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**Russia Renewable Energy Program**

# Regional Renewable Energy Tariffs in Russia

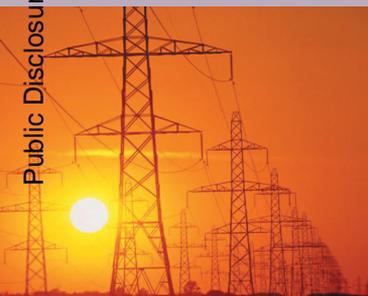
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# REGIONAL RENEWABLE ENERGY TARIFFS IN RUSSIA

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# Executive summary

The Government of the Russian Federation has repeatedly highlighted the contribution that the use of renewable energy sources could make to Russia's energy security, economic modernization and environmental protection. However, concern at federal government levels of the risk of short term price increases seems to overshadow the economic and social benefits associated with the deployment of renewable energy sources. Without a functioning support scheme, Russia is likely to miss the opportunities offered by the development of a clean technology industry.

Given the federal nature of Russia's state system, regional action could represent an alternative to limited progress with and interest in the implementation of renewable energy regulation at federal government levels. Regions might be eager to develop their renewable energy resource base in order to harness the economic and social benefits of clean energy. This report aims to analyze the role of regions as alternative drivers of renewable energy policy in Russia. In particular, it examines how regions could stimulate the development of renewable energy sources in their electricity systems by establishing tariffs for the electricity produced from renewable energy sources (RES-E). The analysis focuses on the possibility for regional authorities to require network companies to purchase RES-E at regulated prices to compensate losses on their network.

The report is structured as follows. Section 2 introduces the division of powers for renewable energy regulation between the federal and regional levels of government. Given the key role of federal regulation in the electricity sector, including for renewable energy, section 3 reviews progress achieved so far with the regulation of renewable energy support at federal government level. The focus is on the capacity-based support mechanism. This analysis highlights the limited progress – if not regulatory paralysis – of federal renewable energy policy-making until the recent adoption of Decree No. 449 implementing the capacity-based renewable energy support scheme. Section 4 discusses the policy objectives that, in this context of limited federal interest for RES-E, can drive regional clean energy policies. Section 5 analyzes federal regulatory and political obstacles to the adoption of regional RES-E tariffs in Russia, in particular RES-E tariffs for the electricity that network companies purchase to compensate losses on their network. Section 6 makes recommendations of ways to overcome these obstacles by making use of the broader regulatory powers under the Federal Energy Efficiency Law.

## Division of regulatory powers for RES-E support in Russia

In accordance with the Russian Constitution, the federal authorities have exclusive competence to regulate the federal energy systems. The Constitution establishes shared federal-regional regulatory powers for environmental protection. Moreover, the Federal Law No. 184 "On the Organization of the Regional Legislative and Executive Authorities" establishes tariff regulation as shared competence between the federal and regional levels of government. These powers can be broadly interpreted and accordingly provide extensive

powers to the federal authorities, including for electricity, environmental and tariff regulation. This reduces the scope for regional renewable energy policies in the electricity sector, in particular regional RES-E tariffs. Nevertheless, regions could act based on the shared constitutional powers for environmental protection, in particular the promotion of energy savings in the regional economy through the increased use of renewable energy sources.

The Federal Electricity Law charges the Government of the Russian Federation with the task of determining national policy on renewable energy. More specifically, the Law mandates the Government to support the use of renewable energy sources through a premium scheme or a capacity scheme. The capacity-scheme is based on the conclusion with renewable energy investors of capacity supply agreements that will remunerate the operators of renewable energy generating facilities at a regulated price and for a certain duration. Like the premium, regulated capacity prices and duration must be calculated “based on the necessity to attain the national renewable energy target”. To monitor the achievement of the strategic targets, the Federal Electricity Law establishes a system of qualification of renewable energy generating facilities. Qualification is the cornerstone of Russian renewable energy law: support based on the Federal Electricity Law is limited to “qualified” installations.

The Federal Electricity Law also establishes a legal basis for regional renewable energy support. Network companies are required to compensate losses on their network as a priority by purchasing RES-E. On the retail market, regional tariff authorities can regulate the price at which network companies purchase RES-E to compensate their losses. The competence to adapt RES-E tariffs is one of the rare powers that the Federal Electricity Law delegates to regional authorities.

Importantly, regional authorities benefit from broader competences under the Federal Energy Efficiency Law. The Federal Energy Efficiency Law includes renewable energy in the Russian energy efficiency strategy: the deployment of renewable energy is one of the energy efficiency improvement measures that regions should consider for inclusion in regional energy efficiency programs. Moreover, the energy efficiency targets that regions must adopt in accordance with the Federal Energy Efficiency Law should reflect the deployment of renewable energy sources. The Law establishes a system of regional-federal co-financing (or co-subsidization) of energy efficiency improvement projects, possibly including renewable energy investments.

### **Federal renewable energy policy: limited progress**

Although the Government of the Russian Federation has adopted different regulatory instruments that outline how parts of the renewable energy support schemes would function, important parts of the regulatory framework are still missing. The recent adoption by the Government of the Russian Federation of Decree No. 449 on the capacity-based scheme is an important step in the direction of the creation of a functioning support scheme for renewable energy at federal government level in Russia. However, the capacity-based support scheme is a novel approach to the promotion of RES-E. Most countries promote RES-E based on the electricity output – not installed capacity – of these installations. Moreover, further regulatory fine-tuning by the Market Council (the regulator of the wholesale market) is needed to finalize the capacity price formation methodology and thus to understand the remuneration that RES investors will receive under this scheme. In the absence of experience with the promotion of RES-E through capacity markets and given the need for further regulatory fine-tuning, RES investors still face a certain degree of regulatory uncertainty on the wholesale market. In this context, regional support for the development of renewable energy could provide an alternative or at least complement to the federal scheme.

### **Policy drivers for regional renewable energy support in Russia**

Regional authorities in federal states around the world have implemented renewable energy support policies. With these policies, regions aim to benefit from the economic advantages that the use of renewable energy sources for energy production represents for the regional economy. In particular, regional renewable energy policies are seen as a powerful instrument to stimulate employment in the local green economy and promote innovation. Moreover, regions stimulate the use of renewable energy sources in order to improve energy security (availability of energy sources) within their regional energy systems. Renewable energy sources are also part of climate change and regional environmental protection policies: renewable energy development is often central to regional air quality improvement and regional waste management policies.

Ambitious state-level (regional) renewable energy support schemes in Canada, the United States and Australia illustrate the fact that regions can be key players for the deployment of renewable energy sources. This experience is relevant for the promotion of renewable energy in the regions of the Russian Federation: it advances political arguments to justify regional renewable energy policies in federal states that, like Russia, are major energy producers. This experience highlights the fact that regional authorities might tolerate short term energy price increases associated with renewable energy policies if these policies are expected to contribute to regional employment, innovation, energy security and long term affordability of energy supply. Taking into account the specific characteristics of the Russian case and, in particular, the importance of local (biodegradable) waste management and the great sensitivity of energy price increases, a comparative analysis can help frame regional renewable energy support policies.

Given the very diverse renewable energy resource bases found in the different regions of the Russian Federation, regional authorities might be better equipped to develop support mechanisms that are best adapted to their specific conditions. Regional action to support renewable energy could also be very efficient because of the local environmental and economic benefits of this policy, particularly with regard to the solution that it provides for the treatment of waste and opportunities in terms of employment, innovation, security of supply and modernization of the energy infrastructure. Taking these local benefits into account, regions could act as “regulatory safety nets” waiting for federal action. Innovation with renewable energy policies at regional level could ultimately help overcome federal quasi-paralysis in this field and contribute to achieve the federal renewable energy target at least cost. In this context, it is essential that the regions of the Russian Federation are given relatively free reign to develop renewable energy support schemes within the boundaries of federal law.

## Compensation of network losses with RES-E

Network companies must, in accordance with Article 32, paragraph 3 of the Federal Electricity Law, compensate losses on the network in priority by purchasing electricity produced from “qualified” renewable energy installations. Article 23.1, paragraph 3 of the Federal Electricity Law establishes that, on the retail market, tariffs or minimum / maximum prices are adopted for the electricity produced from qualified renewable energy generating facilities and purchased to compensate network losses. These provisions create a legal basis for regional renewable energy tariffs. Regional authorities – e.g. Belgorod, Vologda and Karelia – have made use of this legal basis to adopt RES-E tariffs. However, the validity of these regional tariff decisions has been a controversial issue: both in Belgorod and Vologda, early RES-E tariff initiatives were successfully challenged, leading to their annulment. The implementation of regional renewable energy tariffs based on the mechanism of compensation of network losses faces certain not insignificant regulatory obstacles that stem from the division of powers in the electricity sector between the federal and regional levels of government.

*Absence of federal RES-E tariff methodologies:* tariffs authorities must adopt tariffs for the compensation of losses with RES-E following the methodologies determined by the FST. The FST has not yet adopted specific methodologies for RES-E retail tariffs. In the absence of specific RES-E tariff methodologies, RES-E tariffs could be adopted based on existing methodologies (FST Order 20-E/2). However, investors face the risk of changes to their tariffs in case of subsequent adoption of FST methodologies with which regional authorities will have to comply.

*Federal tariff limits:* an important limit to regional RES-E tariff initiatives is that retail tariffs and network tariffs must remain within federal limits. Federal limits for network tariffs could jeopardize the recovery by the network companies of the higher costs (in the short term) for the compensation of network losses with RES-E.

*Limited duration of RES-E tariffs:* The Government Decree on Electricity Retail Tariffs provides that RES-E tariffs are determined on a yearly basis. Regional tariff authorities can adopt tariffs with a duration of longer than 5 years only following approval by the FST, the Ministry of Energy and the Ministry for Economic Development.

*Qualification of renewable energy generating facilities:* To be eligible to support under the compensation of network losses mechanism, renewable energy generating facilities must have been “qualified”. Regional tariff authorities can only therefore adopt RES-E tariffs for installations that have been qualified by the Market Council. The absence of qualification of the renewable energy generating facilities concerned was the

main reason underlying the annulment of the RES-E tariffs in Belgorod and Vologda. The fact that no tariff decision can be made before construction of a renewable energy generating facility is problematic from an investor perspective: investors will have no certainty regarding the financial basis of their investments when making their investments decisions.

*Legal uncertainty regarding enforceability of obligation to purchase RES-E in priority and at regulated prices:* the Federal Electricity Law does not explicitly make the link between the obligation to purchase RES-E as a priority and the regulated tariffs. Although it makes logical sense to assume, on the basis of Articles 32 and 23.1 of the Federal Electricity Law, that network companies are obliged to purchase RES-E at regulated tariffs, the risk exists that companies could seek to rely upon a different interpretation of those articles in order to escape this obligation. The latter interpretation is unlikely to be successful, but the risk of claims could create a climate of legal uncertainty.

## **Towards regional renewable energy tariffs in Russia**

For investors in renewable energy projects that have access to the retail market, the conclusion of long term PPAs with the network company – on a voluntary basis or as an energy efficiency obligation – could be a way to overcome the federal regulatory risks that currently affect regional RES-E tariffs. Network companies could benefit in the long term from the limited operating costs – especially fuel costs – of renewable energy (e.g. wind) investments. Once the capital invested is recovered, wind energy projects can produce electricity at relatively limited costs.

Electricity production from renewable energy sources can be considered as an energy saving measure within the meaning of the Federal Energy Efficiency Law. Regional authorities could, within the framework of their energy efficiency programs, consider imposing on network companies RES-E related obligations. Moreover, regions could introduce the requirement to compensate network losses with a certain percentage of RES-E in the energy efficiency programs of network companies. Requiring network companies to purchase a certain percentage of RES-E to compensate their losses could be considered as an energy saving measure – similar to existing requirements to reduce the percentage of physical losses on the regional network infrastructure.

Requiring distribution companies to conclude PPAs with renewable energy investors is not a new and untested approach to the promotion of RES-E. This approach is for instance common in the US, e.g. in Massachusetts. To facilitate the financing of renewable energy investments, Massachusetts requires electricity distribution companies to solicit proposals from renewable energy developers and, provided reasonable proposals have been received, conclude long-term power purchase agreements (PPAs) with these developers

This approach could provide much needed tariff guarantees to renewable energy investments in Russia. Firstly, tariff authorities on a yearly basis adapt network tariffs to reflect the costs associated with the purchase of electricity to compensate network losses. Tariff authorities could on this basis facilitate network companies to recover the costs of the PPAs they concluded to fulfill the energy efficiency (i.e. RES-E) targets set by the regional authorities. Secondly, the Federal Energy Efficiency Law provides that the tariffs of companies that provide regulated services (e.g. network companies) should reflect the costs made to implement energy efficiency programs. By imposing on network companies an obligation to compensate network losses with RES-E as part of their energy efficiency program, regional authorities would facilitate the recovery of the costs made to purchase RES-E. Moreover, to facilitate the recovery of the costs of the PPA – and thus indirectly the (capital) costs of the renewable energy investment concerned – regional authorities could make use of the long term tariff guarantees of the Federal Energy Efficiency Law. A potential third (more controversial) benefit of this approach is that, by introducing the obligation to compensate network losses with RES-E in the energy efficiency programs of network companies, regional authorities could avoid the tariff limits set by the FST. According to the Federal Electricity Law, regional tariff authorities can exceed federal tariff limits if this is necessary to implement the investment programs of the concerned companies. Energy efficiency programs are part of the investment programs of regulated entities (e.g. network companies). Therefore, by including the obligation to compensate network losses with RES-E in the energy efficiency programs of network companies, regional authorities indirectly integrate this requirement under the investment program of the concerned network companies.

# I. Introduction

The implementation of a functioning scheme for the support of electricity production from renewable energy sources (RES-E) in Russia has suffered from considerable delays. In 1999 first proposals were made to stimulate the use of renewable energy sources in the electricity sector<sup>1</sup>. Since November 2007, the Federal Electricity Law<sup>2</sup> mandates the Government of the Russian Federation to support renewable energy, in particular, by adding a “premium” to the wholesale electricity market price. However, the Government never adopted the necessary regulatory documents to implement this premium scheme. In December 2011, the Federal Electricity Law was amended to integrate an additional support mechanism: the promotion of renewable energy through the capacity market, i.e. by remunerating the availability of renewable energy generating facilities to produce electricity<sup>3</sup>. Eventually, in May 2013, the Government adopted Decree No. 449 on the capacity-based support scheme. First tenders for the selection of renewable energy projects are due to take place before September of this year.

Repetitive delays in the adoption of renewable energy regulation can be explained by the perceived short term effect that support schemes could have on energy prices. The International Energy Agency considered in the World Energy Outlook 2011 that<sup>4</sup>:

*... Against a background of concern about high end-user electricity prices, the government appears reluctant for the moment to add higher costs into the wholesale mix by agreeing to include a premium in tariffs for new renewable-based electricity.*

The Government of the Russian Federation has repeatedly highlighted the contribution that the use of renewable energy sources could make to Russia’s energy security, economic modernization and environmental protection<sup>5</sup>. However, concern at federal government levels of the risk of short term price increases seems to overshadow the economic and social benefits associated with the deployment of renewable energy sources. Without a functioning support scheme, Russia is likely to miss the opportunities offered by the development of a clean technology industry. The recently adopted Decree No. 449 on the capacity-based scheme is a key step towards the creation of a renewable energy support scheme in Russia. However, restrictions to contain the cost of RES-E limit the impact that this federal support scheme could represent for the large scale deployment of renewable energy in the Russian electricity sector.

Given the federal nature of Russia’s state system, regional action could represent an alternative to limited progress with and interest in the implementation of renewable energy regulation at federal government levels. Regions might be eager to develop their renewable energy resource base in order to harness the

<sup>1</sup> Decree of the State Duma of the Federal Assembly “On the Promotion of Alternative Renewable Energy Sources” No. 3968-II GD as of May 19th, 1999.

<sup>2</sup> Federal Law “On Electricity” No. 35-FZ (hereinafter Federal Law No. 35-FZ) as of March 26, 2003 (version as of December 30th, 2012).

<sup>3</sup> Federal Law “On amending the Federal Law on Electricity” No. 394-FZ (hereinafter Federal Law No. 394-FZ) as of December 6th, 2011.

<sup>4</sup> International Energy Agency (‘IEA’), *World Energy Outlook* (IEA 2011), p. 326.

