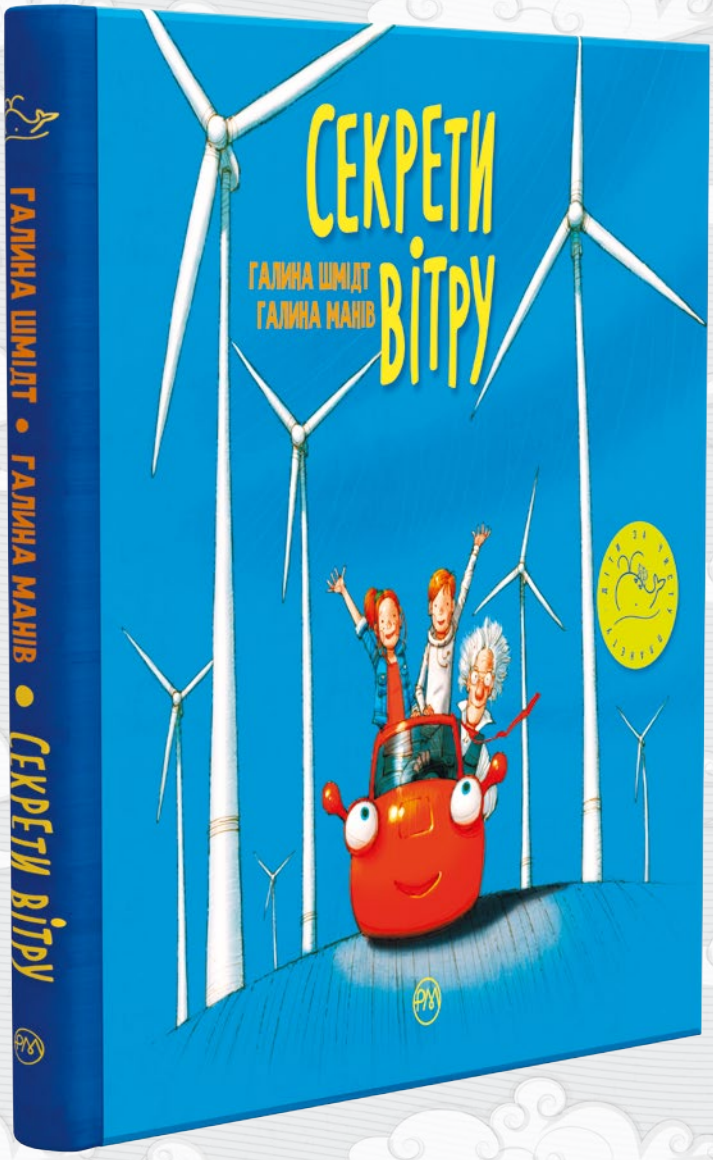
WIND POWER SECTOR OF UKRAINE 2020

MARKET OVERVIEW

UWEA UKRAINIAN WIND ENERGY ASSOCIATION

ЦІКАВО Й ЗАХОПЛИВО, ДОСТУПНО І ВОДНОЧАС ҐРУНТОВНО ПРО СУЧАСНІ ТЕХНОЛОГІЇ У ВІТРОЕНЕРГЕТИЦІ!

Пригодницька повість для дітей від Галини Шмідт і Галини Манів з елементами нонфікшн.



Макс зі своїми друзями — професором, Аліною та розумним електромобілем Мобі-Єлом — досліджує секрети вітру, знайомиться з вітроенергетикою та привчається дбати про довкілля. У книжці багато цікавих наукових фактів та інструкції, за якими можна побудувати повітряного змія, флюгер, а також розу вітрів. І до всього — захопливий сюжет із зловмисниками, переміщеннями в просторі та кумедними витівками роботизованого Мобі-Єла!

Книжку видано з ініціативи та за сприяння Фонду ім. Гайнріха Бьолля, Бюро Київ-Україна, та Української вітроенергетичної асоціації.

Замовити книжки можна тел.: (044) 490-99-01, 098-023-55-41, 099-236-98-85, www.ridna-mova.com

WIND POWER SECTOR OF UKRAINE 2020

MARKET OVERVIEW

Market Overview 2020 was developed by Public Union **Ukrainian Wind Energy Association** in collaboration with its member company – law firm **ARZINGER.**
The reported statistics is based on the official information published by the **Ministry of Energy of Ukraine, NPC Ukrenergo, National Energy and Utilities Regulatory Commission, SE Guaranteed Buyer, State Agency on Energy Efficiency and Energy Saving of Ukraine, Ukrainian Wind Energy Agency-K LLC** and the **UWEA** member companies.
Section 2.2 "Ukrainian electricity wholesale market functioning" is built upon the information produced within the **Low Carbon Ukrain**e project.

AUTHORS:
Andriy Konechenkov, Chairman of the UWEA Board, Director of **Ukrainian Wind Energy Agency-K LLC**
Kateryna Knysh, Head of Analytical Department of **Ukrainian Wind Energy Agency-K LLC**
Galyna Shmidt, Member of the UWEA Board, Head of the International Department of **Ukrainian Wind Energy Agency-K LLC**
Maryna Hritsyshyna, Member of the UWEA Board, **Counsel at SAYENKO KHARENKO** *(www.sk.ua)*
Timur Bondaryev, Managing Partner at **Arzinger** *(www.arzinger.ua)*
Iaroslav Cheker, Counsel, Head of Energy and Natural Resources at **Arzinger**
Dmytro Melnik, Associate at **Arzinger**
Ganna Hordiienko, Junior Associate at **Arzinger**

The authors are thankful to the Asters law firm team *(www.asterslaw.com)* represented by **Yaroslav Petrov,** Partner, **Anzhelika Livitska,** Counsel and Co-chair of Energy, Natural Resources and Construction, **Martha Galabala,** Senior Attorney, **Bohdan Shmorhun,** Senior Attorney, and **Olena Sichkovska,** Attorney, for their contribution to the Overview, particularly on prospects for offshore wind power development in Ukraine.

The photos used in the Overview have been kindly provided by **MC Wind Parks of Ukraine LLC, Elementum Energy LLC, Eurocape Ukraine I LLC, Syvashenergoprom LLC,** and PU **Ukrainian Wind Energy Association.**

© 2021
© PU Ukrainian Wind Energy Association
© Ukrainian Wind Energy Agency-K LLC
Published: February 2021

Tel. +380 (44) 223 29 96
Email: uwea@i.ua
www.uwea.com.ua

Public Union Ukrainian Wind Energy Association is the largest renewable energy industry association in Ukraine. It's a non-profit organization that serves as the principal communication and cooperation platform for large-scale adoption of wind technologies in the country and further advancing the "green" transformation of the Ukrainian energy system.

The UWEA founded in 2008 to protect the interests and support the activities of both, the national and international stakeholders of the Ukrainian wind energy market, which as of the end of 2020 unities 80 companies including 100% of wind electricity producers and investors in Ukraine, wind farm developers, equipment manufacturers and suppliers, utilities, construction, consulting and logistic companies, lawyers and environmentalists involved in the wind industry.

Throughout its history the Ukrainian Wind Energy Association has been closely cooperating with various national, regional and local authorities, and such international institutions and organizations as International Energy Agency, BloombergNEF, Wood Mackenzie, REN21. The UWEA is a full member of the World Wind Energy Association and the WindEurope.

Numerous awards and distinctions have proven high-level professionalism of the association. Thus, the UWEA has been twice recognized as the choice of the year – in 2017 it was awarded with the Honorary award "Choice of Ukraine 2017" and in 2019 – the Honorary award "Choice of the Country 2019". In 2018 and 2020, Andriy Konechenkov, Chairman of the UWEA Board and Vice President of the WWEA, and Galyna Schmidt, Member of the UWEA Board, were awarded Diplomas "Stakeholder of Green Changes" and Eco-Oscar "Ecotransformation" prize for their significant contribution to the "green" energy transformation of Ukraine. At 18th World Wind Energy Conference in Rio de Janeiro, Andriy Konechenkov and Galyna Shmidt received the World Wind Energy Award 2019 for outstanding achievements in the dissemination of wind energy utilization in Ukraine and worldwide.

Arzinger Law Firm is an independent law firm headquartered in Kyiv, which has regional offices in Western and Southern Ukraine, in Lviv and Odesa, respectively. Arzinger for over 18 years has been among the legal business leaders providing high-quality legal support to clients throughout Ukraine. Among the firm's clients are top representatives of international and local business.

Arzinger follows high standards of legal services and is a reliable partner in view of its great experience in a wide range of industries and legal practices:

- M&A, corporate law;
- real estate and construction;
- antitrust and competition, white collar crime;
- dispute resolutions;
- litigation and arbitration;
- intellectual property;
- tax, and other industries.

Arzinger employs highly qualified professionals with vast hands-on experience in a wide range of legal matters, deep knowledge and understanding of the local market, international education and background. The firm has a team of over 70 seasoned legal professionals led by 9 partners.

CONTENT

ACRONYMS AND ABBREVIATIONS

ASEU	Solar Energy Association of Ukraine
BioPP	Bioenergy power plants
bln	Billion
CCU	Constitutional Court of Ukraine
CHP	Combined heat and power plants
CMU	Cabinet of Ministers of Ukraine
COD	Commercial Operation Data
DSO	Distribution System Operator
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EU	European Union
EUEA	European-Ukrainian Energy Agency
FiT	Feed-in Tariff
GW / GWh	Gigawatt / Gigawatt-hour
HPP	Hydro power plants
IEA	International Energy Agency
IFC	International Finance Corporation
IPS	Integrated Power System
IRENA	International Renewable Energy Agency
IT	Information technology
JSB	Joint-stock bank
JSC	Joint-stock company
kV	Kilovolt
KW / kWh	Kilowatt / Kilowatt-hour
LLC	Limited liability company
M&A	Mergers and acquisitions
MC	Management Company
mln	Million
MoU	Memorandum of Understanding on the Settlement of Problematic Issues in the Renewable Energy Sector
MW / MWh	Megawatt / Megawatt-hour
NEF	New Energy Finance
NEFCO	Nordic Environment Finance Corporation
NEURC	National Energy and Utilities Regulatory Commission of Ukraine
NGO	Non-governmental organization
NNEGC	National Nuclear Energy Generating Company of Ukraine
NPC	National Power Company
NPP	Nuclear power plant
NREAP	National Renewable Energy Action Plan
PPA	Power Purchase Agreement
PrJSC	Private joint stock company
PSH	Pumped-storage hydroelectric power plant
PSO	Public Service Obligations
PU	Public Union
PV	Photovoltaic
PW / PWh	Petawatt / Petawatt-hour
RES	Renewable energy source
SAEE	State Agency on Energy Efficiency and Energy Saving of Ukraine
SE	State Enterprise
SPP	Solar power plant
TPP	Thermal power plant
TSO	Transmission System Operator
TW / TWh	Terawatt / Terawatt-hour
UARE	Ukrainian Association of Renewable Energy
UCCI	Ukrainian Chamber of Commerce
UWEA	Ukrainian Wind Energy Association
VAT	Value Added Tax
WB	World Bank
WPP	Wind power plant
WTG	Wind turbine generator
WWEA	World Wind Energy Association

ACHIEVING THE “GREEN” ENERGY TRANSITION IN TIMES OF COVID-19

Photo by Konstantin Brizhnichenko

1.1. FUTURE RES DEVELOPMENT FORECASTS BY INTERNATIONAL ORGANIZATIONS

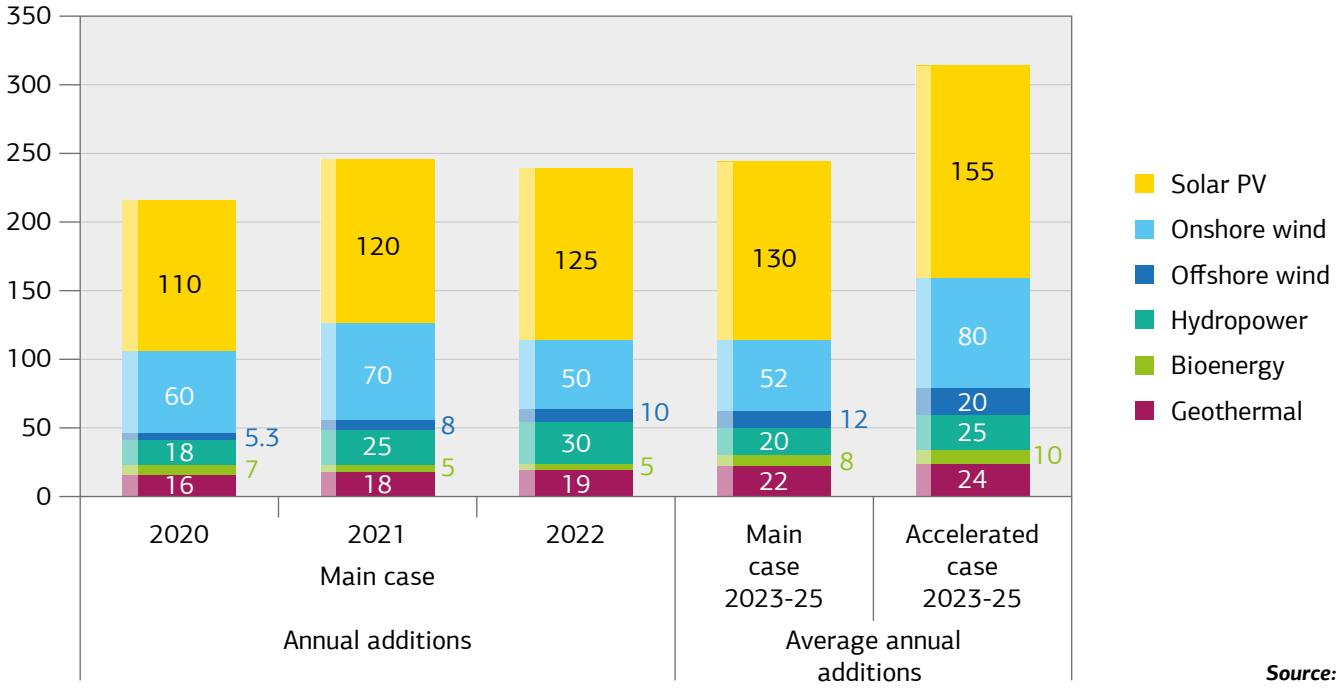
"Put clean energy at the heart of stimulus plans to counter the coronavirus crises," an Executive Director of the International Energy Agency Fatih Birol clearly revealed the role of renewables in times of COVID-19 pandemic.

The coronavirus is turning into an unprecedented international crisis with serious repercussions for energy sector, which impact will be felt for decades to come. From February through mid-May 2020, roughly 100 countries, states and provinces – mainly in Europe, Asia and North America – implemented full lockdown measures to contain the pandemic while partial lockdowns were introduced in another 100 jurisdictions. Lockdowns generally lasted from four to ten weeks while each new month of social isolation reduced annual global energy demand by around 1.5%. According to the IEA, due to the COVID-19 pandemic, global energy demand and CO_2 emissions from the energy sector declined by 7% while investment reduced by 18% in 2020, overshadowing the effects of the 2008 financial crisis and becoming the largest crises since the Great Depression of the 1930s.

At the same time, the demand for electricity decreased by a symbolic 2%, because as Dr. Fatih Birol explained: *"The coronavirus crisis reminds us of electricity's indispensable role in our lives. Today, we're witnessing a society that has an even greater reliance on digital technology to get on with day-to-day life, whose energy use is increasingly in the form of electricity, and where the power supply is more dependent than ever on wind and solar."*

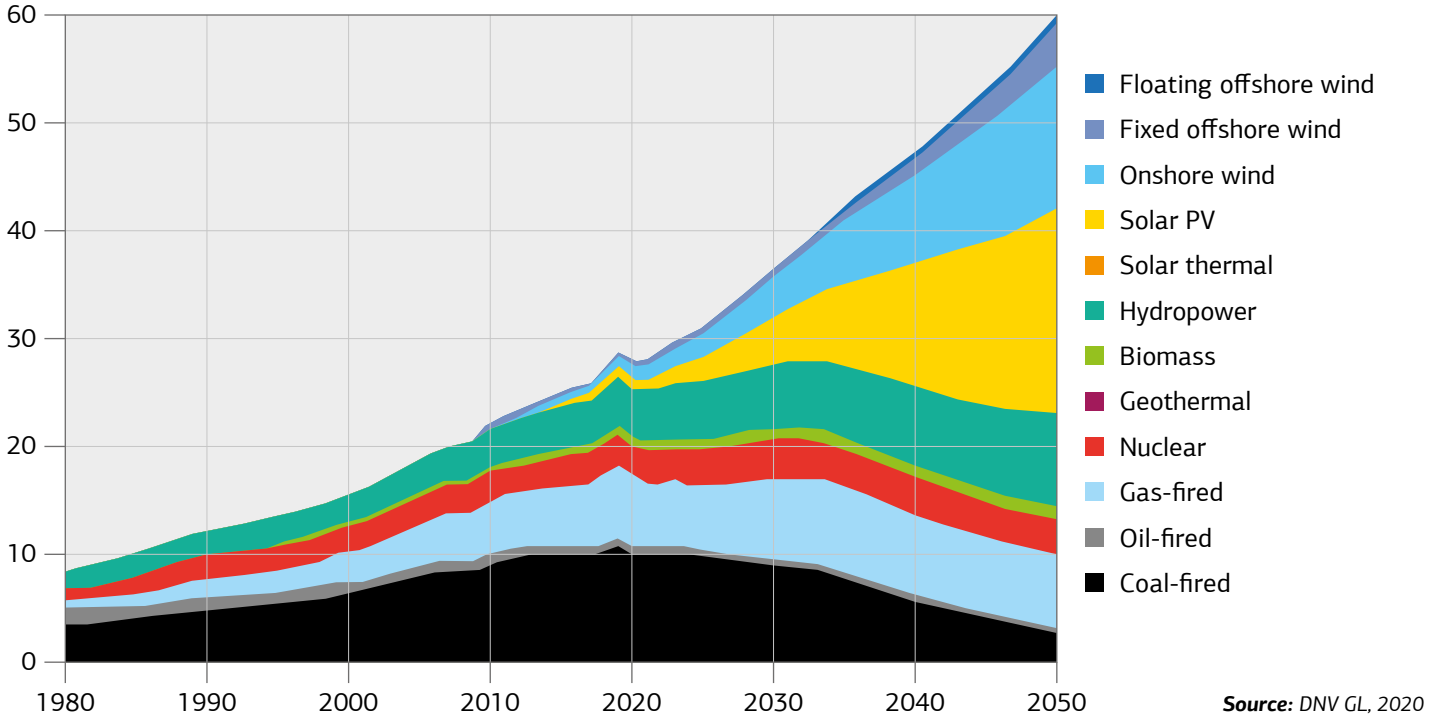
"Governments and investors can use the current situation to step up their climate ambitions and launch sustainable stimulus packages focused on clean energy technologies. Rather than compounding the tragedy by allowing it to hinder clean energy transitions, we need to seize the opportunity to help accelerate them," Dr. Birol accentuated.

Figure 1.1.1. *Renewable capacity additions by technology, 2020 – 2025, main and accelerated cases*



Source: *IEA, 2020*

Figure 1.1.2. *World electricity generation by power plants, 1980-2050, PWh/yr*



Source: *DNV GL, 2020*

However, the safety regulations and mobility restrictions disrupted supply chains, temporarily delayed construction of renewable energy installations – especially onshore wind – and reduced financing activity in key markets. Because the key global RES market players began to modify their activities to adjust to long-term strict lockdowns, the IEA recognized renewables as the most resilience sources of energy to the challenges of the pandemic. Thus, despite some delays due to COVID-19, renewable auction volumes are breaking records. In the first half of 2020, 13 countries awarded almost 50 GW of new renewable capacity to become operational during 2021-24, the highest amount ever.

In spite of lack continuous narrative in all future RES development forecasts by IEA, the agency's experts are unanimous that Governments will step up their climate ambitions, investors will increase their "appetites" for "green" projects, and fossil fuels will rapidly lose their economic profitability and liquidity. According to the IEA's prognosis, electricity generation from renewables will expand almost 50% in the next five years to almost 9,745 TWh – equivalent to the combined demand of China and the European Union. By 2025, the share of renewables in total electricity generation is expected to be 33%, surpassing the coal-fired generation.

In its Report "Power Barometer", Euroelectric, the European electricity association, presented another hopeful forecast for further RES development in the EU. The Report envisages the production of almost 80% of electricity in Europe exclusively by renewable energy sources until 2030. This trend will be supported by an active phase-out of coal-fired generation as well. Indeed, the Euroelectric expects to see 21 European countries that will fully recover from coal use by 2030 *(ed. as of the end of 2020, only 9 EU countries had taken such a major step).*

Equally optimistic is leading international consulting company DNV GL. Its Report "Energy Transition Outlook 2020" summarized all effects of the COVID-19 pandemic on the global renewable energy market and concluded that in 2050, 78% of all electricity will be generated exclusively by renewable energy sources worldwide, 62% of which will be produced by wind and solar alone.

In turn, DNV GL foresees electricity generation from wind increasing from 1,280 TWh/yr in 2017 to 18,500 TWh/yr in 2050.

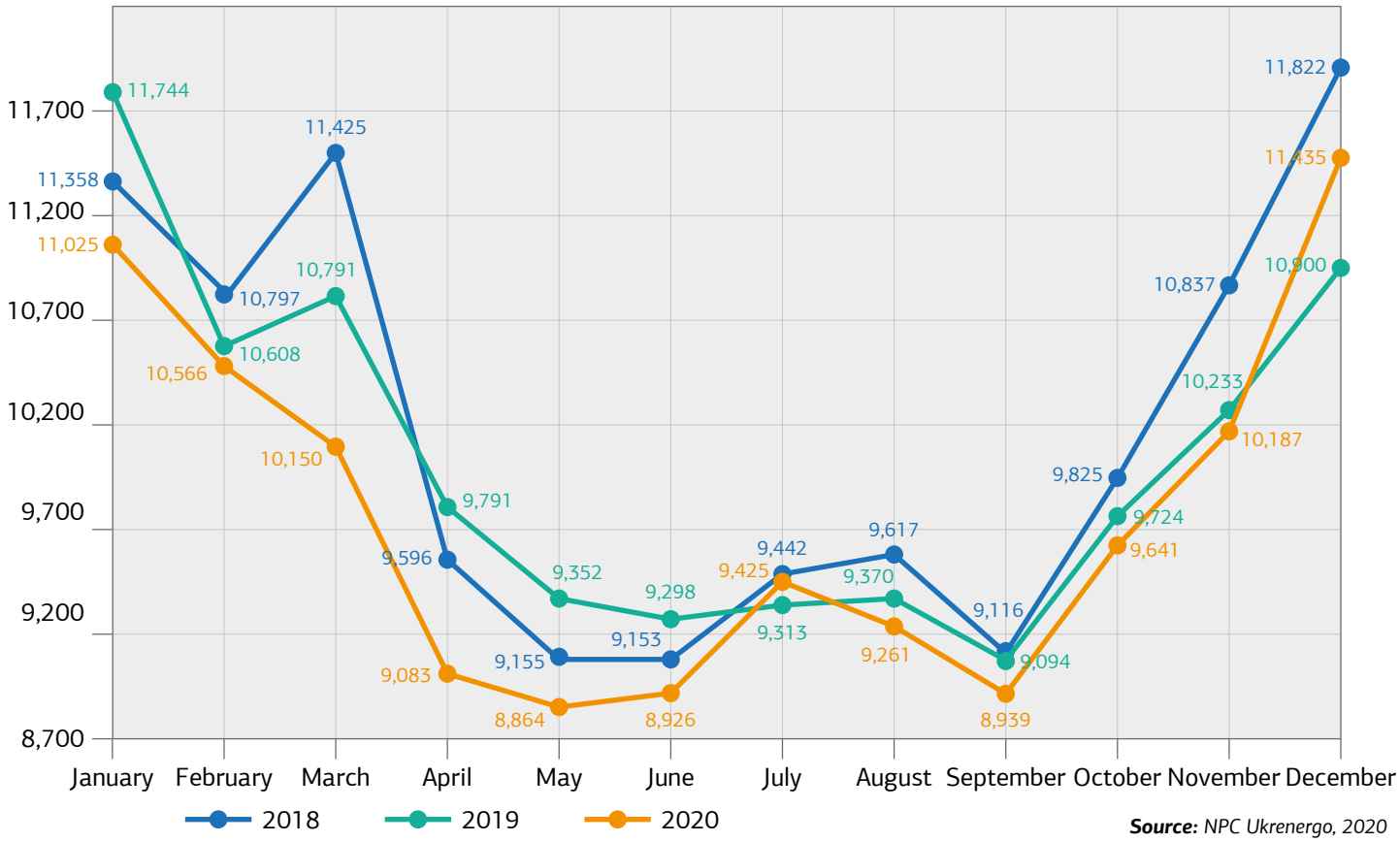
All international organizations unanimously confirm that the impact of the COVID-19 pandemic on offshore wind power industry will be minimal. Thus, according to the DNV GL, the share of offshore wind in the total wind electricity generation will increase steadily, rising globally from 5.5% in 2018 to 28% in 2050.

