Global Certificate Course in EV Charging Policy and Regulations

# Unit 8: International Best Practices in EV Charging Policy

In this explanation, we will delve into the key terms and vocabulary related to Unit 8: International Best Practices in EV Charging Policy of the Global Certificate Course in EV Charging Policy and Regulations. This unit covers the best practices in EV charging policies from various countries around the world, and understanding the following terms will help you better grasp the concepts discussed.

1. **EV Charging Infrastructure**: The network of charging stations and other supporting infrastructure required to power electric vehicles (EVs). This includes level 1, level 2, and DC fast charging stations, as well as the electrical grid and other enabling technologies.
2. Level 1 Charging: The slowest type of EV charging, typically using a 120-volt (V) AC outlet and providing a charging rate of 2-5 miles of range per hour. Level 1 charging is often used for residential charging, as it requires no additional equipment beyond a charging cord.
3. Level 2 Charging: A step up from level 1 charging, level 2 charging uses a 208-240V AC outlet and provides a charging rate of 10-20 miles of range per hour. Level 2 charging stations are commonly found in public and commercial settings, as well as in residential garages.
4. DC Fast Charging: The fastest type of EV charging, DC fast charging uses direct current (DC) power and can provide a charging rate of up to 200 miles of range per hour. DC fast charging stations are typically found along highways and other high-traffic areas.
5. Vehicle-to-Grid (V2G): A technology that allows EVs to send power back to the electrical grid, helping to stabilize the grid and provide emergency backup power. V2G is still in its early stages, but has the potential to revolutionize the way we think about EV charging and energy storage.
6. Smart Charging: A charging strategy that uses real-time data and communication between the EV, the charging station, and the electrical grid to optimize the charging process. Smart charging can help to reduce peak demand on the grid, lower charging costs, and improve overall system efficiency.
7. Open Charge Point Protocol (OCPP): An open-source communication protocol that allows different EV charging stations and charging management systems to communicate with each other. OCPP enables interoperability between different charging systems, making it easier for EV drivers to charge their vehicles at any charging station.
8. Roaming: The ability for EV drivers to charge their vehicles at charging stations operated by different charging network providers. Roaming enables EV drivers to access a wider network of charging stations, improving convenience and accessibility.
9. Charging Network Provider: A company or organization that operates a network of EV charging stations. Charging network providers may offer different pricing structures, membership plans, and other services to EV drivers.
10. Interoperability: The ability for different systems, devices, or technologies to work together seamlessly. In the context of EV charging, interoperability refers to the ability for different charging stations and

charging management systems to communicate and work together.
11. Grid Integration: The process of integrating EV charging infrastructure with the electrical grid. Grid integration is essential for ensuring that the electrical grid can handle the increased demand for electricity from EV charging, and for optimizing the charging process to reduce peak demand and improve overall system efficiency.
12. Peak Demand: The highest level of electricity demand on the electrical grid during a given time period. Reducing peak demand is important for maintaining grid stability and preventing blackouts.
13. Time-of-Use (TOU) Rates: Electricity pricing structures that vary based on the time of day or the level of demand on the electrical grid. TOU rates can encourage EV drivers to charge their vehicles during off-peak hours, reducing peak demand and lowering overall charging costs.
14. Make-Ready: The process of preparing a site for the installation of an EV charging station. Make-ready includes tasks such as upgrading electrical service, installing conduit and wiring, and obtaining necessary permits and approvals.
15. Charge Point Operator (CPO): A company or organization that operates and maintains EV charging stations. CPOs may be responsible for tasks such as installation, maintenance, and repair of charging stations, as well as billing and customer support.
16. Direct Current (DC): A type of electrical current that flows in one direction only. DC power is used in EV charging applications because it can charge EV batteries more quickly and efficiently than alternating current (AC) power.
17. Alternating Current (AC): A type of electrical current that alternates direction periodically. AC power is the standard for electrical power distribution in most countries, and is used for level 1 and level 2 EV charging applications.
18. Conductive Charging: A type of EV charging that uses physical contact between the EV and the charging station to transfer electrical power. Conductive charging is the most common type of EV charging, and includes level 1, level 2, and DC fast charging.
19. Inductive Charging: A type of EV charging that uses magnetic fields to transfer electrical power wirelessly between the EV and the charging station. Inductive charging is still in its early stages, but has the potential to improve convenience and safety for EV drivers.
20. Charging Station: A physical location where EV drivers can charge their vehicles. Charging stations may be standalone units, or integrated into other structures such as parking garages or rest stops.
21. Charging Dispenser: The portion of the charging station that physically connects to the EV and transfers electrical power. Charging dispensers may be integrated into the charging station, or mounted on a pole or other structure.
22. Charging Cable: The cable that connects the charging dispenser to the EV. Charging cables may be tethered (permanently attached to the charging dispenser) or untethered (removable).
23. Charging Connector: The plug on the end of the charging cable that physically connects to the EV. Charging connectors may be specific to certain types of EVs or charging stations, or use a standardized connector such as the SAE J1772 or Combined Charging System (CCS) connector.
24. Charging Port: The opening on the EV where the charging connector is inserted. Charging ports may be located on the front, rear, or side of the EV, and may be specific to certain types of charging connectors.
25. State of Charge (SOC): The remaining capacity of an EV battery, expressed as a percentage of its total capacity. SOC is an important metric for EV drivers, as it indicates how much further they can drive before

needing to recharge.
26. Range Anxiety: The fear or anxiety experienced by EV drivers when they are concerned about running out of battery power before reaching their destination. Range anxiety can be reduced through strategies such as smart charging, V2G, and the deployment of a robust EV charging infrastructure.

In summary, this explanation has covered the key terms and vocabulary related to Unit 8: International Best Practices in EV Charging Policy of the Global Certificate Course in EV Charging Policy and Regulations. Understanding these terms will help you better grasp the concepts and best practices discussed in the unit, and will prepare you to contribute to the development of effective EV charging policies and regulations in your own community.