



## Research Article

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### Comparative Analysis of Support Schemes for Renewable Energy Sources in Europe and Albania. Legal Framework and Implementation Challenges

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#### Abstract

The transition towards renewable energy has become a central component of European energy, climate, and economic policy. Although technological progress and declining production costs have substantially improved the competitiveness of renewable energy sources (RES), public support mechanisms continue to play an important role in reducing investment risk, accelerating deployment, and facilitating the achievement of national and European decarbonisation targets. Over the last two decades, however, the design of these mechanisms has changed considerably. Traditional feed-in tariffs have increasingly been replaced by market-oriented instruments, including feed-in premiums, competitive auctions, power purchase agreements, and contracts for difference. This evolution reflects a broader shift from administratively determined subsidies towards competitive and market-responsive mechanisms. This article examines the development of renewable-energy support schemes within the European Union and compares the European model with the emerging regulatory framework in Albania. Particular attention is devoted to Directive (EU) 2018/2001, as amended by Directive (EU) 2023/2413 (RED III), the reform of the EU electricity market design, and Albania's Law No. 24/2023 "On the Promotion of the Use of Energy from Renewable Sources". The analysis considers the transition from feed-in tariffs towards competitive auctions and contracts for difference and evaluates Albania's efforts to approximate its renewable-energy framework to the EU acquis. The article argues that Albania has made significant progress in establishing a market-oriented legal framework and attracting private investment in solar and wind generation. Nevertheless, formal legislative approximation alone is insufficient to guarantee an effective renewable-energy transition. Market liquidity, grid capacity, administrative procedures, institutional coordination, permitting, access to finance, balancing responsibilities and regulatory predictability remain critical implementation challenges. The comparative analysis demonstrates that the next stage of Albania's energy transition should

therefore concentrate less on the formal introduction of new support instruments and more on creating the institutional and market conditions necessary for those instruments to function effectively.

**Keywords:** renewable energy; support schemes; feed-in tariffs; feed-in premiums; renewable-energy auctions; contracts for difference; European Union; Albania; energy law; energy transition.

## 1. Introduction

The transformation of the energy sector represents one of the principal dimensions of European climate policy. Renewable energy is no longer treated merely as an alternative source of electricity generation but as a strategic instrument for decarbonisation, energy security, technological development and reduction of dependence on imported fossil fuels. The European Green Deal, the Fit for 55 package, REPowerEU and the successive revisions of the Renewable Energy Directive have progressively strengthened this policy orientation. The economic rationale for renewable-energy support has simultaneously evolved. During the initial stages of renewable deployment, technologies such as solar photovoltaic and wind generation were considerably more expensive than conventional generation technologies. Governments therefore relied heavily on administratively determined support mechanisms, particularly feed-in tariffs (FITs), to guarantee investment returns. These mechanisms were effective in stimulating deployment but also generated concerns regarding overcompensation, fiscal burdens and the insulation of producers from electricity-market signals. The European model has consequently moved towards competitive and market-based allocation of support. Feed-in premiums (FIPs), renewable-energy auctions and contracts for difference (CfDs) increasingly replace conventional fixed tariffs for utility-scale renewable generation. Article 4 of Directive (EU) 2018/2001 reflects this transformation by requiring renewable support to encourage market integration and, as a general principle, to be granted through open, transparent, competitive, non-discriminatory and cost-effective mechanisms. Direct price support is increasingly associated with market premiums rather than administratively guaranteed prices. The reform of the European electricity-market design has reinforced this direction. Two-way contracts for difference are becoming particularly important because they combine long-term revenue stability for investors with protection for consumers and public budgets when wholesale electricity prices rise substantially above the agreed strike price. These developments have direct implications for Albania. Although Albania is not yet an EU Member State, its status as an EU candidate country and a Contracting Party to the Energy Community creates a strong obligation and policy incentive to progressively approximate its energy legislation to the EU acquis. Albania occupies an unusual position in the European energy landscape. Its electricity generation has historically been dominated by hydropower. This gives the country a relatively high renewable-energy share but simultaneously creates structural exposure to hydrological variability and climate-related risks. Diversification through solar and wind generation is therefore not simply an environmental objective; it is increasingly

an energy-security requirement. Against this background, this article addresses three principal questions. First, how have renewable-energy support mechanisms evolved within the European regulatory framework? Second, to what extent has Albania incorporated this market-oriented approach into its domestic legislation and support schemes? Third, what legal, institutional and market-related obstacles may prevent formal regulatory approximation from producing effective implementation? The article adopts a comparative legal and policy approach. The EU regulatory framework provides the principal benchmark, supplemented by selected experiences from EU Member States. The Albanian framework is then assessed against this benchmark, with particular emphasis on competitive auctions, market premiums and contracts for difference.

