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EDITOR'S NOTE

As the summer months approach, bringing with them longer days and abundant sunshine, Lahore is set to host the country's biggest solar energy exhibition — Solar Pakistan. This landmark event will take place the heart of Punjab spanning six halls, highlighting Pakistan's growing interest and commitment to renewable energy solutions. Known as the most comprehensive solar show in the region, Solar Pakistan serves as a crucial platform for innovators, investors, and industry leaders to showcase cutting-edge solar technology and explore sustainable energy opportunities.

With rising temperatures and soaring energy demand, the timing of Solar Pakistan could not be more crucial. Solar energy is gaining momentum as a practical solution to reduce Pakistan's reliance on fossil fuels and tackle the persistent energy crisis. However, this progress comes amid growing controversies surrounding net metering regulations, which have sparked debates among stakeholders. Many argue that recent changes in net metering policies could slow down the adoption of rooftop solar, posing challenges to the country's renewable energy targets.

Gas shortages and economic instability in Pakistan have cast a shadow over the country's growth, leaving industries struggling to stay afloat. Local businesses face rising costs and reduced consumer spending, making survival increasingly difficult. Sustainability and policy reforms are crucial to revive the economy and support a comeback.

As summer's scorching heat looms, the need for sustainable, cost-effective energy solutions becomes even more pressing. Events like Solar Pakistan inspire hope and action by driving the conversation on green energy forward and promoting a cleaner, more energy-secure future for the country.

Local Scoop.

Here we bring you the latest updates on the green revolution happening in your region. Read about how your community is harnessing the power of renewables to shape a sustainable future and create positive environmental impact, one innovation at a time. We talk about breakthrough technologies, and local initiatives driving the renewable energy movement forward.



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PAKISTAN SEEKS FRENCH SUPPORT FOR GREEN FUND ACCESS TO DRIVE EV TRANSITION



A day after announcing a significant reduction in power tariffs for Electric Vehicle Charging Stations (EVCS), Pakistan reached out to France on Thursday for support in accessing its Green Fund. This initiative aims to facilitate the transition of conventional small vehicles to electric technology, promoting a cleaner environment and reducing oil import dependency.

Power Minister Awais Ahmad Khan Leghari formally discussed the proposal with French Ambassador Nicolas Galey, emphasizing the need for financial and technical assistance to convert motorbikes, three-wheelers, and small vehicles (up to 800cc) from fossil fuels to electric engines. The government estimates that such conversions, costing between Rs50,000 and Rs150,000 per unit, could save approximately \$6 billion in annual petrol imports for Pakistan's 10 million motorbikes alone.

Earlier, the minister announced a 44% reduction in EVCS power rates, bringing

them down from Rs71.10 to Rs39.70 per unit, including taxes, pending formal regulatory approval.

Mr. Leghari briefed the French ambassador on Pakistan's Electric Vehicle Policy, highlighting its potential to save billions of dollars in fuel costs, lower transportation expenses, and reduce environmental pollution. He also discussed plans for an upcoming Wheeling Policy to enhance electricity distribution efficiency, surplus power auctions, and fostering a competitive energy market by gradually phasing out government involvement in the power business. The ambassador was informed about significant reforms, including the introduction of independent boards in most distribution companies, improved recovery rates, reduced line losses, and the promotion of solar energy. Mr. Galey praised Pakistan's transparent reforms and assured France's willingness to explore financial and technical support for its energy and EV transition plans.

JS BANK EYES ISLAMIC BANKING, RENEWABLE ENERGY LOANS

JS Bank Limited (JSBL) has announced plans to launch an Islamic banking window as part of Pakistan's broader move toward a fully Sharia-compliant banking system by January 2028, according to a news report. The bank's Chief Operating Officer (COO), Atif Salim Malik, confirmed that a proposal has been submitted to the State Bank of Pakistan (SBP) for approval. "We aim for a gradual transition to Islamic banking, which aligns with the SBP's Vision 2028 and government directives under the recently passed 26th constitutional amendment to eliminate interest-based banking," Malik said.

JSBL's acquisition of BankIslami in 2023 has strengthened its position in the Islamic finance sector, bringing its combined network to over 800 branches. Malik noted challenges in aligning international creditors with Islamic financing but emphasized the bank's readiness for the transition. JSBL has prioritized lending to small and medium enterprises (SMEs) and agriculture, with 17% of its total exposure dedicated to this sector, surpassing the industry average of 4%. Malik highlighted efforts to address challenges in SME financing through innovative approaches, including a Pakistan Banks' Association survey aimed at integrating undocumented businesses. The bank is also focusing on renewable energy financing, signing on to the Green Climate Fund to promote solar energy projects.

JSBL has made strides in digital banking with its "Zindigi" brand, which has attracted over five million accounts in just 2.5 years. More than 80% of its customers now use at least one digital platform, including WhatsApp banking and internet services.

PEL STRENGTHENS ENERGY SECTOR WITH KUFPEC ASSET ACQUISITION

Petroleum Exploration (Pvt) Limited (PEL), a prominent private-sector Exploration and Production (E&P) company in Pakistan, has reached a significant milestone by acquiring key energy assets from the Kuwait Foreign Petroleum Exploration Company (KUFPEC).

The newly acquired assets include concessions in Dadu, Kirthar, Tajjal, and Qadirpur—regions hosting some of Pakistan's most productive natural gas fields, such as the Bhit and Qadirpur leases. This acquisition strengthens PEL's resource base, enabling the company to address Pakistan's growing energy needs while reducing reliance on costly imports like liquefied natural gas (LNG).

The transaction also highlights the deepening economic ties between Pakistan and Kuwait. By acquiring these assets from KUFPEC, a leading Kuwaiti enterprise, PEL reaffirms the strong bilateral relationship between the two nations. This deal is expected to foster greater economic cooperation, particularly in the energy sector, while potentially expanding collaboration into other areas of mutual interest.

PAKISTAN'S FINMIN CALLS FOR TIMELY POLICY MEASURES

Pakistan's Finance Minister, Senator Muhammad Aurangzeb, has called for timely and effective policy interventions to tackle the country's pressing economic, energy, and industrial challenges. Speaking during a meeting of the Economic Coordination Committee (ECC), Pakistan's top economic decision-making body, Aurangzeb highlighted the need for transparent, efficient measures to drive sustainable economic growth. Senior ministers, officials, and federal secretaries from various departments attended the meeting.

Key priorities discussed included attracting foreign investment in critical sectors and implementing financial reforms in taxation, energy, and loss-making state-owned enterprises. The ECC approved a technical grant of Rs1.945 billion (\$7 million) for the Ministry of Defense and Rs5.276 million (\$18,994) for the National Commission on the Status of Women to support gender equality initiatives. Additionally, Rs2.462 billion (\$8.86 million) was allocated to the Ministry of Information and Broadcasting for 15 Public Sector Development Program (PSDP) projects for 2024-25.

Signs of economic recovery are emerging, with inflation dropping to 4.1% in December 2024 and the stock market showing a bullish trend. Pakistan has also secured substantial investments from Saudi Arabia, the UAE, and Central Asia, including MoUs worth \$2.8 billion with Saudi Arabia, \$560 million of which have been converted into agreements. However, challenges remain, such as the failed privatization of Pakistan International Airlines, which attracted only one bid of Rs10 billion (\$36 million) for a 60% stake.

FOREIGN FIRM SEEKS GOVT HELP TO ENFORCE \$7MN ARBITRATION RULING AGAINST PAKISTANI ENERGY FIRM

Frontier Holdings Ltd (FHL), a foreign oil and gas exploration company, has sought the Petroleum Division's intervention to enforce an international court ruling against Petroleum Exploration (Pvt) Ltd (PEL), a local energy firm.

In a letter to the Director General of Petroleum Concessions, FHL highlighted its legal victory in jurisdictional proceedings before the Singapore International Commercial Court (SICC). The SICC overturned an earlier ruling by an International Chamber of Commerce (ICC) arbitral tribunal, which had claimed it lacked jurisdiction over disputes between FHL, a foreign working interest owner (FWIO), and PEL, a Pakistani working interest owner (PWIO).

The conflict revolves around Petroleum Concession Agreements and Joint Operating Agreements for the Badin IV South and Badin IV North Blocks in Sindh. FHL initially filed for ICC arbitration after disputes with PEL, but the tribunal ruled that the disagreements should be resolved through domestic arbitration in Pakistan. However, the SICC ruled on December 30, 2024, that the ICC tribunal had misinterpreted the documents, confirming that such disputes require international arbitration outside Pakistan.

PAKISTAN'S NET METERING CAPACITY SURGES 294%, RAISING GRID CONCERNS

Pakistan's net metering power capacity reached an impressive 2,498 MW by the end of FY2023-24, marking a significant 294% increase from 633 MW in FY2021-22. This rapid growth reflects a nationwide shift toward renewable energy, particularly rooftop solar systems. However, the rise in solar adoption is not without challenges, especially for the national grid.

The net metering surge has been more pronounced among state-owned distribution companies (Discos) than the privatized K-Electric, which serves Karachi. Discos collectively accounted for 2,165 MW (86.7%) of the total net metering capacity, compared to K-Electric's 333 MW (13.3%). While K-Electric's adoption grew by 229.7% since FY2021-22, the pace remains slower than the 242% growth achieved by Discos, highlighting differences in policy implementation and consumer engagement.

Despite its promise of cleaner energy, the shift to solar has posed financial and technical challenges for the energy sector. Pakistan's grid-linked rooftop solar capacity does not include off-grid installations, but estimates suggest the country's total imported solar capacity has surpassed 10,000 MW during this period. As more consumers generate their own power, the cost of maintaining the grid increasingly falls on non-solar users, creating financial imbalances. To address this, the government is exploring measures to reduce compensation for rooftop solar-generated electricity. Proposed tariff cuts would lower the payment from Rs21 per unit to Rs7.5–11 per unit and adjust the exchange ratio from two solar units per grid unit to six solar units per grid unit. These measures aim to balance the financial impact of solar adoption while sustaining the grid's viability.

