



## LV 3 EV CHARGING

### Off-Grid Level 3 EV Charging Station with Battery Energy Storage System

#### CLIENT CHALLENGE

EV charging infrastructures are power intensive and accrue lots of electricity costs under the energy bills. Our client in California, US operates an EV charging infrastructure with Level 3 DC EV chargers which has power demands higher than 30 kW and in some cases above 100 kW. So, the client has ideally sought to utilize solar PV and energy storage system to make bill savings by taking the infrastructure off the grid.

In urban areas, there are many cases of grid infrastructure reaching its limit in terms of load capacity and this is becoming a major concern. As per Toronto Utility Department, there will be no more space for power capacity expansion soon. In such situations, interconnection of EV chargers will see more procedural and timeline bottlenecks and, in some cases, no chance of approval. Thus, the integrated solar PV and BESS offers a smart charging solution without overloading the existing system.

#### BACKGROUND

TROES is a Canadian company specializing in advanced distributed energy storage technologies, product and solutions.

TROES is developing an Off-grid Level 3 EV Charging Station with Solar power and Battery Energy Storage System (BESS) to serve as a power source for electric vehicles in commercial & residential buildings.

It will be pivotal in areas where load expansion is strictly regulated and will relieve the burden of excessive power demands on the grid.

# RESULTS



**US\$188,000**

**Initial Cost**



**90,000kWh**

**Annual Usage**



**US\$36,000**

**Annual Savings**



**~5.2 Years**

**Payback Period**

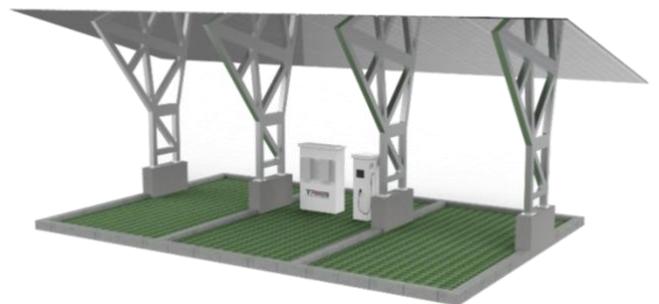
\*SGIP in California offers 85% rebates for BESS under equity category.

## FINANCIALS & BENEFITS

The initial system cost is US\$188,000. Taking 3000 hours of sunshine in California with an EV charger usage fee of US\$0.20 per minute (US\$0.4/kWh), the annual savings will be US\$36,000 with a payback period around 5.2 years.

## ABOUT THE SYSTEM

The SolarToGo™ system comprises of a pure Off-grid Level 3 EV charger, powered by a scalable solar system and a 280 kWh BESS. This setup will be able to charge an ordinary EV up to 80% in just 30 minutes. So, these charging stations will be useful even when a vehicle is parked for short period of time.



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