



FEDECOM “Market Watch” Newsletter

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This 4th Edition of the FEDECOM market watch newsletter explores:

- **Page 1:** Introduction and contents
- **Page 2:** Blockchain-based P2P
- **Page 3:** Guarantees of Origin
- **Page 4:** Cross-border energy trading
- **Page 5:** In the energy community news.

Page 1. Contents

Page 1. Newsletter Ed. N°4 introduction

The first three editions of the internal market watch newsletter investigated FEDECOM pilot countries ([Ed. N° 1, Q2 2023](#)), the 15 Exploitable Results ([Ed. N° 2, Q1 2024](#)), and the customer segments and business model archetypes ([Ed. N° 3, Q3 2024](#)).

This fourth edition focuses on blockchain-based P2P energy trading (page 2), guarantees of origin (GOs) for energy trading (page 3), and cross-border energy trading (page 4).

Page 2. Blockchain-based P2P energy trading

Page 2 comprises 5 news items, 7 papers, and 3 reports.

Page 3. Guarantees of origin (GOs) for energy trading

Page 3 comprises 8 news items and 4 papers / reports.

Page 4. Cross-border energy trading

Page 4 comprises 8 news items and 6 papers / reports / books.

Page 5. In the energy community news

Page 5 comprises 14 news items and 2 papers / reports.

If any partner wishes to learn more about the market watch results presented herein (or any other trends), email me (zia.lennard@r2msolution.com) and I will be happy to explore the topic(s).

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QUICK REFERENCE:

- Blockchain P2P
- GOs
- Cross-border
- In the news

Page 2. Blockchain-based P2P energy trading

This page highlights the latest trends in: **Blockchain-based P2P energy trading**

News

- (10 Sep 2024, [ACNNewswire](#)): **"TRENDE Launches Commercial P2P Energy Trading Service** in Partnership with JA Group and ITOCHU" - TRENDE Inc. announces the launch of its commercial P2P energy trading service in collaboration with the National Federation of Agricultural Cooperative Associations (JA Group) and ITOCHU Corporation.
- (26 Jul 2024, [SmartEnergy](#)): **"Blockchain-enabled energy trading launched in Austria"** – A news piece reports on the launch of Austria's first blockchain-enabled energy trading platform.
- (6 June 2024, [Smart Energy International](#)): **"P2P exchange UrbanChain secures GB electricity supply licence"** Ofgem has granted UrbanChain an electricity supply license for non-domestic premises in Britain, enhancing its product offerings and providing greater control for electricity generators. Established in 2017, UrbanChain aims to alleviate fuel poverty and promote renewable energy by connecting generators with local communities.
- (22 June 2024, [Energy World](#)): **World Bank report recognises Tata Power for DER, P2P electricity trading** Tata Power, a Delhi-based company, was recognized in the World Bank Energy Report for its innovative rooftop solar systems and P2P electricity trading, promoting environmental sustainability and reducing energy costs through blockchain technology.
- (8 August 2024, [Mercom](#)): **"Karnataka Frames Regulations for P2P Solar Energy Transactions"** Karnataka introduces KERC Regulations, allowing consumers to sell surplus power via blockchain-based platforms, empowering them, optimizing efficiency, supporting a resilient energy grid, and reducing carbon footprint.

Papers

- (September 2021, [Elsevier](#)): **"Blockchain-enabled Peer-to-Peer energy trading"** - an academic paper exploring blockchain's capacity to revolutionize energy markets through decentralized P2P trading mechanisms.
- (20 Sep 2024, [Scientific Reports](#)): **"Applications of blockchain technology in P2P energy markets** and green hydrogen supply chains: a topical review" - A comprehensive review of blockchain's applications in renewable energy systems, from P2P trading to hydrogen supply chains, with technical and policy recommendations.
- (23 October 2024, [Frontiers](#)): **"Integration of blockchain with AI technologies in the energy sector: a systematic review"** The article explores the integration of blockchain and AI in the energy sector, highlighting their benefits, use cases, advantages, and challenges, as well as their basic structures and features.
- (27 Sep 2022, [Frontiers](#)): **"A survey on P2P energy trading for local communities: Challenges, applications, and enabling technologies"** – A computer science research article presenting a comprehensive framework for blockchain-enabled peer-to-peer (P2P) energy trading systems.
- (25 August 2022, [Nature](#)): **"A blockchain based lightweight P2P energy trading framework** for secured high throughput micro-transactions" The paper proposes a lightweight 'Tangle'-based framework, IOTA, for energy trading markets. It uses Directed Acyclic Graph (DAG) and Masked Authentication Messaging (MAM) protocols to alleviate reward overhead, provide scalability, and improve performance. The framework outperforms existing blockchain solutions like Hyperledger Fabric and Ethereum, with low confirmation latency and high throughput.
- (April 2021, [Frontiers](#)): **"Application of Blockchain Technology in Energy Trading: A Review"** – A research article systematically evaluating the application of blockchain technology in energy trading systems.
- (1 April 2020, [Elsevier](#)): **"Investigating the impact of P2P trading on power losses** in grid-connected networks with prosumers" - A study examining blockchain's technical and economic viability in transforming energy markets.

