

Renewable Energy 2021

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Renewable Energy 2021

Contributing editor**John Dewar**

Milbank LLP

Lexology Getting The Deal Through is delighted to publish the fourth edition of *Renewable Energy*, which is available in print and online at www.lexology.com/gtdt.

Lexology Getting The Deal Through provides international expert analysis in key areas of law, practice and regulation for corporate counsel, cross-border legal practitioners, and company directors and officers.

Throughout this edition, and following the unique Lexology Getting The Deal Through format, the same key questions are answered by leading practitioners in each of the jurisdictions featured. Our coverage this year includes new chapters on Italy and Poland.

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Every effort has been made to cover all matters of concern to readers. However, specific legal advice should always be sought from experienced local advisers.

Lexology Getting The Deal Through gratefully acknowledges the efforts of all the contributors to this volume, who were chosen for their recognised expertise. We also extend special thanks to the contributing editor, John Dewar of Milbank LLP, for his continued assistance with this volume.



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MARKET FRAMEWORK

Government electricity participants

1 | Who are the principal government participants in the electricity sector? What roles do they perform in relation to renewable energy?

The principal government participants in the electricity sector of Ukraine, in addition to the main legislative body (the Verkhovna Rada of Ukraine) and the main executive body (the Cabinet of Ministers), are:

- the Ministry of Energy and the Environment Protection of Ukraine shapes and ensures the implementation of the state policy in the electricity sector;
- the National Commission for State Regulation of Energy and Public Utilities (NEURC) performs state regulation to achieve the balance between the interests of consumers, business entities operating in the energy sector, and the state, to ensure energy security and European integration of the Ukrainian electricity markets. It is the main body that facilitates relations between the state and private participants in the energy sector, in particular, in the renewable energy sector. It is also engaged in licensing activities in the energy sector, exercises state control and takes measures of influence. In addition, the NEURC is responsible for converting the feed-in tariff (the 'green' tariff) into the national currency of Ukraine (hryvnia);
- the State Agency on Energy Efficiency and Energy Saving of Ukraine (the Energy Efficiency Agency) implements the state policy in the field of efficient fuel and energy resources usage, energy saving, renewable energy sources and alternative fuels. In addition to implementing the state policy in the respective field, it is also responsible for increasing the share of renewable energy sources and alternative fuels in the energy balance of Ukraine. The Energy Efficiency Agency also conducts qualification tests for combined heat and power generation units, issues documents certifying that a particular fuel type is classified as an alternative fuel, keeps a register of alternative fuels and the state register of liquid biomass fuels and biogas producers;
- Energorynok is a state-owned company, performing the role of the wholesale electricity supplier. It is the manager of the settlements system, the manager of funds of the Wholesale Electricity Market (WEM), the Secretariat of the WEM Council, the main operator of the commercial electricity metering system and the party to the agreement between the WEM participants that is responsible for the support of the WEM functioning. In addition, Energorynok has a special branch, a 'guaranteed buyer', which is obliged to buy all the electricity generated by the energy facilities from renewable energy sources from the business entities for which feed-in green tariff was set. Thus, the presence of the 'guaranteed buyer' additionally stimulates the renewable energy sources development, since it guarantees the purchase of all the produced electricity;

- State Enterprise National Power Company Ukrenergo (Ukrenergo) is a state-owned national transmission grid company, performing the functions of operational and technological management of the Ukrainian United Energy System and electricity transmission through the main electrical grid from the generation point to regional electrical grids of power supply companies. At the regional level, the transmission systems are managed and the electricity supplier functions are performed by Oblenergos, joint-stock companies with a state-owned interest, which are the main electricity suppliers to the population. Such companies are located in each oblast (administrative division of Ukraine). In addition, Oblenergos are responsible for organising the connection of energy facilities of newly established electricity producers to the electrical grid; and
- the State Agency of Ukraine on Exclusion Zone Management manages the Chernobyl zone, where it plans to construct solar power plants.

Private electricity participants

2 | Who are the principal private participants in the electricity sector? What roles do they serve in relation to renewable energy?

The following private participants can participate in the production, distribution and consumption of electricity generated from renewable energy sources:

- producers of electrical and thermal power from renewable energy sources;
- energy conversion and transportation companies and organisations (energy suppliers);
- traders, purchasing electricity solely for its resale, except the sale under the agreement on electricity supply to consumers;
- transmission system operators, ensuring the operation, dispatching, maintenance and development of electricity transmission systems;
- distribution system operators, ensuring the operation, maintenance, and development of the electricity distribution system;
- market operators, ensuring the functioning of the day-ahead market and intraday market and the organisation of electricity purchase and sale in these markets; and
- consumers.

Renewable energy producers are in a more favourable position with respect to other participants for the following reasons:

- the feed-in (green) tariff was established to develop this sector;
- there is a guaranteed buyer for the purchase of electricity generated from renewable energy sources, which is obliged to offtake all the power generated from renewable energy sources that are being sold to the guaranteed buyer;

- the number of authorities exercising control over the activities in the renewable energy sector was reduced because of less hazardous conditions of electricity generation; and
- 'green' auctions have been introduced for the development and maintenance of renewable energy projects.

Definition of 'renewable energy'

3 | Is there any legal definition of what constitutes 'renewable energy' or 'clean power' (or their equivalents) in your jurisdiction?

Pursuant to the Law of Ukraine On Alternative Energy Sources, renewable energy sources are defined as renewable non-fossil energy sources – namely, solar, wind, aerothermal, geothermal, hydrothermal, wave, tidal, hydropower, biomass, landfill gas, sewage treatment gas and biogas.

Moreover, according to the law, renewable energy sources include secondary energy resources, such as blast furnace and coke oven gas, methane gas from coal beds and waste to energy conversion technologies. However, the feed-in (green) tariff is not applicable to these energy sources.

Framework

4 | What is the legal and regulatory framework applicable to developing, financing, operating and selling power and 'environmental attributes' from renewable energy projects?