## **2. The European Union Legal Framework**

Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources (Renewable Energy Directive II or RED II) constitutes one of the central pillars of the European Union's regulatory framework for renewable-energy development. The Directive represented an important evolution from earlier approaches to renewable-energy promotion by linking financial support more closely to the functioning of competitive electricity markets. Rather than treating renewable-energy support primarily as a mechanism for compensating producers for the higher costs associated with renewable technologies, RED II increasingly integrates renewable-energy generation into the broader architecture of the internal energy market (European Parliament & Council of the European Union, 2018). Article 4 of RED II provides Member States with considerable discretion to introduce and maintain support schemes in order to achieve their renewable-energy contributions. Nevertheless, this discretion is constrained by a number of principles intended to reconcile renewable-energy deployment with market efficiency and competition. In particular, Article 4(2) requires support schemes for renewable electricity to encourage the integration of renewable electricity into the electricity market in a market-based and market-responsive manner while avoiding unnecessary distortions and taking account of system-integration costs and grid stability (European Parliament & Council of the European Union, 2018). This provision reflects a broader transformation in the philosophy underlying European renewable-energy policy. Earlier generations of support mechanisms, particularly administratively determined feed-in tariffs, were primarily designed to provide renewable-energy producers with stable and predictable revenues irrespective of short-term electricity-market conditions. Such mechanisms were instrumental during the initial development of renewable technologies because they reduced investment risk and facilitated access to financing. However, as renewable technologies matured and their costs declined, EU policy progressively shifted towards mechanisms that expose renewable-energy producers to market signals while continuing to provide sufficient revenue stability to encourage capital-intensive investment. Accordingly, Article 4(3) of RED II provides that support schemes should be designed to maximise the integration of renewable electricity

into the market and ensure that renewable-energy producers respond to market-price signals and maximise their market revenues. Where direct price support is provided, the Directive establishes market premiums—either fixed or sliding—as the general model, while allowing exemptions for small-scale installations and demonstration projects (European Parliament & Council of the European Union, 2018). Market premiums therefore represent an intermediate mechanism between completely administratively protected revenues and full exposure to wholesale electricity-market risk. Producers participate directly in the electricity market and receive market revenues, while public support supplements those revenues according to the design of the particular support scheme. A second fundamental feature of the European framework concerns the method through which support is allocated. Article 4(4) requires support for renewable electricity to be granted in an "open, transparent, competitive, non-discriminatory and cost-effective manner," although Member States may exempt small-scale installations and demonstration projects from competitive tendering (European Parliament & Council of the European Union, 2018). The European Commission similarly identifies competitive tenders or auctions as the principal market-based mechanism through which operational support for utility-scale renewable-energy projects is increasingly allocated within the EU (European Commission, n.d.). Competitive auctions have therefore become a defining characteristic of contemporary European renewable-energy policy. Under an auction-based system, potential renewable-energy producers compete for support by submitting bids indicating the level of remuneration required to develop their projects. This differs substantially from administratively determined feed-in tariffs, under which the government establishes the support level in advance. Competitive bidding allows market participants themselves to reveal information concerning project costs and required remuneration. In principle, this reduces information asymmetry between public authorities and developers and limits the risk of overcompensation. The increasing reliance on auctions also reflects the substantial reduction in the costs of mature renewable-energy technologies, particularly solar photovoltaic and onshore wind generation. As technologies mature, administratively established tariffs may become increasingly difficult to calibrate accurately. A tariff set too high may generate excessive producer rents and unnecessarily increase the financial burden on consumers or public budgets, whereas a tariff set too low may discourage investment. Competitive allocation can mitigate this problem by allowing the required level of support to emerge through competition among project developers. Nevertheless, competitive allocation should not be understood exclusively as a mechanism for achieving the lowest possible bid price. The broader regulatory objective is to obtain renewable capacity that can actually be financed, constructed and integrated into the electricity system. Auction design therefore influences not only the price of renewable electricity but also project-delivery rates, technological diversification, geographical distribution, financing conditions and system integration. Excessively aggressive competition may result in unrealistically low bids, potentially increasing the risk that successful projects are subsequently delayed or abandoned. Consequently, effective support schemes increasingly incorporate qualification requirements, financial guarantees, implementation

deadlines and penalties for non-completion. This illustrates an important distinction between the nominal price resulting from an auction and the broader effectiveness of the support mechanism.

