



# Order for bidirectional solar-powered container charging at port terminals





## Overview

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Generating renewable power on-site at the port terminals can significantly reduce this off-site pollution, improve public opinion of the ports, and reduce the terminal's energy expenses. Container terminals in sunny climates are particularly good candidates for on-site solar power generation.

Container terminal electrification involves complex challenges across operational, infrastructural, and financial levels. A successful plan requires balancing these factors, as a lack of holistic and comprehensive perspective often creates obstacles in our industry. In this blog, we select the

Although lithium-ion batteries are considered to be the 'go-to' technology, there are other types of battery chemistry which could become attractive. The ESSOP project has analysed the relative performance of these various options to assess them under typical port use cases. To minimize the

The Tenth Avenue Marine Terminal microgrid infrastructure project supports energy resiliency and advances emissions reductions, furthering the Port's commitments to clean air. The Port of San Diego initiated the Tenth Avenue Marine Terminal (TAMT) Microgrid - Resiliency in Terminal Operations.

Two major forces are the primary drivers for port operations increasingly evaluating and moving toward adoption of electric-powered equipment: Corporate sustainability initiatives Within the United States, the California Air Resources Board (CARB) is responsible for the most near-term.

The Port Authority of New York and New Jersey and Port Newark Container Terminals (PNCT), marked a milestone with the completion of one of the largest solar power installations at any container terminal in the world. The 7.2-megawatt



(MW) solar installation at PNCT generates 50 percent of the. What is a solar grid connection capacity?

- Grid connection capacity = 100kVA. The figures below show the battery behaviour in summer and winter, to observe the impact of seasonal PV solar variation. Performance of a system with 120kWp of PV solar capacity in Summer, showing the small amount of grid energy needed to supplement the solar power.

Why is energy storage a critical port function?

Ensuring availability of these electrical resources to meet loads which are intermittent and uncertain is becoming a critical port function. It requires investment in multi-vector energy supply chains, energy storage in ports and their associated energy management systems.

Why should a terminal be electrically powered?

Using electrically powered equipment significantly reduces emissions and noise from a terminal, which improves the working environment for the people working in the terminal, and reduces the terminal's impact on the surrounding community. Combined with shore-to-ship power connection the emissions of terminal operations can be reduced even further.

What are the requirements for recharging a harbour vessel?

The requirement involves recharging of harbour vessels potentially twice per day for two vessels (or four vessel recharges per day). The system parameters are: • Recharging load = 125kWh per recharge. (Recharging power can range between 65kW over 2 hours to 250kW over half an hour); • Grid connection capacity = 100kVA.



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### Microgrid , Port of San Diego

This cornerstone project provides renewable, reliable, and resilient power to meet operational needs on TAMT and advances Port emissions reductions goals. The microgrid is made ...



### [If They Can Put Solar Power Here, They Can Put It Anywhere](#)

At the Port Newark Container Terminal in New Jersey, solar panels have been shoehorned into a tightly packed, high-traffic shipping facility, without disrupting operations or ...

### [Electrification for container terminals](#)

We select these four challenges of electrification for container terminals in this blog to highlight what we often hear from ports and terminals. To ...



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### [NEW SOLAR ENERGY INSTALLATION AT EAST COAST'S ...](#)

Solar Energy Project Marks Major Advancement in Port Authority's Industry-Leading Sustainability Agenda. Port Newark Container Terminal's Installation Has Ability to ...



### **Presentation**

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### [FOUR QUESTIONS WHEN CONSIDERING AN ELECTRIC ...](#)

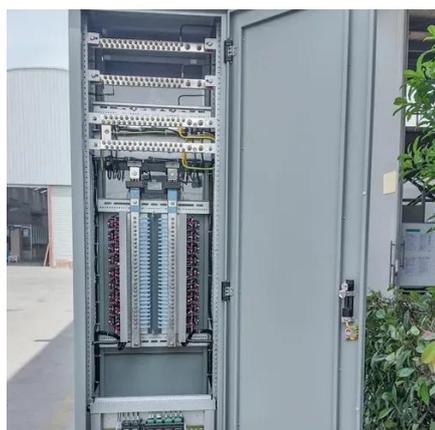
Determining and implementing the right solution for each operation requires careful evaluation of power choices, charging or refueling equipment, along with utility grid changes or the ...



### **US Ports Complete One of the World's Largest Solar Installations ...**



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### [Electrification for container terminals](#)

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### **Port electrification solutions**

ABB offers a total ev charging solution from compact, high quality AC wall boxes, reliable DC fast charging stations with robust connectivity, to innovative on-demand electric bus charging ...



### [US Ports Complete One of the World's Largest ...](#)

The Port Authority of New York and New Jersey and Port Newark Container Terminals (PNCT), marked a milestone with the ...

### [ENERGY STORAGE FOR PORT ELECTRIFICATION](#)



The algorithm driving this optimization forecasts the amount of grid energy needed by the port in the next 24 hour period and identifies the times when power can be purchased at the lowest ...



### **PT38-15 dd**

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