<sup>5</sup> Resolution of the Russian Government “On Energy Strategy of Russia until 2030” No. 1715-r as of November 13th, 2009; Resolution of the Russian Government “On Concept for the Long-Term Social and Economic Development of the Russian Federation until 2020” No. 1662-r as of November 17th, 2008 (version as of August 8th, 2009).

economic and social benefits of clean energy. This report aims to analyze the role of regions as alternative drivers of renewable energy policy in Russia<sup>6</sup>. In particular, it examines how regions could stimulate the development of renewable energy sources in their electricity systems by establishing RES-E tariffs. The analysis focuses on the possibility for regional authorities to require network companies to purchase RES-E at regulated prices to compensate losses on their network. The analysis is limited to the price zones of the wholesale market, i.e. the interconnected parts of the Russian electricity system. The support of renewable energy in isolated regions will be the topic of future work by the IFC Russia Renewable Energy Program.

To understand the role that regional authorities could play in the renewable energy field, this report begins with an introduction to the constitutional distribution of powers between the federal and regional levels of government. The focus is on energy and environmental regulation since renewable energy is not explicitly mentioned in the Russian Constitution. Moreover, given the supremacy of federal law over regional acts, careful attention is paid to the federal regulatory framework governing the electricity sector – the Federal Electricity Law. According to the Federal Electricity Law, the Russian electricity sector – the Unified Energy System of the Russian Federation – is subject to regulation at federal government level in order to maintain the unity of the system. A key question is thus to what extent federal electricity regulation allows for regional policies, particularly in a field as politically sensitive as renewable energy.

Building further upon this analysis of the constitutional division of powers for renewable energy, this report reviews progress achieved so far with the regulation of renewable energy support at federal government level. This analysis highlights the limited progress – if not regulatory paralysis – of federal renewable energy policy-making until the recent adoption by the Government of Decree No. 449 on the capacity-based scheme. This discussion of federal renewable energy regulation is essential to understand that supportive policies on the regional level will be vital to unlock Russia's renewable energy potential.

The implementation of regional renewable energy support policies in response to limited regulatory progress at federal government level is not uncommon in federal states. Ambitious state-level (regional) renewable energy support schemes in Canada, the United States and Australia illustrate the fact that regions can be key players for the deployment of renewable energy sources. This experience highlights the fact that regional authorities might tolerate short term energy price increases associated with renewable energy policies if these policies are expected to contribute to regional employment, innovation, energy security and long term affordability of energy supply. Experience with state-level renewable energy policies in Canada, the US and Australia is potentially of great relevance to the development of renewable energy policies in the regions of the Russian Federation: Canada, the US and Australia are federal states that, like Russia, are characterized by the importance of the fossil fuel industry for their national economy. This report reviews the policy drivers underlying these state-level renewable energy schemes in order to draw lessons for the formulation of regional renewable energy policies in Russia. A key issue is the importance of guaranteeing to regional authorities a certain level of flexibility in the implementation of regional renewable energy policies. The federal regulatory framework should not prevent regional initiatives in this field.

However, regional RES-E tariffs in Russia face important regulatory and political obstacles from the federal government<sup>7</sup>. Firstly, in accordance with the Federal Electricity Law, regional tariff authorities – Regional Energy Commissions – can only act within the tariff framework determined by the Federal Service for Tariffs (FST). FST tariff methodologies and tariff limits, together with the limited duration of RES-E tariffs, can significantly constrain the scope for regional authorities to provide sufficient price guarantees to ensure the financial viability of renewable energy investments. Secondly, to be eligible for RES-E tariffs, renewable energy generating facilities must be “qualified” by the federal regulator of the wholesale electricity market – the Market Council. The scope and effectiveness of regional support thus depends on federal tariff and federal qualification policy<sup>8</sup>. This report highlights these federal obstacles to regional RES-E tariffs and makes recommendations of ways to overcome these obstacles. In particular, this report examines the possible use of the regions' broader regulatory powers under the Federal Energy Efficiency Law<sup>9</sup> to promote renewable energy sources as part of the Russian energy efficiency strategy.

<sup>6</sup> Parts of the present report draw heavily upon Anatole Boute, “Renewable Energy Federalism in Russia: Regions as New Actors for the Promotion of Clean Energy” (2013) *Journal of Environmental Law*, <http://jel.oxfordjournals.org/content/early/2013/05/30/jel.eqt005.abstract>.

<sup>7</sup> Analysis of these barriers is discussed in depth in the “Analysis of Renewable Energy Legislation in Kaluga Region” prepared by the Center for Infrastructure Research for IFC Russia Renewable Energy Programme (2012) (on file with the authors).

<sup>8</sup> IFC, *Financing Renewable Energy Investments in Russia: Legal Challenges and Opportunities* (2012), p. 7, available at: <http://www1.ifc.org/wps/wcm/connect/9f6e55804df642c69c35bc7a9dd66321/PublicationRussiaRREP-FinancingEnergy.pdf?MOD=AJPERES>.

<sup>9</sup> Federal Law “On Energy Saving and Increasing of Energy Efficiency and Amending Certain Legal Acts of the Russian Federation” (hereinafter Federal Law No. 261-FZ No. 261-FZ) as of November 23rd, 2003 (version as of December 25th, 2012).

## II. Division of regulatory powers for RES-E support in Russia

The regions (“subjects”)<sup>10</sup> of the Russian Federation exercise state authority within the limits of the constitutional division of powers between the federal and regional levels of government. The possibility for regional authorities to pursue independent renewable energy policies and adopt RES-E tariffs thus depends on the constitutional division of regulatory powers between the federal and regional levels of government. As is the case in most federal states, the Russian Constitution does not refer to renewable energy, only to electricity and environmental protection. To understand the margin for maneuver that regional authorities have to promote RES-E, it is essential to examine whether and under what conditions the Constitution allows regional action regarding environmental protection in the electricity sector. According to Russian constitutional law, the Constitution and federal laws are the supreme law of the Russian Federation: federal laws prevail in any case of conflict with regional acts<sup>11</sup>. To determine whether regions in Russia have sufficient regulatory powers to promote renewable energy, it is therefore also essential to examine how renewable energy and electricity tariffs are regulated in the Federal Electricity Law<sup>12</sup> and the Federal Energy Efficiency Law<sup>13</sup>.

### Energy and the environment under the Russian Constitution

In accordance with Article 71 of the Russian Constitution, the federal authorities have the exclusive competence to regulate the federal energy systems. Moreover, they hold the power to determine federal policy on economic development and environmental protection. In addition, Article 72 of the Constitution establishes shared federal-regional competences for the regulation of environmental protection and ecological security. When exercising “shared competences”, regional authorities can regulate certain activities up until the federal level decides to intervene. If a region has acted in the absence of federal regulation, it will have to put its regional law into conformity with federal law.

Federal competences under the Russian Constitution can be broadly interpreted<sup>14</sup> and accordingly provide extensive powers to the federal level of government, including for electricity, environmental and tariff regulation<sup>15</sup>. This reduces the scope for regional renewable energy policies in the electricity sector, in particular

<sup>10</sup> The Russian Federation consists of 21 Republics, 9 ‘Krais’, 47 ‘Oblasts’, 4 autonomous ‘Okrugs’ and 2 cities of federal importance (Moscow and St Petersburg). See the Russian Constitution approved on December 12th 1993, amended by the Russian Laws No. 6-FKZ and No. 7-FKZ as of December 30th, 2008, article 65, para 1.

<sup>11</sup> Russian Constitution, article 4; Federal Law “On General Principles on Organisation of Governmental Legislative and Executive Bodies of the Subjects of the Russian Federation” No. 184-FZ as of October 6th, 1999 (version as of December 25th, 2012), article 1.

<sup>12</sup> Federal Law No. 35-FZ.

<sup>13</sup> Federal Law No. 261-FZ.

<sup>14</sup> See Daniel Kempton, “Three Challenges to Assessing Russian Federalism” in Daniel Kempton and Terry Clark (eds) *Center-Periphery Relations in the Former Soviet Union – Unity or Separation* (Praeger, 2002) 13, p. 41.

<sup>15</sup> See Anna Vishnyakova, *Public Regulation of Relations on the Wholesale Electricity and Capacity Market* (Moscow: Institute for Energy Law of the Moscow State Academy of Law), p. 47.

regional RES-E tariffs. Nevertheless, regions could act based on the shared constitutional powers for environmental protection, in particular – as will be argued below – the promotion of renewable energy use as energy saving measure.

## Renewable energy regulatory powers under the Federal Electricity Law

The Federal Electricity Law establishes a regulatory monopoly for the federal level of government<sup>16</sup>. Regional authorities cannot adopt legislation affecting the electricity sector unless explicitly permitted to do so by federal law<sup>17</sup>. The Law charges the Government of the Russian Federation with the task of determining national policy on renewable energy<sup>18</sup>. The Law does not limit this task to the determination of renewable energy policy at federal level.

### Federal competences

Article 21, paragraph 1 of the Federal Electricity Law establishes the list of regulatory powers of the Government of the Russian Federation in the electricity sector. As regards renewable energy, this provision charges the Government with the task of determining strategic targets and measures to achieve these targets. It also mandates the Government to support the use of renewable energy sources and to stimulate the use of renewable energy technologies in accordance with the budgetary legislation of the Russian Federation. More specifically, the Federal Electricity Law establishes two mechanisms for the operational support of electricity production from renewable energy sources: a premium scheme and a capacity scheme. Both support mechanisms are based on the wholesale market, i.e. the trading platform which brings together market players of federal importance – in particular, large electricity producers (with an installed capacity exceeding 5 MW)<sup>19</sup> and large consumers<sup>20</sup>. The Federal Electricity Law requires the Government of the Russian Federation to develop the necessary regulatory framework to implement these support schemes in practice.

The premium scheme in theory entitles operators of renewable energy generating facilities to a regulated mark-up in addition to the wholesale electricity market price (the equilibrium price)<sup>21</sup>. Importantly, the premium shall be calculated “based on the necessity to attain the national renewable energy target<sup>22</sup>”.

The capacity-scheme is based on the conclusion with renewable energy investors of capacity supply agreements (or “Agreements for the Delivery of Capacity”)<sup>23</sup>. These agreements will remunerate the operators of renewable energy generating facilities at a regulated price and for a certain duration. Like the premium, regulated capacity prices and duration must be calculated “based on the necessity to attain the national renewable energy target<sup>24</sup>”.

To monitor the achievement of these strategic targets, the Federal Electricity Law establishes a system of qualification of renewable energy generating facilities. It charges the Government of the Russian Federation with the task of determining rules, criteria and a procedure for the qualification of renewable energy generating facilities<sup>25</sup>. The regulator of the wholesale market, the Market Council, is charged with the task of managing this qualification process<sup>26</sup>. Qualification is the cornerstone of Russian renewable energy law: support based on the Federal Electricity Law is limited to “qualified” installations.

<sup>16</sup> Federal Law No. 35-FZ, article 4, para 1.

<sup>17</sup> Federal Law No. 35-FZ, article 4, para 2.

<sup>18</sup> Federal Law No. 35-FZ, article 21, para 1.

<sup>19</sup> In accordance with the article 23 of the Wholesale Market Rules, large producers are entities that operate generating installations with an installed capacity of not less than 5 MW per supplying point (or ‘point of delivery’ of electricity to the network). Producers operating installations with an installed capacity between 5 and 25 MW have the right to participate in the wholesale market. There are certain exceptions to this rule, e.g. for installations that use associated petroleum gas.

<sup>20</sup> Consumers are considered large if they possess electricity consumption installations with a total capacity equal to or exceeding 20 MW (the capacity of each delivery point being not less than 750 kVA). Electricity retail supply companies are entitled to participate if they have concluded supply contracts with consumers on the retail market for a total capacity not less than 20 MW (provided that the capacity at each delivery point equals to or exceeds 750 kVA).

<sup>21</sup> See Anatole Boute, “A Comparative Analysis of the European and Russian Support Schemes for Renewable Energy: Return on EU Experience for Russia”, (2011) 4 Journal of World Energy Law and Business, p. 157.

<sup>22</sup> Federal Law No. 35-FZ, article 23.1.

<sup>23</sup> Federal Law No. 35-FZ, article 32, para 2. IFC, *Financing Renewable Energy Investments in Russia: Legal Challenges and Opportunities* (2012), p. 15; Anatole Boute “Promoting Renewable Energy through Capacity Markets: An Analysis of the Russian Support Scheme” (2012) 46 Energy Policy, p. 68.

<sup>24</sup> Federal Law No. 35-FZ, article 32, para 2.

<sup>25</sup> Federal Law No. 35-FZ, article 21, para 1.

<sup>26</sup> Federal Law No. 35-FZ, article 33, para 3.

The Federal Electricity Law also charges the Government of the Russian Federation with the task of developing a system of certificates, which confirm that a certain amount of electricity has been produced from renewable energy sources<sup>27</sup>. Moreover, this provision mandates the Government to impose binding requirements on wholesale market participants to purchase a certain amount of electricity from renewable energy sources.

Furthermore, Article 21, paragraph 1 of the Federal Electricity Law requires the Government of the Russian Federation to regulate the compensation of the connection costs of renewable energy installations under 25 MW.

### Regional competences

The Federal Electricity Law does not limit support for renewable energy to federal mechanisms on the wholesale market. It also establishes a legal basis for support on the retail market, i.e. for renewable energy generating facilities with an installed capacity under 25 MW. In particular, the Federal Electricity Law establishes an obligation for network companies to compensate losses on their network as a priority by purchasing RES-E<sup>28</sup>. On the retail market, regional tariff authorities (Regional Energy Commissions) can regulate the price at which network companies purchase RES-E to compensate their losses<sup>29</sup>. By basing support on regulated prices and imposing a purchase obligation on network companies, this scheme resembles “feed-in tariffs”. In Russia, the competence to adapt RES-E tariffs is one of the rare powers that the Federal Electricity Law delegates to regional authorities. However, as will be shown in detail below, the implementation of this regional scheme faces not insignificant regulatory barriers at federal level.

Importantly, regional authorities benefit from broader competences under the Federal Energy Efficiency Law. The Federal Energy Efficiency Law includes renewable energy in the Russian energy efficiency strategy<sup>30</sup>: the deployment of renewable energy is one of the energy efficiency improvement measures that regions should consider for inclusion in regional energy efficiency programs – i.e. the programs that outline how regions intend to improve the energy efficiency of the regional economy<sup>31</sup>. Moreover, the energy efficiency targets that regions must adopt in accordance with the Federal Energy Efficiency Law should reflect the deployment of renewable energy sources<sup>32</sup>. The Federal Energy Efficiency Law thus provides additional legal support for regional action to promote the use of renewable energy<sup>33</sup>. As will be analyzed in detail below, this legal basis is an important means of overcoming the federal obstacles that currently inhibit regional RES-E tariff initiatives under the Federal Electricity Law.

### Tariff powers

Regional tariff authorities play a central role in regional renewable energy policies, since they are responsible for determining the price at which network companies purchase RES-E. It is therefore important to examine the structure of these authorities. Article 77 of the Russian Constitution charges regional authorities with the task of independently establishing the structure of the regional administration. However, those authorities must respect the general principles for the organization of the executive branch of government, which are set out in federal laws.

In accordance with Federal Law No. 184<sup>34</sup>, tariff regulation is one of the competences shared between the federal and regional levels of government<sup>35</sup>. The federal authorities, based on their right of pre-emption of shared powers, have made use of this competence: the Federal Electricity Law and the Decree of the Government of the Russian Federation on Electricity Retail Tariffs<sup>36</sup> govern the activities of the tariff authorities in the Russian electricity sector. Moreover, the administrative functioning of regional tariff authorities

<sup>27</sup> Federal Law No. 35-FZ, article 21, para 2.

<sup>28</sup> Federal Law No. 35-FZ, article 32, para 3.

<sup>29</sup> Federal Law No. 35-FZ, article 23.1, para 3.

<sup>30</sup> IFC, *Financing Renewable Energy Investments in Russia: Legal Challenges and Opportunities* (2012), p. 15.

<sup>31</sup> Federal Law No. 261-FZ, article 14, para 6.

<sup>32</sup> Federal Law No. 261-FZ, article 14, para 6.

<sup>33</sup> V.F. Popandopulo, O.A. Gorodov, D.A. Petrov, “Renewable Energy Sources in Electricity Sector” (2011) available at ConsultantPlus <http://www.consultant.ru/online>, accessed on January 10th, 2013.

<sup>34</sup> Federal Law “On the General Principles for the Organization of the Legislative and Executive Organs of the Regions of the Russian Federation” No. 184-FZ as of October 6th, 1999 (hereinafter Federal Law No. 184-FZ).

<sup>35</sup> Federal Law No. 184-FZ, article 26.3, para 2.