In Karachi, the financial hub of Pakistan, K-Electric's slow adoption of net metering remains a concern. Despite the city's high solar potential and rising energy demand, K-Electric has faced criticism for delays in approving net metering applications. In November 2024, NEPRA issued a show-cause notice to K-Electric for failing to comply with net metering directives, citing overloaded distribution systems and Pole-Mounted Transformers (PMTs) as recurring obstacles. NEPRA's State of Industry Report 2023-24 notes that despite resistance from some distribution companies, Pakistan is on track to surpass its net metering target of an additional 3,420 MW by 2031, as outlined in the Integrated Generation Capacity Expansion Plan (IGCEP) 2022-31. Falling solar panel prices and financial incentives have fueled the adoption of rooftop solar solutions, helping accelerate progress.

By June 30, 2024, the number of net metering consumers had soared to 157,844, nearly double the 75,724 recorded the previous year. FY2023-24 saw an additional 1,181 MW of net metering capacity, compared to 583 MW in FY2022-23. This growth underscores an increasing shift toward self-generation, even as traditional distribution companies struggle to accommodate the transition. With solar power adoption continuing to rise, the trend reflects a growing reliance on alternative energy sources beyond the national grid.

AT UN, PAKISTAN CALLS FOR CONCESSIONAL FINANCING FOR TRANSITION

Pakistan has urged for supportive global policies to help financially constrained developing countries transition to clean energy, according to state media. The call was made at an event co-sponsored by Islamabad to mark the 'International Day of Clean Energy' at the United Nations headquarters in New York.

Observed annually on January 26, this UN-designated day raises awareness and promotes action for transitioning to sustainable energy for the planet's and humanity's benefit. The event was organized by the "Group of Friends of Energy," an informal coalition advocating for global sustainable energy initiatives. "Developing countries with limited fiscal space cannot invest in expensive energy projects without greater financial access," said Ambassador Usman Jadoon, Pakistan's deputy permanent representative to the UN. He called for national and international action to achieve energy transition goals, highlighting Pakistan's commitment to increasing renewable energy to 60% of its energy mix by 2030, including adding 13,000MW of hydropower capacity. Pakistan's energy transition goals are estimated to cost over \$100 billion, while global efforts to cap warming at 1.5°C would require \$150 trillion by 2050. Pakistan, contributing less than 1% to global greenhouse gas emissions, remains one of the most climate-vulnerable countries, suffering deadly floods in 2022 that caused over \$30 billion in damages.

OVER 200,000 EMPLOYEES OF MINISTRY OF ENERGY CONSUME 441.5 MILLION UNITS ANNUALLY AT NO COST

According to official documents presented in the National Assembly, over 200,000 current and former employees of the Ministry of Energy collectively consume 441.5 million units of free electricity annually. Of this, 308.2 million units are allocated to serving employees, while 133.2 million units are consumed by retired staff.

The majority of beneficiaries are linked to Distribution Companies (DISCOs), where 149,000 employees — 78,000 serving and 71,800 retired — receive free electricity. Additionally, 26,000 individuals from the National Transmission and Despatch Company (NTDC), including 20,000 serving and 6,000 retired staff, also avail the benefit. Meanwhile, 7,315 serving and 5,381 retired employees of the Water and Power Development Authority (Wapda) and 159 employees of the Power Information Technology Company (PITC) are also beneficiaries.

This practice has sparked debate in the National Assembly, with concerns raised over the financial burden it places on the national exchequer amid Pakistan's economic challenges. Critics have called for a reassessment of such benefits.

KE'S RENEWABLE ENERGY PROJECT: BALOCHISTAN URGES CENTRE TO ACCORD APPROVAL

NEPRA approved five renewable energy projects in February and March 2024, with K-Electric completing the bidding process for 640 MW across Sindh and Balochistan, including the flagship 150 MW Winder and Bela solar projects. These initiatives, in progress since 2020, are part of NEPRA's Indicative Generation Capacity Expansion Plan (IGCEP) 2022 and KE's Power Acquisition Program (PAP).

The Winder and Bela projects are seen as crucial for Balochistan, addressing rising energy demands while supporting job creation, industrial growth, and agriculture. KE highlighted that these projects, Pakistan's first solar and wind initiatives procured through competitive bidding, achieved the lowest renewable energy tariffs, saving Rs13 billion annually in energy costs and \$87 million in foreign exchange by reducing fuel imports.

Despite the projects' benefits, NEPRA's approval is pending due to finalizing IGCEP 2024, risking delays as bid bonds are valid for only eight months. KE urged the provincial government and authorities to expedite the process to ensure timely implementation, which would benefit consumers, Balochistan, and the nation's renewable energy transition. has context menu

SENATE PANEL ORDERS AUDIT OF SOLAR IMPORTS AMID RS70BN INVOICING SCANDAL

The Senate Standing Committee on Finance and Revenue has called for a full audit of solar panel imports since 2018 after uncovering Rs70 billion in alleged under- and over-invoicing by two companies, Bright Star Business and Moonlight Traders. These firms reportedly conducted Rs106 billion in transactions between 2018 and 2022, much of it in cash, raising concerns about irregular import practices and money laundering.

Senator Mohsin Aziz questioned how such large-scale irregularities went undetected during strict import restrictions, while officials revealed discrepancies in import valuations and flagged Rs46 billion in suspicious transactions. The State Bank of Pakistan penalized Askari Bank (Rs40 million) and Dubai Islamic Bank (Rs27 million) for failing to report these irregularities.

Three individuals have been arrested but remain on bail, and critical questions about the full scope of financial misconduct remain. The Senate committee has urged stricter oversight of financial transactions, a thorough probe into the role of commercial banks, and measures to prevent future scandals.



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Global Scoop.

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AMAZON CLAIMS TITLE OF "LARGEST CORPORATE PURCHASER OF RENEWABLE ENERGY GLOBALLY" FOR FIFTH YEAR



Amazon announced that it retained its position as the world's largest corporate purchaser of renewable energy in 2024, according to Bloomberg NEF data, marking its fifth consecutive year in this leadership role. The company revealed that it now supports over 600 wind and solar projects, an increase from around 500 the previous year. These projects are expected to generate enough energy to power 8.3 million U.S. homes.

This milestone follows Amazon's recent achievement of powering its global operations entirely with renewable energy, reaching the goal seven years ahead of its original 2030 target. Amazon initially set this clean energy objective in 2019, aiming to match all electricity consumption across its global operations—including data centers, corporate buildings, stores, and fulfillment centers—with renewable energy. At the time, the company had achieved 42% renewable energy. In addition to aligning its operations with renewable energy production, Amazon highlighted its strategy to place projects on energy grids reliant on carbon-intensive sources to maximize impact. The company has invested in over 40 utility-scale solar and wind projects in regions with high fossil fuel dependency and emissions, such as Australia, China, Greece, India, Indonesia, Poland, South Africa, and U.S. states like Louisiana and Mississippi.

Amazon also emphasized its efforts to accelerate the adoption of energy storage and firming technologies, addressing the intermittent nature of wind and solar power. These efforts include investments in solar and battery storage projects and recent agreements to support nuclear energy development.

RENEWABLES NEAR 30% OF BELGIAN POWER MIX

Renewable energy in Belgium's electricity mix reached a record high in 2024, accounting for nearly 30%, up from just over 28% in 2023, according to data from grid operator Elia. Solar power led the growth, with generation increasing by 23%, while gas-fired power saw reduced reliance, contributing only 17.6% of the mix, compared to 25.2% in 2023 and 26.9% in 2022.

International electricity exchanges hit an all-time high, with over 44.5 TWh traded. Notably, net imports from France reached 12.6 TWh, supporting the country's energy supply. Despite these shifts, the share of nuclear energy in Belgium's mix continued its four-year decline. Meanwhile, electricity consumption rose slightly to exceed 80.5 TWh, compared to 78.9 TWh the previous year, signaling a gradual recovery in demand. Electricity prices fell by an average of 28% compared to 2023 but remained above pre-crisis levels, reflecting ongoing market adjustments.

Belgium's 2024 energy landscape highlights a significant transition toward renewables, reduced dependence on gas, and increased integration into regional energy markets, underscoring the country's progress in achieving a more sustainable energy future.

KEYFIELD ACHIEVES MILESTONE WITH MALAYSIA'S LARGEST WORKBOAT SOLAR INSTALLATION

To advance its carbon reduction goals, Malaysia-based ship service company Keyfield International has set a national record by installing the largest solar photovoltaic system on a work barge. This accomplishment marks a significant step forward in sustainable development for Malaysia's maritime industry. In a statement, Keyfield International announced that its workboat, Keyfield Wisdom, capable of housing 500 people, has been equipped with a solar power and battery storage system with a total capacity of approximately 121.2kWp (kilowatt peak). The system reduces reliance on onboard generators, thereby lowering carbon emissions, though exact figures were not disclosed.

The project has been officially recognized in the Malaysian Book of Records, certifying Keyfield Wisdom as the offshore vessel with the highest number of solar panels and storage systems in Malaysia. The Malaysian Book of Records, akin to the Guinness World Records, celebrates outstanding achievements by Malaysians.

Mohd Erwan Ahmad, Chief Operating Officer and Executive Director of Keyfield Group, emphasized that the solar project aligns with the company's commitment to energy efficiency and sustainability. He highlighted its benefits in reducing operational costs for customers while promoting environmentally conscious practices.

POWERGEN ESTABLISHES 120MW RENEWABLE ENERGY PLATFORM IN AFRICA

PowerGen Renewable Energy has partnered with international investors to launch a distributed renewable energy platform to scale clean energy access across Africa. The platform aims to deploy 120MW of renewable power solutions, including battery energy storage, across Africa. The collaboration involves PowerGen, the Private Infrastructure Development Group (PIDG), the Danish Investment Fund for Developing Countries (IFU), EDFI Management Company, and the African Development Bank's Sustainable Energy Fund for Africa (SEFA).

