



USAID Vietnam Urban Energy Security

Scope of Work

Enabling Readiness for Electric Vehicle Markets

BACKGROUND

USAID Vietnam Urban Energy Security is a 4-year, USAID funded activity that addresses the problems of growing energy demand and air pollution from large coal projects and current urban energy practices in Vietnam. The activity supports cities to take advantage of: 1) the technological advancements and cost reductions of advanced, distributed energy solutions such as rooftop solar, battery storage, and demand response; 2) electric vehicles (EV) and electric vehicle charging station (EVCS); 3) energy efficiency and modern energy technologies for municipal services; and 4) business opportunities for local entrepreneurs in deploying distributed energy systems and services.

In USAID Vietnam Urban Energy Security's **Component 1: Strengthening Local Enabling Environment**, our efforts will focus on working closely with Danang Department of Industry and Trade (DOIT) and other Government of Vietnam (GVN) counterparts in Danang and Ho Chi Minh City to strengthen their ability to promote and encourage the adoption of renewable energy and energy efficiency measures locally. This will be done by providing ongoing guidance and advisory support for action plans, implementation strategies, and operational manuals; technical assistance to enhance compliance with national level strategies, policies, and regulations; and working with the private sector to promote DOIT and GVN priorities and support their adoption of renewable energy and energy efficiency measures.

Among the advance clean energy technologies, EV hold many promises for customers and society—helping countries achieve decarbonization and mobility objectives in the transport and energy sectors. In 2021-2022, the Project will extend its technical scope to cover EV and EVCS, a growing market in Vietnam's cities and one that requires support in planning, technical analysis, environment, and climate assessments. We will support Danang DOIT in building better readiness for the growth of EV. This includes technical assistance on policy, planning and preparedness for development of electric vehicles (EV) and electric buses (E-bus).

OBJECTIVES

The ultimate objective of the assignment is to provide support for Danang as a pioneer in rolling out EV and EV charging stations (EVCS) through a study to identify candidate sites, technical and financial considerations, investment analysis, and incentives needed to facilitate the city plan on EVCS deployment in both public and private premises.

ANTICIPATED ACTIVITIES

USAID Vietnam Urban Energy Security will engage a firm or a consortium for this assignment. The firm will be responsible for carrying out the following tasks:

Task 1: Analysis of technical/technology barriers to EVCS development in Danang

- Review of specifications/configurations of distribution network of Danang city in relation to EVCS connections and facilitation of future EVs.
- Carry out review and assessment on:
 - Current applicable grid codes in relation to EVCS connections;
 - Utilities' capacity and practices in operation and protection of the local power networks;
 - Capacity and future plan of local utilities in integrating and management of EVCS;
 - Possible impacts of EV to the grid as a key element for municipal EV infrastructure planning;
 - The city's plan on facilitation of EV infrastructure planning (if any);
 - Potential grid impacts of EVs.
- Support NREL team in overview of technologies, standards, and protocols for charging infrastructure (subject to availability of NREL experts).
- Identification and mapping of candidate sites in public/private premises for EVCS planning:
 - Implement desk study and on-site survey to prepare a long list of potential sites for EVCS planning in public and private premises;
 - Undertake (Multi-criteria) assessment and selection of candidate sites;
 - Mapping the candidate sites.
- Analysis of EV technology options for Danang:
 - Management of charging (passive & active);
 - Communication protocols;
 - Load modeling & forecasting (location-specific);
 - Recommendation on technologies, specifications/standards, and protocols for charging stations in Danang.

Task 2: Analysis of legal frame and policy context and propose the roadmap and incentives for EVCS development in Danang

- Overview of legal regulations and mechanisms as well as policies related to EVCS development at the national level and in Danang city.
- Comprehensive review of legal framework and regulations relevant to public investment, public asset management, land management, and public-private partnership relevant to EVCS development.
- Analysis of opportunities and challenges for EVCS deployment in Danang in terms of legal and policy considerations.
- Propose EVCS development, management/business model applicable for Danang.
- Propose recommendations on legal framework to promote investment and development of EVCS in Vietnam in general and Danang in particular.
- Propose roadmap and recommendations on mechanisms and policies to support EVCS development at the Danang city level.
- Provide guidance for the Danang government to improve preparedness for EV and EVCSs, including investors selection procedures (e.g. auction or public tender or PPP mechanisms).

Task 3. Economic and financial analysis of EVCS development in Danang to 2025 and 2030

- Review and estimate the demand for EVCS in the city to 2025 and 2030.

- Provide estimates of EVCS investment needs in Danang's public facilities, to include but not limited to:
 - Estimate investment costs of EVCS;
 - Estimate investment costs to upgrade infrastructure and power grid;
 - Analyze and propose plans for return on investment and development costs of EVCS. This analysis should define and clarify how electric vehicle charging fees are calculated and applied to ensure compliance with current regulations;
 - Estimate total investment needs.
- Develop a pilot investment model for 10 EVCS in Danang, in which 1-2 EVCS grade III and up to 9 EVCS grade I and II (grades of EVCS are introduced in Decision 124 of Danang City in 2021):
 - Preliminary design for EVCS;
 - Survey and select locations;
 - Estimate investment and propose financing mechanism and business/management model.

EXPECTED DELIVERABLES AND TIMELINE

Throughout the assignment, the firm is expected to participate in regular phone calls and meetings to provide progress updates and should provide outlines of deliverables for comment and approval before developing the reports and prepare drafts for feedback and input before finalizing. Additionally, the firm should provide information regarding any interviews held, including questionnaires, interview guides and notes, and should provide a written summary of the desk research that is undertaken.

The firm is expected to produce the following deliverables:

- Inception Report incorporating the workplan, methodology and approach for the study;
- Report #1 summarizing key results and findings of Task 1;
- Report #2 summarizing key results and findings of Task 2;
- Report #3 summarizing key results and findings of Task 3;
- Presentation of reports and key findings.

All communication will be in English (written and verbally). The reports and slide decks should be submitted in both English and Vietnamese.

Activity	Expected completion date
• Inception Report incorporating the workplan, methodology and approach for the study	21 January 2022
• Report #1	15 March 2022
• Report #2	29 April 2022
• Interim Workshop	10 May 2022
• Report #3	16 June 2022
• Final Workshop	30 June 2022