

# Electric Vehicle Infrastructure Council

February 19, 2015

## In attendance

### Chair

Pete Rahn

### Members

Steven Arabia

Z. Andrew Farkas

Daniel Frakes

Barbara Gonzales for William Gausman

Fred Hoover

Liz Entwisle for Kathy Kinsey

Tim Shepherd for Kathy Kinsey

Heather Murphy

Chris Rice

Jill Sorenson

Michael Wall

Scott Wilson

Bihui Xu

Tim Davis (via telephone)

Colleen Quinn (via telephone)

### Others

Meg Andrews, MDOT

Leah Boggs, MWCOG (via telephone)

Bob Bruninga

Mike Jones, Maryland Energy

Administration

Michael Krauthammer, NRG

Tim Kreukniet, East Coast Electric

Heather Murphy, MDOT

## Welcome and Announcements

Meg Andrews began the meeting by introducing Secretary Rahn as the new chair of the Council. Mr. Rahn then introduced himself and asked all members and others to introduce themselves as well.

## Public Comments

Leah Boggs expressed the Metropolitan Washington Council of Government's (MWCOG) support of EVIC and described that organization's activities relating to electric vehicles (EVs) within the last six months. She told members that MWCOG had published a report about electric vehicles in 2012 and, since then, an EV working group had been meeting, focusing on barriers to EVs and electric vehicle charging stations (EVCS), and had looked at cooperative purchasing of EVs, but couldn't "get anything off the ground" because of a lack of economies of scale. She described a new program that would provide no-cost fleet analysis to MWCOG jurisdictions to analyze their potential for large-scale EV replacement, and told members that this would begin this spring.

She also told members that MWCOG was looking for federal money to install EV Chargers as components of climate action projects, and further announced that MWCOG hoped to hold a half-day or full-day event for local governments to promote the idea of "green purchasing agents" for local fleets.

Bob Bruninga noted that with the new administration and interest in the bottom line, it supports the MD EVIC mission to realize that the money spent to own and drive an EV in Maryland stays local. "Not only do EV's reduce our dependence on foreign oil, but they re-direct Maryland Driver's transportation expenses to the local utility, to local Solar, to Maryland

wind and to local installers. And it is no coincidence that the people who buy EV's also invest in these new local sources of clean electricity for the betterment of all in Maryland."

Dan Frakes announced that the Spark EV would soon be available for sale in Maryland, described a next-generation Chevy Volt, and further announced that an existing GM concept EV with a range of 200 miles would be produced as a regular production vehicle. Tim Shepherd commented that the Spark is on the state FY 2016 procurement list, prompting Chairman Rahn to ask if the Volt was on the list. Shepherd responded that it was not, and stated that each year there is one plug-in EV on the list, and this year it was the Ford Fusion. Rahn then asked when the 200-mile-range EV would be available, and Frakes responded that it would be available in 2017.

Chairman Rahn asked about GM investments in fuel cell vehicles, and Frakes told him that GM had operated a pilot program in California and New York from 2008 to 2010, and said that the company was still working on fuel cell vehicles. Fred Hoover asked Frakes to extend thanks to GM executives for allowing the sale of the Spark EV in Maryland, and Frakes said that he would, adding that the 200-mile-range EV would be a "50-state vehicle."

Mike Wall then articulated a problem with charging infrastructure at Philadelphia International Airport, pointing out that Level 2 chargers capable of charging a vehicle in four hours are wasted in an airport parking lot, because vehicles tend to be left there for extended periods of time. He recommended that airports provide more Level 1 chargers, allowing those who have left their vehicles while they travel to charge them.

Chairman Rahn asked how many charging stations were currently at BWI Airport, and Andrews responded that there were 10 dual Level 2 chargers capable of charging a total of 20 vehicles. Wilson commented that private off-site parking operators have Level 1 chargers, and that those operators would arrange for vehicles to be fully charged when their owners returned.

### **Report on PEPCO PEV Charging Pilot**

Barbara Gonzales gave a presentation entitled "Demand Management for Plug-in Vehicle Charging" that described a pilot program operated by PEPCO to manage demand for electricity among owners of electric vehicles and gave preliminary results from the program.

She began by explaining that the drivers of the pilot program were the Council, SB 179 (2011), which required the PSC to establish a pilot program for off-peak charging of EVs, and PSC Case 9261, which examined how to regulate providers of EVCS.

