Financing Renewable Energy Investments in Russia: Legal Challenges and Opportunities

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I. Introduction

This report is a sequel to the Green Paper on Renewable Energy Policy in Russia: Waking the Green Giant that the Russia Renewable Energy Program of the International Finance Corporation (part of The World Bank Group) published in June 2011\(^1\). The Green Paper outlined the Russian strategy for the development of renewable energy sources by introducing the history of Russian renewable energy policy. It examined the social, economic and political benefits that renewable energy sources could present for Russia and identified the main barriers to the implementation of these investments. The Green Paper focused on renewable energy sources in the fuel mix of the electricity sector. The Green Paper argued that the modernization program of the Russian electricity industry presents considerable opportunities for the deployment of renewable energy sources. Huge investments are needed to replace aging production capacity and renewable energy sources could be used to meet these investment requirements. Russia has, at least in theory, liberalized its electricity market and introduced capacity payment mechanisms. However given the specific cost structure of renewable energy investments and the “unlevel playing field” in favour of conventional thermal power plants, this market structure does not provide sufficient financial incentives to enable the large scale deployment of renewable energy sources in Russia. The Green Paper analyzed the support schemes that Russia is designing in order to stimulate renewable energy investments. It focused on the wholesale market, and in particular provided a critical analysis of the premium to the wholesale market price and the promotion of renewable energy through the capacity market. The Green Paper made recommendations to fine tune the Russian wholesale market support schemes and announced further analysis by the IFC Russia Renewable Energy Program on renewable energy financing in Russia.

The present report provides a legal analysis of financing mechanisms for renewable energy investments in the Russian electricity wholesale and retail markets and in the Russian heating sector. It aims to reflect on recent\(^2\) regulatory developments concerning the promotion of renewable energy sources through the Russian wholesale capacity market. In addition to this analysis of renewable energy support through the wholesale market, this report examines the Russian regulation on electricity retail tariffs and heat tariffs, as well as...

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\(^1\) Available from: http://www1.ifc.org/wps/wcm/connect/region_ext_content/regions/europe+middle+east+and+north+africa/ifc+in+europe+and+central+asia/publications/renewable+energy+policy+in+russia+-+waking+the+green+giant

\(^2\) Regulatory reference information is up to date as of June 30, 2012.
as tariff guarantees for energy efficiency improvements. The report describes the regulatory framework governing tariff and price formation for renewable energy generating facilities in Russia. This analysis questions to what extent Russian electricity, heat and energy efficiency law establishes tariff principles and methodologies that would enable investors to recover the capital and operating costs of renewable energy investments. The report identifies the legal challenges to and opportunities for the creation of a viable investment environment for renewable energy projects and provides recommendations on possible ways to overcome financial and regulatory barriers.

The scope of the present report is limited to the question of tariff regulation and price formation. It does not cover the issue of investor protection against regulatory changes to the tariff structure or protection against political risks in Russia. Investment protection guarantees under Russian law (e.g. concession and investment law) and Russia’s international obligations (e.g. under bilateral investment treaties, investment agreements or insurance schemes such as the Multilateral Investment Guarantee Agency) are excluded from the analysis.

The structure of the report proceeds as follows. Part II analyses the promotion of renewable energy through the Russian capacity market. Part III examines the possibility for regional tariff authorities to adopt specific tariffs for the electricity that renewable energy installations sell on the electricity retail market. Part IV focuses on tariff guarantees that Russian energy efficiency regulation establishes in order to promote energy savings. Part V provides an analysis of heat tariffs for renewable energy investments. Part VI looks at the possibility to finance renewable energy projects in Russia with European support under the so-called “joint project” mechanism that the European Renewable Energy Directive created to help Member States achieve their mandatory renewable energy targets.

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II. Financing renewable energy investments through the capacity market\textsuperscript{5}

\subsection*{2.1. The capacity-based support scheme}

As analysed in IFC’s Green Paper on Renewable Energy Policy in Russia: Waking the Green Giant\textsuperscript{6}, Russia has created a legal basis to promote the use of renewable energy sources for electricity production and supply on the wholesale market\textsuperscript{7}. The 2003 Federal Electricity Law\textsuperscript{8}, as amended in November 2007\textsuperscript{9}, establishes the legal framework for an electricity “premium” scheme. However, in the absence of a Government Decree on the Procedure for the Determination of the Premium Added to the Equilibrium Price of the Wholesale Market, the premium scheme has not yet been put into practice. The Ministry of Energy – charged with the development of the support scheme – has invoked technical, economic and legal reasons to justify the fact that no premium scheme had been implemented so far\textsuperscript{10}.

\textsuperscript{7} Installations with an installed capacity above 5 MW have the right to participate in the wholesale market, installations above 25 MW must participate in the wholesale market (Article 36, para. 5 FZ-35).
\textsuperscript{8} Federal Law No. 35-FZ, 26 March 2003.
\textsuperscript{9} Federal Law No. 250-FZ, 4 November 2011.
Instead of finalising the premium scheme, in December 2010\textsuperscript{11} and December 2011\textsuperscript{12} legal amendments were introduced in order to support renewable energy through the capacity market. The Federal Electricity Law now provides for the possibility to support renewable energy by concluding with investors “Agreements for the Delivery of Capacity” (also called “DPM” following the Russian abbreviation). Agreements for the Delivery of Capacity refer to the long-term regulated capacity contracts concluded in the context of the corporate restructuring of the former quasi-monopolist RAO UES\textsuperscript{13}. Agreements for the Delivery of Renewable Energy Capacity provide for the remuneration at regulated prices and for a long-term period of the installed capacity of certain installations selected by the Government. These capacity agreements in particular renumerate the readiness of electricity generating facilities to produce electricity\textsuperscript{14}. By concluding Agreements for the Delivery of Capacity, investors commit to construct a certain type of production installation, of a certain capacity, at a certain location.

Under the new capacity-based support scheme, investors will thus, in return for long-term regulated tariffs, commit to build certain types of renewable energy installations at specific locations determined by the Government of the Russian Federation. Moreover, by concluding Agreements for the Delivery of Capacity, investors commit to maintain their installations in a state of readiness to produce electricity, i.e. they guarantee the availability of their installations for electricity production.

