

INTERVIEW



MR. AFFAN FARUK PATEL
 DIRECTOR
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Q KP Group's Collaboration with Coal India Limited: Setting Benchmarks in Renewable Energy

On 30th November 2024, KPI Green Energy Ltd., the solar arm of KP Group, proudly received the Letter of Award (LoA) from Coal India Limited (CIL) for the development of a 300 MW (405 MWp) solar power project at Khavda, Gujarat. This prestigious project underscores KPI's leadership in renewable energy and its capability to execute large-scale solar initiatives with precision and reliability. The project is set to be completed within the agreed timeline, reinforcing KP Group's commitment to timely and efficient project delivery.

The Khavda project will harness the abundant solar resources of Gujarat, employing cutting-edge technology to ensure maximum efficiency and sustainability. With its robust engineering, procurement, and construction (EPC) expertise and strong operational capabilities, KPI Green Energy is poised to make this a benchmark project in India's renewable energy sector.

Building on this success, KPI Green Energy Ltd. has also submitted its Expression of Interest (EOI) for Coal India's ambitious 1000 MW solar power project in Rajasthan. The company has expressed its willingness to operate this project for 25 years, further showcasing its long-term commitment to delivering clean, reliable, and sustainable energy solutions.

These collaborations reflect Coal India's forward-looking approach to integrating renewable energy into its portfolio and KP Group's dedication to aligning with India's clean energy goals. The government's vision of achieving 500 GW of renewable energy capacity by 2030 is driving both public and private sector players to innovate and scale their efforts in green energy projects.

The partnership between KP Group and Coal India is a testimony to the transformative potential of renewable energy collaborations. With a history of executing solar, wind, and hybrid projects, KP Group has consistently demonstrated its ability to lead large-scale initiatives that meet the highest industry standards.

Through these projects, KP Group continues to empower industries, reduce carbon footprints, and contribute significantly to India's sustainable development goals, reaffirming its position as a key

Q Please walk us through KP Group's 5.7 GW renewable energy portfolio

KP Group, founded by Dr. Faruk Patel, CMD KP Group in 1994, began with logistics and construction but later diversified into telecommunications, engineering & renewable energy. Today, the group boasts a 5.7 GW renewable energy portfolio spanning solar, wind, and hybrid projects, with a vision to exceed 10 GW by 2030. It has delivered significant projects for private and government clients, including a major collaboration with Coal India Ltd, GUVNL, NTPC, Aditya Birla, MAHAGENCO and many more. KP Group is now driving advancements in green hydrogen, offshore solar, and battery energy storage systems (BESS) to support India's net-zero goals. This journey started in 2009 with 1 MW Project in Gujarat to 2010-11, Charanaka Solar Park. Journey took next phase with Wind BOP Project and Major boost was came up with own IPP Park in Gujarat. Recently getting orders as Developer and EPC in 100+ MW enhanced the Group Portfolio to 5.7 GW. Under the leadership of Dr. Faruk G. Patel, more than 30 years old KP Group today has grown to 42 entities or conglomerates including KPI Green Energy (NSE & BSE Listed), KP Energy (NSE & BSE Listed), and KP Green Engineering (BSE SME Listed).

Q Green hydrogen is emerging as a key segment in India. What challenges do you foresee in this sector, and how can these be addressed in the coming years?

Green hydrogen in India faces challenges like high production costs, lack of infrastructure, technological dependence, renewable energy availability and Importantly Govt need to put great efforts to encourage Off Takers. Hydrogen Supply chain Solutions include scaling local electrolyzer manufacturing, offering policy incentives, improving R&D, and building hydrogen clusters for industries. Water-efficient technologies and renewable energy expansion will also be crucial. Public-private partnerships and international collaborations can accelerate India's green hydrogen journey toward decarbonization.

Q How is KP Group leading the way in green hydrogen solutions for a net-zero future?

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driving India's green hydrogen journey by leveraging renewable energy expertise, developing hydrogen infrastructure, and collaborating globally for green ammonia. With industry partnerships, policy alignment, and innovation in electrolyzer technology, the group is decarbonizing sectors like steel, Cement and chemicals. Its vision for a net-zero future includes building India's hydrogen export potential while empowering industries with clean energy solutions.

Q Can you highlight some of the unique and recent mega projects and orders led by KP Group?

KP Group recently received leap frog orders as Developer as well as major EPC players has taken order from reputed PSUs and Corporates. Every Project is opportunity for entire team to explore new potential capacity. There is various scope like identifying the land, connectivity and ensure supply chain and Government approvals in place before constructing the plants for their entire life span. These entities are like Gujarat Urja Vikas Nigam Limited, Aditya Birla Renewables, Ayana, Aparava, NTPC, Indian Oil-NTPC JV, Mahagenco and Major C&I customers in Gujarat. Few of the orders like GUVNL IPP (30 MW – wind), (200 MW – Khavda), (420 MW Hybrid – Gujarat), (250 MW Solar – Gujarat), Aditya Birla Renewables (368.55 MW Wind, 305 MW Solar), NTPC (179.55 MW Wind), Indian Oil NTPC (35.95 MW Wind), Aditya Birla Renewables Talaja (86 MW Wind, 64 MW Solar), Ayana Renewables (145.5 MW Wind), Mahagenco (100 MW) and more than 200 MW of C&I customer across Gujarat.

Q R&D is a core element of your brand. Could you elaborate on some of the unique specifications of this segment within your company?