The following legislative Acts make up the principal legal framework regulating electricity market activities:

- the Law of Ukraine On Electricity Market No. 2019-VIII dated 13 April 2017 is the principal law regulating relations in the electricity market;
- the Law of Ukraine On Alternative Energy Sources No. 555-IV dated 20 February 2003 is a special legislative act regulating the renewable energy itself and sets tariff rates and premiums;
- a number of legislative Acts adopted by the NEURC:
 - the Transmission System Code (Resolution of the NEURC No. 309 dated 14 March 2018);
 - the Distribution Systems Code (Resolution of the NEURC No. 310 dated 14 March 2018);
 - the Market Rules (Resolution of the NEURC No. 307 dated 14 March 2018);
 - the Code of Commercial Metering of Electricity (Resolution of the NEURC No. 311 dated 14 March 2018);
 - the Day-Ahead Market Rules and the Intraday Market Rules (Resolution of the NEURC No. 308 dated 14 March 2018);
 - the Retail Electricity Market Rules (Resolution of the NEURC No. 312 dated 14 March 2018); and
 - the Procedure for the Power Purchase under the Feed-in (Green) Tariff (Resolution of the NEURC No. 641 dated 26 April 2019). These legislative Acts are the main secondary legal instruments applicable to the new electricity market functioning;
- the Resolution of the NEURC On Approval of the Procedure for Establishing, Reviewing and Terminating the 'Green' Tariff for Electricity for Business Entities, Electricity Consumers, Including Energy Cooperatives, and Private Households Whose Generating Installations Produce Electricity From Alternative Energy Sources No. 1817 dated 30 August 2019 lays down the details in relation to the procedure for determining and setting the feed-in tariff; and
- the Resolution of the NEURC On Approval of the Licensing Conditions for the Performance of Business Activities on the Generation of Electricity No. 1467 dated 27 December 2017

establishes a list of documents to be submitted to obtain a licence for the performance of electricity generation activities and determines a list of requirements, conditions and rules that are binding during the performance of these activities.

Apart from these, the orders, regulations, and rules adopted by the NEURC, the Ministry of Energy and Environment Protection of Ukraine, and the Energy Efficiency Agency for each specific area and type of energy facilities are also applicable to regulating activities in the renewable energy sector.

As for the environmental attributes, Ukrainian law does not define this concept.

Stripping attributes

5 | Can environmental attributes be stripped and sold separately?

Because there is no statutory definition of 'environmental attributes', these cannot be stripped and sold separately in Ukraine.

Government incentives

6 | Does the government offer incentives to promote the development of renewable energy projects? In addition, has the government established policies that also promote renewable energy?

Renewable energy in Ukraine is promoted through fixing the main mechanisms of stimulating renewable energy producers at the legislative level. These are:

- the feed-in (the green) tariff; and
- 'green' auctions

Promotion through the feed-in tariff consists of the guaranteed obligation of the state to purchase the generated 'clean' electricity from its producers as well as establishing a significant number of additional benefits for such electricity producers.

A feed-in tariff is a special tariff for the purchase of electricity produced by electricity generating facilities, in particular by the commissioned construction units of power plants (launch complexes), from renewable energy sources (as regard hydropower, it applies only to hydropower plants up to 10MW).

Both industrial companies and private households may take advantage of the feed-in tariff.

At the same time, the feed-in tariff shall be set for each business entity generating electricity from renewable energy sources for each type of renewable energy, for each energy facility or each construction unit of the power plant (launch complex).

The feed-in tariff for electricity produced by generating units of private households is set for each type of renewable energy source.

The feed-in tariff is fixed at the legislative level in euros until 31 December 2029. The NEURC converts the feed-in tariff into the Ukrainian national currency quarterly at the average official exchange rate of the National Bank of Ukraine. The feed-in tariff is paid on all electricity generated, excluding electricity generated for own needs.

The feed-in tariff rates vary depending on the date of the energy facility commissioning, including the construction unit of the power plant (launch complex) that generates electricity from renewable energy sources.

The data on the feed-in tariff rates are provided in euros in the table below.

Type	Capacity (kW)	Commissioning date					
		2019	2020	2021	2022	2023–2024	2025–2029
Ground-mounted solar installations		0.1502	0.1126	0.1088	0.1050	0.1012	0.0975
Roof- or facade-mounted solar installations		0.1637	0.1228	0.1185	0.1147	0.1104	0.1066
Wind power (capacity of individual wind turbines)	≤600	0.0582	0.0517	0.0506	0.0495	0.0490	0.0452
	>600 - <2,000	0.0679	0.0603	0.0592	0.0582	0.0571	0.0528
	>2,000	0.1018			0.0905		0.0792
Biomass, business entities				0.1239			
Biogas, business entities				0.1239			
Hydropower, business entities	≤200	0.1745			0.1572		0.1395
	>200 - <1,000	0.1395			0.1255		0.1115
	>1,000 - <10,000	0.1045			0.0942		0.0835
Geothermal power		0.1502			0.1352		0.1201
Roof- or facade-mounted solar installations, private households	≤50	0.1809			0.1626		0.1449
Wind power, private households	≤50	0.1163			0.1045		0.0932
Combined solar and wind power systems, private households	≤50	0.1637			0.1228		0.1066
Roof- or facade-mounted solar installations, private households or energy cooperatives	≤150	0.1637			0.1228		0.1066
Wind power, private households or energy cooperatives	≤150	0.1163			0.1045		0.0932
Combined solar and wind power systems, private households or energy cooperatives	≤150	0.1637			0.1228		0.1066
Biomass, households or energy cooperatives	≤150				0.1239		
Biogas, households or energy cooperatives	≤150				0.1239		
Hydropower, households or energy cooperatives	≤150	0.1745			0.1572		0.1395
Geothermal power, households or energy cooperatives	≤150	0.1502			0.1352		0.1201

Regarding the green auctions, this is a novelty of the Ukrainian laws aimed at reducing the costs for consumers and the state for renewable energy development, as well as overcoming the current energy sector crisis.

Upon the launch of 'green auctions, the promotion of companies intending to generate electricity from wind or solar energy will only be possible subject to their participation in the auctions for quota allocation and winning that auction. The capacity requirements for renewable energy facilities to participate in the auctions are as follows:

- wind energy facilities with a capacity of more than 5MW. In this case, the limitation does not apply to facilities with one wind turbine, regardless of the installed capacity of such a wind turbine; and
- solar energy facilities (solar power plants) with a capacity of more than 1MW.

