BEFORE THE CALIFORNIA ENERGY COMMISSION

AB 758: Draft Action Plan for the Comprehensive Energy Efficiency Program for Existing Buildings

(Filed August TBD, 2013)
Docket Number 12-EBP-1

COMMENTS OF THE TECHNOLOGY NETWORK ("TECHNET")

The Technology Network ("TechNet"), which represents California's leading technology companies in support of policies to strengthen the nation's innovation-driven global competitiveness, appreciates the opportunity to submit these comments regarding the *Draft Action Plan for the Comprehensive Energy Efficiency Program for Existing Buildings* ("Draft") developed by the California Energy Commission pursuant to AB 758. The Draft's necessarily ambitious goals ultimately will require adoption of energy efficiency measures on a mass scale, a venture whose success depends upon making changes easy for millions of individual consumers. TechNet appreciates the opportunity to provide the technology sector's perspective on these issues in the hopes that it will be helpful to the Commission.

In general, TechNet is very pleased that the Draft, along with the message from the Commissioner, recognizes that "innovative energy-efficient technologies" can improve California's efforts to increase the energy efficiency of its buildings, both residential and commercial. Efficiency losses within buildings are diffuse. Often, the opportunities for energy savings – a few watts here, a few watts there -- are broadly distributed and are difficult for a consumer to conveniently achieve. Information technologies are well suited to the often mind-

numbing task of identifying inefficiencies in energy use and achieving significant savings in ways that is easy for the consumer.

TechNet agrees with the Draft's conclusions that the Commission's work should be based on data-driven and cost-effective measures. The successful engagement of consumers, investors, companies and the many private and public sector actors whose engagement is required to achieve broad change will require sustained, predictable policies. Innovation in the energy management sector is underway and holds much promise. The development of a vibrant, innovative, start-up friendly ecosystem requires that policies establish objectives and allow innovators latitude to develop new technologies that most cost-effectively achieve the desired objectives. Detailed technical requirements that have the potential to unduly favor or lock in incumbent approaches, technologies or business models should be avoided.

Any discussion of technology must consider the potential value for consumers from access to the real-time energy usage data enabled by smart meters and the enablement of business and home energy management products and services. The real-time or near real-time, actionable data made available through the state's Advanced Metering Infrastructure ("AMI") Initiative provides powerful new tools that can help California meet the environmental and energy goals set forth in the Draft, provided the capabilities in these tools are enabled and consumers have the opportunity to take advantage of them.

For example, the American Council for an Energy-Efficient Economy's review of 57 studies found that consumer households with access to real time data from smart meters and new energy management tools that use that data to reduce energy consumption achieved household

energy savings up to 12%.[1] These studies are based on technologies already developed. This is a significant portion of the overall potential savings of 20% in existing buildings thought to be achievable with little or negative cost in current buildings.[2] In fact, the overall estimates to break even on AMI costs and attain positive benefits depend upon each household's or business' access to its energy usage data. By one estimate, smart meter costs per million households are $198-272 million – compared to operational savings of $77—208 million and consumer-driven savings of $100-150 million.[3] Given the enormity of the state's environmental and energy challenges, it is critical that the state fully embrace the opportunities afforded by technology to gain for ratepayers their share of the benefits of the AMI investment. With this in mind, TechNet urges the Commission to ensure that the final Plan embraces the following principles.

1) CONSUMERS SHOULD HAVE CONVENIENT, AUTOMATED ACCESS TO THEIR ENERGY USAGE DATA AND TOOLS THAT ENABLE THEM TO REALIZE TANGIBLE BENEFITS FROM THE SMART GRID.

TechNet agrees with the Commission's recognition that data "is essential for customers, contractors and other market actors, as well as for program development and evaluation"[4] and that policies must ensure that "reliable, relevant and accurate data" is made available to the broadest possible group of stakeholders[5], For example, the advent of smart meters offers California enormous opportunities to reduce energy consumption –an opportunity that is just now beginning through the implementation of the industry-led "Green Button" Initiative and

[1] Karen Erhardt-Martinez et. al., *Advanced Metering Initiatives and Residential Feedback Programs: A Meta-Review for Household Energy-Saving Opportunities*, American Council for an Energy-Efficient Economy, Report Number E105, June 2010, p. ii-iii.
[2] See K. Carrie Armel, Abhay Gupta, Gireesh Shrimali and Adrian Albert, Is Disaggregation the Holy Grail of Energy Efficiency? The Case of Electricity, Precourt Energy Efficiency Center, Stanford University, Technical Paper Series: PTP-2012-05-1, 2012, p.
[3] Id., p. 3
[4] California Energy Commission, Efficiency and Renewable Energy Division, *Draft Action Plan for the Comprehensive Energy Efficiency Program for Existing Buildings*, June 2013, p. 9
[5] Id.

