Green Button *Connect My Data* (CMD) Standard
The Industry Standard for Securely Accessing and Sharing Energy and Water Usage Data

The Green Button *Connect My Data* (*CMD*) standard is the energy-industry standard for enabling easy access to, and secure sharing of, utility-customer energy- and water-usage data. Utilities providing standards-based Green Button customer-consumption and billing data can provide customers new data-driven services, programs, and platforms; digitally empowering customers with the ability to securely transfer their data to third-party solution providers who can further assist them in monitoring and managing energy or water usage.

Unlocking Utility Data

Green Button Connect My Data (CMD) is an open-data standard designed to unlock access to utility interval usage and billing data—providing easy, seamless access for software applications. Green Button CMD enables utility customers to authorize third-party solutions to quickly and securely obtain interval meter data and enables an accurate and detailed level of analysis to inform energy and water management decision-making—while ensuring customer data are protected and their privacy is maintained.

- Green Button CMD provides utilities the ability to digitally provide electricity-, natural gas-, and water-usage data in a consistent format; enabling customers to authorize the direct, secure transfer of their usage data to third-party solutions that can assist the customer in viewing, analyzing, and managing their energy or water consumption.

- The Green Button standard utilizes an Extensible Markup Language (XML) including Atom Syndication Format, which enables it to support complex data structures that allow highly detailed data.
    - Other file formats, such as Comma Separated Values (CSV) and Electronic Data Exchange (EDI), <u>do not</u> provide consistent formats, do not ensure privacy of customer information, and do not support complex data structures.

- Green Button CMD enables secure data-sharing; which ensures a simple, customer-controlled authorization process. The customer can define the length of that authorization and revoke authorization at any time.

- Green Button CMD ensures customer privacy and the secure transmission of data:
    - Utilities implementing the CMD Green Button standard for secure customer data access and sharing are well-positioned to meet requirements for data protection and customer data privacy set-forth in the General Data Protection Regulation (GDPR) for the European Union as well as the principles outlined in the U.S. Department of Energy's DataGuard Energy Data Privacy Program.

- The Green Button standard ensures data integrity and accuracy; eliminates the need for manual data entry; and for building-energy managers, it significantly simplifies the data-collection and -reporting process across multiple utilities and jurisdictions.

Features & Capabilities

- Utilities can generate Green Button data from measurements obtained from smart meters, conventional meters, or bi-directional/net meters.

- The Green Button standard enables utilities to report customer electricity-, natural gas-, or water-usage data in <u>any interval</u> they choose including 1-minute, 15-minute, hourly, daily, or monthly; as long as the data interval can be provided by the utility's meters.

- **Green Button Retail Customer** schema enables utilities to protect customers' Personally Identifiable Information (PII) by requiring utilities to transmit PII in a secured transmission that is separate from the secured data stream used to transmit a customer's energy-usage information (EUI). The receiving application is required to logically connect the separate data streams.
    o Green Button Retail Customer data access and sharing <u>must</u> also be authorized by the utility's customer.
    o Green Button Retail Customer schema enables utilities to meet regulators' and third-party non-energy information requirements.
    o Green Button Retail Customer schema allows energy managers to link multiple-meter energy usage with locations and identify individual buildings.

- **Green Button Usage Summary** capability enables utilities to provide non-energy billing-statement information and contains <u>all</u> utility billing categories including:
    o Payments; generation and distribution charges; tariff name; demand charges; third-party charges; administrative adjustments; etc.
    o Green Button Usage Summary enables utilities to provide billing consumption for energy units, including cost, enabling energy managers to easily capture data from multiple locations; thus, significantly simplifying energy reporting.
    o Green Button Usage Summary enables third-party applications to provide customers with a finer-breakdown of their monthly energy usage.
    o Green Button Usage Summary, when combined with Green Button Retail Customer information, enables third-party applications the ability to generate monthly billing statements for customers.

- Green Button data can be made available through cost-effective deployment models.
    o Green Button does not replace existing tools; a Green Button 'database connector' can be added to enable existing utility platforms to easily provide Green Button in addition to their current offerings.

Green Button Alliance Testing Program

The Green Button Alliance offers a Green Button Testing Program for Data Custodians. The GBA tests both automated-sharing, Green Button *Connect My Data* implementations and file-oriented Green Button *Download My Data* (DMD) implementations to verify for utilities (data custodians) that they have properly implemented the Green Button standard and that the implementations will provide consistent Green Button data that will securely work with Green Button standard-compliant applications.

Once the implementation has passed GBA testing, the GBA will issue a "Green Button Certified DMD" and/or "CMD" mark which will assure third-party developers and customers that the implementation has been GBA-tested and complies with Green Button standards—and that customer privacy will be protected. Electricity, natural gas, and water utilities (data custodians) who have existing Green Button CMD implementations—or who are in the process of developing Green Button CMD offerings—can apply for Green Button CMD testing at https://www.greenbuttonalliance.org/testing.

About the Green Button Alliance

The Green Button Alliance (GBA) is a North Carolina 501(c)(3) non-profit organization, formed to foster the development, compliance, and adoption of the Green Button standard. The GBA is composed of leading utilities, governmental departments and agencies, solution providers, and affiliate organizations that collaborate to advance the Green Button initiative: to enable energy managers and residential consumers around the world to easily access and securely share their energy- and water-usage data to efficiently manage their consumption. The standard for Green Button is published by the North American Energy Standards Board (NAESB) as the Energy Service Provider Interface (ESPI). For more information, or to join the Green Button Alliance, please visit https://www.greenbuttonalliance.org.