1.2. IMPACT OF THE COVID-19 PANDEMIC ON WIND ENERGY PROJECTS IN UKRAINE AND WORLDWIDE

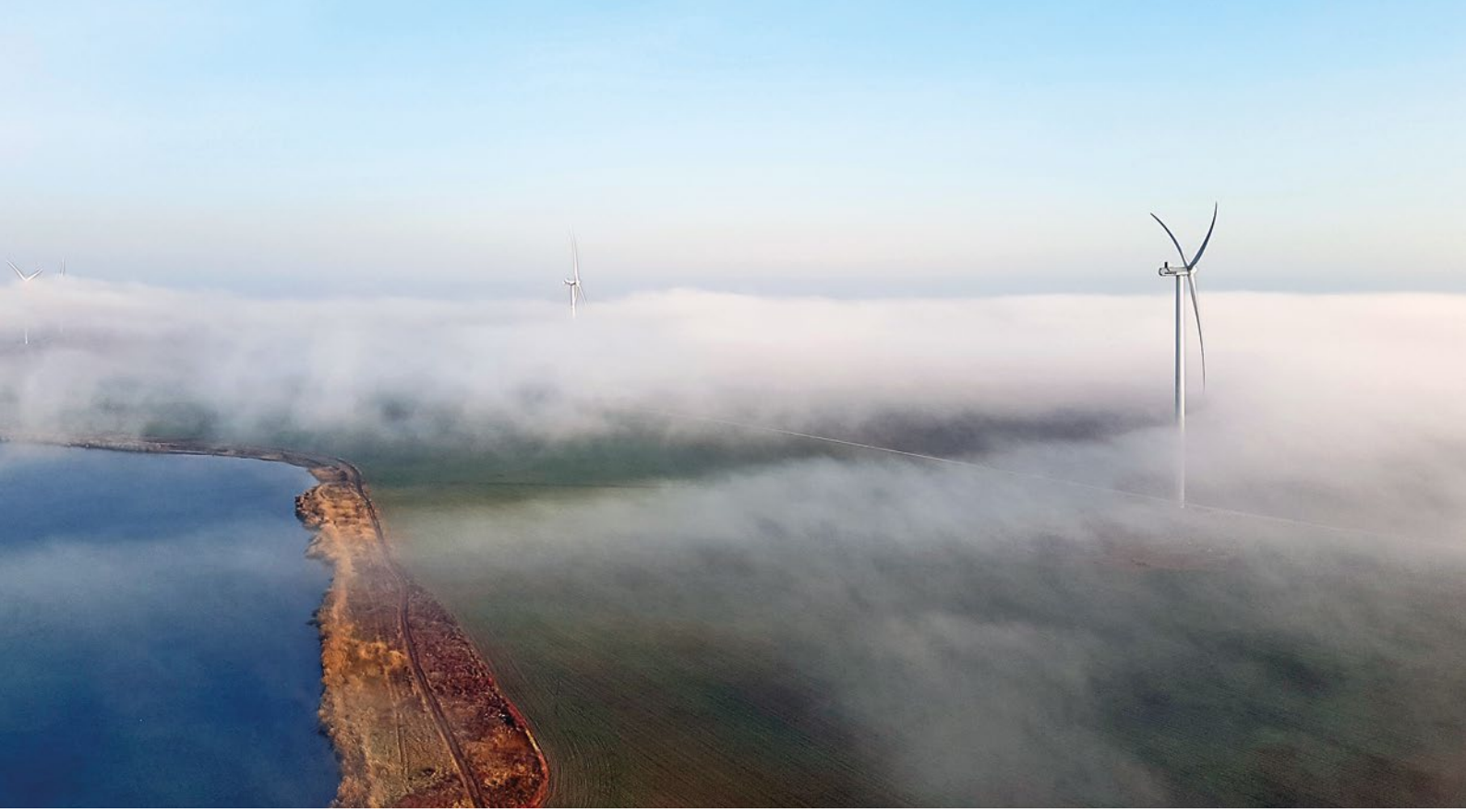
As of 1 January 2021, a total of 85.7 mln cases of COVID-19 had been confirmed worldwide including 1.85 mln deaths and 48.2 mln fully recovered. These days, everyone clearly felt the impact of the COVID-19 pandemic not only on their own health and daily activities but also on social networks and business. The wind power industry, though less affected also suffered from quarantine restrictions.

After a record 2019, 2020 was marked by a slowdown in wind energy projects both in Ukraine and other countries around the world. China, as one of the world's largest suppliers of wind power equipment, had been under serious quarantine restrictions for a long time. After being idle for several months the majority of Chinese factories delayed their supplies of wind turbines, thus affecting the schedules of payments

Figure 1.2.1. *Electricity consumption in Ukraine 2018-2020, net, mln kWh*



Source: *NPC Ukrenergo, 2020*



and slowing the rates of wind capacity additions not only in China *(ed. tentatively by 10-50%)* but also in the European market. Given that at the beginning of the quarantine there were already a number of developers with signed prePPAs *(ed. in Ukraine)* or tax credit certifications *(ed. in the USA),* each new week of lockdown created new business risks for them.

A nationwide quarantine imposed in Ukraine has been continuing since 12 March 2020. In particular, the quarantine-related measures were imposed and extended for the following periods:

- pursuant to CMU's Resolution No 211 dd. 11 March 2020 the whole territory of Ukraine was in full lockdown between 12 March and 22 May 2020;
- according to CMU's Resolution No 392 dd. 20 May 2020 "adaptive quarantine" lasted in Ukraine from 22 May to 31 July 2020;
- "adaptive quarantine" was extended from 1 August to 19 December 2020 by CMU's Resolution No 641 dd. 22 July 2020;
- Cabinet of Ministers of Ukraine by its Resolution No 1236 dd. 9 December 2020 extended the nationwide quarantine from 19 December 2020 to 28 February 2021.

One of the first visible impacts of the COVID-19 on the national wind market was the suspension of rail, air, and bus any distance transportation as well as switching the businesses to remote work. These restrictions consequently made it more difficult for foreign experts to come to the wind farm construction sites. Thus, the first victims of quarantine were those wind projects, which, as of early 2020, were already under active construction *(ed. since most wind projects in Ukraine are usually implemented with close participation of foreign specialists).* Furthermore, between 10 and 24 April 2020, the CMU temporarily banned the construction activity, which was also felt by the industry through significant changes in construction schedules.

A partial solution to the aforementioned problems was the Law of Ukraine No 540-IX "On Amendments to Certain Laws of Ukraine Aimed at Preventing the Occurrence and Spread of Coronavirus Disease *(COVID-19)*" from 30 March 2020, that supplemented the list of force majeure circumstances with "quarantine" provision. This amendment allowed contractors and equipment suppliers to obtain UCCI's certificates for confirming the force majeure, caused by quarantine. In turn, such confirmation allows companies, involving in wind power projects, to reschedule their commitments without any sanctions.

Eventually, the lockdown led to temporary closures of enterprises, shopping malls, airports and other large consumers of electricity, changing the structure of electricity consumption in the Ukrainian energy system. Thus, during the nationwide quarantine the electricity consumption fell by 5% in the spring of 2020 compared to the previous year.

In order to stabilize the operation of the electricity market, on 8 April 2020, the NEURC adopted Resolution No 766 "On Actions of Electricity Market Participants during the Quarantine and Restrictive Measures Related to Coronavirus Disease *(COVID-19)*". The Resolution's provisions are valid both for the duration of the quarantine or restrictive measures and within 30 days from their cancellation. On 15 April 2020, the NEURC amended this Resolution and granted the right to the SE Guaranteed Buyer not to sell electricity at the lowest possible price on the day-ahead market but to sell it at the market prices until the end of 2020 *(ed. from 1 January 2021 onward this norm was removed from the NEURC's Resolution).*

Later on 15 January 2021, by its amendments to the Resolution No 641, the NEURC completely excluded from the "Procedure for Purchasing Electricity Produced from Alternative Energy Sources by SE Guaranteed Buyer" the provisions on the sale of electricity at the lowest possible prise at the day-ahead market.

Political turbulence, frequent legislative changes, indebtedness in the electricity market and, as a result, internal financial problems of companies also became integral parts of the above-mentioned challenges.

In April 2020, the UWEA conducted a survey "On Business Activities of its Member Companies in Times of Quarantine" with 20 companies participated in the survey. 84.6% of respondents fully complied with the quarantine restrictions, while 15.4% – were partially complied with the restrictions. At the time of the survey, 76.9% of the respondents had already been isolated for more than a month, so their answers were objective. Key negative effects of the distance work, noted by companies, included: a) salary reduction *(ed. 30.8% of respondents reported that payments were fully or partially reduced while 7.7% reported on salary reduction depending on the position)*; b) project suspension, impossibility of public hearings and discussions, and prevention of cooperation with state authorities.

238 MW of new wind power capacities were constructed but not put into operation in 2020 due to the COVID-19 pandemic and related quarantine restrictions. Their commissioning is expected in Q1 2021.

II WIND POWER SECTOR OF UKRAINE

2.1. DEVELOPMENT TRENDS AND KEY FIGURES

In contrast to a record-breaking year 2019, when Ukraine joined "the world's Gigawatt club" of countries whose installed wind power capacity exceeds 1,000 MW, in 2020 the national wind power sector experienced sharp reduction in growth rate. Enormous debts of payments to electricity producers from wind and other renewables accumulated since the launch of the new electricity market *(more information in Section 2.2. of this Overview)*, a sharp spike of solar generation, high "green" tariff rate for solar and political speculation on the "green" tariff and the renewables backed on strong lobby of the conventional energy sector have led to the crises in the renewable energy sector.

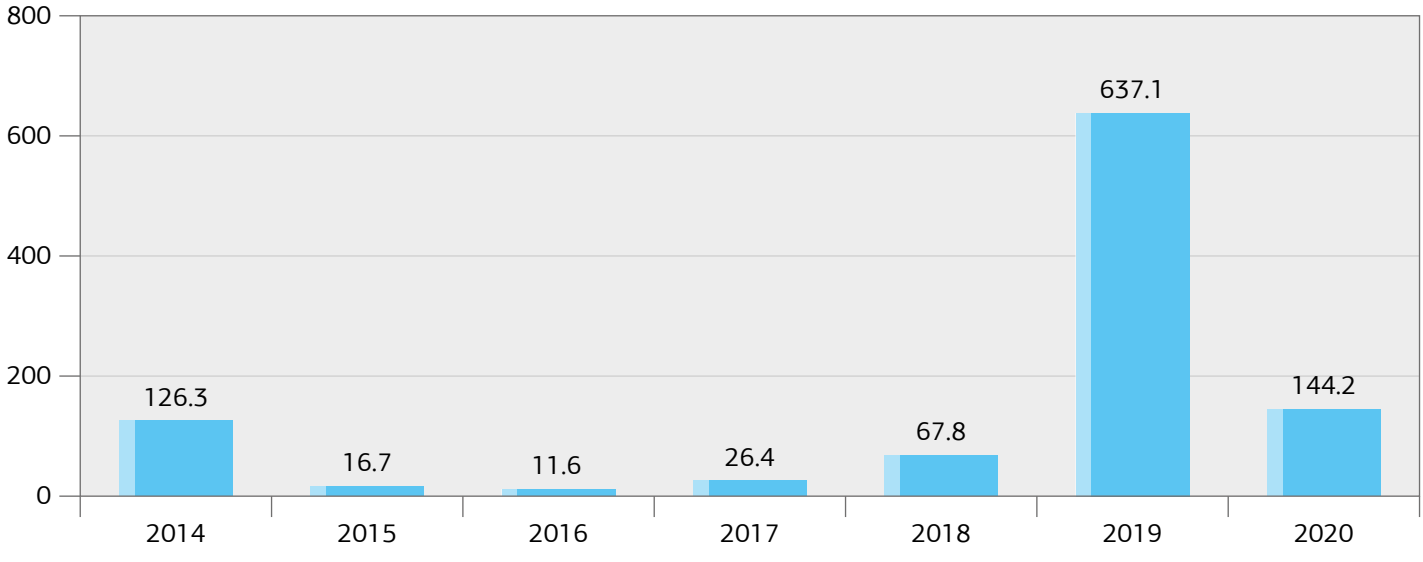
On the other side, 2020 was a milestone for national RES sector, which faced significant changes in government support scheme designed to promote renewables.

The signature of the Memorandum of Understanding on the Settlement of Problematic Issues in the Renewable Energy Sector, signed between the Government of Ukraine, NEURC and two leading RE associations – the UWEA and the EUEA *(more information in Section 2.4. of this Overview)* ended the dispute between the RES investors and the Ukrainian Government on 10 June 2020 within the mediation under the auspices of the Energy Community Secretariat's Dispute Resolution and Negotiation Centre. The Verkhovna Rada of Ukraine legitimized the result of the negotiations and adopted Laws of Ukraine No 810-IX and 1006-IX based on the Memorandum's provisions. At the end of the year the Ministry of Energy of Ukraine finally announced its view on the quotas for RES auctions in 2021 and indicative forecast quotas for 2022-2025 *(more information in Section 2.7. of this Overview)*. All the above-mentioned changes will further determine the development for both wind and renewable energy sectors.

Although only 144,2 MW of new wind power capacity was brought online in 2020, a sharp decrease in comparison to 2019, the sector demonstrates its readiness for development and further contribution to the national economy: around 5,000 MW of wind capacity received building permits at the end of December 2019. In total, four regions of Ukraine added wind power capacity during 2020, while the installed capacity of the wind power sector in Ukraine reached **1,314.1 MW.** 36 new wind turbines with an average unit capacity of 4 MW started generating clean electricity in 2020.

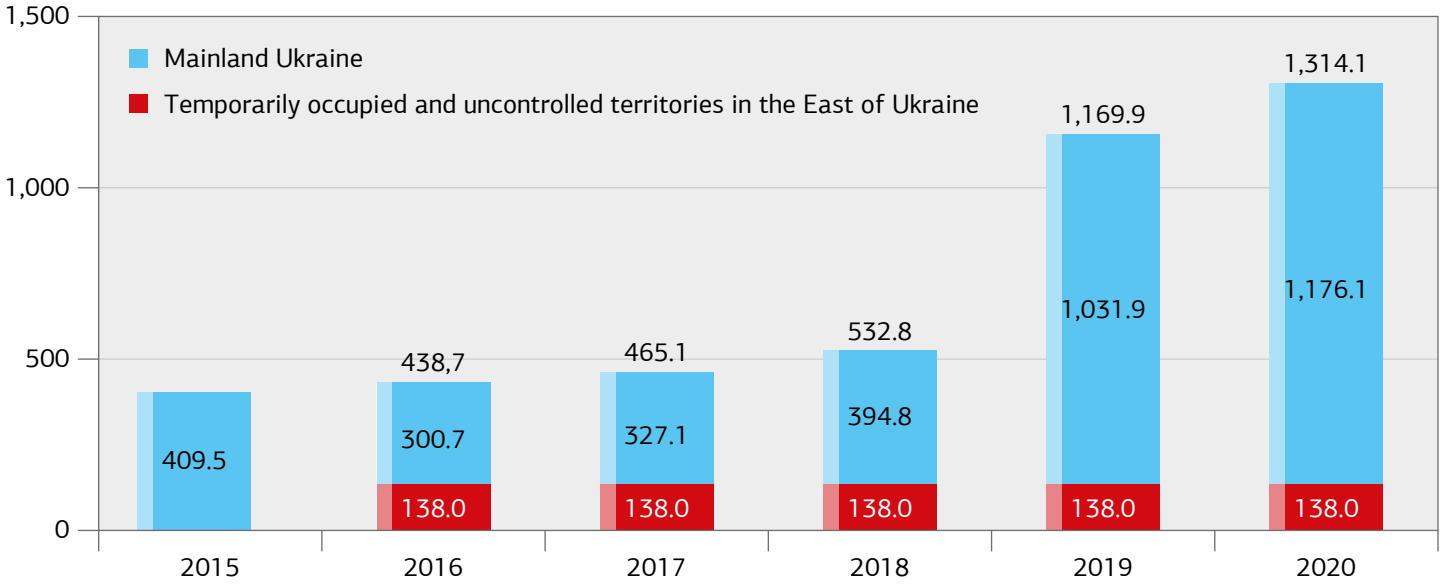
Though demonstrating such a low growth rate last year, the wind power sector remains the second fastest-growing one in the RES market, after solar power sector. As of the end of December 2020, the

Figure 2.1.1. *Annual wind power additions, 2014 – 2020, MW*



Source: *PU UWEA, 2020*

Figure 2.1.2. *Installed wind capacity, mainland Ukraine, 2015 – 2020, MW*



Source: *PU UWEA, 2020*

share of wind power in the total installed capacity of the renewable energy sector accounts for 15.4% *(more information in Section 2.3. of this Overview)* and 2.2% – of the country's power mix *(more information in Section 2.2. of this Overview).*

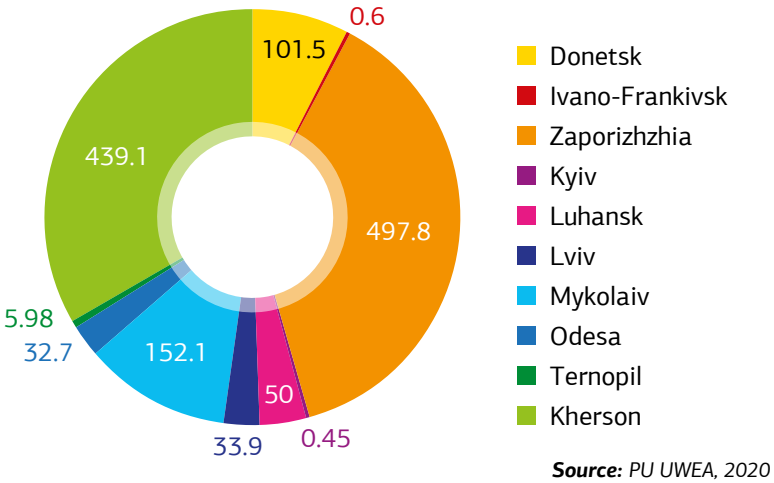
According to the geographical scope, Kherson region with 101.4 MW wind capacities commissioned in 2020 became the leader of the year, followed by Mykolaiv region with 42.8 MW of annual wind power additions.

Table 2.1.1. *WPPs that supply electricity at "green" tariff, as of 31 December 2020*

No	Wind Power Plant	Wind Power Plant Operator / Owner	Installed capacity, MW	Number & model of WTG	WPP status
MYKOLAIV REGION					
1.	**Wind Park Ochakivskyi**	MC Wind Parks of Ukraine LLC	**52.6**	19 x 2.5 MW WTU2.5 2 x 3.3 MW WTU3.3 1 x 3.5 MW WTU3.5	in operation
2.	**Wind Park Blagodatnyi**	MC Wind Parks of Ukraine LLC	14.3	2 x 2.5 MW WTU2.5 1 x 4.5 MW WTU4.5 1 x 4.8 MW WTU4.8	in operation
3.	**Wind Park Prychornomorskyi**	MC Wind Parks of Ukraine LLC	42.8	3 x 2.5 MW WTU2.5 2 x 3.0 MW WTU3.0 6 x 3.2 MW WTU3.2 2 x 3.3 MW WTU3.3 1 x 3.5 MW WTU3.5	in operation
4.	**Wind Park Pivdennyi**	MC Wind Parks of Ukraine LLC	10.5	3 x 3.5 MW WTU3.5	in operation
5.	**Wind Park Schaslyvyi**	MC Wind Parks of Ukraine LLC	7.0	2 x 3.5 MW WTU3.5	in operation
6.	**Wind Park Shvydkyi**	MC Wind Parks of Ukraine LLC	14.4	3 x 4.8 MW WTU4.8	in operation
7.	**Wind Farm**	Singa Energy LLC	6.0	3 x 2 MW Vestas 2.0	in operation
LUHANSK REGION					
8.	**Wind Park Krasnodonskyi**	MC Wind Parks of Ukraine LLC	**25**	10 x 2.5 MW Fuhrlander FL2500 – 100	located in the temporarily occupied and uncontrolled territories, do not supply electricity to the Power System of Ukraine
9.	**Wind Park Lutuginskyi**	MC Wind Parks of Ukraine LLC	**25**	10 x 2.5 MW Fuhrlander FL2500 – 100	located in the temporarily occupied and uncontrolled territories, do not supply electricity to the Power System of Ukraine
DONETSK REGION					
10.	**Wind Park Novoazovskyi**	Management Company Wind Parks of Ukraine LLC	**57.5**	23 x 2.5 MW Fuhrlander FL2500 – 100	located in the temporarily occupied and uncontrolled territories, do not supply electricity to the Power System of Ukraine
11.	**Wind Power Plant Vetroenergoprom**	MC Wind Parks of Ukraine LLC	**30.53**	204 x 0.1075 MW USW56 – 100 6 x 0.6 MW Turbowinds T600-48 2 x 2.5 MW Fuhrlander FL2500 – 100	located in the temporarily occupied and uncontrolled territories, do not supply electricity to the Power System of Ukraine
12.	**Kramatorska WPP**	MC Wind Parks of Ukraine LLC	**13.5**	3 x 4.5 MW WTU4.5	in operation
KHERSON REGION					
13.	**Novorosiiska WPP**	Vindkraft Ukraina LLC	**9.225**	3 x 3.075 MW Vestas V112	in operation
14.	**Stavky WPP**	Vindkraft Ukraina LLC	**9.225**	3 x 3.075 MW Vestas V112	in operation

No	Wind Power Plant	Wind Power Plant Operator / Owner	Installed capacity, MW	Number & model of WTG	WPP status
15.	**Beregova WPP**	Vindkraft Ukraina LLC	12.3	4 x 3.075 MW Vestas V112	in operation
16.	**Novotroitska WPP**	Vindkraft Tavria LLC	72.6	12 x 3.65 MW Vestas V126 8 x 3.6 MW Vestas V136	in operation
17.	**Overyanivska WPP**	Vindkraft Ukraina LLC	68.4	19 x 3.6 MW Vestas V -136	in operation
18.	**Myrnenska WPP**	Vindkraft Kalanchak LLC	163.0	35 x 4.2 MW Vestas V -150 4 x 4.0 MW Vestas V -150	in operation
19.	**Syvaska WPP**	SyvashEnergoProm LLC	2.92	16 x 0,1075 MW USW56 – 100 2 x 0.6 MW Turbowinds T600 – 48	in operation
20.	**Syvaska WPP**	SyvashEnergoProm LLC / NBT	101.4	26 x 3.9 MW Nordex N131/3900	in operation
		ZAPORIZHZHIA REGION			
21.	**Botievska WPP**	Wind Power *(DTEK)* LLC	199.875	65 x 3.075 MW Vestas V112	in operation
22.	**Prymorska 1 WPP**	DTEK RE LLC	99.58	26 x 3.83 MW GE 3.8 – 130	in operation
23.	**Prymorska 2 WPP**	DTEK RE LLC	99.58	26 x 3.83 MW GE 3.8 – 137	in operation
24.	**Orlivska WPP**	DTEK RE LLC	98.8	26 x 3.8 MW Vestas V126	in operation
		ODESA REGION			
25.	**Ovid Wind WPP**	Güriş İnşaat ve Mühendislik A.Ş	32.67	9 x 3.63 MW GE 3.6 -137	in operation
		LVIV REGION			
26.	**Staryi Sambir 1 WPP**	Eco-Optima LLC	13.2	4 x 3.3 MW Vestas V112	in operation
27.	**Staryi Sambir 2 WPP**	Karpatskyi Viter LLC	20.7	6 x 3.45 MW Vestas V136	in operation
		KYIV REGION			
28.	**Bonus WTG**	Production– Commercial Firm Ligena LLC	0.45	1 x 0.45 MW Bonus 450/37	in operation
		IVANO-FRANKIVSK REGION			
29.	**Shevchenkove -1 WPP First Phase**	Wind Energy LLC	0.6	1 x 0.6 MW Nordex N43	in operation
		TERNOPIL REGION			
30.	**Zborivska WPP**	Zborivska Poultry Firm LLC	1.98	3 x 660 kW Vestas V47	in operation
31.	**Bioenergoproduct WPP**	Bioenergoproduct LLC	4.0	2 x 2.0 MW Enercon E70	in operation
		TOTAL:	**1,314.1 MW**	**609 WTGs**	

Figure 2.1.3. *Wind power capacity per regions, mainland Ukraine, 2020, MW*



Source: *PU UWEA, 2020*

Construction 98 MW and 40 MW of new wind farms were completed in Zaporizhzhia and Odesa regions respectively, which are expected to start electricity generation in Q1 2021.