PIDG's anchor commitment was made via InfraCo, its project development unit, with concessional capital from PIDG Technical Assistance. Managed by the African Development Bank, SEFA offers catalytic finance for unlocking private sector investments in renewable energy and energy efficiency. The funds will support a 120MW portfolio of renewable mini-/metro-grids and commercial and industrial power solutions, including battery energy storage. PowerGen CEO Aaron Cheng said: "We are thrilled to announce this transformational next chapter to drive our vision of providing clean, reliable, and affordable energy across Africa. We are grateful to our terrific partners for their collaboration, and together, we look forward to contributing at scale to the energy transition and socio-economic growth across the continent." Initially, the focus will be on Nigeria, Sierra Leone, and the Democratic Republic of the Congo, with plans to expand across the region.

The platform approach aims to connect the 570 million people in sub-Saharan Africa lacking electricity, according to data from the International Renewable Energy Agency (IRENA). The first closing of the transaction was reached this month, with additional equity and debt finance expected later this year. PowerGen is poised to meet the energy requirements of over 68,000 households and reduce power costs for 7,000 businesses, enhancing business productivity and driving economic growth.

IFU investment director Henrik Henriksen said: "There is a tremendous need for enabling access to clean energy that can assist underserved households and businesses in Africa to become more resilient to climate change and to provide them with opportunities for better living conditions without further increasing greenhouse gas emissions. "Therefore, we are very proud to be a part of a joint investment enabling PowerGen to develop sustainable off-grid power solutions in sub-Saharan Africa. This aligns with our increased focus on supporting Africa's transition to be more climate resilient."



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LIBYA SEEKS TURKIYE EXPERTISE TO BOLSTER RENEWABLE ENERGY DRIVE

Libya, rich in oil reserves, is turning to renewable energy to meet growing electricity demand and is seeking Turkiye's expertise and investment, Anadolu Agency reports. With a population of 7 million, Libya's energy needs have surpassed its oil and gas-powered plants' capacity. The country aims to generate 4 gigawatts from renewable sources by 2035, accounting for 20% of its energy mix, leveraging its abundant solar and wind resources with international support.

Turkiye, with strong historical ties and expertise in renewables, is emerging as a key partner. Abdusselam Elansari, head of Libya's Renewable Energy Authority, confirmed ongoing cooperation with Turkish firms, prioritizing knowledge transfer and capacity building. Libya is also engaging with Turkish companies for training in renewable energy and electricity management. Discussions on cross-border energy trade, including Libya's participation in the Mediterranean Transmission System Operators (Med-TSO) platform, are ongoing. Osama El Durrat, advisor to Libya's Prime Minister, highlighted a Memorandum of Understanding with Turkish firms to enhance technology transfer in solar and wind energy. Libya is also working with Turkiye on gas and fossil fuel-powered turbines and has designated an investment zone in eastern Tripoli for renewable projects. Libya is exploring power grid connections with neighboring countries and Turkiye, with a dedicated committee advancing cross-border electricity interconnections. Talks on a Libya-Turkiye energy link are in progress, with hopes for an agreement soon.

QATAR COMMITS \$2.5B GREEN BOND FUND TO RENEWABLE ENERGY, LOW-CARBON REAL ESTATE

Qatar is ramping up its commitment to sustainable development with a \$2.5 billion (QR9.10bn) green bond initiative aimed at funding renewable energy projects, infrastructure upgrades, and eco-friendly real estate. Michael Brady, Director at Turner & Townsend Qatar, underscored sustainability's growing role in private sector expansion, noting, "While environmental regulations in the region are still developing, businesses must proactively adopt sustainable practices to stay ahead as market conditions and policies evolve."

Guided by Qatar's National Vision 2030, this transformation prioritizes economic diversification, with key sectors such as finance, education, tourism, and sports driving growth. Brady emphasized the need to balance development with environmental and livability considerations. Qatar's investment in smart city infrastructure reflects this approach. Lusail City, a 38 km² urban hub, is integrating AI and data-driven technology to set a benchmark for intelligent urban development. Meanwhile, the Qatar Mobility Innovations Centre is advancing digital connectivity as part of the nation's Digital Agenda 2030. Similarly, the Msheireb Downtown redevelopment has cut energy usage by 30% through automation, AI, smart lighting, and water-saving systems. Brady described it as "a sustainable urban space that seamlessly blends national heritage with advanced technology."





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ACWA POWER EXPANDS INTO CHINA WITH OVER 1 GW RENEWABLE ENERGY PROJECTS



Saudi Arabia's utility giant, ACWA Power, has successfully entered China's renewable energy market with over 1 gigawatt (GW) of solar and wind projects under development. This portfolio, co-owned with leading Chinese renewable energy companies, spans multiple provinces and is in advanced stages of progress.

In a statement to the Saudi stock exchange, Tadawul, ACWA Power highlighted this achievement as a significant milestone in its global expansion strategy. The initiative aligns with its ambitious plan to invest \$50 billion in renewable energy, green hydrogen, and desalination projects in China by 2030. Yunhe Lyu, head of ACWA Power's China operations, announced earlier this month that the company aims to achieve 1.3 GW of renewable energy capacity in China by the end of 2025 and acquire up to 20 GW in clean power assets. Additionally, ACWA Power intends to produce 1 million tonnes of green hydrogen annually within China.

The company's strategy in China emphasizes partnerships with state-owned enterprises both locally and internationally. Recent collaborations include a wind project in Uzbekistan with China Southern Grid International and renewable initiatives in Saudi Arabia with the State Power Investment Corporation.

This expansion reflects broader economic cooperation between Saudi Arabia and China, anchored by Saudi Vision 2030. Bilateral trade between the nations reached \$107.23 billion in 2023, with continued growth into 2024. China remains Saudi Arabia's largest trading partner and a critical source of greenfield foreign direct investment, contributing \$21.6 billion from 2021 to 2024, one-third of which was directed toward clean energy projects. ACWA Power's entry into China coincides with major Saudi projects like Saudi Aramco's \$9.82 billion petrochemical complex in Fujian province, developed in partnership with Sinopec. This facility, featuring a 320,000-barrel-per-day refinery and a 1.5-million-tonne-per-year ethylene plant, is slated for completion by 2030.

Beyond energy, Saudi-China collaboration extends to advanced technologies and low-carbon solutions, strengthening ties established during Chinese President Xi Jinping's 2022 visit to Riyadh.

UAE MINISTER OF CLIMATE CHANGE AND ENVIRONMENT REINFORCES COMMITMENT TO GLOBAL ENERGY TRANSITION AT 15TH IRENA ASSEMBLY



Her Excellency Dr. Amna bint Abdullah Al Dahak, UAE Minister of Climate Change and Environment, participated in the 15th IRENA Assembly in Abu Dhabi, where she reaffirmed the UAE's commitment to advancing the global energy transition through collaboration, inclusivity, and strategic partnerships.

In her address on behalf of the host country, Her Excellency emphasized the UAE's pledge to double its clean and renewable energy capacity as part of its Net Zero by 2050 Strategy. She highlighted the ambitious objectives of the UAE Consensus, established at COP28, which aim to triple global renewable energy capacity and double energy efficiency by 2030. Urging nations to enhance their commitments, she called for increased project adaptability and incentives for private investment. "The world is watching, and the time for action is now," she declared, emphasizing the need for global cooperation to achieve "a cleaner, greener, more sustainable energy future."

At the Assembly's press conference, Her Excellency stressed the urgent need to close the gap in renewable energy deployment, spotlighting the UAE's support for developing nations through initiatives such as ALTÉRRA, the world's largest private climate investment fund, and the Africa Green Investment Initiative, which facilitates clean energy projects across Africa.

Advocating for an inclusive and cooperative approach to the global energy transition, Her Excellency encouraged nations to set ambitious renewable energy targets and create favorable conditions for private sector involvement. She also highlighted the importance of IRENA's platform in tracking progress and guiding strategic decisions as preparations for COP30 in Belém advance. Outside the formal sessions. Her Excellency participated in the IRENA Youth Fireside Chat, where she underscored the critical role of youth in driving climate solutions. She inspired young attendees to seize opportunities in the renewable energy sector, emphasizing their fresh perspectives and leadership potential. Drawing from her own experiences, she advised future leaders to be decisive, foster strong partnerships, and maintain a focused vision

Happenings.

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PAKISTAN COMMENCES \$3.78 CHASHMA-5 NUCLEAR PROJECT IN COLLABORATION WITH CHINA

he project is expected to generate 1,200 MW of clean energy by 2030, helping Pakistan tackle its chronic power shortages while reducing dependence on fossil fuels.

[Islamabad] Pakistan has officially initiated the construction of the Chashma Nuclear Power Project Unit-5 (C-5), a \$3.7 billion project that marks the beginning of its largest nuclear power plant to date. This milestone reflects a significant advancement in the country's energy sector.

China is a key partner in building this ambitious project, which is set to become operational by 2030. According to Radio Pakistan, the plant will contribute 1,200 MW of affordable and clean energy to the national grid, increasing Pakistan's total nuclear energy capacity to 4,760 MW. This addition is expected to support socioeconomic development and alleviate the country's persistent energy challenges.

The groundbreaking event, marked by the first concrete pour, was attended by several high-profile figures, including Pakistan's federal minister for planning and development, Ahsan Iqbal; Chinese Ambassador to Pakistan Jiang Zaidong; and Pakistan Atomic Energy Commission (PAEC) Chairman Dr. Raja Ali Raza Anwar, along with other dignitaries from both nations. Minister Iqbal emphasized the importance of the project, stating, "The C-5 project stands as a testament to the enduring Pak-China friendship." He also highlighted Pakistan's need to transition toward a technologydriven economy to address contemporary challenges, adding that the project will deliver cost-effective and reliable electricity to the national grid.