<sup>36</sup> Decree of the Government of the Russian Federation “On the Principles of Price Regulation in the Electricity Sector” No 1178 as of December 29th, 2011 (version as of May 23rd, 2013), hereinafter “Principles of price regulation”.

is regulated by the Decree of the Government of the Russian Federation on the Regulation of the Regional Tariff Authorities<sup>37</sup>. This governmental Decree determines the main tasks and powers of the regional tariff authorities and regulates the procedure for the formation of tariffs. Importantly for present purposes, the governmental decrees on Electricity Retail Tariffs and on the Regulation of Regional Tariff Authorities confirm the right of regional authorities to adopt RES-E tariffs.

**Table 1: Division of regulatory powers for RES-E support in Russia**

| Federal   | Regional   | Shared   |
|---|--|--|
| <p><i>Art. 71 Constitution:</i></p> <ul style="list-style-type: none"> <li>• federal energy systems;</li> <li>• internal (single) market;</li> <li>• federal economic policy;</li> <li>• federal environmental policy.</li> </ul>   |  | <p><i>Art. 72 Constitution:</i></p> <p>environmental protection and ecological security.</p>   |
| <p><i>Article 23, § 1 Federal Electricity Law</i></p> <p>adopt tariff methodologies.</p>  | <p><i>Art. 23.1, § 3 Federal Electricity Law</i></p> <p>regulate the price at which network companies purchase RES-E to compensate their losses on the retail market</p> | <p><i>Article 26.3, § 2 Federal Law on the Organization of the Legislative and Executive Organs of the Regions of the Russian Federation</i></p> <p>tariff regulation.</p> |
| <p><i>Art. 21, § 1 Federal Electricity Law:</i></p> <ul style="list-style-type: none"> <li>• adopt national renewable energy targets and measures to achieve these targets;</li> <li>• support the use of renewable energy: premium scheme and capacity scheme;</li> <li>• adopt rules for the qualification of renewable energy generating facilities;</li> <li>• develop a system of certificates;</li> <li>• introduce RES-E purchase obligations for wholesale market participants;</li> <li>• develop compensation scheme for the connection costs of renewable energy installations under 25 MW.</li> </ul> | <p><i>Art. 14 § 5-6 Federal Energy Efficiency Law</i></p> <p>promote renewable energy as part of regional energy efficiency programs.</p>                                |  |

<sup>37</sup> Decree of the Government of the Russian Federation "On the Regulation of the Regional Tariff Authorities" No. 97 as of February 21st, 2011 (version as of December 29th, 2011)

## III. Federal renewable energy policy

The Government of the Russian Federation has taken steps to implement its renewable energy-related obligations under the Federal Electricity Law. In particular, the Government has adopted a national renewable energy target and developed a national renewable energy strategy. The Government has also developed a scheme for the qualification of renewable energy generating facilities and a certificates system. However, no real progress has been made with the development of the premium and capacity-based support schemes. Key regulatory documents still need to be adopted to provide for a functioning renewable energy scheme in Russia. This section gives an overview of the regulatory framework that the Government of the Russian Federation has designed regarding electricity production from renewable energy sources. It identifies the key regulatory documents that the Government needs to adopt in order to create a functioning renewable energy support scheme.

### The 4.5 % target

In January 2009, the Government of the Russian Federation adopted a 4.5 per cent target of electricity consumption and production from renewable energy sources to be achieved by 2020<sup>38</sup>. The Government has also produced different programs of measures, outlining how it intends to achieve this target<sup>39</sup>. These programs have rarely been implemented. Following delays with the implementation of the federal renewable energy policy, strong doubts can be expressed as regards to whether the 4.5 per cent target can be achieved by 2020. In April 2013, the Government referred to a reduced target of 2.5 per cent target in the State Program for Energy Efficiency and the Development of the Energy Sector thereby indicating that the ambitions of Russia's renewable energy policy might be considerably reduced<sup>40</sup>.

### Qualification procedure

With Decree No. 426 on the Qualification of Renewable Energy Generating Installations<sup>41</sup>, the Government of the Russian Federation has in June 2008 complied with its obligation under Article 21, paragraph 1 of the Federal Electricity Law to develop a qualification procedure for renewable energy installations. As outlined above, this procedure is of key importance for renewable energy investments in Russia: support under the Federal Electricity Law is limited to qualified renewable energy generating facilities<sup>42</sup>.

<sup>38</sup> Decree of the Government of the Russian Federation "On Main Directions of the Governmental Policy on Increasing of Energy Efficiency in Electricity Sector based on Renewable Energy Sources for the Period until 2020" No. 1-r as of January 8th, 2009 (version as of May 28th, 2013).

<sup>39</sup> Decree of the Government of the Russian Federation "On Approval of the Set of Measures Aimed at Stimulating Generation of Energy from Renewable Sources" No. 1839-r as of October 4th, 2012.

<sup>40</sup> Resolution of the Government of the Russian Federation "On the State Program for Energy Efficiency and the Development of the Energy Sector" No. 512-r as of April 3rd, 2013.

<sup>41</sup> Decree of the Government of the Russian Federation "On the Qualification of Renewable Energy Generating Installations" No. 426 as of June 3rd, 2008 (version as of May 28th, 2013).

<sup>42</sup> Regulation for the Qualification of Generating Facilities Functioning on the basis of Renewable Energy Sources and Maintaining the Registry of Qualified Generating Facilities (Agreement on Accession to the Trade System of the Wholesale Market, Annex 24 approved by the Supervisory Board of the Market Council (Protocol of No. 36/2012 as of September 19th, 2011 (amended on November 29th, 2012)); available at <http://www.np-sr.ru/contract/joining/marketnorem/currentedition/index.htm?ssFolderId=1000212>.

To achieve qualification under Decree No. 426, investors must demonstrate that their renewable energy generating facilities fulfill the following criteria:

- 1) facilities produce electricity from renewable energy sources within the meaning of the definition of renewable energy sources in Article 3 of the Federal Electricity Law;
- 2) facilities are operational, i.e. have been commissioned and are not out of order;
- 3) facilities are connected to the network and are equipped with measuring instruments that comply with the requirements of the Federal Electricity Law; and
- 4) facilities are included in the scheme for the location of renewable energy generating facilities in Russia, as developed by the Ministry of Energy.

In May 2013, the Government included local content classification as part of the qualification procedure. Local content requirements apply to renewable energy generating facilities that participate in the capacity-based scheme, i.e. on the wholesale market. No local content requirements are yet applicable to renewable energy installations participating in the retail market. Nevertheless, retail installations also will be qualified with reference to a certain level of local content – without obligation to use a minimum percentage of locally produced or assembled equipment.

The Ministry of Energy has adopted and updates the scheme for the location of renewable energy generating facilities in Russia<sup>43</sup>. The Market Council – the regulator of the wholesale market, which is also in charge of the qualification of renewable energy generating facilities – has adopted more specific qualification criteria<sup>44</sup>. The Market Council's Qualification Regulation requires renewable energy generating facilities to become participants in the wholesale market. This obligation also applies to installations with an installed capacity under 25 MW (the threshold for mandatory participation in the wholesale market).

As highlighted in the IFC's report on *Financing Renewable Energy Investments in Russia: Legal Challenges and Opportunities*, the current ex post qualification procedure creates investment unpredictability for renewable energy project developers. Given that qualification depends on commissioning of the installations, investors have no guarantee that their installations will be qualified when they make their investment decisions.

## Compensation of connection costs

In October 2010, the Government of the Russian Federation adopted criteria for the compensation of network connection costs<sup>45</sup>. As IFC RREP highlighted in its 2011 report on *Renewable Energy Policy in Russia: Waking the Green Giant*<sup>46</sup>, the Government Decree on the compensation of network connection costs for renewable energy generating facilities did not provide sufficient guidance to properly define this compensation scheme.

To address this issue, in December 2012, the Ministry of Energy published a first draft Order on Rules for the Compensation of Network Connection Costs for Renewable Energy Installations with an Installed Capacity under 25 MW<sup>47</sup>. With this draft Order, the Ministry of Energy outlined a procedure that renewable energy investors need to follow in order to benefit from the compensation scheme (e.g. formal requirements for

<sup>43</sup> Order of the Ministry of Energy of the Russian Federation "On Approving the Scheme for the Location of Renewable Energy Generating Facilities in the Russian Federation" No. 316 of July 29th, 2011; Order of the Ministry of Energy of the Russian Federation "On Amending the Scheme for the Location of Renewable Energy Generating Facilities in the Russian Federation" No. 162 as of April 19th, 2012.

<sup>44</sup> Regulation for the Qualification of Generating Facilities Functioning on the basis of Renewable Energy Sources and Maintaining the Registry of Qualified Generating Facilities.

<sup>45</sup> Decree of the Government of the Russian Federation "On Approving the Criteria to Granting Subsidies from the Federal Budget to Compensate the Cost of Grid Connection of Generation Facilities with an Installed Generating Capacity of not more than 25 MW Recognized as Qualified Facilities Functioning on the Basis of Renewable Energy Sources" No. 850 as of October 20th, 2010.

<sup>46</sup> IFC, *Renewable Energy Policy in Russia: Waking the Green Giant* (2011) available at <[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](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)> accessed on January 3rd, 2013.

<sup>47</sup> Draft Order of the Ministry of Energy of the Russian Federation "Rules to Grant Subsidies from the Federal Budget to Compensate Network Connection Costs of Generation Facilities with an Installed Capacity of not more than 25 MW Recognized as Qualified Facilities Functioning on the basis of Renewable Energy Sources", as of December 26th, 2012, available at <<http://minenergo.gov.ru/documents/razrabotka>>. (hereinafter Rules for the Compensation of Network Connection Costs).

applications, evaluation criteria of the applications, grounds for refusal to grant compensation, agreements between the Ministry of Energy and the renewable energy investor governing the compensation). Importantly, the Ministry of Energy proposed to cap the maximum amount of federal subsidies available for this scheme<sup>48</sup> and to limit compensation to 50 per cent of the connection costs of each individual project<sup>49</sup>. Moreover, the Ministry of Energy makes its decision to compensate the connection costs of renewable energy investments subject to the qualification of the RES generating facility and its connection to the grid<sup>50</sup>. Renewable energy investors will thus have to finance connection upfront. This is not without risks: compensation of investors' costs is subject to the risk of refusal by the Market Council to qualify the installation and to the risk of refusal by the Ministry of Energy to grant compensation, e.g. in case the budgetary limit of the compensation scheme has been reached.

## Certificates

Qualified renewable energy installations are, in theory, entitled to “certificates” that the Market Council issues on the basis of the amount of electricity that these installations produce from renewable energy sources. The Order of the Ministry of Energy on the Administration of the Register of Certificates defines a “certificate” as an “entry in the register confirming the fact that a certain amount of electricity has been produced on the basis of renewable energy sources<sup>51</sup>”. The Russian certificate scheme thus primarily aims at proving the origin of the electricity produced from renewable energy sources.

To administer the support scheme, a specific “register for the issuance and cancellation of certificates confirming the amount of electricity produced by certified production installations using renewable energy sources” has been created<sup>52</sup>. The Market Council is the administrator of this register. The register of certificates records the necessary information related to the issuance, transfer and cancellation of certificates for every certified renewable energy installation.

## The premium scheme

No real progress has been made with the implementation of the premium scheme since November 2007 when the scheme was introduced in the Federal Electricity Law. For the electricity premium scheme to function, an essential document still has to be adopted: the Decree on the Procedure for the Determination of the Premium Added to the Equilibrium Price of the Wholesale Market. The Government of the Russian Federation has not defined the level and duration of the premium. Renewable energy investors cannot therefore rely on this support mechanism to ensure the financial viability of their investments. The Ministry of Energy has put forward technical and legal reasons to justify the lack of progress in this field (e.g. the difficulty in determining the consumers that would have to finance the premium and the difficulty in integrating the premium in commercial transactions on the day-ahead wholesale market)<sup>53</sup>. Moreover, the impact of the premium on electricity prices can be seen as a major obstacle to the implementation of this scheme<sup>54</sup>.

## The capacity-based scheme

As outlined above, the Federal Electricity Law mandates the Government of the Russian Federation with the task of determining the main conditions of the Agreements for the Delivery of Renewable Energy Capacity and, in particular, the capacity price and duration of capacity supply. The Government must therefore adopt tariff methodologies for the remuneration of renewable energy capacity – in particular, it must fix the rate of return and eligible capital costs per type of renewable energy technology – and determine the duration of support. In addition, it is essential that specific rules are adopted for the assessment of the availability of variable renewable energy installations.

<sup>48</sup> Rules for the Compensation of Network Connection Costs, item 2.

<sup>49</sup> *ibid*, item 4.

<sup>50</sup> *ibid*, item 6.

<sup>51</sup> Order of the Ministry of Energy of the Russian Federation “On Maintaining the Register of Certificates Confirming the Amount of Energy Generated by Renewable Energy Generating Facilities” No. 187 of November 17th, 2008.

<sup>52</sup> Federal Law No. 35-FZ, article 33, para 3. Order on Maintaining the Registry of Certificates, item 3.

<sup>53</sup> Ministry of Energy of the Russian Federation, Explanatory Note to the Draft Resolution of the Government of the Russian Federation “On approval of set of measures stimulating generation of electricity by generating facilities functioning on the base of renewable energy sources” (2012).

<sup>54</sup> International Energy Agency (IEA), World Energy Outlook (2011), p. 326.

On the 28th of May 2013, the Government of the Russian Federation adopted Decree No. 449 on the Mechanism for the Promotion of Renewable Energy on the Wholesale Electricity and Capacity Market<sup>55</sup>. Decree No. 499 mandates the Administrator of the Trading System with the task of organizing a competitive selection of renewable energy investment projects each year and for each type of renewable energy covered by the scheme, i.e. wind, solar PV and small hydropower. The developers of the selected projects will be entitled to sign Agreements for the Delivery of RES Capacity. The objective of this competitive process is to select projects up to a certain amount of MW installed renewable energy capacity per year. According to Resolution of the Government of the Russian Federation No. 861-r of 28 May 2013 (amending Resolution 1-r), the yearly renewable energy targets until 2020 are the following:

| MW per type of RES | 2014 | 2015 | 2016 | 2017 | 2018  | 2019  | 2020  | Total |
|--------------------|------|------|------|------|-------|-------|-------|-------|
| <b>Wind</b>        | 100  | 250  | 250  | 500  | 750   | 750   | 1 000 | 3600  |
| <b>Solar</b>       | 120  | 140  | 200  | 250  | 270   | 270   | 270   | 1520  |
| <b>Small hydro</b> | 18   | 26   | 124  | 124  | 141   | 159   | 159   | 751   |
| <b>Total</b>       | 238  | 416  | 574  | 874  | 1 161 | 1 179 | 1 429 | 5 871 |

By limiting the amount of renewable energy projects covered by the scheme, Decree No. 499 aims to contain the costs of this support policy and thus the impact on end user electricity prices. The Government also aims to limit the price impact of the capacity scheme by introducing limits to the capital costs of renewable energy projects. According to Decree No. 499, the first competitive selection will take place before the 30th of September 2013. To be eligible for selection in the context of this competitive process, investment projects must guarantee the use of equipment partly produced or assembled in Russia. As recently highlighted by the decision of the WTO Dispute Resolution Panel and Appellate Body<sup>56</sup> in Canada – Certain Measures Affecting the Renewable Energy Generation Sector<sup>57</sup> and Canada – Measures Relating to the Feed-in Tariff Program<sup>58</sup>, Local Content Requirements in renewable energy support schemes could breach WTO law. Moreover, Local Content Requirements might increase the cost of the Russian renewable energy policy and slow down the development of renewable energy in the absence of sufficient industrial base to fulfill these requirements.

The main challenge regarding the promotion of RES-E through capacity markets relates to the fact that variable RES generating facilities cannot easily guarantee their availability to produce electricity. Decree No. 499 aims to overcome this difficulty by establishing a specific regime for capacity supply by RES generating facilities. From a financial perspective, Decree No. 499 establishes complex formula for the calculation of capacity prices. The complexity of these formula, in connection to the novelty of the support scheme, will not contribute to investors' perception of the regulatory predictability and certainty of the scheme – an issue of key concern for the investment community in the RES sector<sup>59</sup>. This risk of regulatory uncertainty is reinforced by the fact that the capacity price formation methodology of Decree No. 499 requires further finetuning by the Market Council.

Decree No. 499 is an important step in the creation of a functioning regulatory framework for RES-E in Russia. It will certainly positively influence the development of renewable energy projects. However, the significance of this long awaited regulatory document for the large scale deployment of RES-E in Russia should not be overestimated. As introduced above, Decree No. 499 strictly caps the amount and costs of projects that can benefit from support under Agreements for the Delivery of RES Capacity until 2020.