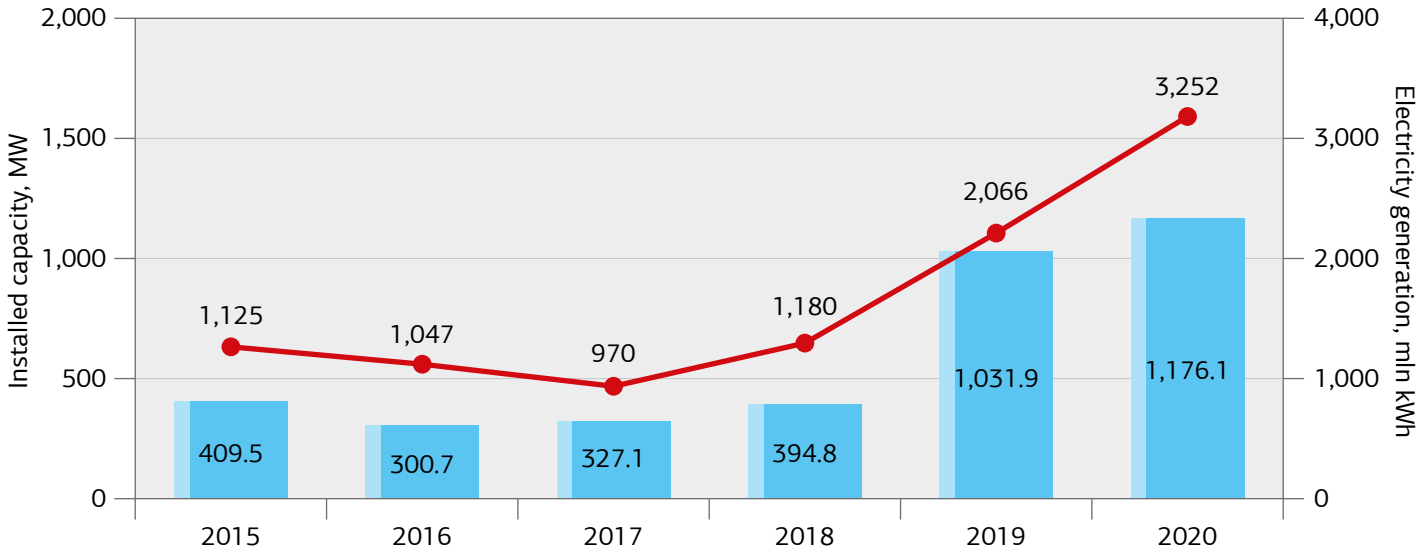
Wind power plants delivered **3,251.6 mln kWh** of "green" electricity to the Integrated Power System of Ukraine in 2020, or 2.2 % of the total annual electricity generation in Ukraine, sufficient to provide electricity to more than **650,000 households** in Ukraine with their average monthly electricity consumption of 500 kWh.

Despite the challenges of 2020, both in policy and healthcare system, national and international investors "appetite" for renewables in Ukraine remains strong. In 2020, investments in national wind power sector amounted to **EUR 154 million,** almost six-fold decrease in comparison to 2019. However, the general trend of investing in wind power projects in Ukraine remains unchanged. Over the last five years, about EUR 2 billion has been invested in the wind energy industry of Ukraine.

The national wind energy sector continues to be one of the largest contributors to the Ukraine's national and local budgets. According to a survey of the UWEA member companies, only wind electricity producers paid more than **UAH 1.17 billion** to the state budget, of which UAH 63 million enriched the local budgets.

In 2020 wind energy helped to reduce carbon dioxide emissions by 2.6 million tonnes, saved more than 321,500 cubic meters of natural gas.

Figure 2.1.4. *The ratio between wind power capacity and electricity generation, mainland Ukraine, 2013-2020*



Source: *PU UWEA, 2020*

2.2. UKRAINIAN ELECTRICITY WHOLESALE MARKET FUNCTIONING

Pursuant to the Law of Ukraine No 2019-VIII "On the Electricity Market" adopted in April 2017, Ukraine opened its new wholesale electricity market on 1 July 2019, shifting from the centralized single buyer model to a competitive, liberalized market model comprising of 5 market segments: the bilateral contract market, the day-ahead market, intraday market, balancing market, and the ancillary services market. The new market design should have provided an opportunity for the transparent and competitive functioning of all its segments.

However, the launch of the new electricity market in Ukraine took place without having addressed the problems of the previous highly-regulated market model including the elimination of cross-subsidies and reasons for debts accumulation, repayment of old debt of the SE Energorynok *(ed. a "single buyer" in the previous model)* equal to UAH 30 billion. In addition, in order to prevent the rapid growth of the electricity prices and to provide the household consumers with affordable electricity, the CMU imposed special Pubic Service Obligations on electricity market entities.

Unresolved issues, in combination with price regulation, had a negative impact on further stable functioning of the Ukrainian electricity market. Ukraine faced the problem of indebtedness to electricity market participants, which finally resulted in a financial crisis in the Ukrainian energy market in the spring of 2020 and almost halted the wind development in the country. As of 1 August 2020, the debt of the SE Guaranteed Buyer to the RES producers reached UAH 22.4 billion or almost EUR 777,800.

In order to overcome the market crises, the CMU established and headed an Anti-crisis energy headquarters *(more information in section 3.3. of this Overview)*. As noted previously, the negotiations with the RES producers led to the signing of the Memorandum of Understanding between the Government of Ukraine and the RES investors with further adoption of the Law of Ukraine No 810-IX, which entered into force on 1 August 2020.

Table 2.2.1. *Dynamics and structure of electricity production in Ukraine, mln kWh*

	2019		2020		+/- as compared to 2019	
	Electricity output, mln kWh	Share in total production, %	Electricity output, mln kWh	Share in total production, %	mln kWh	%
Total electricity output including:	153,967.1	100.0	14,8854.0	100.0	-5,113.1	-3.3
TPPs and CHPs	55,785.0	36.2	52,360.8	35.2	-3,424.2	-6.1
TPPs	44,915.1	29.2	39,562.6	26.6	-5,352.5	-11.9
CHPs	10,869.9	7.1	12,798.2	8.6	1,928.3	17.7
HPPs and PHSs:	7,868.6	5.1	7,583.5	5.1	-285.1	-3.6
HPPs	6,521.8	4.2	6,026.2	4.0	-495.6	-7.6
PHSs	1,346.8	0.9	1,557.3	1.0	210.5	15.6
NPPs	83,002.7	53.9	76,202.5	51.2	-6,800.2	-8.2
RES *(WPPs, SPPs, BioPPs)*	5,542.2	3.6	10,862.1	7.3	5,319.9	96.0
Block-stations and other sources	1,768.6	1.1	1,845.1	1.2	76.5	4.3

Source: *NPC Ukrenergo, 2020*

The COVID-19 pandemic negatively affected the operation of the electricity market in 2020 *(more information in section 1.2. of this Overview).* Quarantine restrictions introduced in Ukraine led to a significant reduction in electricity consumption as industry and business reduced their activities.

In May 2020, the market observed the reduction of nuclear power outputs, the share of which had always been the largest in the national electricity mix. According to the Quarterly Monitoring Report on the Implementation of Ukraine's Energy Action Plan from December 2020: *"The decline in nuclear output that could be observed in May 2020 in Ukraine was not justified by economics, lower electricity demand or RES deployment. The tight regulation of state-owned Energoatom through the PSO scheme has led to higher generation from more expensive and polluting plants (ed. coal-fired power plants), increasing the total cost of electricity generation."*

NPC Ukrenergo also confirmed the depletion of electricity consumption in the national IPS last year. Thus, in 2020 national electricity consumption amounted to 117.7 bln kWh/yr *(ed. net, excluding network losses),* a 2.1% drop compared to 2019.

The IPS of Ukraine with installed capacity of 54,233 GW currently comprises 15 nuclear power units, 26 units of combined heat and power plants, running on coal and natural gas, and more than 70 coal-fired thermal power plants which provide basic load balancing in the network. The share of hydropower stations significantly varies in total electricity production due to their strong dependence on seasonal and weather conditions. According to the NPC Ukrenergo and the SAEE, in 2020 the total installed capacity of RES power plants in Ukraine reached **8,515.1 MW** *(ed. excluding HPPs but including household PV power plants).*

In general, according to the Ministry of Energy of Ukraine, during 2020 all national power plants delivered **148,854.0 mln kWh** of electricity *(ed. 5,113.1 mln kWh or 3.3% less than in 2019),* of which 76,202.2 mln kWh was generated by NPPs *(ed. 8.2% down),* 39,552.7 mln kWh – by TPPs *(ed. 11.9% down)* and 7,581.3 mln kWh *(ed. 3.7% down)* – by HPPs, the installed unit capacity of which exceeds 10 MW.

In contrast, combined heat and power stations increased its annual electricity production by 17.6% compared to 2019 and generated 12,787.3 mln kWh of electricity in 2020.

In 2020 the RES power plants – WPPs, SPPs, BioPPs and small HPPs – delivered 10,862.1 mln kWh of "green" electricity to the Ukraine's IPS alone, which is twice as much *(ed. 5,319.9 mln kWh up)* as in the corresponding period of 2019.

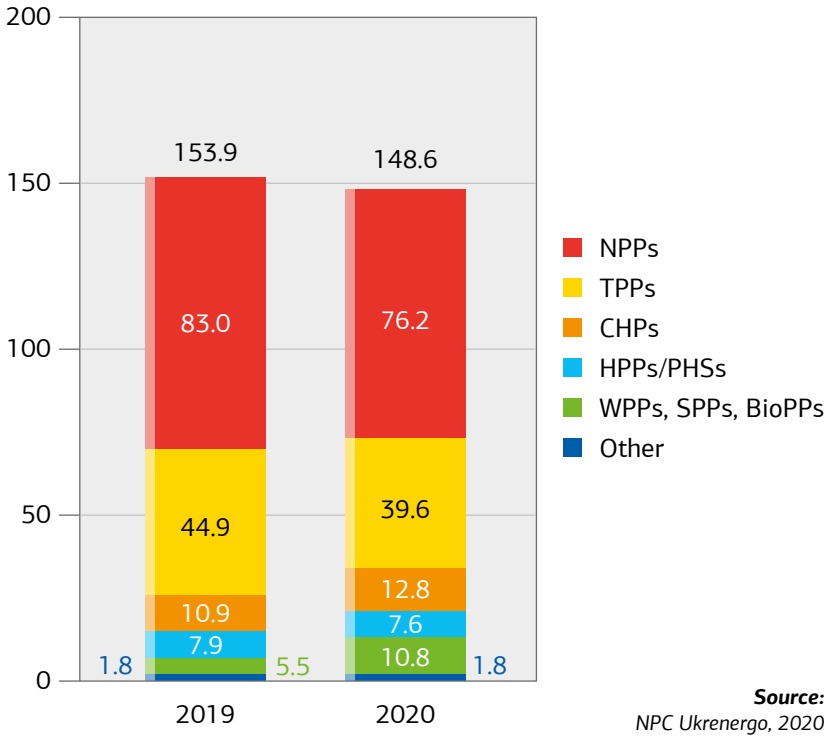
In general, the NPPs still dominate today with their 51.2% share in the energy mix of Ukraine. It followed by TPPs and CHPs, which account for 35.2%, and HPPs with 5.1% share, while renewables' share reached 7.3%.

Last year, electricity exports from Ukraine exceeded imports almost twice – 4,754.1 mln kWh against 2,284.9 mln kWh, respectively. Thus, Ukraine exported electricity to Hungary, Poland, Romania, Moldova, Belarus and Slovakia. In the IPS's trade zone of Ukraine *(ed. Poland, Belarus, Russia and Moldova)* exports was 8.4 times higher than imports – 1,734.0 mln kWh and 205.7 mln kWh respectively, while in the trade zone of Burshtyn TPP (*ed. Hungary, Slovakia and Romania)* exports exceeded imports by 1.45 times – 3,020.0 mln kWh, 2,079.2 mln kWh, respectively.

In turn, electricity imports to Ukraine in 2020 reached 2,156.1 mln kWh, including imports from Russia and Belarus from October 2019 to March 2020, reaching a total of over 1 bln kWh.

Ukraine is a strategic player in energy transit and, at the same time, one of the largest producers of hydrocarbons in the Eastern Partnership region. However, political and economic turbulence, declining population and falling GDP reduced overall energy consumption, while inadequate governance, tight regulation of business and outdated technology negatively affected the development of energy industry. Despite some positive changes in Ukrainian legislation and technical upgrades *(ed. for example, modernization of power grids),* Ukraine's energy system is still one of the most inflexible in the world.

Figure 2.2.2. *Structure of electricity production in Ukraine, 2019-2020, bln kWh*



Source:
NPC Ukrenergo, 2020

2.3. RENEWABLE ENERGY SECTOR OF UKRAINE

The year 2020 was a challenging year for national renewable energy sector. The global COVID-19 pandemic had a negative impact on the economy of Ukraine, in general, and on RES industry, in particular. However, the national renewable energy market was hardest hit by the artificially created financial crisis. The permanent indebtedness of the SE Guaranteed Buyer to the RES producers and the reduction of the "green" tariff for both future and existing renewable power plants shaped the 2020 RE agenda in the country.

In contrast to a record 4,261.6 MW of "green" capacities installed in 2019, in 2020 national RES market enriched only with **2,136.9 MW** *(ed. including 779 MW of household PV installations).* Thus, as of 31 December 2020, the total installed RE capacity of Ukraine achieved **8,516.0 MW** *(ed. including household PV installations).*

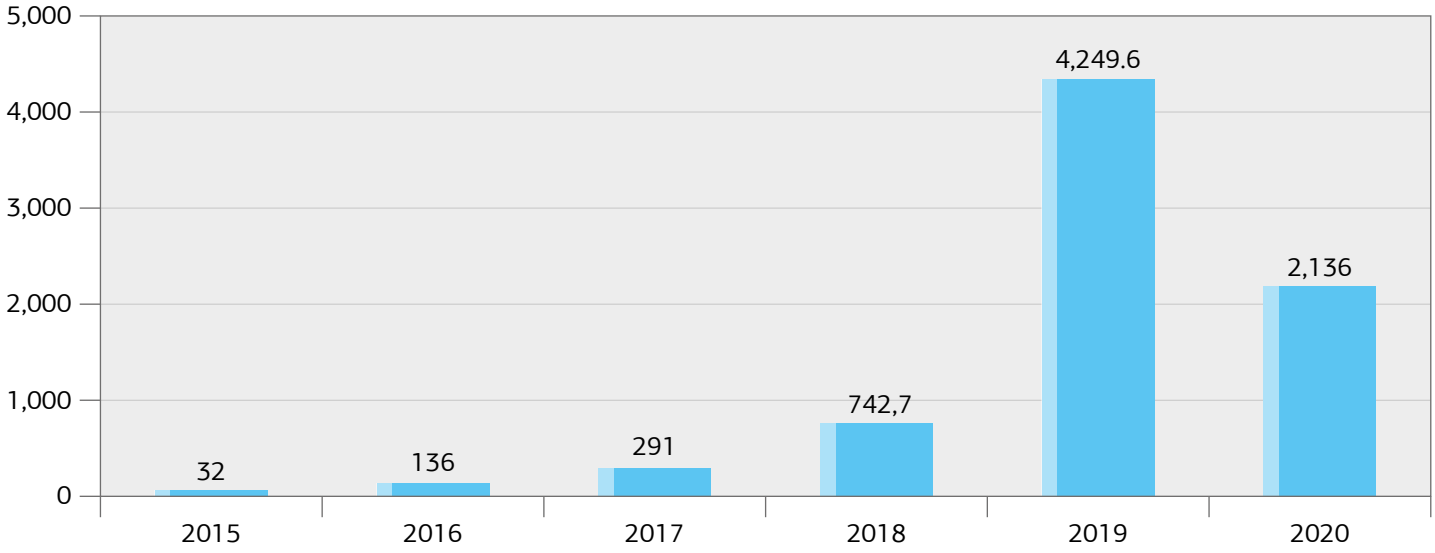
All renewable energy sectors experienced a slowdown. The capacity of the utility-scale **solar power sector** increased by 1,123.6 MW in 2020, against a booming 3,538.0 MW in 2019, equivalent to approximately 30% of the last year's solar power additions. At year-end, the total installed capacity of Ukraine's SPPs reached **6,093.6 MW.** On the other hand, the market witnessed a rapid growth in the household solar power generation. Over the year 293 MW of new household PV installations were added, totaling **779 MW.**

The national **wind power sector** faced almost complete stagnation, with only 144.2 MW of new additions, of which 42.8 MW were erected still in 2019, but commissioned during the Q1 2020.

Bioenergy sector also suffered from the market challenges last year. In particular, biomass and biogas projects were adversely affected by the low prices of natural gas, a key competitive fuel in thermal power generation, especially during the spring-summer period, when natural gas hit historically low costs. The recovery of biomass profitability has occurred since the heating season. As a result, only 10.4 MW of new biogas and 21.7 MW of biomass installations were commissioned in the course of the year 2020.

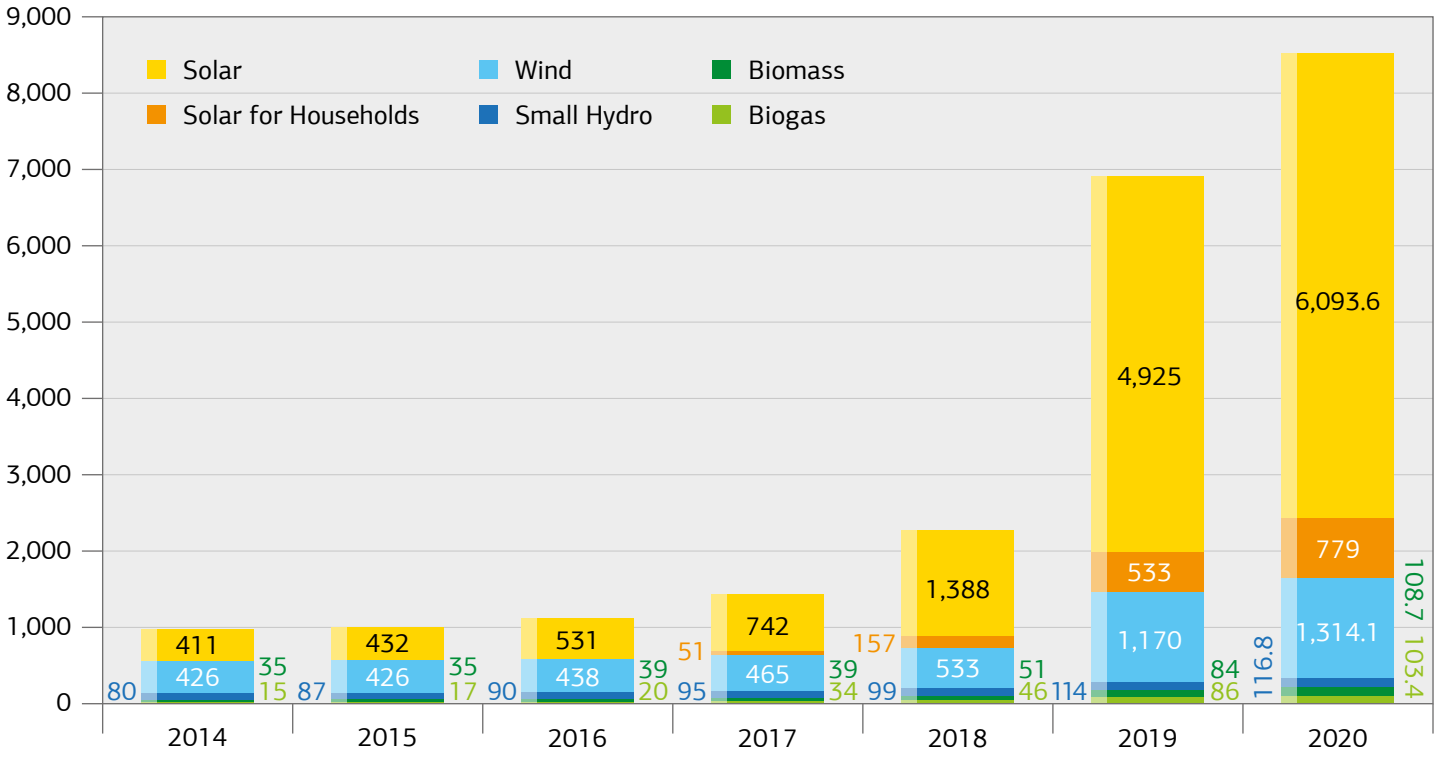
Last year all RES power plants *(ed. as mentioned in Section 2.2. of this Overview)* delivered 10,862.1 mln kWh of "green" electricity, of which 3,251.6 mln kWh was produced by Ukraine's WPPs *(ed. 1,230.0 mln kWh more then in 2019)* and 6,604.6 mln kWh – by both commercial and household SPPs.