deployment of home area networking (HAN) devices. A consumer's easy, automated access to his or her energy usage data – and the ability of a consumer to freely and easily share that data with an energy management service provider of his or her choice – is critical to realizing a host of consumer benefits, including improved energy efficiency and lower consumer electricity bills than would otherwise be the case. In particular, the mass adoption of business and home energy management technologies requires a process under which the consumer can easily access his or her usage data and share that with a third party. Nothing should preclude or impede a customer from sharing his or her information with a third party that is not affiliated with the utility. Rules should permit the customer to easily and conveniently share his or her energy data with a third party of his or her choice.

California is achieving this through activation of the two key interfaces: the online system level interface for sharing data with third parties authorized by the customer, (e.g. OpenADE, Green Button Connect), the data collected by the smart meter and "backhauled" via the utility's network and provided to the consumer online; and (2) the real-time home area network/business area network interface under which smart meter data is provided directly to the consumer's device at his or her home or business. Overall, the data provided through both interfaces should be available (a) in uniform formats and a standard manner, and (b) with as much information as practicable, such as data that has been validated and includes cost information (and natural gas in addition to electricity), to facilitate rapid diffusion and the development of a vibrant, energy management sector.

Real-time or near real-time data enabled by the home area network is especially important for enabling services such as demand response, a benefit that could avoid the enormous costs associated with the construction of new generation. As California looks to

integrate customers into the wholesale market for purposes of providing ancillary services and deploying more sophisticated data-intensive forms of energy efficiency, the interval will need to become more and more granular. Providing data on a more frequent basis better enables customers to participate in ancillary service markets and identify variations in energy use associated with particular appliances or home/building management systems. Smart meters currently have the capability to collect data in very small intervals of up to 6 seconds. While most customers may not require that level of data granularity, if customers are interested in availing themselves to services or deploy home/business energy management technology that require more granular data, that data should be made available to them.

Consumer access to their energy usage data has long been an objective of the California Public Utilities Commission ("PUC") and the technology sector. Originally this was anticipated in 2011. This promise is now just being realized in California. The PUC late last year ordered investor-owned utilities to begin to activate the radio communication capabilities on smart meters so that consumers' home area networks can finally begin to utilize smart meter data. On July 17, 2013, the PUC issued a proposed decision requiring the utilities to provide consumers with access to their energy data online, i.e. the data backhauled through the utility and provided to the customer via its website (through OpenADE or "Green Button Connect"). TechNet has filed comments supporting that proposed decision and hopes that it can be expeditiously approved and implemented.

TechNet strongly supports the development of a strong technology ecosystem to support the Energy Commission's goals and the Commission's proposal to support making energy performance data broadly available to market participants, as referenced by the Draft's support in N.R. 1.2 of the Green Button Initiative. Under N.R. 1.2, there are two specific initiatives, the

first calling for developing energy benchmarking applications and tools to analyze energy use and manage financial risk and the second calling for a "voluntary software validation and certification process to build consumer confidence in private vendor software tools that analyze energy use data." TechNet supports these objectives through the use of widely-adopted national or international standards. A proliferation of local or state-specific standards, however, could make it more difficult for emerging technologies to efficiently scale, hindering innovation by technology companies that operate in national markets. For example, the U.S. Environmental Protection Agency's Energy Star program provides a well-recognized operational benchmark for buildings. TechNet would be concerned about the development of a California-specific benchmark that leads to market confusion and/or requires technology companies to support a patchwork of different standards. TechNet therefore urges the Commission to leverage broadly-adopted benchmarks.

