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From expansion to intelligence: the renewable sector enters its strategic era

Dr Florian Wessendorf, Managing Director at Solar Promotion, reflects on a renewable energy sector that has moved beyond exuberant growth into a more disciplined, strategic era. From Latin America's maturation through The smarter E South America to the rapid scaling of storage, hybrid systems and sector coupling worldwide, he outlines how markets are shifting from installing capacity at speed to building resilient, intelligent energy systems fit for long-term transformation.

PES: Welcome, Florian. After years of rapid expansion, the renewable sector appears to be entering a more strategic and disciplined phase. From your perspective, how would you describe the global market's mood today?

Dr Florian Wessendorf: It's a pleasure to speak with you. I would describe the mood of the energy market as confident, but more sober and strategic than in previous cycles. We are clearly no longer in the early 'emerging sector' stage. Solar and storage in particular, have become mainstream pillars of energy systems worldwide. The question is no longer whether renewables will dominate new capacity additions; they already do in many regions, but how they can reliably and economically anchor entire energy systems.

At the same time, the exuberance we saw during periods of ultra-low interest rates has given way to a more disciplined environment. Investors, developers and policymakers are focused on profitability, resilience and long-term bankability. The sector has matured. There is greater professionalism, more structured risk management and deeper institutional involvement. In short, the mood is optimistic but pragmatic.

PES: There's a noticeable shift from pure capacity growth to system integration and grid resilience. How are you seeing that transition play out across different regions?

FW: This shift is absolutely central. For years, success was measured primarily in gigawatts installed. Now, the conversation has evolved toward system value: flexibility, grid stability, sector coupling and digitalization.

In Europe and parts of North America, we see intense focus on grid modernization, storage deployment and hybridization. Markets are grappling with congestion, curtailment and volatile wholesale prices. Integration is no longer theoretical; it's a daily operational issue.

In emerging markets, the transition is happening in parallel. Countries are sometimes able to leapfrog legacy infrastructure and integrate storage or smart grid technologies earlier in their development curve. However, grid infrastructure constraints remain a bottleneck in many regions.

The narrative has shifted from 'how fast can we build?' to 'how intelligently can we build?'. That is a sign of sector maturity.

The smarter E Europe
The smarter E North America

PES: Notably, Latin America has been gaining momentum through platforms like The smarter E South America. What signals are you picking up about the market's maturity?

FW: Latin America has evolved significantly. Through The smarter E South America platform, we see markets that are no longer exploratory but strategic. Brazil, Chile and Colombia, for example, are building sophisticated renewable portfolios.

The level of dialogue has changed. Five years ago, many discussions were centered on basic policy frameworks and initial investment structures. Today, conversations focus on hybrid PPAs, merchant risk exposure, storage integration and green hydrogen export strategies.

Another strong signal of maturity is the diversity of participants. We see international investors partnering with local developers, deployment of advanced finance instruments and serious engagement from industrial off-takers seeking long-term decarbonization solutions.

PES: Staying in the region for a moment, Brazil has its own dynamics, from distributed generation to utility-scale expansion. What's standing out to you as the defining trend there?

FW: Brazil is fascinating because it combines scale with decentralization. On one hand, it continues to develop very large utility-scale solar and wind projects. On the other hand, distributed generation has grown at a remarkable speed, driven by regulatory incentives and high retail electricity prices.

What stands out now is the market's increasing complexity. Regulatory adjustments to distributed generation compensation schemes have introduced new business model considerations. Meanwhile, grid congestion in certain regions is pushing developers to rethink site selection and storage integration.

Another defining trend is the rise of corporate PPAs and the growing interest in hybrid solar plus storage projects. Brazil is moving beyond a pure expansion story into one of optimization and system intelligence.

The smarter E South America

PES: Moving north, Intersolar Mexico has evolved alongside major regulatory and

policy changes. How would you characterize the balance between opportunity and uncertainty in that market today?

FW: Mexico represents both an enormous opportunity and a policy-driven uncertainty. Through Intersolar Mexico, we observe a resilient private sector that continues to pursue projects despite regulatory complexities.

The country's solar resource is exceptional and industrial demand remains strong, particularly near manufacturing hubs. That said, permitting challenges and evolving government priorities create unpredictability.

The balance today leans toward cautious optimism. Developers are structuring projects carefully, often with a stronger focus on private off-take arrangements. While uncertainty affects timelines, the underlying fundamentals of resource quality, demand growth and industrial expansion remain compelling.

Intersolar Mexico

PES: Africa is often described as a continent of enormous potential, but potential and implementation aren't always the same thing. Through Intersolar Africa, what practical developments are you seeing that suggest real acceleration?

FW: That distinction between potential and implementation is critical. At Intersolar Africa, we increasingly see tangible project pipelines, particularly in South Africa, Egypt and parts of East Africa.

In South Africa, load shedding has fundamentally changed the energy conversation. Commercial and industrial players are moving rapidly toward self-generation and storage. That urgency is translating into real contracts, not just feasibility studies.

We also see strong growth in mini-grids and decentralized solutions. Importantly, development finance institutions and private capital are aligning more effectively. The acceleration is pragmatic and is focused on solving real energy access and reliability challenges.

