



# **Market Research: INSOLAR**

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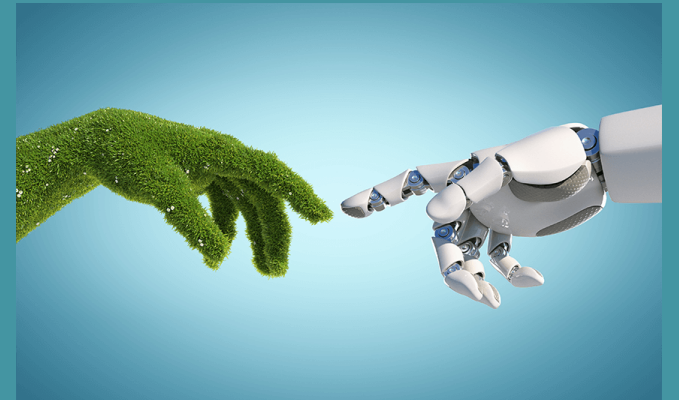
**Presented by Joy Chang**



# Market Overview

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- The business of INSOLAR intersects a few markets:
  - **Renewable energy:** solar energy and solar panels
  - **Technology:** its business is powered by AI
  - **E-commerce:** it connects the customers with the solar panel companies



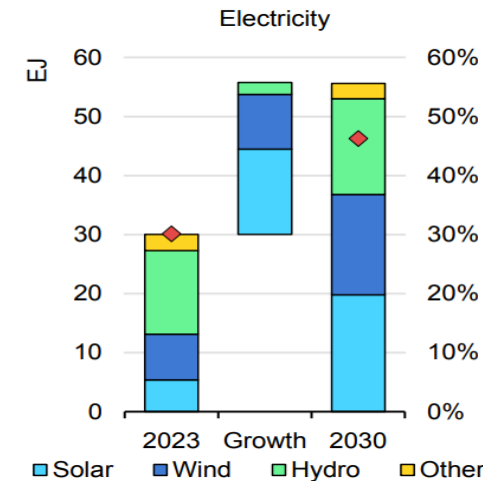
# Renewable Energy & AI

- Solar power in the renewable energy market

- In 2024, the demand for and investment in renewable energy continued to grow, accounting to almost **90%** of all new builds and expansions
- Global renewable capacity is expected to grow by 2.7 times by 2030
- As of 2024, solar became the **fourth-largest** source of installed capacity, which increased 88% compared to 2023
- Industrial policies encourage **local** manufacturing of solar panels

- Solar power & AI

- AI is being increasingly leveraged to optimize the **supply chains** of solar panels
- The industry is using AI to deploy and integrate the renewables that the industry
  - **AI-powered robots** help install large solar deployments in the desert powering data centers
  - The US Department of Energy has funded research using AI to accelerate the development of new **circuit technologies** to integrate remote renewable generation



Total actual business and consumer investment

**\$493B**

+71% since 2022

Breakdown by industry

Renewables    Cleantech manufacturing  
Carbon management

Solar	\$71B	+56%
Battery mfg	\$58B	+700%
Distributed	\$43B	+40%
Storage	\$37B	+130%
Wind	\$21B	-52%
Solar mfg	\$10B	+1000%
Clean hydrogen	\$8B	+1400%
Carbon mgmt	\$7B	+600%
Wind mfg	\$2B	+185%
Electrolyzer	\$0.6B	+142%