Other business entities intending to generate electricity from renewable energy sources, regardless of the facility's installed capacity and the renewable energy source (except for blast furnace and coke-oven gas, and in case of hydropower use with only micro, mini and small hydro plants), may participate in the auctions voluntarily. At the same time, such business entities may not participate in the auctions for quota allocation for those energy-generating facilities, for which a feed-in tariff has been previously established or which have been granted support as a result of an auction.

The new support system advantage over the existing feed-in tariff system lies in the following aspects:

- a longer support period (20 years after the renewable energy facility commissioning); and
- guaranteed off-take of the electricity generated by the electricity producers at a price that depends on the auction results (auction price).

The auctions were scheduled to start on 1 January 2020 and to be conducted until 31 December 2029. Under the effective legislation, the auctions shall be held twice a year, but not later than 1 April and 1 October.

However, the Cabinet of Ministers of Ukraine has not yet adopted a set of regulatory Acts that are necessary to start the auctions. In particular, the quotas to be distributed at the auctions have not been established.

Since the introduction of auctions will enable to partially settle the key issues of the renewable energy sector that have become particularly topical over the quarantine period, adoption of the Acts required for the auction model operation is one of the highest priorities for the state authorities.

The existing feed-in tariff scheme is guaranteed until 2030 and applied to:

- producers, already receiving the feed-in tariff, and economic entities that will construct and commission renewable energy facilities

before 1 January 2020 (regardless of the installed capacity and renewable energy source);

- economic entities, which will sign a preliminary power purchase agreement under a feed-in tariff with the guaranteed buyer before 31 December 2019 and will construct and commission the respective facilities within two years (for solar power plants) or three years (for facilities generating electricity from other renewable energy sources);
- economic entities that will construct renewable energy facilities after 1 January 2020, where the installed capacity is less than the capacity for which the auctions are mandatory; and
- electricity consumers, including energy cooperatives, having installed energy-generating installations with a capacity of up to 150KW and selling surplus electricity at a feed-in tariff rate once they use the energy for their own needs. In this case, the feed-in tariff for installations generating electricity from solar energy (except for combined systems) may be established only subject to installing them on buildings and roofs or facade structures.

A yearly quota (a capacity of renewable energy facilities for the respective year, within the limits of which the economic entities will be provided with state support) shall be allocated through the auctions. Every year, on 1 December at the latest, the Cabinet of Ministers of Ukraine shall establish the yearly quotas for the next five years, which should provide the market players with predictability in planning and implementing renewable energy projects.

The yearly quota shall be split as follows:

- solar – not less than 15 per cent;
- wind – not less than 15 per cent; and
- other renewable energy sources – not less than 15 per cent.

To protect competition in the auctions, the following must be observed:

- the capacity, for which the auction participants are granted support, may not exceed 80 per cent of the total capacity proposed by all the auction participants for quota allocation about the relevant type of renewable energy technologies;
- an auction participant, individually or jointly with other participants with whom they have the same ultimate beneficial owner, may be awarded no more than 25 per cent of the yearly quota;
- the procedure for conducting the auctions should provide for a mechanism of protecting competition if, during the auction, it is established that competition is insufficient.

To ensure fair competition among bidders, the law prescribes that bidders have to submit an irrevocable bank guarantee to participate in the auction and an additional bank guarantee on top in the case of winning the auction as a performance bond to secure the obligations under the contract concluded with the guaranteed buyer.

The bank guarantee amount to participate in the auction shall be €5 per 1KW of the facility capacity, for which the business entity intends to obtain support. In this case, the facility capacity, for which the business entity intends to obtain support, may not exceed the facility's capacity to be connected to the grid per the connection agreement.

The additional bank guarantee shall be €15 per 1KW of capacity, concerning which the auction winner guarantees the performance of the obligations to the guaranteed buyer.

The use of equipment of Ukrainian origin by investors is stimulated by the relevant premium to the feed-in tariff (throughout all the term of its validity), if the electricity objects are commissioned by 31 December 2024.

Therefore, if the equipment of Ukrainian origin is used at least on the level of 30 per cent, the premium to the feed-in tariff shall be 5 per cent. If the equipment of Ukrainian origin is used at least on the level of 50 per cent, the premium to the feed-in tariff shall be 10 per cent.

The level of use of equipment of Ukrainian origin at power plants generating electricity from alternative energy sources is defined as the sum of the respective percentage of specific items of equipment. The Law of Ukraine On Alternative Energy Sources provides an exhaustive list of equipment for each type of alternative energy source that qualifies for the feed-in tariff premium. The Ukrainian origin of equipment shall be confirmed by the appropriate certificate issued by the Ukrainian Chamber of Commerce.

However, such a premium to the feed-in tariff does not apply to electricity objects of private households.

Furthermore, the law provides that the premium for the use of equipment of the Ukrainian origin applies both to the feed-in tariff and to the auction price. Such a premium shall be credited in cash by the guaranteed buyer monthly when calculating the price of the guaranteed buyer's service for ensuring an increase in electricity production from renewable energy sources.

Also, Ukraine has certain international obligations, as it is a member of the European Energy Community. Moreover, on 5 December 2017, Ukraine acceded to the Statute of the International Renewable Energy Agency (IRENA).

Nevertheless, some tax benefits are still available for renewable energy producers. Thus, under the Tax Code of Ukraine, no VAT applies to transactions on import to the territory of Ukraine of:

- equipment, functioning based on alternative energy sources, energy-saving equipment and materials, means of measuring, control and management of energy resources, equipment and materials for production of alternative types of fuels or electricity from renewable energy sources;
- materials, equipment, components for manufacturing equipment, functioning based on renewable energy sources; raw materials, equipment and components for the production of alternative types of fuels or electricity from renewable energy sources;
- energy-saving equipment and materials, products whose operation provides saving and rational use of energy resources; and
- means of measuring, control and management of energy resources.

Also, under the Customs Code of Ukraine, the above-mentioned goods are exempt from import and export duties, provided that the taxpayer uses them for their own production and that no identical goods with the same qualities are produced in Ukraine.