Another significant dimension of RED II is the emphasis placed on predictability and regulatory stability. Renewable-energy investments typically require substantial initial capital expenditure and generate returns over periods extending for decades. Investors are therefore particularly sensitive to regulatory uncertainty. Article 6 of RED II addresses the stability of financial support by limiting revisions that negatively affect the rights conferred under existing support schemes in a manner that undermines the economic viability of projects that have already benefited from support (European Parliament & Council of the European Union, 2018). This protection is important because retrospective regulatory intervention can substantially increase perceived political and regulatory risk and consequently raise the cost of capital. Predictability is also promoted through forward planning. Member States are required to publish long-term schedules indicating the expected allocation of renewable-energy support, including information concerning indicative timing, frequency, capacity, budget and, where appropriate, eligible technologies. Such visibility allows investors, financial institutions, equipment manufacturers and supply-chain participants to anticipate future market opportunities and plan investment decisions accordingly. The importance of predictability demonstrates that renewable-energy support cannot be assessed exclusively by reference to the amount of financial assistance provided. A theoretically generous support mechanism may produce limited investment if investors perceive substantial uncertainty regarding future auctions, permitting procedures, grid access or regulatory changes. Conversely, a comparatively lower support level may still attract substantial investment where the legal and institutional environment is stable and predictable. The effectiveness of renewable-energy support therefore depends upon the interaction between the financial instrument and the wider investment environment. The concept of acceleration areas illustrates the evolution of European renewable-energy regulation from a predominantly subsidy-oriented model towards a more comprehensive investment-facilitation model. The underlying assumption is increasingly that, as renewable technologies become commercially mature, administrative and infrastructural barriers may constitute constraints that are as significant as insufficient financial support. Long permitting periods increase development costs because investors must finance project preparation for longer periods before revenues can be generated. They also increase uncertainty regarding whether a project will ultimately be authorised. Grid availability constitutes another increasingly important constraint. Rapid expansion of intermittent renewable generation requires corresponding investment in transmission and distribution networks, storage, flexibility and electricity-market integration. A project may obtain financial support through an auction but nevertheless remain delayed if the relevant grid infrastructure is unavailable or if grid-connection procedures are excessively complex. The economic effectiveness of support schemes therefore increasingly depends upon coordination between renewable-energy policy, network development, spatial planning and electricity-market regulation. This development

has significant implications for the assessment of renewable-energy support schemes. The effectiveness of a support mechanism cannot be measured solely by the tariff or premium offered to producers. It must also be evaluated according to the administrative, regulatory and infrastructural environment within which the support mechanism operates. Permitting delays, fragmented institutional responsibilities, uncertain land-use planning, insufficient transmission capacity and unclear grid-connection procedures can increase project risk and financing costs even where the formal support mechanism appears attractive. EU State-aid law constitutes an additional and complementary component of this regulatory architecture. Renewable-energy support frequently involves the use of public resources or mechanisms attributable to the State and may therefore fall within the scope of Article 107 of the Treaty on the Functioning of the European Union. The Guidelines on State aid for climate, environmental protection and energy 2022 (CEEAG) establish the principal framework through which the European Commission assesses the compatibility of relevant energy and environmental aid measures with the internal market (European Commission, 2022). The CEEAG seek to reconcile two objectives that may potentially conflict. On the one hand, substantial investment is necessary to accelerate decarbonisation and achieve the objectives of the European Green Deal. Market failures—including environmental externalities and investment risks—may justify public intervention. On the other hand, poorly designed public support may distort competition, favour particular technologies or undertakings without sufficient justification, result in overcompensation or transfer excessive costs to consumers. Consequently, the Commission's compatibility assessment examines whether aid facilitates the development of an economic activity and generates positive environmental effects while ensuring that the measure does not adversely affect trading conditions to an extent contrary to the common interest. Important considerations include the incentive effect of the aid, its appropriateness, proportionality and transparency, as well as the need to avoid undue negative effects on competition and trade (European Commission, 2022). Proportionality is particularly important in the renewable-energy context. Public intervention should generally be limited to the amount necessary to induce the desired investment or environmental outcome. Competitive bidding can contribute to this objective because competition between potential beneficiaries provides a mechanism for determining the minimum level of support required by the market. Thus, the increasing use of competitive renewable-energy auctions under RED II is closely connected to the broader logic of EU State-aid control: both seek to ensure that decarbonisation objectives are achieved without providing unnecessary economic advantages or imposing disproportionate costs on consumers and public finances.

The European regulatory model should therefore be understood as an integrated framework rather than as a collection of isolated subsidy instruments. RED II establishes the fundamental principles governing renewable-energy support; RED III increases renewable ambition while addressing permitting and administrative bottlenecks; electricity-market rules promote market integration; and State-aid law imposes requirements concerning necessity, proportionality and competitive neutrality. Together,

these instruments progressively shift renewable-energy policy from administratively determined subsidies towards competitive, market-oriented and institutionally integrated mechanisms. Consequently, the contemporary European model of renewable-energy support can be characterised by four interconnected principles.

First, competitive allocation of support has increasingly become the preferred mechanism for utility-scale renewable-energy development. Auctions are intended to reveal the actual level of support required by investors, promote competition between developers and reduce the probability of overcompensation.

Second, increased exposure to electricity-market signals requires renewable-energy producers progressively to participate in electricity markets rather than operating entirely outside them through administratively guaranteed prices. Market premiums and related mechanisms preserve a degree of revenue stability while encouraging producers to respond to wholesale prices and system conditions.

Third, long-term investment certainty remains indispensable. Market exposure does not eliminate the need for predictable revenues and stable regulation. Renewable-energy investments are capital-intensive and particularly sensitive to financing costs; consequently, predictable auction schedules, stable support conditions, credible permitting procedures and protection against disruptive retrospective changes can materially reduce the cost of capital.

Fourth, minimisation of distortions to competition and consumers requires support to be proportionate to the policy objective pursued. Renewable-energy promotion must therefore balance accelerated decarbonisation with cost efficiency, technological competition, electricity-system integration and protection against excessive public expenditure or consumer costs.