Under the current regulation of capacity supply, this requirement represents an important obstacle for variable renewable energy sources\textsuperscript{15}. Indeed, in accordance with the Wholesale Market Rules, the availability of generating facilities to produce electricity is assessed based on the maneuverability and dispatchability of power plants and their potential contribution to the reliability of electricity supply. In the absence of regulatory changes, how renewable energy generators fulfill their obligations under the capacity-based scheme (i.e. guarantee of availability of their installations to produce electricity) will be assessed based on the existing maneuverability and dispatchability criteria. Following the existing procedure\textsuperscript{16}, the System Operator confirms that production installations are ready to produce electricity if these installations are able to participate in maintaining the electricity system in balance (i.e. are able to supply active and reactive energy following its commands) and respect the generation graphs it develops. The System Operator assesses the fulfillment of this requirement by, among others, examining the bids that the operators of these installations have submitted to sell electricity in the day-ahead market. It also looks at the deviations between the amount of electricity the producers planned to generate and the amount of electricity they ultimately generated. The System Operator examines whether the operators of the concerned installations adequately executed the dispatch commands. If electricity producers fail to guarantee the availability (dispatchability) of their installations, the remuneration of the capacity to which these producers are entitled

\begin{itemize}
\item \textsuperscript{11} Federal Law No. 401-FZ, 28 December 2010.
\item \textsuperscript{12} Federal Law No. 394-FZ, 6 December 2011.
\item \textsuperscript{13} Item 4, para. 10, Wholesale Market Rules, as approved by Decree of the Government of the Russian Federation No. 1172 of 27 December 2010.
\item \textsuperscript{14} Ibid, Item 45-51.
\item \textsuperscript{16} Wholesale Market Rules, Item 47-51.
\end{itemize}
II. Financing renewable energy investments through the capacity market

is decreased by specific coefficients\(^{17}\). The values of these penalty coefficients vary in relation to the availability requirements the producers were unable to meet, and in relation to the type of production installation concerned. Because of their specific production patterns, specific coefficients, for instance, apply to hydropower installations\(^{18}\). No such coefficients have yet been adopted for wind and solar energy.

To implement the new capacity-based support scheme, further regulatory intervention by the Government of the Russian Federation, the Ministry of Energy and the Market Council is necessary. The Government must elaborate the list of renewable energy installations that will be entitled to support. It must also adopt tariff methodologies for the remuneration of renewable energy capacity – in particular, fix the rate of return and eligible capital costs per type of renewable energy technology – and determine the duration of support. This could be done by inserting a renewable energy chaper in the Decree of the Government of the Russian Federation No. 238 of 13 April 2010 on the Determination of Price Parameters for the Trade in Capacity. Based on these methodologies, the Market Council will have to adopt specific tariffs for each renewable energy installation. In addition, as will be argued below, it is essential to adopt specific rules for the assessment of the availability of variable renewable energy installations.

2.2. The challenge: capacity supply and the variability of renewable energy

Because wind and solar PV installations are characterized by challenging dispatchability, existing reliability requirements and coefficients could penalize these installations. Current capacity supply regulation could thus undermine the effectiveness of the capacity-based renewable energy support scheme. Analysts have for instance highlighted how “capacity obligations” schemes (or “firmness obligations”) have affected the deployment of renewable energy in Brazil\(^{19}\). In accordance with Brazilian electricity market regulation, producers cannot contractually sell electricity in excess of a certified amount of capacity (“firm energy”) that is expected to be available in critical periods\(^{20}\). To support renewable energy, Brazil implemented a feed-in tariff scheme before replacing it with an auctioning scheme\(^{21}\). The feed-in tariff program offered renewable energy generators 20-year power purchase agreements at an administratively set price. In practice, the effectiveness of the Brazilian support scheme was undermined by the obligation to cover all electricity supply contracts with capacity/firm energy guarantees\(^{22}\). The obligation to cover all energy contracts with “firm” energy guarantees exposed investors in wind installations to higher risks.

\(^{17}\) Wholesale Market Rules, Item 53-55.
\(^{18}\) Wholesale Market Rules, Item 53.
\(^{22}\) Azuei & Barroso (2011).
of penalization because of the variable production patterns of wind energy. The Brazilian experience highlights the fact that strict evaluation criteria of the availability of production installations to produce electricity are likely to constitute a barrier to the development of renewable energy. In Russia, the current assessment of the availability of power plants to produce electricity could penalize variable renewable energy installations. The remuneration of these installations under the new capacity-based scheme could be outweighed by coefficients (financial penalties) due to the inability of these installations to meet the availability requirements for capacity supply.

2.3. The opportunity for renewable energy investments in Russia

On the other hand, strict availability requirements incentivize renewable energy investors to improve the production efficiency of their turbines and thus avoid the “steel in the ground” syndrome that affected previous capacity-based schemes. Indeed, past experiences with capacity-based support mechanisms have led to reduced efficiency of the constructed turbines, with investors focusing on installed capacity (“steel-in-the-ground”) rather than energy production. Stimulating electricity production from renewable energy installations with strict availability requirements are of particular relevance to the Russian situation. Indeed, because of the new capacity-based scheme the Ministry of Energy has recently proposed to determine the national renewable energy target of 4.5 percent on the basis of the total installed capacity of the Russian electricity system.

2.4. Overcoming the variability challenge

Promoting wind and solar energy through capacity markets requires overcoming the hurdles that the current design of capacity markets represents for these installations. Brazil, for instance, has restructured its support scheme by organizing specific auctions for wind power projects as part of the capacity market. Under the new auctioning scheme, successful bidders are entitled to enter into 20-year energy contracts. Taking into account the physical characteristics of the system – which has hydro-reservoirs with multi-year storage capacity – specific accounting rules were determined to stimulate renewable energy generators to deliver a given reference of MWh/year accounted over a 4-year period. This allows the generators to produce more than the reference in different years as long as the amount accounted over the 4-year horizon matches the reference value. In the same vein, Vergara, et al. propose renewable energy-friendly amendments to the Colombian capac-

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23 Ibid.
II. Financing renewable energy investments through the capacity market

ity market rules in order to promote wind power\textsuperscript{28}. In particular, they argue that wind power should be eligible to reliability/capacity payments based upon their ability to provide firm energy, i.e. the availability of the installed production capacity to produce electricity. They propose to calculate the estimated availability of renewable energy installations on the basis of the project’s average electricity output over a year, and to update this average with actual performance data. This, to a certain extent, corresponds to the methodology for the determination of capacity credits for wind in different US states/regions\textsuperscript{29}. Reviewing methods for the calculation of the capacity value of wind in the US, Milligan & Porter recommend using multiple years of data and to subject actual performance to ongoing evaluations (e.g. 3-year rolling average of capacity value)\textsuperscript{30}. Batlle & Pérez-Arriaga recommend a comparable approach to the determination of “firm energy” in general, i.e. not just for renewable energy\textsuperscript{31}. They mention the possibility of estimating the availability of installations ex ante based on long-term forecasts. Ex post, these parameters would be adapted based on the results of previous years\textsuperscript{32}. Interestingly, according to Vergara et al., capacity payments made on this basis would provide sufficiently attractive returns to stimulate the deployment of wind energy investments in the Colombian electricity sector\textsuperscript{33}.

