Testimony of CenterPoint Energy Houston Electric, LLC
(Alan Ahrens on Energy Efficiency, Kenny Mercado on Smart Grid Technology)
Senate Committee on Business & Commerce Interim Charge #2
August 24, 2010
Hearing Room: E1.016
CHAIR: Senator John Carona

CENTERPOINT ENERGY:

CenterPoint Energy, Inc., headquartered in Houston, Texas, is a domestic energy-delivery company that provides electric transmission & distribution, natural gas distribution, competitive natural gas sales and services, interstate pipelines, and field-services operations to more than five million metered customers, primarily in Arkansas, Louisiana, Minnesota, Mississippi, Oklahoma, and Texas. With assets totaling over $19 billion and approximately 8,800 employees, CenterPoint Energy and its predecessor companies have been in business for more than 135 years.

CenterPoint Energy Houston Electric, LLC, (CenterPoint Energy) a subsidiary of CenterPoint Energy, is the regulated electric transmission and distribution service provider (TDSP) for the Greater Houston region and serves over two million customers. To date, CenterPoint Energy has installed over 550,000 smart electric meters, along with supporting communications infrastructure and computing systems, as part of a multi-year plan to deploy more than two million smart meters across the company's entire electric service territory in the greater Houston area. CenterPoint Energy has been awarded a $200 million stimulus grant from the U.S. Department of Energy to accelerate its smart-meter deployment from five years to three and begin building an intelligent grid that will utilize smart meters and other technologies to improve operational efficiency and electric reliability. CenterPoint Energy believes that facilitating market adoption of EVs for the Houston area will leverage and showcase the full benefits of CenterPoint Energy's smart-meter deployment program while maximizing customer benefits and expectations. In addition, for the past number of years, CenterPoint Energy has been engaged in the development of the electric vehicle (EV) market for the Houston area through partnerships with a number of original equipment manufacturers (OEMs) in a collaborative working group to assist with the grid integration and optimization of Plug-in Electric Vehicles (PEVs) in Houston, Texas. Therefore, CenterPoint Energy would like to offer comments on the following Charge #2 listed below in order to provide testimony for energy efficiency programs administered by utilities, alternative energy issues and current opportunities for Plug-In Electric Vehicles (PEVs) incentives, and Smart Grid technology:

CHARGE #2:

Study options for reducing demand for electricity, including innovative pricing options relating to the use of smart meters, programmable thermostats, and other demand side management and behavioral response strategies. Review current consumer education programs to reduce demand, decrease energy prices, and improve air quality. Consider benefits and costs of alternative energy sources such as geothermal and solar, and current incentives for electric and plug-in hybrid electric vehicles. The study should include recommendations on improving consumer knowledge and usage of these strategies in lowering overall electric usage, promoting energy efficiency, and improving the reliability of the ERCOT grid.

COMMENTS on "Energy Efficiency":

CenterPoint Energy administers residential and commercial energy efficiency programs as mandated by the Public Utility Commission of Texas (PUCT) for the greater Houston market. Per the PUCT's substantive rule 25.181, electric utilities are required to achieve demand and energy reductions through the promotion of energy efficiency programs to all customer classes. Commercial customers can participate in the programs directly or go through a third party, but all residential programs must be implemented through third-party contractors/implementers. CenterPoint Energy indirectly promotes energy efficiency consumer education information through the following initiatives:

- CenterPoint Energy corporate communications provides an Energy Efficiency "Tips" handout at marketing and outreach events in order to educate consumers on typical energy savings measures that are cost effective to implement.
- CenterPoint Energy's "smart meter" deployment advertising campaign which is currently being broadcasted in the Houston market specifically discusses the energy savings opportunities from "smart meters" and "smart" in home end-use devices.
- CenterPoint Energy's residential "Energy Star" program advertisements currently being broadcasted promote a general educational overview of energy efficient homes and incentives for purchasing an energy savings home investment.
- CenterPoint Energy's website (www.centerpointenergy.com) provides general consumer education around residential and commercial energy saving opportunities as well as specific administered energy efficiency programs.
- CenterPoint Energy's SCORE/City Smart Market Transformation Program (MTP) not only provides schools and municipalities with incentives for the installation of

energy efficient equipment, but it also provides education and support in the proper selection of the equipment.