<sup>55</sup> For an in-depth analysis of this scheme, see IFC, *Russia's New Capacity-based Renewable Energy Support Scheme: An Analysis of Decree No. 449* (forthcoming).

<sup>56</sup> Dispute DS426 Canada – Measures Relating to the Feed-in Tariff Program, Decision of the Appellate Body as of May 6th, 2013.

<sup>57</sup> WT/DS412/R, Report of December 19th, 2012.

<sup>58</sup> WT/DS426/R, Report of December 19th, 2012.

<sup>59</sup> Communication from the EU Commission, "White Paper for a Community Strategy and Action Plan on Renewable Sources of Energy" (COM(1997) 599 final), p. 7; Letter from Institutional Investors Group on Climate Change to Mr. Zapatero on the Proposed Retroactive Reduction of 661 Tariff for Existing Investments (June 23, 2010), [http://www.iigcc.org/\\_data/assets/pdf\\_file/0010/1009/IIGCC-letter-to-Spanish-government.pdf](http://www.iigcc.org/_data/assets/pdf_file/0010/1009/IIGCC-letter-to-Spanish-government.pdf) [Accessed March 4, 2012]; D. Finon and Y. Perez, "The Social Efficiency of Instruments of Promotion of Renewable Energies: A Transaction-cost Perspective", *Ecological Economics* (2007) 62, p. 83

## RES-E tariff methodologies

On the retail market, regulated tariffs apply to the RES-E that network companies purchase to compensate their losses. The Government Decree on Electricity Retail Tariffs provides an important tariff guarantee to renewable energy investors: when determining RES-E tariffs, the authorities must take into account the financial resources necessary to recover investments in the construction of renewable energy generating facilities<sup>60</sup>. Given that most types of renewable energy investments are characterized by relatively high up-front investment costs and limited operating costs, this provision is of particular relevance for the financing of renewable energy projects in Russia.

In Resolution No. 1839-r on Measures to Promote Renewable Energy Sources<sup>61</sup>, the Russian Government has mandated the Federal Service for Tariffs to develop specific RES-E tariff methodologies. As will be discussed below, pending the adoption of these methodologies, regional RES-E tariffs are affected by legal uncertainty given potential non-compliance with the new federal methodologies.

## Energy efficiency subsidies

The Federal Energy Efficiency Law provides that federal budgetary resources can be allocated to co-finance regional energy efficiency improvement measures<sup>62</sup>. These federal co-financing subsidies are allocated to regions based on a selection procedure that, among other things, takes into account the effectiveness of the regional energy efficiency programs. As highlighted above, the Federal Energy Efficiency Law considers the use of renewable energy sources as an energy efficiency improvement measure. Regional authorities could include renewable energy projects in their energy efficiency program. These projects could benefit from combined regional and federal subsidies<sup>63</sup>.

The Government of the Russian Federation has approved Rules for the Distribution of Federal Subsidies for the Implementation of Regional Energy Efficiency Programs<sup>64</sup>. These Rules subject the distribution of subsidies to the determination of a regional energy efficiency program and the ring-fencing of resources in the regional budget for the financing of energy efficiency improvement measures. The Rules explicitly include electricity production from renewable energy sources (particularly fuel switch measures) as an eligible energy efficiency improvement measure.

In addition, renewable energy projects could benefit from regional support with federal co-financing under the State Program for the Development of the Agricultural Sector that the Government of the Russian Federation adopted in July 2012. This program recognizes the opportunity to support alternative sources of energy<sup>65</sup>.

## Limited progress at federal government levels

The Government of the Russian Federation has recently adopted a regulatory framework to support the development of renewable energy on the wholesale market. Nevertheless, delays and postponements in the implementation of a functioning support scheme highlight the political sensitivity of renewable energy at the federal level of government in Russia. Regional support for the development of renewable energy could provide an alternative to federal renewable energy policy initiatives. Before exploring how regional authorities in Russia could support the development of renewable energy sources in their regional electricity system, the next section examines the policy drivers (i.e. the economic and environmental benefits) that can justify regional renewable energy policies.

<sup>60</sup> Principles of Price Regulation (Government Decree No. 1178), item 64.

<sup>61</sup> Government Decree No. 1839-r.

<sup>62</sup> Federal Law No. 261-FZ, article 27, para 3.

<sup>63</sup> Analysis of these barriers is discussed in depth in the "Analysis of Renewable Energy Legislation in Kaluga Region" prepared by the Center for Infrastructure Research for IFC Russia Renewable Energy Programme (2012).

<sup>64</sup> Decree of the Government of the Russian Federation "On Approving the Rules for the Transfer of Subsidies for the Implementation of Regional Energy Efficiency Programs from the Federal Budget to the Budget of Regions of the Russian Federation" No. 746 as of September 5th, 2011 (version of April 6th, 2013).

<sup>65</sup> Decree of the Government of the Russian Federation "On the State Program for Agricultural Development and the Regulation of Agricultural Raw Materials, Products, and Food Markets for the Period 2013-2020" No. 717 as of July 14th, 2012. Analysis of these barriers is discussed in depth in the "Analysis of Renewable Energy Legislation in Kaluga Region" prepared by the Center for Infrastructure Research for IFC Russia Renewable Energy Programme (2012).

**Table 2: Progress with federal renewable energy policy**

| Requirements under Federal Electricity Law                              | Implementation  | Challenges   |
|---|---|--|
| National renewable energy target  | Target of 4.5 % by 2020 adopted (Government Resolution No. 1-r as of January 8 <sup>th</sup> , 2009)  | Possible postponement of the target to 2030  |
| Qualification of renewable energy generating facilities                 | Qualification procedure adopted (Government Decree No. 426 as of June 3 <sup>rd</sup> , 2008, amended on May 28 <sup>th</sup> , 2013; Market Council regulation)                  | Ex post qualification creates uncertainty<br><br>Stringent metering requirements   |
| Certificates  | System of certificates adopted (Order of Minenergo No. 187 as of November 17 <sup>th</sup> , 2008)  | Uncertainty on practical functioning, e.g. application to compensation of network losses scheme  |
| Premium scheme  | No progress   | Legal and technical barriers advanced by Minenergo<br><br>Impact on electricity prices (IEA, World Energy Outlook 2011)  |
| Capacity scheme   | Decree No. 449 as of May 28 <sup>th</sup> , 2013  | Strict limits on amount of renewable energy capacity and costs of renewable energy policy<br><br>Local Content Requirements<br><br>Further implementation by Market Council required                         |
| Renewable energy purchase obligations for wholesale market participants | Implicit in Minenergo capacity proposals  |  |
| Compensation of the connection costs                                    | Main criteria determined (Government Decree No. 850 as of October 20 <sup>th</sup> , 2010)<br><br>Draft compensation procedure proposed (Minenergo, May 2013)                     | Budgetary limit in connection to <i>ex post</i> decision on compensation   |
| RES-E tariff methodologies  | Regulatory basis developed in Government Decree 1178<br><br>Mandate given to FST to develop methodologies (Government Resolution No. 1839-r as of October 4 <sup>th</sup> , 2012) | FST has not yet determined specific RES-E tariff methodologies leaving the question open as to whether regional authorities can adopt RES-E tariffs based on other existing methodologies (FST Order 20-E/2) |

## IV. Policy drivers for regional renewable energy support in Russia

Regional authorities in federal states around the world have implemented renewable energy support policies. With these policies, regions aim to benefit from the economic advantages that the use of renewable energy sources for energy production represents for the regional economy<sup>66</sup>. In particular, renewable energy policies are seen as a powerful instrument to stimulate employment in the local green economy and promote innovation. Moreover, regions stimulate the use of renewable energy sources in order to improve energy security (availability of energy sources) within their regional energy systems. Renewable energy sources are also part of regional climate change and environmental protection policies: renewable energy development is often central to regional air quality improvement and regional waste management policies.

The determination of the appropriate level of government to promote renewable energy sources in federal states has been the subject of an intense debate in the political economy and law and economics literature, particularly in the United States<sup>67</sup>, but also in Canada<sup>68</sup> and Australia<sup>69</sup>. This debate is relevant for the promotion of renewable energy in the regions of the Russian Federation: it advances political arguments to justify regional (state-level) renewable energy policies in federal states that, like Russia, are major energy producers.

The experience accumulated so far with regional renewable energy policies in federal states and the literature in the field thus provide interesting material to identify potential benefits to regional renewable energy policies in Russia. Taking into account the specific characteristics of the Russian case and, in particular, the importance of local (biodegradable) waste management and the great sensitivity of energy price increases, a comparative analysis can help frame regional renewable energy support policies. An analysis of the justification of regional renewable energy policies is necessary to appreciate the importance of guaranteeing to regional authorities sufficient scope to implement renewable energy policies within federal regulatory boundaries.

<sup>66</sup> Simon Müller, Adam Brown and Samantha Ölz, *Renewable Energy: Policy Considerations for Deploying Renewables* (IEA 2011), available at <http://www.iea.org>, accessed on January 3rd, 2012.

<sup>67</sup> See e.g. Kirsten Engel, "Why Not a Regional Approach to State Renewable Power Mandates?" (2011-2012) 3 *San Diego Journal of Climate & Energy Law*, p. 79; Benjamin Sovacool, "The Best of Both Worlds: Environmental Federalism and the Need for Federal Action on Renewable Energy and Climate Change" (2008), 27 *Stanford Environmental Law Journal*, p. 397; Jim Rossi, "The Shaky Political Economy Foundation of a National Renewable Electricity Requirement" (2011) *University of Illinois Law Review*, p. 361.

<sup>68</sup> See e.g. Scott Victor Valentine, "Canada's Constitutional Separation of (Wind) Power" (2010) 38 *Energy Policy*, p. 1918.

<sup>69</sup> See e.g. Stephen Jones, "The Future of Renewable Energy in Australia: A Test for Cooperative Federalism" (2009) 68 *The Australian Journal of Public Administration*, p. 1.

## Regional economic benefits: innovation and employment in the green economy

Regional renewable energy policies aim to stimulate local employment in the green economy and appear to have been successful in this respect. Renewable energy investments have created jobs related to the construction, maintenance and operation of the renewable energy generating facilities<sup>70</sup>. Moreover, employment has resulted from the construction and operation of manufacturing plants for renewable energy equipment. Renewable energy policies can also contribute to the development of a regional clean technology industry that can create new export opportunities. Importantly for Russia, as a major energy power, the United Nations Environment Program (UNEP) has reported that “compared to fossil-fuel power plants, renewable energy generates more jobs per unit of installed capacity, per unit of power generated and per dollar invested<sup>71</sup>”. These local economic benefits have been key reasons for regions in federal states to support the use of renewable energy, particularly in the absence of federal support schemes.

In Canada – a country characterized by the limited support offered for renewable energy at the federal level – different provinces have implemented clean energy policies in order to take advantage of the economic benefits that renewable energy investments represent for the local economy. In 2009, Ontario adopted the Green Energy and Green Economy Act with the objective of creating 50,000 clean energy jobs and developing a clean energy manufacturing industry<sup>72</sup>. According to the Ministry of Energy of Ontario<sup>73</sup>:

*the GEA [Green Economy Act] will help create 50,000 clean energy jobs across the province. [...] Renewable energy projects require skilled labor, such as engineers as well as construction and maintenance labor across the province. As renewable energy projects are established, the need for skilled and general labor will continue to provide jobs for thousands of Ontarians over the next decade. Innovation in new technology also contributes high skilled jobs and economic opportunities for Ontario.*

Reflecting on the experience of providing support for renewable energy support in 2010, the Ministry of Energy of Ontario concluded that<sup>74</sup>:

*Ontario has already attracted more than \$16 billion of private sector investment and over 20 companies have announced plans to set up or expand operations in Ontario. This activity will create or support indirect jobs in areas such as finance, consulting and other manufacturing, service, and development industries. Many communities that were hard-hit during the recent economic downturn are reaping benefits of Ontario’s growing clean energy economy.*

In 2012, the Ministry of Energy of Ontario reviewed Ontario’s feed-in tariff program and concluded that<sup>75</sup>:

*the FIT Program has spurred significant job creation in the renewable energy industry across a variety of sectors, including manufacturing, supply chain providers and construction. Ontario’s clean energy policies have already created more than 20,000 jobs and are well on the way to creating 50,000 jobs through investments in renewable energy and conservation, as well as smart grid technology, transmission and distribution upgrades.*

The Ministry stressed how the provincial support scheme “attracted significant foreign investment into the province at a time when international investors were scaling back their investments in almost every industry<sup>76</sup>”.

<sup>70</sup> See European Wind Energy Association, *Green Growth – The Impact of Wind Energy on Jobs and the Economy* (2012), available at: [http://www.ewea.org/uploads/tx\\_err/Green\\_Growth.pdf](http://www.ewea.org/uploads/tx_err/Green_Growth.pdf), accessed on January 3rd, 2013; Commission Staff Working Document SWD (2012) 164 final accompanying Commission, *Renewable energy: a major player in the European energy market* COM (2012) 271 final; Mario Ragwitz and others, *EmployRES: The impact of renewable energy policy on economic growth and employment in the European Union* (2007) available at <[http://ec.europa.eu/energy/renewables/studies/doc/renewables/2009\\_employ\\_res\\_report.pdf](http://ec.europa.eu/energy/renewables/studies/doc/renewables/2009_employ_res_report.pdf)>, accessed on January 3rd, 2013.

<sup>71</sup> UNEP, *Green Jobs: Towards Decent Work in a Sustainable, Low-carbon World* (2008) available at: [http://www.unep.org/civil-society/Portals/24105/documents/publications/UNEPGreenJobs\\_report\\_part%201.pdf](http://www.unep.org/civil-society/Portals/24105/documents/publications/UNEPGreenJobs_report_part%201.pdf), accessed on January 3rd, 2013.

<sup>72</sup> Green Energy and Green Economy Act 2009, referred to in IEA, *Energy Policies of IEA Countries – Canada Review 2009* (2010), p. 90.

<sup>73</sup> Canadian Ministry of Energy, *Ontario’s Long-Term Energy Plan – Building Our Clean Energy Future* (2010), available at [http://www.energy.gov.on.ca/docs/en/MEI\\_LTEP\\_en.pdf](http://www.energy.gov.on.ca/docs/en/MEI_LTEP_en.pdf), accessed on January 3rd, 2013.

<sup>74</sup> *ibid* p. 53.

<sup>75</sup> Canadian Ministry of Energy, *Ontario’s Feed-in Tariff Program Two-Year Review Report* (2012) p. 5, available at: <http://www.energy.gov.on.ca>, accessed on January 3rd, 2013.

<sup>76</sup> *ibid* p. 7.

Importantly for the regions of the Russian Federation that are endowed with a large potential for biomass, the Ontario Ministry of Energy has highlighted the contribution of biomass investments to the creation of jobs<sup>77</sup>:

*The conversion from coal to biomass at Atikokan by 2013 will create up to 200 construction jobs and help protect jobs at the plant. It will also support jobs in Ontario related to the production of wood pellets and sustain other jobs in the forestry sector. Ontario will continue to monitor the conversion of Atikokan and consider future potential of biomass generation.*

Similarly, Nova Scotia has adopted feed-in tariffs with the aim of creating jobs and growing the economy<sup>78</sup>. The Department of Energy of Nova Scotia highlights the benefits of this policy for forestry and agriculture: “traditional rural industries like forestry and agriculture can build wealth and add jobs by developing the sustainable renewable energy sources they manage already<sup>79</sup>”. In a same vein, in Québec, the provincial authorities consider renewable energy policies “as a powerful tool for job creation and collective enrichment<sup>80</sup>”. Renewable energy is seen as an opportunity for economic growth in the province: “the opportunities offered by wind energy, particularly for economic development, should be taken up<sup>81</sup>”.

In Australia – a country also characterized by limited federal support for renewable energy until 2009 – economic arguments have also played a key role in the justification of state-level support schemes. A key objective of the Victorian Renewable Energy Act 2006 is to “encourage regional investment and employment<sup>82</sup>”. Similarly, in New South Wales, renewable energy is seen as a contributor to economic growth and employment. According to the state’s draft Renewable Energy Action Plan, renewable energy generation is a critical part of New South Wales’ development of an energy system that “attracts new jobs and investment to NSW at the lowest possible cost<sup>83</sup>”.

