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2025 - WEEK 52

Solar Energy Weekly Bulletin

The pulse of the global renewable energy movement

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ANALYSIS

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BULLETIN

Weekly Summary & Analysis

Week 52 (Dec 22 - 28, 2025) closes the year with groundbreaking achievements in solar technology and ambitious infrastructure projects. France stunned the world by covering an entire mountain peak with 112,000 solar panels, while Japan unveiled flexible solar cells that eliminate the century-old requirement for flat mounting surfaces.

Space-based solar power became reality as humanity's first orbital solar plant launched from the US began operations. China maintained its momentum with November installations hitting a six-month high, while Turkey celebrated a historic milestone as solar overtook natural gas in its 75 GW renewable capacity. The week also highlighted emerging challenges, with BBC reporting on India's growing solar waste problem.

Innovation continued with Texas announcing ambitious plans for 5 GW perovskite production, positioning the US to challenge China's dominance in next-generation solar materials. As 2025 concludes, the solar industry demonstrates unprecedented technological advancement and global deployment acceleration.

This Week's 7 Highlights

France Mountain Solar: 112,000 panels cover a mountain peak in mega-scale project

Japan Flexible Cells: Revolutionary technology ends 142-year flat surface requirement

Space Solar Plant: First orbital power station begins operations from US launch

China November Record: Solar installations hit six-month high, accelerating growth

India Waste Challenge: BBC highlights hidden e-waste problem in renewable boom

Turkey 75 GW: Solar overtakes natural gas for first time in energy mix

Texas Perovskite: State targets 5 GW production of next-gen solar material

Conclusion: Week 52 demonstrates that 2025 will be remembered as a transformative year for solar energy. From space-based power to flexible cells and mountain-scale installations, the industry has shattered previous limitations while addressing emerging sustainability challenges.

This Week's Headlines

- 4 France Covers Mountain with 112,000 Solar Panels in Mega Project

- 5 Japan Creates Flexible Solar Cells - A Milestone Since 1883

- 6 Humanity's First Space Solar Power Plant Begins Operation

- 7 China's Solar Installations Rise to Six-Month High in November

- 8 India's Renewable Boom Faces Hidden Waste Problem

- 9 Turkey's Renewable Capacity Tops 75 GW as Solar Overtakes Gas

- 10 Texas Eyes 5 GW Perovskite Production to Challenge China

11-13 *More Solar News: 19 Quick Updates from Around the World*

This Week's Summary: 26 news articles, 7 featured analysis, 19 additional news. Themes: Mega-scale installations, breakthrough technologies, space solar power, record deployments, sustainability challenges, emerging market milestones, next-gen materials.



Forget the Eiffel Tower: France just covered a mountain with 112,000 solar panels

SolarNews

France Covers Mountain with 112,000 Solar Panels in Mega Project

France has completed a massive solar energy project that literally overshadows the Eiffel Tower. In an unprecedented engineering feat, an entire mountain peak has been covered with 112,000 solar panels, creating one of the largest and most visually striking solar installations in European history.

The project marks a significant leap toward France's ambitious renewable energy goals, demonstrating that even challenging alpine terrain can be transformed into productive clean energy infrastructure. The installation takes advantage of higher altitude solar irradiance and cooler temperatures, which improve panel efficiency compared to lowland installations.

Industry experts note that this mountain-scale approach could inspire similar projects across Europe's mountainous regions. The French government has positioned this installation as a symbol of the nation's commitment to energy transition, proving that creative solutions can overcome geographical limitations in the pursuit of renewable energy expansion.

Key Takeaways

- 112,000 solar panels installed on a mountain peak
- One of Europe's largest and most unique solar installations
- Demonstrates alpine solar potential with higher efficiency

112K
PANELS


FRANCE


MOUNTAIN



Goodbye to solar panels: Japan finally creates solar cells that don't need to be flat to work – A Milestone tried since 1883

— **SolarNews** —

Japan Creates Flexible Solar Cells - A Milestone Sought Since 1883

Japanese scientists have achieved a breakthrough that the solar industry has pursued for 142 years: solar cells that don't require flat surfaces to function efficiently. This revolutionary technology eliminates one of the fundamental constraints that has limited solar deployment since the first photovoltaic cells were developed in the late 19th century.

The new flexible cells can conform to curved surfaces, wrap around objects, and maintain high efficiency regardless of orientation. This opens unprecedented applications from urban furniture and building facades to wearable technology and vehicle integration. The technology could dramatically expand the potential surface area available for solar energy generation in dense urban environments.

