

Solar Roadways - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

<https://marketpublishers.com/r/S9480AA0D877EN.html>

Date: July 2024

Pages: 130

Price: US\$ 4,750.00 (Single User License)

ID: S9480AA0D877EN

Abstracts

The Solar Roadways Market size is estimated at USD 280 million in 2024, and is expected to reach USD 840 million by 2029, growing at a CAGR of 24.60% during the forecast period (2024-2029).

Key Highlights

Over the medium term, the growing adoption of renewable energy, increasing environmental concerns, and growing efforts in sustainable infrastructure to reduce carbon footprints are expected to drive the growth of the solar highways market.

The high initial cost associated with developing the infrastructure, repairing the cost of the solar panels, and performance limitations-related challenges are expected to hinder market growth during the forecast period.

Solar roadways can integrate wireless charging technology for electric vehicles (EVs), supporting the widespread adoption of clean transportation. EVs can be charged directly from solar-powered road surfaces, reducing the need for dedicated charging stations and extending their driving range. These are expected to hold vast opportunities in the future.

Asia-Pacific is likely to witness considerable growth during the forecast period. The growth is a result of rapid urbanization, increasing energy demand, supportive government initiatives, advancements in solar technology, and sustainability priorities, which are likely to collectively propel it to become the fastest-growing region in the solar roads market.

Solar Roadways Market Trends

The Driveways Segment is Expected to Witness Significant Growth

Asia-Pacific is witnessing a burgeoning interest and investment in solar highways, driven by the imperative to transition towards sustainable energy sources and mitigate environmental concerns.

In recent years, the region has been rapidly prioritizing renewable energy initiatives to address energy security and climate change challenges. This has led to significant government support and initiatives related to solar highway projects, fostering a conducive environment for their development. For example, in 2022, as per the Road Transport and Highways Ministry in India, the country has been working on developing electric highways powered by solar energy that will facilitate the charging of heavy-duty trucks and buses. Such efforts will help the solar roadways market growth in the region.

The rapid urbanization and infrastructural expansion in countries like China and India have exacerbated energy demands, making innovative solutions like solar highways attractive for their potential to generate clean electricity while utilizing existing infrastructure.

Asia-Pacific is home to some of the world's most populous and traffic-congested cities, offering ample opportunities for solar highways to generate electricity and contribute to easing gridlock through smart transportation features, such as intelligent traffic management systems and electric vehicle charging stations integrated into the roads.

The advancements in solar technology, including improved efficiency and durability of photovoltaic cells, are making solar highways more feasible and cost-effective than ever before. Collaborations between governments, technology companies, and infrastructure developers are driving innovation and scaling up deployment efforts across the region.

For example, the first solar pavements in Singapore were planned to be installed on Sentosa's Fort Siloso Skywalk in the first quarter of 2024 as part of the island's efforts to achieve carbon neutrality while it explores new ways to harness the power of the sun. Solar pavements are essentially solar panels installed on pavements that pedestrians can walk on. The Sentosa Development Corporation (SDC) has been aggressively rolling out the use of solar panels. It achieved over 5.2 megawatt-peak solar capacity in

2023, surpassing its original 3 megawatt-peak solar capacity target by about 68%. SDC is actively collaborating with its island partners to roll out its solar panel. All these efforts are likely to see an increase in the growth of the solar roadways market in the coming years.

Therefore, as per the points mentioned above, Asia-Pacific is expected to witness rapid growth during the forecast period.

Asia-Pacific will be the Fastest-Growing Region

The Asia-Pacific region is witnessing a burgeoning interest and investment in solar highways, driven by the imperative to transition towards sustainable energy sources and mitigate environmental concerns.

In recent years, the region has been rapidly prioritizing renewable energy initiatives to address energy security and climate change challenges. This has led to significant government support and initiatives related to solar highway projects, fostering a conducive environment for their development. For example, in 2022, as per the Road Transport and Highways Ministry in India, the country has been working on developing electric highways powered by solar energy that will facilitate the charging of heavy-duty trucks and buses. Such efforts will likely help the solar roadways market growth in the region.

Further, the rapid urbanization and infrastructural expansion in countries like China and India have exacerbated energy demands, making innovative solutions like solar highways attractive for their potential to generate clean electricity while utilizing existing infrastructure.

Moreover, the region is home to some of the world's most populous and traffic-congested cities, offering ample opportunities for solar highways to generate electricity and contribute to easing gridlock through smart transportation features such as intelligent traffic management systems and electric vehicle charging stations integrated into the roads.

In addition, the advancements in solar technology, including improved efficiency and durability of photovoltaic cells, are making solar highways more feasible and cost-effective than ever before. Besides, collaborations between governments, technology

companies, and infrastructure developers are driving innovation and scaling up deployment efforts across the region.