In the United States, states have also adopted support schemes in order to harness the benefits that renewable energy represents for the regional economy. Bills aimed towards the introduction of renewable energy feed-in tariffs in Michigan, Illinois, Minnesota and Indiana cite the contribution to economic development and job creation in the green economy as the leading reasons for implementing renewable energy policies<sup>84</sup>. According to a study by the National Renewable Energy Laboratory (NREL), “job creation is one of the most commonly stated drivers for state-level clean energy investment<sup>85</sup>” and, in practice, renewable energy policies appear to deliver this policy objective. The NREL considers in its study of renewable energy policies in the Southeast of the US that<sup>86</sup>:

*Even accounting for job losses in the fossil fuel industry, the development of low carbon electricity sources, such as renewable energy, creates more jobs than fossil fuel generation per unit of energy delivered. [...] The jobs created by the clean energy industry are for a wide range of skilled laborers, including scientists, construction workers, engineers, manufacturing workers, planners, and site managers.*

In 2007, North Carolina introduced a Renewable Energy Portfolio Standard in order to encourage private investment in the regional economy<sup>87</sup>. Importantly, the support scheme in North Carolina appears to be on track to deliver this objective. According to a 2013 assessment of the economic impact of the scheme,

<sup>77</sup> Canadian Ministry of Energy, *Ontario’s Long-Term Energy Plan*, op cit. p. 31.

<sup>78</sup> Nova Scotia Department of Energy, *Renewable Electricity Plan: A Path to Good Jobs, Stable Prices, and a Cleaner Environment* (2010) p. 27, available at: <<http://www.gov.ns.ca/energy/resources/EM/renewable/renewable-electricity-plan.pdf>>, accessed on January 3rd, 2013.

<sup>79</sup> *ibid* p. 8.

<sup>80</sup> Ministère des ressources naturelles, *Québec Energy Strategy 2006-2015: Using Energy to Build the Québec of Tomorrow*, p. 6, available at <<http://www.mrn.gouv.qc.ca/english/publications/energy/strategy/energy-strategy-2006-2015.pdf>>, accessed on January 3rd, 2013.

<sup>81</sup> *ibid* p. 109.

<sup>82</sup> Victorian Renewable Energy Act 2006 No. 72 (amended as of November 7th, 2012), article 4.

<sup>83</sup> New South Wales Trade and Investment, *Draft Renewable Energy Action Plan* (2012) p. 4 available at: <http://www.trade.nsw.gov.au/energy/sustainable/renewable/renewable-energy-action-plan>, accessed on January 3rd, 2013.

<sup>84</sup> Toby Couture and Karlynn Cory, *State Clean Energy Policies Analysis (SCEPA) Project: An Analysis of Renewable Energy Feed-in Tariffs in the United States* (2009) available at: <<http://www.nrel.gov/docs/fy09osti/45551.pdf>>, accessed on January 3rd, 2013.

<sup>85</sup> Joyce McLaren, *Southeast Regional Clean Energy Policy Analysis* (Revised, National Renewable Energy Laboratory 2011), available at: [http://www.nrel.gov/tech\\_deployment/state\\_local\\_activities/pdfs/49192.pdf](http://www.nrel.gov/tech_deployment/state_local_activities/pdfs/49192.pdf), accessed on January 3rd, 2013.

<sup>86</sup> *ibid* (references omitted).

<sup>87</sup> General Assembly Of North Carolina, Session 2007, Session Law 2007-397, Senate Bill 3, available at: <http://www.ncga.state.nc.us/Sessions/2007/Bills/Senate/PDF/S3v6.pdf>, accessed on January 3rd, 2013.

North Carolina's clean energy program spurred \$1.4 billion in project investment statewide between 2007 and 2012. This was supported by the state at an estimated \$72 million. Moreover, the scheme contributed an estimated \$1.7 billion between 2007 and 2012 to the gross state product, including secondary effects. This estimate includes renewable energy project construction and operation benefits, state costs and incentives, reduced conventional energy generation, utility customer fees, and energy efficiency benefits. It also created or retained 21,163 job years from 2007 to 2012<sup>88</sup>.

## Regional energy security

Renewable energy policies could also favorably influence security of energy supply in regional electricity systems by modernizing the energy infrastructure and improving the availability of energy sources for electricity production. This is an issue of particular importance in Russia for regions that are dependent on fossil fuel "imports" from other regions, and are endowed with a large renewable energy resource base, e.g. biomass<sup>89</sup>.

In Ontario and Nova Scotia, for instance, renewable energy policies explicitly aim to improve the security of supply and diversify the fuel mix of the provincial electricity system<sup>90</sup>. In a same vein, the Victorian Renewable Energy Act aims to "contribute to the diversity of Victoria's energy supplies<sup>91</sup>". The feed-in tariff scheme in the Australian Capital Territory aims to diversify energy supply in the province<sup>92</sup>. The North Carolina Renewable Energy Portfolio Standard aims to "diversify the resources used to reliably meet the energy needs of consumers in the State" and to "provide greater energy security through the use of indigenous energy resources available within the State<sup>93</sup>".

Biomass can play an important role in improving security and reliability of supply in regional electricity systems. In Ontario, the Ministry of Energy has highlighted the specific benefits of biomass for the reliability of energy supply<sup>94</sup>:

*Biomass is dispatchable and can be used as a peaking resource. (...) The conversion of Atikokan Generating Station to run on biomass will contribute to long term system reliability, especially during low water conditions in the region.*

Similarly, the use of biodegradable waste for energy production in the regions of the Russian Federation that are characterized with a large biomass potential could contribute to system reliability and secure the long term availability of energy sources in the regional electricity system.

## Long term affordability of energy supply

The use of renewable energy sources for energy production can contribute to the long term affordability of energy supply. Importantly, regions in federal energy producing countries have justified their renewable energy support policy on the basis of this price argument. The Australian Capital Territory, for instance, promotes renewable energy sources in the electricity sector with the explicit objective of reducing the province's vulnerability to long term price volatility in relation to fossil fuels<sup>95</sup>.

Similarly, analyzing the long term impact on electricity consumers, the report on North Carolina's clean energy program concludes that<sup>96</sup>:

*there is no appreciable rate impact to residential, commercial, and industrial customer groups through 2026 resulting from state renewable energy and energy efficiency policies. By 2026, this switch to clean energy will lead to \$173 million in cost savings.*

<sup>88</sup> RTI International and La Capra Associates, *The Economic, Utility Portfolio, and Rate Impact of Clean Energy Development in North Carolina* (2013) available at: <http://energync.org/assets/files/RTI%20Study%202013.pdf>, accessed January 3rd, 2013.

<sup>89</sup> Analysis of these barriers is discussed in depth in the "Analysis of Renewable Energy Legislation in Kaluga Region" prepared by the Center for Infrastructure Research for IFC Russia Renewable Energy Programme (2012), pp. 38-39.

<sup>90</sup> Nova Scotia Department of Energy, *Renewable Electricity Plan*, p. 10.

<sup>91</sup> Victorian Renewable Energy Act 2006 No. 72 (amended as of November 7th, 2012), article 4.

<sup>92</sup> Australian Capital Territory, Electricity Feed-in (Renewable Energy Premium) Act 2008 (A2008-21) (amended as of July 1st, 2012), article 5A.

<sup>93</sup> RTI International and La Capra Associates, *The Economic, Utility Portfolio, and Rate Impact of Clean Energy Development in North Carolina* (2013), available at: <http://energync.org/assets/files/RTI%20Study%202013.pdf>, accessed on January 3rd, 2013.

<sup>94</sup> Canadian Ministry of Energy, *Ontario's Long-Term Energy Plan*, p. 31.

<sup>95</sup> Australian Capital Territory, Electricity Feed-in (Renewable Energy Premium) Act 2008 (A2008-21) (amended as of July 1st, 2012), article 5A.

<sup>96</sup> *ibid.*

Over a 20-year period, electricity prices are expected to be lower than they would have been in the absence of the renewable energy support policy. The positive effect of renewable energy policies on the long term affordability of energy is of particular importance for Russia where, as discussed above, energy prices are a matter of great political sensitivity. This consideration will become more and more relevant in a context of increasing natural gas prices on the Russian domestic market. Moreover, the price benefits of decentralized electricity generation from renewable energy sources in Russia will become increasingly clear in a context of higher transmission and distribution costs resulting from the large investment requirements in the modernization of the network infrastructure.

## Regional environmental protection

Different regions of the Russian Federation (e.g. Belgorod, Archangelsk and Kaluga) face considerable challenges with respect to the management of waste, particularly from forestry, agriculture and the animal industry sources<sup>97</sup>. Renewable energy policies can be a way for these regions to address this waste problem<sup>98</sup>. In the European Union, the importance of renewable energy policies for regional waste management has been a key argument in support of retaining a decentralized approach to the support of renewable energy (i.e. at member state level) rather than to create a harmonized EU-wide support scheme. In its evaluation of the pros and cons of the harmonization of support schemes, the European Commission concluded that it is currently inappropriate to harmonize European support schemes because<sup>99</sup>:

*National support schemes are often designed so that they also promote regional development, for example the use of small biomass in Austria and Germany or the promotion of biowaste energy as part of a national waste strategy. Harmonization might oblige Member States to find other ways to promote regional development.*

In addition, renewable energy policies contribute to improved local air quality with significant health benefits for the local population. The Ministry of Energy of Ontario, Canada highlights these air quality and health benefits in its review of the provincial feed-in tariff program. It reports that the renewable energy policy of Ontario is “having a significant impact on the quality of Ontario’s air” and will “have significant health benefits for Ontarians<sup>100</sup>”. Similarly, the Senate Bill introducing the Renewable Energy Portfolio Standard in North Carolina aims to “provide improved air quality and other benefits to energy consumers and citizens of the State.”

## Tailored approach to local renewable energy characteristics

An oft-cited advantage of the centralized approach to renewable energy support relates to the economies of scale in regulation<sup>101</sup>. Proponents of centralization highlight the benefits that uniform environmental rules provide to industry, particularly in terms of the reduction of transaction costs<sup>102</sup>. On the other hand, advocates of a decentralized approach rely on the “allocative inefficiency of the centralized provision<sup>103</sup>”. The renewable energy resource base and costs associated with renewable energy policies vary greatly from state to state and therefore justify state-level regulation<sup>104</sup>.

<sup>97</sup> On the potential for energy production based on biodegradable waste from the agro-industry in the Kaluga Oblast, see Analysis of these barriers is discussed in depth in the “*Analysis of Renewable Energy Legislation in Kaluga Region*” prepared by the Center for Infrastructure Research for IFC Russia Renewable Energy Programme (2012), pp. 8-9 and 42-58.

<sup>98</sup> *ibid.*

<sup>99</sup> EU Commission, Commission Staff Working Paper on The Support of Electricity from Renewable Energy Sources SEC (2008) p. 15. On the importance of waste (biomass) management for regional renewable energy policies in Europe, see also Gemma Reece and Max Rathmann, *Harmonisation and Coordination of European RES-E Support Mechanisms – Consequences from a National Viewpoint* (Ecofys 2008) p. 3, available at: <http://www.futures-e.org/docs.php>, accessed on January 3rd, 2013.

<sup>100</sup> Canadian Ministry of Energy, Ontario’s Feed-in Tariff Program Two-Year Review Report, p.7.

<sup>101</sup> Ann Carlson, “*Iterative Federalism and Climate Change*”, (2009) 103 Northwestern University Law Review 1097, p. 1104; Garrick Pursley and Hannah Wiseman, “Local Energy”, (2011) 60 *Emory Law Journal* 877, p. 939.

<sup>102</sup> Sovacool, *op cit.*, p. 421. See also Commission Staff Working Document) SEC (2008) 57, p. 15; Renewable Energy Systems Limited, *Response to the Consultation on Electricity Market Reform* (2011), available at: <http://www.decc.gov.uk/en/content/cms/consultations/emr/emr.aspx>, accessed on January 3rd, 2013.

<sup>103</sup> On this concept and the relevant literature, see Michael Faure and Jason Scott Johnston, “The Law and Economics of Environmental Federalism: Europe and the United States Compared” (2008) University of Pennsylvania Law School Institute for Law and Economic Research Paper No. 08-07, p. 29, available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1098493](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1098493), accessed on January 3rd, 2013.

<sup>104</sup> Pursley and Wiseman, “Local Energy”, *op cit.*, p. 936.

Similar considerations are relevant in assessing the advantages and disadvantages of centralized and decentralized support of renewable energy sources in Russia. On the one hand, a uniform support scheme at federal level could, in theory, reduce transaction costs for investors. A centralized approach also presents the benefits of “learning effects” that flow from deploying the technology to meet greater cumulative volume levels<sup>105</sup>. On the other hand, given Russia’s enormous territory, the physical potential for renewable energy and the economic power to support these investments varies greatly between the different regions of the Russian Federation<sup>106</sup>. Thus a decentralized policy would facilitate addressing these local needs and could therefore be more efficient<sup>107</sup>.

## Contribution to policy objectives of the Russian Federation

In accordance with Federal Law No. 184 on the General Principles for the Organization of the Legislative and Executive Organs of the Subjects of the Russian Federation, federal authorities assess the effectiveness of regional administration<sup>108</sup>. The President of the Russian Federation issues criteria on the basis of which the Government evaluates regional policies.

Under the administration of President Medvedev, the share of renewable energy in the regional fuel mix was one of the 48 criteria considered by the federal authorities in their assessment of regional policy<sup>109</sup>. Regional authorities thus had a political and financial incentive to be pro-active in their approach to renewables. However, the new presidential administration significantly reviewed these criteria (now reduced to 11) and withdrew renewable energy from the list<sup>110</sup>.

## Regions as “regulatory safety nets” for the development of renewable energy in Russia

Given the very diverse renewable energy resource bases found in the different regions of the Russian Federation, regional authorities might be better equipped to develop support mechanisms that are best adapted to their specific conditions. Regional action to support renewable energy could also be very efficient because of the local environmental and economic benefits of this policy, particularly with regard to the solution that it provides for the treatment of waste and opportunities in terms of employment, innovation, security of supply and modernization of the energy infrastructure. Taking these local benefits into account, regions could act as “laboratories” or “regulatory safety nets<sup>111</sup>” waiting for federal action. Innovation with renewable energy policies at regional level could ultimately help overcome federal quasi-paralysis in this field.

In this context, it is “paramount that states [regions] are given relatively free reign to develop policy solutions<sup>112</sup>” within the boundaries of federal law. The risk of federal rules “closing the door to the policy-making efforts of other levels of government<sup>113</sup>” should be avoided. For regional renewable energy policies in Russia, a crucial question is accordingly whether the federal regulatory framework enables regional authorities to develop adequate support mechanisms to ensure the financial viability of renewable energy investments. The next section examines the possibility for regions to support renewable energy through the mechanism of compensation of network losses with RES-E.

<sup>105</sup> On this argument generally, see Benjamin Sovacool and Christopher Cooper, “Big is Beautiful: The Case for Federal Leadership on a National Renewable Portfolio Standard” (2007), 20 *The Electricity Journal*, p. 57.

<sup>106</sup> On the potential for renewable energy in the regions of the Russian Federation, see V.G. Nikolaev and others, *Prospectives for development of renewable energy sources in Russia – results of the TESIS project* (2009); Alexander Starkov and others, *Russian Wind Atlas* (Russian–Danish Institute for Energy Efficiency, (2000).

<sup>107</sup> On this argument in the US, see Pursley and Wiseman, “Local Energy”, op cit., p. 937.

<sup>108</sup> Federal Law No. 184-FZ, article 26.3, item 2.

<sup>109</sup> Decree of the President of the Russian Federation “On Performance Evaluation of the Executive Governmental Bodies of the Subjects of the Russian Federation” No. 825 as of June 28th, 2007 (version as of May 13th, 2010). (document lost effect).

<sup>110</sup> Decree of the President of the Russian Federation “On Performance Evaluation of the Executive Governmental Bodies of the Subjects of the Russian Federation” No. 1199 as of August 21st, 2012 (version as of December 28th, 2012).

<sup>111</sup> Kirsten Engel, “Harnessing the Benefits of Dynamic Federalism in Environmental Law” (2006) 56 *Emory Law Journal*, p. 178. See also Erwin Chereminsky, “Empowering States: The Need to Limit Federal Preemption” (2005), 33 *Pepp LR* p. 69, 74; Kevin Doran, “Can the U.S. Achieve a Sustainable Energy Economy from the Bottom-Up?: An Assessment of State Sustainable Energy Initiatives” (2006), 7 *Vt J Envtl L* 95, p. 107.

<sup>112</sup> Engel, *ibid*, p. 181.

<sup>113</sup> *ibid*.