Comparable arrangements could be included in the Russian Wholesale Market Rules in order to adapt existing availability requirements on capacity delivery to the relatively inflexible production patterns of some renewable energy installations. At the same time, sufficient incentives must be maintained to stimulate the production efficiency of renewable energy installations and avoid remunerating investors just for putting “steel in the ground”. Firstly, in line with the proposals made by Vergara et al. for the support of renewable energy in Colombia, the estimated availability of variable renewable energy installations could be calculated on the basis of longer periods, e.g. year averages or four year periods (such as in Brazil). These year averages could be regularly updated to take account of actual performance. Alternatively, the availability of wind power could be calculated closer to actual supply, as forecast errors are reduced\textsuperscript{34}.

Secondly, to limit the financial impact on variable renewable energy installations of penalties for non-compliance with capacity availability requirements, specific penalty coefficients could be introduced in the Wholesale Market Rules. Adapted penalty coefficients already exist for hydropower installations. This approach could be extended to all types of variable renewable energy sources. Penalty coefficients for non-compliance with capacity availability requirements could for instance be developed based on the capacity value of wind in Russia or in certain regions of the Russian Federation. Coefficients could also vary


\textsuperscript{30} Ibid.


\textsuperscript{32} Ibid.

\textsuperscript{33} Vergara, et al. (2010).

in function of the season. Alternatively, capacity tariffs could provide for the possibility to recover part of the financial penalties that variable renewable energy installations incurred because of their difficult maneuverability.

In fine-tuning the capacity-based support scheme, the Russian authorities will have to assess whether renewable energy-specific rules on the availability for electricity production (e.g. year averages) are adequate to ensure the financial viability of these installations. If not, these specific availability rules will need to be complemented with the introduction of specific penalty coefficients. The authorities will have to propose a balance between amendments to the availability regulation and amendments to the penalty coefficients. Depending on the amendments to the availability regulation, different penalty coefficients will be needed to compensate for stricter availability rules.
III. Financing renewable energy investments through the retail market

3.1. Renewable energy retail tariffs: the challenge of qualification

The Federal Electricity Law does not limit the support of renewable energy to the wholesale market. It also creates a legal basis for the support of smaller renewable energy installations (under 25 MW) that participate in the retail market. This support first consists of the subsidiation of network connection costs for small-scale renewable energy installations. Moreover, Article 32 para. 3 of the Federal Electricity Law provides that network companies must compensate electricity losses on their network by purchasing in priority electricity produced from renewable energy sources. Article 23.1 of the Federal Electricity Law provides that regulated tariffs apply to the electricity produced by renewable energy installations that is purchased to compensate losses on the network. Importantly, renewable energy tariffs can only be adopted for generating facilities that have been qualified as “renewable energy installations” in accordance with the procedure established by Decree of the Government of the Russian Federation No. 426 of 3 June 2008 on the Qualification of a Production Installation Using Renewable Energy Sources. Following Article 33, para. 3 of the Federal Electricity Law, the qualification of electricity generating facilities as “renewable energy installations” is a federal competence delegated to the Market Council. Regional tariff authorities can thus only adopt special tariffs for the electricity produced from renewable energy sources and purchased to compensate losses on the network if the renewable energy installations concerned have been qualified by the Market Council.

36 See Art. 21, para. 1 Federal Law No. 35-FZ, 26 March 2003.
37 See also Item 128 of the Main Principles Underlying the Functioning of Electricity Retail Markets, as approved by Decree of the Government of the Russian Federation No. 442 of 4 May 2012.
38 See also Item 3 of the Principles of Price Regulation in the Electricity Sector, as approved by Decree of the Government of the Russian Federation No. 1178 of 29 December 2011.
In accordance with Decree 426 on the Qualification of Renewable Energy Installations, generating facilities can only be qualified after their construction and connection to the network. Investors in renewable energy projects thus have no guarantee that they will be able to benefit from renewable energy tariffs when they make their investment decision. This exposes potential renewable energy investors to considerable investment unpredictability. Moreover, to be qualified, installations must be included on the list of renewable energy installations determined by the Ministry of Energy (Order No. 316 of 29 July 2011 Adopting the Scheme for the Location of Renewable Energy Generating Facilities in the Russian Federation). If the Ministry of Energy refuses to include a certain generating facility on the list of renewable energy installations, or the Market Council fails to qualify a generating facility as renewable energy installation, the regional tariff authorities will not have the right to approve specific renewable energy retail tariffs. The risk that the inaction or refusal of federal authorities (Ministry of Energy and Market Council) represents for regional RES tariff policies is clearly illustrated by the Decision of the Arbitration Court of the Vologda Oblast and its confirmation in appeal by the Decision of the Federal Arbitration Court of the North-West Circuit in a challenge against the validity of specific retail tariffs for a combined heat and power (CHP) facility producing electricity and heat from wood waste. The Courts ruled that the tariff decision by the regional tariff authority contradicted the Federal Electricity Law because the regional tariff authority adopted a specific renewable energy tariff in the absence of the qualification of the concerned generating facility as renewable energy installation in accordance with Resolution No. 426 On the Qualification of a Renewable Energy Generating Facility.

To overcome the challenge of qualification, it could be considered to amend Decree No. 426 on the Qualification of Renewable Energy Installations to provide ex ante guarantees to investors: if the generation facility is on a list of renewable energy installations approved by federal or regional authorities and the investor proves based on project documentation that it answers to the qualification requirements, it should be entitled to provisional qualification. Decree No. 426 could be amended so as to entrust the Market Council with the task of verifying (a minima ex post control) that all criteria and procedure for the qualification of renewable energy installations have been fulfilled by the regional authorities. The Market Council could keep the exclusive competence to qualify renewable energy installations of federal importance (e.g. renewable energy installations that supply electricity on the wholesale market). However for renewable energy installations that supply electricity on the retail market, its function would be limited to ex post verification. This would enable regional authorities to implement their renewable energy policies and at the same time would maintain the coherence and integrity of the Russian renewable energy policy.

