

Can solar PV power plants be built near highway networks in 3D BIM?

The study shows a detailed spatial analysis and visualizes the construction of solar PV power plants in the vicinity of highway networks in 3D BIM environments. The district of Ucheon-myeon is geographically located between the 37.4° and 37.5° north latitudes and 128.0° and 128.1° east longitudes.

Can solar PV be used in construction industry?

Some scholars have studied PV as part of the construction industry (Wong and Cronin, 2019; Curtius, 2018), identifying challenges due to a lack of BEPV standardization in the industry. However, there is a gap in studies addressing the specific process of implementing solar PV systems in the professional construction industry.

Are actor-specific barriers associated with solar PV systems in construction?

Actor-specific barriers were identified and analysed using an abductive approach. In light of established definitions of systemic innovation, the process of implementing solar PV systems in construction involves challenges regarding technical and material issues, competencies, and informal and formal institutions.

Do solar PV projects have a high level of systemic innovation?

The exploration of actor-specific experiences of solar PV projects has resulted in a novel understanding of this specific innovation and its implementation. The findings illustrate a case of a high level of systemic innovation and the need to use a finer-grained scale for classification when studying innovation in construction.

Can solar industry actors learn about solar-specific challenges for the construction industry?

Solar industry actors can gain an understanding of solar-specific challenges for the construction industry, challenges for which they must adapt their activities. The exploration of actor-specific experiences of solar PV projects has resulted in a novel understanding of this specific innovation and its implementation.

Can a BIM model be used for site selection of solar PV plants?

This paper proposed an evaluation method for the site selection of photovoltaic (PV) plants, which used spatial analysis with a geographic information system (GIS) and visualized the plan view of the solar PV plant installations in a building-information model (BIM) environment for energy planning and management when constructing highway networks.

Case Study. Case Study. Solar Panel Power Generation. Low-Carbon Construction Machinery . Parts remanufacturing business aimed at a circulating society. ConSite®; OIL. Human Resource Development in Local Communities. The Work Posture Automatic Determination System. Solar Panel Power Generation.

Overview. At the Kharagpur Plant of Tata Hitachi Construction ...

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In this paper we describe in detail the planning and development of RUMS park, review the common risks associated with large renewable projects and specifically analyze ...

Using different PV materials in industrial blocks could lead to a 59.2% difference in solar generation capacity. For single-layer industrial blocks, mono crystalline and poly crystalline silicon were preferable to achieve higher power generation. In contrast, multi-story and high-rise industrial blocks were best suited for a-Si and CIGS to ...

Today the power generation mix in Indonesia has very low shares of solar PV. However, it has strong solar potential that can provide clear benefits in terms of economic and environmental considerations. The 145 MW Cirata floating solar PV project that is under construction is a key milestone in Indonesia's clean energy transition. It will be ...

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Solar energy generation is a sunrise industry just beginning to develop. With the widespread application of new materials, solar power generation holds great promise with enormous room for innovation to improve efficiency conversion, reduce generating costs and achieve large-scale commercial application. Many countries hold this innovative technology in high regard, with a ...

At the Kharagpur Plant of Tata Hitachi Construction Machinery Company Private Limited (India), utilizing power generated on solar panels installed on site covers approximately 7,000MWh per year, or approximately 30% of power ...

Solar integration is pivotal in constructing energy-efficient buildings, where harnessing solar power substantially diminishes their environmental footprint, optimizes energy consumption, and lowers expenses. ...

In this paper we describe in detail the planning and development of RUMS park, review the common risks associated with large renewable projects and specifically analyze ways in which RUMS Park has tried to mitigate those risks. Insights are useful for designing policies and planning for large solar projects in India and elsewhere. 1. Introduction.

This study reviews solar energy harvesting (SEH) technologies for PV self-powered applications. First, the PV power generation and scenarios of PV self-powered applications are analyzed. Second ...

Solar power generation is an important way to use solar energy. As the main component of the grid-connected power generation system, solar grid-connected inverters ...

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In this respect, this study conducts a case study on selecting the site for PV-panel installation in the vicinity of a highway (e.g., slopes) by integrating geographic information system (GIS)...

Solar energy, harnessed from the sun's abundant and renewable power, presents a transformative approach to sustainable construction. By integrating solar technologies into building design and construction processes, we can significantly reduce energy consumption, lower greenhouse gas emissions, and create buildings that contribute positively ...

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