- CenterPoint Energy's energy efficiency staff routinely participates in workshops, conferences, and outreach activities that provide educational material to consumers.

More specifically, CenterPoint Energy administers residential and commercial consumer educational information through the following 13 energy efficiency programs:

- Large Commercial Standard Offer Program (SOP)
- Residential SOP
- Hard to Reach SOP
- Multi-Family Water & Space Heating (MTP)
- Large Commercial Load Management (SOP)
- TDHCA Low Income Weatherization (SB-712)
- City of Houston Weatherization
- Agencies in Action (MTP)
- Rebuilding Together Houston
- ENERGY STAR® Homes MTP
- Retro-Commissioning MTP
- Texas SCORE MTP
- A/C Distributor MTP

The above mentioned programs are conducted through a third party contractor network which is competitively bid on an annual basis. These programs have been instrumental in CenterPoint Energy meeting its mandated annual energy efficiency goals required by PURA 39.905. These energy efficiency programs and information are detailed in CenterPoint Energy Houston Electric's Energy Efficiency Plan and Report (EEPR) which is submitted to the PUCT annually.

As shown in each EEPR report submitted to the PUCT since 2002, CenterPoint Energy has consistently met and exceeded its energy efficiency goals. The CenterPoint Energy programs provide the residents and business owners in the greater Houston area with incentives for a wide range of energy efficiency measures, while continuing to be the most cost effective programs in the state. The proposed and recently amended new rule caps program spending to residential customers at $1.30 per customer, per month. The CenterPoint Energy programs are currently costing residents $0.87 per month and it is expected that the residential program costs will remain under a dollar as long as the proposed rule's goals are in place.

COMMENTS on "Alternative Energy":

CenterPoint Energy Houston Electric is an energy-delivery company that provides regulated electric transmission & distribution services for the Greater Houston region. Alternative energy sources used for the generation of electric energy is an exciting, dynamic and challenging topic for study in Charge #2. CenterPoint Energy supports the continued analysis and pursuit of utilizing energy sources that advances the nation's need to become less dependent upon foreign energy. CenterPoint Energy requests a comprehensive evaluation of the benefits and costs associated with each energy source being considered. The financial analysis must represent not only the societal but also the direct participants' own economics.

For solar energy in particular, distribution considerations must include the concept of two-way metering:

- Two-way metering measures the use of the TDU's facilities to deliver power to the site of the end-use generator and the use of the TDU's facilities to place power back onto the electric grid;
- Two-way metering appropriately compensates the TDU for use of its facilities, so that the remaining customers are not required to subsidize the owner of the alternative energy source; and
- Two-way metering and reporting of end-user generation back to the grid is a critical functionality enabled by the TDU's AMS deployment.

Although, CenterPoint Energy supports the concept of reducing our dependency on foreign energy sources we request that any incentive to advance alternative energy be allowed for cost-effective alternatives only. The cost effectiveness should include the consumer's actual benefit to cost analysis with a reasonable payback period. If CenterPoint Energy is required to pay any incentives to promote alternative energy we ask for a separate but similar program to the mandated energy efficiency program with complete recovery of all costs associated with administering such a program, a performance bonus for successful program implementation and a lost revenue adjustment.

COMMENTS on "Current incentives for Electric and Plug-in Hybrid Electric Vehicles":

Currently, there is an existing $7,500 federal tax credit in place for consumers who purchase a Plug-In Electric Vehicle (PEV) which expires in 2014 or when 1 million PEVS are sold in

the US (whichever comes first). However, CenterPoint Energy advocates the state incentive implementation program for Plug-In Electric Vehicles (PEVs) similar to Senator Kip Averitt's proposed legislation, SB 16, introduced in the 2009 session. The proposed legislation offered consumers a $4,000 cash incentive at the car dealership for those consumers who purchased and operated a PEV within a non-attainment area in Texas. The incentives were going to be funded from existing allocated resources in the Texas Commission on Environmental Quality (TCEQ) Texas Emission Reduction Program (TERP) fund. TERP currently provides incentives for non-road electric vehicles in non-attainment areas such as Houston, TX; therefore, the proposed modifications to include PEVs would provide additional benefits to improve the air quality from emissions reduction benefits of electric transportation in Texas. CenterPoint Energy has supported the market adoption of electric transportation in Texas by actively participating in the Electric Power Research Institute's Electric Transportation program as well as the following initiatives:

- EPRI/General Motors Chevy Volt Smart Charging Demonstration project
- EPRI/Ford/Eaton/Altec Plug-In Hybrid Medium-Duty Fleet Demonstration Program
- Infrastructure Working Council (IWC), an industry collaborative working group between the electric utility industry, automakers and supplier focusing on standardizing EV charging infrastructure
- Edison Electric Institute Electric Transportation Task Force Industry Pledge
- Funding member of the University of Houston College of Technology Plug-In Electric Vehicle Undergraduate and Graduate Student Project research program
- National Science Foundation, University of Texas at Austin and Texas A&M University PHEV Center Founding Member
- Public Utility Commission of Texas (PUCT) Electric Vehicle Working Group

CenterPoint Energy is committed to facilitating the market adoption of EVs in Houston, Texas and will continue to work with the auto industry to optimize the EV transformation in Texas specifically due to the air quality issues in Houston. Specifically, CenterPoint Energy has been working with the City of Houston to develop an Electric Roadmap for Houston per their Environmental Protection Agency (EPA) Climate Showcase Community grant, which outlines the following initiatives:

- Develop a stream lined process for permitting electric vehicle charging infrastructure for residential applications.

- Implement policy for free High Occupancy Vehicle (HOV) lane and toll road access for Plug-In Electric Vehicles (PEVs).
- Develop public and commercial EV charging infrastructure strategy through Ecotality's "micro-climate" analysis to better determine optimal charge point locations for PEVs.
- Provide education and outreach stewardship for PEV technology in order to create awareness and promote market adoption of electric transportation.

The Houston-Galveston-Brazoria (HGB) area has been non-attainment for ozone and nitrous oxide (NO_x) emissions since the 1970's. The United States Environmental Protection Agency (EPA) reclassified the eight-county HGB area from a moderate to a severe non-attainment area for the 1997 eight-hour ozone National Ambient Air Quality Standard (NAAQS) effective on October 31, 2008. The HGB eight-county area includes Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties. The EPA set April 15, 2010, as the date for the state to submit a state implementation plan (SIP) revision addressing the severe ozone non-attainment area requirements of the 1990 Federal Clean Air Act Amendments (FCAA). The HGB area must attain the 1997 eight-hour ozone standard of 0.08 parts per million (ppm) as expeditiously as practicable but no later than the attainment date of June 15, 2019. Since emission reductions needed for attainment must be implemented by the beginning of the ozone season immediately preceding the HGB area's attainment date, implementation of controls need to be made by 2018. Electric Transportation may be a strategy that the Texas Commission on Environmental Quality (TCEQ) will implement in order to improve HGB's air quality; however, no formal position has been represented by TCEQ. The potential for EVs to reduce air emissions make EVs an attractive option for the Houston area.

COMMENTS on "Infrastructure" related to Electric and Plug-in Hybrid Electric Vehicles:

CenterPoint Energy conducted analysis indicating that the system-level impacts of EVs on the CenterPoint Energy transmission and distribution system are likely to be minimal. Within the next decade, the additional system peak contribution is likely to be no more than 5%. However, certain regions of the service territory appear to be prone to transformer overloading due to lower excess capacities and higher likely concentrations of EV adoption. For example, only 29.5% of transformers in the service territory could serve three EVs or more without significant transformer overload. Where EV clustering is likely minimal, transformer loads appear able to absorb new EV loads. For example, roughly 69.5% of

CenterPoint Energy's transformers could serve one EV without significant transformer overload. In general, the daily energy need of EVs is very small on average, roughly 4% to 6% of most of the single-phase transformer load. This indicates that EVs are not likely to create thermal problems on a daily basis, though areas where commuting distances are high could pose more problems.

As EV market growth is likely to have localized impacts on the CenterPoint Energy system, monitoring EV adoption and charging equipment installations will help identify where EV loads are of concern. This will enable CenterPoint Energy to proactively manage electric reliability throughout its system. Ideally, overloaded transformers can be changed before a failure leads to an outage and the loss of the asset. In addition, the use of its AMS systems can facilitate real-time monitoring of assets. Such actions would complement existing efforts by CenterPoint Energy to facilitate the integration of EVs in the Houston area and help electrify the transportation sector.