Chinese Ambassador Jiang Zaidong highlighted the transformative potential of Chashma-5, noting that it will create up to 40,000 direct and indirect jobs during its peak construction phase. He praised Pakistan's advantageous position in terms of location, language, and human resources, which he said could complement China's technological, financial, and market strengths. He also pointed out that China accounted for 41% of Pakistan's total direct investment over the past five months, despite global economic challenges.

Technological and Economic Benefits

The Chashma-5 facility will feature advanced safety systems, including a third-generation Hualong pressurized water reactor with a double-shell containment structure and a reactor-filtered venting system. Designed for a lifespan of 60 years, the plant aligns with international nuclear safety standards. It will significantly contribute to Pakistan's energy sustainability by providing clean and reliable power while reducing greenhouse gas emissions.

This initiative aligns with Pakistan's broader energy strategy, which focuses on diversifying the energy mix through renewable sources like hydropower and nuclear energy to reduce fossil fuel dependency and combat climate change. Independent researcher Asma Khalid highlighted the significance of nuclear energy in fulfilling Pakistan's international clean energy commitments and reducing greenhouse gas emissions. The Pakistan Nuclear Regulatory Authority (PNRA) recently granted the Pakistan Atomic Energy Commission (PAEC) a license to construct the facility. According to a PNRA statement, the license was issued following a thorough assessment to ensure compliance with both national and international safety standards.

Strategic and Geopolitical Implications

The Chashma-5 project underscores Pakistan's commitment to peaceful nuclear energy development and economic selfreliance. Defense analyst Muhammed Bilal Iftikhar Khan described the initiative as a transformative step in addressing Pakistan's energy crisis, which is rooted in load shedding, over-reliance on fossil fuel imports, and the associated economic and environmental toll.

Khan further noted that this project symbolizes Pakistan's assertion of sovereignty and technological independence. demonstrating its responsible use of nuclear capabilities for constructive purposes. By expanding nuclear energy production, Pakistan is simultaneously addressing its energy needs and contributing to global climate change mitigation efforts. China's role in Pakistan's energy landscape, particularly through the China-Pakistan Economic Corridor (CPEC), has been instrumental in boosting local energy capacity. Khalid acknowledged that CPEC's renewable and nuclear energy projects have strengthened Pakistan's indigenous energy production, reducing its reliance on costly fuel imports.



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LONGI AT 2025 WEF ANNUAL MEETING: SOLAR Beating all expectations



he World Economic Forum Annual Meeting, widely known as the Davos Conference, commenced on January 20th in Davos, Switzerland. This year's theme, "Collaboration for the Intelligent Age," brought together nearly 3,000 global leaders from over 130 countries and regions to tackle pressing global and regional challenges.

Zhong Baoshen. Chairman of LONGi. and Eric Luo. Vice President of LONGi, attended as representatives of Chinese solar photovoltaic enterprises, sharing advancements and future trends in the solar energy industry with political and business leaders. On January 21st, Zhong Baoshen participated in the Ideas Hub session titled "Solar: Beating All Expectations" and delivered a keynote speech. Eric Luo shared insights from a leading solar photovoltaic (PV) enterprise's perspective, emphasizing the industry's exponential growth and its critical role in achieving global climate goals. Zhong Baoshen highlighted the remarkable progress of the photovoltaic industry, citing its

exponential growth and pivotal role in energy

transition. "From 1954 to 2022, it took 68 years to surpass the first terawatt of installed capacity, but the second terawatt was achieved in just two years. This underscores the rapid development of the solar industry. The International Energy Agency (IEA) predicts global solar PV capacity will exceed 4,000 GW by 2030. However, I believe it could surpass 5,000 GW," he said.

Eric Luo underscored the dramatic reduction in solar PV system costs, now approximately 1/820th of their 1975 levels. He also highlighted LONGi's 2024 achievements, including world records for solar cell efficiency: 27.30% for monocrystalline silicon cells and 34.6% for crystalline siliconperovskite tandem cells. LONGi's relentless focus on innovation has significantly enhanced conversion efficiency and reduced the levelized cost of electricity (LCOE), driving global progress toward net-zero emissions.

Zhong further noted that solar PV is now the cornerstone of the global energy transition, with its growth exceeding all expectations

and fundamentally reshaping the global energy landscape. LONGi has complemented its technological advancements by innovating in intelligent manufacturing. At the 2024 Davos Conference, LONGi's Jiaxing Base was recognized as the only "Lighthouse Factory" in the global photovoltaic industry.

Eric Luo detailed how the factory leverages technologies like the Industrial Internet of Things (IIoT), big data, artificial intelligence, and digital twins, implementing over 30 digital use cases to propel the industry from traditional manufacturing to intelligent manufacturing. This shift demonstrates the immense potential of digital transformation in solar PV manufacturing.

A decade ago, the energy sector grappled with the "Energy Trilemma," balancing environmental protection, economic viability, and energy security. However, breakthroughs in solar photovoltaics have addressed these challenges, making solar energy one of the most reliable, affordable, and sustainable energy sources globally. Beyond meeting rising energy demands, solar PV has accelerated the adoption of green energy technologies such as energy storage, green hydrogen, green ammonia, and green methanol, contributing significantly to global decarbonization efforts and sustainable development.

Eric Luo emphasized that the future of solar energy lies in its integration with other technologies, including energy storage, transportation, architecture, and smart grids. For example, energy storage solutions address the intermittency of solar power, ensuring a stable electricity supply, while Building-Integrated Photovoltaics (BIPV) combines energy generation with architectural design, feeding surplus power back into the grid for efficient energy use.

"Through ongoing innovation in these integrations, we can attract more industries to collectively drive the global energy system toward a more intelligent and sustainable future. Solar photovoltaics will pave the way for a cleaner, more efficient, and reliable energy future for humanity," Luo remarked. These collective global efforts have transformed the solar PV sector, revolutionizing its application scenarios, technological innovations, cost-effectiveness, and intelligent manufacturing processes. Solar energy continues to shape a sustainable future, enabling humanity to transition to a cleaner and smarter energy landscape.



NESTLÉ PAKISTAN Takes another step forward in renewable energy: inaugurates biomass boiler plant in kabirwala, punjab



estlé has inaugurated a state-of-theart biomass boiler at its Kabirwala Factory, reinforcing its PKR 2 billion commitment to renewable energy and sustainability in Pakistan. This initiative is a significant step toward reducing greenhouse gas (GHG) emissions and aligns with Nestlé's Net Zero by 2050 aspirations, as well as Pakistan's UN climate commitments. The biomass boiler is expected to cut approximately 10,500 tons of CO2 equivalent emissions annually-the equivalent of taking 2,300 cars off the road—and contribute to a 20% reduction in the factory's GHG emissions. The boiler will produce around 80,000 tons of steam annually, covering 85% of the factory's thermal energy needs from renewable sources. It is also anticipated to save approximately 6 million Nm³ of natural gas and 29 tons of heavy furnace oil each year,

supporting Pakistan's Nationally Determined Contribution (NDC) goal of achieving 60% renewable energy by 2030.

This project is part of Nestlé's broader sustainability plan, which includes the development of two major solar power plants and the installation of additional solar energy systems across its manufacturing facilities nationwide. These efforts reflect Nestlé's alignment with the UN's Sustainable Development Goals (SDGs) 13 and 15, emphasizing climate action and responsible consumption. The company aims to reduce its emissions by 20% by 2025, 50% by 2030, and achieve Net Zero by 2050. Christian Schmid, Nestlé's Head of Technical for Asia, Oceania, and Africa, emphasized the company's long-term vision during the launch, stating, "Nestlé's ongoing investment



in Pakistan reflects our deep confidence in the country's potential. This biomass boiler not only underscores our commitment to sustainability but also to creating shared value for the people of Pakistan. Together, we are taking significant strides towards a cleaner environment and a more sustainable future."

Jason Avanceña, Chief Executive Officer of Nestlé Pakistan, reiterated the company's dedication to sustainability, saying, "We are committed to being a force for good throughout our value chain, investing in renewable energy and sustainability initiatives for the future of Pakistan." He highlighted Nestlé's acceleration of renewable energy use, citing the inauguration of two solar power plants in Kabirwala and Sheikhupura with capacities of 2.5 MW and 2.6 MW, respectively, as key milestones in the company's renewable energy strategy.

Nestlé's contribution to Pakistan extends beyond sustainability. With a presence in the country spanning over 35 years, the company is committed to fostering economic growth. Nestlé aims to expand its exports to USD 50 million by 2030 while continuing to support domestic industries, having sourced over 90% of its raw materials and packaging locally in 2024. Additionally, Nestlé actively engages with leading business organizations, including the Overseas Investors Chamber of Commerce & Industry, Pakistan Business Council, and Swiss Business Council, further strengthening its role in Pakistan's economic development.

SOLAX SHINES AT WFES 2025: PIONEERING MULTI-SCENARIO ENERGY SOLUTIONS FOR A SUSTAINABLE FUTURE

SolaX Power proudly participated in the World Future Energy Summit (WFES) 2025, the MENA region's premier photovoltaic event of the year, showcasing its cutting-edge solar innovations. As a leader in renewable energy technology, SolaX presented a comprehensive range of solutions designed to meet the diverse energy demands of residential, commercial, and utility-scale applications. At Booth No. 5155, attendees had the opportunity to explore SolaX's innovative energy strategies, tailored to support the region's growing need for sustainable and efficient energy solutions.

A key highlight of SolaX's presence at WFES 2025 was the unveiling of the TRENE Liquid-Cooling Energy Storage System (ESS). This groundbreaking product delivers exceptional performance, combining 125kW of output power with a robust 261kWh energy reserve, supported by state-of-the-art 314Ah LFP battery technology. Designed for commercial and industrial applications, The TRENE ESS stands out for its advanced liquid-cooling technology, IP67-rated enclosure, and multilavered fire protection systems, including thermal runaway detection and integrated suppression measures. These features ensure optimal performance and unparalleled safety, even in harsh environmental conditions. making the system a reliable choice for manufacturing, logistics, renewable energy, and microgrid applications.