Nevertheless, this tax benefit, while being settled on paper, cannot be implemented in practice because of the failure of the Cabinet of Ministers of Ukraine to approve the list of such goods with the specification of codes under the Ukrainian Classification of Foreign Economic Activity Products. However, this tax benefit applies only to the projects implemented within the framework of cooperation between the central executive authorities of Ukraine, the Ministry of Economy, Trade and Industry of Japan and the New Energy and Industrial Technology Development Organization.

Also, the Tax Code of Ukraine provides that any transactions concerning the sale of electricity generated by qualified co-generation units or from renewable energy sources are not subject to excise tax.

Additionally, in the first half of 2020, Ukraine got into a complicated situation because of the high green electricity tariffs and the incapacity of the guaranteed buyer to meet its obligations concerning the producers of energy from renewable energy sources (RES). Thus, as of 5 June 2020, the guaranteed buyer's debt to the investors under the feed-in tariff reached 14 billion hryvnia.

The sole source of the guaranteed buyer's funds is Ukrenergo. However, Ukrenergo's debt currently exceeds 20 billion hryvnia, and there are no sources for it to meet its obligations.

The state, together with RES investors, is trying to come to an agreement for the sake of settling this alarming situation. In particular, the state suggests:

- concluding a memorandum with the investors on the green tariff reduction, curtailing construction of new solar and wind generating facilities under the 'feed-in tariff', and switching to the auction model;
- entitling the transmission system operator to limit green generation over a set number of hours in order to increase the flexibility of the energy system and to also raise the share of generation by nuclear power stations;
- removing administrative restrictions in the electricity market, for electricity producers not to bear losses owing to distorted prices;
- approving three draft laws that will provide for the repayment of debt to Energoatom and Ukrhydroenergo; directing 700 million hryvnia of released money to pay Ukrenergo's debt to the producers of 'green' electricity and nuclear power stations, as well as directing €200 for security measures of nuclear energy units' operation.

However, investors are unwilling to accept such steps, insisting on the inadmissibility of violation of their rights by the state on a unilateral basis. Associations and unions of RES producers, in their turn, have signed a memorandum, and they are negotiating for it to be signed by the state as well.

Thus, it is so far difficult to predict the terms on which this situation will be resolved in a way that is acceptable both for the investors and through the prism of international law.

Ukrenergo has developed a system to control restrictions on renewable energy generation intended for automated regulation and rapid dispatch control over the transmission system. This will allow for prevention of electricity production surplus via a short-term limitation of RES capacity in cases when other balancing measures cannot be applied. Such limitations may be used until the Integrated Power System (IPS) of Ukraine is upgraded in accordance with the Generation Adequacy Report recently approved by the NEURC.

7 | Are renewable energy policies and incentives generally established at the national level, or are they established by states or other political subdivisions?

The state policy for the development of renewable energy projects is established at the national level and does not depend on the construction region.

However, special construction conditions may be established by local urban development regulations (in the case of construction of renewable energy facilities for households or within cities).

In addition, the following matters fall within the competence of local self-government bodies and executive authorities:

- approval of the issues related to locating energy facilities on the territory controlled by them, taking into account the local community interests;
- participation in the drawing up of plans for the electricity distribution systems development on the territory controlled by them;
- participation in the development and implementation of a system of measures related to the electricity-generating facilities operation in the event of an emergency situation in the Ukrainian United Energy Systems.

Purchasing mechanisms

8 | What mechanisms are available to facilitate the purchase of renewable power by private companies?

'Clean' power may be sold by its producers under bilateral agreements on the day-ahead market, on the intraday market and on the balancing market at the prices established on the respective markets or at the feed-in tariff prices.

Electricity producers for whom the feed-in tariff was set have the right to sell electricity generated by the renewable energy facilities at the feed-in tariff prices (subject to the premium paid on top of the feed-in tariff) to the 'guaranteed buyer', who, in turn, is obliged to buy all clean electricity.

The 'green' auction winners are supported through guaranteed off-take of the electricity generated by the electricity producers at an auction price taking into account the premium for the use of equipment of the Ukrainian origin, on the basis of the power purchase agreement concluded between the guaranteed buyer and the auction winner.

Legislative proposals

9 | Describe any notable pending or anticipated legislative proposals regarding renewable energy in your jurisdiction.

Among the changes adopted in 2018–2019, the following are worth mentioning:

- the Law On Electricity Market No. 2019-VIII dated 13 April 2017 regulating electricity market activities, construction and connection of the electricity-generating facilities to the grid. The Law takes effect in stages and, according to the plan, will come into full force on 1 July 2020;
- the Law On the Regulation of Urban Development Activities No. 3038-VI dated 17 February 2011 underwent changes regarding technical conditions. Since the introduction of the 'green' auctions, the new technical conditions for renewable energy facilities shall have the following validity periods: for solar power facilities – no more than two years after the date of issue, regardless of the change of the principal; for facilities generating electricity from other renewable energy sources – no more than three years after the date of issue, regardless of the change of the principal. The technical conditions already issued shall be valid: for solar power facilities – no more than until 22 May 2021; for facilities generating electricity from other renewable energy sources – no more than until 22 May 2022. In the case where the principal is a business entity awarded state support through an auction, the technical conditions for a renewable energy facility granted to this business entity shall be valid for the duration of the obligation to construct and commission the respective renewable energy facility;
- the Law On Amendments to Certain Laws of Ukraine on Ensuring Competitive Conditions for Electricity Production from Renewable Energy Sources No. 2712-VIII dated 25 April 2019, introducing the green auctions and changing the feed-in tariff rates;
- the Resolution of the NEURC No. 641 dated 26 April 2019, approving statutory acts regulating the activities of the guaranteed buyer and the purchase of electricity at the feed-in tariff prices. This Resolution approved the Procedure for Electricity Purchase at the Feed-in Tariff Prices, the Methodology for the Guaranteed Buyer Cost Estimation, the Model Power Purchase Agreement under the Feed-in Tariff between the guaranteed buyer and the business entity generating electricity from renewable energy sources, the Model Agreement on the Provision of Services to increase the share of renewable energy in electricity generation. The Resolution came into force on 1 July 2019. This Resolution also repealed the Resolution of the NEURC No. 1314 dated 11 October 2012 On Approving the Model Agreements with Producers Generating Electricity from Renewable Energy Sources; and
- a number of legislative acts adopted by the NEURC:
 - the Transmission System Code (Resolution of the NEURC No. 309 dated 14 March 2018);
 - the Distribution Systems Code (Resolution of the NEURC No. 310 dated 14 March 2018);

- the Market Rules (Resolution of the NEURC No. 307 dated 14 March 2018);
- the Code of Commercial Metering of Electricity (Resolution of the NEURC No. 311 dated 14 March 2018);
- the Day-Ahead Market Rules and the Intraday Market Rules (Resolution of the NEURC No. 308 dated 14 March 2018); and
- the Retail Electricity Market Rules (Resolution of the NEURC No. 312 dated 14 March 2018).