Electrification of the transportation sector requires the support and coordination of infrastructure providers, readily available and cost-effective products and services, and a sustained effort to educate consumers on comparative pricing and the environmental benefits of alternative transportation fuels.

CenterPoint Energy is willing to take an active "front end" role to best facilitate a successful launch of the EV market. The potential role of the regulated utility could be to provide the following basic services for market transformation.

- Own and install Electric Vehicle Supply Equipment (EVSE) charging infrastructure for each customer class (i.e. residential, multi-family, commercial, public and more). This will mitigate distribution impacts, reliability concerns and overall system costs from the point of ownership and standardization. This will allow all REPs to participate with ancillary EV services.

- Provide residential plug-in readiness reliability inspections for potential EV owners. This will help alleviate unforeseen costs to consumers for charging equipment while assuring safety and consistency through standardized reliable installations.

- Provide residential EV system upgrades through 3rd party contractor network. This will help mitigate safety concerns by providing consumers with a certified contractor network.

- Provide education and outreach for EV stakeholders and consumers. Including installation contractors, auto dealers, inspectors and emergency responders. This will help facilitate the overall awareness of both the benefits and risk associated with Electric Vehicles.

Allowing CenterPoint Energy to participate in the above-mentioned services will help provide a "seamless" customer EV experience in Texas and help reduce the market concerns being raised by automakers and stakeholders.

COMMENTS on "Smart Grid Technology" (CenterPoint Energy Smart Grid Project Update):

In December 2008, the Public Utility Commission (PUC) approved CenterPoint Energy's deployment of an Advanced Metering System (AMS). This system includes 2.2 million smart meters, communications infrastructure, and back-office computer systems that manage all the meters and communications devices. The meter deployment started on February 27, 2009, and to date we have deployed over 550,000 meters, with an initial plan to complete the project in mid-2014. Last month, Navigant Consulting provided their final report on smart meter accuracy to the PUC and the accuracy of the new metering technology, including our processes and systems, were validated by that report.

Last year, CenterPoint Energy also applied for a Department of Energy stimulus grant that would be used to accelerate the deployment of smart meters, as well as to initiate an Intelligent Grid (IG) project, too. On October 27 we were notified that we received $200 million, the maximum amount that could be awarded. We are using $150 million of this grant to offset some of the smart meter deployment costs and to accelerate the completion of that project from mid-2014 to mid-2012. The remaining $50 million, matched by an additional $50 million from CenterPoint Energy, is being used to implement an Intelligent Grid project that will cover 15 percent of our service territory by the end of 2012. This Intelligent Grid project adds devices and computer systems that monitor and control our distribution lines, improving reliability and reducing the duration of outages.

Our integrated project, the Advanced Metering System plus the Intelligent Grid, is called the Smart Grid project and it is exceeding our expectations. We are on budget and on schedule,

and the metering infrastructure has proven to be extremely accurate and reliable, as we are able to communicate with 99.6 percent of our meters each day. As a result, for customers with smart meters, we can electronically complete service order transactions such as connections and disconnections, and we perform meter readings without rolling a truck down the road. To date, we have eliminated more than 200,000 field visits, reducing vehicles on the road, associated on-road air pollution, and operating costs.

The Smart Grid will transform the way we buy, deliver and use electricity. Consumers will enjoy reliability improvements, faster transactions, and easy access to detailed consumption information that will allow them to make informed choices about their electricity usage. Retail Electric Providers will be able to offer new products and pricing plans for their customers, and they will be able to leverage the meter technology that supports home energy management. We will all benefit from increased energy efficiency, load shifting and conservation, combined with improved reliability and faster restoration times following electricity outages.

As required by the Final Order in PUC Docket No. 35639, which authorized CenterPoint Energy to deploy an advanced metering system, a reconciliation of costs is mandatory. In fact, in our current rate proceeding before the Commission, CenterPoint Energy Houston Electric will be reconciling its AMS costs incurred over the period from January 1, 2009, through March 31, 2010. Furthermore, at the completion of the AMS project, we will reconcile our final AMS incurred costs to funds we received from retail customers and from the DOE related to the Federal Government Stimulus Funding to ensure CenterPoint has collected only the appropriate funds to install the AMS equipment.