**Table 3: Policy drivers for regional renewable energy support in federal states with a focus on energy-producing countries**

|   | <b>Drivers for state-level renewable energy support in federal states</b>  | <b>Specific relevance for regions of the Russian Federation</b>  |
|---|--|--|
| <b>Regional economic benefits</b>                           | <p>Stimulate jobs related to the construction, maintenance and operation of renewable energy generating facilities</p> <p>Stimulate innovation in the regional economy</p> <p>Stimulate employment in the manufacturing of renewable energy equipment</p> <p>Open new export opportunities</p> | <p>Biomass could support jobs related to the production of wood pellets and sustain other jobs in the forestry and agricultural sector</p> <p>Develop new industrial possibilities as part of recent modernization and innovation efforts</p>  |
| <b>Regional energy security</b>                             | <p>Diversify the fuel mix of the regional electricity sector</p> <p>Reduce regional vulnerability to the long term price volatility of fossil fuels</p> <p>Long term reduction of energy prices</p>  | <p>Energy diversification is of particular importance for regions of the Russian Federation that are dependent on energy imports from other regions</p> <p>Energy importing regions in Russia have an interest in shielding their industrial and household energy consumers from long term evolution of fossil fuel prices</p> |
| <b>Regional environmental protection</b>                    | <p>Contribute to regional waste management strategy, in particular waste from forestry, agriculture and the animal industry</p> <p>Improved local air quality with significant health benefits for the local population.</p>   | <p>Considerable waste from agricultural, animal and forestry industry in certain regions of the Russian Federation</p>   |
| Tailored approach to local renewable energy characteristics | <p>Renewable energy resource base and costs associated with the development of renewable energy sources can vary greatly from state to state and therefore justify state-level regulation</p>  | <p>Given Russia's enormous territory, the physical potential for renewable energy and the economic power to support these investments varies greatly between the different regions of the Russian Federation. A decentralized policy would facilitate addressing these local needs and could therefore be more efficient.</p>  |

## V. Compensation of network losses with RES-E

Network companies must, in accordance with Article 32, paragraph 3 of the Federal Electricity Law, compensate losses on the network in priority by purchasing electricity produced from qualified renewable energy installations. Article 23.1, paragraph 3 of the Federal Electricity Law establishes that, on the retail market, tariffs or minimum / maximum prices are adopted for the electricity produced from qualified renewable energy generating facilities and purchased to compensate network losses. These provisions create a legal basis for regional renewable energy tariffs.

Regional authorities – e.g. Belgorod<sup>114</sup>, Vologda<sup>115</sup> and Karelia<sup>116</sup> – have made use of this legal basis to adopt RES-E tariffs. However, the validity of these regional tariff decisions has been a controversial issue: both in Belgorod and Vologda, early RES-E tariff initiatives were successfully challenged, leading to their annulment<sup>117</sup>. Before analyzing the obstacles that regions face regarding the adoption of RES-E tariffs and proposing regulatory solutions to these obstacles, it is necessary to introduce the general regulation governing the compensation of network losses with RES-E in Russia.

### General regulation governing the compensation of losses

The Federal Electricity Law requires network companies to compensate the losses that occur on their network and that are not yet accounted for in the price of electricity<sup>118</sup>. Network companies must therefore conclude Power Purchase Agreements (PPAs). At the retail market level, these provisions have been implemented by the Retail Market Rules (approved by Decree No. 442 of the Russian Government)<sup>119</sup>. According to this regulation, guaranteeing suppliers – i.e. the suppliers of last resort in Russia – play a key role for the compensation of network losses. Guaranteeing suppliers sell electricity to network companies at regulated prices (regulated premium). This is an exception to the principle of free market prices.

<sup>114</sup> Order of the Commission for the State Regulation of Prices and Tariffs of Belgorod region “Setting Tariffs for the Electricity Generated by the Qualified Biogas Installation of “AltEnergO” Ltd for 2013” No. 24,1 as of December 10th, 2012.

<sup>115</sup> Order of the Regional Energy Commission of the Vologda Region “Setting the Tariff for the Electricity Generated from Renewable Energy Sources by the Qualified Energy Installation OAO “PMTEZ “Belyi Ruchej” and Purchased for the Compensation of Network Losses” No. 490 as of October 22nd, 2012.

<sup>116</sup> Resolution of the State Committee of the Republic of Karelia on Prices and Tariffs “On State Regulation of Tariffs for the Electricity Generated by the Small Hydro Power Plant Lyaskelya of NordHydro Ltd” No. 258 as of December 12th, 2012.

<sup>117</sup> Resolution of the Federal Antimonopoly Service of the North-West District as of October 31st, 2011 on the case No. A13-1398/2011.

<sup>118</sup> Federal Law No. 35-FZ, article 32, para 3.

<sup>119</sup> Decree of the Government of the Russian Federation “On the Functioning of Retail Electricity Markets” No. 442 as of May 4th, 2012 (version as of January 30th, 2013).

## Role of the guaranteeing supplier and interaction with retail producers

Item 130 of the Retail Market Rules provides that, in the absence of PPAs, network companies must pay the guaranteeing suppliers in respect of any network losses<sup>120</sup>. The guaranteeing supplier thus plays a central role in the procedure for the compensation of network losses established by the Retail Market Rules. Item 128, paragraph 1 of the Retail Market Rules even seems to suggest that network companies need to compensate all their losses through the guaranteeing supplier. However, the potentially monopolistic role of the guaranteeing supplier for the compensation of network losses is limited by the fact that paragraphs 3 and 4 of Item 128 of the Retail Market Rules provide for the possibility for network companies to purchase electricity directly from producers.

Network companies can compensate losses by purchasing electricity from producers following the general rules governing the participation of producers on the retail market<sup>121</sup> – established in Items 64 and 65 of the Retail Market Rules. According to these provisions, PPAs between producers and consumers must be backed by supply agreements with guaranteeing suppliers. Producers sell the electricity exceeding the amount contracted in their PPAs to the local guaranteeing supplier. The guaranteeing supplier purchases this electricity at prices calculated by reference to the average wholesale electricity and capacity prices. These provisions suggest that producers (e.g. renewable energy generating facilities) that directly supply network companies for the compensation of their losses must sell the surplus of their electricity to the local guaranteeing supplier (i.e. the guaranteeing supplier that operates in the zone of the network companies concerned). The price of this transaction is calculated by reference to the average wholesale market prices.

## Regulated premium for electricity purchases from the guaranteeing supplier

The prices in the electricity sector that are the subject of state regulation are listed in an exhaustive way in Article 23.1 of the Federal Electricity Law. In the absence of a legal basis, tariff authorities cannot regulate prices<sup>122</sup>. With the exception of RES-E (analyzed below), the Federal Electricity Law does not directly provide a legal basis for the adoption of tariffs for the compensation of network losses. The Federal Electricity Law provides an indirect legal basis for these tariffs, but only in relation to the guaranteeing supplier. Regional tariff authorities regulate the “supply premium<sup>123</sup>” that guaranteeing suppliers charge to network companies for the electricity the latter purchase to compensate losses on their network<sup>124</sup>. The scope of these regulated tariffs is limited to guaranteeing suppliers. It does not extend to other suppliers / producers.

## Obstacles to regional RES-E tariffs

The implementation of regional RES-E tariffs based on the mechanism of compensation of network losses faces certain not insignificant regulatory obstacles that stem from the division of powers in the electricity sector between the federal and regional levels of government. Regional RES-E tariffs can be blocked by federal control over electricity prices and by federal refusal to qualify renewable energy installations. Before analyzing the question of federal control over electricity tariffs and federal qualification, it is necessary to examine the extent to which the Federal Electricity Law imposes a mandatory obligation on network companies to purchase RES-E in priority and at regulated prices.

## Enforceable priority purchase of renewable energy at regulated prices?

The Federal Electricity Law does not explicitly provide that network companies must in priority conclude PPAs with renewable energy generating facilities at the price (tariff) adopted by the tariff authorities. The Law requires:

- network companies to conclude PPAs to compensate their losses (Article 32, paragraph 3);
- network companies to purchase RES-E in priority to compensate their losses (Article 32, paragraph 3; and
- the regulation of tariffs for the priority purchase of RES-E on the retail market (Article 23.1, paragraph 3).

<sup>120</sup> Retail Market Rules (Government Resolution No. 442), item 130.

<sup>121</sup> Retail Market Rules (Government Resolution No. 442), item 128.

<sup>122</sup> Federal Law No. 35-FZ, article 23.1, para 5.

<sup>123</sup> Federal Law No. 35-FZ, article 23.1, para 3; Order of the Federal Tariff Service “On Approving the Guidelines for the Calculation of Regulated Tariffs and Prices for Electricity on the Retail Market” No. 20-e/2, as of August 6th, 2004 (version as of December 26th, 2011), item 50.

<sup>124</sup> Principles of Price Regulation in the Electricity Sector (Government Resolution No. 1178).

Thus the Federal Electricity Law does not explicitly make the link between the obligation to purchase RES-E as a priority and the regulated tariffs<sup>125</sup>. Moreover, the Law does not guarantee that renewable energy investors will be able to inject all the electricity they produce into the electricity network. In contrast to the common design of feed-in tariffs, the Law does not establish an obligation of priority access to the network.

Although it makes logical sense to assume, on the basis of Articles 32 and 23.1 of the Federal Electricity Law, that network companies are obliged to purchase RES-E at regulated tariffs, the risk exists that companies could seek to rely upon a different interpretation of those articles in order to escape this obligation<sup>126</sup>. It would ultimately fall to a court to decide on the proper interpretation of these articles. Given this “judicial” risk, it is important, from an investor’s perspective, to analyze the arguments that companies might invoke to avoid purchasing RES-E at regulated prices. How could regional RES-E tariffs be designed to reduce these risks and reinforce the legal validity of these renewable energy pricing policies?

As outlined above, following the general regulation governing the compensation of network losses in Russia, network companies compensate the losses that occur in their network by concluding PPAs with electricity producers or suppliers. Item 130 of the Retail Market Rules provides that, in the absence of PPAs, the network companies must purchase the electricity necessary to compensate their losses from the guaranteeing suppliers. In the absence of a clear legal obligation to conclude PPAs with renewable energy generating facilities at regulated prices, the risk exists that network companies could refuse to conclude such PPAs in case the RES-E tariff is higher than the price proposed by the guaranteeing supplier or any competing thermal power plant. Network companies could argue that, in the absence of such contracts, they must, according to the Retail Market Rules, purchase the electricity necessary to cover their losses from the guaranteeing supplier and not therefore from RES-E producers.

There are, however, very good reasons to prefer alternative interpretations according to which network companies would be obliged to conclude PPAs with renewable energy producers at regulated prices. According to the common principles of legal interpretation, when unclear regulatory provisions can be interpreted in a way that is compatible with higher legal norms, this interpretation must be preferred to interpretations that would lead to an incompatibility with the law. Moreover, interpretations of norms that preserve the objectives pursued by higher norms must be preferred to interpretations that would prevent the achievement of these objectives. In the present case, the objective of the priority purchase of RES-E for network compensation<sup>127</sup> is to promote the deployment of renewable energy sources in Russia. It is part of a series of legislative amendments introduced in the Federal Electricity Law with the objective of promoting the use of renewable energy for electricity production in Russia. It has been recognized by the Russian authorities<sup>128</sup> that, in current market conditions, renewable energy generating facilities are generally not financially viable and require additional support, e.g. through tariffs that are higher than the market price of electricity. Article 23.1 of the Federal Electricity Law provides a legal basis to adopt such tariffs. These tariffs would remain largely ineffective if network companies could simply opt to purchase electricity at lower prices and refuse to sign PPAs with renewable energy producers. Item 130 of the Retail Market Rules further develops the general rule set out in Article 32, paragraph 3 of the Federal Electricity Law according to which network companies need to conclude PPAs to compensate their network losses. It does not explicitly establish the right for the network company to refuse to conclude PPAs with renewable energy investors at regulated tariffs. In the absence of a clear regulatory basis establishing the right of network companies to refuse to conclude PPAs with renewable energy producers at regulated tariffs, an interpretation preserving the objective and meaning of Articles 32 and 23.1 of the Federal Electricity Law must be preferred.

Allowing network companies to refuse to sign PPAs at the regulated tariffs adopted for the explicit purpose of network losses compensation with RES-E would neutralize the meaning of Articles 32 and 23.1 of the Federal Electricity Law. An alternative interpretation of the Retail Market Rules must therefore be followed: if tariffs are adopted for the compensation of network losses with RES-E, network companies are obliged to purchase this electricity as a priority and sign the necessary PPAs with the renewable energy producers concerned.

<sup>125</sup> See Analysis of these barriers is discussed in depth in the “*Analysis of Renewable Energy Legislation in Kaluga Region*” prepared by the Center for Infrastructure Research for IFC Russia Renewable Energy Programme (2012), p. 48.

<sup>126</sup> *ibid.* The risk of claims against RES-E tariff obligation is far from being purely hypothetical. See the legal challenge against the validity of the Vologda RES-E tariff.

<sup>127</sup> Federal Law No. 35-FZ, article 32, para 3.

<sup>128</sup> See Government Resolution No. 1-r.

### Regional RES-E tariffs in the absence of federal tariff methodologies?

As examined above, tariff regulation is a competence shared between the federal and regional levels of government. Regional authorities accordingly have the right to adopt tariffs without the need for a specific mandate under federal law. However, according to the principle of supremacy of federal law, regional tariffs must comply with the federal regulation on tariffs. The Federal Electricity Law (Article 23 and 24) regulates the distribution of competences for tariff regulation between the federal and regional level of government: regional authorities must adopt tariffs on the basis of federal tariff principles. The Russian Government has laid out these principles in its Decree on Electricity Retail Tariffs. The Federal Service for Tariffs has on this basis elaborated tariff methodologies in its Order 20-e/2.

Item 63 of the Government Decree on Electricity Retail Tariffs provides that regional tariff authorities adopt tariffs for the compensation of losses with RES-E following the methodologies determined by the Federal Service for Tariffs. The FST has not yet adopted specific methodologies for RES-E retail tariffs. It must be noted that the Decree governing the activities of the FST does not formally charge the FST with such a task. However, the Government of the Russian Federation has mandated the FST with the task of developing specific methodologies for RES-E retail tariffs in Resolution No. 1839-r on Measures to Promote Renewable Energy Sources<sup>129</sup>.

This division of regulatory tariff powers between the federal and regional levels of government generates the following questions: a) In the absence of specific RES-E tariff methodologies, can regional authorities act and adopt RES-E retail tariffs? b) For how long will these tariffs remain valid following the adoption of federal methodologies? c) Could the existing tariff methodologies in the electricity sector (Order of the FST 20-E/2) be used as basis for regional RES-E tariffs in the absence of federal RES-E tariff methodologies?

#### *a) Competence of regional authorities to adopt RES-E tariffs*

According to the Federal Law No. 184 on the General Principles for the Organization of the Legislative and Executive Organs of the Regions of the Russian Federation, tariff regulation is a shared competence<sup>130</sup>. Regional authorities have the right to adopt regulatory acts that implement these shared competences, independently from federal acts establishing such right<sup>131</sup>. In this particular context, the Federal Electricity Law already regulates the distribution of competences for tariff regulation between the federal and regional levels: regional authorities adopt tariffs on the basis of federal tariff principles<sup>132</sup>. Some doubt therefore exists over the possibility for regional authorities to act on the basis of the Federal Law No. 184 directly in relation to RES-E tariffs.

Federal Law No. 184 does not explicitly regulate the situation where the Government of the Russian Federation fails to implement competences that have been delegated by federal law. In this case, the Government Decree on Electricity Retail Tariffs confirms the general rule of tariff regulation in the electricity sector that regional tariffs must be adopted on the basis of federal methodologies. In the absence of specific methodologies for RES-E retail tariffs, regions could still adopt RES-E tariffs based on existing FST methodologies. The absence of federal tariff methodologies for the compensation of network losses with RES-E has not prevented Belgorod<sup>133</sup>, Vologda<sup>134</sup> and Karelia<sup>135</sup> to adopt regional RES-E tariffs.

Importantly for this analysis, the Government Decree on the Regulation of Regional Tariff Authorities explicitly refers to the powers of regional authorities to adopt RES-E tariffs. More generally, this Decree provides that one of the main tasks of regional tariff authorities is to create economic incentives to stimulate energy

<sup>129</sup> Government Resolution No. 1839-r.

<sup>130</sup> Federal Law No. 184-FZ, article 26.3, para 2, item 55.

<sup>131</sup> Federal Law No. 184-FZ, article 26.3, para 3.1.