On 18 April 2018, the Transmission System Code, the Code of Commercial Metering of Electricity, the Distribution Systems Code, and the Retail Electricity Market Rules were officially published in the *Uriadovy Kurier* governmental newspaper and came into force on 19 April 2018.

Drivers of change

10 | What are the biggest drivers of change in the renewable energy markets in your jurisdiction?

Ukraine has certain international obligations, as it is a member of the European Energy Community. On 5 December 2017, Ukraine also acceded to the Statute of the IRENA. Through cooperation with these organisations, investors in renewable energy can receive funding for renewable energy projects in Ukraine under special conditions.

A lot of banking institutions in Ukraine, both public and private, implement programs to finance the construction of renewable energy facilities. International financial institutions also finance the development of renewables. Such institutions include, inter alia, the European Bank for Reconstruction and Development, the World Bank and the Overseas Private Investment Corporation.

Financial institutions also finance the construction and development of projects with a capacity of more than 100MW.

Also, according to the Energy Strategy of Ukraine, the share of renewable energy is to increase to 12 per cent of the total primary energy supply and at least 25 per cent by 2035 (including all hydro-power generating facilities and thermal energy).

Also, on 28 May 2020, the state economy stimulation program for overcoming the consequences of the quarantine was made public.

This programme, in particular, envisages repayment of debts to the electricity market participants, the search of a new energy system balance, improved balancing mechanisms, as well as introduction of liability for renewable energy producers for imbalances.

Disputes framework

11 | Describe the legal framework applicable to disputes between renewable power market participants, related to pricing or otherwise.

The legal framework applicable to disputes includes the Law On the Electricity Market, the Codes of Ukraine, in particular the Code of Administrative Procedure, the Commercial Code, the Civil Code and the Land Code, as well as antitrust laws.

Furthermore, the Verkhovna Rada of Ukraine is currently developing the Draft Law On the Energy Ombudsman. According to the Draft Law, it is planned to appoint an authorised person to be responsible for the protection of consumer rights in the energy market.

Complaints and disputes between electricity market participants are handled by the Regulator – the NEURC. The Regulator shall, within the specified time limit, adopt decisions binding on the market participants they relate to. Such decisions must be published on the Regulator's official website, except those parts of the decisions which contain the confidential information. At the same time, the Regulator's decisions may be challenged in court.

To resolve these issues, the NEURC developed and adopted the Resolution On Approval of the Rules for Considering Consumer Inquiries regarding the Actions of Business Entities Operating in the Energy and/or Public Utilities Sectors and Dispute Settlement. This regulation determines the priority actions to be taken by the entities and the order of consideration of disputes between market participants.

Also, according to the model agreement with Energorynok, where the producer is a foreign investment company, any disputes arising out of or in connection with the agreement shall be resolved in arbitration under the Arbitration Rules of the International Chamber of Commerce or, with the consent of the producer, in the Commercial Court of Ukraine. The arbitral tribunal is to consist of three arbitrators appointed under these Arbitration Rules. The place of arbitration shall be Paris, France. The language of the arbitration shall be English. The governing law of the agreement shall be the substantive law of Ukraine.

UTILITY-SCALE RENEWABLE PROJECTS

Project types and sizes

12 | Describe the primary types and sizes of existing and planned utility-scale renewable energy projects in your jurisdiction.

The major utility-scale renewable energy projects in Ukraine are solar and wind power projects.

The overall installed capacity of renewable energy sources (RES) facilities, for which the feed-in tariff has been set, reached 6,379MW as of the end of 2019. This is 4,250 MW or 200 per cent increase as compared with 2018.

The distribution among the energy sources is as follows:

- solar power stations – 4,925MW (3,538 MW more than in 2018);
- wind power stations – 1,170MW (637 MW more than in 2018);
- hydro power stations – 114MW (4 MW more than in 2018); and
- biomass, biogas – 170MW (+71 MW more than in 2018).

Currently, Ukrenergo has granted Technical Conditions for 12GW capacity; the guaranteed buyer has already concluded pre-power purchase agreements for 12GW.

The share of electricity from RES in monetary terms is expected to make up at least 26 per cent of the cost of all electricity produced in 2020, with only 8 per cent in the production structure.

Development issues

13 | What types of issues restrain the development of utility-scale renewable energy projects?

Utility-scale renewable energy projects are experiencing significant problems because of the crisis caused by overproduction.

Moreover, some of the soon-to-be constructed facilities might face an inability to connect to the grid, despite having been granted the Technical Conditions. The existing power system simply does not provide for the required connection and offtake capacity without additional substation and power lines being constructed.

HYDROPOWER

Primary types of project

14 | Describe the primary types of hydropower projects that are prevalent.

Hydropower makes up about 8 per cent of the total installed capacity of energy facilities in Ukraine; small hydropower stations make up about 1.78 per cent of the total installed capacity of renewable energy

facilities. New facilities can potentially be located in any region with small or large rivers. In Ukraine, there are more than 22,000 rivers, but only 110 of them are longer than 100km. Therefore, the main hydropower resources are located on small rivers. At the same time, as a result of the hydropower facilities' construction, large areas of land can be flooded, valuable fish species might become extinct and fertile soil will be degraded. Thus, the elimination of environmental risks is a prerequisite for further hydropower development.

Hydropower projects are classified into the following types:

- hydroelectric power plants;
- hydro accumulating electric power plants;
- small hydropower plants – from 1 up to 10MW;
- mini hydropower plants – 200kW up to 1000kW; and
- micro hydropower plants – up to 200kW.