Further solidifying its commitment to the MENA region, SolaX forged strategic alliances with four key distributors: Solanium Energy Trading LLC (UAE), IRAQNA Group for General Trading (Iraq), Lightning Group Co., Ltd. (Libya), and Al-Shajara Al-Mubarak General Trading and Contracting Co. (Kuwait). These partnerships aim to accelerate the adoption of solar and energy storage solutions across the region, advancing energy transitions and bringing innovative technologies to the forefront. SolaX also showcased its flagship utility-scale products, including the 350kW utility string inverter and the 5.015MWh liquid-cooling energy storage cabinet, further demonstrating its leadership in large-scale renewable energy solutions.

As a region with abundant sunlight and ambitious decarbonization goals, MENA continues to lead the global adoption of solar energy. Abu Dhabi, a key hub for renewable energy, exemplifies this commitment, supported by technologies like those pioneered by SolaX. By addressing critical energy challenges with tailored solutions, SolaX empowers governments and businesses to achieve their sustainability targets while driving progress toward a cleaner, greener future.

SolaX remains dedicated to innovation, consistently delivering reliable, highperformance solar and storage solutions that adapt to the evolving needs of its global customers. With its unwavering focus on enabling the transition to sustainable energy, SolaX reinforces its position as a trusted partner in advancing a more sustainable world.

JA SOLAR HONORED WITH "TOP BRAND PV" AWARD AT WORLD FUTURE ENERGY SUMMIT 2025



At the prestigious World Future Energy Summit 2025 (WFES) in Abu Dhabi—an internationally acclaimed event driving sustainability and the transition to clean energy—JA Solar was proudly awarded the esteemed "Top Brand PV" title for the Middle East and North Africa (MENA) region. This recognition, presented by EUPD Research, a globally respected authority in the photovoltaic (PV) sector, celebrates exceptional achievements in product quality, innovation, and customer satisfaction within the solar energy industry.

The award highlights JA Solar's strong market presence and impact in the MENA region, where the company has played a pivotal role in advancing clean energy initiatives. Recently, JA Solar signed a 1.25GW module supply agreement for the Abydos Phase II project—the largest PV+storage project in Africa—in partnership with AMEA Power and China Energy Engineering Corporation (CEEC) as EPC. Furthermore, JA Solar's establishment of a manufacturing facility in Oman demonstrates its ongoing commitment to supporting renewable energy goals across the region.

"We are deeply honored to be recognized as the 'Top Brand PV' in the MENA region," said Tony Zhu, President of JA Solar's Solar & Storage Business Group. "This accolade reflects our steadfast commitment to providing high-quality solar solutions and promoting the adoption of renewable energy worldwide. We remain dedicated to shaping a greener, more sustainable future." The "Top Brand PV" title, awarded by EUPD Research, is based on extensive surveys and insights from industry experts, stakeholders, and customers. It underscores JA Solar's exceptional performance, superior product standards, and customer-focused approach. By prioritizing innovation, reliability, and sustainability, JA Solar has solidified its reputation as a leading partner in the global PV industry. As the MENA region continues its transition to clean energy, JA Solar remains committed to empowering communities and industries with cutting-edge solar technologies.



Russia says US risks global energy instability after fresh sanctions

oscow accused the United States of being ready to risk global energy instability with new sanctions on Russia's energy sector, including industry majors such as Gazprom Neft, which were announced earlier on Friday.

The U.S. and the U.K. on Friday announced new sanctions against Russia's energy sector, including oil giant Gazprom Neft, just days before President Joe Biden leaves office. Russia's Foreign Ministry said in a statement that on the eve of Biden's "inglorious time in power," Washington was trying to "cause at least some harm to Russia's economy even at the cost of destabilizing world markets." "Of course, Washington's hostile actions will not be left without reaction," it added. In reference to the California wildfires, Moscow accused Biden's administration of leaving behind "scorched earth," or total destruction, for incoming U.S. President Donald Trump since he cannot cancel the sanctions without Congress's approval. Kremlin spokesperson Dmitry Peskov earlier told reporters that the Biden administration was trying to leave Trump "as heavy a legacy as possible."

The U.S. Treasury Department said Friday it was designating more than 180 ships and Russian oil majors Gazprom Neft and Surgutneftegas, fulfilling "the G-7 commitment to reduce Russian revenues from energy."

At the same time, the U.K. government announced sanctions against the two companies, saying their profits were "lining (Russian President Vladimir) Putin's war chest and facilitating the war" in Ukraine. "Taking on Russian oil companies will drain Russia's war chest, and every ruble we take from Putin's hands helps save Ukrainian lives," U.K. Foreign Secretary David Lammy said in a statement.

"Putin is in tough shape right now, and I think it's really important that he not have any breathing room to continue to do the godawful things he continues to do," Biden told reporters Friday at the White House. Gazprom Neft on Friday slammed the sanctions as "baseless" and "illegitimate," Russian state news agencies reported. "Gazprom Neft considers the decision to include its assets on the sanctions list as baseless, illegitimate and contrary to the principles of free competition," Russian state news agencies quoted a company representative as saying.

Oil prices rose on the news, with a barrel of Brent North Sea crude oil for delivery in March up 3.6% at \$79.68 at around 4:45 p.m. in Washington (21:45 GMT) on Friday. When asked about gasoline prices, Biden conceded that they could rise "as much as three or four cents a gallon" but stressed that sanctions would have a "more profound impact" on Russia.

'Most significant yet'

Biden's deputy national security advisor for international economics, Daleep Singh, called the sanctions "the most significant" yet on Russia's energy sector, which he said was "by far the largest source of revenue for (President Vladimir) Putin's war."

On Saturday, the Russian ministry accused the U.S. of seeking to "hinder as far as possible or even make impossible any bilateral economic ties, including with U.S. business." It said Washington was "sacrificing to this the interests ... of European allies," which were "forced to switch over to more expensive and unreliable American supplies." It also accused Washington of "ignoring" the views of its own population on rising energy prices once the presidential election was over.

'Sweeping action'

Even before the sanctions were officially announced, rumors of fresh designations sparked condemnation from Peskov, who told reporters that the Biden administration was trying to leave Trump "as heavy a legacy as possible." In total, the U.S. announced sanctions against almost 400 people and entities.

These include 183 oil-carrying vessels, along with Russian oil traders and oilfield providers, the two Russian oil majors, and more than two dozen of their subsidiaries, according to the Treasury Department.

Serbia impacted

Serbian President Aleksandar Vucic announced plans to speak with Putin about the sanctions, which also affect the petroleum industry of Serbia (NIS), which is majority-owned by Russia's Gazprom Neft and its parent company, Gazprom. NIS is the only supplier of gas to Serbia and the majority owner of both gas pipelines that transport gas from Russia to households and industries in the country.

"Today, the U.S. imposed the most significant sanctions yet on Russia's energy sector, by far the largest source of revenue for Putin's war," Singh, the Biden administration's deputy national security advisor for international economics. said in a statement. Senior administration officials told reporters the measures were designed to give the United States additional leverage to help broker a "iust peace" between Ukraine and Russia. Ukrainian President Volodvmvr Zelenskvv praised the U.S. for introducing the sanctions. "These measures deliver a significant blow to the financial foundation of Russia's war machine by disrupting its entire supply chain," he wrote in a post on the social media platform X.

Strong economy influenced the timing

Friday's announcement comes just 10 days before Biden is due to step down, which puts President-elect Trump in something of an awkward position given his stated desire to end the Ukraine war on day one of his presidency. Asked about the timing, National Security Council spokesperson John Kirby told reporters that oil markets were now in a "fundamentally" better place than they had been in the aftermath of Russia's invasion of Ukraine in 2022 and that the U.S. economy was also faring better.

"We believe the moment was ripe right now to adjust our strategy," he said.



Advancing COP29 Objectives with Biochar: A Sustainable Path for Pakistan's Environmental and Agricultural Challenges

Punjab, Pakistan's agricultural hub, faces an annual environmental crisis as dense, hazardous smog envelops the region. This issue stems primarily from the open-field burning of crop residues, which releases harmful pollutants, worsening public health concerns and diminishing agricultural productivity. In response, the National Rural Support Programme (NRSP), in partnership with Shell Pakistan, has introduced a pilot project focused on biochar-a carbonrich, soil-enhancing material derived from agricultural waste. The pilot's success supports COP29's vision for sustainable agriculture and climate resilience, offering a scalable solution for Pakistan's environmental

challenges.

The Role of Biochar in Sustainable Agriculture

Biochar technology converts crop residues into a stable, carbon-rich material through controlled pyrolysis, preventing the release of greenhouse gases associated with open burning. When incorporated into soil, biochar improves structure, enhances water retention, and boosts fertility. These benefits make biochar a critical tool for sustainable farming in drought-prone areas, aligning closely with COP29's emphasis on practical adaptation and mitigation strategies that



directly benefit local communities.

Impressive Outcomes from Biochar Pilots

The NRSP-Shell Pakistan biochar pilot in southern Punjab has demonstrated remarkable results. Applying biochar to cornfields increased yields by 12-15% and improved soil organic matter by over 30%. These improvements reduce dependence on chemical fertilizers, restore soil health, and address Pakistan's commitments to key Sustainable Development Goals (SDGs), including SDG 2 (Zero Hunger), SDG 13 (Climate Action), and SDG 15 (Life on Land). Beyond agricultural benefits, biochar advances climate resilience and aligns with COP29's objectives by offering a sustainable alternative to crop residue burning. The adoption of biochar can revolutionize farming practices across Punjab, resulting in widespread environmental and public health benefits while positioning Pakistan as a proactive participant in global climate action.