For example, the first solar pavements in Singapore were planned to be installed on Sentosa's Fort Siloso Skywalk in the first quarter of 2024 as part of the island's efforts to achieve carbon neutrality while it explores new ways to harness the power of the sun. Solar pavements are essentially solar panels installed on pavements that pedestrians can walk on. Moreover, the Sentosa Development Corporation (SDC) has been aggressively rolling out the use of solar panels. It achieved over 5.2 megawatt-peak solar capacity in 2023, surpassing its original 3 megawatt-peak solar capacity target by about 68%. In addition, SDC is actively collaborating with its island partners to roll out its solar panel. All these efforts are likely to see an increase in the growth of the solar roadways market in the coming years.

Therefore, as per the points mentioned above, the Asia-Pacific Region is expected to witness rapid growth during the forecast period.

Solar Roadways Industry Overview

The solar roadways market is moderately consolidated. Key players in this market include Solar Roadways, Wattway, Colas Group, SolaRoad Inc., and PLATIO Solar, among others.

Additional Benefits:

The market estimate (ME) sheet in Excel format

3 months of analyst support

Contents

1 INTRODUCTION

- 1.1 Scope of the Study
- 1.2 Market Definition
- 1.3 Study Assumptions

2 EXECUTIVE SUMMARY

3 RESEARCH METHODOLOGY

4 MARKET OVERVIEW

- 4.1 Introduction
- 4.2 Market Size and Demand Forecast in USD billion, till 2029
- 4.3 Recent Trends and Developments
- 4.4 Government Policies and Regulations
- 4.5 Market Dynamics
 - 4.5.1 Drivers
 - 4.5.1.1 Growing Adoption of Renewable Energy
 - 4.5.1.2 Efforts in Sustainable Infrastructure to Reduce Carbon Footprints
 - 4.5.2 Restraints
 - 4.5.2.1 High Initial Cost Associated With Developing the Infrastructure
- 4.6 Supply Chain Analysis
- 4.7 Industry Attractiveness - Porter's Five Forces Analysis
 - 4.7.1 Bargaining Power of Suppliers
 - 4.7.2 Bargaining Power of Consumers
 - 4.7.3 Threat of New Entrants
 - 4.7.4 Threat of Substitutes Products and Services
 - 4.7.5 Intensity of Competitive Rivalry

5 MARKET SEGMENTATION

- 5.1 Materials
 - 5.1.1 Monocrystalline Silicon
 - 5.1.2 Polycrystalline Silicon
- 5.2 Applications
 - 5.2.1 Driveways

5.2.2 Parking Lots

5.3 Geography [Market Size and Demand Forecast till 2029 (for regions only)]

5.3.1 North America

5.3.1.1 United States

5.3.1.2 Canada

5.3.1.3 Rest of North America

5.3.2 Europe

5.3.2.1 Germany

5.3.2.2 France

5.3.2.3 United Kingdom

5.3.2.4 Italy

5.3.2.5 Spain

5.3.2.6 NORDIC

5.3.2.7 Turkey

5.3.2.8 Russia

5.3.2.9 Rest of Europe

5.3.3 Asia-Pacific

5.3.3.1 China

5.3.3.2 India

5.3.3.3 Japan

5.3.3.4 Malaysia

5.3.3.5 Thailand

5.3.3.6 Indonesia

5.3.3.7 Vietnam

5.3.3.8 Rest of Asia-Pacific

5.3.4 Middle East and Africa

5.3.4.1 Saudi Arabia

5.3.4.2 United Arab Emirates

5.3.4.3 South Africa

5.3.4.4 Qatar

5.3.4.5 Egypt

5.3.4.6 Nigeria

5.3.4.7 Rest of Middle East and Africa

5.3.5 South America

5.3.5.1 Brazil

5.3.5.2 Argentina

5.3.5.3 Columbia

5.3.5.4 Rest of South America

6 COMPETITIVE LANDSCAPE

6.1 Mergers and Acquisitions, Joint Ventures, Collaborations, and Agreements

6.2 Strategies Adopted by Leading Players

6.3 Company Profiles

6.3.1 Solar Roadways

6.3.2 Wattway

6.3.3 Colas Group

6.3.4 SolaRoad Inc.

6.3.5 PLATIO Solar

6.3.6 Onyx Solar Energy

6.3.7 Wuxi Suntech Power Co. Ltd

6.3.8 Canadian Solar

6.4 Market Ranking/Share (%) Analysis

7 MARKET OPPORTUNITIES AND FUTURE TRENDS

7.1 Solar Roadways Integrating Wireless Charging Technology for Electric Vehicles (EVs)

I would like to order

Product name: Solar Roadways - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

Product link: <https://marketpublishers.com/r/S9480AA0D877EN.html>

Price: US\$ 4,750.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/S9480AA0D877EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

****All fields are required**

Customer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970