<sup>132</sup> This situation thus differs from a scenario where there would be no federal law. It also differs from the scenario where the applicable federal level explicitly transfers the relevant competence (e.g. determination of methodology and tariff) to the regional authorities. See e.g. Decision of the Supreme Court of the Russian Federation No. 93-G08-19 as of November 26th, 2008 (a case concerning the regulation of the activities of the guaranteeing supplier in the Magadan Oblast').

<sup>133</sup> Order of the Commission for the State Regulation of Prices and Tariffs of Belgorod Region "Setting Tariffs on Electric Energy Generated by the Qualified Biogas Installation of "AltEnergO" Ltd for 2013" No. 24/1 as of December 10th, 2012.

<sup>134</sup> Order of the Regional Energy Commission of the Vologda Region "Setting the Tariff for the Electricity Generated from Renewable Energy Sources by the Qualified Energy Installation OAO "PMTEZ "Belyi Ruchej" and Purchased for the Compensation of Network Losses" No. 490 as of October 22nd, 2012.

<sup>135</sup> Resolution of the State Committee of the Republic of Karelia on Prices and Tariffs "On State Regulation of Tariffs for the Electricity Generated by the Small Hydro Power Plant Lyaskelya of NordHydro Ltd" No. 258 as of December 12th, 2012.

efficiency improvements in the electricity sector, including, as introduced above, the use of renewable energy sources<sup>136</sup>. Regional tariff authorities can thus adopt tariffs that provide economic stimulus to develop renewable energy.

#### *b) Validity of regional tariffs in time*

According to the hierarchy of norms of the Russian Federation<sup>137</sup>, Federal Laws supersede regional acts. Regional authorities can implement shared competences in the absence of federal laws. Nevertheless, regional authorities must ensure the compliance of their norms with the federal level within a period of three months following the adoption of federal laws.

From an investor's perspective, the possible adoption of federal RES-E tariff methodologies by the FST thus represents a not insignificant risk and could be considered as a critical source of investment uncertainty<sup>138</sup>. Given the political concern surrounding the cost of renewable energy, we cannot rule out the possibility that the FST or the Ministry of Energy might decide to cap the capital costs and return on investments of renewable energy projects, thereby jeopardizing the business case made on the basis of previous regional RES-E tariff decisions and on which existing investments were made. According to Federal Law No. 184 on the General Principles for the Organization of the Legislative and Executive Organs of the Subjects of the Russian Federation, regions will have to comply with the federal methodologies within a period of three months following their adoption. This reduces the duration of possible transitional arrangements that regions could introduce to protect existing tariff rights.

#### *c) Use of existing tariff methodologies*

The Order 20-E/2 of the FST establishes methodologies for the determination of tariffs in the electricity retail market. This Order does not explicitly provide methodologies for the determination of tariffs at which power plants sell electricity for the compensation of network losses. As explained above, tariff regulation only concerns the "supply premium" that the guaranteeing supplier charges to the network companies. The price at which the guaranteeing supplier purchases this electricity remains unregulated<sup>139</sup>.

It is arguable that making use of existing federal tariff methodologies does not contradict the requirement of the Government Decree on Electricity Retail Tariffs according to which regional RES-E tariffs must be based on federal methodologies. Indeed, this Decree does not explicitly require the adoption of *specific* RES-E tariff methodologies. It only states that RES-E tariffs must be determined on the basis of federal methodologies and must not therefore exclude the adoption of RES-E tariffs based on existing general methodologies.

Order 20-e/2 of the FST (and Russian tariff regulation in general)<sup>140</sup> is based on the principle of the "economic well-founded nature of costs". Following this principle, investors must demonstrate that their investment and operating costs are justified, such as on the basis of accounting reports, statistical data and / or independent expert evaluations. Regional authorities could, in the absence of specific RES-E tariff methodologies, base their tariff decisions on an assessment of the economically well-founded nature of the costs of the renewable energy investments concerned. In this respect, the relatively higher capital costs of renewable energy investments in relation to thermal power plants could be a challenge. This challenge is, however, not insurmountable. Indeed, the Federal Arbitrazh Court of the North-West District recently recognized that the additional costs related to the transformation and supply of biomass for combined electricity and heat production were, in that case, "economically well-founded"<sup>141</sup>.

<sup>136</sup> Decree of the Government of the Russian Federation "On approval of the standard regulation on executive body of the subject of the Russian Federation" No. 97 as of February 21st, 2011 (version as of December 29th, 2011), item 3.

<sup>137</sup> Federal Law No. 184-FZ, article 3.

<sup>138</sup> See Analysis of these barriers is discussed in depth in the "Analysis of Renewable Energy Legislation in Kaluga Region" prepared by the Center for Infrastructure Research for IFC Russia Renewable Energy Programme (2012), p. 48.

<sup>139</sup> As mentioned above, the electricity produced in excess to the amount contracted in PPAs is sold to the local guaranteeing supplier at prices calculated by reference to the average wholesale market price.

<sup>140</sup> See e.g. Decision of the Prezidium of the Supreme Arbitrazh Court of the Russian Federation No. 15741/10 in the case No. A05-1357/2010, as of April 19th, 2011.

<sup>141</sup> Decision of the Federal Antimonopoly Service of the North-West District of October 31st, 2011 in the case No. A13-1398/2011.

## Federal tariff limits

The amount of technical losses (expenses made to cover the losses) is one of the parameters that regulatory authorities must take into account when determining transmission/network tariffs<sup>142</sup>. The value of this parameter – i.e. the prices/tariffs at which the electricity to compensate the losses will be purchased – is calculated before every year of the regulated period. On a yearly basis, the tariff authorities adapt the tariffs to reflect, amongst other things, the evolution of prices for the purchase of electricity in order to compensate network losses<sup>143</sup>. These provisions seem to provide relatively solid guarantees to network companies that they will be able to recover from electricity end-users the possibly higher prices at which they purchase electricity – e.g. produced from renewable energy – for the compensation of their losses. In practice, however, this recovery of costs will depend on whether the transmission tariffs remain within the limits that the Federal Service for Tariffs determines for the region.

However, an important limit to regional RES-E tariff initiatives is that, according to Item 62<sup>144</sup> and Item 79<sup>145</sup> of the Government Decree on Electricity Retail Tariffs, retail tariffs and network tariffs (including transmission tariffs) must remain within federal tariff limits. Federal limits for network tariffs could jeopardize the recovery by the network companies of the higher costs for the compensation of network losses with RES-E.

The increase of regional electricity prices is a sensitive issue at federal government level. In February 2013, the Minister of Energy and Utilities of the Murmansk Region was forced to leave office following electricity price increases that were considered to be unacceptable by the federal authorities<sup>146</sup>.

## Limited duration of RES-E tariffs

The Government Decree on Electricity Retail Tariffs, provides that RES-E tariffs are determined on a yearly basis<sup>147</sup>. 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<sup>148</sup>.

As highlighted in IFC RREP's report on *Financing Renewable Energy Investments in Russia*, 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.

Another important question is how prices will be determined after the first regulatory period. The Federal Electricity Law does not explicitly prevent renewable energy investors from participating in the free segment of the market and selling their electricity at wholesale market price level after the recovery of their investment costs. A condition for the participation of renewable energy generating facilities in the competitive segment of the market could be the termination of their status as "qualified" installations. Indeed the Law limits the application of regulated tariffs to "qualified" installations.

## Retail or wholesale market participants?

Article 32, paragraph 3 of the Federal Electricity Law establishes the mechanism of priority RES-E purchase to compensate network losses as part of the chapter on the regulation of the wholesale market<sup>149</sup>. The Law does not clarify to what type of network companies (Federal Grid Company or regional network companies) and what type of renewable energy generating facilities (wholesale or retail) the compensation scheme applies. This raises the question as to whether the obligation to compensate network losses in priority with RES-E is limited to the Federal Grid Company, or also applies to regional network companies. Moreover, is this scheme only eligible to renewable energy generating facilities that operate on the wholesale market (i.e. plants with an installed capacity exceeding 25 MW) or does it also cover installations that operate on the retail market?

<sup>142</sup> Principles of Price Regulation in the Electricity Sector (Government Resolution No. 1178), item 38.

<sup>143</sup> Principles of Price Regulation in the Electricity Sector (Government Resolution No. 1178), item 37.

<sup>144</sup> *ibid*, item 62.

<sup>145</sup> *ibid*, item 79.

<sup>146</sup> Murmansk Region Energy Minister Fired after Putin's Criticism, Prime News Daily (February 26th, 2013), issue 14.

<sup>147</sup> Principles of Price Regulation in the Electricity Sector (Government Resolution No. 1178), item 63.

<sup>148</sup> Principles of Price Regulation in the Electricity Sector (Government Resolution No. 1178), item 12, para 5-6.

<sup>149</sup> Federal Law No. 35-FZ, article 32.

Although included in the chapter concerning the regulation of the wholesale market, the Federal Electricity Law does not explicitly limit the scope of the compensation mechanism to RES-E sold on the wholesale market<sup>150</sup>. Importantly, Article 32, paragraph 3 of the Federal Electricity Law explicitly stipulates that both the Wholesale Market Rules and Retail Market Rules regulate general procedure for the compensation for network losses. It can therefore be inferred that the obligation to compensate network losses in priority with RES-E applies to all network companies – i.e. the Federal Grid Company and regional network companies. Following the same reasoning, renewable energy generating facilities participating in the retail market must also be eligible to this scheme.

Article 23.1 of the Federal Electricity Law explicitly provides that RES-E tariffs for the compensation of network losses are adopted at retail market level. The Law does not consider the regulation of prices for the compensation of network losses with RES-E purchased on the wholesale market. Participation in the retail market is limited to installations with an installed capacity up to 25 MW<sup>151</sup>. Could regional tariff authorities nevertheless adopt tariffs for the compensation of network losses by renewable energy generating facilities equal to or exceeding 25 MW?

The possibility that Article 23.1 of the Federal Electricity Law applies to RES-E in general, without limit of the installed capacity of the renewable energy generating facilities that produce this electricity, cannot be excluded. Indeed, this Article provides that retail market tariffs are adopted for the RES-E used to compensate network losses, without explicitly limiting the scope of this tariff regulation to installations under 25 MW. However, this interpretation directly conflicts with Article 36, paragraph 5 of the Federal Electricity Law and Item 31 of the Wholesale Market Rules according to which installations with an installed capacity equal to or exceeding 25 MW must participate in the wholesale market. Importantly, the Wholesale Market Rules only regulate the purchase by the Federal Grid Company of electricity on the wholesale market. Regional network companies can only purchase electricity on the wholesale market through the intermediary of guaranteeing suppliers. Besides agreements with the guaranteeing supplier, regional network companies can only enter into direct contractual relations with producers on the retail market.

Article 36, paragraph 6 of the Federal Electricity Law authorizes the Russian Government to introduce exceptions to the general rule according to which participation in the wholesale market is mandatory for installations with an installed capacity over 25 MW. In 2012, the Ministry of Energy put forward a proposal to allow wind and solar installations with an installed capacity of up to 50 MW to participate in the retail market. However, this proposal was not confirmed in later renewable energy policy documents published by the Ministry.

A key question is whether investors could structure large renewable energy projects around the 25 MW capacity limit, i.e. by dividing the legal structure of their projects, providing for different connection points to the network, etc. This will depend on technical assessments of the project (the “passport of the project”), agreements with the network companies that execute the connection works and with the technical and commercial organizations of the wholesale and retail market.

### **Qualification of renewable energy generating facilities**

To be eligible to support under the compensation of network losses mechanism, renewable energy generating facilities must have been qualified. Regional tariff authorities can only therefore adopt special tariffs for the electricity produced from renewable energy sources and purchased to compensate losses on the network for installations that have been qualified by the Market Council<sup>152</sup>. The absence of qualification of the renewable energy generating facilities concerned was the main reason underlying the annulment of the RES-E tariffs in Belgorod and Vologda<sup>153</sup>.

As discussed above, Decree No. 426 on the Qualification of Renewable Energy Installations provides that generating facilities can only be qualified after their connection to the network and date of commissioning. The fact that no tariff decision can be made before construction of a renewable energy generating facility is problematic from an investor perspective: investors will have no certainty regarding the financial basis of their investments when making their investments decisions.

<sup>150</sup> Federal Law No. 35-FZ, article 32 refers to the retail market rules.

<sup>151</sup> Retail Market Rules (Government Resolution No. 442), item 6.

<sup>152</sup> Market Council, Concept of Scheme for the Promotion of Renewable Energy on the Retail Market through the Compensation of Network Losses available at: [http://www.np-sr.ru/SR\\_0V025096](http://www.np-sr.ru/SR_0V025096), accessed on January 3rd, 2013.

<sup>153</sup> See Resolution of the Federal Antimonopoly Service of the North-West district as of October 31st, 2011 on the case No. A13-1398/2011.

### Requirement of firm capacity?

Can the variable production patterns of certain types of renewable energy installation constitute an obstacle to their participation in the retail market and, in particular, the supply of electricity for the compensation of network losses? According to Item 133 of the Retail Market Rules, producers on the retail market inform the dispatching center of the System Operator about the capacity that they expect to be available for each month of the coming year. Producers must also communicate the minimum and maximum amount of reactive capacity that their equipment can provide. In addition, not later than 24 hours before the day of production, the operators of power plants on the retail market must submit to the dispatching center of the System Operator the planned hourly graphs of production and the technical parameters of production, including the maximum and minimum active capacity. The System Operator uses these hourly production graphs to operate the system. In case of necessity, power plants can increase or decrease production in accordance with the orders issued by the System Operator.

Variable renewable energy generating facilities are characterized by relatively inflexible production patterns. Forecasts of electricity production long before the actual production time are almost impossible to achieve. The closer to production time, the higher the accuracy of production forecasts<sup>154</sup>. Depending on how deviations are penalized, the requirements of the Retail Market Rules on forecasts of electricity production and commitment to minimum capacity availability could affect variable renewable energy projects on the retail market, including for the compensation of network losses.

In isolated regions, the Retail Market Rules require the remuneration / sanction of deviation at regulated prices<sup>155</sup>. In contrast, in the retail markets corresponding to the price zones of the wholesale market, the Retail Market Rules do not explicitly regulate how deviations to monthly forecasts and hourly production graphics are sanctioned. In the absence of clear rules on the remuneration / sanction of deviation in the retail market, this issue is subject to regulation in contractual agreements between producers and buyers, including the network companies. The Market Council considers that renewable energy producers will have to purchase the electricity that they fail to produce in accordance with their supply obligations (e.g. due to lack of wind) from the guaranteeing supplier – or from other producers / suppliers<sup>156</sup>. The financial implications of deviations on the business case for renewable energy projects will thus depend on the specific contractual arrangements that renewable energy investors make with the network companies, the System Operator and the guaranteeing supplier.

In any event, the availability requirements of the Retail Market Rules appear to be less severe than the balancing market regulation and capacity supply regulation of the Wholesale Market Rules (see above). The difficulty for wind and solar PV to meet the availability requirements under the capacity supply regulation of the Wholesale Market Rules was one of the reasons that prompted Minenergo to propose the authorization of large wind and solar installations to participate in the retail market.

<sup>154</sup> International Energy Agency, *Harnessing Variable Renewables* (2011).

<sup>155</sup> Retail Market Rules (Government Resolution No. 442), item 117. See also Order of the Federal Tariffs Service No. 364-E/4 as of November 30th, 2010.

<sup>156</sup> Market Council, Concept of Scheme for the Promotion of Renewable Energy on the Retail Market through the Compensation of Network Losses.

