

Opening Statement of Russell Vare,
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Mercedes-Benz Energy Americas, LLC

Senate Energy and Natural Resources Committee

Hearing to “study cost reductions in emerging energy technologies with a specific focus on how recent trends may affect today’s energy landscape”

June 8, 2017

Good morning Chairman Murkowski, Ranking Member Cantwell, and members of the Committee. Thank you for the opportunity to participate in today’s hearing. My name is Russell Vare and I am the Manager of Business Development at Mercedes-Benz Energy Americas, headquartered in Sunnyvale, California. I appreciate the Committee’s interest in how innovation is advancing new energy technologies and helping to drive down energy costs.

As a major global automaker, our parent company Daimler plans to continue our leadership in innovation by adopting a strategic framework called CASE, which stands for Connected, Autonomous, Shared & Service, and Electric. Our new vehicles and services will focus on connectivity (Connected), autonomous driving (Autonomous), flexible use (Shared & Services) and electric drive systems (Electric). We are taking a holistic approach to electrification of transportation during this fundamental shift of the automotive industry. We will have ten plug-in hybrid models available in 2018 and ten all-electric vehicles available by 2022.

Beyond electrifying our cars, vans, buses and trucks, we are investing in electric mobility solutions beyond the vehicle including stationary energy storage, shared mobility services, and electric vehicle charging infrastructure. Globally, we are investing around \$10 billion euros in our technological competence and new electric fleet.

Mercedes-Benz Energy was established last year to directly support the electrification strategy behind CASE, by providing innovative energy storage and EV charging solutions for homes, businesses, and utilities to manage resources more efficiently and sustainably.

What we are doing is unique to others in the automotive space. We recognize the value EVs can have on the grid and are using the same automotive-grade battery technology used in Mercedes-Benz electric and plug-in hybrid vehicles for stationary storage applications. Mercedes-Benz Energy storage systems can optimize solar consumption, reduce expensive peak electric loads, provide backup power, and offer a variety of grid benefits, including frequency regulation, transmission and distribution deferral, renewable integration, and other ancillary services.

Just three weeks ago, we launched our home energy storage system in the U.S. with Utah-based residential solar company Vivint Solar to bring clean energy solutions to American homes. We are excited by the growing demand for clean energy technology. In 2016, revenue from the U.S. energy storage market surged by 54% from the previous year to reach \$427 million. By 2022, the U.S. energy storage market is expected to be worth \$3.2 billion.

One of the major drivers of this growth is the rapid decline in battery prices. Since 2010, the price of lithium-ion batteries fell roughly 80% [from ~\$1,000/kWh to ~\$227/kWh at the end of 2016]. We are driving this price reduction by increasing scale production. Two weeks ago we announced the expansion of our battery factory in Kamenz, Germany to 80,000 square meters to produce more electric vehicle batteries at scale. In addition to decreasing prices, advancement in battery efficiency is rapidly improving. From 2012 to 2016, we've seen a 64% improvement in cell energy density. Such economic and technological improvements will lead to faster and greater adoption of electric vehicles and energy storage in our transition to a clean energy economy. According to Bloomberg New Energy Finance, between 2020 and 2030, EVs will become cheaper to own than cars with internal combustion engines. This matches our internal predictions. We are strongly committed to innovating electric drive technology for further cost reductions on vehicles and batteries. We also look forward to our continued work with agencies at national, regional, and city levels to support electrification of our transportation systems.

Thank you again for the opportunity to participate in today's hearing. I am happy to answer any questions.