These four principles are mutually reinforcing rather than independent. Competitive auctions may reduce support costs, but their effectiveness depends on regulatory predictability and credible project-delivery conditions. Market exposure can improve electricity-system integration, but excessive revenue volatility may increase financing costs. Long-term certainty can stimulate investment, but overly generous guarantees may transfer disproportionate risk to consumers. The central regulatory challenge is therefore not simply to maximise renewable-energy support, but to allocate risks efficiently between investors, electricity consumers and the State.

This evolution is particularly relevant for countries seeking closer alignment with the EU energy acquis, including Albania. The European experience suggests that formal adoption of an auction or premium mechanism is only one component of an effective renewable-energy support framework. Institutional capacity, transparent tender procedures, predictable auction schedules, permitting efficiency, grid availability, regulatory stability and credible contract enforcement ultimately determine whether formally market-based support mechanisms translate into actual investment and commissioned renewable capacity. The comparison between EU practice and Albania should therefore examine not merely whether similar legal instruments exist, but whether the institutional and market conditions necessary for those instruments to operate effectively have been established.

### 3. Albanian Legal Framework for Renewable-Energy Support

The adoption of Law No. 24/2023, *On the Promotion of the Use of Energy from Renewable Sources*, represents a significant development in the evolution of Albania's renewable-energy regulatory framework. The Law replaced the previous renewable-energy legislation and seeks to approximate the Albanian framework more closely with Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources (RED II). Its importance extends beyond the formal transposition of elements of the EU renewable-energy acquis. More fundamentally, the legislation reflects a change in the underlying philosophy of renewable-energy support in Albania: from a system based predominantly on administratively determined support and guaranteed purchasing arrangements towards a framework characterised by competitive allocation, increased market participation, differentiated treatment of renewable producers and greater reliance on market-based support mechanisms (Republic of Albania, 2023). This transformation should be understood within the broader context of Albania's energy system. Historically, Albania has possessed an unusually high share of renewable electricity generation because domestic electricity production has been dominated by hydropower. While this gives the country a comparatively favourable position in terms of the carbon intensity of electricity generation, it simultaneously creates structural vulnerability. Electricity production is strongly affected by hydrological conditions, and periods of insufficient rainfall can substantially reduce domestic generation and increase dependence on electricity imports. Diversification into solar and wind generation therefore serves several policy objectives simultaneously: decarbonisation, security of supply, reduction of hydrological risk, greater resilience against electricity-price volatility and progressive integration into regional and European electricity markets (European Bank for Reconstruction and Development [EBRD], 2024). Law No. 24/2023 should consequently be viewed not simply as environmental legislation but as an important component of electricity-market reform and energy-security policy. The legislation establishes a framework for promoting renewable energy across electricity, heating and cooling, and transport, while introducing mechanisms relating to renewable self-consumers, renewable-energy communities, guarantees of origin and support schemes. These elements broadly reflect the more decentralised and market-oriented philosophy underlying RED II (European Parliament & Council of the European Union, 2018; Republic of Albania, 2023).

Law No. 24/2023 moves the Albanian framework closer to the market-oriented model promoted by EU renewable-energy policy. It provides the legal basis for support contracts and mechanisms including premiums and contracts for difference (CfDs). Under the regulatory framework subsequently developed for implementation of the Law, a premium contract may involve either a fixed or sliding premium, while the reference price is linked to the Albanian day-ahead electricity market. A CfD, by contrast, operates around the relationship between a competitively determined guaranteed price and a market reference price (Energy Regulatory Authority [ERE], 2024). This architecture is significant because it allows renewable generators to participate in the

electricity market while retaining a degree of revenue certainty necessary for financing capital-intensive investments. The introduction of CfDs is particularly important from an investment perspective. Renewable-energy projects typically involve high initial capital expenditure but comparatively low operating costs. Their economic viability is therefore highly sensitive to the cost of financing and to expectations concerning future electricity revenues. Full exposure to volatile wholesale electricity prices can increase investment risk and consequently increase the return required by lenders and equity investors. A well-designed CfD can mitigate this problem by stabilising revenues around an agreed strike or guaranteed price while preserving a relationship between the supported producer and the electricity market. In this sense, CfDs can provide an institutional compromise between two competing policy objectives: market integration and investment certainty. The Albanian framework also increasingly differentiates between categories of renewable-energy producers. This distinction is economically important. Large utility-scale solar or wind projects possess greater technical, financial and administrative capacity to participate in organised electricity markets, manage balancing responsibilities and compete in sophisticated tender procedures. Requiring every small renewable installation or household prosumer to operate under identical conditions would impose disproportionate transaction costs. Consequently, simplified support and administrative arrangements for small installations, self-consumers and other decentralised producers can coexist with competitive allocation mechanisms for larger projects (Republic of Albania, 2023). This differentiation is consistent with the principle of proportionality embedded in the European renewable-energy framework. RED II permits Member States to exempt small-scale installations and demonstration projects from certain competitive tendering requirements, recognising that the administrative cost of participation may otherwise exceed the benefits of competition (European Parliament & Council of the European Union, 2018). Market-based renewable support mechanisms depend upon credible electricity-market price formation because instruments such as sliding premiums and CfDs require transparent reference prices. Consequently, renewable-support reform and electricity-market reform are institutionally interconnected. Without a sufficiently liquid and transparent organised market, the reference-price component of market-based support mechanisms may function less effectively. The success of the renewable-support framework therefore depends partly on the continued development of Albania's wholesale electricity market and its integration with neighbouring markets.