3.2. The duration of retail tariffs

In accordance with Item 63 of the Principles of Price Regulation in the Electricity Sector, as approved by Decree of the Government of the Russian Federation No. 1178 of 29 December 2011, renewable energy tariffs are determined on a yearly basis. In accordance with

41 Decision of the Federal Arbitrazh Court of the North-West District No. F07-8429/11 of 31 October 2011.
III. Financing renewable energy investments through the retail market

Item 12 of the same Principles, regional tariff authorities can adopt tariffs with a duration of longer than 5 years only following approval by the Federal Service for Tariffs, the Ministry of Energy and the Ministry for Economic Development.

Tariff unpredictability increases the returns that investors require to invest in new technologies: it requires investors to add a "risk premium" to their business case thereby reducing the amount of projects that might be financially viable. The risk premium issue is particularly acute in Russia given the relatively risky business environment and regulatory instability42.

To overcome the short-term nature of renewable energy tariffs on the retail market, Item 63 of the Principles of Price Regulation in the Electricity Sector should be amended so as to provide for the long-term regulation of renewable energy tariffs. As will be analyzed below, Article 25, para. 6 of the Federal Energy Efficiency Law – on the necessity to guarantee long-term tariff parameters to ensure the financial viability of energy efficiency investments – provides a strong legal basis to support such regulatory amendments.

3.3. Recovering renewable energy investment costs through retail tariffs

Item 64 of the Principles of Price Regulation in the Electricity Sector provides an important guarantee to investors: when determining renewable energy tariffs, the authorities must take into account the means necessary to recover investments in the construction of renewable energy generating facilities. Given that most types of renewable energy investments are characterized with relatively high up front investment costs and limited operating costs, this provision is of particular relevance for the financing of these installations.

Biomass/biogas projects – given the early stage of development of this technology in Russia – can entail non-negligible operating costs due to the specific nature of the supply chain of biomass. Wood waste and other biodegradable products must be processed into biomass for energy production and transported to the generating facilities. Consumers, suppliers and network companies could challenge the validity of renewable energy tariffs by alleging that electricity production from biomass entails higher costs than fossil fuels and are therefore not economically justified.

The principle of the “economic well-founded nature” (or justification) of costs is a cornerstone of Russian tariff regulation43. Importantly, the Federal Arbitrazh Court of the North-West District recently accepted to recognize that the additional costs related to the transformation and supply of biomass for CHP production were, in casu, "economically


well-founded." The Court came to this conclusion by highlighting the absence of proof that using biomass would increase the price of primary energy fuel for electricity and heat production and exceed federal tariff limits. To improve investment predictability, this interpretation should be crystallized in the Principles of Price Regulation in the Electricity Sector: Item 64 of these Principles should recognize the necessity to recover the operating costs of biomass / biogas installations, taking into account the supply chain for biomass products.

3.4. Federal tariff limits

Several regions of the Russian Federation (e.g. Belgorod Oblast, Tomsk Oblast, Krasnodar Krai, Amur Oblast, Volgograd Oblast) have adopted regional acts to promote the development of renewable energy sources. To ensure the financial viability of renewable energy projects, regions have made attempts to adopt specific tariffs for the electricity and heat produced from renewable energy sources. However, an important limit to these regional initiatives is that retail tariffs and network tariffs (including the compensation for network losses) must remain within federal tariff limits. These limits could constrain the margin of manoeuvre for regional authorities to implement ambitious renewable energy policies. In the short-term, high tariffs for renewable energy are needed to enable investors to recover their relatively high investment costs. In the long-term, however, these installations will contribute to the affordability of energy supply by shielding consumers from the volatility of fossil fuel prices. Moreover, wind, geothermal energy and solar PV are characterized with relatively limited operating costs (e.g. fuel expenses) and can therefore in a long-term perspective reduce energy prices. Therefore, relatively higher tariffs in the short-term are needed to finance renewable energy installations that will reduce tariffs and contribute to the affordability of electricity supply in the long-term. In this respect, regional authorities should, to a certain extent, be authorized to exceed federal tariff limits if this is necessary to achieve regional renewable energy policy objectives and if this will contribute to the long-term affordability of energy prices.

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46 Law of the Tomsk Oblast’ No. 55-OZ of 1 December 2000 on the Use of Local Renewable Energy Sources in the Tomsk Oblast’.


50 See Resolution No. 233-pp of 6 July 2009 of the Government of the Belgorod Oblast’ Adopting Temporary Rules for the Calculation of Economically Justified Eco-Tariffs for the Electricity Produced from Renewable Energy Sources. See also Decree of the Energy Tariff Commission of the Chukotka Autonomous Administration No. 6-e/Z of 15 June 2011 Adopting a Tariff for the Electricity Produced from Wind Turbines.
IV. Financing renewable energy investments under the Federal Energy Efficiency Law

4.1. Renewable energy as part of the Russian energy efficiency strategy

Under Russian energy law, the promotion of the use of renewable energy sources is part of the broader concept of energy efficiency. According to Article 3 of the Federal Electricity Law, the notion of “energy efficiency in the electricity sector” is defined as the ratio between the electricity supplied to consumers and the input of fossil fuels, i.e. excluding renewable energy sources. Moreover, the Government of the Russian Federation with Resolution No. 1-r of 8 January 2009 “On the Main Areas of Government Policy to Raise the Energy Efficiency of Electric Power from Renewable Energy Sources for the Period to 2020” clearly integrated renewable energy in its energy efficiency strategy for the electricity sector. Furthermore, Article 14, para. 6 of the Federal Energy Efficiency Law No. 261-FZ of 23 November 2009 includes the deployment of renewable energy sources as measures that regions must consider for inclusion in the regional energy efficiency programs. Energy efficiency targets can reflect the deployment of renewable energy sources.

4.2. Energy efficiency tariff guarantees for renewable energy investments

The Federal Energy Efficiency Law provides important guarantees regarding the determination of tariffs for energy efficiency investments – including, as argued above, renewable energy projects. In accordance with Article 25 of the Federal Energy Efficiency Law, tariff


52 Article 14, para. 5 Federal Energy Efficiency Law.
authorities must determine tariffs for regulated services by taking into account the energy efficiency programs – including renewable energy measures – that have been determined for the organizations that provide these services. Article 25, paragraph 7 of the Federal Energy Efficiency Law provides that the costs – including the investment costs – related to the implementation of mandatory energy efficiency improvement measures must be taken into account for the determination of tariffs. Accordingly, regional authorities that include renewable energy projects in the investment programs of organizations that provide services at regulated prices will have to adopt tariffs that make it possible to recover the costs of these renewable energy investments. In addition, Article 25, para. 6 of the Federal Energy Efficiency Law establishes long-term tariff guarantees: to stimulate energy savings, tariffs must be determined on a long-term basis, including through the method of “return on investment” that will be discussed in section 5.2.