At KP Group, R&D is much more than a department—it's the very foundation that drives our commitment to sustainability and innovation in the renewable energy sector. Our dedicated R&D efforts focus on leveraging cutting-edge technologies to enhance efficiency, reduce carbon footprints, and simplify operations at large-scale solar installations. For instance, our newly developed solar panel cleaning robots address a critical issue—dust accumulation on PV modules—thereby boosting overall power generation while reducing both labor intensity and

operational downtime. Similarly, we are working on automated grass-cutting systems to streamline maintenance of solar plants, further minimizing manual intervention.

In our KP NOC (Network Operation Center), our R&D efforts are directed towards implementing advanced data analytics, integrating various databases, and developing a Unified Data Access (UDA) platform. This enables seamless monitoring and improved O&M for over 1300 MW of solar, wind and Hybrid assets, addressing challenges like SCADA errors and data gaps.

By prioritizing automation and smart engineering, we ensure that each solution remains at the forefront of the renewable energy sector not only maximizes energy output but also aligns with our broader mission of fostering a greener, more sustainable future.

KP Group following its tradition of innovation broke the myth of installation of Wind Turbines in Saurashtra region and after three years of scientific research installed South Gujarat's first and seven wind turbines that too in just 4-5 months. Recently KP Group took the efforts forward aggressively and installed other 12 wind turbines in just 2-3 months. That is the USP of KP Group - Fast and reliable execution.

Q What are the top three things to watch from KP Group in 2025 regarding technological advancements?

Top Three Things to Watch from KP Group in 2025 Regarding Technological Advancements

Under the leadership of Dr. Faruk G. Patel, KP Group is advancing high on technological advancements, few to mention are:

- 1. Next-Gen Network Operation Center (NOC): AI-Driven Automation & Real-Time Visibility**
 - **O&M Automation:** We're moving beyond traditional, transitioning to automated processes in data management and reporting in O&M operations, replacing manual tasks to achieve higher accuracy, efficiency, and reliability.
 - **Smarter Maintenance:** Minimize O&M costs, reduce generation losses, and optimize operational performance by Leveraging AI and

Machine Learning for Advance analytics help anticipate potential issues before they become costly downtime events, revolutionizing the way large-scale solar and wind farms are managed.

- **Real-Time Insights:** Providing clients with real-time data access to their plants, enhancing transparency and enabling data-driven decision-making for improved asset management.

2. Robotic technology for Utility Scale

- Expanding the application of robotic technology to maximize energy generation and optimize operational costs for utility-scale solar plants.
- Achieving 100% robotic cleaning across the company's entire solar portfolio, ensuring efficient and sustainable cleaning solutions with NO/zero water usage.
- Scaling up production of advanced robots featuring ultra-light design and advanced trackers MMS compatibility, our robots integrate seamlessly with diverse solar module technologies and tracker providers, making large-scale deployment more feasible and cost-effective than ever.

3. Graphene-Based Innovations for Renewable Energy

- Development of Graphene-Based Battery Energy Storage Systems (BESS) capable of sustaining higher temperatures, designed specifically for the Indian environment to ensure long-term durability, performance and greater charge efficiency.
- Introducing graphene-based solar panel coatings to improve performance by up to 20%, significantly reduce dust accumulation, and dramatically boosting ROI for solar investments.
- Driving the adoption of cutting-edge graphene technology to lead sustainable advancements in renewable energy systems.
- KP Green Engineering will house Asia's Largest Galvanizing Plant, the work is going on full-fledged.

Q With Intersolar 2025 approaching, what are your expectations from this event and what will be the key highlights for KP Group?

At Intersolar 2025, KP Group aims to solidify its position as a leader in renewable energy by

showcasing its comprehensive 5.7 GW renewable energy portfolio, which includes solar, wind, and hybrid projects. Along with showcasing its capacity to work across India for Renewable Projects, the key highlights and expectations from KP Group are:

- 1. Green Hydrogen Innovation:** KP Group is set to unveil advancements in green hydrogen technologies, underscoring its commitment to India's net-zero carbon goals. This will include showcasing partnerships and plans for green hydrogen production facilities.
- 2. Offshore Solar and Hybrid Projects:** Highlighting investment and technological progress in offshore solar and wind-solar hybrid projects, demonstrating its ability to innovate in unconventional renewable energy spaces.
- 3. KP Green Engineering –** Highlighting one Roof Solution for Renewable with state of art facility for fabricating facility with hot dip galvanizing system to supply Solar MMS - WTG Structures, Transmission line, Road Crash Barrier, WTG structure Also will house Green Hydrogen Project.
- 4. Battery Energy Storage Systems (BESS):** Presenting new projects that integrate BESS for enhancing grid stability and energy storage solutions.
- 5. Future-Ready Collaborations:** Announcing new partnerships with private and public stakeholders, including plans for large-scale renewable projects with PVT and GOVT entities.
- 6. Visionary Leadership:** Sharing a roadmap to achieve 10 GW of renewable energy capacity by 2030, solidifying its leadership in India's Renewable energy transition.
- 7. Sustainability Advocacy:** Emphasizing its dedication to sustainability and green engineering through innovative project designs and cutting-edge R&D. Also patented technologies for Robotics cleaning for Solar Park

At Intersolar 2025, KP Group expects to attract global attention, foster new collaborations, and reinforce its reputation as a pioneer in renewable energy innovation. This platform shall propel its growth while aligning with India's ambitious renewable energy targets.

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