Economic and Social Impact: Empowering Farmers and Communities

In addition to environmental gains, biochar delivers significant economic benefits for Pakistan's smallholder farmers. By reducing reliance on expensive chemical fertilizers, biochar enhances farmers' financial stability, promoting a sustainable approach to small-scale agriculture. Moreover, the initiative creates new income opportunities, particularly for women in rural areas, through activities like residue collection, biochar production, and field application. Priced at approximately Rs135 per kilogram, biochar is an affordable, practical solution for smallholders to adopt more sustainable and profitable farming methods. This approach

Happenings

aligns with COP29's call for inclusive climate solutions that address both environmental and socio-economic challenges. By fostering livelihoods and supporting vulnerable communities, biochar initiatives contribute to a just and equitable transition to climatesmart agriculture.

Scaling Biochar for a Sustainable Future

To unlock biochar's full potential, largescale adoption is critical. Policymakers, international donors, and development organizations must collaborate to expand biochar production and usage. Key steps include increased investment in biochar technology, policy incentives to encourage sustainable farming practices, and strengthened public-private partnerships. Such efforts can effectively combat Punjab's air pollution crisis, drive progress on Pakistan's climate commitments, and set a precedent for sustainable agriculture across the region.

The demonstrated benefits of biochar, in line with global climate goals, make it an essential component of Pakistan's agricultural policy. Expanding biochar initiatives can address environmental degradation, enhance food security, and advance Pakistan's climate action targets under COP29. By prioritizing biochar and other climate-smart technologies, Pakistan can pave the way for a more resilient agricultural future and position itself as a leader in sustainable development on the global stage.

COP29: Pakistan's Role in Global Climate Action

As global leaders convene at COP29 to discuss climate action and sustainability, Pakistan's biochar initiative stands out as a replicable and impactful model, combining environmental, agricultural, and socioeconomic benefits. Supporting biochar technology reflects a commitment to creating a cleaner, healthier Pakistan while improving resilience to climate risks.

Achieving COP29's goals will require collaboration between international and local stakeholders to implement scalable solutions like biochar. By investing in biochar and other climate-smart practices, Pakistan can strengthen its agricultural sector, empower vulnerable communities, and contribute to global sustainability efforts, ensuring a prosperous, climate-resilient future.





WFES 2025: Sungrow Launches Next-Generation C&I Solar Solutions for a Sustainable Future in MENA

Sungrow, a global leader in PV inverters and energy storage systems, kicked off 2025 with a strong presence at the World Future Energy Summit (WFES) by unveiling its latest innovation—the SG150CX high-power string inverter. Designed to meet the evolving demands of the commercial and industrial (C&I) sector, this cutting-edge product debuted at Sungrow's booth at the ADNEC Centre, garnering significant attention from energy industry stakeholders.

The SG150CX is a groundbreaking solution designed to deliver exceptional performance, safety, and reliability for largescale commercial and industrial (C&I) solar installations. Boasting an impressive 98.8% inversion efficiency at 400V AC, it maximizes energy output and reduces the Levelized Cost of Energy (LCOE). Its advanced safety features include Arc Fault Circuit Interrupter (AFCI) 3.0 technology, which offers an extended cable detection range of up to 450 meters, ensuring superior operational safety. Additionally, the SG150CX supports high-current PV modules with its 48A maximum power point tracking (MPPT) input current, significantly enhancing system efficiency. To further optimize functionality, the inverter is equipped with smart string-level disconnection, allowing it to isolate faulty strings without interrupting

others, thereby minimizing power generation losses and ensuring consistent performance.

The growing demand for advanced solar solutions in the Middle East's C&I sector is driven by rising energy costs, ambitious clean energy targets, and harsh environmental conditions. Sungrow's SG150CX addresses these challenges with its high-efficiency design, cutting-edge AFCI technology, and robust construction, ensuring optimal performance even in the region's demanding climate. By reducing operational costs and enabling decarbonization, the SG150CX supports businesses in achieving their sustainability goals.

Explore Sungrow at WFES 2025 Sungrow welcomes industry stakeholders, partners, and attendees to Booth #6220 to experience the SG150CX firsthand. On-site experts are available to provide detailed insights into the inverter's capabilities and discuss its integration into upcoming solar projects.

As the renewable energy sector gains momentum in 2025, the SG150CX sets a new benchmark for C&I solar applications. Sungrow remains steadfast in its commitment to innovation, leading the charge toward a sustainable energy future.

ABU DHABI SUSTAINABILITY WEEK 2025 CONCLUDES WITH COMMITMENT TO SUPERCHARGE SUSTAINABLE PROGRESS AND DELIVER NEW ERA OF PROSPERITY



Under the patronage of His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the UAE, Abu Dhabi Sustainability Week (ADSW) 2025 concluded with a renewed global commitment to accelerate sustainable development and deliver a new era of prosperity for all.

Global leaders, including 13 heads of state and over 140 ministers and government officials, as well as over 3,500 business and civil society leaders, convened to advance dialogue on supercharging socioeconomic and environmental progress and unlocking a potential \$10 trillion economic transformation opportunity. Taking place from January 12 to 18, ADSW 2025, hosted by Masdar, connected over 50,000 attendees from over 170 countries, to explore pathways for a sustainable future.

Held under the theme 'The Nexus of Next. Supercharging Sustainable Progress,' ADSW provided a platform for dialogue and collaboration, focusing on leveraging the convergence of advanced technologies like artificial intelligence (AI), energy innovation, and human expertise to drive inclusive, impactful progress. Policymakers, business and civil society leaders, and innovators engaged in a series of events and discussions designed to foster multi-stakeholder collaboration and drive widescale systematic change.

The Opening Ceremony, held on January 14, was attended by His Highness Sheikh Mohamed bin Zayed, along with the heads of state and government representing Albania. Azerbaijan, Finland, Kazakhstan, Kenya, Malaysia, New Zealand, Nigeria, Rwanda, Seychelles, Uganda and Uzbekistan. The event concluded with the Zayed Sustainability Prize Awards Ceremony, which recognized the innovative solutions of 11 pioneering organizations and high schools from around the world. His Highness awarded the winners across the six categories of Health, Food, Energy, Water, Climate Action, and Global High Schools, for their remarkable achievements, encouraging continued innovation in every corner of the globe. Mohamed Jameel Al Ramahi. Chief Executive Officer of Masdar, said: "ADSW 2025 stands as the launchpad for a new era of supercharged progress, convening heads of state, policymakers, business and civil society leaders to leverage the power of dialogue and collaboration to help build a resilient, inclusive and sustainable future. The partnerships forged here in Abu Dhabi will resonate far beyond our borders and unite the global community on impactful action to accelerate sustainable development."

ADSW 2025 began with the 15th annual Assembly of the International Renewable Energy Agency (IRENA), which took place on January 12 and 13, and was attended by 1,500 delegates, representing 140 countries from IRENA's global membership. The Global Climate Finance Centre (GCFC), in collaboration with Masdar, hosted its Annual Meeting on 13 January, connecting over 300 professionals and facilitating vital discussions on advancing climate finance.

The ADSW Summit. the anchor event of ADSW 2025. featured 34 dedicated sessions over two days, with more than 70 speakers and heads of state including H.E. Kassym-Jomart Tokayev, President of Kazakhstan, H.E. Bola Tinubu, President of Nigeria, H.E. Paul Kagame, President of Rwanda, H.E. Wavel Ramkalawan, President of Seychelles, H.E. Yoweri Museveni, President of Uganda, H.E. Shavkat Mirziyoyev, President of Uzbekistan, H.E. Edi Rama. Prime Minister of Albania. H.E. Giorgia Meloni, Prime Minister of Italy, H.E. Petteri Orpo, Prime Minister of Finland, H.E. Anwar Ibrahim, Prime Minister of Malaysia, H.E. Christopher Luxon, Prime Minister of New Zealand

Key topics included the global energy systems transformation, the impact of AI and other emerging technologies on universal sustainable development, and the reshaping of global investment patterns through the digital-climate nexus.

The Green Hydrogen Summit, held on January 16 under the theme 'Accelerating Green Hydrogen: Charting the Course for



Industry Scale-Up,' brought together over 40 industry leaders sharing their insights and driving the adoption of green hydrogen across various sectors. The Summit featured dialogue on unlocking investment potential, sustainable financial models, harmonizing global standards, and identifying concrete steps to accelerate the global uptake of green hydrogen. Under the theme 'Igniting a Global Sustainable Economy', the Women in Sustainability, Environment, and Renewable Energy (WiSER) Annual Forum, brought together over 100 international experts from government, industry, nonprofits, academia, and intergovernmental organizations, to explore the transformative role of women entrepreneurs in advancing the global sustainability agenda.

Under the theme 'Generation Now - Building the Future', Youth 4 Sustainability (Y4S), Masdar's global initiative to empower the next generation of sustainability leaders, delivered a packed program focused on youth innovation, science, technology, engineering and mathematics (STEM) skills in sustainability, community involvement and international representation. The three-day program featured 45 sessions with over 100 speakers and moderators, including three heads of state, and explored how young people can use AI and other emerging technologies to develop climate solutions.

Held under the theme 'Voices of Resilience: Delivering Inclusive Climate Action', the Zayed Sustainability Prize Forum brought together an inspiring lineup of speakers to discuss the vital role that indigenous, marginalized and youth communities can play in advancing sustainable development and the power of philanthropy to drive meaningful change. The Zayed Sustainability Prize also hosted Investor Connect, a high-impact networking platform where Prize finalists and winners pitched their solutions to an audience of investors, buyers and other key industry stakeholders. By connecting entrepreneurs with financiers, Investor Connect drives the scaling of innovations that generate a lasting,

measurable impact and contribute to a sustainable future.