Figure 2.3.1. *Annual RES additions in Ukraine, MW*



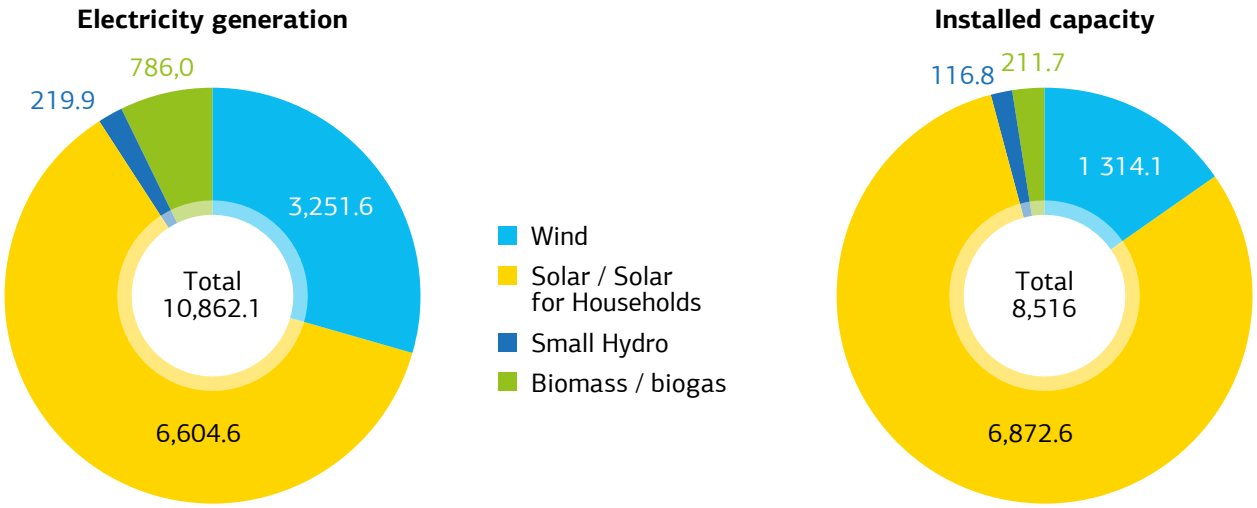
Source: *PU UWEA, the NEURC, 2020*

Figure 2.3.2. *Dynamics of RES capacities, MW*



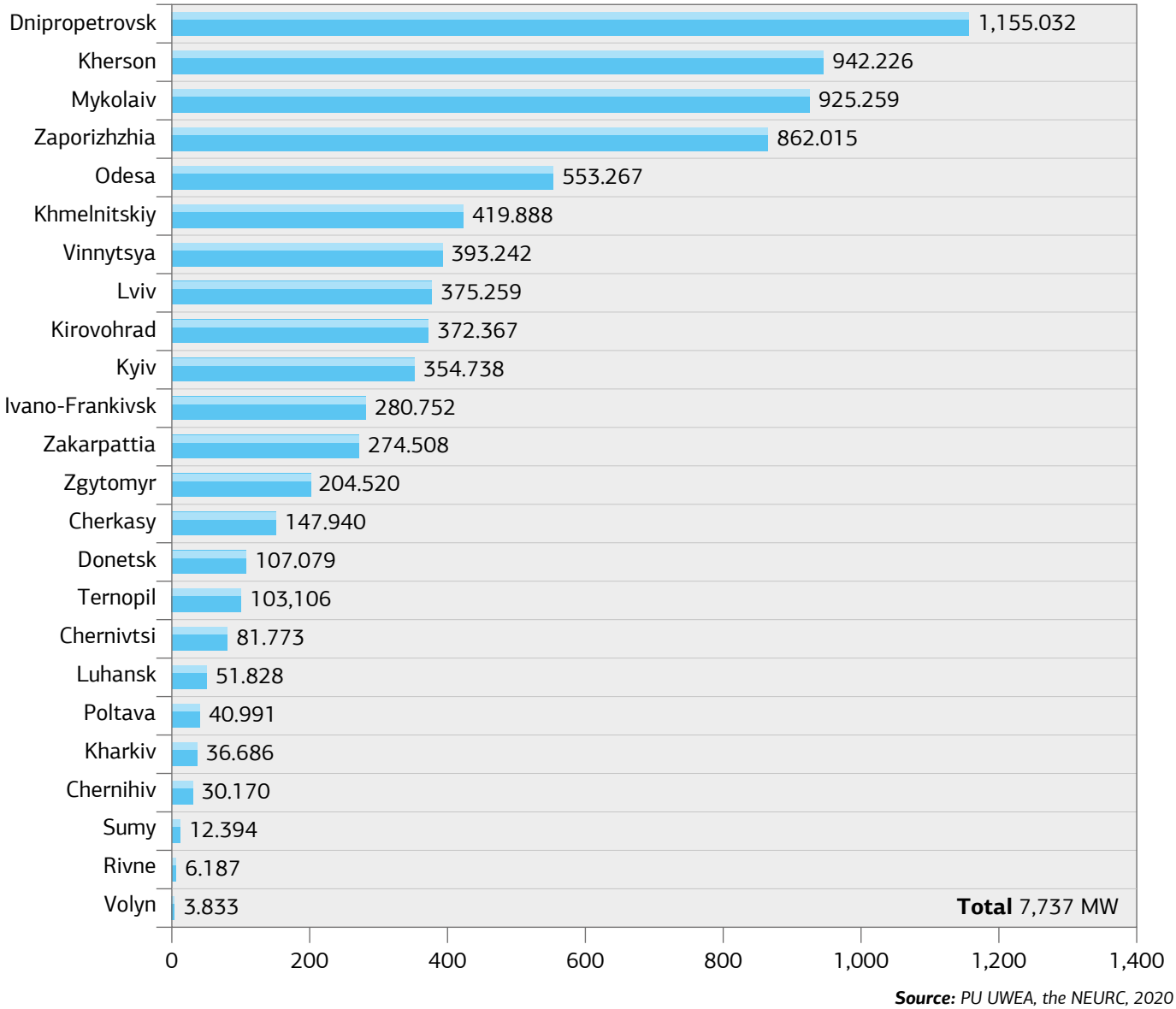
Source: *the SAEE, 2020*

Figure 2.3.3. *Structure of renewable electricity generation, mln kWh*
Cumulative RES capacities as of 31 December 2020, MW



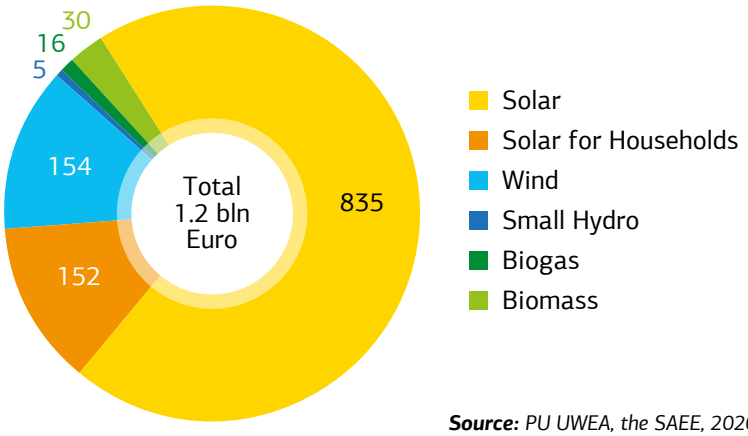
Source: *PU UWEA, the SAEE, 2020*

Figure 2.3.4. *Installed RES capacity by regions of Ukraine, 2020, MW*



Source: *PU UWEA, the NEURC, 2020*

Figure 2.3.5. *RES investments in 2020, Euro mln*



Source: *PU UWEA, the SAEE, 2020*

In 2020, the number of companies supplying "green" electricity increased. According to the NEURC, as of 31 December 2020, 933 entities – owners of RES electricity facilities – were registered in Ukraine.

The TOP-5 leaders in terms of cumulative installed RES capacity include Dnipropetrovsk region with 1,155.032 MW, Kherson region with 942.226 MW, Mykolaiv region with 925.259 MW, Zaporizhzhia region with 862.015 MW and Odesa region with 553.267 MW. The share of RES capacities installed by these regions exceeds 57% of the cumulative RES capacity of Ukraine.

Renewable power sector remains one of the most investment-attractive sectors of the economy. Thus, despite the crises in the RES sector, **EUR 1.2 billion** were invested in "green" projects in Ukraine.

According to the SAEE, over the last 5 years, RES projects have attracted more than **EUR 6.2 billion** of foreign investments into Ukraine's economy.

Renewable energy projects successfully implemented in the country reduce overall CO_2 emissions by as much as more than **8.8 mln tonnes** per year. This is comparable to emissions from more than 1.9 mln cars.

2.3.1. EMPLOYMENT IN THE RES SECTOR: SURVEY OF THE UWEA MEMBER COMPANIES

Nowadays, the wind power sector does not mean only wind power generating entities, but also developers, equipment manufacturers and their suppliers, engineering and service companies, legal and consulting firms together with some others related companies equally involving in the implementation of "green" projects. All these companies not only pay individual taxes, but also serve as an effective platform for creating jobs in the domestic renewable energy sector. Thus, according to IRENA, 11 million jobs were created in the global RE sector in 2018 and their number will increase to 42 million by 2050 *(ed. including large hydro)*.

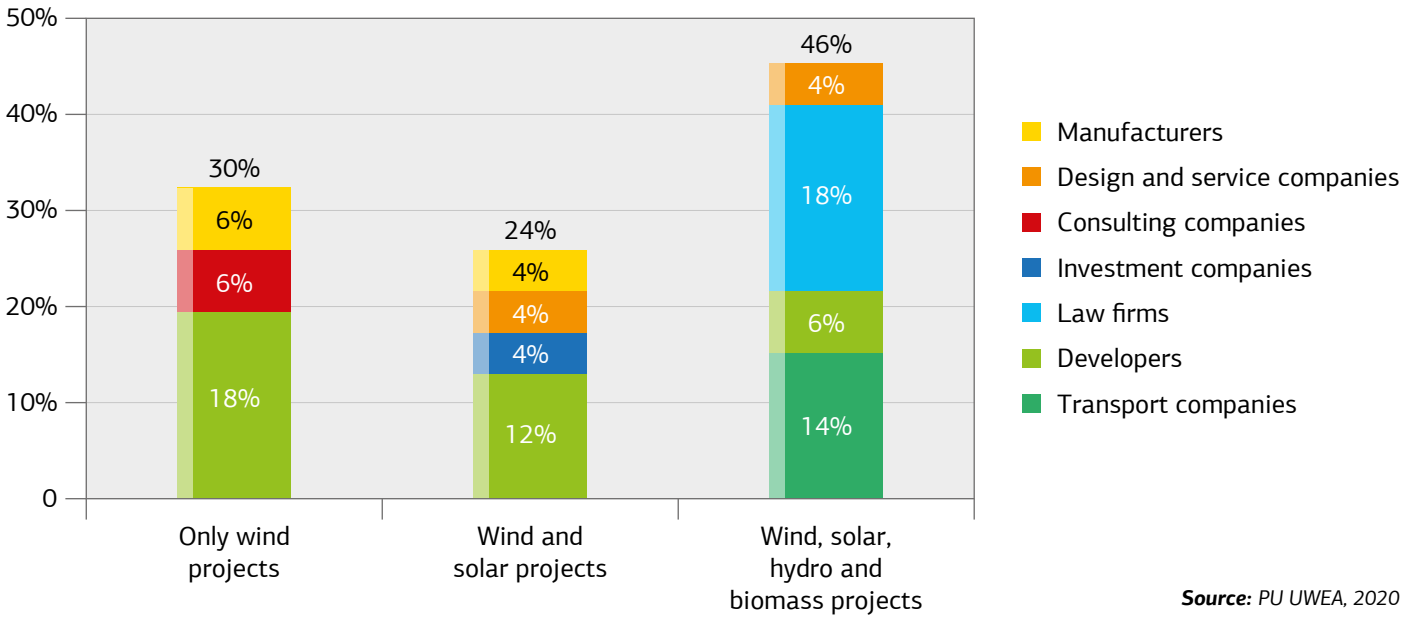
In the summer 2020, the UWEA Secretariat conducted a survey of its member companies regarding employment in Ukraine's renewable energy sector *(ed. around 70% of the companies surveyed are not limited to wind power projects only)*. The Survey covered a total of 50 UWEA member companies, including leading RES producers, manufacturers, developers, consulting, investment and logistics companies, law firms and companies involved in operation and maintenance of renewable power plants.

Current employment of all companies interviewed is about 4,000 persons; with the largest employers include companies involved in the wind equipment manufacturing and "green" electricity generation, as well as in the construction of wind and solar power plants.

The employment of women remains an open question for industry. Thus, the women's share in the companies surveyed reaches only 25% with legal and investment companies showing the highest gender balance.

No RES project could be implemented without contractors or subcontractors who provide a wide range of services and significantly influence the employment market in Ukraine. Thus, according to the UWEA, almost all companies *(ed. legal and transport companies excluding)* cooperate with contractors or subcontractors. The number of contractors depends on project size, type of company, overall project budget, and expected services. Usually, 1 – 2 principal contractors and a certain number of service companies are involved in the wind project implementation.

Figure 2.3.6. *UWEA Member Companies' main activities, %*

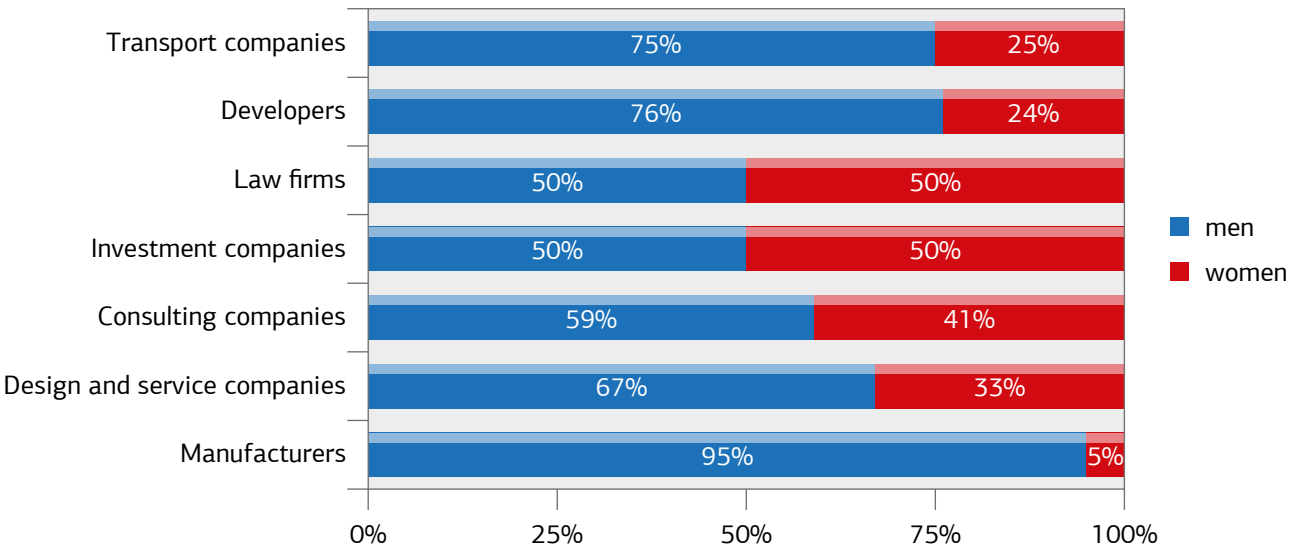


Source: *PU UWEA, 2020*

Overall, the number of hired contractors' personnel per one project ranges from 10 to 300 persons.

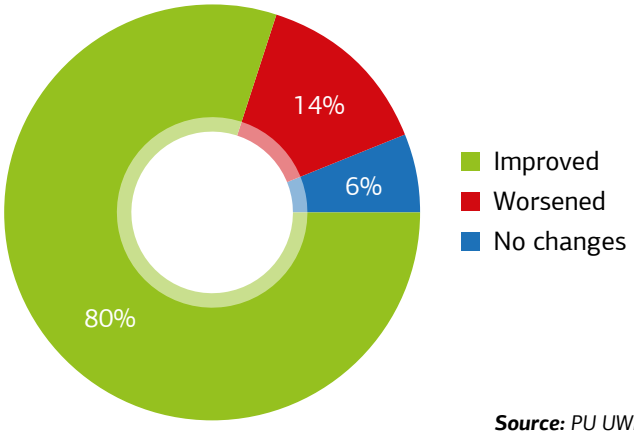
Despite the prospects of the renewable energy industry and a significant number of people already being employed, 36% of the companies surveyed face shortages of qualified staff. In other words, every third RES company requires new, highly qualified specialists, especially in the field of IT technologies, engineering, and the renewable power jurisprudence. Skill in English is a key requirement for employment of the above-mentioned specialists.

Figure 2.3.7. *Ratio between men and women in the UWEA member companies, %*



Source: *PU UWEA, 2020*

Figure 2.3.8. *Skill level of the RES company staff over the last 5 years (according to the UWEA member companies), %*



Source: *PU UWEA, 2020*

80% of companies in the survey are convinced that the qualification of employees has increased over the last five years. Such situation testifies to the potential of the "green" power industry and a public awareness of the job prospects in renewable power sectors. Moreover, it also highlights the positive role of companies in their staff development, with about 98% of the UWEA member companies investing in personnel training.

It's interesting to note, that the most companies experiencing skills shortages are also among those that have reported on a decline in professional competence in the market over the past five years.

The modern global energy trends dictate political tendencies. Today the Government of Ukraine should work not only on national energy policy, but also on the employment policy and the relevant social education. Thus, according to the Ministry of Finance of Ukraine, as of Q3 2020 there were 433.4 thousand unemployed *(ed. excluding the temporarily occupied territories of Ukraine),* the number of which, compared to Q1 2020, increased by 10% due to quarantine restrictions, and who could potentially be involved in such a promising sector of economy as renewable power industry.

2.3.2. IMPLEMENTATION OF THE NATIONAL RENEWABLE ENERGY ACTION PLAN

Photo by Konstantin Brizhnichenko

On 1 October 2014, the Cabinet of Ministers of Ukraine approved the National Renewable Energy Action Plan, which envisaged that the share of energy produced from renewable energy sources *(ed. including large hydro power stations)* should amount to at least 11% of the total ultimate energy consumption.

Energy shortages, Ukraine's energy dependence on resources imported from neighboring countries gave increased impetus to development and adoption of the NREAP.

Back in 2014 imports from Russian Federation accounted for about 70% of natural gas consumption in the country. Increasing the share of renewable energy sources in the energy balance of Ukraine would have diversified energy supply and strengthen the energy independence of the state.

The adoption of the NREAP opened broad perspectives for the development of each type of renewable source in Ukraine. In particular, it was planned to reach **2,280.0 MW of wind power capacity by 2020.**

However, at the end of 2020 only 1,314.1 MW of wind power capacity was installed in the country including 138 MW located in the temporarily uncontrolled and occupied territories of Ukraine *(ed. currently the wind power plants located in these territories does not deliver electricity to the IPS of Ukraine)*. Thus, only 57% of the wind power capacity targets were met.

Table 2.3.1. *Implementation of the National Renewable Energy Action Plan by 2020*

RES/year	2009		2019				2020			
	MW	mln kWh	MW	mln kWh	MW	mln kWh	MW	mln kWh	MW	mln kWh
	In fact		According to NREAP		In fact		According to NREAP		In fact as of 31.12.2020	
Small HPP : < 1 MW - 10 MW	49	30	138	310	114	241.5	150	340	116.8	219.9
HPP > 10 MW	4,500	11,400	5,120	12,800	4,639.3	6,521.9	5,200	13,000	4,639.3	6,025.5
Geothermal energy	0	0	17	105	0	0	20	120	0	0
SPP	0	0	2,000	2,100	4,924.6	2,932.4	2,300	2,420	6,872.6/ 6,093.6 (ex. households)	6,604.6
Onshore WPP	76	41	2,100	5,460	1,169.9	2,021.7	2,280	5,900	1,314.1	3,251.6
Biomass	0	0	780	3,450	170.1	409.8	950	4,220	212.1	7,50.3
Solid waste	0	0	540	2,415	84	162.4	660	2,950	108.7	278.9
Biogas	0	0	240	1,035	86.1	247.4	290	1,270	103.4	471.4
Total:	**4,625**	**11,471**	**10,155**	**24,225**	**11,007.9**	**12,127.3**	**10,900**	**26,000**	**13,154.9**	**16,851.2**

Source: *PU UWEA, SAEE, 2020*

Bioenergy sector is even in worse situation, with a total installed capacity of only 212.1 MW instead of the planned 950 MW.

With 6,872.6 MW of installed capacity *(ed. against the planned 2,300.0 MW)* only solar power sector achieved the goals envisaged by the NREAP. Ukraine has exceeded the assigned plan for solar capacity installation by a factor of 3!

As of the end of 2020, Ukraine exceeded the overall NREAP target for installed renewable capacity by 18%, mainly at the cost of solar.

The share of renewables in the country's total electricity supply reached 7.3% excluding large HPPs, or 11.3% including large HPPs. With regard to electricity output from renewables, Ukraine missed its target by 35%; only 16,851.2 mln kWh of "green" electricity were delivered to the IPS of Ukraine in 2020 compared to 26,000 mln kWh set by the NREAP.

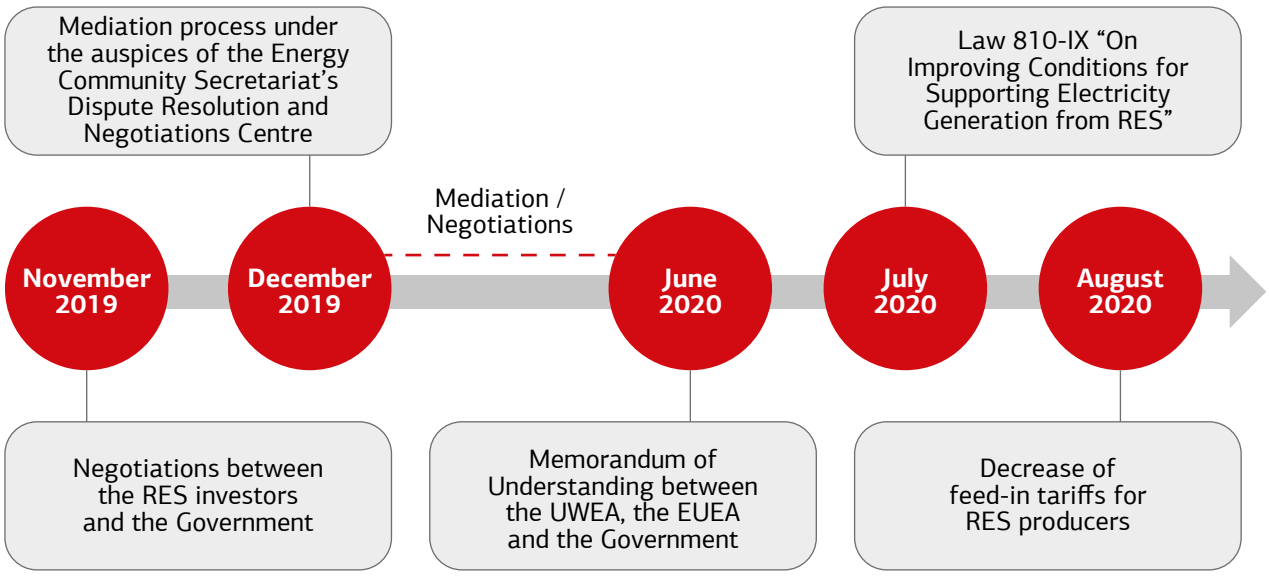
However, due to the fall in total electricity production in 2020 *(ed. only 148,854.0 mln kWh of electricity were delivered by the whole energy sector of Ukraine)* caused by COVID-19 pandemic, the annexation of the AR Crimea and military actions in the Eastern part of Ukraine, we could consider that the NREAP target of achieving 11% share of renewables in total electricity generation have been reached, since the RES share including large HPPs in electricity generation achieved 11.3%.

2.4. MEMORANDUM OF UNDERSTANDING BETWEEN GOVERNMENT AND RES INVESTORS

In November 2019, the first negotiations between the Ministry of Energy of Ukraine and the RES investors about the reduction of "green" tariffs began. The parties involved in the negotiations failed to come to agreement on the terms of reduction of the feed-in tariffs, so to resolve the dispute peacefully, on 9 December, 2019 the RES investors applied to the Energy Community Secretariat's Dispute Resolution and Negotiations Centre *(Dispute Resolution and Negotiations Centre)* for the support for the negotiations with the Government.