Reports

- (19 March 2025, [Enlit](#)): **"U2DEMO: Advancing peer-to-peer energy sharing"** – An article exploring how the U2Demo project is pioneering scalable P2P energy sharing in Europe through blockchain and smart grid technologies.
- (23 August 2024, [PVMagazine](#)): **"Novel blockchain-based virtual utility for P2P PV trading"** - This article profiles an emerging blockchain-based 'virtual utility' model designed to transform P2P solar energy trading.
- (06 December 2024, [Forbes](#)): **"The Blockchain Revolution In The Energy Market"** - A business analysis of blockchain's growing impact on global energy markets.
- (25 April 2019, [SMS](#)): **"UK peer-to-peer energy trading trials get underway"** - A insight article tracking the initiation of UK trials for P2P energy trading platforms.

Page 3. Guarantees of Origin for energy trading

This page highlights the latest trends in: **Guarantees of Origin (GOs) for energy trading**

News

- **(01 April 2025, [BalkanGreen](#)):** “Bulgaria’s IBEX opens registration for market of guarantees of origin of electricity.” – News report on Bulgaria’s IBEX electricity exchange launching registration for its new Guarantees of Origin (GO) market. It explains how this platform will enable transparent trading of renewable energy certificates, supporting Bulgaria’s compliance with EU clean energy directives while creating new revenue streams for green power producers.
- **(26 March 2025, [ArcticStartup](#)):** “Estonian startup secures €2.5M to automate renewable energy certificate trading.” – Soldera, a startup focused on automating the trading of renewable energy certificates in Europe and streamlines the management and sale of Guarantees of Origin (GOs), raises €2.5 million in funding.
- **(26 March 2025, [UBN](#)):** “A German company becomes the first buyer of electricity origin guarantees in Ukraine, which will aid in the development of renewable energy.” – News report detailing how a German company became the first international buyer of Ukraine’s Electricity GOs.
- **(16 December 2024, [PRNewswire](#)):** “Argus Guarantee of Origin prices available through Trayport Joule” – This press release announces a collaboration between Trayport Limited (TMX Trayport) and Argus, to provide Argus’ Guarantee of Origin (GO) benchmark prices through TMX Trayport’s Joule, a leading energy trading platform.
- **(18 October 2024, [Ukrhydroenergo](#)):** “Ukrhydroenergo enters the market for guarantees of electricity origin” – An official announcement from Ukraine’s Ministry of Energy (UHE) revealing that state-owned energy company Ukrhydroenergo has begun issuing Guarantees of Origin (GOs) for its renewable hydropower generation.
- **(June 26, 2024, [BalkanGreen](#)):** “First guarantees of origin auction in Greece attracts 14 participants” – A news report about Greece’s inaugural GO auction, and how 14 market participants engaged in this pioneering initiative by the Greek Energy Exchange (EnEx), reflecting growing interest in renewable energy certification.
- **(13 December 2024, [SmartEnergy](#)):** “Energinet to test blockchain-based granular energy certificates” – This article explores Energinet’s pilot project using blockchain technology to issue and track granular Guarantees of Origin (GOs). The initiative aims to enhance transparency and traceability in renewable energy certification by enabling real-time, tamper-proof tracking of electricity sources.
- **(2 December 2024, [Recharge](#)):** “Google-backed study calls for reform of European clean energy guarantees” – This news article highlights a Google-supported study urging major reforms to Europe’s Guarantee of Origin (GO) system. The research argues that current mechanisms fail to adequately drive additionality (new renewable projects) and calls for stricter rules to ensure GOs incentivize real decarbonization – not just reshuffled certificates.

Papers / Reports

- **(08 Oct 2024, [Aaron Paris](#)):** “Exploring the effect of GOs on the decarbonization of corporate electricity procurement: A case study of Germany and Norway” – This research paper examines the role of Guarantees of Origin (GOs) in accelerating the circular economy transition. The authors analyze how GOs can enhance resource traceability, sustainability accountability, and market incentives for circular practices.
- **(23 May 2024, [Rienergia](#)):** “Guarantees of Origin in the EU’s regulatory context” – This expert analysis provides a comprehensive overview of the evolving EU regulatory landscape for Guarantees of Origin (GOs). It explores key policy developments, market challenges, and future directions for GO schemes, emphasizing their role in transparency, renewable energy tracking, and compliance with EU decarbonization goals.
- **(05 June 2024, [WoodMackenzie](#)):** “Guarantees of Origin: the prices, disruptors and impact of RFNBOs on an evolving market” – This opinion piece explores the critical role of GOs in renewable energy markets, focusing on pricing trends, key market disruptors, and the growing influence of Renewable Fuels of Non-Biological Origin (RFNBOs).
- **(16 January 2024, [McKinsey](#)):** “Guarantees of origin: Playing a vital role in decarbonization” – This insight piece examines how Guarantees of Origin (GOs) are becoming a crucial instrument in global decarbonization efforts. The analysis highlights the growing importance of GO markets in enabling transparent renewable energy tracking, supporting corporate sustainability goals, and facilitating cross-border clean energy trade.