It is important to highlight that these tariff guarantees only apply to “organizations that provide regulated services” (or activities). Article 2, para. 10 of the Federal Energy Efficiency Law defines this notion as organizations that provide natural monopoly services or organizations of the “communal complex”. Importantly, the Federal Law No. 210-FZ of 30 December 2004 on the Principles of Tariff Regulation for Organizations of the Communal Complex does not explicitly include energy companies in the definition of organizations of the “communal complex” (Article 2, para. 1). Following a strict interpretation of the notion of “communal complex”, the risk exists that most energy – electricity and heat – companies would be excluded from the scope of application of the tariff provisions of the Federal Energy Efficiency Law thereby considerably limiting the added value of this law for the financing of energy efficiency improvements and the development of renewable energy in Russia. This cannot have been the intention of the Federal Energy Efficiency Law. To avoid the risk that this restrictive interpretation represents for renewable energy and energy efficiency initiatives in Russia, Article 2, 10) of the Federal Energy Efficiency Law must be amended: this provision should explicitly refer to energy – heat and electricity – companies that provide services at regulated prices.

In accordance with Article 23.1 of the Federal Electricity Law, electricity produced from renewable energy sources at the retail market level is such regulated activity. Moreover, as will be seen below, heat tariffs are also regulated.

4.3. Keeping the benefits of energy savings generated by renewable energy investments

Switching from fossil fuels to renewable energy sources for energy production reduces the amount of primary fossil fuels used to produce the same output which can lead to a reduction of the variable production costs. Depending on the tariff methodology, energy savings could affect the tariff cost basis, and possibly trigger downwards tariff revisions. Such revisions can dissuade investors from investing in renewable energy projects, in particular when tariffs do not provide for the recovery of the higher capital costs of these investments53. In contrast, investors have a financial incentive to opt for renewable energy sources if they can benefit from the difference between the reduced variable costs and

The Federal Energy Efficiency Law recognizes the need to guarantee to investors that they will financially benefit from energy savings\textsuperscript{56}. Entities that implement energy efficiency improvement measures – including as argued above renewable energy projects – can keep the financial benefits that result from these investments\textsuperscript{56}. The benefit of energy savings will remain for a period of at least five years following the regulatory period during which these investments were implemented\textsuperscript{57}. Investors will thus receive the difference between their real costs – reduced following the implementation of renewable energy projects – and the existing tariffs, calculated on the basis of their previous (higher) fuel costs. This clause clearly provides much-needed guarantees for renewable energy investments. It can provide the business case for renewable energy investments, which rely on the financial benefits of reduced energy consumption. It is, however, of limited relevance for renewable energy investments that are part of the investment obligations of companies (e.g. heat companies), or that are financed on the basis of the return on investment method. Indeed, in accordance with Article 25, paragraph 8 of the Federal Energy Efficiency Law, companies can only benefit from the difference between existing tariffs and their reduced costs where the tariffs do not already cover the higher capital costs of energy efficiency investments. This safeguard prevents energy companies from receiving a double dividend for the same capital investments.

\textsuperscript{54} Ibid.
\textsuperscript{56} Article 25, para. 8 of the Federal Energy Efficiency Law.
\textsuperscript{57} Ibid.
V. Financing renewable energy investments in the Russian heating sector

5.1. Renewable energy and heat tariffs: reconciling consumer and investor interests

Russia adopted the Federal Law on Heat Supply No. 190-FZ on 27 July 2010. This law regulates heat production, distribution and supply to consumers. It also outlines the main principles of development for the Russian heating sector. The Federal Heat Law does not explicitly refer to renewable energy sources. However, in accordance with Article 3 of the Federal Heat Law, one of the main principles that underlie the development of the heating infrastructure in Russia is securing energy efficient and environmentally safe heat supply.

From a financial perspective, the Federal Heat Law regulates the determination of heat tariffs and contains provisions on tariff methodology, level and duration that are relevant for renewable energy investments in the heating sector. The Federal Heat Law recognizes the promotion of energy efficiency – including, as argued in section 4.1., renewable energy – as a fundamental principle of tariff regulation. Tariff regulation must contribute to achieve the objective of energy efficiency improvement in the heating sector. However, necessary price increases to recover energy efficiency and renewable energy investments could, in the short-term, affect consumers’ interests.


59 Article 12, para. 3 of the Federal Heat Law refers to “alternative fuel sources”. This provision however only applies to the possibility to replace regulated heat tariffs with liberalized prices.

60 The former Federal Law on the State Regulation of Electricity and Heat Tariffs provided that the regulation of tariffs shall aim to “create economic incentives ensuring the use of energy-saving technologies in production processes.” On energy efficiency as one of central principles of Russian electricity law, see Pert G. Lakhno Principles of energy regulation (2008), Energy and Law, 150, p. 172/ Петр Г. Лахно, «Принципы энергетического законодательства» (2008), Энергетика и право, 150, at 172.
In this respect, it is important to note that the principles of tariff regulation under the Federal Heat Law provide for a delicate balance between consumer and investor interests. On the one hand, the regulation of tariffs must guarantee the affordability of heat for consumers. On the other hand, tariff regulations must create the necessary conditions to promote energy efficiency investments and attract adequate financial resources to ensure the reliable functioning of the heating system. Depending on the timeline chosen (short- or long-term), these principles can either be in contradiction or mutually reinforcing. In the long-term, energy efficiency and renewable energy investments contribute to the affordability of heat supply because they reduce consumption of primary fossil fuels and shield consumers from the volatility of primary energy prices. In the short-term, however, energy efficiency and renewable energy investments will, to a certain extent, generate price increases in order to ensure capital recovery and return on investment. Biomass investments, for instance, are dependent on a supply chain that can, depending on local conditions, be costly to organize.

Article 7 of the Federal Heat Law recognizes long-term tariffs as a mechanism to achieve the delicate balance between the affordability of prices for consumers and the necessity of ensuring a reasonable return on investments for heat producers and suppliers. Long-term tariffs will ensure the stability of the consumer–producer relation and will contribute to improved investment conditions in the heating sector.

