

# Port Electrification

## CASE STUDY

### AT A GLANCE

In 2023, ElectroTempo helped a major port client electrify their cargo handling equipment and truck fleet. The port needed a way to optimize their existing electrified fleet and make critical decisions on sustainable and cost-effective configurations for future investments in electrification. ElectroTempo

was able to assess their existing and planned infrastructure and determine the most cost-effective options to electrify, and identify additional strategies to maximize charging, operations, and the day-to-day performance of electrified equipment.




### CHALLENGES

Ports across the U.S. are facing the dual challenge of aggressive emission reduction goals while managing ever increasing electricity demand. This customer was seeking a way to cost-effectively scale its vehicle and cargo-handling electrification demand while managing utility supply constraints and ever-changing operational requirements.

### SOLUTIONS

ElectroTempo was able to ingest the port's particular operational parameters (such as shifts, vehicle count, vehicle types) and provide optimized vehicle electrification analysis across a range of scenarios, helping this port client assess charging demand, increase energy efficiency, cut emissions and drive down costs. In phase II of this project, ElectroTempo will expand this assessment to include potential 3rd party fleet (public) demand as well.

### BENEFITS

-  **Port-Specific Configuration**  
*ElectroTempo ingests specific operational parameters to provide a dynamic charging demand profile and electrification strategies.*
-  **Total Cost of Ownership Calculator**  
*Evaluate electrified fleets and determine the most sustainable and cost-effective configuration of EVs and infrastructure.*
-  **Optimized Operations**  
*Optimize vehicle electrification projects, increase energy efficiency, lower emissions and drive down costs.*

### KEY METRICS

**\$39M** Savings in TCO just from switching from ICE to EVs.

ElectroTempo found that by simply replacing their current fleet with EVs without altering any operational requirements, the port would reduce their TCO by \$74M over 12 years.

**\$171M** Additional TCO savings from optimizing with ElectroTempo

Using ElectroTempo's optimization toolkit to actively manage operations and charging schedules to reduce vehicle and charger needs allowed the port to identify an additional \$12M in Capex and Opex savings.