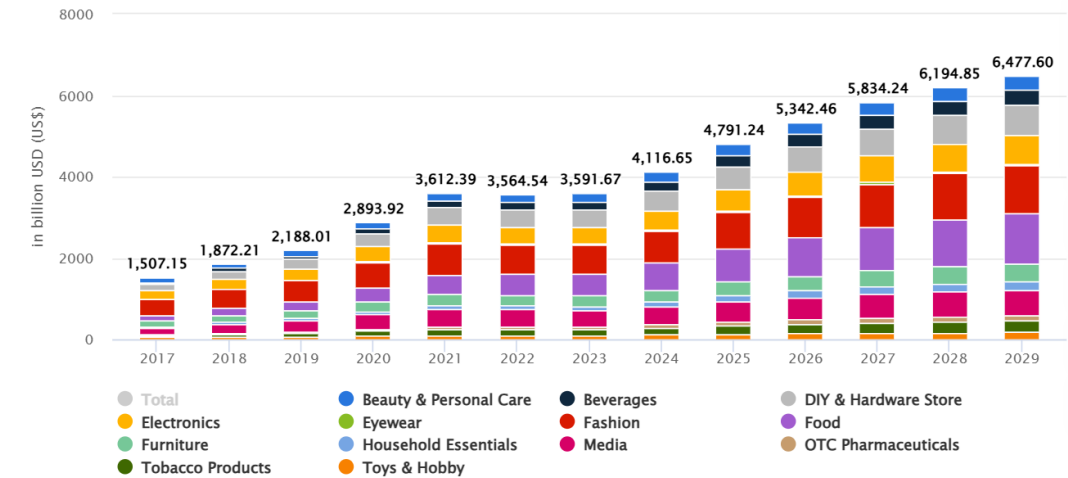
# E-Commerce & AI

- Solar industry in the e-commerce market

- Revenue in the e-commerce market is projected to reach **US\$4,791 billion** in 2025, with an expected annual growth of **7.83%**
- Consumers increasingly select the digital marketplace for a smooth shopping process and the ease of online buying
- E-procurement** is emerging as a preferred strategy to source solar panels and components
- B2B** solar marketplaces provide product buyers with a central location to request quotes and order supplies

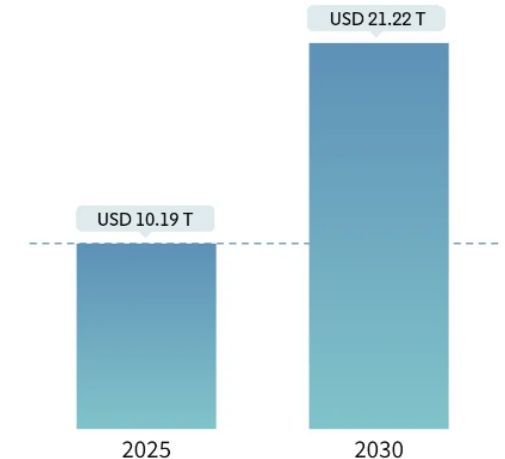
- E-commerce & AI

- AI-powered chatbots, predictive analytics, and digital assistants** have become essential components of e-commerce customer care
- E.g., Amazon's Alexa, Apple's Siri, and Microsoft's Cortana
- Generative AI** help e-commerce businesses write product descriptions



## E-Commerce Market

Market Size in USD Trillion  
CAGR 15.80%



# SWOT Analysis

- **Strength**

- Uses **AI** for instant, customized solar proposals
- Cutting customer acquisition costs allows INSOLAR to offer prices up to **50%** cheaper than other providers
- **Transparent** purchase process and clear cost breakdown for customers
- **Comprehensive service** covering designing, getting permits, installation, and working with utility

- **Weaknesses**

- Lack of **physical, in-person** stores
- Could face challenges in building and selling a brand in the competitive market
- Customers could be **skeptical** about AI-driven decisions

- **Opportunities**

- Growing demand for renewable energy, among which solar solutions are the **fastest-growing**
- Leveraging **government incentives** such as state and local rebates
- Developing AI chatbots and predictive analytics

- **Threats**

- Larger, more established solar providers could imitate the features of INSOLAR
- **Changes in energy policies** could impact INSOLAR's business
- Issues with AI systems could undermine customer satisfaction so it needs **regular maintenance**