### ***3.1 Competitive Renewable-Energy Auctions***

Albania's renewable-energy auctions provide perhaps the clearest practical evidence of convergence with the contemporary European approach to renewable support. With technical and policy assistance from the European Bank for Reconstruction and Development, Albania has progressively developed competitive procurement procedures for utility-scale renewable-energy capacity. The underlying principle is substantially different from an open-ended entitlement to an administratively established tariff. The State determines the overall legal and contractual framework, eligibility requirements

and available capacity, while qualified developers compete for support on the basis of specified bidding criteria (EBRD, 2023a). This mechanism potentially generates several advantages. First, competition can reveal information concerning the actual level of support required by investors. Public authorities frequently possess less information than project developers concerning technology costs, financing conditions, expected output and required rates of return. An administratively established tariff must therefore be determined under conditions of information asymmetry. Competitive bidding transfers part of the price-discovery function to the market. Second, auctions can reduce the risk of overcompensation. If multiple credible developers compete for limited capacity, bidders have incentives to offer prices close to the level necessary to make their projects financially viable. Third, auctions can allow the government to control the volume and timing of new renewable capacity, facilitating coordination with transmission planning and national renewable-energy objectives. Fourth, transparent international competitive procedures can increase investor confidence and attract experienced foreign developers and financial institutions. The Karavasta photovoltaic auction represented a particularly important milestone in this transition. The competitive procedure resulted in a winning bid by Voltalia for a 140 MW solar photovoltaic project. The successful bid reached €24.89/MWh, substantially below the auction ceiling price of €55/MWh. Under the project's structure, part of the electricity production was covered by the supported arrangement while the remaining electricity could be sold on the market (EBRD, 2020). The result was significant not merely because of the low bid price but because it demonstrated that Albania could attract a major international renewable-energy developer through competitive procurement. The Karavasta experience is therefore relevant to the broader analysis of support-scheme effectiveness. A competitive procedure can perform functions beyond determining the support price. It can act as a credibility mechanism by signalling to international investors that the government intends to allocate renewable opportunities through structured and transparent procedures. This can contribute to market development by generating information about project costs, investor appetite and financing conditions that can subsequently inform the design of future auctions. The Spitalla solar procedure represented a further stage in this process and contributed to the gradual institutionalisation of competitive renewable-energy procurement. The significance of conducting successive auctions should not be underestimated. A single successful tender may demonstrate investor interest, but a predictable sequence of competitive procedures is more important for creating a sustainable renewable-energy market. Developers must incur considerable costs before submitting bids, including site assessment, technical studies, financing preparation and legal due diligence. A visible pipeline of future auctions can therefore justify the development of local expertise, supply chains and institutional capacity. The transition subsequently extended beyond solar photovoltaic generation. Albania's first utility-scale onshore wind auction represented an important attempt to diversify the renewable-energy mix. The procedure resulted in three successful bidders receiving a combined capacity of approximately 222.48 MW. The selected bids included 75 MW at €44.88/MWh, 74.88 MW at €74/MWh and 72.6 MW at €74.95/MWh (EBRD, 2023b).

The importance of the procedure lies not simply in the additional capacity awarded but in the introduction of competition into a renewable technology that had previously played a relatively limited role in Albania. Diversification towards wind energy has particular strategic relevance given Albania's dependence on hydropower. Solar generation, wind generation and hydropower have different production profiles and respond to different climatic conditions. A more diversified portfolio can therefore reduce concentration risk and potentially improve the resilience of domestic electricity supply. However, increasing the share of variable renewable generation also creates new requirements for transmission infrastructure, balancing, storage, forecasting and regional market integration.

### ***3.2 The 300 MW Solar Auction and the Bidder-Selected-Site Model***

A further development occurred with the competitive photovoltaic procedure formally launched by the Ministry of Infrastructure and Energy in January 2024. The procedure covered photovoltaic installations with individual installed capacities between 10 MW and 100 MW and a maximum auctioned capacity of 300 MW. Importantly, developers were required to identify and propose their own project locations rather than relying exclusively on sites predetermined by the government (Ministry of Infrastructure and Energy [MIE], 2024a). The bidder-selected-site model represents an important evolution in auction design. Government-selected sites can reduce development risk because the State may undertake preliminary work relating to land availability, spatial planning, environmental assessment or grid access. However, such an approach places substantial administrative responsibility on the public sector and limits developers' ability to identify potentially more efficient sites.