The World Future Energy Summit took place from January 14-16 at the ADNEC Centre and featured 11 country pavilions and more than 450 exhibitors. The 2025 event saw record-breaking attendance, with significant increases in the participation of female and international speakers, as well as trade buyers. It also provided a dynamic platform for over 55 entrepreneurs and startups to showcase their cutting-edge technologies. Notably, the CLiX showcase highlighted female innovators from around the world who are leading the charge in combating climate change. Masdar, in collaboration with Emirates Water and Electricity Company (EWEC), announced the launch of the world's first large-scale 'round the clock' gigascale project combining solar power and battery storage to dispatch renewable energy 24 hours a day, seven days a week. Delivering up to 1 gigawatt (GW) of baseload power, the project will feature a 5.2GW (DC) solar photovoltaic (PV) plant, coupled with a 19 gigawatt-hour (GWh) battery energy storage system (BESS), making it the largest project of its kind in the world

Masdar also announced its entry into the Philippines market, signing agreements to develop up to 1GW of clean energy projects, covering solar, wind and BESS solutions, in the Southeast Asian nation, strengthening its growing portfolio in the region. ADSW 2025 concluded with The Festival at Masdar City, which engaged the public in celebrating sustainable solutions and inspiring action through various activities at Masdar Park. The festival attracted over 12,000 attendees over the course of three days. Reflecting ADSW's commitment to driving sustainability, Emirates Water and Electricity Company (EWEC) provided this year's event with Clean Energy Certificates covering the consumption of approximately 305 megawatts (MW) - the required amount to power the event from January 14-16 at ADNEC

IP54 Hybrid Inverters 1kW-12kW

3-Year Replacement

Solar Pakistan has firmly established itself as Pakistan's largest and most influential renewable energy exhibition, bringing together global solar technology leaders, industry pioneers, and key stakeholders under one roof. Spanning across six expansive halls, this grand event provides an unparalleled platform for showcasing cutting-edge solar solutions, fostering industry collaboration, and driving Pakistan's transition towards a sustainable energy future.

Over the years, Solar Pakistan has experienced remarkable growth, expanding its presence across Karachi, Lahore, and Islamabad. Each edition of the exhibition has seen increased participation, reflecting the growing momentum of the renewable energy sector in the country. From its early beginnings to becoming a leading industry platform, Solar Pakistan has played a pivotal role in shaping the solar energy landscape, encouraging investment, and facilitating knowledge exchange between local and international energy experts.

The exhibition features a diverse range of global and local exhibitors, including solar panel manufacturers, energy storage companies, inverter suppliers, and service providers. Renowned companies from giants like China actively participate, bringing the latest advancements in solar technology to Pakistan. With the demand for clean energy on the rise, the event serves as a crucial networking hub for businesses, investors, and policymakers looking to accelerate the adoption of solar energy solutions. Each hall at Solar Pakistan is designed to provide visitors with a comprehensive experience, from live demonstrations of solar products and installations to technical discussions led by industry experts. Attendees gain firsthand insights into emerging trends, policy developments, and investment opportunities in the renewable energy sector. The exhibition also facilitates business matchmaking sessions, enabling companies to explore new partnerships and expand their market presence in Pakistan's growing energy sector.

Government officials, regulatory authorities, investors, and sustainability advocates also actively participate, reinforcing the exhibition's role in policy development and energy sector transformation. With Pakistan aiming to increase its renewable energy share, Solar Pakistan has become a vital catalyst in the journey towards energy security, environmental sustainability, and economic growth.

As Pakistan's most significant renewable energy event, the 18th Solar Pakistan continues to inspire innovation, create business opportunities, and drive the future of clean energy. With each edition surpassing expectations, it remains the ultimate destination for the solar and renewable energy community, cementing its legacy as the country's premier platform for sustainable progress.

NEVENION

KE'S 220MW Hybrid Project – A Milestone

KE is steadily advancing its renewable energy transition, with the 220 MW Site-Neutral Hybrid Project in Dhabeji progressing through crucial regulatory stages. The National Electric Power Regulatory Authority (NEPRA) conducted a hearing today on KE's Bid Evaluation Report (BER) for the project, marking a significant milestone in reshaping the country's energy landscape.

This first-of-its-kind solar-wind hybrid project in Pakistan has received the country's lowest tariff bid of 3.09 cents/kWh from JCM Power, a Canadian company. The project is set to attract \$200 million in foreign investment, underscoring global confidence in KE's renewable energy efforts and Pakistan's clean energy potential.

Following NEPRA's approval in early 2024, KE initiated the industry's first competitive bidding process for its renewable energy projects. A December 2024 hearing was held for the Bid Evaluation Report of the 150 MW Winder and Bela projects in Balochistan. Collectively, KE's renewable energy projects are part of a 640 MW green energy initiative, representing the initial phase of its longterm strategy to add 1,300 MW of sustainable energy to its portfolio. This initiative supports KE's broader renewable energy goal of achieving 30% renewable integration by 2030. Moonis Alvi, CEO of KE, emphasized the project's importance, stating: "The 220 MW hybrid solar-wind project marks a transformative step in our renewable energy journey and reflects our commitment to a cleaner, more resilient energy future. By securing Pakistan's lowest tariff bid and attracting substantial foreign investment, this project highlights our efforts to address the energy trilemma and reduce reliance on imported fuels. We are grateful for NEPRA's support and look forward to a decision that will ensure the project's timely execution.

This initiative is not only about increasing renewable capacity but also about delivering long-term economic and environmental benefits to our customers. By integrating cleaner energy sources, we aim to contribute to Pakistan's sustainability goals and collaborate with key stakeholders to advance the nation's energy transition."

With estimated annual savings of PKR 7.05 billion and a reduction in foreign exchange spending by nearly \$40 million, the 220 MW Dhabeji hybrid project is expected to significantly boost economic and environmental sustainability. It will cut carbon emissions by approximately 298,000 tonnes annually, reaffirming KE's pivotal role in driving Pakistan's green energy transformation.

NET METERING BILLING SYSTEM FOR SOLAR POWER UNSUSTAINABLE SAYS PAKISTAN'S ENERGY MINISTER

has called for a revision of Pakistan's solar net metering system, arguing that it is becoming unsustainable for the government to continue purchasing electricity from distributors at the current rates while also subsidizing solar power consumers.

Solar net metering allows homeowners and businesses to generate electricity using solar panels and feed surplus energy into the national grid. In Pakistan, this system enables consumers to receive credits or financial compensation for the excess electricity they supply. The policy was introduced in 2017 to promote solar energy use and address power shortages. Under this framework, the government pays Rs21 per unit for netmetered electricity, with a subsidy of Rs1.90 per unit. In April 2024, the energy ministry stated that this subsidy burden is shared by the government, as well as domestic and industrial electricity consumers, to support wealthier consumers who can afford solar panel installations.

"Solar net metering must change," Leghari said at a conference in Islamabad. "We cannot continue purchasing electricity from distributors at the same cost." He also highlighted the government's lack of awareness regarding the significant impact of on-grid non-net metered power on the national grid. This refers to solar power systems connected to the grid without a net metering agreement.

"As the power minister, I cannot justify holding surplus electricity just because consumers and industries are unwilling to pay the full cost," he stated. "I am willing to provide it at an affordable marginal cost to support economic growth."

Leghari further announced the government's plan to auction surplus electricity, making it available to industries to stimulate growth and job creation.

Meanwhile, the energy ministry's spokesperson cited a government report from last year, revealing that in 2024, consumers bore an additional cost of Rs103 billion (\$366 million) due to the net metering policy. The report projected that this burden could rise to Rs503 billion (\$1 billion) within the next decade.

He added that only 0.6 percent of Pakistan's electricity consumers use net metering, with 80 percent of them residing in affluent areas of major cities, while the remaining 99.4 percent of consumers bear the associated costs. Separately, Leghari met with US Charge d'Affaires Natalie Baker to discuss power sector reforms aimed at reducing electricity costs. According to the energy ministry, he emphasized the government's commitment to a non-interference policy based on transparency and international standards to attract investors for the privatization of power distribution companies (DISCOs).

Baker commended the ministry's efforts and expressed willingness to collaborate in exploring new opportunities in the energy sector.

Pakistan has favorable climatic conditions for solar energy, with most areas receiving over nine hours of sunlight per day. According to the World Bank, utilizing just 0.071 percent of the country's land for solar photovoltaic (PV) power generation could meet national electricity demands.

With a population of 241 million, Pakistan aims to transition to 60 percent renewable energy by 2030 and cut projected emissions by 50 percent. However, despite increased solar power adoption, the country remains far from achieving this target.

CHINA HITS CLEAN ENERGY GOAL SIX YEARS AHEAD OF SCHEDULE

Record pace of installations of solar and wind power in recent years has helped China achieve its 2030 renewable energy capacity target six years ahead of schedule. China, the world's biggest emissions polluter, set in 2020 a goal to have at least 1,200 gigawatts (GW) of solar and wind capacity by 2030. China has already hit that target—just four years after it was set and six years early.

Government support for renewables and domestic manufacturers flooding the market with cheap components and equipment allowed the country to install record solar and wind capacity in each of the past two years. Chinese capacity installations of solar and wind power jumped last year as the country continued to lead in global additions and beat its own record of annual installations.

Last year, China's solar power generation capacity surged by 45.2%, while wind power generation capacity rose by 18% compared to 2023, data from the country's National Energy Administration showed.

The solar project is part of the Chinese government's plan to have its emissions peak by the end of the decade. At the end of last year, China was already on track for another record-breaking year for solar capacity additions.

In 2024, China remained the single biggest market for low-carbon energy investment, BloombergNEF said in a report this week. The country attracted \$818 billion of investment in clean energy solutions last year, up by 20% from 2023.

China's total investment was greater than the combined investment of the U.S., the EU, and the UK, while investment growth in China was equivalent to two-thirds of the total global increase last year, BloombergNEF said. As early as June 2024, Chinese wind and solar energy collectively eclipsed coal in capacity for the first time ever, according to data from the country's National Energy Administration (NEA).

By 2026, solar capacity alone is set to top coal as China's primary energy source, with a cumulative solar capacity of more than 1.38 terawatts (TW)—150 GW more than coal, research firm Rystad Energy said last year. "We're at a pivotal moment for both China and the global energy transition. With strong renewable energy project pipelines in place, the country is on track to shed its reputation as the world's largest greenhouse gas emitter and power consumer," said Simeng Deng, Senior Analyst at Rystad Energy.