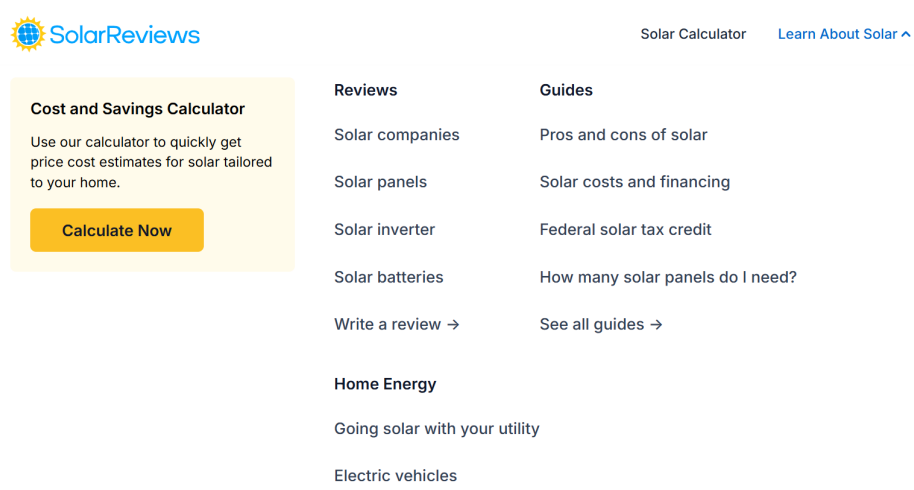
# Key Competitors

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Name	Revenue	Founder	Founded Year	Headquarter	Industry
INSOLAR	-	Ali Sina	2017	Irvine, CA	AI, Clean Energy, Solar, Sustainability
SolarReviews	\$33.7M/year	Andrew Sendy	2012	Denver, CO	Clean Energy, Solar, Marketplace
EnergySage	\$15M/year	Vikram Aggarwal	2009	Boston, MA	Energy Storage, Renewable Energy, Marketplace
Heliose	-	-	2021	Park City, UT	Energy Management, Solar

# Key Competitor: SolarReviews

Website pros: clear and straightforward, has the essential **solar calculator** function at the home page

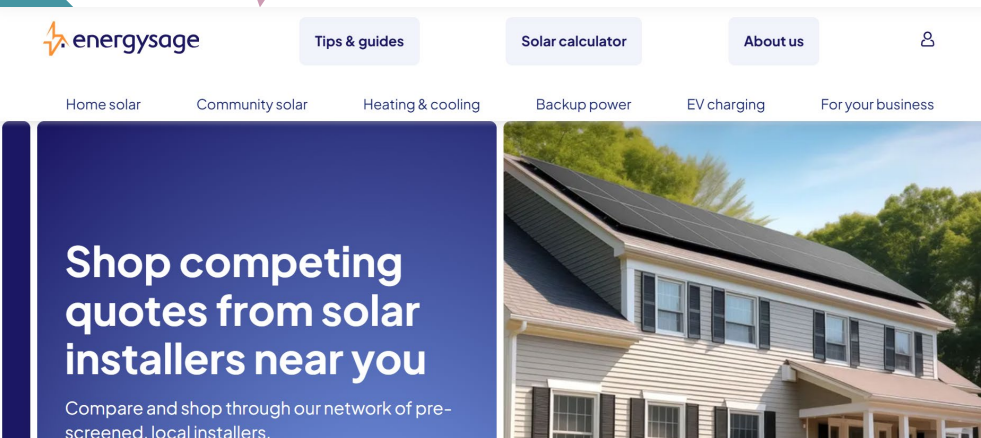


<p><b>Strength:</b></p> <ul style="list-style-type: none"> <li>• <b>One-stop resource</b> for solar info (i.e., solar companies, panels, inverters, batteries)</li> <li>• Provides <b>unfiltered</b>, trustworthy reviews</li> <li>• Data-driven ratings for panel installers</li> <li>• Educational guides on <b>solar costs, taxes credits, and financing</b></li> <li>• Simple cost-and-savings calculator</li> </ul>	<p><b>Weaknesses:</b></p> <ul style="list-style-type: none"> <li>• Primarily <b>informational</b>; doesn't offer end-to-end solar services</li> <li>• Quality and availability of solar installers may <b>vary by location</b>, potentially affecting customer satisfaction</li> <li>• Facing strong <b>competition</b> from other solar marketplace and review platforms</li> </ul>
<p><b>Opportunities:</b></p> <ul style="list-style-type: none"> <li>• Expanding educational content such as detailed guides and <b>video tutorials</b></li> <li>• Partnering with top-rated solar providers to offer <b>exclusive</b> discounts and services</li> <li>• Diving deeper in <b>local regulations</b> on solar installations to provide insights on rebates and costs</li> </ul>	<p><b>Threats:</b></p> <ul style="list-style-type: none"> <li>• <b>Unprofessional and fake</b> reviews on the platform could undermine customer trust</li> <li>• High upfront costs of solar installations could deter customers during economic downturns</li> </ul>