She then described how PEPCO's pilot program operated, telling the members that program participants had three options from which to choose: whole house time-of-use billing offering a lower overnight rate, separate metering for an existing EVCS, or separate metering for a new "smart" EVCS. During periods of high demand, PEPCO could reduce demand using the "smart" charging stations by lowering the level of charge while allowing customers to opt-out. Customers had the option of adding a renewable energy rider for a few cents more. An average customer saved approximately five cents per kilowatt hour during the off-peak hours of 8:00pm

to 11:59am, and the goal of the project was to shift charging to off-peak hours in order to improve grid reliability.

Next, Gonzales presented preliminary results from the program based on its first year of operation. Generally, she said, customers took advantage of off-peak hours, telling council members that the lower rate during those times was an incentive and that 90% of owners charged their vehicles during off-peak hours.

She then presented several charts detailing the charging habits and power usage of program participants, showing that participants tended to charge during off-peak hours. She concluded by informing Council members that the full report was on the website of the PSC ([here](#)), and telling them that demand management allows PEPCO to shed load, which would be needed if there were 60,000 electric vehicles on a hot summer day.

Jill Sorenson asked the number of EV owners in Montgomery County, and Gonzales responded that it was 945. Sorenson then asked if potential participants shied away because they thought their net rates would go up with time-of-use pricing, and Gonzales responded that reasons some declined were that they had a heavy load or they had homes not up to code, but that people generally didn't decline because of rates. Wall then asked if all customers had the option of choosing peak and off-peak pricing, and Gonzales responded that PEPCO no longer has time-of-use pricing for all customers, but they do have car-only accounts.

Scott Wilson asked about opting out, and Gonzales responded that participating customers could opt out on demand management days. Sorenson asked whether PEPCO had studied workplace charging, and Gonzales responded that it had not.

### **PEV Charging Models**

Tim Kreukniet introduced himself and described his professional background, explaining that he had been involved in a Dutch EV industry group, and then moved to the United States to set up a collaboration program, called East Coast Electric, connecting the Dutch and American electric vehicle industries.

He began by giving the Council an overview of EVs in the Netherlands. He explained that the premier driver for the introduction of EVs was air quality, and that the Dutch government provided financial support to EVs because 30% of air pollution in the Netherlands came from internal combustion engines. He called the Dutch approach a "triple helix" because it involved the government, industry, and research institutes, and explained that the results of that approach were a €65,000,000 action plan. He noted that the two major components of this plan were a fiscal policy to make EVs cheaper, as well as active support for an open charging station infrastructure accessible to anyone, and he recommended development of an "open charging" policy for the 8-state MOU region in the United States. He told Council members that in the Netherlands, there were 13,000 publicly accessible chargers, of which 300 were DC fast chargers, as well as 28,000 private chargers at locations like homes and workplaces.

He then compared Baltimore to Rotterdam, stating that these were port cities with similar populations and saying that Rotterdam had 1,600 charging stations. He told Council

members that the charging stations came first, EVs followed, and that the existence of charging stations gives “confidence” to purchasers of EVs.

The next portion of his presentation focused on obstacles to EV adoption. He told Council members that the Netherlands faced similar obstacles to Maryland, focusing on public charging stations and stating that 72% of people in the Netherlands cannot charge their EVs at home as compared to 46% of Marylanders. Because charging stations only make money when they are used and are otherwise stranded assets, he said, successful public charging station infrastructure depends on charging stations’ location and accessibility.

Noting the shortcomings of relying on private charging stations in locations such as residences or workplaces, he identified opportunities with them as well, focusing on “smart” charging stations. These stations, he said, could be programmed by the driver to finish charging by a certain time rather than as soon as possible, thus balancing out electricity load. He also pointed out that they did not need to be vandal-proof and that they were already metered.

Shifting to public charging, he characterized that mode as “costly but sometimes necessary,” saying that if there is no other place to charge, governments must sometimes provide charging stations, which then must be vandal proof and interconnected, raising the price. In Rotterdam if an EV owner has no charging station within 200 meters of his or her home, the city government will install one.

He also described a Dutch program in which the government bids out the rights to install DC fast chargers at highway rest areas. Under the program, there are no government costs, but the winning bidders earn the right to install chargers at rest areas without paying. According to Kreukniet, 400 DC fast chargers have been installed under this program.

He concluded his presentation by reminding the Council that different locations require different government roles and that there is no business case for public chargers despite their importance, and urged caution with regards to charging station networks that require vendor lock-ins.

Andrew Farkas asked about the breakdown between battery-electric and plug-in hybrid vehicles in the Netherlands. Kreukniet responded that 30 % of the vehicles were battery-electrics and 70 % were plug-in hybrids. Wall then asked about plug types, and Kreukniet responded that there were converters.

