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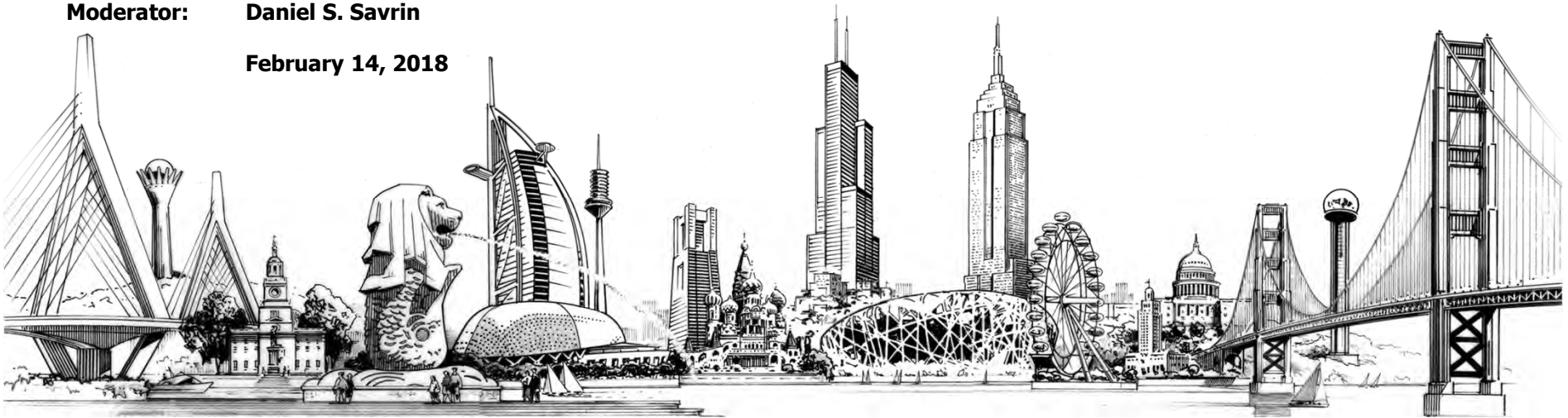
MORGAN LEWIS AUTOMOTIVE HOUR

WHERE'S THE POWER SUPPLY? LEGAL ISSUES WITH THE ADVENT OF ELECTRIC VEHICLES

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AGENDA

- Overview of Electric Vehicles (EVs) and Electric Vehicle Supply Equipment (EVSE)
- Electricity Supply Regulatory Framework
- Who Can Sell/Supply Power for EV Charging?:
Exemplar State Review of EV Charging Regulation
- Other Practical/Legal Considerations Associated With EV Charging Station/Network Development

PRIMARY ELECTRIC VEHICLES MODELS

- Hybrid Electric Vehicle (HEV)
- Plug-In Hybrid Electric Vehicle (PHEV)
- All (or full) Electric Vehicle (EV)

Hybrid Electric Vehicles



- HEVs are primarily powered by an internal combustion engine that runs on conventional or alternative fuel and an electric motor that uses energy stored in a small power battery
- The battery is charged through regenerative braking and by the internal combustion engine and is not plugged in to charge

Plug-In Hybrid Electric Vehicles



- PHEVs are powered by an internal combustion engine that can run on conventional or alternative fuel and an electric motor that uses energy stored in a battery
- The vehicle can be plugged in to an electric power source to charge the battery
- Larger power battery -- some can travel ~ 70 miles on electricity alone; all can operate solely on gasoline (similar to a conventional hybrid)

All-Electric Vehicles



- EVs use a battery (battery pack or batteries) to store the electric energy that powers the motor.
- EV batteries are charged by plugging the vehicle into an electric power source
- Motor/generator only – no conventional engine.
- Current EV ranges are at or above 100 miles on a fully charged battery
- According to the DOE, 100 miles is sufficient for more than 90% of all household vehicle trips in the United States