Researchers emphasize that this breakthrough represents a fundamental shift in how we think about solar infrastructure. Rather than dedicating flat rooftops and land to panels, virtually any surface could become an energy-generating asset. The technology is expected to enter commercial production within the next two years, with Japanese manufacturers already planning mass production facilities.

💡 Key Takeaways

- Eliminates 142-year-old requirement for flat mounting surfaces
- Enables solar on curved surfaces, wearables, and vehicles
- Commercial production expected within two years

1883
SINCE


JAPAN


FLEXIBLE



Goodbye to normal energy: Humanity's first space solar power plant begins operation, launched from the US

SolarNews

Humanity's First Space Solar Power Plant Begins Operation

A historic milestone in energy production has been achieved as humanity's first space-based solar power plant, launched from the United States, has begun operational energy generation. This groundbreaking facility orbits Earth and collects solar energy 24 hours a day without atmospheric interference, cloud cover, or nighttime interruptions.

The space solar concept, theorized for decades, has finally become reality. The orbital power station captures sunlight in space where solar intensity is approximately 30% higher than on Earth's surface, then transmits the energy to ground-based receivers using advanced microwave or laser technology. This approach could provide continuous, reliable baseload power regardless of weather conditions.

Energy experts herald this as a potential game-changer for global power systems. While initial costs remain high, the technology demonstrates that space-based solar is technically feasible. Multiple nations and private companies are now accelerating their own space solar programs, recognizing that orbital power generation could eventually provide unlimited clean energy to any location on Earth.

Key Takeaways

- First operational space-based solar power plant in history
- Provides 24/7 energy without atmospheric interference
- Transmits power to Earth via microwave or laser technology

24/7
POWER


LAUNCH


ORBITAL



China's Solar Power Additions Rise to Six-Month High in November

SolarNews

China's Solar Power Additions Rise to Six-Month High in November

China's solar power installations surged to a six-month high in November, reinforcing the nation's position as the undisputed global leader in renewable energy deployment. The acceleration reflects intensified efforts to meet ambitious climate targets and growing domestic demand for clean energy infrastructure.

The November figures demonstrate that China's solar industry has overcome supply chain challenges that earlier affected installation rates. Government incentives, falling panel costs, and strong provincial deployment programs have combined to drive this remarkable growth. Analysts note that year-end installations typically accelerate as developers rush to complete projects before annual targets reset.

This surge reinforces China's trajectory toward carbon neutrality goals and its dominance in global solar manufacturing. The country now accounts for over 80% of global solar panel production and continues to deploy more capacity domestically than any other nation. Industry observers expect China to install over 200 GW of solar capacity in 2025, more than the rest of the world combined.

Key Takeaways

- November installations reached six-month high
- Accelerated push toward carbon neutrality targets
- China leads global solar manufacturing and deployment

6mo
HIGH


CHINA


RECORD



India's renewable energy boom faces a hidden waste problem

SolarNews

India's Renewable Energy Boom Faces a Hidden Waste Problem

As India rapidly expands its solar energy capacity toward an ambitious 500 GW renewable target by 2030, a critical challenge is emerging: what to do with millions of tons of solar panel waste. BBC's investigation reveals that the country's remarkable clean energy growth is creating an e-waste problem that could undermine sustainability gains if not addressed proactively.

Early-generation solar panels installed during India's initial renewable push are now reaching end-of-life, while the exponential growth in new installations means future waste volumes will be massive. The country currently lacks adequate recycling infrastructure, and many panels contain materials that require specialized processing to recover safely and economically.

Experts warn that without immediate investment in circular economy solutions, India risks trading one environmental problem for another. The government is now developing regulations requiring manufacturers to take responsibility for panel recycling, while several startups are emerging to address the recycling opportunity. This challenge highlights the importance of planning for full lifecycle sustainability in renewable energy deployment.

Key Takeaways

500 GW renewable target creates massive future waste challenge

Current recycling infrastructure inadequate for panel volumes

Circular economy solutions urgently needed for sustainability

500GW
TARGET


INDIA


RECYCLE



Solar overtakes gas as Türkiye's renewable energy capacity tops 75 GW

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Turkey's Renewable Capacity Tops 75 GW as Solar Overtakes Gas

Turkey has achieved a historic energy milestone as its total renewable energy capacity surpassed 75 GW, with solar energy overtaking natural gas for the first time in the national energy mix. This represents a critical turning point in Turkey's energy transition and reduces the country's dependence on imported fossil fuels.

The rapid growth of solar capacity reflects Turkey's strategic investment in domestic renewable resources. With abundant sunshine across Anatolia and a growing manufacturing base for solar equipment, Turkey has accelerated its clean energy deployment while building energy independence. The shift away from imported natural gas also provides economic benefits and energy security advantages.