Intersolar Africa

PES: And when we talk about acceleration, storage and hybrid systems inevitably come into the conversation. How central are these technologies becoming in emerging markets compared to more established ones?

FW: Storage has moved from optional to essential. In mature markets, it's increasingly about arbitrage, frequency regulation and grid services. In emerging markets, it often addresses reliability gaps and grid instability.

Interestingly, emerging markets may adopt hybrid systems more rapidly because they can integrate them from the outset rather than retrofitting later. Solar plus storage is becoming a default design in many tenders.

Hybridization: combining solar, wind, storage and sometimes diesel or gas backup, provides resilience and financial stability. The technology cost curves have made this viable. Storage is now central to virtually every serious project discussion.

PES: India is scaling at an extraordinary pace. With The smarter E India, you're closely connected to that ecosystem. What differentiates India's growth story from other high-growth markets?

FW: India's growth is defined by scale, speed and strategic intent. Through The smarter E India, we witness a market that is not only expanding capacity but building a full domestic value chain.

India combines ambitious national targets

Dr Florian Wessendorf

with strong auction mechanisms and an increasingly competitive manufacturing base. There is also a massive push into green hydrogen and storage.

What differentiates India is the integration of industrial policy with energy policy. It is not just about installing gigawatts; it is about positioning India as a global manufacturing and export hub for clean technologies.

The smarter E India

PES: The Middle East has historically been associated with conventional energy. With Intersolar Middle East, how do you see the region redefining its global energy identity?

FW: The Middle East is undergoing a profound transformation. Through Intersolar Middle East, we see record-breaking solar tenders, ultra-low tariffs and significant green hydrogen ambitions.

The region leverages its financial strength and solar resources to become a clean energy exporter. Countries like the UAE and Saudi Arabia are positioning themselves as leaders in renewable deployment and hydrogen production.

This shift is not a rejection of their energy heritage but an evolution. They aim to remain energy leaders in a diversified and decarbonized global system.

Intersolar Middle East

PES: Across these regions, are you noticing a convergence in priorities, or does each market still operate with a very distinct playbook?

FW: There is growing convergence around themes like storage, grid modernization, digitalization and decarbonization of industry. Alongside this, each market retains unique drivers shaped by regulatory frameworks, resource endowment and economic conditions.

The convergence is technological; the playbooks remain local.

PES: At your major events, which segments are currently generating the most serious deal flow, and how is that changing?

FW: Utility-scale solar and storage remain dominant in deal volume while C&I (commercial and industrial) segments are increasingly dynamic, particularly in markets with high retail electricity prices.

Green hydrogen is generating strong strategic partnerships, though many projects remain in early development stages. Residential markets are stable but more policy sensitive. Storage and hybrid projects show the fastest growth in concrete negotiations.

PES: Events like yours do more than showcase technology; they often shape market direction. How consciously do you curate themes to influence conversations rather than simply reflect them?

FW: Very consciously. We see our platforms not just as mirrors but as catalysts. By spotlighting topics like flexibility markets, sector coupling and digitalization early, we can accelerate industry alignment.

Our responsibility is to anticipate where the market is heading and create space for strategic dialogue before themes become mainstream.

PES: There's increasing overlap between solar, wind, storage, green hydrogen and digitalization. How important is sector coupling to the next stage of global energy development?

FW: Sector coupling is fundamental. Electrification of transport, heating and industry links power markets with broader economic transformation. Hydrogen connects renewable electricity with heavy industry and export markets.

The next stage of development will be systemic rather than siloed. Integration across sectors will define competitiveness.

PES: Investors and developers are navigating higher interest rates and supply chain recalibrations. How are these macroeconomic factors influencing conversations at your events?

FW: Financing discussions have become more detailed and risk focused. Capital costs matter again. Bankability, supply chain security and long-term price visibility are central themes.

The structural growth narrative remains intact. Macroeconomic pressure has introduced discipline, not retreat.

PES: Are you observing new procurement behaviors among buyers and developers?

FW: Yes. Decision cycles are longer, due diligence is deeper and contract structures are more sophisticated. There is a stronger emphasis on warranties, performance guarantees and ESG compliance. Risk allocation is being negotiated more carefully.

PES: If you think about the companies exhibiting and attending today versus five years ago, what changes in ambition or strategy have you observed?

FW: Five years ago, many companies aimed to enter markets. Today, they aim to dominate niches or integrate vertically.
There is more consolidation, more strategic partnerships and stronger global expansion strategies.

The industry's ambition has shifted from growth for growth's sake to sustainable leadership.

PES: Finally, looking ahead over the next five years, where do you believe the most surprising growth or innovation might come from?

FW: I believe the most surprising innovation may come from digitalization, for example, AI-driven grid management, predictive maintenance and integrated energy management systems. Additionally, breakthroughs in long-duration storage and industrial decarbonization could reshape market dynamics.

Industry leaders should pay close attention to flexible markets, hybridization and cross-sector integration. The next five years will not just be about more renewables, they will be about smarter, interconnected and more resilient energy systems worldwide.

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