Allowing developers to select project locations can mobilise private-sector knowledge and initiative. Developers can identify sites based on irradiation levels, land costs, grid proximity, environmental constraints and expected generation performance. In principle, this can increase the range of potential projects and accelerate the creation of a renewable-energy project pipeline. The EBRD described the 300 MW tender as part of a broader Albanian programme intended to add approximately 1 GW of renewable capacity through multiple competitive procedures (EBRD, 2023a). The results of the 300 MW auction provided additional evidence of competitive investor interest. The Ministry announced the successful bidders in July 2024. Approximately 284 MW of capacity was awarded, with winning prices below the auction ceiling of €59.97/MWh; the lowest successful offer was approximately €39.7/MWh, while the average was around €51.3/MWh (MIE, 2024b). The procedure therefore demonstrated that competitive procurement could be extended from individually structured flagship projects towards a portfolio of independently developed renewable installations. The use of CfD-type support for projects awarded through this framework is particularly significant. Rather than simply guaranteeing physical purchase of all renewable electricity at an administratively determined tariff, the emerging model connects supported generators more closely to electricity-market prices while providing a mechanism for stabilising revenues. This is conceptually aligned with the broader European transition towards

market-responsive renewable support. However, the bidder-selected-site model also transfers important risks from the State to developers. Project developers must secure suitable land, obtain the necessary authorisations, satisfy environmental requirements and establish the feasibility of grid connection. This means that a successful auction does not automatically guarantee that all awarded capacity will become operational. This distinction between awarded capacity and commissioned capacity is crucial when evaluating the effectiveness of renewable-energy auctions. The number of megawatts awarded through competitive procedures is an important indicator of investor interest, but it is not sufficient evidence of implementation success. A more complete assessment should consider the proportion of awarded projects that achieve financial close, obtain permits, secure grid connections, begin construction and ultimately enter commercial operation.

### ***3.3 From Price Competition to Implementation Capacity***

The Albanian experience therefore demonstrates why auction effectiveness should not be measured exclusively through bid prices. Very low prices can be politically attractive and may indicate strong competition, but the ultimate policy objective is the timely construction and operation of renewable capacity at sustainable costs. If developers underestimate financing costs, grid-connection expenditure or permitting risks in order to submit highly competitive bids, low auction prices may subsequently translate into project delays, renegotiation or non-completion. This issue becomes increasingly important as Albania moves from government-selected flagship projects towards bidder-selected sites. Under the latter model, public authorities have less direct control over site-specific conditions. The effectiveness of competitive procurement consequently becomes more dependent on the quality of spatial planning, environmental procedures, land administration, transmission planning and interinstitutional coordination. Grid capacity is likely to become one of the most important constraints on future renewable expansion. Solar and wind projects are geographically dependent: the areas with the best natural resources do not necessarily coincide with locations where the transmission network has sufficient available capacity. Rapid allocation of renewable projects without corresponding network investment can therefore create congestion and connection delays. The government and network operators must consequently coordinate future auction volumes with realistic assessments of transmission and distribution capacity. This illustrates a fundamental distinction between financial support risk and development risk. Competitive auctions and CfDs can substantially reduce revenue risk, but they cannot eliminate delays relating to permits, land, environmental assessments or grid connection. Once renewable technology costs fall and access to finance improves, these non-financial barriers may become the principal determinants of investment outcomes.

### ***3.4 The Renewable Energy Operator and the Institutionalisation of CfDs***

The development of the Renewable Energy Operator represents another important step in institutionalising the new support architecture. The Albanian framework assigns the Renewable Energy Operator responsibilities connected with supported

renewable producers and the management of financial flows associated with renewable-support contracts. The implementing framework adopted in 2024 provides for support arrangements including power purchase agreements and contracts for difference, with support contracts potentially extending for up to 15 years (Council of Ministers of the Republic of Albania, 2024). This institutional arrangement is significant because a CfD system requires a credible counterparty capable of administering payments between the guaranteed and reference prices. When the reference market price is below the guaranteed price, the support mechanism must compensate the producer according to the applicable contractual arrangement. Depending on the structure of the CfD, when market prices exceed the guaranteed level, the financial relationship may operate in the opposite direction. The credibility, financial sustainability and transparency of the institution administering these settlements are therefore central to investor confidence. This creates an important governance requirement. Moving towards sophisticated market-based instruments does not eliminate public-sector financial obligations; rather, it makes their administration more complex. Clear methodologies for calculating reference prices, transparent settlement rules, predictable funding arrangements and effective regulatory oversight are necessary to ensure that CfDs provide the revenue certainty expected by investors without creating uncontrolled liabilities for consumers or the State.

### ***3.5 Prosumerism, Decentralised Generation and Guarantees of Origin***

The transformation of Albania's renewable framework is not limited to utility-scale projects. Law No. 24/2023 also provides a broader basis for self-consumption and renewable-energy communities, reflecting the increasingly decentralised character of European energy policy (Republic of Albania, 2023). This dimension is important because renewable-energy transition is no longer understood solely as the replacement of large conventional generating plants with large renewable facilities. Distributed solar installations, commercial and industrial self-generation, storage and renewable-energy communities can increasingly contribute to generation capacity. The expansion of prosumer capacity is already becoming economically relevant. The EBRD reported that installed prosumer capacity in Albania had increased to approximately 120 MW, illustrating the growing importance of decentralised solar generation alongside utility-scale investment (EBRD, 2024). This development creates additional regulatory requirements concerning metering, network tariffs, balancing, settlement and the allocation of network costs.

