Access Stakeholder group to conclude its work no later than April 1, 2020, and report its recommendations to the General Assembly.

Appalachian Power appreciates the opportunity to participate in the stakeholder process and was pleased to provide comments and discussion on the important and complex issues of data access and privacy. We support the stakeholder group's efforts to gather information and develop considerations relevant to the secure transfer of customer data with informed customer consent. As acknowledged by the stakeholder group, broad consensus recommendations were not reached on many of the topics outlined within House Bill 2332. Accordingly, Appalachian Power believes that prior to enactment of prescriptive rules and regulations, additional work is necessary to address the needs of all parties to the stakeholder group.

Sincerely,

External Affairs Vice President
Appalachian Power

## APPENDIX VII – ADDITIONAL ISSUES

During the stakeholder process and in review of this report, a few issues were raised by one or more stakeholders that were not discussed either in the sub-groups or by the whole group but were considered important by individual members to warrant inclusion into the report as items for future discussion and consideration by the stakeholder community. No considerations or recommendations are offered on these topics.

Selling of Customer Data

One concern raised by a few stakeholders during the last stakeholder meeting was the selling of customer data by the utilities. It was suggested by some that this not be allowed. Since the concern was not directly identified in the legislation, it was not discussed further by the whole stakeholder group. As such, no definition to what is meant by customer data in this context or what would be considered acceptable standards of "selling" were addressed. Therefore, this issue was tabled.

Flexibility in Third Parties and Purpose Requirements

Several stakeholders espoused the that flexibility is needed when it comes to the potential range of third parties and purposes of data access and use. Comments included:

> *"There are generally two categories of third parties: (i) third parties that receive an individual customer's data with customer permission, or (ii) third parties that receive aggregated information about multiple customers. It would be appropriate to establish different eligibility criteria for each of these types of 'third parties'."*

> *Other states have adopted these terms [Primary and Secondary Purpose] in order to distinguish a utility sharing customer data with a vendor (say, an information technology firm that assists with billing) from a customer directing a utility to share his or her data with an energy management company. Depending on the purpose, different privacy and security treatments of customer data should apply."*

Importance of Data Sharing

The legislation's nine bullet points are focused in obtaining feedback primarily regarding definitions, standards, and processes for accessing, sharing, and protecting customer data and privacy, so the report is focused on the challenges and practices for those topics. A few stakeholders raised the idea of the context in which data is shared and how it can contribute to data-informed services and larger societal benefit. The importance is on framing the larger context for data access, sharing, usage and privacy. Comments included:

> *"…while the focus was on what it would take for consumers to share data, the response is all about protecting data, cyber security, data privacy, and confidentiality. I think it [the Report] would be improved with even one (fourth) point in the summary overview that notes the importance of developing a simple, if secure, process for customers to share their data, thereby enabling beneficial data-driven services. That is, the response to the legislature should offer balance in the weighting of the importance of developing the solution for consumers to share data, with the need for doing so securely, or at least recognize the value of data sharing for consumers as the context for the response."*

> *"…the current public health crisis [Covid-19] further highlights our need to build a more flexible, resilient, and clean grid. Putting users' energy data to work enabling innovative services and*

*technologies empowers consumers and (perhaps) increases energy literacy as it helps manage loads, reduce truck rolls, and slow climate change.*

*I hope we can continue to focus on the need to do good and to be open to change in order to achieve greater good. Four months ago, most Americans weren't clamoring for pandemic response capabilities. But clearly, we all would have benefited from investments therein. Comments on the report note that Americans are not generally clamoring for their energy data. Perhaps unlocking grid flexibility with increased data access might be another example of where the work of experts and scientists needs new policies to (with appropriate guardrails) enable something good to gain widespread application."*