China's CO2 emissions are estimated to have risen by 0.8% in 2024 from a year earlier. But the emissions increase in the first quarter was partly offset by plateauing emissions since February 2024 due to the massive surge of clean energy installations and weakerthan-expected economy, according to a new analysis by the Centre for Research on Energy and Clean Air (CREA) for Carbon Brief. China will be the biggest factor in global renewable installations and emission trends. Beijing's new commitments under the Paris Agreement and the next five-year plan expected this year will strongly influence these, Carbon Brief said.

This year, growth in China's clean energy capacity is set to further accelerate as largescale wind, solar, and nuclear projects race to finish before the 14th five-year plan period comes to an end, Carbon Brief noted. The persistent growth in Chinese coal demand, including for power generation, goes to show that coal remains the baseload of China's power system to back up the surge in renewables and will stay such for years to come as power demand jumps with the increasing electrification of homes and transport

Xi Jinping targeted 1,200 GW of wind and solar by end of decade

"THE WORLD IS REACHING THE TIPPING POINT BEYOND WHICH CLIMATE CHANGE MAY BECOME IRREVERSIBLE. IF THIS HAPPENS, WE RISK DENYING PRESENT AND FUTURE GENERATIONS THE RIGHT TO A HEALTHY AND SUSTAINABLE PLANET – THE WHOLE OF HUMANITY STANDS TO LOSE." – KOFI ANNAN, FORMER SECRETARY-GENERAL OF UN

CHINA MUST REFOCUS ENERGY INVESTMENT TO DISTRIBUTION FROM GENERATION: NATIXIS

hina's power-equipment industry must redirect its investment focus from renewable energy generation to storage and distribution infrastructure to remain competitive in the face of excess capacity and increasing global protectionism, according to Natixis, a French investment bank.

"China's investment in green energy technology is so substantial that even under the worst energy transition scenarios, it will be sufficient to meet domestic demand while maintaining its dominant position in the global renewable equipment market for a long time," said Alicia Garcia Herrero, Natixis' chief economist for the Asia-Pacific region, on Wednesday.

"There are other green technologies where China can expand, allowing the industry to continue investing without the risk of overcapacity," she added. China's solar-panel output exceeded global demand last year, leading to a surplus of inventory in the European Union, its largest market, according to Mu Haoxin, a Natixis economist.

Additionally, Beijing needs to double grid infrastructure's share of national fixed-asset investment to resolve power-grid bottlenecks that have reduced the utilization rates of wind and solar farms, Mu estimated.

While investment in power generation reached 1.2 trillion yuan (US\$165 billion) last year—doubling from 2021—spending on grid infrastructure lagged behind, creating a significant gap that must be addressed to reduce grid congestion, Mu said. According to China's National Energy Administration (NEA), solar farm installations surged by 27.8 percent last year, but grid bottlenecks caused unused solar energy to rise from 2 percent to 3.2 percent. Similarly, unused wind power increased from 2.7 percent to 4.1 percent.

"Shifting from equipment exports to domestic infrastructure investment could help alleviate external pressures from geopolitical tensions," Mu suggested. Since January I, the U.S. has doubled tariffs on Chinese-made solar wafers and polysilicon key components for solar panels—to 50 percent. Earlier this week, the Trump administration raised tariffs even further. In November, the U.S. introduced preliminary duties ranging from 2.9 to 30 percent on solar cells from Vietnam, Cambodia, Malaysia, and Thailand to curb imports of products assembled using Chinese-made

components.

A 2022 report by UK-based environmental think tank Ember estimated that China controlled 80–85 percent of global production capacity across multiple segments of the solar panel supply chain. UBS China utilities analyst Yan Yishu noted that by the end of 2023, China's solar panel manufacturing capacity had reached approximately 1,200 gigawatts—twice the global demand.

Widespread industry losses prompted Beijing to impose restrictions on new production facilities by increasing minimum capital requirements and limiting energy and water usage. Yan predicted that from 2024 to 2026, industry output would shrink by an average of 7 percent annually due to high inventory levels, a stark contrast to the 70 percent annual growth recorded between 2021 and 2023.

Official data indicates that China's industry has already accelerated investments in storage and grid infrastructure to resolve bottlenecks, though such projects often require years of planning. The NEA reported that China's installed energy storage capacity grew by 130 percent to 73.76 gigawatts at the end of 2023.

State Grid Corporation of China, which manages power grids across most of the country, announced last month that it would increase investment in grid and energy storage infrastructure by 8.3 percent this year to a record 650 billion yuan, following a 15.4 percent increase last year.

Dialogue.

In this edition we interview the CEO of FAKT Exhibitions, Saleem Khan Tanoli who is the man behind the biggest clean energy expo in the history of Pakistan, Solar Pakistan.

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THE MAN BEHIND PAKISTAN'S LARGEST SOLAR EXHIBITION – WE SIT DOWN WITH SALEEM KHAN TANOLI

CEO, FAKT EXHIBITIONS PVT. LTD.

What inspired your company to organize Pakistan's first-ever 6-hall solar exhibition, and what impact do you hope it will have on the renewable energy sector in the country?

Our inspiration came from Pakistan's growing energy needs and the massive potential for solar power in addressing the country's energy crisis. Despite the demand, the local solar industry remains fragmented, with limited platforms for stakeholders to connect, collaborate, and showcase innovative solutions. We saw an opportunity to fill this gap by creating a large-scale event that brings together industry leaders, technology providers, and policymakers under one roof. This exhibition aims to become a catalyst for accelerating the adoption of solar energy in Pakistan. It will serve as a hub for knowledge exchange, business partnerships, and the promotion of new technologies. We believe this event can help raise awareness, attract investment, and strengthen Pakistan's position as a significant player in the global renewable energy market, ultimately contributing to a greener and more sustainable future.

Given the scale of this event, how do you plan to attract international exhibitors and industry leaders to ensure the show becomes a key platform for solar innovation and business growth in Pakistan?

To attract international exhibitors and industry leaders, we've developed a multifaceted strategy. First, we are collaborating with global industry associations and chambers of commerce to promote the event and create confidence in the market's potential. Our marketing campaign targets key solar hubs, including China, Europe, and the Middle East, emphasizing Pakistan's emerging status as a significant renewable energy market. We are also offering tailored exhibition packages to suit diverse business needs and facilitating networking opportunities with government officials and local industry players. Additionally, we've lined up high-profile speakers and panel discussions to ensure the event is contentrich and relevant. The scale of the event itself—a 6-hall setup with state-of-the-art facilities-demonstrates our ambition and sets a new benchmark for solar events in the region. This combination of outreach, content, and infrastructure will attract top-tier exhibitors and visitors.

With solar energy becoming increasingly important for Pakistan's energy future, how does this exhibition aim to address challenges like infrastructure development, investment opportunities, and policy support in the local market?

This exhibition is designed to be more than just a showcase—it's a platform for addressing critical issues facing Pakistan's solar industry. We've invited key stakeholders from government, finance, and infrastructure development sectors to engage in open dialogue with industry leaders and innovators. The event features dedicated sessions on financing models, policy frameworks, and the latest advancements in grid integration and energy storage. Our goal is to connect local and international investors with project developers to unlock new investment opportunities. Moreover, the exhibition will help highlight the need for policy improvements by creating a space for constructive discussions between the public and private sectors. By fostering these conversations and collaborations, we aim to pave the way for a more robust infrastructure. easier access to financing, and a clearer policy direction that accelerates the growth of solar energy in Pakistan.

Future Prospects

I strongly believe that the future of solar energy in Pakistan is not just promising—it is pivotal for the country's energy security and sustainable growth. With the growing energy demand, rising fuel costs, and increasing environmental concerns, the shift toward renewable energy, particularly solar, is not only a necessity but an inevitable transformation.

Pakistan is blessed with abundant solar resources, receiving high levels of solar radiation across most parts of the country. This natural advantage positions us to harness solar energy on a massive scale. Initiatives by the government to incentivize renewable energy, coupled with decreasing costs of solar technology, are opening new opportunities for both investors and consumers.

The residential and commercial adoption of solar energy has been on a rapid rise, driven by rising electricity tariffs and improved financing solutions for solar installations. Furthermore, large-scale solar projects are being developed to meet the national energy needs, and these utility-scale projects will play a significant role in reducing our reliance on fossil fuels.

Achieving Fossil-Free Electricity'

Policies, Tools and Technologies for Supporting Wind and Solar

Footnotes:

- Infographic shows the many choices available for supporting wind & solar to achieve reliable, dispatchable fossil-free energy, There is no one silver bullet. Not all are necessary, although most Market & Grid Design reforms are. List is not exhaustive.
- No new large hydropower dams should be built. Existing projects should be operated in a way that minimizes impact on vulnerable communities.
- 3. Converting electricity to hydrogen and back again is inherently inefficient but may make sense in some contexts. Hydrogen should be manufactured, stored, and converted back to electricity, all at the same location, in order to limit inefficiencies and leakage risks.
- Long Duration storage is mostly not needed until over 50% VRE penetration.

Global Events

Intersolar Europe Exhibition Date: 7 – 9 May, 2025 Venue: Messe, München

SNEC Date: 11 – 13 JUNE, 2025 Venue: Shanghai, China

ASEAN Sustainable Energy Week Date: 2 – 4 July, 2025 Venue: Bangkok, Thailand

SOLAR PAKISTAN Date: 18 - 20 JULY 2025 Venue: Railway Officers Club Multan

世界电池、储能产业博览会

WBE Date: 8 – 10 August, 2025 Venue: Guangzhou, China

RE+ Date: 8 – 11 September 2025 Venue: Las Vegas, NV

WETEX & DSS Date: 30 Sep to 02 Oct, 2025 Venue: Dubai World Trade Centre (DWTC)

SOLAR PAKISTAN Date: - 17 - 19 October, 2025 Venue: Karachi Expo Centre

SOLAR PAKISTAN Date: - JANUARY, 2026 Venue: Peshawar

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