# Key Competitor: EnergySage

Website: has its major businesses listed clearly on the home page.  
However, the overall website is not visual-appealing



## Strength:

- Offering comparison tools for a wide range of clean energy solutions (i.e., **solar, heat pumps, EV charging**)
- Consumer-friendly as it provides pre-screened installer **quotes**
- Help users **maximize saving** through federal, state, and local rebates
- Community solar access

## Weaknesses:

- A wide range of products and services may overwhelm customers
- **Limited control** over the quality of installation and maintenance services – it relies on third-party partners

## Opportunities:

- Integrating more clean energy solutions such as **wind power** and **smart home energy** management
- Use **AI and big data** to recommend energy solutions for users based on their profiles
- Partnering with businesses to provide **bundled and economic** energy solutions

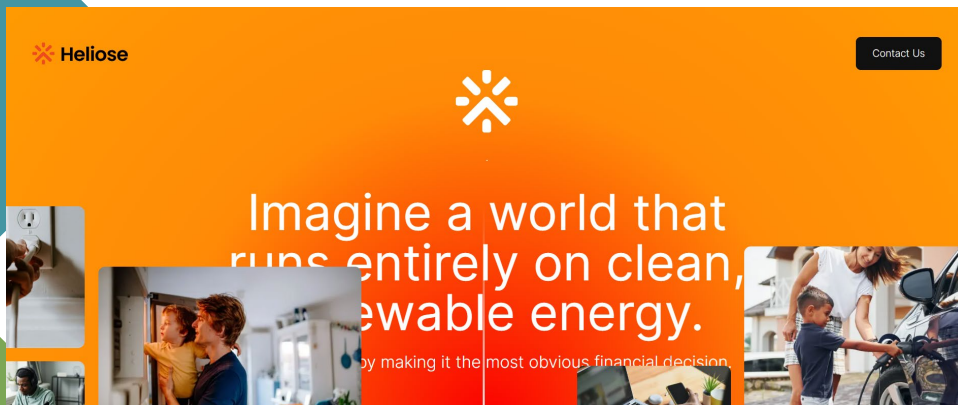
## Threats:

- Competing with platforms such as SolarReviews and direct providers such as Tesla Solar
- The clean energy market is reaching **saturation**



# Key Competitor: Heliose

Website: strong, captivating color choice. However, it only has key metrics on the home page but without any essential functions. It could move its “get a quote” to the top of the page



## Strength:

- Aiming to reduce residential solar costs by **50%**
- Cutting the post-sale installation timeline from 60 days to **under 72 hrs**
- Targeting the **under-penetrated** U.S. residential solar market
- Alignment with the trends (i.e., climate change mitigation and sustainable solutions)

## Weaknesses:

- As a new company, Heliose has **limited customer base**
- Small-scaled company with limited number of employees and resources
- Reducing costs and installation timelines significantly seems to be challenging and suspicious

## Opportunities:

- Its low cost and short installation timeline are intriguing. Heliose can sell more about this
- It can seek more **collaborations** with installers, lenders, and distributors
- Leveraging its **vertical software solution** to offer unique features like real-time quotes

## Threats:

- Customers tend to choose larger, more credible solar companies with extensive resources
- Heliose’s goals are **ambiguous** – it is hard to tell what its selling point is

# Source

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- <https://www2.deloitte.com/us/en/insights/industry/renewable-energy/renewable-energy-industry-outlook.html>
- <https://www.iea.org/reports/renewables-2024>
- <https://www.grandviewresearch.com/industry-analysis/e-commerce-market>
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- <https://www.crunchbase.com/organization/energysage>
- <https://www.crunchbase.com/organization/solarreviews>
- <https://www.crunchbase.com/organization/heliose>