Wilson asked whether people share the street chargers well. Kreukniet responded that since the parking fee is lower during active charging, people tend to move their cars, although he added that certain individuals did hog chargers and it would be necessary to find a way to incentivize them not to. Steve Arabia asked about charger owners, and Kreukniet responded that the public chargers had public owners, while the private chargers had varied owners. Arabia then asked about the role of the utility, and Kreukniet informed him that it stopped at the meter.

## **Updates on EVIC Activities:**

### **eVIP Grant Program**

Chris Rice briefly explained the history of the program, and told the Council that the evaluation committee has completed reading all the applicants, announced the awards, and that two grant agreements have been executed and a third is in the final stages of being executed. He added that the approximate locations of charging stations have now been determined.

Frakes asked how many dots were on the map, and Rice responded that there were 26. Kreukniet asked how much money each grantee received. Hoover responded that there was one million dollars available through the program, and that this amount had been divided among the applicants according to need. Rice then further clarified that the grants were limited to 50% support for the projects.

Wall then pointed out that ChargePoint has partnered with Volkswagen and BMW to install DC fast chargers at 50-mile intervals in the I-95 corridor, noting that the station owners get the station for free and a subsidized electric rate from ChargePoint. Sorenson then asked if a private market exists. Wall said that it does not, and reminded the Council about Kreukniet's comments about public chargers. Kreukniet then commented that the first chargers require more government money to achieve the critical mass for wide scale adoption. Discussion then ensued about whether government subsidies for chargers would discourage innovation in the private charger market. Kreukniet said that government subsidies were needed for multi-manufacturer chargers, while Sorenson said that at this point, government coordination among private partners was more important. Arabia commented that utility investment in charging infrastructure discourages private investment.

### **Auto Shows**

Wilson gave a presentation showing pictures of the Council's presence at the Motor Trend International Auto Show in Baltimore. He told council members that the display contained materials for distribution from a variety of sources as well as charger mock-ups. In addition, he showed photographs of the EVs that were on display at the show.

### **2015 Meeting Schedule**

The Chair asked the council about a meeting schedule for 2015. Sorenson suggested quarterly meetings with breakout groups meeting between, and Rice agreed. The Council voted unanimously to adopt this schedule.

### **Legislative Update**

Heather Murphy gave an update on the bills that have been introduced to the General Assembly on EVIC's behalf. Senator Feldman and Senator Rosapepe have introduced the three bills.

**SB 682:** Electric Vehicles - Use of High Occupancy Vehicle (HOV) Lanes - Reciprocity with Virginia: Hearing scheduled for Tuesday February 24 in the Senate Judicial Proceedings Committee.

**SB 714:** Maryland Electric Vehicle Infrastructure Council - Reporting and Sunset Extension: Hearing scheduled for Tuesday March 10 in the Senate Finance Committee.

**SB 762:** Real Property - Installation and Use of Electric Vehicle Recharging Equipment – Still in the Senate Rules Committee.

Murphy also relayed a request from Kristen Weiss (MDOT) that council members that may want to submit written testimony on behalf of their company or organization, or also who may want to testify at the hearing contact her so that she can coordinate submission of testimony and signing people up.

### **Local Government Outreach Workgroup**

Liz Entwisle thanked Tim Davis for reaching out to Kanti Srikanth of MWCOG, and stated that she was working with Leah Boggs on an agenda for a workshop. She told the Council that she expected the workgroup to consist of peer-to-peer exchanges of EV strategy with regards to zoning and building, purchasing, and others. She forecast a timeframe of April or May, and indicated that the event would be held at MWCOG. She added that topics and speakers were being decided upon, but that they could include codes, siting design, fleet purchasing and management, Main St/EV tourism, permitting and power management, public outreach, and charging venue challenges and opportunities.

Sorenson then stated that she wanted a communications strategy for the year. The Chair asked if the Council had a communications workgroup, and Andrews responded that it did not at the moment. Rahn subsequently asked for volunteers to serve on a communications workgroup, and Jill Sorensen, Scott Wilson, Chris Rice, Mike Jones, Tim Davis, Liz Entwisle, and Tim Shepherd volunteered.

### **Workplace Charging Workgroup**

Hoover stated that the workgroup hadn't met in a while but that all research on Massachusetts events had been gathered, and that the workgroup was looking at that information. He added that he will reach out to MWCOG to put together a workplace charging seminar for employers during the spring or summer timeframe.

### **Conclusion**

The Chair then concluded the meeting, commenting that he thought that the 200-mile range would be a "game changer," and thanking those in attendance who had traveled from out of state. Wilson then asked how the communications workgroup will "activate," and Andrews responded that the group should designate a point person, and she would put them together, adding that she would send out a 2015 meeting schedule.