Guarantees of origin complement this process by allowing renewable electricity to be certified independently of the physical electricity flow. Article 22 of Law No. 24/2023 requires ERE to establish an electronic system for issuing, transferring, redeeming and cancelling guarantees of origin and identifies ERE as the national issuing body (Republic of Albania, 2023). Such certificates can become increasingly important as corporate electricity consumers seek to demonstrate renewable-energy consumption and as regional electricity markets become more integrated.

### **3.6 Assessment of Albania's Regulatory Convergence**

Taken together, these reforms demonstrate substantial movement towards the regulatory principles underlying the European renewable-energy model. Albania has introduced competitive procurement, market-linked support mechanisms, CfDs, guarantees of origin, support for self-consumption and renewable-energy communities, while simultaneously developing an organised electricity market. Competitive solar and wind auctions have demonstrated significant investor interest and have produced prices substantially below some initial auction ceilings.

Nevertheless, formal legal convergence should be distinguished from functional convergence. The adoption of legislation resembling the EU *acquis* establishes the necessary legal architecture, but the effectiveness of that architecture depends on implementation. The decisive question is therefore not simply whether Albanian legislation contains auctions, premiums, CfDs or guarantees of origin, but whether these mechanisms function predictably and efficiently in practice. Several implementation dimensions are particularly relevant. First, secondary legislation must translate the general provisions of Law No. 24/2023 into operational and legally predictable procedures. Second, institutional responsibilities among the Ministry, ERE, the Renewable Energy Operator, transmission and distribution system operators and other public authorities must be sufficiently clear to avoid administrative fragmentation. Third, the electricity market must provide credible reference-price formation for market-based support mechanisms. Fourth, network planning must keep pace with the rapid increase in proposed solar and wind capacity. Fifth, permitting and environmental procedures must be sufficiently efficient to prevent administrative delays from undermining the benefits obtained through competitive auctions. The Energy Community framework adds an additional dimension to this process. Albania's renewable-energy reforms form part of a broader obligation to approximate its energy legislation and institutions to the evolving EU energy *acquis*. Compliance therefore requires more than the adoption of primary legislation; it involves the development of implementing rules, institutional capacity and functioning energy markets capable of delivering the objectives embedded in the legislation. From a comparative perspective, Albania can therefore be characterised as moving through three overlapping stages of renewable-support development. The first stage was dominated by administratively established support and priority treatment for renewable producers. The second introduced competitive auctions for utility-scale renewable capacity, initially through flagship solar projects and subsequently through wind and broader photovoltaic procedures. The third, currently developing, involves the integration of renewable support into a functioning electricity market through CfDs, premiums, guarantees of origin, organised-market reference prices and increasingly diversified forms of renewable participation.

This evolution represents a transition from renewable-energy promotion based primarily on regulatory entitlement towards renewable-energy procurement and investment based increasingly on competition and market integration. The shift is significant because it changes the role of the State. Under the traditional model, the State primarily determined the support price and guaranteed the conditions under which eligible producers

could sell electricity. Under the emerging model, the State increasingly establishes the regulatory architecture, determines the volume or conditions of support, organises competitive allocation and provides mechanisms for managing market risk, while private investors compete over price, technology, location and project development. The Albanian experience nevertheless demonstrates that competitive procurement should not be equated automatically with a mature renewable-energy market. Auctions can reveal prices and attract investors, but their success ultimately depends on whether projects can obtain land rights, permits, financing and grid connections and subsequently achieve commercial operation. Likewise, CfDs can reduce electricity-price risk, but they cannot compensate for an unpredictable regulatory environment or insufficient network infrastructure. The central implementation challenge for Albania is therefore shifting. During the earlier phase of renewable-energy development, the principal policy question concerned how much financial support should be provided to renewable producers. Under the emerging framework, the more important question is whether Albania can establish the institutional, regulatory and infrastructural conditions that allow competitive renewable projects to move efficiently from auction award to financial close, construction, grid connection and commercial operation. This distinction is essential for evaluating Albania's convergence with the European renewable-energy model. Legal approximation can be demonstrated by comparing the provisions of Law No. 24/2023 with RED II and the broader Energy Community acquis. Effective convergence, however, should be evaluated through implementation indicators: the transparency and regularity of auctions; the difference between awarded and commissioned capacity; permitting duration; grid-connection times; the functioning of the CfD settlement mechanism; the liquidity and transparency of electricity markets; the effectiveness of guarantees of origin; and the ability of institutions to coordinate renewable deployment with network development. Accordingly, Albania's renewable-energy reform can be considered substantial but incomplete. The competitive auctions conducted for solar and wind generation demonstrate a clear departure from exclusively administratively determined support and provide evidence of increasing private-sector participation. Law No. 24/2023 supplies a more sophisticated legal basis for this transition, while the introduction of CfDs, premiums, guarantees of origin and differentiated treatment of renewable producers moves the national framework closer to European practice. The next stage of reform will depend less on introducing additional support instruments and more on ensuring that the existing instruments operate within a predictable, coordinated and sufficiently developed electricity market. In this respect, the principal challenge is gradually shifting from legal transposition to institutional implementation and from attracting renewable investment to ensuring that awarded investment is actually delivered.

