

Is shore power profitability based on Access Pricing?

However, it is interesting to note that even under profit-maximizing pricing, positive net benefits of shore power deployment can be achieved. In other words, shore power profitability is robust to alternative assumptions regarding access pricing. Fig. 1.

What is a shore power system?

A generic SP system (Sciberras et al., 2015). Shore power (SP), also known as "shore-side power," "shore side electricity," and "high-voltage shore connections (HVSC)," is a promising approach to controlling exhaust emissions from berthing ships and mitigating air pollution problems in port areas.

Are shore power investments socio-economically beneficial?

We find that investing in the provision of shore power in ports can be socio-economically beneficial also when aimed at bulk carriers, tankers and general cargo ships. We also find that the pricing of access affects expected uptake and consequently whether or not shore power investments yield benefits in proportion to costs. 1.

Introduction

Why is shore power investment a problem?

A central part of the problem in shore power investment and uptake is related to the dispersion of traffic patterns. For a vessel with a high number of scheduled calls at only a few ports, a retrofitting investment to connect to shore power is more likely to generate a reliable payoff than if its port call pattern is dispersed and unpredictable.

Can shore power reduce energy costs?

The authors find that using shore power technology would be beneficial in many ports, reducing unit energy costs of up to 75%. Sisson and McBride (2010) compared best-case and worst-case scenarios for shipowners in the US from an energy cost-perspective, for both conventional operations and shore power.

Is shore power a solution to shipping emissions reduction in ports?

This paper aims to conduct a state-of-the-art review of shore power by the Web of Science Core Collection and Scopus databases as a pivotal solution to shipping emissions reduction in ports and advancing the maritime sector towards carbon neutrality.

In fact, the construction of shore-side power equipment has been mostly completed in most ports. According to the relevant report, the installation rate of shore-side power in China's inland river ...

Connecting the ships to the shore power system during berthing can reduce fuel consumption, thereby holding significance in environmental preservation. With the promotion of the shore ...

We use two integrated assessment models to quantify the benefits of reducing the emissions of NO_x, SO₂, PM_{2.5}, and CO₂ that would occur if shore power were used. Using historical vessel call data, we identify combinations of ...

In this paper, an integrated port energy system is described and modeled based on cost modeling and including practical constraints. The model uses simulated power data to operate an ...

The best case is selected combining the components of the hydrogen plant with the fixed wind power capacity of 1000 MW. Fig. 2 e Fluctuation of effective on-shore wind power and ...

This paper describes the development background of marine shore power technology, introduces the composition and power supply mode of multi-source shore power system, analyzes the ...

In the context of energy saving and emission reduction and building green ports, ship-to-shore power technology is one of the important strategies favored by governments to solve port ...

Profile and Profit Model Analysis of Jidian Share 2.1 Brief Introduction of Jidian Share Jilin Power Co., Ltd. (hereinafter referred to as "Jidian Shares") is a power company controlled ... energy ...

The role of Electrical Energy Storage (EES) is becoming increasingly important in the proportion of distributed generators continue to increase in the power system. With the deepening of ...

The concept of "oil to electricity" is crucial for expanding the share of electricity in final energy consumption as well as for encouraging energy efficiency and emission reduction. Initially, a multidimensional strategy ...

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OPS, also known as alternative maritime power, shore-side electricity, shore power, ship-to-shore connection, cold ironing, and shoreside power supply, is the practice of ...

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