As a result of this request, the Dispute Resolution and Negotiations Center initiated a mediation procedure between the UWEA, the EUEA and the Ministry of Energy of Ukraine. Later, the Ukrainian Association of Renewable Energy also joined the mediation process.

Figure 2.4.1. *Timeline of mediation process between the RES investors and the Government of Ukraine under the auspices of the Energy Community Secretariat's Dispute Resolution and Negotiations Centre*



Source: *PU UWEA, 2020*

Figure 2.4.2. *Main Terms of the Memorandum of Understanding*

- **FIT REDUCTION:**
  - 7,5% for WPP with WTGs > 2 MW commissioned from 1 July 2015 to 31 December 2019 inclusive;
  - 2,5% for WPP commissioned from 1 January 2020 onwards;
- **INCREASING FINANCIAL LIABILITY FOR IMBALANCE:**
  50% from 1 January 2021, **100%** from 1 January 2022, tolerance margin for wind – 10%

- **FULL AND TIMELY CURRENT PAYMENT;**
- **SCHEDULE OF DEBTS REPAYMENT;**
- **STATE GUARANTEES AGAINST LEGISLATION CHANGES**

Source: *PU UWEA, 2020*

The Law No 810- IX foresees the following provisions and changes to the "green" tariff rate:

REDUCTION OF THE FEED-IN TARIFF:	
• **for facilities commissioned between 1 July 2015 and 31 December 2019:**	• by 7.5% – for WPPs consisting of wind turbines with the unit capacity equal to or exceeding 2 MW; • by 15% – for SPPs with the installed capacity equal to or exceeding 1 MW; • by 7.5% – for SPPs with the installed capacity up to 1 MW;
• **for facilities commissioned from 1 January 2020:**	• by 2.5% – for WPPs; • by 2.5% – for SPPs with installed capacity up to 1 MW with no restrictions on dates of their commissioning, and for SPPs with installed capacity equal to or exceeding 1 MW and being commissioned by 31 October 2020. • by 30% – for SPPs with installed capacity of 1 MW and up to 75 MW and being commissioned from 1 November 2020 to 31 March 2021; • by 60% – for SPPs with installed capacity equal to or exceeding 1 MW and being commissioned after the above mentioned dates.
• **for SPP commissioned by 30 June 2015:**	• approximately 24.6 eurocents per kWh – at the level of maximum feed-in tariff approved for SPP with the installed capacity exceeding 10 MW being commissioned by 31 March 2013 including, reduced by 5%..
STATE GUARANTEES	the revised feed-in tariff rates will not be further changed or canceled
RESPONSIBILITY OF THE RES PRODUCERS FOR IMBALANCES	For RES facilities with the installed capacity exceeding 1 MW: • 50 % – from 1 January 2021; • 100 % – from 1 January 2022. with tolerance margin: • 5% – for SPPs; • 10% – for WPPs.
PREMIUM FOR LOCAL COMPONENT OF A PROJECT	• 5% bonus on top of the FiT for projects that use 30% of local equipment; • 10% bonus on top of the FiT for projects that use 50% of locally produced equipment; • 20% – bonus on top of the FiT for projects that use 70% of local equipment. For the auction winners after 6 years of RES power plant operation the bonus will amount to 10% only.
REPAYMENT OF THE GUARANTEED BUYER'S DEBT TO THE RES PRODUCERS	• The TSO is obliged to allocate part of the funds *(ed. 35 %)* received from cross-border capacity allocation as of 1 July 2020 to repay debts to RES producers; • The Cabinet of Ministers is authorized to submit *(ed. within 3 months)* a Draft Law on repayment by the Guaranteed Buyer of the debt to RES producers through issue of the government bonds with a circulation period of five years.

After eight months of negotiations the Government and the RES industry came to a conclusion and signed a Memorandum of Understanding on the Settlement of Problematic Issues in the Renewable Energy Industry on 10 June, 2020.

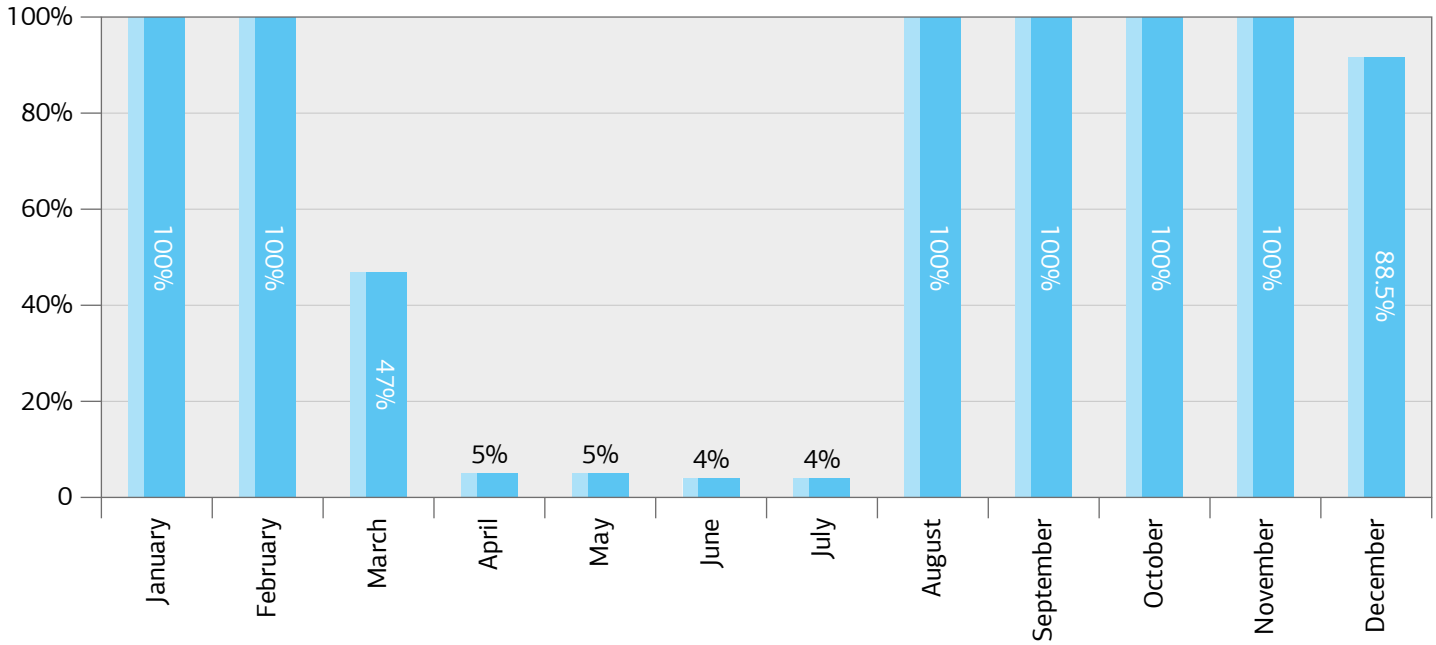
On 21 July, 2020 the Verkhovna Rada of Ukraine adopted the Law of Ukraine No 810-IX "On Amendments to Certain Laws of Ukraine on Improving the Conditions for Promoting Electricity Generation from Alternative Energy Sources" *(the Law No 810- IX)* in line with the Memorandum of Understanding.

On 17 November, 2020, the Law of Ukraine No 553-IX "On Amendments to the Law of Ukraine "On the State Budget of Ukraine for 2020" was adopted by the Verkhovna Rada. This Law provided for the provision of issuing state guarantees for the loans attracted by the NPC Ukrenergo to support its liquidity and sustainability of operations.

On 9 December, 2020, the Cabinet of Ministers of Ukraine adopted Resolution No 1203 "Some Issues of Implementation of the Law of Ukraine "On the State Budget of Ukraine for 2020", according to which in 2020 state guarantees were provided to ensure the fulfilment of debt obligations on loans attracted by NPC Ukrenergo from public sector banks in order to repay debts to the SE Guaranteed Buyer.

As of 1 February, 2021, SE Guaranteed Buyer paid in full only for 6 months of 2020.

Figure 2.4.3. *The level of payments to the RES producers operating under the feed-in tariff*



Source: *SE Guaranteed Buyer, 2020*

On 6 January, 2021, NPC Ukrenergo informed about the conclusion of three loan agreements with JSC Oschadbank, JSB Ukrgasbank and JSC State Export-Import Bank of Ukraine in the amount of UAH 10.25 billion to repay debts to the SE Guaranteed Buyer. However, the procedure for distribution of the received loans became the subject of discussion with the NEURC, which initially planned to use Ukrenergo's credit funds to repay debts to the SE Energoatom instead of the RES producers.

The UWEA, the UARE and the EUEA called on the Head of the NEURC to prevent the Commission from approving the reallocation of funds received by SE Guaranteed Buyer from NPC Ukrenergo for repaying debts to electricity producers, except RES producers. According to the NEURC, the debts to the RES producers should be settled solely by the issuing of domestic government loan bonds. In turn, the RES associations were convinced that the NEURC had no power to make such decision and exceeded its authority.

Copies of this Joint Letter were also submitted to the Acting Minister of Energy of Ukraine, Minister of Finance of Ukraine, Director of the Guaranteed Buyer, the Chairman of the NPC Ukrenergo's Board, the Chairman of Energy Community Secretariat's Dispute Resolution and Negotiation Centre, EU Ambassador, the World Bank Regional Country Director for Eastern Europe, the Managing Director, Eastern Europe and the Caucasus at the European Bank for Reconstruction and Development and the Regional Manager of the International Finance Corporation.

In his response to the Head of the NEURC *(ed. the reaction to the Letter by the RES Associations)*, Mr Dirk Buschle, the Chairman of Energy Community Secretariat's Dispute Resolution and Negotiation Centre, underlined: *"I am concerned that a prohibition to serve the debts of the Guaranteed Buyer towards renewable investors could frustrate the accomplishment of a core objective of the MoU and create further conflict".*

Mr. Matteo Patrone, the Managing Director, Eastern Europe and the Caucasus at the EBRD, reacted similarly: *"We are concerned that the imposition of such restrictions (ed. to allow the repayment of debts all except RES producers) and the corresponding default on the fulfilment of your obligations to RES producers would have an additional impact on the stability of the sector, the financial position of investors and the investor's attitude towards Ukraine as a whole".*

Consideration of the issue related to the settlement of debts owed to the RES producers, scheduled for the NEURC's meeting on 15 January 2021, was once again postponed to an indefinite date. On 16 January 2021 the NEURC published on its official website an instruction on debt settlement in the electricity market addressed to the SE Guaranteed Buyer. According to this instruction at least 50% of funds the SE Guaranteed Buyer being received from NPC Ukrenergo within the Ukrainian bank loans against state guarantees should be transferred in favor of SE Energoatom.

2.5. CONSTITUTIONAL PETITION ON RECOGNITION OF THE "GREEN" TARIFF AS NOT COMPLYING WITH THE CONSTITUTION OF UKRAINE

On 17 July 2020, the Constitutional Court of Ukraine registered a constitutional petition of 47 People's Deputies *(ed. Members of the Parliament)* headed by the People's Deputy Mr. Oleksandr Dubinsky regarding recognising of certain provisions of Ukrainian Laws on establishing a "green" tariff as unconstitutional. Namely, the provisions of the Law of Ukraine No 555-IV "On Alternative Energy Sources" and the Law of Ukraine No 2019-VIII "On Electricity Market".

In particular, the People's Deputies request to declare unconstitutional provisions of the legislation concerning:

- establishment of the main criteria for the "green" tariff rate calculating to be applied by the NEURC when establishing a "green" tariff for RES producers;
- obligations of the Guaranteed Buyer to purchase all electricity sold at the "green" tariff and to pay in full for the purchased electricity;
- establishment of a bonus to the "green" tariff and the auction price for compliance with the level of Ukrainian equipment use.

Table 2.5.1. *Progress of the constitutional proceeding*

Date	Event
17July 2020	In the Constitutional Court of Ukraine a petition of 47 People's Deputies of Ukraine regarding recognition of the mechanism of "green" tariffs as unconstitutional was registered
20 July 2020	The constitutional petition was distributed to the reporting judge Mr. Oleksandr Kasminin
8 September 2020	Ukrainian Wind Energy Association together with the European-Ukrainian Energy Agency and the Ukrainian Association of Renewable Energy filed a petition to the CCU to involve them as involved participants in the constitutional proceeding
8 September 2020	By the decision of the panel of judges of the CCU, it was decided to consider the case of a constitutional petition in written proceeding
28 September 2020	Three leading RES associations sent a petition to the CCU for consideration of specific issues of the constitutional petition in oral proceeding
8 December 2020	RES associations submitted their explanations to the CCU
17 December 2020	An open session of the CCU Grand Chamber was held to consider the petition to recognise the "green" tariff mechanism as unconstitutional. The reporting judge reported on the circumstances of the case, noting that scholars from leading law schools had been asked for conclusions. After that, the judges moved to a closed part of the session without online broadcasting to the public
Preliminarily – at the end of February 2021	The final decision of the CCU is expected

MAIN ARGUMENTS OF PEOPLE'S DEPUTIES AND REFUTATIONS / EXPLANATIONS TO THEM:

1. The Verkhovna Rada of Ukraine exceeded its authority while establishing the mechanisms for the "green" tariff calculation

A clear distinction should be made between the powers of the Verkhovna Rada of Ukraine and the Cabinet of Ministers of Ukraine. The powers of the Verkhovna Rada include determining the principles of domestic and foreign policy, the implementation of the strategic course of the state to gain full membership of Ukraine in the European Union and the North Atlantic Treaty Organization.

In addition, according to Art. 16 of the Constitution of Ukraine, ensuring environmental security and maintaining ecological balance in Ukraine, overcoming the consequences of the Chornobyl catastrophe, and preserving the gene pool of the Ukrainian people is the duty of the state. Public relations in the sphere of production, use, functioning of renewable energy sources are issues of environmental and economic security of the country, the solution of which is necessary to maintain ecological balance throughout Ukraine, which is one of the most important functions of the Ukrainian state. It is Verkhovna Rada as the only legislative, national representative body that is entrusted with such a function.

Also, it should be noted that the state strategy for setting and changing prices is one of the components of the domestic economic and social policy of the state, the CCU has repeatedly emphasized it in its decisions *(ed. CCU decision of 2 March 1999, No.2-rp/1999, CCU decision of 15 April 2004, No.10-rp/2004).*

The analysis of the Law of Ukraine "On Alternative Energy Sources" shows that the Law does not set the "green" tariff rates, but only the main criteria for calculating the "green" tariff to be used by the NEURC when setting a "green" tariff for the RES producers.

The establishment of the rate of the "green" tariff is attributed by law to the NEURC discretionary powers, as it is authorised by law to decide whether or not to provide a "green" tariff for a particular producer, as well as whether or not to provide bonus for the use of Ukrainian-produced components, and other powers.

Therefore, Verkhovna Rada of Ukraine, adopting the main criteria for calculating the "green" tariff rates, acted within its constitutional powers and in no way took over the powers of other state bodies.

2. The establishment at the legislative level of economically unreasonable and extremely high rates of the "green" tariff does not meet the requirements of the Constitution regarding the state's desire for a balanced state budget

The Constitution of Ukraine actually enshrines the principle of the Ukrainian budget balance. CCU interpreted this norm in its decision No. 26-rp/2008 of 27 November 2008, "in determining the revenues and expenditures by the law on the State Budget of Ukraine and the adoption of laws, other regulations that may affect the budget revenues and expenditures, the state must adhere to an equal correlation between them and has a duty to take into account public needs, the need to ensure human rights and freedoms and decent living conditions on the basis of fair, impartial distribution of social wealth among citizens, territorial communities".

The "green" tariff is paid by the Guaranteed Buyer to the RES producers at the expense of the funds received from the sale of electricity on the market, as well as from the funds received from the NPC Ukrenergo as the payment for the service on increasing the share of electricity production from renewable energy sources. That is, the "green" tariff is not financed from the State Budget of Ukraine, and therefore in no way affects the balance of the state budget.

3. Regarding the property rights of the Ukrainian people and the principle of social orientation of the economy

It is necessary to clearly distinguish the concept of "subject of property rights" and the concept of "subject exercising property rights", because the people of Ukraine cannot exercise the powers of the owner on a daily basis, so the constitutional provision on property of the Ukrainian people is constitutional and not civil. Natural resources such as solar energy, wind, water are objects to which all citizens of Ukraine can have access in compliance with the conditions set by the legislation of Ukraine. The right to conduct business activities in relation to the property of the Ukrainian people is not a violation of the constitutional guarantee of the inviolability of the property right of the Ukrainian people, but also serves as a guarantee of its implementation.

In order to fulfill the social function of ownership and the social orientation of the economy, adopting of the decisions by the NEURC on providing a "green" tariff for the RES producers secures guarantees of equal and fair access to natural resources by participants of electricity producing market.

4. Violation of the principles of competition in business activities

The allegations set out by the authors in the constitutional petition are reduced to citing the provisions of Part 3 of Art. 42 of the Constitution of Ukraine and the Law of Ukraine "On Protection of Economic Competition", which is not a convincing argument for their position.

In its turn, the issue of economic competition protection or compliance with antitrust law, in the absence of direct violations of the Constitution of Ukraine, fundamental constitutional principles and values is not the subject of constitutional law, and therefore cannot be the subject of constitutional proceedings.

In modern conditions and taking into account global trends, the development of renewable energy sources in the country should be based on economic competition with traditional sources, as well as taking into account the potential benefits of the RES development. Therefore, the RES development implies the need to resort to support and incentive mechanisms *(ed. "green" tariff)*.

RECOGNITION OF THE PROVISIONS OF THE LAWS ON THE "GREEN" TARIFF AS UNCONSTITUTIONAL WILL LEAD TO:

- violation of state guarantees provided to investors, and, as a consequence, to numerous lawsuits and arbitrations against Ukraine, which, in turn, will lead to an increase of state budget expenditures;
- economic unviability of the RES projects and bankruptcy of investors, which can be interpreted as a violation of private property rights and investments inviolability *(ed. regulatory confiscation)* without proper compensation;
- reduction of tax revenues to the state budget;
- loss of Ukraine's image of an investment attractive country and a reliable partner for investors;
- negative impact not only directly on the RES producers, but also on related industries, in particular, manufacturers of equipment for renewable energy facilities, banking and financial institutions that provided loan financing to the RES producers for the construction of power plants *(ed. creditors),* in particular, but not exclusively, such as the EBRD, NEFCO, WB, IFC, etc;
- loss of numerous jobs of employees of energy industry enterprises that produce energy from renewable sources.

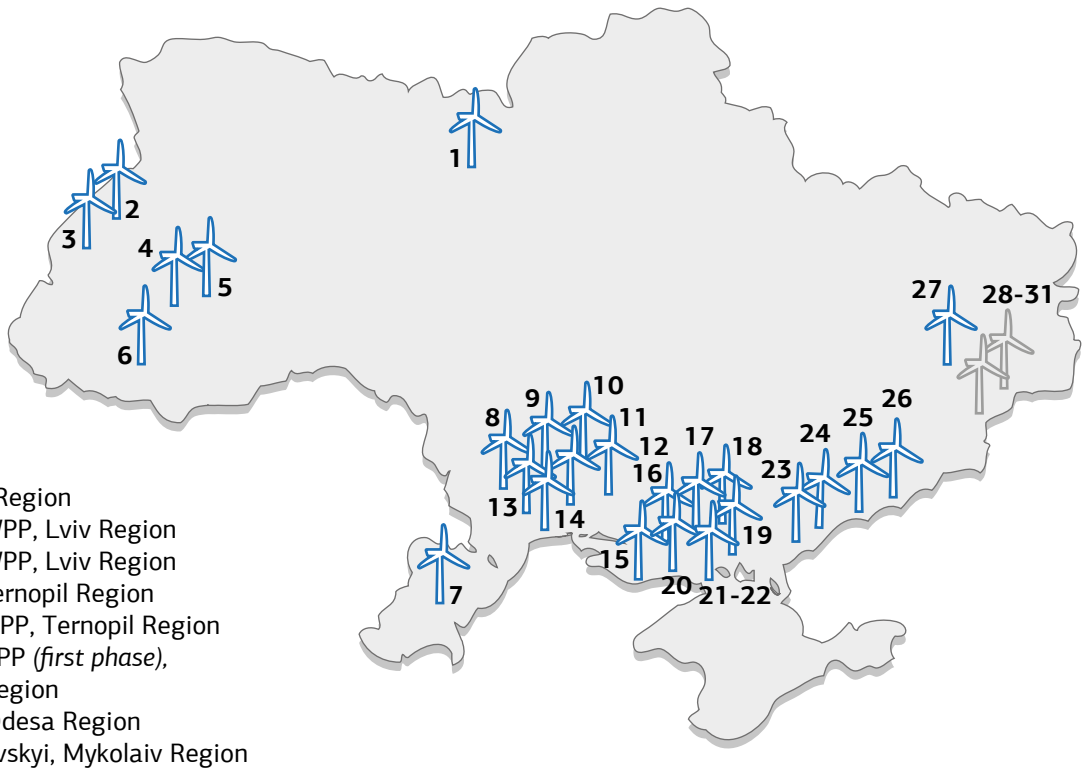
It is important to note that the President of Ukraine and the Ministry of Justice of Ukraine, scholars from leading law schools of Ukraine and NGOs expressed support for alternative energy market participants and submitted to the CCU their conclusions and letters arguing on the constitutionality of the "green" tariff in Ukraine.

2.6. WIND CAPACITY ADDITIONS IN 2020

It has already been said that the year 2019 entered history of the Ukraine's national wind power sector as the year of a breakthrough in the annual growth rates. In the year 2020 wind power companies, operating in Ukraine, met with a problem of total default in payments under contract obligations and strict quarantine restrictions caused by COVID-19 pandemic. Furthermore, the wind industry development occurred against a background of constant manipulation of information and misinformation by certain populists who seek to halt renewable energy development in the country.

However, despite such negative trends, the national wind industry gas survived. Although the growth rate of wind power capacity has decreased significantly, new wind power plants appeared in Kherson, Zaporizhzhia, Mykolaiv and Odesa regions. In total 144.2 MW of wind capacity were commissioned, of which 42.8 MW were erected still in 2019. A similar pattern was observed at the end of 2020.

Figure 2.6.1. *Map of wind farms generating electricity at the "green" tariff*



1. Bonus WTG, Kyiv Region
2. Staryi Sambir 1 WPP, Lviv Region
3. Staryi Sambir 2 WPP, Lviv Region
4. Zborivska WPP, Ternopil Region
5. Bioenergoprom WPP, Ternopil Region
6. Shevchnkove-1 WPP *(first phase)*, Ivano-Frankivsk Region
7. Ovid Wind WPP, Odesa Region
8. Wind Park Ochakivskyi, Mykolaiv Region
9. Wind Park Blagodatnyi, Mykolaiv Region
10. Wind Park Prychernomorkyi, Mykolaiv Region
11. Wind Park Pivdennyi, Mykolaiv Region
12. Wind Park Schaslyvyi, Mykolaiv Region
13. Wind Park Shvydkyi, Mykolaiv Region
14. Singa Energy WPP, Mykolaiv Region
15. Novorosiiska WPP, Kherson Region
16. Stavky WPP, Kherson Region
17. Beregova WPP, Kherson Region
18. Novotroitska WPP, Kherson Region
19. Overyanivska WPP, Kherson Region
20. Myrnenska WPP, Kherson Region
21. Syvaska WPP *(2006)*, Kherson Region
22. Syvaska WPP *(2019)*, Kherson Region
23. Botievska WPP, Zaporizhzhia Region
24. Prymorska 1 WPP, Zaporizhzhia Region
25. Prymorska 2 WPP, Zaporizhzhia Region
26. Orlivska WPP, Zaporizhzhia Region
27. Kramatorska WPP, Donetsk Region
28. Vetroenergoprom WPP, Donetsk Region
29. Wind Park Novoazovskyi, Donetsk Region
30. WInd Park Krasnodonskyi, Luhansk Region
31. WInd Park Lutuginskyi, Luhansk Region

Source: *PU UWEA, 2020*


Photo by Konstantin Brizhnichenko

Thus, as of 31 December 2020, the cumulative installed wind capacity reached 1,314.1 MW, which is 238 MW less than the UWEA's forecasts provided at the beginning of the year *(ed. by the end of 2020, up to 400 MW of new capacity was expected to be added, with total wind capacity to reach around 1,550.0 MW).*

250 MW SYVASH WIND POWER PLANT

In 2020, SyvashEnergoProm LLC continued to implement a 250 MW Syvash wind power plant project using a model N131 / 3900 wind turbine manufactured by Nordex.