Page 4. Cross-Border Energy Trading

This page highlights the latest trends in: **Cross-Border Energy Trading**

News

- **(24 March 2025, [Mansfield](#)): "Tariffs Policy Update: What It Means for Cross-Border Energy Trade"** – Details the U.S. administration's imposition of 25% tariffs on Canadian and Mexican goods, with specific implications for energy product trade, aiming to address trade imbalances.
- **(27 March 2025, [Reuters](#)): "JERA, EDF to Merge Japan Power Trading Operations Under Singapore-Based JV"** – JERA and EDF will integrate Japan-based power trading operations into a Singapore joint venture to enhance efficiency and market influence.
- **(10 March 2025, [NBM](#)): "Go-live of 15 min Intraday Cross-Border Trading in the Nordics on 18/03 for Delivery on 19/03"** – Nordic countries implemented 15-minute intraday trading to boost flexibility and better accommodate renewable generation in regional power markets.
- **(17 January 2025, [Reuters](#)): "Investment in Africa: Free Trade Area Agreement Powers Continent's Energy Future"** – The AfCFTA agreement enables cross-border electricity trade and regional grid integration by eliminating tariffs and boosting investment.*
- **(11 April 2025, [European Commission](#)): "Global Gateway Scales Up Energy Security in Southern and Eastern Africa"** The Zambia-Tanzania Interconnector project (€268 million) was launched to connect the Southern and Eastern African power pools, enabling cross-border energy trade, expanding transmission capacity, and improving power reliability, particularly in Northern Zambia. It aims to enhance energy security and climate resilience.
- **(2 April 2025, [Balkan Green Energy News](#)): "European Power Exchanges to Test 15-Minute Day-Ahead Trading"** Nominated electricity market operators (NEMOs) in Europe began joint testing to reduce the cross-zonal day-ahead power trading interval from 60 to 15 minutes. This change aims to improve the integration of renewable energy sources and enhance market efficiency and flexibility.
- **(10 March 10, 2025, [Nordic Balancing Model](#)): "15-Minute Intraday Cross-Border Trading Goes Live in the Nordics"** Cross-border intraday trading with a 15-minute resolution went live in the Nordic region on March 18, 2025 (for delivery March 19). This transition, part of the Single Intraday Coupling (SIDC), aligns with changes in imbalance pricing and settlement periods, enhancing market granularity.
- **(29 January 2025, [Montel Group](#)): "Cross-Border Power Purchase Agreements (PPAs) Risks and Opportunities"** This commentary discusses the growing trend of transnational PPAs, where buyers and sellers are in different countries. It highlights opportunities like accessing diverse renewable resources and potential cost savings, but also outlines risks including regulatory uncertainty, currency fluctuations, infrastructure limitations, and geopolitical instability.

Papers / Reports / Books

- **(30 January 2025, [NREL](#)): "South Asia Cross-Border Electricity Trade and Cooperation Study"** – NREL study highlights how enhanced cross-border energy trading in South Asia can yield cost and resilience benefits through regional coordination.
- **(27 January 2025, [Bird&Bird](#)): "Cross Border Power Trading in APAC"** – An overview of cross-border energy trading initiatives in the Asia-Pacific region, emphasizing ASEAN collaboration to improve infrastructure and reliability.
- **(16 January 2025, [Reuters](#)): "EU Can Stand Up to US, China with Integrated Energy Market, IMF States"** – The IMF advises EU nations to deepen energy market integration to improve competitiveness and lower prices relative to U.S. and Chinese firms.
- **(25 October 2024, [MDPI AG](#)): "Trend Analysis of Cross-Border Electricity Trading in Pan-European Network"** This paper analyzes recent trends in electricity interconnectors and cross-border trading in Europe. It discusses the benefits (energy security, cost savings) and challenges (regulatory differences, geopolitical tensions, infrastructure investment) of developing transnational energy grids for a sustainable energy transition.
- **(3 July 2024, [ACER](#)): "Capacities for cross-zonal electricity trade and congestion management"** This report reveals disparities in interconnectivity levels among Member States, delays in capacity calculation, and the need for grid reinforcements and bidding zone reconfigurations.
- **(19 September 2023, [ERIA](#)): "Cross-Border Integration of Renewable Energy Systems Experiences, Impacts, and Drivers"** This book explores the potential of India's Northeast region for cross-border energy trade with ASEAN nations, focusing on renewable energy resources and identifying prerequisites like grid flexibility, policy enhancements, market mechanisms, and regulatory solutions.

