



Hoa Cleantech

Electric Vehicle Fleets - Smart Charging Solutions

Case Study

April 2020

Hoa Cleantech worked with several Clients across North America to demonstrate effective load control strategies for electric vehicle charging stations. As subject matter experts, we developed high-level strategies, concept designs and customised business logic of Smart Charging solutions. These solutions are effective ways to reduce infrastructure costs and operating costs for electric vehicle fleets.

Our work demonstrated:

- **Power cost** can be dramatically **reduced** using appropriate Smart Charging architecture.
- **Infrastructure upgrades** can be **minimised**. Load sharing and other systems can effectively increase utilisation of the customer's electrical assets.
- Smart Charging can **add value** to a **microgrid** system.

Smart Charging [SC] is a technique that intelligently limits the amount of current transferred to an electric vehicle for a certain period of time.

Hoa Cleantech work with customers to:

- Quantify the benefits of SC for their situation
- Define the appropriate SC architecture
- Deploy SC solutions
- Customise SC solutions



Our Added Value

Project Requirements

Our Clients had a range of requirements that included:

- Integration of load control for **microgrid** application.
- Identify the most **cost-effective technology** to reduce **demand charges**.
- Develop and implement **innovative** Smart Charging solutions for **workplace charging**.

Understanding our Clients

There are several types of Smart Charging controls on the market. We identified the right controls for our different Clients to maximise value through:

- Understanding our **Clients application** to provide an overview of the most beneficial technologies (i.e. Load Sharing, Cloud-based dynamic charging, etc.).
- Navigating our Clients through the different **communication protocols** and their respective capabilities (i.e. OCPP, ONP, RESTful APIs, proprietary, etc.).
- Defining the **appropriate Smart Charging architecture** for our Clients sites.

Facilitate Procurement

We helped one of our Client's in the procurement process through:

- Defining clear scopes of the requirements and services required.
- Delivering **cost savings** by identifying necessary and unnecessary features proposed by vendors.

Implementation, Validation and Testing

We have helped our Clients implement, validate and test Smart Charging solutions through:

- **Defining test procedures** to validate required functionalities.
- Developing **customized control features** using an **open source** platform.