5.2. The return on investment tariff methodology

Article 9 of the Federal Heat Law recognizes four methodologies for the determination of heat tariffs: economically well-founded costs, indexation of tariffs, guarantee of return on investment, and the comparative approach. The “return on investment” methodology is supposed to improve the financial predictability of investments in the modernization of the heating sector. It is a long-term tariff methodology. The “return on investment” methodology fixes the tariffs so as to recover operating costs, investment costs, and earn a certain profit on the invested capital. In a comparable way to the indexation methodology, operating costs are bound to efficiency coefficients. The “return on investment” methodology is particularly appropriate for energy efficiency projects, including heat production from geothermal energy. Geothermal energy projects are characterized by high investment costs but lower operating costs in the medium and long-term. Given the high initial capital intensity of these projects, it is essential from an investor’s perspective to have guarantees on the compensation of investment costs and the return on invested capital.
capital. The “return on investment” methodology, to an important extent, provides such guarantees. In this respect, it is important to note that the Federal Energy Efficiency Law explicitly refers to the “return on investment” methodology as a method to stimulate energy efficiency improvements\(^70\).

Besides the methodology choice, heat tariffs differ depending on their structure. Heat tariffs can have a single or double rate\(^71\). Single rate (one-tier) tariffs compensate producers for both operating and investment costs through “all inclusive” payments per Gcal of heat supplied. Double rate (two-tier) tariffs, by contrast, contain a component for the heat output and a distinct component for the installed capacity of heat installations. Producers’ revenues through the output-based rate vary in function of the amount of heat produced. Revenues through the capacity-based rate depend on the ability of the heat plant to meet the heat consumption load of the system (i.e., the readiness of the heat installation to produce heat and supply it to consumers). Double rate tariffs thus have a variable charge (output) and a fixed charge (capacity). In theory, the output component compensates for the operating costs, whereas the capacity component aims to recover investment costs. Double rate tariffs provide important financial guarantees to renewable energy investments in the heating sector, in particular to geothermal energy installations. The possibility of recovering the investment costs of these projects in a specific tariff component increases the financial predictability for investors.

**5.3. Renewable energy in regional investment programs**

Investment programs are an essential mechanism to facilitate the determination of heat tariffs that would ensure the financial viability of renewable energy investments\(^72\). In accordance with the Federal Heat Law, regional authorities must determine investment programs for the heat companies that operate within their regions\(^73\). These programs outline the measures (e.g., financial incentives) that heat companies need to implement in order to modernize and develop their infrastructure\(^74\). The Federal Energy Efficiency Law provides that these programs must contain energy efficiency requirements\(^75\). Importantly, in accordance to both the Federal Heat Law and the Federal Energy Efficiency Law, tariffs should reflect the costs made to implement investment programs\(^76\). As Russian law includes renewable energy under the general concept of energy efficiency, the investment costs of biomass and geothermal installations could thus be included in the investment programs of the concerned heat companies. The regional authorities can thus require heat companies to implement renewable energy investments and guarantee the financial

\(^70\) Article 25, para. 6 of the Federal Energy Efficiency Law.
\(^71\) Article 11, para. 1 of the Federal Heat Law.
\(^73\) Article 5, para. 5 of the Federal Heat Law.
\(^74\) Article 2, para. 10 of the Federal Heat Law.
\(^75\) Article 25, para. 5 of the Federal Energy Efficiency Law; Article 2, para. 3, Decree of the Government of the Russian Federation of No. 340 of 15 May 2010 on the Procedure for the Adoption of Energy Efficiency Requirements for Organisations Providing Regulated Services; See also Article 2, para. 10 of the Federal Heat Law.
\(^76\) Article 10, para. 8 of the Federal Heat Law. Article 25, para. 7 of the Federal Energy Efficiency Law. Regional tariff authorities determine what investment costs can be included in the tariffs on the basis of the investment programs of these companies.
viability of these projects by adopting appropriate tariffs. As the investment costs of these renewable energy measures are included in the investment programs of the concerned companies, they must be considered eligible costs that can be recovered through the regulated tariffs.

The Federal Heat Law entrusts regional tariff authorities with the task of determining the tariffs for heat supply. However, regional tariffs must remain within limits determined by the Federal Service for Tariffs. The Federal Service for Tariffs adopts minimum and maximum heat prices per region, and fixes limits for the heat produced by CHP installations with an installed capacity of twenty-five MW or more. In addition, the autonomy of regional tariff authorities is limited by the fact that the Federal Service for Tariffs adopts methodological instructions that govern the calculation of heat tariffs.

Despite these limitations, regional authorities have the possibility to pursue renewable energy policies in the heating sector and adopt adequate tariffs for these investments. Indeed, the Federal Heat Law provides an exception to the principle that regional tariffs must remain within the federal limits. In accordance with Article 10, paragraph 8 of the Federal Heat Law, regional tariff authorities can exceed the federal tariff limits if higher prices are necessary to recover the costs that heat companies expend to implement their investment obligations. This exception to the dominant control of energy prices by the Federal Service for Tariffs is paramount for regional renewable energy initiatives in the heating sector. On the basis of the Federal Heat Law (read in connection with the Federal Energy Efficiency Law), regions can pursue ambitious renewable energy policies without being prevented by the price control agenda of the federal authorities. To escape the federal price limits, regions must integrate renewable energy measures with the investment programs of the regional heat companies, and adopt tariffs that ensure the recovery of these investments.

The question of regional tariff autonomy in Russia is of particular importance from a renewable energy perspective. Regions in the Russian Federation are directly confronted with the challenges of ensuring reliability of heat supply and securing primary energy fuels for heat production. They are directly facing the social and economic consequences of primary energy fuel scarcity and local environmental pollution. Renewable energy investments (e.g. biomass and geothermal energy) can help to improve the reliability of heat supply and reduce the dependency on primary energy fuels for regions that do not produce energy and are dependent on energy imports from other regions in the Russian Federation. The use of renewable energy sources can also reduce the environmental impact of the heating sector, in particular local air pollution. Regional economies and the quality of life at the regional level thus directly benefit from stimulating the use of renewable energy sources in the heating sector.