Page 5. In the Energy Community News

Noteworthy items not directly related to the previous topics.

News

- **(14 April 2025, [PV Magazine](#)): “Colombia Introduces New Rules for Energy Communities”** Colombia's energy regulator (CREG) approved new regulations formally allowing the creation of energy communities. These communities can generate and sell energy to the grid, aiming to add at least 1 GW of renewable capacity. The rules utilize “virtual boundary aggregation” to connect users, even if geographically dispersed, and aim to benefit underserved regions, particularly through subsidized solar panels.
- **(27 March 2025, [PVMagazine](#)): “Heat pump control strategy for energy communities”** – An analysis by a Finnish research group on the impact of two control strategies on energy usage and costs in a small energy community. The first control strategy prioritises the use of heat pumps, while the second prioritises price.
- **(20 February 2025, [RESCOOP](#)): “Energy communities and the EU's Action Plan on Affordable Energy”** This article argues that energy communities (community solar, district heating, offshore wind) are crucial for tackling high energy prices and achieving EU decarbonisation goals. It highlights examples from Denmark, Germany, Belgium, and Ireland where communities shielded members from price hikes and advanced energy efficiency, suggesting the EU's Affordable Energy Action Plan should empower these citizen-led initiatives.
- **(11 February 2025, [PV Magazine](#)): “France exempts energy communities up to 1 MW from excise duty”** - France incentivizes small-scale energy communities through tax exemptions, reshaping the economics of citizen-led RES.
- **(12 December 2024, [Innovation](#)): “Energy communities should be part of the green (re)industrialisation debate”** – An editorial exploring how energy communities drive the green transition by tackling energy poverty, boosting climate action, and ensuring shared benefits for all citizens.
- **(11 March 2025, [BalkanGreen](#)): “Energy efficiency, renewables in rural communities in Serbia's Zlatibor region”** - Examining initiatives aimed at enhancing energy efficiency and promoting renewable energy adoption in rural communities across Serbia's Zlatibor region.
- **(31 January 2025, [Enliti](#)) “STUNNED project launched to advance energy communities flexibility”** – The article introduces the STUNNED project, a European initiative focused on empowering energy communities with digital tools, innovative solutions, and policy frameworks to enhance renewable energy use, grid stability, and consumer participation.
- **(15 January 2025, [European Commission](#)): “LIFE BECKON: the one-stop-shop for Europe's local energy communities”** - An overview of the LIFE BECKON project, a European initiative designed to support local energy communities.
- **(15 January 2025, [PVMagazine](#)): “Energy communities reach combined capacity of 74 MW in France”** - quantifying the expansion of France's citizen-led energy projects, with contextual analysis of their 74 MW capacity achievement.
- **(26 February 2025, [Enliti](#)): “How DSOs can enable energy communities”** - An analysis of how Distribution System Operators (DSOs) can support energy communities through grid adaptation, policy alignment, and technical innovation in Europe's evolving energy landscape.
- **(24 July 2024, [SciencesPo](#)): “One-stop shops for energy communities: Mapping service design attributes, synergies, and challenges”** – A report on the role and service design of Energy Communities One-Stop-Shops within the EU.
- **(12 December 2024, [European Commission](#)): “JTP Groundwork: Enabling renewable energy communities in JTF regions from the bottom up”** Outlines the JTP Groundwork program's strategy to enable energy communities in regions undergoing just transitions, emphasizing decentralized capacity development.
- **(25 December 2024, [BalkanGreen](#)) “Energy Community's EU integration pace steady but CBAM looms”** – This news piece analyses the progress of energy communities in Southeast Europe as they align with EU energy transition goals.
- **(4 February 2025, [PVMagazine](#)): “Community managers key to wider adoption of energy communities”** – This PV Magazine article highlights the pivotal role of 'community managers' in driving the success and expansion of energy communities across Europe. Review of Energy Communities: Definitions, Regulations, Topologies, and Technologies

Papers / reports

- **(6 January 2025, [MDPI AG](#)): “Review of Energy Communities: Definitions, Regulations, Topologies, and Technologies”** This paper provides an overview of energy community definitions, characterization, regulations (particularly the EU Clean Energy Package), architectures (centralized vs. decentralized), and technologies.
- **(December 2024, [Elsevier](#)): “The dynamics of energy communities and innovative cooperatives: Mapping current knowledge and future trends”** This study explores cooperative energy communities, focusing on their nature, characteristics, and relationship with traditional cooperatives, emphasizing the integration of technology, community involvement, and cooperative models for sustainable energy systems.