#### **4. Conclusion**

European renewable-energy support policy has undergone a fundamental transformation. Feed-in tariffs, which played a decisive role during the early development of renewable

technologies, have progressively given way to mechanisms that expose producers to market signals and allocate public support competitively. Feed-in premiums, renewable-energy auctions, PPAs and contracts for difference now form the central elements of this evolving framework. Directive (EU) 2018/2001, RED III and the reform of the European electricity-market design consolidate this movement towards competitive, transparent and market-responsive renewable support. Albania has followed a broadly comparable regulatory trajectory. Law No. 24/2023 establishes the foundations for a more market-oriented renewable-energy system, while competitive solar and wind procedures demonstrate that the transition has moved beyond legislation into practical implementation. Nevertheless, the comparative analysis reveals that Albania's principal challenge is shifting from legislative approximation towards effective implementation. The distinction is critical. Competitive auctions cannot compensate for inadequate grid capacity. CfDs cannot operate optimally without credible market reference prices. Renewable investment cannot accelerate indefinitely if permitting remains fragmented or unpredictable. Market-oriented legislation cannot generate competitive outcomes without sufficiently capable institutions. The future of Albanian renewable-energy policy should therefore be evaluated through the concept of functional integration rather than solely formal approximation with EU law. This requires coordinated progress across renewable-support policy, electricity-market development, grid infrastructure, permitting reform, balancing markets, energy storage and institutional capacity. If these reforms are implemented coherently, Albania possesses several structural advantages: significant solar and wind resources, an established renewable generation base, flexible hydropower potential and geographical proximity to the EU electricity market. The strategic objective should consequently extend beyond achieving renewable-energy targets. Albania has the potential to develop a diversified and market-integrated renewable electricity system capable of reducing hydrological vulnerability, strengthening security of supply and facilitating its progressive integration into the European internal energy market.

## References

- Council of European Energy Regulators. (2021). *Status review of renewable support schemes in Europe for 2018 and 2019*.
- Council of Ministers of the Republic of Albania. (2024). *Decision on support measures for the promotion of electricity from renewable energy sources and the operation of the Renewable Energy Operator*.
- del Río, P., & Menzies, C. J. (2021). *Auctions for the support of renewable energy in Spain*. AURES II.
- Energy Community Secretariat. (2022). *Annual implementation report 2022*. Energy Community.
- Energy Regulatory Authority. (2024). *Decision No. 284, dated 18 December 2024*.
- European Bank for Reconstruction and Development. (2020). *Albania's solar tender generates competitive price*.
- European Bank for Reconstruction and Development. (2023a). *Albania announces results of first onshore wind auction*.
- European Bank for Reconstruction and Development. (2023b). *EBRD supports Albania in new*

*solar power auction.*

European Bank for Reconstruction and Development. (2024). *Albania diagnostic 2024.*

European Commission. (n.d.). *Support schemes for renewable energy.* Directorate-General for Energy.

European Commission. (2022a). *Guidelines on State aid for climate, environmental protection and energy 2022 (2022/C 80/01).* *Official Journal of the European Union*, C 80, 1–89.

European Commission. (2022b). *Study on the performance of support for electricity from renewable sources.*

European Parliament & Council of the European Union. (2018). Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast). *Official Journal of the European Union*, L 328, 82–209.

European Parliament & Council of the European Union. (2023). Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652. *Official Journal of the European Union*, L, 2023/2413.

Federal Ministry for Economic Affairs and Climate Action. (2023). *Renewable energy.*

Filipovska, M., & Bosiljanov, D. (2020). *Renewable energy law and regulation in North Macedonia.* CMS Expert Guide.

García, J. A., Marín, P. L., & Stirzaker, J. (2022). *The renewable energy law review: Spain.* The Brattle Group Inc.

Ministry of Infrastructure and Energy. (2024a). *Announcement of the winners of the 300 MW hybrid photovoltaic auction.* Republic of Albania.

Ministry of Infrastructure and Energy. (2024b). *Competitive procedure for the design, financing, construction, operation and maintenance of photovoltaic plants with an installed capacity between 10 MW and 100 MW and a maximum auctioned capacity of 300 MW.* Republic of Albania.

Republic of Albania. (2017). *Law No. 7/2017 on the promotion of the use of energy from renewable sources.* *Official Gazette of the Republic of Albania.*

Republic of Albania. (2023). *Law No. 24/2023 on the promotion of the use of energy from renewable sources.* Official Publication Centre of the Republic of Albania.