77 Article 7, para. 3 of the Federal Heat Law. See also Decree of the Government of the Russian Federation No. 97 of 21 February 2011 on the Regulation of Regional Tariff Authorities.
79 Article 10, para. 5 of the Federal Heat Law.
At the federal level, short-term price increases are a very sensitive issue and a serious obstacle to the implementation of renewable energy investments. The federal authorities have demonstrated their readiness to exercise stringent control on energy prices, as has been recently illustrated by the measures taken by the government of the Russian Federation to postpone price increases until after the presidential elections of March 2012. For this reason, the repartition of tariff competences between the federal and regional levels is a key issue for the promotion of renewable energy investments in the heating sector. It determines the margin for maneuver that regional authorities will have in pursuing ambitious renewable energy initiatives in this sector.

VI. Developing the Russian renewable energy potential with European financial support

6.1. EU mandatory targets and the Russian renewable energy resource base

Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the Promotion of the Use of Energy from Renewable Sources establishes binding renewable energy targets for the EU Member States. At the same time, Directive 2009/28/EC introduces “flexibility measures” to allow these targets to be reached at least cost, among others by cooperating with third (non-EU) countries. Under the mechanism of “joint projects with third countries”, EU Member States can support the construction of renewable energy installations in non-EU countries and take the electricity generated by these installations into account towards their national targets. In accordance with Article 9 of Directive 2009/28/EC, the requirements of joint projects with third countries are that: (1) the electricity must be consumed in the EU network; (2) it must have been produced by new installations; (3) a certain percentage of the electricity produced should be consumed locally; (4) and the installations may not have benefited from support by the host country. Moreover, (5) Directive 2009/28/EC establishes formal and procedural criteria: the third country must “acknowledge” electricity production from renewable energy sources and (6) Member States must notify the EU Commission. Given that joint projects with third countries require the physical export to the EU of an equivalent amount of electricity to the production from renewable energy sources abroad, this mechanism can only apply to countries with a large renewable energy resource base that can easily be interconnected to the EU.

The Russian electricity system is connected to the EU via Finland, Estonia and Latvia and hydropower plants in Russia already export electricity to Norway and Finland through direct connection lines. Moreover, the North-West of Russia is characterized with a particularly favorable and relatively cost-efficient renewable energy resource base: onshore wind patterns are comparable to offshore conditions in the North Sea; the forestry industry

presents a considerable potential for biomass; and small scale hydropower can be further developed. In addition, the North West of Russia is sparsely inhabited thereby posing limited risk of local NIMBY opposition.

The idea of developing Russia’s renewable energy potential to “green” Europe’s energy supply has not benefited from particular attention by the EU institutions and member states. It is mentioned in the recent Roadmap of the EU-Russia Energy Cooperation for 2050. The International Energy Agency mentions the idea in the World Energy Outlook 2011: “In Western areas [of Russia], there is also considerable scope to develop renewable projects primarily with a view to exporting electricity to the European Union. In addition to possible exports of the biomass itself, any electricity generated from renewable energy for export to the EU would contribute to meeting member country targets.” Moreover, the European Commission has recently announced in its Energy Roadmap 2050 that it will look at the “potential of renewable sources provided by countries like Russia and Ukraine (notably biomass)”.

6.2. “Consumption” in the EU: “greening” existing Russia-EU electricity export

Directive 2009/28/EC requires the “consumption” in the “Community grid” of the electricity produced from renewable energy sources by joint projects in third countries. As proof of importation and “consumption” of green electricity, Directive 2009/28/EC requires the nomination of an “equivalent amount” of electricity to the green electricity (RES-E) accounted for. Directive 2009/28/EC does not require consumption of RES-E in the electricity system of the Member State that implements the joint project in a third country.

To count the electricity produced from renewable energy sources in Russia towards national EU targets, the System Operator in Russia and the EU Transmission System Operator (EU TSO) in Finland or the Baltic states will thus have to firmly nominate an equivalent amount of electricity to the allocated EU-Russia interconnection capacity. The nominated capacity and the production of electricity from renewable energy sources by the joint project must refer to the same period of time. Moreover, an equivalent amount of electricity to the electricity accounted must have been firmly registered in the schedule of balance by the EU TSO. The implementation of joint projects with Russia will therefore require close cooperation between the EU network operators and the Russian System Operator. In addition, in Russia electricity exports are controlled by the state-owned company INTER RAO. Joint projects in Russia will thus also require the involvement of this company.


VI. Developing the Russian renewable energy potential with European financial support

Interestingly, even in the absence of investments in the reinforcement of EU-Russia interconnection capacity and in the absence of physical injection of RES-E to the EU grid, EU Member States and Russia could already start to cooperate by “greening” the existing electricity export transactions. An amount of electricity produced from newly built renewable energy installations in Russia could be counted towards national targets up to the maximum amount of electricity that Russia currently exports to the EU. The condition for this “greening” operation is the nomination at the EU-Russian border of an amount of electricity that is equivalent to the amount of RES-E produced in Russia.

Indeed, in accordance with Directive 2009/28/EC, the requirement of “importation” of RES-E produced abroad to the Community grid is considered to be fulfilled when an “equivalent amount” of electricity is nominated at the interconnection capacity. Any RES-E injected in the Russian grid could thus be counted towards national targets as long as there is nomination of an equivalent amount of electricity for the same period of time. This is logical: according to the physical law of electricity, there can be no certainty that precisely the electricity produced from renewable energy sources will be physically exported to the EU and consumed in the EU. Once the RES-E is injected in the Russian grid, it is physically impossible to distinguish it from other electricity flowing on the grid.

In practice, this means that Member States would have to agree with INTER RAO – which de facto controls export transactions to the EU – that for each unit of RES-E produced from newly-built installations in Russia and to be counted towards EU targets, INTER RAO would allocate a corresponding amount of electricity export on the Russia-EU interconnection. For the amount of electricity exported from Russia to the EU, INTER RAO could refer to a corresponding amount of electricity produced from renewable energy sources and injected into the Russian grid. Existing exports to the EU would thus be “greened” by electricity produced in Russia: RES-E installations in Russia that inject electricity into the Russian grid would be considered as “consumed” in the EU as long as this electricity is backed by an equivalent nomination at the border.

“Greening” existing electricity exports
6.3. New renewable energy generating facilities

The electricity must be produced by new installations, i.e. installations that have been constructed after 25 June 2009, including increases in capacity of existing installations since. According to Recital 37 and 38 of Directive 2009/28/EC, the rationale behind this requirement is to avoid the diversion of existing renewable energy sources to the Community and their replacement in the third country by conventional energy sources. The proportion of renewable energy sources in the fuel mix of the third country may not be reduced as a consequence of the implementation of a “joint project”.