As of the end of 2020, the 330/35 kV Syvash substation, which was being constructed as part of the WPP construction project, was completed and connected to the power grid. More than 80% of the planned WTGs were erected. The works on installation of wind power plants and commissioning works are in progress. The first start-up complexes of the 250 MW Syvash WPP started generating electricity with release to the grid.

It should be noted that the project faced unexpected circumstances in 2020 that slowed down the speed of implementation. In particular, the COVID-19 pandemic and related quarantine caused delays in the delivery of certain materials and equipment and slowed down the progress of the construction and installation works. However, despite this, construction works were carried out without interruption, and all sanitary and epidemiological measures recommended by the Ministry of Health of Ukraine were implemented.

Also during 2020, SyvashEnergoProm LLC completed a full range of training activities for the personnel of 250 MW Syvash WPP and organized all processes for the ongoing operation of the wind plant. Special attention was paid to organising the process of WPP generation forecasting in order to provide the SE Guaranteed Buyer with a forecast generation schedule in accordance with legal requirements.

In 2021, 250 MW Syvash WPP is expected to be fully completed and fully operational.

NEW WIND ADDITIONS BY THE MC WIND PARKS OF UKRAINE LLC

Management Company Wind Parks of Ukraine continues to build up the wind power potential of Mykolaiv region. Last year the company put into operation wind turbines at their five wind parks: 4.8 MW of wind capacity were added to the Wind Park Blahodatnyi; 3.5 MW – to the Wind Park Pivdennyi, 9.6 MW – to the Wind Park Prychernomorskyi while 14.4 MW – to the Wind Park Shvydkyi and 4.5 MW – to the Wind Park Ochakivskyi. Wind turbines WTU of Ukrainian origin, are installed at all company's sites. In total, 36.5 MW of new wind capacities were granted "green" tariff in 2020.

The expected annual "green" electricity output of 54.3 thousand kWh will reduced CO_2 emissions by approximately 43 thousand tonnes per year.

COMPANY ELEMENTUM ENERGY COMPLETED FIRST PHASE OF THE DNIPROVSKA WIND PLANT

100 MW Dnistrovska WPP is the first wind project of Elementum Energy, a company that holds a leading position among other international RES producers in Ukraine with total installed solar capacity of over 0.5 GW.

Dnistrovska WPP located in Bilhorod-Dnistrovskiy district, Odesa region, will comprise 20 wind turbines. The project will be commissioned in two phases – 40 MW and 60 MW, respectively.

Construction of Phase I was completed at the end of 2020 and COD is scheduled for April 2021. Phase I is equipped with 10 WTGs manufactured by GE, 4.0 MW each. Projected net annual generation of 146 GWh will contribute to avoiding an estimated 108 tonnes of CO_2 emissions annually.

Despite the pandemic that erupted a month after the construction began, the project was completed on time and on budget in compliance with strict COVID-19 protocols.

Phase II of DWPP is planned for commissioning in 2022.

FIRST PHASE OF 500 MW ZAPORIZHZHIA WIND PARK OF EUROCAPE UKRAINE

The project of 500 MW Zaporizhzhia Wind Park has been developed by EuroCape Ukraine I starting from 2009.

For financing of the project, the company succeeded in involving the Overseas Private Investment Corporation *(ed. OPIC, now DFC),* a US Government financial institution which approved provision of a credit to the amount of USD 150 mln, as well as USD 250 mln as a political risk insurance, for construction Phase I of Zaporizhzhia Wind Park, with participation of JP Morgan. The financing package was used to support construction Phase I with the capacity of 98 MW of the planned wind park with the total capacity of 500 MW.

In 2020 construction of the I Phase of the wind park with the capacity of 98 MW was completed: 27 wind turbines manufactured by GE Renewable Energy with the capacity of 3.6 MW were installed in the territory of Oleksandrivka Village United Territorial Community. Commissioning of the I Phase is planned for Q1, 2021. Furthermore, under the I Phase, construction of high-voltage 330/35 kV Nadezhdyne Electrical Substation was completed.

Construction of the further phases is planned in consecutive order until the full capacity of Zaporizhzhia Wind Park is commissioned. After that EuroCape expects to produce sufficient amounts of independent, clean, renewable electric power for 200,000 households of Ukraine, which will significantly contribute to achievement of Ukraine's energy independence and will compensate for 4,860.000 tonnes of carbon emissions.

The company currently negotiates financing of the further phases with investors and intends to start the construction in 2021. The size of the II Phase directly depends on the situation in Ukraine's renewable energy market and on the investment environment.

After the construction is completed and the aggregate capacity reaches 500 MW, this wind park project, will be able to provide about 780.000 houses with electric power and will become one of the five largest operating onshore wind parks in Europe. With the capacity of 500 MW, 1.8 billion kWh of electric power will be delivered to the National Grid of Ukraine.

Table 2.6.1. *Wind power additioins in 2020, MW*

Wind Power Plant	Owner / operator	Additions in 2020, MW	WTG number and model	Region
Wind Park Blagodatnyi, Olvia-3 WPP	MC Wind Parks of Ukraine LLC	4.8	WTU 1 x 4.8 MW	Mykolaiv
Wind Park Pivdennyi, II Phase Olvia-2 WPP	MC Wind Parks of Ukraine LLC	3.5	WTU 1 x 3.5 MW	Mykolaiv
Wind Park Prychernomorskyi, I Phase Olviyska WPP	MC Wind Parks of Ukraine LLC	9.6	WTU 3 x 3.3 MW	Mykolaiv
Wind Park Shvydkyi, Olvia-5 WPP	MC Wind Parks of Ukraine LLC	14.4	WTU 3 x 4.8 MW	Mykolaiv
Wind Park Ochakivskyi, II Phase Olvia WPP	MC Wind Parks of Ukraine LLC	4.5	WTU 1 x 4.5 MW	Mykolaiv
Wind farm	Singa Energy LLC	6.0	Vestas 2.0 3 x 2.0 MW	Mykolaiv
Syvaska (2019), I Phase	SyvashEnergoProm LLC	101.4	26 x 3.9 MW Nordex N131/3900	Kherson
Total 144.2 MW				

2.7. INTRODUCTION OF "GREEN" AUCTIONS IN UKRAINE

On 25 April 2019, the Verkhovna Rada of Ukraine adopted the Law of Ukraine No. 2712-VIII "On Making Amendments to Certain Laws of Ukraine Concerning Ensuring Competitive Conditions for Electricity Production from Alternative Energy Sources". The relevant Law defined the main provisions for planning and conducting "green" auctions:

- period of auctions conducting;
- formation of annual quotas for the RES auctions;
- issues of mandatory participation in auctions;
- requirements for participation in the auction;
- auction price, mechanism of payment for supplied electricity;
- general issues of the auction organization;
- ensuring competition among the RES producers;
- term for commissioning of the RES facilities and technical conditions for RES facilities, etc.;
- term of support of the auction winner.

On 27 December 2019, the Cabinet of Ministers adopted Resolution No. 1175 "On Introduction of Competitive Conditions to Stimulate Electricity Production from Alternative Energy Sources", by which:

- the Procedure for conducting auctions for the distribution of the support quota was approved;
- the Procedure for selection of operators of electronic platforms for holding auctions for distribution of support quota was approved;
- SE PROZORRO.SALES was determined to be responsible for ensuring the functioning of the electronic trading system – the administrator of the electronic trading system.

In its Overview of the wind energy market of Ukraine for 2019 the UWEA has already provided detailed information on the Law of Ukraine No. 2712-VIII "On Making Amendments to Certain Laws of Ukraine Concerning Ensuring Competitive Conditions for Electricity Production from Alternative Energy Sources" and Resolution No. 1175 "On Introduction of Competitive Conditions to Stimulate Electricity Production from Alternative Energy Sources".

Therefore, in the Market Overview for 2020 we will consider only the changes that were made by the Law of Ukraine No. 810-IX "On Making Amendments to Certain Laws of Ukraine on Improving the Conditions for Supporting the Production of Electricity from Alternative Energy Sources" dated 21 July 2020:

1. A WPP with three turbines unit capacity of which exceeds 5 MW shall not be exempt from compulsory auctions.

2. It was determined an obligation of the CMU to establish annually:

- annual support quota;
- schedule of auctions conducting for the next year;
- indicative forecast indicators of annual support quotas for the four years following the year for which the annual support quota is set.

3. Within annual or additional annual support quota the CMU could:

- identify particular regions for the construction of RES facilities;
- identify the maximum values of the capacity of the power facility or the stage of its construction *(ed. launching complex),* for which the right to support could be acquired;
- propose land plots for construction of the RES facilities with the specified technical parameters and technical conditions for connection to the network;
- propose roofs and/or facades of buildings and other capital structures leased for the construction of the RES facilities that produce electricity from solar energy with certain technical parameters and technical conditions for connection to the grid.

4. The minimum annual support quotas for WPP have been reduced from 15% to 10%; the similar decrease occurred for SPP.

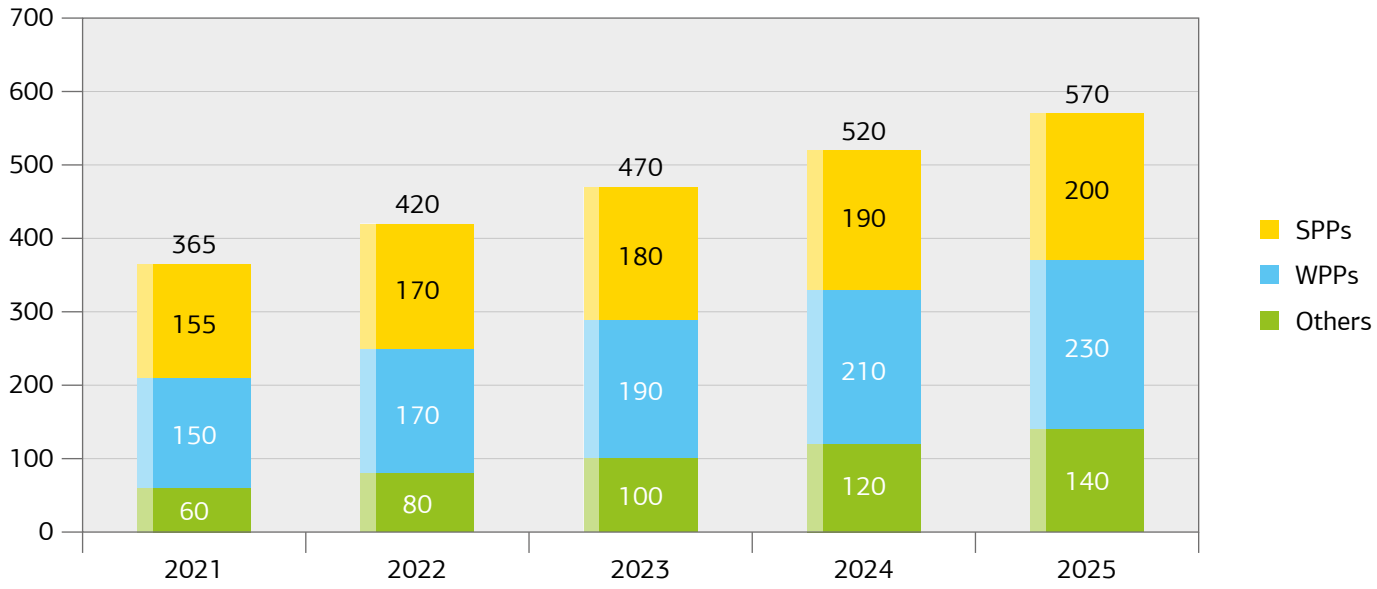
5. The caps for the bidder's price offer for WPP and SPP were changed and unified – not more than 9 eurocents per kWh for auctions which will be held until 31 December 2024, and not more than 8 eurocents per kWh for auctions which will be held from 1 January 2025. For other RES types, the corresponding cap is set at 12 eurocents per kWh.

6. After the end of the auction, the information provided by the auction participants *(ed. not only the proposals)* shall be simultaneously disclosed in accordance with the procedure for conducting auctions on the distribution of the support quota.

7. Auctions for the distribution of support quotas are held for separate renewable energy sources. The CMU could decide to hold auctions without allocation for separate renewable energy sources *(ed. technology-neutral auctions)* and / or auctions for other renewable energy sources *(ed. for example, micro-, mini- and small hydropower plants or bioenergy plants).*

8. To confirm the construction of the facility, business entity shall provide the Guaranteed Buyer with an act on the provision of services for connection of the facility to the electricity grid of the transmission system or distribution system and a certificate issued by the authorised body ascertaining compliance of the constructed power facility, including the stages of the construction of a power plant *(ed. launching complex)* that produces electricity from renewable energy sources, with the design documentation and confirming its readiness for operation, or a declaration of readiness for operation registered in accordance with the law.

Table 2.7.1. *Annual support quota for 2021 and indicative forecast indicators for 2022-2025 proposed by the Ministry of Energy*



Source: *Ministry of Energy, 2020*

Table 2.7.2. *Auctions schedule for 2021*

Type of technology	Type of auction	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Total
Solar	Technology specific						50					50		100
	Up to 1 MW										5			5
	Regional										50			50
Wind	Technology specific						50					100		150
Other RES	Technology specific										60			60
							100				115	150		365

Source: *Ministry of Energy, 2020*

ANNUAL SUPPORT QUOTAS PROPOSED BY THE MINISTRY OF ENERGY OF UKRAINE

According to Law of Ukraine No. 2712-VIII "On Making Amendments to Certain Laws of Ukraine on Ensuring Competitive Conditions for Electricity Production from Alternative Energy Sources", the first pilot RES auction was to take place at the end of 2019. Later, the date of the pilot auction was postponed to April 2020. The crisis that hit the Ukrainian electricity market in 2020 made its adjustments. Only at the end of the year, on 3 December 2020, the Ministry of Energy presented a draft quota to support the production of electricity from renewable sources, the schedule of auctions for 2021 and indicative forecasts of annual support quotas for 2022-2025.

The total capacity offered for distribution at auctions in 2021 is 365 MW, of which:

- WPP – 150 MW;
- SPP – 155 MW *(ed. including regional quota and quota for small distributed generation);*
- Other types of generation *(ed. biomass, biogas, small hydropower)* – 60 MW.

In 2021, two auctions are planned for WPPs:

- June – 50 MW;
- November – 100 MW.

Forecast indicators of annual support quotas for 2022-2025:

- 2022 – 420 MW *(ed. of which WPPs – 170 MW);*
- 2023 – 470 MW *(ed. of which WPPs – 190 MW);*
- 2024 – 520 MW *(ed. of which WPPs – 210 MW);*
- 2025 – 570 MW *(ed. of which WPPs – 230 MW).*

The Ministry of Energy emphasized that the plans for 2022-2025 were indicative and can be adjusted depending on the circumstances.

In his comment on the quotas proposed by the Ministry of Energy Mr. Andriy Konechenkov, Chairman of the UWEA Board, said: *"I would like to thank the Ministry of Energy for presenting the long-awaited support quotas until 2025 and the schedule of "green" auctions. For this purpose, colossal work was carried out. The auctions will be able to stabilise the amount of the electricity tariff and will allow renewable energy sources to compete with fossil fuels. Unfortunately, the level of quotas for wind energy is a bit different from what we expected".* Mr. Andriy Konechenkov also emphasized the need for the NPC Ukrenergo to develop a national plan on construction of balancing facilities in Ukraine.

2.8. FUTURE WIND POWER DEVELOPMENT FORECAST

A severe financial crisis, which the electricity market of Ukraine underwent between the second half of 2019 and 2020, affected the national wind power sector with slowing industry to an almost "stagnant" level. Under these conditions, in mid 2020 the UWEA Secretariat was forced to reduce its forecast for 2021 from previously expected annual addition of 500 MW to 300 MW.

The lack of progress in addressing the debt problem, market uncertainty and low draft quotas for wind power auctions announced by the Ministry of Energy in late 2020 *(more information is in Section 2.7. of the Overview)* will hold back the wind development for a long time to come. Therefore, the UWEA expects only about **400 MW** of new wind capacity to be commissioned in 2021.

This section gives a brief overview of wind projects being currently in the final design phase or in the early stages of construction.

NEW WIND POWER PLANT IN ODESA REGION

In 2020 Yuzhne Energy LLC started construction of the I Phase of its 76.5 MW wind power plant. The wind plant located near the town of Yuzhne in Lymanskyi district, Odesa region, will comprise 17 Nordex wind turbines with 4,5 MW rated capacity, infrastructure objects and 110 kV power line. Commissioning of the wind power plant is expected in 2021. The project owner is the Chinese company China Longyuan Power Group Corporation Ltd., which is the biggest wind farm operator in China.

NORWEGIAN COMPANY WILL BUILD A WIND FARM IN ZAPORIZHZHIA REGION

WPP Zofia, which is owned by the Norwegian company NBT, will be located southwest of the city of Mariupol, north of the Sea of Azov and will have a total installed capacity of up to 790 MW. With expected power generation at 2,770 GWh, Zofia wind power plant will provide environmentally friendly "green" electricity to about 340,000 Ukrainian households.

The construction of the project is planned in three stages: Zofia I with a capacity of 40 MW, Zofia II with a capacity of 300 MW and Zofia III with a capacity of 450 MW. The total amount of investments in all three queues exceeds EUR 1,3 billion. Commissioning of the first stage is scheduled for 2022.

56 MW KAMYANSKA WPP IN ZAPORIZHZHIA REGION

Ukrainian Wind Group LLC has been implementing the project Kamyanska WPP with installed capacity of 56 MW in Bilmatskyi district, Zaporizhzhia region. The project envisages the installation of 13 wind turbines with unit capacity of 4+MW manufactured by leading European companies. Annual electricity output is expected at 196 mln kWh.

WIND PLANTS IN VOLYN

Wind projects being implemented by a company UDPR-Wind will comprise modern wind turbines with unit capacity exceeding 5.5 MW and hub height of around 145 m, produced by the leading wind manufacturers.

In particular, the company's wind project pipeline includes:

- Volyn WPP with installed capacity of 192 MW comprising 33 WTGs, in Lokachinskyi district has been developing by Volyn West Wind LLC. Its first two phases totalling 114 MW are ready for construction. The estimated annual output of the Volyn WPP which is scheduled for commissioning in 2021, amounts to 760.0 mln kWh.
- 120 MW Sukhodolska WPP comprising 20 WTGs, in Sukhodolskyi district has been developing by the Sukhodoly West Wind LLC. The wind farm is expected to generate up to 410.2 mln kWh of "green" electricity per year.

CONSTRUCTION OF VOLODYMYRETS WPP IN RIVNE REGION

Wind park project being developed by the MCL Group is located in Varaskyi district of the Rivne region. Volodymyrets WPP with planned capacity of 72 MW is currently in advanced development stage.

The annual electricity generation at Volodymyrets WPP is projected at 273 mln kWh, enough to supply almost 234,000 households *(ed. equal to 97.5% of household electricity consumption in Rivne region)* with clean electricity, saving up to 102,000 tonnes of CO_2 emissions per year.

Implementation of the project involves its participation in the RE auction, i.e. without "green" tariff. Volodymyrets WPP is planned to attract UAH 95 million *(ed. appr. EUR 2.9 million)* in investment into development of electricity network in the Rivne region and EUR 87 million – in the construction of the wind farm.

THE LARGEST WIND PROJECT IN UKRAINE

On 30 October, 2020, the Ukrainian company WIND FARM and the Chinese company POWER CHINA concluded a contract on joint implementation of 800 MW Wind Power Plant in Manhushskyi and Nikolskyi districts of Donetsk region. With total project value exceeding USD 1 billion, 800 MW wind farm will become the largest one in Ukraine. Electricity generated at the wind farm will be supplied to the end consumers at the market price. Within the project scope the local manufacture of WTG components will be established.

Speaking at the signing ceremony, Andriy Konechenkov noted: *"For me, it is a great honor that both companies – WIND FARM and POWER CHINA – are members of the Ukrainian Wind Energy Association, which is an effective platform for strengthening business networks between our members. Both companies have extensive experience in implementing wind energy projects, so this project is bound to succeed. I'd like to highlight two key peculiarities of the project: firstly, the wind farm will generate and sell electricity to the*

consumers without any "green" tariff. It means that the wind power sector of Ukraine is entering a new phase of its development, based on the competitive market conditions. Secondly, this project envisages a local wind equipment manufacture, which, in turn, will facilitate national wind industry development."

WIND FARM LLC has recently signed a Memorandum of Cooperation with the Ministry of Reintegration of the Temporarily Occupied Territories of Ukraine and the Donetsk Regional State for implementation the construction of the 800 MW wind power plant in Donetsk region. The project will contribute to the economical development of the region through job creation, modernisation of the regional electrical infrastructure and filling of the state and local budgets.

WIND PROJECT PIPELINE FOR ZHYTOMER REGION

The total wind project pipeline of Wind Solar Energy LLC reaches up 353 MW or 13 wind projects in Zhytomyr region. The company has already completed all design works, received building permits and concluded prePPA with SE Guaranteed Buyer. Though a final decision on the WTG model to be used for the projects have not been yet made, a wind turbine models with unit capacity of 3.57 MW and higher are planned for the wind farms.

The projects will be implemented in several phases. The I Phase includes construction of such wind power plants as 25.2 MW Ovrych WPP and two wind power plants located not far form a town of Berdychiv – Berdychiv-1 WPP and Berdychiv-2 WPP, each with installed capacity of 28.56 MW.

WIND PROJECTS FOR KHERSON REGION

Wind company Vindkraft Kalanchak that commissioned the 163 MW Myrnenska wind farm in 2019 is currently developing two more wind farms with projected capacity of 300 MW each in the south of Kherson region, namely in Chaplynskyi and Kalanchakskyi districts. Electricity generation at these wind power plants would result in annual CO_2 savings of more than 1.8 mln tonnes per year.

PILOT PROJECT OF MARIIVKA WPP

Commissioning of the 20 MW wind project being implemented by SE Vuglesintezgas of Ukraine is scheduled for 2022 while the on-site wind measurement campaign to be completed in March 2021. The project is located near village of Mariivka in Bashtanskyi district, Mykolaiv region.

Wind projects development is in line with the Corporate Strategy of Naftogaz Group, of which Vuglesintezgas of Ukraine is a subsidiary. The company has a wind power project development portfolio with individual projects being at the different phases of development. Installed capacity of the wind projects varies from 20 to 50 MW. Currently the company is holding negotiations with international financial institutions with a view to raising funds for renewable energy projects.

THE FIRST MODERN WIND FARMS IN IVANO-FRANKIVSK REGION BY PRYKARPATTYA ALTERNATIVE POWER LLC

Prykarpattya Alternative Power LLC implements a 35 MW Dolynska wind power plant located near the villages of Rakhinya and Novychka in Dolynskyi districts. With expected power generation at 70 mln kWh Dolynska WPP will annually save up to 55.5 thousand tonnes of CO_2 emissions.