Only small, mini and micro hydropower plants (ie, with a power output up to 10MW) are eligible to obtain the feed-in tariff.

According to the National Renewable Energy Action Plan, owing to existing facilities modernisation, the restoration of old small hydropower plants, the construction and commissioning of new hydropower-generating facilities in Ukraine, it is possible to achieve an increase in the electricity production in 2020, as follows:

- micro and mini hydropower plants: up to 130GWh ;
- small hydropower plants: up to 210GWh; and
- large hydropower plants: up to 12,950GWh (with the total capacity of 5200MW).

The total capacity of micro, mini and small hydropower plants currently equals only 114MW.

15 | What legal considerations are relevant for hydroelectric generation in your jurisdiction?

In addition to the general legal aspects of the construction of energy facilities, environmental and water legislation is of special importance for hydropower generation.

The main disadvantage of the construction of small hydropower plants, especially on mountain rivers, is the threat to the ecosystem. Therefore, it is always necessary to assess the environmental risks associated with such power plants.

Furthermore, during the construction of hydropower facilities, it is necessary to comply with the regulations and rules established by the Water Code of Ukraine. This Code specifies the peculiarities of land allocation, obtaining authorisations and operation of facilities using water resources.

DISTRIBUTED GENERATION

Prevalence

16 | Describe the prevalence of on-site, distributed generation projects.

The Ukrainian law does not specifically define the concepts of 'microgrid', 'distributed generation', 'distributed energy', and 'on-site generation'.

Instead, the households in Ukraine have the opportunity:

- to implement private renewable energy projects (installations up to 50kW that use solar or wind energy); and
- to set up an energy cooperative, a legal entity established for carrying out business activities related to the production, storage or transportation of fuel and energy resources and providing other services in order to meet the needs of its members or territorial community, as well as for the purpose of generating profit, in accordance with the statutory requirements. The feed-in tariff

can be set provided that the installed capacity of the generation projects does not exceed 150kW.

At the same time, the households are not eligible to receive premiums to the feed-in tariff for the use of equipment of Ukrainian origin, and the feed-in tariff is paid for the supplied electricity after deduction of electricity generated for own needs.

Types

17 | Describe the primary types of distributed generation projects that are common in your jurisdiction.

The primary types of distributed generation projects are solar power plants and wind farms.

According to the State Agency for Energy Efficiency and Energy Saving of Ukraine, the increase in solar panels installed by the households is the latest trend in the alternative energy sector of Ukraine. This is attributed to the positive legislative changes made in 2015, allowing private households not only to sustain their electricity needs by means of using renewable energy sources, but also to sell any such excessive energy generated under the feed-in tariff. The trend has been continuously growing for the last two years.

Thus, pursuant to the Law of Ukraine On Electricity Market, private households are entitled to set up electricity-generating facilities with a capacity of up to 50kW and sell electricity produced from solar or wind energy under the feed-in tariff to the electricity distribution company the amount exceeding the monthly consumption of electricity by such private households.

Regulation

18 | Have any legislative or regulatory efforts been undertaken to promote the development of microgrids? What are the most significant legal obstacles to the development of microgrids?

Law of Ukraine On Alternative Energy Sources No. 2712-VIII dated 25 April 2019 introduced the concept of an 'energy cooperative'.

Consumers' micro-installations were divided into two categories:

- solar and wind energy facilities with a capacity up to 50kW; and
- other types of renewables, including energy cooperatives, with a capacity up to 150kW.

In this case, solar energy facilities must be on roofs or facades of buildings.

Furthermore, installations with a capacity up to 30kW for which the feed-in tariff was set previously shall keep the feed-in tariff until the end of 2019. Since 1 January 2020, such installations should have switched to the 'up to 50kW' tariff. In this case, solar energy facilities must be also placed (if necessary, replaced) on roofs or facades of buildings.

Other considerations

19 | What additional legal considerations are relevant for distributed generation?

The basic legal framework is laid down in the Law of Ukraine On Alternative Energy Sources. Additional legal considerations related to energy cooperatives are set forth in the Laws of Ukraine On Cooperation and On Consumer Cooperation.

ENERGY STORAGE

Framework

20 | What storage technologies are used and what legal framework is generally applicable to them?

Currently, the legislation on renewable energy facilities does not establish any specific rules for storage technologies use. Therefore, such facilities are subject to national regulations concerning occupational safety and health, in particular to a number of national standards (DEST) adopted by the Interstate Council for Standardization, Metrology and Certification and technical regulations.

The application of certain technical regulations and DEST depends on the types of storage technologies, conditions of their use and the installation location.

At the same time, given the rapid development of the Ukrainian energy sector and the need for balancing in the electricity market, the development of regulatory frameworks applicable to storage technologies may be expected in the medium term.

The development of storage systems and connection of highly manoeuvrable generation is envisaged by the Transmission System Development Plan, drafted by Ukrenergo. Under the Development Plan, by 2028, the volume of available flexible reserves to balance the grid should reach 2500 MW.

Development

21 | Are there any significant hurdles to the development of energy storage projects?

Since energy storage projects are not widely implemented in Ukraine, the lack of regulatory framework is the most significant hurdle to their development.

FOREIGN INVESTMENT

Ownership restrictions

22 | May foreign investors invest in renewable energy projects? Are there restrictions on foreign ownership relevant to renewable energy projects?

Foreign investors may invest in renewable energy projects. There are no legislative restrictions on foreign ownership relevant to renewable energy projects.

Restrictions may include the prohibition for non-residents to acquire land. There are no such restrictions, however, on the land lease. What is more, it is usually cheaper and easier to lease land. Hence, most owners of renewable energy facilities, both Ukrainian and foreign ones, lease the land plots on which they then construct electricity-generating facilities.

In addition, renewable energy projects may be subject to national and international restrictions on currency control, anti-money laundering and crime control.

Moreover, international treaties, in particular the provisions of the Financial Action Task Force, shall, in addition to the national legislation, be applicable during financial monitoring.

Equipment restrictions

23 | What restrictions are in place with respect to the import of foreign manufactured equipment?

