EV Charging Infrastructure Planning and Deployment Training Course



16 - 20 Nov 2026

Cape town

4600 € (Per Person)

Ref: #ERE2288_273707

Course Introduction / Overview:

The global transition to electric mobility is accelerating, creating an unprecedented demand for robust, accessible, and intelligently managed Electric Vehicle (EV) charging infrastructure. This course provides a comprehensive, A-to-Z guide on the strategic planning, design, and deployment of effective EV charging networks. Moving beyond simple hardware installation, this program delves into the complex interplay of technology, urban planning, grid integration, and economic viability. As highlighted by transportation expert Daniel Sperling in his work, including the book "Two Billion Cars: Driving toward Sustainability", the success of e-mobility hinges on creating a supportive ecosystem, with charging infrastructure at its core. This training, offered by BIG BEN Training Center, is meticulously designed to equip professionals with the multidisciplinary skills needed to lead this transition. Participants will learn to conduct market analysis, perform strategic site selection, navigate complex regulatory landscapes, and develop sustainable business models. The curriculum integrates technical knowledge of charging standards and grid impact with the practical realities of project management and long-term operational excellence, ensuring attendees can build future-proof charging solutions that support a cleaner transportation future.

Target Audience / This training course is suitable for:

- Urban and Regional Planners.
- Electrical Engineers and Technicians.
- Government and Public Policy Officials.
- Utility and Energy Grid Managers.
- Fleet and Logistics Managers.
- Real Estate Developers and Property Managers.
- Automotive Industry Professionals.
- Sustainability and Environmental Officers.
- Project Managers in Energy and Infrastructure.
- Entrepreneurs and Investors in the E-Mobility Sector.

Target Sectors and Industries:

- Energy and Utilities.
- Automotive Manufacturing and Services.
- Government, Public Administration, and Urban Planning Agencies.
- Real Estate and Commercial Property Development.
- Construction and Engineering.
- Logistics, Transportation, and Fleet Management.
- Hospitality and Retail.
- Technology and Software Development.
- Financial and Investment Services.

Target Organizations Departments:

- Strategic Planning and Business Development.
- Engineering and Technical Services.
- Operations and Maintenance.
- Fleet Management.
- Sustainability and Corporate Social Responsibility (CSR).
- Facilities and Property Management.
- Regulatory Affairs and Compliance.
- Project Management Office (PMO).
- Finance and Investment.
- Public Works and Infrastructure.

Course Offerings:

By the end of this course, the participants will have able to:

- Analyze the EV market and forecast charging demand for specific regions.
- Master the principles of strategic site selection for different charging use cases.
- Evaluate various types of EV charging hardware and software platforms.
- Understand the technical requirements for charging station installation and grid connection.

- Assess the impact of EV charging on local and regional power grids.
- Develop strategies for smart charging and load management to mitigate grid strain.
- Design viable business models and calculate the return on investment for charging infrastructure.
- Navigate the complex landscape of government policies, incentives, and regulations.
- Manage the end-to-end process of EV charging infrastructure deployment.
- Plan for the long-term operation, maintenance, and scalability of a charging network.
- Integrate renewable energy sources with EV charging systems.
- Explore future trends such as Vehicle-to-Grid (V2G) technology and wireless charging.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be immersive, practical, and highly interactive, ensuring that participants gain tangible skills applicable to real-world scenarios. We move beyond traditional lecture-based formats to foster a dynamic learning environment. The course heavily emphasizes case study analysis, where participants will dissect successful and challenging EV charging infrastructure projects from around the globe to understand best practices and potential pitfalls. Collaborative group workshops will form a core component, allowing attendees to work in teams on simulated projects, such as developing a comprehensive charging plan for a municipality or a corporate fleet. These sessions encourage problem-solving, critical thinking, and the exchange of diverse perspectives. Interactive discussions, expert-led Q&A sessions, and practical exercises on topics like site assessment and financial modeling are integrated throughout the five days. This hands-on approach ensures that theoretical concepts are immediately reinforced with practical application, empowering participants to confidently lead EV infrastructure initiatives within their organizations.