55 MW PEREHINSKA WPP IN IVANO-FRANKIVSK REGION

Clear Energy Group of Companies has developed a 55 MW wind farm project in a mountainous area in Ivano-Frankivsk region. The annual generation of clean electricity is expected at 154 million kWh. The company plans to install 10 wind turbines manufactured by Enercon GmbH. The project has received all necessary permissions and licences. The construction is scheduled for 2022-2023.

60 MW SKOLIVSKA WPP IN LVIV REGION

An ambitious wind project in the mountainous area in Lviv region is implementing by Atlas Global Energy LLC. The future 60 MW Skolivska WPP is located in the territory of Skolivsk district near the mountain Berdo. The wind farm comprising 16 wind turbines manufactured by Nordex, will generate up to 180 mln kWh per year. Construction work is due to start in 2021.

NEW WIND CAPACITIES FOR LVIV AND VOLYN REGIONS

Greenville Group of Companies implements several wind projects totaling 295 MW in Ukraine, in particular in Lviv and Volyn regions. Construction of the 50 MW wind power plant in Yavorivskyi district envisages installation of 12 wind turbines with unit capacity of up to 5 MW. With annual electricity output at 180 mln kWh, the farm will supply electricity to nearly 23,000 households. As of the date of this Overview, substation 100 kV and 110 kV overhead power line have been already constructed and connected to the NPC Ukrenergo's grids.

Construction of another wind farm with projected capacity of 100 MW consisting of 24 wind turbines is planned in Yavorivskyi and Horodetskyi districts in Lviv region. The project has already received all permits necessary for starting construction works. Annual electricity generation is expected at 360 mln kWh, enough for delivering clean electricity to almost 47,000 households.

As of early 2021, continuing company's activities include intense development of a 145 MW wind farm in Volyn region. With annual electricity output at around 540 mln kWh, the wind farm will supply electricity to nearly 68,000 households.

15 MW WIND POWER PLANT

Company Ferozit Wind Energy, a part of the Ferozit Group of Companies, with more than 25 years of experience in Ukraine, has been developing a 15 MW wind project near the village of Pozdymyr in Lviv region. It's planned to install 4 wind turbines with unit capacity of 4 MW. As of the date of this Overview, the company has already concluded a prePPA with the SE Guaranteed Buyer and is completing the design works.

MOUNTAIN WIND FARM IN LVIV REGION

Company Eco-Optima has been developing a 50 MW Orivska wind farm project. Located near the village of Orivskyi in Stryiskyi districts, the project site stretches along the Orivsky ridge at an attitude of over 750 m!

The two-year wind measurement campaign has confirmed an annual mean wind speed of of 7.7. m/sec. The company has already completed design works and concluded a prePPA with the SE Guaranteed Buyer. Within the scope of the Orivska WPP it is planned to install 13 modern 3.5 MW wind turbines and construct a 14 km power line. Construction is scheduled for 2021-2022.

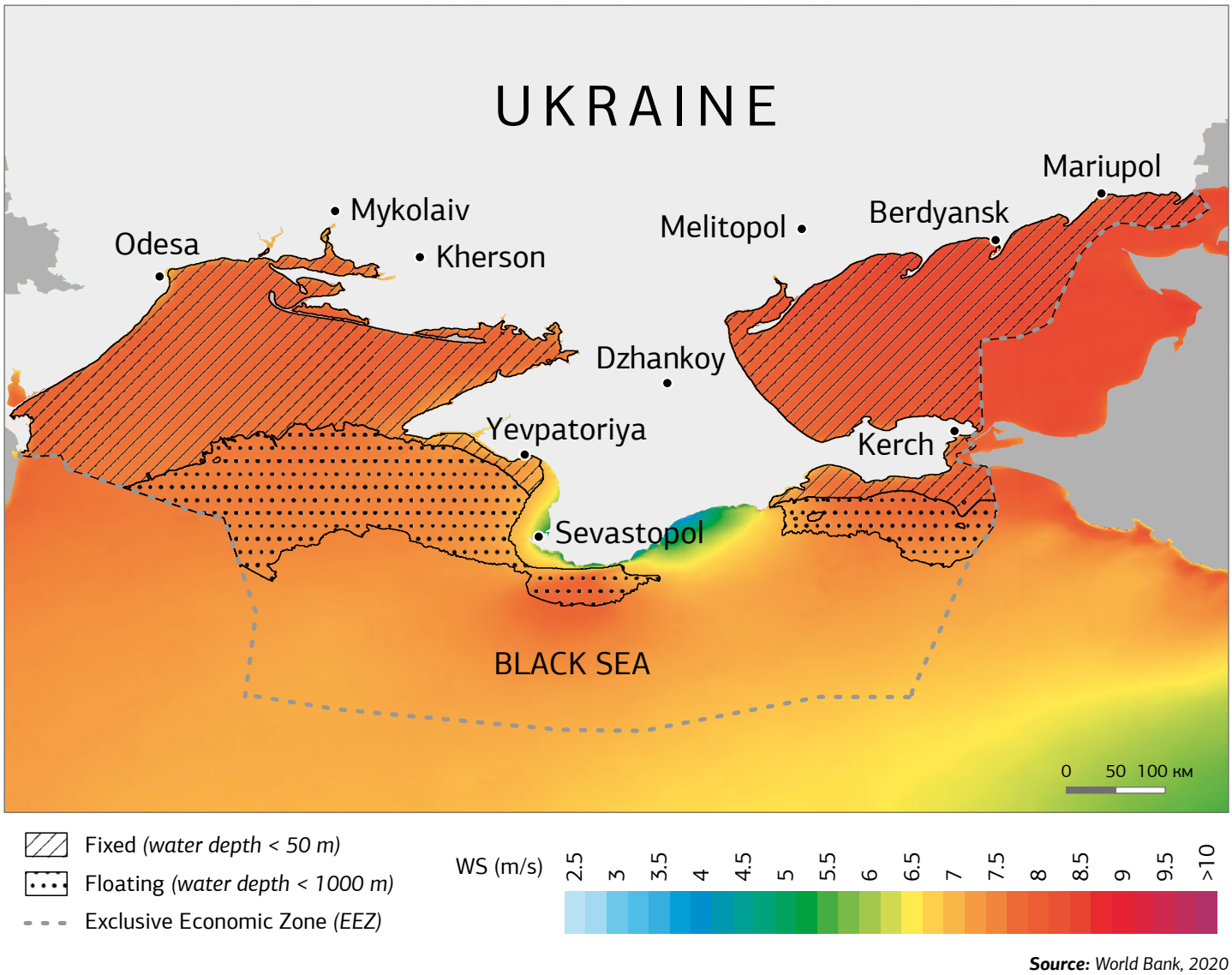
2.8.1. PROSPECTS FOR OFFSHORE WIND DEVELOPMENT IN UKRAINE

As indicated in the EU Strategy, to harness the potential of offshore renewable energy for a climate neutral future, which is a part of the European Green Deal, the Black Sea offers a good natural potential for offshore wind and localized potential for wave energy.

Regional cooperation already takes place in the context of the Common Maritime Agenda for the Black Sea of which Ukraine is a participant. The Black Sea strategic research and innovation agenda lists as one of its priorities to stimulate emerging blue economy sectors, such as offshore wind and wave technology.

When looking at the EU and Energy Community members in the Black Sea, offshore wind may well be the region's best bet to meet the objectives of the European Green Deal. A recent World Bank analysis estimated the technical offshore wind potential for Ukraine in the waters of Black and Azov Seas in total of 251 GW, including the territory of the annexed Crimea.

Figure 2.8.1. *Technical offshore wind potential for Ukraine in the waters of Black and Azov Seas (including AR Crimea)*



Source: *World Bank, 2020*

However, a number of discrepancies in the legislation of Ukraine shall be resolved to allow development of offshore WPPs in territorial maritime belt of Ukraine.

A number of permits are required to start construction of the offshore WPPs under current legislation of Ukraine, including permit from the Ministry of Environment Protection and Natural Resources of Ukraine. In accordance with the Water Code of Ukraine and the Regulations on the State Agency for Water Resources of Ukraine, the Agency issues a permit for dredging, laying cables, pipelines and other communications on the lands of the water fund.

At the same time, Ukrainian legislation lacks structured approach to consolidated legal base for offshore WPP development. Moreover, new regulations shall be adopted allowing construction and maintenance of fixed and floating wind turbines, their interconnection grids, construction of offshore and onshore substations, cable laying.

The offshore construction of the WPPs in Ukraine must face a drastic change in legislation, including filling gaps in regulation of the land and underwater area, underwater easement establishment of the plots located in coastal areas and within the sea shelf, offshore WPP land designation, construction permission procedure and overall construction activities under and above the water.

In addition, special maritime spatial planning legislation shall be adopted based on provisions of Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning and legislation on environmental impact assessment shall be improved.

Ukrainian laws lack regulatory norms to connect the wind power plant to the TSO or DSO grids, therefore respective amendments in the Transmission system Code and the Distribution system Code shall be made.

In relation to operation & maintenance of the offshore power plants, the legislation should include the details on commuting technicians to the wind farm in terms of its interaction with the passage routes of vessels. Decommissioning obligation should be also included in the current Ukrainian legislation. This obligation is included in the legislation of almost all EU countries.

The Law of Ukraine “On Alternative Energy Sources” should add offshore power plants as power plants eligible for “green” tariff and RES auctions.

II UKRAINIAN LEGISLATION IN THE FIELD OF WIND ENERGY

3.1. SUMMARY OF LEGISLATIVE CHANGES IN 2020

3.1.1. APPROVED FORECAST ELECTRICITY BALANCE OF THE INTEGRATED POWER SYSTEM OF UKRAINE FOR 2021

The relevant decision was adopted by the Ministry of Energy on 4 November 2020.

According to this balance, the amount of electricity produced from the renewable energy sources in 2021 is expected at a level of 13,120 mln kWh; the amount of electricity produced by the wind power plants is expected at the level of 5,400 mln kWh. These figures exceed the corresponding indicators that were specified in the Forecast Balance of Electricity of the Integrated Power System of Ukraine for 2020, approved on 28 April 2020 – by 15% and 40%, respectively.

The amount of electricity consumption *(ed. gross)* in 2021 is expected at a level of 145,000 million kWh *(ed. an increase of 1.7% compared to 2020)*.

3.1.2. THE LAW OF UKRAINE NO. 466-IX "ON MAKING AMENDMENTS TO THE TAX CODE OF UKRAINE TO IMPROVE TAX ADMINISTRATION, ELIMINATE TECHNICAL AND LOGICAL INCONSISTENCIES IN TAX LEGISLATION" DATED 16 JANUARY 2020

According to the Law, energy equipment for solar and wind power plants was excluded from the list of goods importing into the customs territory of Ukraine and supplying in the customs territory of Ukraine of which are exempt from charging with VAT.

3.1.3. THE LAW OF UKRAINE NO. 1006-IX "ON MAKING AMENDMENTS TO THE LAW OF UKRAINE "ON THE STATE BUDGET FOR 2020" DATED 17 NOVEMBER 2020

This Law introduced some amendments to the State Budget for 2020 and established a provision of the state guarantees to ensure fulfilment of the NPC Ukrenergo's debt obligations.

This enabled NPC Ukrenergo to obtain credit funds to reduce the company's debt to the SE Guaranteed Buyer and settlements of the SE Guaranteed Buyer with RES producers.

According to the information posted on the website of the NEURC, the Regulator instructed the SE Guaranteed Buyer to channel at least 50% of the funds received from NPC Ukrenergo to repay debt to the SE Energoatom.

3.1.4. AMENDMENTS TO THE RESOLUTION OF THE CABINET OF MINISTERS OF UKRAINE NO. 483 DATED 5 JUNE 2019 "ON APPROVAL OF THE REGULATION ON IMPOSING SPECIAL OBLIGATIONS ON ELECTRICITY MARKET PARTICIPANTS TO ENSURE PUBLIC INTERESTS IN THE FUNCTIONING OF THE ELECTRICITY MARKET"

In 2020, a number of amendments were made to the Resolution on Imposing Special Obligations on Electricity Market Participants to Ensure Public Interests in the Functioning of the Electricity Market.

As of 1 January 2021, the following important changes could be identified:

- It was envisaged an obligation of SE Energoatom, the operator of Ukrainian nuclear power plants, to sell electricity under bilateral agreements to the SE Guaranteed Buyer at electronic auctions at the price of UAH 150 per 1 MWh.
- It was envisaged an obligation of PrJSC Ukrhydroenergo to sell electricity produced at hydroelectric power plants under bilateral agreements to the Guaranteed Buyer at electronic auctions at the price of UAH 10 per 1 MWh.
- The amount of electricity that SE Energoatom has to sell in accordance with its special obligations was reduced to 50-55%, the amount of PrJSC Ukrhydroenergo was reduced to 30%.
- SE Guaranteed Buyer received the right to sell electricity under bilateral agreements.
- A single fixed price for electricity for domestic consumers was determined – 1.68 UAH per kWh.
- PSO mechanism validity term was extended until 31 March 2021.

3.1.5. RESOLUTION OF THE CABINET OF MINISTERS OF UKRAINE NO. 640 "ON APPROVAL OF CRITERIA FOR ASSESSING THE DEGREE OF RISK FROM ECONOMIC ACTIVITIES IN THE SPHERES OF ELECTRICITY AND HEAT SUPPLY AND DETERMINING THE FREQUENCY OF PLANNED MEASURES OF STATE SUPERVISION *(CONTROL)* BY THE STATE INSPECTORATE FOR ENERGY SUPERVISION, AND RECOGNITION AS INVALID OF SOME REGULATIONS OF THE CABINET OF MINISTERS OF UKRAINE" DATED 22 JULY 2020

The Government approved the criteria for determining the degree of risk in the electricity industry. Based on the results of determining the risk degree, the frequency of inspections by the Inspectorate for Energy Supervision will be determined.

High- and medium-risk companies could be inspected more frequently *(ed. but not more often than on a biennial and triennial basis, respectively).* For example, WPPs with a capacity exceeding 100 MW belong to entities with a medium degree of risk *(ed. or high if there are other criteria).*

3.1.6.RESOLUTION OF THE CABINET OF MINISTERS OF UKRAINE NO. 887 "ON MAKING AMENDMENTS TO THE PROCEDURE FOR CONDUCTING ELECTRONIC AUCTIONS FOR THE SALE OF ELECTRICITY UNDER BILATERAL AGREEMENTS" DATED 28 SEPTEMBER 2020

With introducing of relevant amendments, the Procedure now also applies to other participants on the electricity market who intend to sell electricity in accordance with the electronic auctions terms.

The seller is obliged in a special session of sale of electricity produced from alternative energy sources to sell electricity at a price not lower than the starting price, i.e. the starting price of electricity supplied *(acquired)* by the SE Guaranteed Buyer on a daily basis for a certain period of time and in terms of certain hours of supplying *(ed. types of sales schedule),* not lower than the one determined by the SE Guaranteed Buyer in the trade zones "Integrated Power System of Ukraine" and "Burshtyn Island TPP" according to the formula specified in the Procedure.

The Procedure for holding a special session on the sale of electricity produced from alternative energy sources was also defined. In particular, it was determined that the sale of electricity under bilateral agreements at auctions in the form of special sessions is carried out by the SE Guaranteed Buyer. The sequence of a holding of mentioned special sessions is specified:

- by the 1st day of each billing month *(M)* – regarding sale of electricity under bilateral agreements with a term of execution *(ed. period of supply/ acquiring of electricity)* of a month *(M)* in the calendar *(billing)* month following the month in which such an auction is held;
- by the 8th day of each billing month *(M)* – regarding sale of electricity under bilateral agreements with a term of execution (ed. period of supply/ acquiring of electricity) of the second and third decades of the month *(TD)* in the month in which such an auction is held;
- by the 18th day of each billing month *(M)* – regarding the sale of electricity under bilateral agreements with a term of execution *(ed. period of supply/*

acquiring of electricity) of the third decade of the month *(TD)* in the month in which such an auction is held.

The procedure for calculating the amount of electricity offered by the SE Guaranteed Buyer for sale at each type of special sessions mentioned above is indicated:

- for the first type auction, the amount of electricity offered for sale *(ed. total for all trade zones)* should not be more than 90% and not less than 40% of the amount of electricity produced from alternative sources in the billing month approved in the Forecast Electricity Balance of the Integrated Power System of Ukraine for the relevant year;
- for the second type auction, the amount of electricity should not be more than 90% of the amount of electricity produced from alternative sources in the billing month approved in the Forecast Balance for the relevant year, except for the amount sold during the second and third decade of the billing month according to the results of the previous auction *(ed. the first type);*

- for the third type auction, the amount of electricity should not be more than 90% of the amount of electricity produced from alternative sources in the billing month, approved in the Forecast Balance for the relevant year, except for the amount sold during the third decade of the billing month according to the results of previous auctions *(ed. the first and second types).*

3.1.7. RESOLUTION OF THE NATIONAL ENERGY AND UTILITIES REGULATORY COMMISSION NO. 158 "ON APPROVAL OF AMENDMENTS TO THE PROCEDURE FOR ESTABLISHING, REVISING 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" DATED 14 JANUARY 2020

The following amendments were made regarding the documents to be submitted to the NEURC together with the application for the establishment of a "green" tariff:

- an explanatory note should contain information on the net electricity supply of the electric power facility;
- a consolidated estimate of the construction of the electric power facility should contain the actual construction costs; grid connection cost should also be specified in the estimate;
- a copy of the relevant certificate of readiness for operation should be attached to a copy of the certificate verifying the conformity of the completed RES facility with the project documentation and confirming its operational readiness.

A term within which the NEURC has to notify the licensee in writing of leaving the application for the establishment / revision of a "green" tariff without consideration was specified – 15 calendar days. In addition, a rule was added that if after leaving an application without consideration a business entity re-applied to the NEURC with an application to establish / revise a "green" tariff and attached documents, which did not eliminate the discrepancies that became the basis for leaving the application without consideration, the NEURC is entitled to decide to refuse to establish a "green" tariff.

The NEURC structural unit, the main tasks of which include the implementation of tariff policy in the sphere of electricity generation at installations using alternative energy sources, considers the application of the business entity to establish / revise the "green" tariff and attached documents, prepares and submits materials for the NEURC meetings held in the form of an open hearing, for consideration the issue of establishing / reviewing or refusing to establish a "green" tariff for a business entity within 30 calendar days from the date of their receipt.

A rule has also been established that if during the review of the application for establishment / revision of a "green" tariff by an economic entity there is a need to obtain additional clarifications and / or materials from authorized bodies or the licensee, consideration of the application is suspended for a period up to the receipt of such explanations and / or materials. The NEURC notifies the licensee about such suspending in writing.

Therefore, future RES electricity producers should keep in mind that the actual deadline for setting the "green" tariff may exceed 30 calendar days due to the receipt of all explanations and / or materials.

3.1.8. RESOLUTION OF THE NATIONAL ENERGY AND UTILITIES REGULATORY COMMISSION NO. 548 "ON APPROVAL OF THE PROCEDURE FOR LICENSING OF ECONOMIC ACTIVITY TYPES, THE STATE REGULATION OF WHICH IS CARRIED OUT BY THE NEURC" DATED 3 MARCH 2020

The relevant Regulation determines the procedure for issuing, reissuing, suspending, revoking licenses and other issues related to the licensing of economic activities, the state regulation of which is carried out by the NEURC.

It is prescribed a detailed list of economic activities carried out by the entities on the electricity, natural gas, oil and oil products markets and public utilities sphere, which are covered by the Licensing Procedure. Inter alia, the relevant Licensing Procedure applies to electricity producing, supply of electricity to consumers and electricity trading activities.

Licensing Procedure governs, inter alia, the following issues:

Documents to be submitted to obtain a license:

- Application;
- Supporting documents:
  - documents specified by the relevant license conditions;
  - a copy of the passport of the licensee head *(ed. or his/her authorised representative)*
  - description of the documents submitted for obtaining a license, in two specimens *(ed. in case of submission of the documents in paper form).*

The application together with supporting documents can be submitted to the NEURC:

- personally *(ed. in paper form);*
- via mail with a list of enclosures;
- in electronic form in the manner prescribed by the CMU.

The NEURC within seven working days from the date of receipt of the application for a license obtaining identifies the existence or absence of grounds for leaving it without consideration.

Grounds for leaving the application for a license obtaining without consideration:

- non-submission of some supporting documents;
- the application/ supporting document signed by a person who does not have the authority to do so;
- an absence in the Unified State Register of Legal Entities, Individual Entrepreneurs and Public Formations of information on the licensee or the availability of information on the state registration of its termination, etc.

Grounds for refusal to issue a license:

- non-compliance of the licensee with the license conditions;
- control over the activities of the licensee by residents of states carrying out armed aggression against Ukraine;
- failure to provide a guarantee letter *(ed. in case of transfer of the integrated property complex of the licensee to another entity that intends to obtain the appropriate license);* inaccuracy of data provided in the supporting documents;
- the availability of information at the disposal of the NEURC on the court's decision regarding the licensee, which has entered into force and prohibits the licensee from conducting relevant type of economic activity.

Issuance of a license

If during the consideration of the application for a license obtaining it is established that there are no grounds for refusal to issue a license, the NEURC shall decide to issue a license.

A one-time fee in the amount of subsistence minimum *(ed. as of 1 January 2021 – UAH 2,189)* is charged for the issuance of a license. The license fee shall be paid by the licensee no later than ten working days.

When reconsidering the documents, it is not allowed to refuse to issue a license for the reasons not previously specified in the decision on refusal to issue a license *(ed. except for failure to fully eliminate the discrepancies which were the grounds for the previous refusal; the existence in new information submitted by the licensee of the issues which are grounds for refusing to issue a license),* provided that at the time of reconsideration previously submitted documents have remained relevant.

A term for making a decision on issuing a license or refusing to issue it is:

- ten working days from the date of receipt of the application for obtaining a license for the right to provide economic activity belonging to adjacent markets;
- twenty working days from the date of receipt of the application for obtaining a license for the right to provide economic activity belonging to the natural monopolies sphere.

A license is issued for an unlimited period

The licensee is obliged to notify the NEURC of any changes in the data indicated in the application or supporting documents within the period specified in the license conditions, but not more than one month.

Termination of the license in case of the following grounds:

1) receipt of a licensee's application to suspend its license;

2) non-fulfilment of the decision to eliminate violations of licensing conditions and energy & utilities legislation;

3) transfer of an integrated property complex by the licensee to another entity that has received the appropriate license;

4) non-payment for the license issuance, etc.

The grounds for License Revocation are:

- receipt of a licensee's application for revocation of its license;
- failure of a licensee to eliminate the issues which were grounds for license suspension based on the results of the NEURC inspection;
- availability in the Unified State Register of Legal Entities, Individual Entrepreneurs and Public

Formations of information on state registration of a legal entity termination *(ed. with certain exceptions);*
- repeated violation by a licensee of licensing conditions and energy & utilities legislation;
- identification of data inaccuracy in the documents submitted by the subject together with the application for a license obtaining;
- refusal of a licensee from the NEURC's inspection;
- documentary confirmation of control over the licensee's activities by residents of states carrying out armed aggression against Ukraine, etc.

3.1.9. RESOLUTION OF THE NATIONAL ENERGY AND UTILITIES REGULATORY COMMISSION NO. 1070 "ON APPROVAL OF AMENDMENTS TO THE TRANSMISSION SYSTEM CODE" DATED 3 JUNE 2020

Inter alia, the Transmission Systems Code was amended as follows:

Now the following installations could be connected to the transmission system:
- consumer's electrical installations at the voltage level of 110 kV and above according to the feasibility study *(ed. previously – 220 kV and above);*
- electrical installations of existing consumers regarding changing of the permitted capacity without increasing the level of installation's electrical supply reliability, voltage changing and / or changing the power supply circuit.

A connection point of customer's electrical installations will be indicated in the contract on connection of electrical installations to the transmission system.