Regarding the equipment, general safety and tax restrictions are currently in place. There are no special restrictions with respect to renewable energy equipment.

PROJECTS

General government authorisation

24 | What government authorisations must investors or owners obtain prior to constructing or directly or indirectly transferring or acquiring a renewable energy project?

Government authorisations to be obtained differ depending on the capacity and method of acquiring a renewable energy project. The main authorisations and permits include:

- an approval of the Anti-Monopoly Committee if the assets value threshold or the market share held by owners of energy facilities is exceeded;
- a licence for carrying out power generation business activities (an application for such a licence may be filed along with the application for the feed-in tariff);
- setting the feed-in tariff, which shall be granted by the National Commission for State Regulation of Energy and Public Utilities (NEURC) based on the producer's application;
- commissioning the newly constructed renewable energy facility; and
- technical conditions for connection to the electrical grid.

For economic entities that will construct renewable energy facilities with the intention of receiving state support after 1 January 2020, where the installed capacity is more than 5 MW for wind energy facilities and more than 1MW for solar energy facilities, the participation in the auctions shall be mandatory. However, so far, there is a legislative conflict, since auctions have not been introduced as yet, but the law stipulates that support for a green tariff is provided to the stations under a certain list.

The legislation does not contain any other special requirements concerning renewable energy projects.

Apart from the aforesaid documents, there are also national requirements for business registration, land lease and construction.

Offtake arrangements

25 | What type of offtake arrangements are available and typically used for utility-scale renewables projects?

The laws provide for special operation conditions for producers for which the feed-in tariff is set.

Hence, the balancing group of feed-in tariff electricity producers is a balancing group where the guaranteed buyer is the party responsible for settling imbalances within such a balancing group.

At the same time, while for non-green electricity generation the role of the party responsible for balancing is performed by a market participant who is obliged to report and fulfill its hourly electricity schedules (or those of the balancing group) based on the volumes of purchased or sold electricity and is financially liable to the transmission system operator for its imbalances (or imbalances of the balancing group); conversely, for green electricity generation, it is determined in advance that the guaranteed buyer should perform the role of such a party.

The guaranteed electricity buyer is a business entity that must, in accordance with the law, buy the electricity from the producers, for which the feed-in tariff was set, as well as from the auction winners and perform other functions provided for by the law.

This means that the state guarantees (must guarantee) the purchase of electricity from the producers, for which the feed-in tariff was set, as well as from the business entities, which received support based on the auction results.

The guaranteed buyer is obliged to buy all the electricity generated by the energy facilities from renewable energy sources from the business entities, for which the feed-in tariff was set, or from the auction

winners at the feed-in tariff or auction prices, taking into account the premium paid on top of the feed-in tariff, during the entire term of the feed-in tariff or the duration of the agreement entered into based on the auction results, if such business entities belong to the balancing group of feed-in tariff producers. At the same time, the output volume of electricity generated from renewable energy sources shall, in each accounting period (month), be determined by deducting the volume of electricity consumed for own needs based on the metering data of electricity consumption for own needs.

The sale and purchase of such power at the feed-in tariff prices or based on the auction results shall be carried out on the basis of a bilateral agreement between the producer, for whom the feed-in tariff is set, or the auction winner and the guaranteed buyer.

The power purchase agreement with the feed-in tariff between the guaranteed buyer and the business entity generating electricity from renewable energy sources shall last for the full term of the feed-in tariff or for the duration of the agreement entered into based on the auction results (20 years).

To be able to sell power at the feed-in tariff prices, the producer must:

- become a market participant in the manner prescribed by the law;
- enter into a bilateral agreement with the guaranteed buyer and join the special balancing group of feed-in tariff electricity producers based on that agreement; and
- on a daily basis, provide the guaranteed buyer with its daily power output charts for the next 24 hours in the manner and form provided for in the bilateral agreement with the guaranteed buyer.

The guaranteed buyer must, at the request of the business entities intending to generate electricity from renewable energy sources, enter into a power purchase agreement at any time before the construction commences or the respective facilities are commissioned to generate power from renewable energy sources and before the regulator sets the feed-in tariff.

If the energy facility for which the power purchase agreement was concluded under the feed-in tariff is not commissioned within three years from the date of registration of the respective declaration of construction works commencement or receipt of the permit for the construction works performance the concluded agreement shall become invalid.

To be able to sell power based on the auction results, the producer must:

- become an auction participant;
- win the auction;
- become a market participant in the manner prescribed by the law;
- enter into a bilateral agreement with the guaranteed buyer; and
- on a daily basis, provide the guaranteed buyer with its daily power output charts for the next 24 hours in the manner and form provided for in the bilateral agreement with the guaranteed buyer.

Procurement of offtaker agreements

26 How are long-term power purchase agreements procured by the offtakers in your jurisdiction? Are they the subject of feed-in tariffs, the subject of multi-project competitive tenders, or are they typically developed through the submission of unsolicited tenders?

Agreements on the supply of electricity generated from renewable energy sources may be concluded both directly with consumers, and with the Guaranteed buyer.

The conclusion of long-term agreements with the guaranteed buyer is provided for by the Law On the Electricity Market and by Resolution of the NEURC No. 641 dated 26 April 2019, approving the model agreements with producers generating electricity from renewable energy sources.

The guaranteed buyer must, at the request of the business entities that will generate electricity from renewable sources, enter into a power purchase agreement at any time before the construction commences or the respective facilities are commissioned and before the regulator sets the feed-in tariff.

Operational authorisation

27 What government authorisations are required to operate a renewable energy project and sell electricity from renewable energy projects?

To be able to operate a renewable energy project and obtain the feed-in tariff, the following is required:

- a calculation of the cost of production of electricity generated by the renewable energy facility;
- an itemisation of the costs of production of electricity generated by the renewable energy facility (copies of contracts for the purchase of goods, works and services, a statement on the number of employees, a certificate on the book value of fixed assets with a breakdown by groups as at the date of filing the application for the feed-in tariff);
- a registered declaration of construction works commencement or a permit for the construction works performance;
- technical conditions for connection of renewable energy facilities to the electrical grid;
- a registered declaration of the facility (or launch complex) readiness for operation or an equivalent certificate; and
- the project documentation estimates for the renewable energy facility construction.