Developing Infrastructure to Charge Plug-In Electric Vehicles

- Consumers and fleets considering plug-in hybrid electric vehicles (PHEVs) and all-electric vehicles (EVs) benefit from access to charging stations, also known as EVSE (electric vehicle supply equipment)
- For most drivers, this starts with AC charging at home, at a workplace, or at fleet facilities
- Charging equipment for plug-in electric vehicles (PHEVs or EVs) are generally classified by the rate at which the batteries are charged. Charging times vary based on a number of factors. The charging time can range from less than 20 minutes to 20 hours or more, depending on these factors

AC Level 1 Charging

~2 to 5 miles of range per 1 hour of charging

- AC Level 1 EVSE (often referred to simply as Level 1) provides charging through a 120 volt (V) AC plug
- Typically at home or at work locations
- 8 hours of charging at 120V can replenish about 40 miles of electric range for a mid-size PEV
- Typically <2KW
- Current Typical Business Model:
 - Utility manages their own network
 - Utilities sell power directly to EV consumers



AC Level 2 Charging

~10 to 20 miles of range per 1 hour of charging

- AC Level 2 equipment offers charging through 240V (typical in residential applications) or 208V typical in commercial applications) electrical service
- Can charge a typical EV battery overnight; commonly installed at EV owners' homes for home charging or used for long-term public charging
- ~2-20KW
- Current Typical Business Model:
 - Either same as Level 1--- or
 - 3rd party manages the network
 - Buys & sells power to EV consumer – charges convenience fee



DC Fast Charging

~ 60 to 80 miles of range per 20 minutes of charging

- Direct-current (DC) fast charging equipment; enables rapid charging
- ~50-350KW
- Current Typical Business Model:
 - OEM (or others) set up their own network
 - Buys powers on behalf of their drivers for resale or distribution
 - The future of EVs requires DC development



Current Public EV Charging Capacity

- Sept. 2017 DOE National Plug-In Electric Vehicle Infrastructure Analysis found that, assuming 15 million EVs on the road in 2030, **600,000 non-residential L2 plugs** and **25,000 DCFC plugs** would be necessary to satisfy consumer charging demand.
- As of Feb 1, 2018, there are approximately **17,193 public electric stations** and **47,117 charging outlets** in the US. Approximately **80% are L2**. (see <https://www.afdc.energy.gov/locator/stations>)

Electric Power – The Fundamental Input

- The battery at the site of charging is merely a storage machine and is not the source of the power
- Electric power physical distribution is a de facto and de jure monopoly, even where a non-utility is allowed to sell power

Where Does the Electricity Come From?

- “Wholesale” Power on the Electric Grid
 - Sales for Resale
 - Federally-regulated
 - Can be complex
 - If an EV charging provider were to not simply sell electricity to EVs, but were also to sell electricity for re-sale, then Federal Energy Regulatory Commission (“FERC”) approval and ongoing regulation would be triggered
- “Retail” Power is What is Sold to Each EV at the Charging Point
 - State Regulated
 - In Many States, Franchised Utility Monopoly

Distributing Power for Charging

- In general, only the franchised utility may and can transmit/distribute power to the charging station – the utility is selling the electricity at retail, under state law, and is not typically viewed as making a FERC-regulated resale
- In some jurisdictions, only the franchised utility can **sell** electricity in its service territory, meaning that only the utility can own/manage the charging station
- Some Jurisdictions Treat Municipal and Cooperative Utility Territories Differently from Private-Sector Utilities for EV Purposes

Who Can Sell EV Charging Service?

- The Question of Who Can Sell EV Charging Service is Fundamental to Establishing AC Level 2 and DC Fast Charging Facilities
- If Only a State-Regulated Utility Can Provide Charging Services, Due to “exclusive franchise” Utility Service Territory Allocation Under State Law, Then Other Options (Such as OEM Charging Station Ownership, Gas Station EV Charging) May Be Unworkable

Competitive Supply

- In other jurisdictions that are not subject to exclusive franchise rules applicable to EV charging, a business other than the franchised utility may –
 - procure power for storage in the charging-station battery, and/or
 - sell power to an aggregator (like an EV servicing company) for re-sale to EV owners/users, and/or
 - sell power directly to EV owners/users
- Approximately twenty states and the District of Columbia have determined, either by statutory amendment or through regulatory clarification, that EV charging services by non-utilities are outside the jurisdiction of the state utility commission. In some cases, EV charging services by utilities are also outside commission jurisdiction.