**Table 4: Potential obstacles to regional RES-E tariffs**

| Issue   | Regulatory constraints to regional RES-E tariffs  | Legal basis  |
|---|---|--|
| <i>Duration of RES-E tariffs</i>  | Yearly renewal of tariff creates investment uncertainty   | Item 63, Principles of Price Regulation in the Electricity Sector (Decree No. 1178)  |
| <i>Federal tariff limits</i>  | FST tariff limits could jeopardize recovery by network companies of costs associated with RES-E purchases   | Items 62 and 79, Principles of Price Regulation in the Electricity Sector (Decree No. 1178)  |
| <i>Absence of federal tariff methodologies</i>  | Uncertainty regarding regulatory powers of regional tariff authorities to adopt RES-E based on existing FST methodologies   | Item 63, Principles of Price Regulation in the Electricity Sector (Decree No. 1178)<br>Order 20-e/2 of the FST   |
| <i>Ex post adoption of federal tariff methodologies</i>                                   | Risk of regulatory change to existing regional RES-E tariffs following the adoption of federal RES-E tariff methodologies   | Item 63, Principles of Price Regulation in the Electricity Sector (Decree No. 1178)  |
| <i>Qualification of renewable energy generating facilities</i>                            | Investment uncertainty: <i>ex post</i> qualification prevents regional tariff authorities from adopting tariff decisions before the construction of the installations                     | Qualification of renewable energy generating facilities (Decree No. 426)   |
| <i>Scope of RES-E compensation scheme</i>   | Limited to renewable energy generation installations under 25 MW  | Article 36, paragraph 5 of the Federal Electricity Law<br>Item 31 of the Wholesale Market Rules (Decree No. 1172)  |
| <i>Enforceability of obligation to purchase RES-E in priority and at regulated prices</i> | Interpretative risk: the Federal Electricity Law does not explicitly provide that network companies must in priority conclude PPAs at the RES-E tariff adopted by the tariff authorities. | Article 23.1, paragraph 3, Federal Electricity Law<br>Article 32, paragraph 3, Federal Electricity Law<br>Item 130, Retail Market Rules (Decree No. 442) |

## VI. Towards regional RES-E tariffs in Russia

The foregoing analysis has highlighted the following regulatory risks affecting the support of renewable energy through the compensation of network losses:

- limited duration of the tariff;
- risks related to the qualification of renewable energy installations;
- absence of federal methodologies for RES-E tariffs;
- uncertainty regarding the competence of regions to independently adopt methodologies;
- uncertainty regarding the use of existing tariff methodologies for the determination of RES-E tariffs;
- risk that the adoption of federal methodologies represent for the validity of regional tariffs; and
- interpretative risk regarding the obligation to conclude PPAs at the regulated RES-E tariff.

The ability of regional authorities to attract renewable energy investments will, to an important extent, depend on the development of legal solutions to overcome these obstacles to regional RES-E tariffs. The conclusion of long term agreements (PPAs) between renewable energy investors and network companies for the purchase of RES-E to compensate network losses could play an important role in this respect. Regions could make use of their broader regulatory powers under the Federal Energy Efficiency Law to incentivize – if not require – network companies to conclude these long term PPAs with renewable energy investors.

### Long term PPAs to overcome regulatory risks

For investors in renewable energy projects that have access to the retail market, the conclusion of long term PPAs with the network company – on a voluntary basis or as an energy efficiency obligation – could be a way to overcome the federal regulatory risks that currently affect regional RES-E tariffs. Given that RES-E tariff decisions depend on ex post qualification, investors cannot require network companies to conclude PPAs at a price higher than the wholesale market price before the date of commissioning of their renewable energy generating facilities. Investors will therefore have to find ways to convince the network company to enter into a long term agreement at a price and for a duration that would ensure the financial viability of these investments.

Network companies could benefit in the long term from the limited operating costs – especially fuel costs – of wind energy investments. Once the capital invested is recovered, wind energy projects can produce electricity at relatively limited costs. On the one hand, relatively higher prices for RES-E are necessary in the medium term to recoup investment costs. On the other hand, these projects can contribute

to the long term affordability of electricity supply (e.g. for the compensation of network losses). The long term price benefits of renewable energy projects will have to be regulated in the PPAs with the network company.

It must be noted that the network company will be reluctant to sign PPAs if it has no guarantee from the regional tariff authorities that it will be authorized to recover the costs of these agreements. As explained above, there is a legal basis to facilitate the recovery of costs made for the compensation of network losses. However, it is important to highlight that the network company will most probably require a clear confirmation that it will be entitled to recover these costs over the duration of the PPAs. The duration issue is here again the major hurdle as, based on current tariff regulation in the electricity sector, tariff authorities are limited in their commitments in time. Energy efficiency provisions could help overcome this hurdle: regional authorities could make use of incentives and mandatory requirements under the Federal Energy Efficiency Law.

### Long term price guarantees through the Federal Energy Efficiency Law

The Federal Energy Efficiency Law considers the deployment of renewable energy as an energy efficiency improvement measure. Regional authorities could, within the framework of their energy efficiency programs, consider imposing on network companies RES-E related obligations. In parallel, the Federal Energy Efficiency Law introduces tariff provisions to facilitate the financial viability of energy efficiency measures. These provisions could provide much needed tariff guarantees to renewable energy investments.

### The compensation of network losses with RES-E as regional energy saving measure

According to the Federal Energy Efficiency Law, regional authorities must stimulate network companies to improve the energy efficiency of their activities and reduce losses on their network<sup>157</sup>. Organizations that provide regulated services – e.g. network companies – must implement energy saving measures<sup>158</sup>. Regional authorities can require companies that provide regulated services to implement certain energy saving measures<sup>159</sup>. The investment programs of regulated companies must take into account the energy efficiency requirements that the competent authorities determine for these companies<sup>160</sup>.

Electricity production from renewable energy sources can be considered as an energy saving measure within the meaning of the Federal Energy Efficiency Law. Indeed, the Federal Energy Efficiency Law<sup>161</sup> and Government Decree On Requirements for the Regional and Municipal Energy Efficiency Programs<sup>162</sup> include the deployment of renewable energy sources as measures that regions must consider for inclusion in the regional energy efficiency programs<sup>163</sup>. Importantly, the Order of the Ministry of Economic Development on the List of Energy Efficiency Improvement Measures Eligible for Inclusion in Regional and Municipal Energy Efficiency Programs<sup>164</sup> adopts a broad definition of the concept of “measures increasing the use of renewable energy sources”. This concept covers all measures leading to increased production of electricity from wind and solar PV and increased use of biomass, without limitation to certain type of support (e.g. direct financing) by regional authorities.

Requiring network companies to compensate a certain percentage of their network losses with RES-E is a measure that will lead to an increase in the use of renewable energy sources within regional energy systems. Based on the Federal Energy Efficiency Law, the Government Decree on Requirements for Regional Energy Efficiency Programs and the Ministerial Order on the List of Measures Eligible for Inclusion in Regional Energy Efficiency Programs, regional authorities could introduce such requirement as part of their regional energy efficiency programs. Moreover, regions could introduce the requirement to compensate network losses with a certain percentage of RES-E in the energy efficiency programs of network companies. Requiring network companies to purchase a certain percentage of RES-E to compensate their losses could be considered as an energy saving measure – similar to existing requirements to reduce the percentage of losses associated with the distribution of electricity on the regional network infrastructure. Several regional authorities are

<sup>157</sup> Federal Law No. 261-FZ, article 14, para 6.

<sup>158</sup> Federal Law No. 261-FZ, article 25, para 1.

<sup>159</sup> Federal Law No. 261-FZ, article 25, para 2.

<sup>160</sup> Federal Law No. 261-FZ, article 25, para 5.

<sup>161</sup> Federal Law No. 261-FZ, article 14, para 6.

<sup>162</sup> Resolution of the Government of the Russian Federation “On Requirements for the Regional and Municipal Energy Efficiency Programs” No. 1225 as of December 31st, 2009, Annex 2.

<sup>163</sup> Moreover, the Government Resolution No. 1-r clearly integrated renewable energy in its energy efficiency strategy for the electricity sector.

<sup>164</sup> Order of the Ministry of Economic Development “On the List of Energy Efficiency Improvement Measures Eligible for Inclusion in Regional and Municipal Energy Efficiency Programs” No. 61 as of February 17th, 2010.

already requiring network companies to reduce losses on their network. Given that Russian law considers RES-E as energy efficiency measure, regional authorities could perfectly complement existing obligations to reduce losses on the network with an obligation to compensate a certain percentage of the losses with RES-E.

To implement their energy efficiency programs, in particular to reach the share of network losses compensation with RES-E, network companies will have to conclude PPAs with renewable energy generating facilities. Indeed, given the current legal uncertainty affecting RES-E tariffs and the impossibility to benefit from tariff guarantees before the construction of renewable energy installations, investors are unlikely to build renewable energy generating facilities in the absence of PPAs. If network companies are required to purchase a certain amount of RES-E, they will have to conclude PPAs with renewable energy investors. Including a target for the compensation of network losses with RES-E in the energy efficiency programs of network companies could therefore provide the necessary incentive for the conclusion of PPAs with renewable energy investors.

Requiring distribution companies to conclude PPAs with renewable energy investors is not a new and untested approach to the promotion of the use of renewable energy sources for electricity production. This approach is for instance common in the US, e.g. in Massachusetts. To facilitate the financing of renewable energy investments, Massachusetts requires electricity distribution companies to solicit proposals from renewable energy developers and, provided reasonable proposals have been received, conclude long-term power purchase agreements (PPAs) with these developers<sup>165</sup>. Analysts have highlighted the importance of requiring distribution companies to participate in this scheme and conclude PPAs with renewable energy developers. According to an independent assessment of the Massachusetts' scheme<sup>166</sup>:

*There is a need for the Distribution Companies to enter into long-term contracts under Section 83 [of the Massachusetts' Green Communities Act] because of a lack of availability in the market of other buyers willing and able to enter into long term contracts with renewable energy developers.*

A comparable approach, possibly based on a competitive selection procedure of projects, could be replicated in Russia. The Federal Energy Efficiency Law provides the necessary legal basis to implement such a procurement scheme in the regions of the Russian Federation. In Russia, requiring network companies to compensate network losses with RES-E as part of their energy efficiency programs could be a way to overcome the federal qualification barrier. Indeed, the Federal Energy Efficiency Law does not make the inclusion of renewable energy measures in energy efficiency programs subject to any qualification requirement. Regions must respect the definition of renewable energy in the Federal Electricity Law. They are, however, free to adopt their own qualification procedure with respect to the implementation of regional energy efficiency policies. Moreover, including the PPA with RES-E investors as energy saving measures in the energy efficiency program of network companies has important consequences from a tariff perspective.

### **Energy efficiency tariff guarantees for the purchase of RES-E by network companies**

Firstly, as analyzed above with respect to the RES-E tariff scheme, tariff authorities on a yearly basis adapt network tariffs to reflect the costs associated with the purchase of electricity to compensate network losses. Tariff authorities could on this basis facilitate network companies to recover the costs of the PPAs they concluded to fulfill the energy efficiency (RES-E) targets set by the regional authorities.

Secondly, in accordance with Article 25, paragraph 7 of the Federal Energy Efficiency Law, the tariffs of companies that provide regulated services (e.g. network companies) should reflect the costs made to implement energy efficiency programs<sup>167</sup>. By imposing on network companies the obligation to compensate network losses with RES-E as part of their energy efficiency program, the regional authorities would facilitate

<sup>165</sup> Section 83 of the Green Communities Act, Chapter 169 of the Acts of 2008, available at : <http://www.malegislature.gov/Laws/SessionLaws/Acts/2008/Chapter169>.

<sup>166</sup> Peregrine Energy Group, Study on Long-term Contracting under Section 83 of the Green Communities Act submitted to the Massachusetts Department of Energy Resources (December 31st, 2012), available at p. 83, <http://www.mass.gov/eea/docs/doer/pub-info/long-term-contracting-section-83-green-communities-act.pdf>.

<sup>167</sup> Federal Law No. 261-FZ, article 25, para 7.

the recovery of the costs related to the purchase of RES-E by network companies. In addition, to facilitate the recovery of the costs of the PPA – and thus indirectly the (capital) costs of the renewable energy investment concerned – regional authorities could make use of the long term tariff guarantees of Article 25, paragraph 6 of the Federal Energy Efficiency Law. According to this provision, to stimulate energy savings, tariffs must be determined on a long-term basis<sup>168</sup>. The regional tariff authorities could guarantee long term parameters of tariff regulation in agreement with the network company<sup>169</sup>. Network companies – and thus indirectly renewable energy investors – could benefit from this tariff guarantee to recover the costs of the PPAs that they conclude with renewable energy investors in order to implement their energy efficiency program.

A potential third (certainly more controversial) benefit of this approach is that, by introducing the obligation to compensate network losses with RES-E in the energy efficiency programs of network companies, regional authorities could avoid the tariff limits set by the FST. Indeed, according to Article 23.1 paragraph 7 of the Federal Electricity Law, regional tariff authorities can exceed federal tariff limits if this is necessary to implement the investment programs of the concerned companies<sup>170</sup>. Energy efficiency programs are part of the investment programs of regulated entities (e.g. network companies)<sup>171</sup>. Therefore, by including the obligation to compensate network losses with RES-E in the energy efficiency programs of network companies, regional authorities indirectly integrate this requirement under the investment program of the concerned network companies. The PPAs that network companies will sign with renewable energy investors to implement this obligation will – as energy efficiency improvement measure – be part of the investment (procurement) obligations of the network company. As explained above, the cost associated with the compensation of network losses is one of the parameters that regulatory authorities must take into account when determining transmission / network tariffs. The fact that regional tariff authorities could exceed tariff limits, if necessary, for the implementation of investment programs seem to provide relatively strong guarantees to network companies that they will be able recoup the costs of PPAs with RES generating facilities.

According to the criteria established in Decree No. 977 on Investment Programs in the Electricity Sector, Minenergo – and not the regional authorities – is in charge of the approval of the investment program of large network companies<sup>172</sup>. However, regional authorities exercise influence over this investment program. In accordance with the procedure for the approval of investment programs established in Decree No. 977<sup>173</sup>, regional authorities have the possibility to comment on the investment programs proposed by network companies that are active on their territory and propose changes to these programs. Although not strictly speaking binding, network companies need to take these requests into account when finalizing their investment programs. More importantly, investment programs need to include the energy efficiency program of the companies concerned. As set out above, regional authorities play an important role in the development of these energy efficiency programs. Regional authorities can require the implementation of energy savings measures.

It is essential to note that PPAs with renewable energy investors do not fit comfortably with the current template for investment programs adopted by Minenergo<sup>174</sup>. Nevertheless, in theory, this could not prevent regional authorities to follow this approach for the smaller network companies that they regulate.

<sup>168</sup> Federal Law No. 261-FZ, article 25, para 6.

<sup>169</sup> Federal Law No. 261-FZ, article 25, para 6.

<sup>170</sup> Federal Law No. 35-FZ, article 23.1, para 7.

<sup>171</sup> "Rules Governing the Approval of the Investment Programs of Network Companies and Electric Power Entities with Governmental Participation" approved by Decree of the Government of the Russian Federation "On Investment Programs of the Electric Power Entities" No. 977 as of December 1st, 2009.

<sup>172</sup> "Criteria for Identifying Network Companies and Electric Power Entities with Governmental Participation whose Investment Programs are Subject for Approval by the Federal Bodies of the Russian Federation", approved by Decree of the Government of the Russian Federation "On Investment Programs of the Electric Power Entities" No. 977 as of December 1st, 2009.

<sup>173</sup> "Rules Governing the Approval of the Investment Programs of Network Companies and Electric Power Entities with Governmental Participation" approved by Decree of the Government of the Russian Federation "On Investment Programs of the Electric Power Entities" No. 977 as of December 1st, 2009.

<sup>174</sup> Order of the Ministry of Energy of the Russian Federation "On Approval of the Structure of the Investment Programs of Network Companies and Electric Power Entities with Governmental Participation" No. 114 as of March 24th, 2010 (version as of August 1st, 2012).

**Table 5: Step-by-step approach to secure the conclusion of RES PPAs between network companies and RES investors under the Federal Energy Efficiency Law**

| Issue  | Action  | Legal basis  |
|--|---|--|
| <i>1. Regional energy efficiency program</i>           | Regional authority introduces renewable energy – compensation of network losses with a certain percentage of RES-E – as part of the regional energy efficiency program                                | Article 14, paragraph 6 of the Federal Energy Efficiency Law<br><br>Government Decree No. 1225 of 31 December 2009<br><br>Order of the Ministry of Economic Development No. 61 of 17 February 2010 |
| <i>2. Energy efficiency program of network company</i> | Region introduces requirement to compensate network losses with a certain percentage of RES-E in energy efficiency program of network company   | Article 14, paragraphs 6 and 7; and Article 25 Federal Energy Efficiency Law   |
| <i>3. PPA</i>  | Network company needs to conclude PPAs with RES generating facilities to implement energy efficiency program  |  |
| <i>4. Investment program</i>                           | Energy efficiency program – including renewable energy requirement and PPA – is part of investment program<br><br>Different approval procedure / competent authorities depending on network companies | Decree No. 977 on Investment Programs in the Electricity Sector  |
| <i>5. Recovery of PPA costs</i>                        | Network tariffs should enable the network company to recover the costs of the RES-E PPA – as energy saving requirement.   | Article 25, paragraph 7, Federal Energy Efficiency Law   |
| <i>6. Tariff limit</i>                                 | Regional tariff could exceed federal tariff limits if this is necessary to implement the investment program of the network company (i.e. including the PPA as part of the energy efficiency program)  | Article 23.1 paragraph 7, Federal Electricity Law  |



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