Moreover, renewable energy producers must obtain a licence to carry out power generation business activities (an application for such a licence may be filed along with the application for the feed-in tariff).

It is also desirable to obtain a guarantee of the origin of electricity, a document issued by the state authority at the request of the electricity producer, confirming that a portion or a certain volume of electricity is generated from renewable energy sources.

Once the feed-in tariff is set or the auction is won, the producer must connect to the electrical grid to supply electricity and enter into an agreement with Energorynok.

Decommissioning

28 Are there legal requirements for the decommissioning of renewable energy projects? Must these requirements be funded by a sinking fund or through other credit enhancements during the operational phase of a renewable energy project?

Presently, the legislation does not provide for such requirements and opportunities.

TRANSACTION STRUCTURES

Construction financing

29 What are the primary structures for financing the construction of renewable energy projects in your jurisdiction?

The primary structures for financing the construction of renewable energy projects do not differ essentially from the structures for financing other similar projects in European countries.

At the same time, it is possible to conclude a preliminary agreement with Energorynok for the supply of electricity generated from renewable

energy sources, which facilitates obtaining financing from various financial institutions, in particular, the international ones. Such international institutions include, inter alia, the European Bank for Reconstruction and Development, the World Bank and the Overseas Private Investment Corporation (OPIC)

Operational financing

30 | What are the primary structures for financing operating renewable energy projects in your jurisdiction?

The primary structures for financing the renewable energy projects operation do not differ from those used in other countries.

Activities in the renewable energy sector are financed both with funds originating from wholesale electricity tariffs as a result of introducing a special statutory target premium to the tariff rates; funds from companies, institutions, and organisations; funds out of the national and local budgets; voluntary contributions and other funds not prohibited by the law.

At the same time, when using the project funding from financial institutions, such loans should, as a rule, be paid back first. The renewable energy facilities may be used as a pledge for such loans, leading to restrictions on their free sale until the loan is repaid.

UPDATE AND TRENDS

Recent developments

31 | Describe any market trends with respect to development, financing or operation in the renewables sector or other pertinent matters.

Currently, the situation on the renewable energy market is rather complicated. The ongoing negotiations between the government and the key investors, both foreign and domestic, is expected to result in signing of a memorandum that would break this gridlock. It is anticipated that the green tariff will be lowered by 15 per cent and 7.5 per cent for solar and wind power facilities respectively. It is unlikely that the investors would agree to a larger decrease, hence, the government would risk triggering a massive number of lawsuits against the state by insisting on it. Still, any retrospective decrease of the green tariff might cause some investors to turn to international courts in order to protect their interests.

Another issue to be addressed in the near future is the repayment of debt to the renewable energy sources investors by the guaranteed buyer. A clear plan of debt repayment would considerably reduce the tension between the market players and the government.

The long overdue launch of the green auctions is the next step to be taken for the renewable energy in Ukraine to keep developing and attract new investments, while at the same time, offering clear and predictable rules for the energy market participants.

32 | Describe any notable pending or anticipated legislative proposals.

On 3 April 2020, the National Commission for State Regulation of Energy and Public Utilities approved the Transmission System Development Plan for 2020–2029. Currently, public debate (ie, preparatory work, preparation for submission and draft law elaboration) on the new draft Transmission System Development Plan for 2021–2030 is underway.

One of the key novelties of the new draft is the list of prospective energy infrastructure facilities (Ukrenergo's substations) to which new highly maneuverable generating capacities, as well as energy storage systems, can be connected.



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According to the draft, the minimum installed capacity of each new facility of highly manoeuvring generation must be from 20MW to 250MW. The tender for construction of such facilities must be run by the state, and the respective procedure for this was approved by Resolution of the Cabinet of Ministers No. 677 as of 10 July 2019.

Under the draft, energy storage systems (up to 2,000MW) are to be installed under the conclusions of the Generation Adequacy Report.

The need for energy storage and highly manoeuvrable generation is brought about by the rapid development of renewable energy sources (RES) generation in the Integrated Power System (IPS) of Ukraine, primarily wind and solar power plants (WPPs and SPPs). They will allow for the increased flexibility of the energy system which so far has to accept vast and highly unpredictable volumes from WPPs and SPPs. Over the next 10 years, 2GW of new manoeuvring capacity with a quick start, as well as energy storage with the capacity of 2GW need to be built in Ukraine.

The creation of a sufficient amount of energy storage in the IPS of Ukraine will also make it possible to partially fulfil requirements related to ensuring the necessary volume of primary frequency regulation in the course of integration into the European Network of Transmission System Operators for Electricity (ENTSO-E). According to Ukrenergo's preliminary evaluation of the Ukrainian IPS, already in 2021, the volume of such reserve may reach some 200MW.

All in all, the Transmission System Development Plan for 2021–2030 presupposes the attraction of investment amounting to 66 billion hryvnia over the period of 2021–2030. Implementation of the Plan ensures greater reliability and security of power supply, correspondence of the transmission system to the electricity market needs, joining the ENTSO-E, as well as secure integration of RES producers into the Ukrainian IPS.

However, since the development of the transmission system requires more than 66 billion hryvnia, and taking into account the lack of regulatory control, a date for the system's introduction remains open.

Additionally, investment into the system may appear attractive for investors since:

- it will open possibilities to sell electricity at a special tariff for balancing needs; and
- unlike producers of energy from renewable sources, such system will organically fit the market, therefore there is almost no risk of non-fulfillment of the state's commitments.

To stimulate interest in the renewables development, the Energy Efficiency Agency is planning to launch green bonds in Ukraine. It is expected to develop a package of primary and secondary draft laws in relation to guidelines for green bonds, reducing investment barriers and encouraging 'green' investments in Ukraine. A draft law introducing the notion of green bonds as a separate type of securities and establishing a legal framework for the green bonds market participants is awaiting the parliament's consideration.

Such a financial instrument is widely used in international practice, as it provides for cheaper investments in energy efficiency, environmental, green energy and other projects.

The introduction of green bonds would also unlock the possibility for 'green' projects to be financed from the state and local budgets. These bonds could be issued either by the legal entity implementing or financing a given project, or the relevant state authority.

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