Disparate State Examples of Competitive Access

California

- Both Utilities and Non-Utilities May Provide EV Service
- Significant utility investment in EV infrastructure, after a 4-year ban on such investment
- To the extent that Utilities provide EV charging service, the ownership of charging equipment can be limited by the Commission



Disparate State Examples of Competitive Access

Washington

- Non-Utility May Provide EV Services
 - Commission does not regulate rates, services, facilities or practices of entities offering EV charging facilities to the public
- A Utility May Provide EV Service
 - Commission does not regulate IF facilities and services are not subsidized by regulated service
 - Subject to Commission approval, may offer EV charging as a regulated service.



Disparate State Examples of Competitive Access

Massachusetts

- Non-Utility May Provide EV Service
 - EV charging equipment does not constitute a utility distribution facility
 - EV charging station owners/operators are not selling electricity
- Utilities may seek Commission approval to recover costs to own and operate publicly available EV infrastructure, including charging stations
 - Must meet an EV advancement need and not hinder competitive EV charging market.



Disparate State Examples of Competitive Access

New York

- Non-Utility may provide EV Service
 - Commission has no jurisdiction over publicly available EV charging stations
 - Commission has no jurisdiction over owners or operators of such EV charging stations, if the owner/operator is not otherwise a NY regulated utility
- Future regulation reserved



Disparate State Examples of Competitive Access

Missouri

- Non-Utilities may provide EV Service
 - Commission has no jurisdiction over the ownership and operation of EV charging stations
- Utilities may also provide EV service
 - Must be on an unregulated basis without recovering charging station costs from ratepayers.
- Legislation introduced in December of 2017 would modify the definition of "electric plant" to include electric vehicle charging stations



Examples of States Without Current Blanket Open Access

Alabama

Ongoing Generic Proceeding to Determine the Commission's Jurisdiction Over Electric Vehicle Charging Stations



Examples of States Without Current Blanket Open Access

Kentucky

- Non-Residential Customers may host EV charging stations under terms of utility tariff
 - Utility owns stations
 - Site host pays monthly fees designed to recover cost of charging station (including a return on utility investment) and ongoing maintenance
 - Site host can assess fee on charging station users to recover costs



Examples of States Without Current Blanket Open Access

Kentucky (cont'd)

- Utilities may also provide EV services without a customer host
 - Stations have a per-hour charging fee designed to recover all costs (capital, O&M, electricity)
- Utility selected charging station provider (installation, ongoing maintenance) via RFP



Other Key Practical Legal Considerations

- Direct retail electricity sales to end-users are subject to the exclusive jurisdiction of state utility regulators.
- There is no meaningful opportunity for a single, national regime for EV electricity sales because, with respect to retail power distribution rates and services, the Federal government has no jurisdiction.
- To date, many states appear to have “followed the market” and even some states that adhere to traditional exclusive-supplier utility franchise practices have created mechanisms for EV power supply competition.
- Larger DCFC facilities may be subject to individual financing and, if stable revenue expectations can be demonstrated, to capitalization similar to project financing.

Other Key Practical Legal Considerations

- If an EV charging provider over-procures electric supply and wishes to re-sell excess supply, under some circumstances the resale can be subject to Federal electricity regulation, and the EV charging provider can become subject to rate, market, corporate, and financial regulation by the Federal Energy Regulatory Commission.
- FERC regulation can be costly and intricate.
- Excess electricity dispositions can be more efficiently structured as returns of rights to unneeded power supply, rather than resales.