Course Agenda (Course Units):

Unit One: Fundamentals of the E-Mobility Ecosystem

- Introduction to Electric Vehicles (BEV, PHEV, FCEV).
- Global and Regional E-Mobility Market Trends and Drivers.
- Overview of EV Charging Technology (AC Level 1, Level 2, DC Fast Charging).
- Understanding Charging Standards and Connectors (CCS, CHAdeMO, Tesla).
- The Role of Software and Networks in Charging Infrastructure.
- Key Stakeholders in the EV Charging Value Chain.
- Introduction to EVSE (Electric Vehicle Supply Equipment) Components.

Unit Two: Strategic Infrastructure Planning and Site Analysis

- Conducting a Charging Needs Assessment and Demand Forecasting.
- Methodologies for Strategic Site Selection and Analysis.
- Planning for Different Use Cases: Public, Fleet, Workplace, and Residential.
- Utilizing GIS and Data Analytics for Optimal Location Planning.
- Stakeholder Engagement and Community Consultation Processes.
- Assessing Site Feasibility: Power Availability, Accessibility, and Zoning.
- Integrating EV Charging into Urban and Transportation Planning.

Unit Three: Technical Design and Electrical Grid Integration

- Electrical System Requirements for EV Charger Installation.
- Understanding Load Calculations and Power Management.
- The Impact of EV Charging on the Electrical Grid and Transformers.
- Strategies for Smart Charging and Demand Response.
- Introduction to Vehicle-to-Grid (V2G) and Vehicle-to-Building (V2B) Concepts.
- Open Charge Point Protocol (OCPP) and Network Interoperability.
- Cybersecurity Considerations for Charging Networks.

Unit Four: Financial Models, Policy, and Regulatory Frameworks

- Developing Business Models for EV Charging Services.
- Calculating Total Cost of Ownership (TCO) and Return on Investment (ROI).
- Exploring Revenue Streams: Session Fees, Subscriptions, and Advertising.
- Navigating Government Policies, Subsidies, and Incentive Programs.
- Understanding Permitting, Zoning Laws, and Building Codes.
- Electricity Tariffs and their Impact on Charging Economics.
- Public-Private Partnership (PPP) Models for Infrastructure Development.

Unit Five: Project Deployment, Operations, and Future Innovations

- Managing the EV Charging Infrastructure Project Lifecycle.
- Best Practices for Installation, Commissioning, and Testing.
- Developing an Operations and Maintenance (O&M) Strategy.
- Ensuring Uptime, Reliability, and a Positive Customer Experience.
- Future of Charging: Wireless, Battery Swapping, and Megawatt Charging.
- Integrating Renewable Energy Sources like Solar with EV Charging.
- Course Review, Final Project Presentations, and Action Planning.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

As vehicle-to-grid (V2G) technology matures, how might the role of EV charging infrastructure evolve from a simple refueling service to an active, distributed energy resource management system, and what are the primary regulatory and economic barriers to this transition?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by offering a holistic, multi-disciplinary perspective that bridges the gap between technical engineering, strategic urban planning, and financial viability. While many programs focus narrowly on hardware installation or software, this curriculum provides a comprehensive 360-degree view of the entire EV charging ecosystem. It emphasizes the strategic "why" and "where" before diving into the technical "how," ensuring that infrastructure is not just built, but built intelligently for long-term success and scalability. The content is deeply rooted in real-world applications, using global case studies to explore complex challenges like grid integration in high-density areas and the development of equitable public charging access. Furthermore, the course is distinctly forward-looking, dedicating significant time to emerging trends like V2G technology, megawatt charging for heavy-duty vehicles, and the integration of renewable energy. Participants will leave not only with the skills to deploy today's technology but also with the strategic foresight to plan for the next generation of e-mobility solutions, making them true leaders in the field.