In the North-West of Russia, hydropower plants (e.g. the BorisGleb power plant) are already supplying electricity to Norway and Finland. These installations were commissioned before June 2009 and can therefore not be used to achieve EU targets. The North-West of Russia is also characterized by a large amount of outdated small hydropower installations that were mothballed. The Directive only refers to capacity increases for existing installations. It could however be argued that, given the fact that these installations are currently not in use, modernizing them and putting them online again, could fulfill the requirement of Directive 2009/28/EC. Indeed, Article 9, para. 5(a) of Directive 2009/28/EC refers to “refurbished installations” in the context of the notification of joint projects with third countries to the EU Commission.

6.4. Incentivizing domestic use

The concerned third country should consume part of the RES-E produced from joint projects domestically. The Member States should facilitate this domestic consumption of RES-E. Moreover, the Member States should encourage third countries to develop a renewable energy policy and adopt ambitious targets for the share of renewable energy in domestic consumption.

The EU has been involved in promoting the use of renewable energy sources in Russia, e.g. with TACIS projects. Member States are also active in this field, e.g. through bilateral energy agencies like the Russian-German Energy Agency (rudea), the Russian-French Centre for Energy Efficiency, and the Russian-Danish Energy Efficiency Centre.

6.5. Exclusivity of operational support

The operational support by Member States of renewable energy production in third countries must be exclusive. This means that the amount of electricity produced and exported must not have benefited from support in a third country other than the aid granted to the installation by the Member State concerned.

As analysed above, Russia has undertaken initiatives to develop a support scheme for renewable energy sources. However, these mechanisms are not yet implemented in practice. Renewable energy installations could, in theory, benefit from the Joint Implementation (JI) scheme under the Kyoto Protocol. Under the Russian JI scheme, coal-to-biomass

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fuel switch projects have been implemented in the heating sector but not yet in the electricity sector. Renewable energy investments in the Russian electricity sector thus remain, for the time being, without additional financial support.

6.6. Written “acknowledgment” by Russia

Directive 2009/28/EC does not explicitly require the certification of joint projects with third countries as renewable energy projects. It only requires a “written acknowledgement” by the host state that a certain amount of electricity has been produced from renewable energy sources during a specific period of time and that this amount of green electricity is to be regarded as counting towards the national target of a particular Member State. Moreover, the host state must “acknowledge” that part of the electricity produced from the joint project will be consumed domestically. In practice, to determine that electricity has been produced from renewable energy sources, the host state will have to certify these installations as renewable energy installations within the meaning of Directive 2009/28/EC.

As mentioned above, Russia has established a qualification procedure for renewable energy installations. This procedure plays an important role in measuring progress towards the national renewable energy targets. It does not explicitly apply to the export of RES-E. To facilitate the certification of joint projects, Russia could thus adopt an independent certification/qualification procedure. In this respect, Member States will have to make sure that joint projects meet the definition of “energy from renewable source” in Article 2 of Directive 2009/28/EC before taking the amount of electricity produced by these installations into account for their national targets. Directive 2009/28/EC does not explicitly require this certification by the Member State concerned. However, in the absence of such guarantees, the scheme would contradict the objectives pursued by Directive 2009/28/EC.

6.7. Notification to the EU Commission

Member States must notify to the EU Commission that they intend to cooperate with third countries under the joint project mechanism. This notification shall describe the proposed renewable energy installation and the amount of electricity that this installation will produce which shall be counted towards the national target. It shall also include a “written acknowledgement” of renewable energy production by the third country, as mentioned above. On a yearly basis, Member States must notify to the Commission the total amount of electricity produced during that year from joint projects with third countries and the amount of electricity which is to count towards the national target. This yearly notification must demonstrate compliance with the interconnection nomination and dispatching requirements mentioned above.

\[87\] For an overview of approved projects, see http://www.sbrf.ru/moscow/ru/legal/cfinans/sozip/. With the exception of the modernization of hydropower plants, no renewable energy project has yet been implemented in the Russian electricity sector.
VII. Conclusion

Since the publication by the IFC Russia Renewable Energy Program of its Green Paper on Renewable Energy Policy in Russia: Waking the Green Giant in June 2011, Russia has made little progress with the design and implementation of a support scheme for renewable energy based on the wholesale market. The legal basis for the promotion of renewable energy through the capacity market has been reinforced. However, to ensure the financial viability of variable renewable energy sources such as wind and solar PV, amendments to the Wholesale Market Rules, in particular to the regulation of capacity supply, are needed. Moreover, the Government of the Russian Federation must elaborate specific tariff methodologies for the supply of renewable energy capacity and establish a list of renewable energy installations that are eligible to conclude agreements for the delivery of renewable energy capacity.

However, the prospects for renewable energy financing are brighter at the regional level. The recent Principles of Price Regulation in the Electricity Sector, approved by Decree of the Government of the Russian Federation No. 1178 of 29 December 2011, provide a strong signal that retail tariffs should enable investors to recover the investments costs of renewable energy projects. Moreover, the Federal Energy Efficiency Law establishes tariff guarantees that could support the business case of renewable energy investments. By the same token, the Federal Heat Law read in connection with the Federal Energy Efficiency Law enables regional authorities to implement ambitious renewable energy policies.

Nevertheless, for the promotion of electricity production from renewable energy sources, the effectiveness of these regulatory instruments still depend to a large extent from support by the federal authorities. At the electricity retail market level, for instance, regional tariff authorities can only adopt renewable energy tariffs if the concerned electricity production installations have been approved by the Ministry of Energy and qualified by the Market Council in accordance with the procedure of Decree No. 426. Inaction by the federal authorities could thus jeopardize regional initiatives. Further regulatory intervention is thus needed to overcome these remaining barriers and stimulate the deployment of renewable energy sources in the fuel mix of the Russian electricity sector.

In the meanwhile, Russia could begin to develop its renewable energy potential by cooperating with EU Member States. The “joint project” mechanism under Directive 2009/28/EC provides a legal basis to enable the financing of renewable energy investments in Russia with EU support. The large renewable energy resource base in Russia could help EU Member States to achieve their mandatory renewable energy targets in a cost-efficient way. In the longer term, developing this potential could contribute to attaining the ambitious 2050 EU decarbonization objective. At the same time, this cooperation could assist Russia in laying the foundations of a national Russian renewable energy industry without imposing the short-term costs of this development on Russian energy consumers.
Financing Renewable Energy Investments in Russia: Legal Challenges and Opportunities