Biography



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Mark C. Williams represents clients in the electric power and natural gas industries. For more than 20 years, Mark has advised clients on the complex regulatory requirements applicable to electricity and gas operations and investments. In the electric and energy space, he documents secured lending and direct equity positions, investment and portfolio affiliations, bankruptcy matters, and fuel procurement and transportation issues - - including regulatory and operational matters related to electric charging.

Chambers USA recognized Mark as “one of the leading attorneys in the USA when it comes to the regulatory aspects of the purchase and sale of electric generation assets” and as “a tremendous resource for any team . . . well versed in regulatory minutiae and top of the class in the regulatory space.” He is also recognized by Chambers Global and has been lead energy regulatory counsel to several project finance transactions deemed “deals of the year.”

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Catherine G. "Kate" Vasudevan guides public utilities and energy companies through regulatory proceedings before public utility commissions and in transactional matters. On the regulatory side, she helps clients with competitive procurement design, energy efficiency and demand response programs, renewable energy portfolio standard compliance, and advanced metering programs. Her transactional practice focuses on renewable energy and other emerging electrical and energy issues and investments.

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Daniel S. Savrin represents businesses in high-stakes civil and criminal litigation in federal and state courts and in the defense of government investigations with a focus on antitrust, consumer protection, and white collar criminal matters. He is a leader of the firm's consumer protection defense and automotive industry initiatives. For over 25 years, Daniel has represented automotive companies in litigation and in addressing regulatory investigations and challenges. He works closely with his colleagues in the energy and technology practices to help automotive clients address challenges associated with electric vehicles, connected and autonomous vehicles, and other developing technologies.

<https://www.morganlewis.com/bios/danielsavrin?p=1>

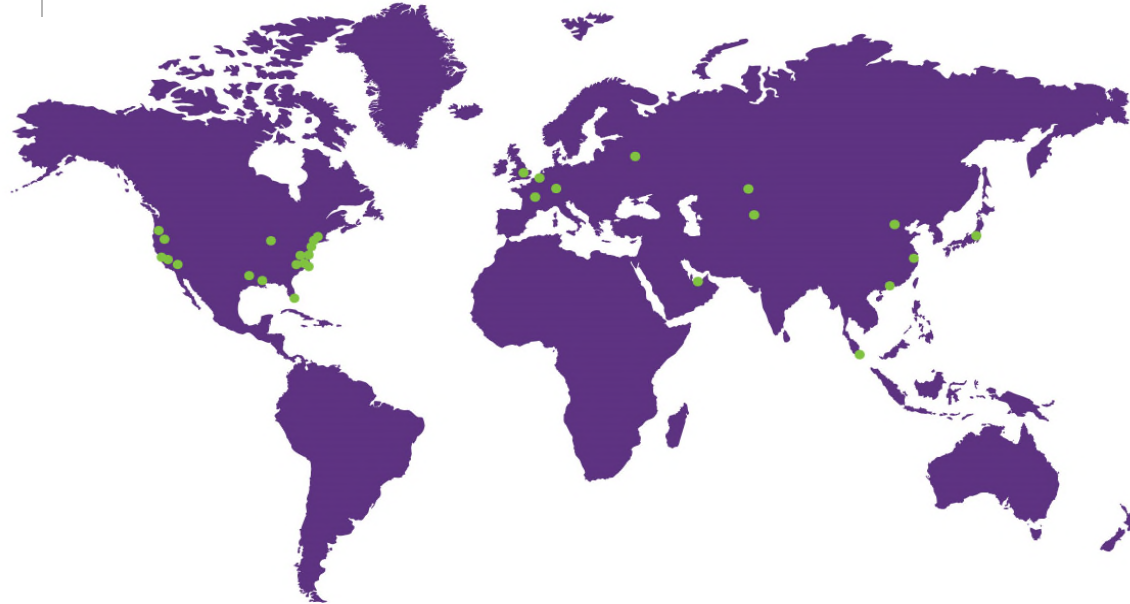
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