Industry observers note that Turkey's success demonstrates the potential for emerging economies to leapfrog traditional fossil fuel development paths. The milestone positions Turkey as a regional leader in renewable energy and opens opportunities for technology exports to neighboring markets. Government officials have announced even more ambitious targets for 2030, signaling continued commitment to the energy transition.

Key Takeaways

- Renewable capacity exceeds 75 GW milestone
- Solar overtakes natural gas for first time in energy mix
- Strategic step toward energy independence

75GW
CAPACITY





Perovskite was one of China's solar crown jewel — Now Texas eyes a next-gen material to produce 5 GW

SolarNews

Texas Eyes 5 GW Perovskite Production to Challenge China

Texas is making an ambitious move to challenge China's dominance in next-generation solar technology by planning a massive 5 GW perovskite solar cell production facility. Perovskite technology, which China pioneered as an alternative to traditional silicon panels, offers lower production costs and potentially higher efficiency than conventional solar cells.

The Texas initiative represents a strategic effort to establish American leadership in advanced photovoltaic manufacturing. Perovskite cells can be manufactured using simpler processes than silicon, potentially enabling domestic production that competes with Chinese imports on cost. The technology also allows for tandem cells that layer perovskite over silicon to achieve efficiencies exceeding 30%.

This investment is crucial to US energy independence strategy and could reshape global solar market competition. Industry analysts note that perovskite manufacturing requires different infrastructure than silicon production, creating an opportunity for new market entrants. If successful, the Texas facility would be among the largest perovskite production sites in the world, positioning the US as a leader in next-generation solar technology.

Key Takeaways

- Texas targets 5 GW perovskite production capacity
- Challenges China's dominance in next-gen solar materials
- Perovskite offers lower costs and higher efficiency potential

5GW
TARGET


TEXAS


NEXT-GEN

More Solar News This Week

Quick updates from around the world



Massive Solar Plus Storage to Replace Coal and Gas

A US solar and storage facility will replace both coal and natural gas plants, proving renewable integration



Stored Sunlight Generates Hydrogen in the Dark

New technology produces hydrogen using stored solar energy without electricity, advancing sustainable fuel



"Panda" Technology Wraps Objects for Energy

Innovative Panda tech wraps objects like gifts to generate solar energy, moving beyond flat panels



Kyrgyzstan Opens First Solar Power Plant

Central Asian nation inaugurates first solar facility, marking step toward energy independence and



Spain Solar Surplus Triggers Price Discounts

Record solar production in Spain leads to electricity price drops as operators offer discounts on excess



America's First Floating Solar Island: 164K Panels

US commissions first artificial photovoltaic island with 164,000 floating panels producing record energy



Fact Check: Renewables "Worthless" Without Sun?

Experts debunk claims about solar reliability, highlighting battery storage and grid integration



China's Solar Battery: 4.2% Direct Storage Efficiency

New Chinese solar battery converts sunlight directly to stored electricity, potentially reducing system costs



Duralight Power Closes, Cites Credit Rollback

Oregon solar company lays off 84 workers after Republican rollback of federal solar tax credits forces



Japan Tightens Mega-Solar Nature Protections

Japan strengthens regulations on large solar projects to balance renewable goals with environmental

More Solar News This Week

Industry updates and innovations



Sidewalk Solar Panels: Stunning Discovery
Researchers testing solar panels as sidewalks make breakthrough discovery for urban energy infrastructure



Rainbow Solar Glass: Color to Energy
New rainbow-colored solar glass combines aesthetics with heat and noise insulation while boosting efficiency



Wind and Solar: Complex Interaction Study
Research reveals wind and solar systems can both help and hinder each other when deployed together



Japan Mega-Cell Equals 20 Nuclear Reactors
Japan develops solar cell technology with production capacity equivalent to 20 nuclear reactors



Bill McKibben: Renewables! "Costco Effect"
Environmental author explains how solar and wind create economies of scale rivaling fossil fuel



China-India Solar Trade Dispute at WTO
China files WTO complaint against India over solar cell import restrictions, escalating trade tensions



Essential Home Upgrades with Solar Install
Critical energy upgrades recommended during rooftop solar installation for maximum efficiency and savings



Germany's 700°C Solar Tower: 2,153 Mirrors
Germany builds concentrated solar tower using 2,153 mirrors at 700°C to produce 1.5 MW with thermal



Investors Seek Climate Risk Assessment Tools
Financial sector demands new tools to assess extreme weather impacts on solar and wind infrastructure

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