Beyond data access, the second critical prerequisite to scaling home and small and medium business energy management is ready access to the consumer-friendly devices and services that allow consumers to actually make use of the smart meter data. In this regard, California's effort is in its infancy. Other states like Texas and Oklahoma have seen the deployments of thousands of devices[6], while California's program is just beginning to be implemented. TechNet urges the Commission to work with innovators across the state in support of policies that will finally enable consumers to leverage the data provided by smart meters. TechNet agrees with the Draft that incentives can play a key role in scaling new technologies, reducing costs and facilitating mass adoption. It seems especially compelling to offer consumers tangible ways to reduce their energy bills at a time when electricity prices are

[6] Jeff St. John, *California Expands the Smart Meter to Home Area Network*, Greentechgrid, January 16, 2013

rising. Southern California Edison is offering incentives up to $50 for some energy monitoring units. More broadly, consideration should be given to the use of auction revenues or other revenue streams to provide rebates or other incentives to ensure that consumers have access to devices with demonstrated capability to reduce building energy use. Innovation in this space is still rapid and what solutions will ultimately prove most successful has not been established.

It is critical that rebates or incentives be technology-neutral and based on performance so that innovators have the opportunity to develop new approaches and consumers have the opportunity to obtain maximum value. There are a number of exciting opportunities and business models that are possible, although we don't know yet which ones will find greatest market acceptance. The Commission should review the data on product cost-effectiveness an d consider fashioning performance-based incentives that allows consumers access to energy management technologies. We expect that over time market innovation will exert downward pricing pressure. An approach that incents even a finite number of adoptions can help the sector scale more rapidly than it otherwise would and drive costs down, much as successful incentives have in other sectors.

The provision of energy usage data through these interfaces represents not only a potentially enormous, tangible source of value for consumers but also an economic opportunity for U.S. economic leadership in the energy management and efficiency sectors. California is home to a number of companies that are leaders in smart grid, demand response and building energy efficiency. Continuing forward movement to scale the adoption of new technologies has the potential to create jobs and economic leadership in addition to realizing the state's energy and environmental goals.

2) REGULATORY REQUIREMENTS SHOULD NOT BURDEN INNOVATION IN THE DEVELOPMENT OF BUILDING ENERGY MANAGEMENT PRODUCTS OR SERVICES.

One area that has received significant attention in California is ensuring customer privacy, specifically the concern that those in possession of energy usage data will use it for purposes not authorized by the consumer. TechNet and its members believe that the protection of consumer privacy must be accomplished in a manner that does not make it difficult for third parties to secure customer consent, the result of which could be limit consumer choice, chill innovation in new products, services or business models and ultimately slow the process of adoption.

California adopted legislation in 2011, SB 1476 (Public Utilities Code Sections 8380 and 8381), establishing privacy rules applicable to the use of smart meter data by investor- and publicly-owned utilities and their contractors, legislation that includes strong protection for consumers while allowing innovation in new technologies. Based on this legislation, the PUC promulgated data privacy and security rules that established tighter requirements and cuts off data access for third parties (even those not under contract with the utility or under the jurisdiction of the Commission) that violate the privacy rules.

Further, the California legislature is currently considering AB 1274, which requires any company to obtain a customer's consent before sharing or using that customer's energy usage data. TechNet has worked with the author to ensure that customer consent will be provided for any energy uses but that companies – with that consent – will have the freedom to innovate in the development of new products, services and business models.

TechNet believes that these and other privacy and security laws effective in California provide consumers in this state with unparalleled, robust privacy protection. A critical objective must be to ensure that data, including aggregated data, of sufficient quality remains for purposes like research and assessment and development of effective public policy, as well as the design and development of the most effective energy management strategies in the private sector. The PUC is grappling with these issues as it considers establishment of an Energy Data Center,[7] concerned that the data currently made available is often aggregated beyond what is necessary to protect customer privacy, with the result that information valuable to researchers, policymakers and those trying to develop new tools is not accessible.

TechNet would urge that anonymized data (with customer personally identifiable information removed) that may be useful for energy efficiency or energy management purposes, be made available on a competitively neutral basis to universities, policy makers and private sector energy management providers. The resolution of this issue, however, should not slow adoption of rules providing customers access to their own data directly through the smart meter or through the utility website and the ability to conveniently share that data with third parties of their own choosing.

3) CONCLUSION

For the reasons mentioned above, TechNet urges the Commission to include in its Draft Action Plan the proposals advanced herein to promote customer access to their energy usage data in an automated format, together with the opportunity to easily access and share with authorized third parties and incentives to accelerate adoption of tools that enable consumers to use energy

[7] California Public Utilities Commission, *Energy Data Center: Briefing Paper* (Audrey Lee, PhD) September 2012. see http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M031/K744/31744124.PDF

more efficiently. TechNet appreciates the opportunity to present its comments and looks forward to working with the Commission.

Dated: August 28, 2013

Respectfully submitted,

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