In case of reaching the limits of operational safety of the Ukrainian IPS functioning, the NPC Ukrenergo should take measures regarding:
- temporary suspension *(restriction)* of the issuance of technical conditions for connection and/ or
- submission of written conclusions / recommendations on the implementation of technical measures to ensure proper and sustainable operation of electricity facilities in the IPS of Ukraine and/ or
- implementation of technical and market measures provided for in the approved Report on the compliance assessment *(sufficiency)* of the generating facilities.

3.1.10. RESOLUTIONS OF THE NATIONAL ENERGY AND UTILITIES REGULATORY COMMISSION REGARDING THE TARIFFS FOR ELECTRICITY TRANSMISSION SERVICES AND DISPATCHING *(OPERATIONAL AND TECHNOLOGICAL)* MANAGEMENT SERVICES

The NEURC Resolution No.1329 "On Amendments to the NEURC Resolution dated 10 December 2019 No. 2668" dated 11 July 2020 amended the NEURC Resolution No. 2668 "On Establishing of a Tariff for Electricity Transmission Services of PrJSC NPC Ukrenergo for 2020": the tariff for electricity transmission services was set at the level of 240.23 UAH per MWh *(ed. excluding VAT),* as well as respective changes were made to the tariff structure.

Later, the NEURC Resolution No.1998 dated 4 November 2020 amended the above-mentioned regulation: the tariff was increased to 312.76 UAH per MWh *(ed. excluding VAT).*

From 1 January 2021 the amount of the electricity transmission services tariff is 293.93 UAH per MWh *(ed. excluding VAT).* The corresponding tariff was approved by the NEURC Regulation No. 2353 "On Establishing of a Tariff for Electricity Transmission Services of PrJSC NPC Ukrenergo for 2021" dated 9 December 2020.

By the NEURC Resolution No. 2354 "On Establishing of a Tariff for the Dispatching *(Operational and Technological)* Management Services of PrJSC NPC Ukrenergo for 2021" dated 9 December 2020 the corresponding tariff was set at the level of 39.41 UAH per MWh *(ed. excluding VAT).*

3.1.11. RESOLUTION OF THE NATIONAL ENERGY AND UTILITIES REGULATORY COMMISSION NO. 1571 "ON APPROVAL OF THE AMENDMENTS TO THE LICENSING CONDITIONS FOR CONDUCTING ECONOMIC ACTIVITY ON ELECTRICITY PRODUCTION" DATED 19 AUGUST 2020

The term "installed capacity" was specified as the nominal active electric capacity of the generating equipment confirmed by the technical documentation or technical passport of the generating equipment.

It is provided that to obtain the appropriate license, the following documents should be additionally submitted:
- a copy of the document certifying the readiness of the power facility for operation, or a copy of the document confirming the ownership of the relevant power facility;
- information on confirmation of the absence of control over the activities of the business entity by residents of the states carrying out armed aggression against Ukraine.

Provisions envisaging the right of the licensee to appeal to the NEURC to suspend the license in whole or in part and renew the license in whole or in part were added.

It was added an organizational requirement to the licensee in case of its license suspending:

- completely suspend electricity producing within the places of economic activity in which the license was suspended;
- to take actions aimed at eliminating the reasons for license suspension.

3.1.12. RESOLUTION OF THE NATIONAL ENERGY AND UTILITIES REGULATORY COMMISSION NO.2084 "ON APPROVAL OF CHANGES TO THE MARKET RULES" DATED 11 NOVEMBER 2020

The concept of a "seller of the Guaranteed Buyer" *(SGB)* was introduced – an electricity producer that sells electricity under a "green" tariff, or a producer who has acquired the right on support as a result of the auction.

At the end of each month the NPC Ukrenergo publishes on its official website information on the results of the balancing market, which will include, inter alia, the amount of electricity not supplied by the SGBs and which is subject to reimbursement.

A special account A-I was introduced – an account for compensation for electricity not supplied by the SGB. Account A-I is debited from the SGB reimbursement and credited from the funds provided in the tariff structure of the NPC Ukrenergo for electricity transmission services, fees for non-compliance in the process of the execution of such commands and other sources provided by legislation.

The provisions on the calculation of compensation for non-supplied electricity of SGB and fees for non-compliance with the dispatcher's command execution to reduce the SGB load were also added.

The amount of compensation is equal to the product of the "green" tariff or auction price, which corresponds to such producer and the amount of unsupplied electricity, calculated in accordance with the Methodology of calculating the amount of unsupplied electricity by the producer, who sells electricity at the "green" tariff or at the auction price, as a result of execution of the transmission system operator's commands *(Methodology),* which is Annex 8 to the Market Rules.

The corresponding Methodology determines the reference method, and in case of impossibility of its application, the calculation method.

The amount of compensation is calculated by a producer or another market participant and checked by the NPC Ukrenergo.

In case of incomplete execution of the dispatcher's command for unloading by a producer selling electricity at the "green" tariff or at the auction price, such producer shall make payment for non-compliance with the execution of such command.

The procedure for issuing invoices for compensation to SGB for unsupplied electricity and payments for non-compliance with the dispatcher's commands for unloading was also set out.

It is important that the relevant NEURC Resolution stipulates that the NPC Ukrenergo is obliged to compensate for electricity unsupplied before 1 January 2020 by the producers who sell electricity at a "green" tariff as a result of the NPC Ukrenergo's commands to reduce load.

3.1.13. RESOLUTION OF THE NATIONAL ENERGY AND UTILITIES REGULATORY COMMISSION NO. 2494 "ON APPROVAL OF THE AMOUNT OF CONTRIBUTION FOR THE CREATION OF A SPECIAL *(DESIGNATED)* FUND INTENDED TO COVER THE ARBITRATION COSTS OF SE "GUARANTEED BUYER" DATED 16 DECEMBER 2020

The amount of the contribution for the I-III quarters of 2020 is 0.11% of the net income of the contributions payer from the activity of electricity production on the generating facility, for which the relevant "green" tariff" PPA or PPA between the SE Guaranteed Buyer and the business entity that has acquired the right on support according to the auction results. At the same time, the amount of the relevant contribution should not exceed 1% of the net income of the contribution payer from its activities at the relevant facility for the previous reporting period.

3.1.14. RESOLUTION OF THE NATIONAL ENERGY AND UTILITIES REGULATORY COMMISSION NO. 2818 "ON APPROVAL OF THE AMENDMENTS TO THE MARKET RULES" DATED 30 DECEMBER 2020

The changes regulate the issue of curtailment of the RES producers generation by the NPC Ukrenergo's commands for unloading *(ed. out of the balancing market)* and determining the cost of such a service.

Out of the balancing market the NPC Ukrenergo has the right to issue commands to reduce the load of RES producers. The cost of such a service is equal to the cost of electricity not supplied by such producer at the "green" tariff or at the auction price.

RES producers are obliged to submit to the NPC Ukrenergo proposals *(applications)* for the provision of load reduction services in the amounts which correspond to the daily schedule of electricity supply. Otherwise RES producers are obliged to participate in the balancing market.

Selection of proposals *(applications)* for load reduction is carried out according to the list formed by the NPC Ukrenergo on the basis of submitted proposals *(applications)*. The list of available proposals *(applications)* for the load reduction service is formed in the order of the upwards number of hours of such a service providing by the RES producer in the current year *(ed. the relevant rule is valid from 01 March 2021)*.

In the case of non-fulfilment of the commands by a producer, a fee for non-compliance provided by the Market Rules shall be charged. If a producer does not execute dispatching commands more than once during a calendar month, the NPC Ukrenergo notifies the NEURC on the matter.

3.1.15. RESOLUTION OF THE NATIONAL ENERGY AND UTILITIES REGULATORY COMMISSION NO. 46 "ON APPROVAL OF THE AMENDMENTS TO THE NEURC REGULATION NO.641 DATED 26 APRIL 2019" DATED 15 JANUARY 2021

On 1 August 2020 the Law of Ukraine "On Making Amendments to Certain Laws of Ukraine on Improving Conditions for Supporting Electricity Production from Alternative Energy Sources" entered into force, by which the Law of Ukraine "On Electricity Market" was amended in terms of strengthening liability for imbalances of RES producers. In addition, amendments to the Market Rules were introduced by the NEURC Resolution No. 307 dated 14 March 2018, according to which the pricing mechanism on the balancing market was changed.

In view of aforementioned changes and to bring the NEURC Regulation No. 641 "On Approval of the Legal Acts Governing the SE Guaranteed Buyer Activity and Purchase of Electricity at a "Green" Tariff and at an Auction Price" dated 26 April 2019 into compliance with the provisions of the specified Law, as well as taking into account the proposals of the SE Guaranteed Buyer, the NEURC adopted the Resolution "On Approval of the Amendments to the NEURC Resolution No.641 dated 26 April 2019".

In particular, the regulation provides the following:

To make changes to the procedure for "green" tariff" PPA concluding. For the concluding it is necessary, inter alia, to provide:

- the list of places of installation of devices and systems of the settlement metering on each electric power object or stage *(ed. launching complex)* of electric power objects, which is an appendix to the PPA;
- linear layout of arrangement of metering devices of each object with indication of points of electricity commercial metering points and the limits of balance ownership of electricity networks, which is an appendix to the PPA;
- a certified copy of the technical conditions for the connection of the producer's facility to the grids;
- information about the producer's employees authorized to carry out operations on the SE Guaranteed Buyer software posted on the SE Guaranteed Buyer website, to sign the relevant documents provided by the Procedure, to notify the SE Guaranteed Buyer, and samples of their signatures.

In case if after PPA concluding the facts of submission of inaccurate information in the documents or information provided for the PPA concluding are detected and confirmed, the SE Guaranteed Buyer has the right to terminate PPA unilaterally.

The formula for calculating the amount of compensation by the "green" tariff electricity producer to the SE Guaranteed Buyer of the share of the imbalance settlement cost in the billing period was specified, as well as the formula for calculating the payment for compensation of the imbalance settlement cost in all trading zones for the billing month.

The rules for payment of contributions in favor of the SE Guaranteed Buyer to create a special *(designated)* fund intended to cover the arbitration costs of the Guaranteed Buyer were also supplemented. Inter alia, the Guaranteed Buyer within two working days after the deadline for contributions payment provides the NEURC with information on the payment of contributions by the sellers *(ed. indicating a seller and the amount of payment/ non-payment)*.

Article 14 was excluded – the procedure for concluding agreements between the Guaranteed Buyer and the RES producers who have entered into an agreement with the SE Energorynok.

A number of changes were also made to the model "green" tariff" PPA.

In particular, it was added an obligation of the SE Guaranteed Buyer to provide, and a RES producer – to receive a share of compensation of the SE Guaranteed Buyer imbalance settlement cost and make its payment in accordance with the terms of PPA and Ukrainian legislation. RES producer loses membership in the balancing group of the Guaranteed Buyer in the case of non-payment in full to the SE Guaranteed Buyer of the amount of the compensation of the SE Guaranteed Buyer imbalance settlement cost.

Changes regarding liability of the SE Guaranteed Buyer have been made: a fine and penalty are not applied for violation of the order of making advance payments for the first 20 days of the billing month.

3.1.16. REFORM OF CONSTRUCTION SUPERVISION AND CONTROL

On 13 March 2020 the CMU started the reform in construction sphere. The main goal of the reform is to create a transparent structure of the state construction inspection and to transfer almost all registration services in the online regime.

The State Architectural and Construction Inspection of Ukraine *(SACI),* which previously had a wide range of powers, will be liquidated.

Initially, it was proposed that the SACI would be reformed into three separate bodies:
1) State Service for Urban Development of Ukraine *(SSUD).* Main function – permitting: issuance/ revocation of:
- building permits;
- documents on facilities commissioning.

2) State Inspectorate for Urban Development *(SIUD).* Main functions – supervision and control:
- conducting inspections;
- issuance of administrative orders *(including suspension of construction);*
- inspection of facilities during commissioning, etc.

3) State Agency for Technical Regulation *(SATR).* Main function – rulemaking: development of state construction standards and their adaptation to Eurocodes.

In December 2020, the concept of SACI reforming has been updated. The updated concept, inter alia, prescribes:
- SSUD and SIUD liquidation, cancellation of the decision on SATR creation;
- creation of the State Inspection for Architecture and Urban Planning *(SIAUP).*
- SIAUP will perform the function of architectural and construction control and supervision without permitting or registration functions.

Changes in construction sphere regarding licensing, permits, facilities commissioning, determination of control and supervision procedures, which will be a continuation of the implementation of the updated SACI reform, have already been prepared by the Ministry for Communities and Territories Development of Ukraine. Their public discussion is currently underway.

3.2. MAIN REGULATORY ACTS EXPECTED TO BE APPROVED IN 2021


Photo by Konstantin Brizhnichenko

3.2.1. INTRODUCTION OF FINANCIAL PSO

The drafts of the legislative acts on the transition from the commodity PSO model to the financial one have yet to be published. As already mentioned in the paragraph 3.1.4, the validity term of the current PSO mechanism was extended until 31 March 2021.

3.2.2. DRAFT LAW OF UKRAINE NO. 3657 "ON MAKING AMENDMENTS TO THE LAW OF UKRAINE "ON THE ELECTRICITY MARKET" DATED 15 JUNE 2020

The draft law is aimed at improving of the electricity market functioning, as well as improving the pricing process and reducing possible market manipulation, and inter alia provides for the following changes in case of adoption:

- extension of the term of obligation of the current "last hope" supplier to supply electricity for another year and providing additional time for the proper organization of the tender;
- temporary suspension of electricity import from the countries which are not members of the Energy Community in order to protect the domestic electricity market and domestic producers;
- reduction for the SE Energoatom of the amount of electricity subject to mandatory sale on the day-ahead market, which will increase the amount of electricity that will be sold under bilateral agreements at electronic auctions;
- granting the SE Guaranteed Buyer with the right to sell electricity under bilateral agreements at electronic auctions at prices determined by the auction and setting for the SE Guaranteed Buyer a marginal price for the sale of electricity, in order to improve the financial situation of the SE Guaranteed Buyer;
- reduction of the term of conducting of the tender for the generating facility construction;
- extension of the obligation term of existing universal service providers to supply electricity to household and small household consumers for one year and postponement for one year of the tender to determine the universal service provider.

Currently, the draft is awaiting consideration after the provided opinion of the relevant Committee.

3.2.3. THE DRAFT LAW ON THE RIGHT TO LEAVE THE BALANCING GROUP OF THE GUARANTEED BUYER

In accordance with clause 4 of Section II 1.8. of the Law of Ukraine No. 810-IX "On Making Amendments to Certain Laws of Ukraine on Improving Conditions for Supporting Electricity Production from Alternative Energy Sources", the CMU had to develop and submit to the Verkhovna Rada of Ukraine a draft law on granting RES producers to leave the balancing group of the SE Guaranteed Buyer and freely sell electricity on the market with the possibility of receiving compensation in the form of the difference between the established "green" tariff or auction price and the market price that should not be lower than day-ahead market price. The development and submission of the relevant draft law is expected in 2021.

3.2.4. NEURC'S DRAFT RESOLUTION "ON APPROVAL OF AMENDMENTS TO THE PROCEDURE OF ESTABLISHING, REVISING AND TERMINATING THE "GREEN" ELECTRICITY TARIFF FOR BUSINESS ENTITIES, ELECTRICITY CONSUMERS, INCLUDING ENERGY COOPERATIVES, AND PRIVATE HOUSEHOLDS WHOSE GENERATING INSTALLATIONS PRODUCE ELECTRICITY FROM ALTERNATIVE ENERGY SOURCES"

The Draft Resolution provides for the following changes:

The Procedure also applies to business entities that obtained or intend to obtain a license for the right to produce electricity in the manner prescribed by law and produce electricity from alternative energy sources *(ed. except blast furnace and coke oven gases, and using hydropower – produced only by micro-, mini- and small hydropower plants)* at power facilities or stages of their construction *(ed. launching complexes)* in accordance with the information on places and means of conducting economic activity for the production of electricity put into operation from 1 January 2020 and:

- in accordance with Article 93 of the Law are not obliged to participate in the auctions;
- if the total capacity of the construction stages *(ed. launching complexes)*, which make up the power facility, as well as power plants, the connection of which is made to meet the unified technical conditions of connection to electricity networks, does not exceed 1 MW – for power plants that produce electricity energy from solar energy, and 5 MW – for electricity facilities that produce electricity from wind energy.

The list of documents required to apply for a "green" tariff establishing has been supplemented and adjusted by the following documents:

- copies of the agreement on connection to the electricity networks of the distribution/ transmission system concluded in accordance with the Distribution Systems Code approved by the NEURC's Resolution No. 310 dated 14 March 2018 or the Transmission System Code approved by the NEURC's Resolution No. 309 dated 14 March 2018;
- a copy of the registered notification of commencement of construction works or permit to perform construction works, issued in accordance with applicable law;
- a copy of the certificate issued by the authorized body, certifying the conformity of the constructed object with the project design documentation and confirming its readiness for operation, or registered in accordance with the law declaration of readiness of the facility for operation.

Additionally, the business entity has to provide a copy of the "green" tariff" PPA, if the electricity facility *(ed. the stage of its construction (launching complex))* was commissioned after 31 December 2019 and produces electricity from energy of:

- solar radiation with an installed capacity of more than 1 MW;
- wind with an installed capacity of more than 5 MW.

It is not allowed to deviate the technical indicators of the electricity facility specified in the documents provided to the SE Guaranteed Buyer for concluding a "green" tariff PPA from the technical indicators specified in the documents provided by the business entity in accordance with the list specified in the Procedure.

3.2.5. DRAFT RESOLUTION OF THE NATIONAL ENERGY AND UTILITIES REGULATORY COMMISSION "ON APPROVAL OF AMENDMENTS TO THE DISTRIBUTION SYSTEMS CODE"

The changes were approved in order to simplify the connection to the consumers' grids on the basis of proposals of the Office of simple solutions and results, which were discussed at a meeting of the National Reform Council chaired by President of Ukraine Volodymyr Zelensky dated 29 September 2020.

These changes include the following:

- determination of agreements on connection to electric networks by the distribution system operator as the public ones;
- optimization of the list of supporting documents to the application for grid connection;
- simplification of acceptance for the customers of the conditions of grid connection agreement;
- peculiarities of industrial parks connecting;
- informing consumers about scheduled and unscheduled power outages, etc.;
- specifying of the requirements for the small distribution systems classification, in particular for future industrial parks functioning.

The proposed changes are aimed at improving the provisions of the Distribution Systems Code and will facilitate improving Ukraine's position in the World Bank's rating "Doing Business".

3.2.6. DRAFT OF THE "GENERAL GUIDELINES FOR THE CONTENT AND PROCEDURE FOR COMPILING AN ENVIRONMENTAL IMPACT ASSESSMENT REPORT"

On the 10 December 2020 the Ministry of Environmental Protection and Natural Resources of Ukraine published a draft of the "General Guidelines for the Content and Procedure for Compiling an Environmental Impact Assessment Report".

The guidelines are intended for use by entities which prepare an environmental impact assessment report. They establish the best practices for the preparation of an environmental impact assessment report and are of a recommendatory nature.

These draft guidelines contain the following recommendations:

- general recommendations for the EIA execution, recommendations for the content of the EIA report, the general methodological scheme for assessing the impact on individual environmental factors;
- recommendations for the description of the planned activity: description of the place of activity, goals and main characteristics of the planned activity, assessment of emissions, discharges and pollution of water, waste, etc.;
- recommendations for justified alternatives describing;
- recommendations for describing the current status of the environment, assessing the impact on air quality, surface and ground water;
- regarding assessment of the impact on subsoil, land and soils;
- regarding assessment of the impact on fauna, flora, biodiversity;
- regarding climate impact assessment;
- regarding assessment of the environmental impact of waste, description and assessment of the possible environmental impact due to the technology and substances used;
- regarding the assessment of the impact on cultural heritage sites and other material objects, on socio-economic conditions;
- regarding the description of forecasting methods and used environmental data.

Additionally, the project provides recommendations to describe the envisaged measures aimed at preventing, avoiding, reducing, eliminating significant negative environmental impacts, including *(ed. if possible)* compensatory measures, describing the expected significant negative environmental impact due to the project's vulnerability to risks of emergencies, and a summary of monitoring and control programs for environmental impact during the planned activities, post-project monitoring plans.

The project also contains three appendices:
1) Indicators for assessing the impact on surface waters;
2) Objects of assessment of impact on fauna, flora, biodiversity;
3) Sources of information about fauna, flora, biodiversity, useful for identification of objects and determination of research methodology.

3.2.7. DRAFT LAW OF UKRAINE NO. 4461 "ON THE TERRITORIES OF THE EMERALD NETWORK"

According to the explanatory note, the purpose of the act is to establish legal and organizational principles of:

- identification of the Emerald Network territories and its management in Ukraine for the preservation of natural habitats and species of fauna and flora subject to special protection;
- assessment of the impact on the Emerald Network territory in the process of making decisions on conducting economic activities that could have a significant impact on the Emerald Network territory, etc.

According to the Draft Law, the territory of the Emerald Network is a part of the earth's surface *(ed. land or water space),* which should provide a favorable conservation status of natural habitats and species of fauna and flora specified in the annexes to the draft Law.

The Draft Law provides for the introduction of a mechanism for assessing the impact on the Emerald Network territory. The construction of power transmission lines *(ed. overhead and cable)* outside built-up areas, regardless of voltage, is subject to this mechanism *(ed. except when such activities are subject to environmental impact assessment).*

IV UWEA'S ACTIVITY

Photo by Konstantin Brizhnichenko

The COVID-19 pandemic that hit the whole world in 2020, also affected the UWEA's activity. Due to quarantine restrictions, common to all formats of face-to-face meetings and offline participation in events switched to virtual interaction and collaboration. The UWEA's ordinary agenda enriched with new, unknown activities such as webinars and online meetings. Even the long-awaited 2020 WindEnergy Hamburg International Summit was held online and streamed via ad hoc WindTV channels.

Fortunately, the COVID-19 didn't pause the UWEA's activity as in 2020 it focused primarily on RES advocacy and daily battle for "green" energy survival. In that context, in 2020, the UWEA submitted a total of **59 letters and appeals** to the President of Ukraine, the Government of Ukraine, industry ministries, relevant state authorities, ambassadors of foreign states, etc. As part of the Global 100% RE Ukraine platform, the UWEA together with other leading industry associations made an Open Appeal to the CMU on the necessity of launching a "green" economy. The UWEA expressed its opposition to modern course of the renewable power development in Ukraine through a Peaceful Demonstration, three large-scale press conferences and several industry events.

Despite the recent market turmoil and pressure from certain public authorities, the UWEA continues to promote wind power development and publicize all benefits of the renewable energy sources. As a part of its educational activity, the UWEA published the first Ukrainian children's book **"Sekrety Vitru"** *(The Secrets of Wind)* in collaboration with the publishing house "Ridna Mova" with co-funding from the Heinrich Böll Foundation Kyiv Office Ukraine. With this book for kids aged 6-12, the publishing house "Ridna Mova" has launched a special series of books "Children for Clean Planet".

On 9 December 2019, the UWEA joined the negotiations with the Government of Ukraine under the mediation of the Energy Community Secretariat's Dispute Resolution and Negotiation Centre. In the course of mediation process, the UWEA prepared a number of information materials on the current status of the Ukraine's electricity market and relevant legislation.

Last year, the UWEA actively cooperated with national media. Articles, interviews, comments by the Chairman of the UWEA Board and the UWEA Members were published on news and information portals such as UA Energy, GetMarket, GreenPost, Liga.net, Energoreforma, Gorod.dp.ua, RBK-Ukraine, UNN, MIND, in the magazines "Novoe Vremya", "Networks & Business", "Electrovesti", etc. The UWEA representatives gave interviews to such television channels as: Kanal Ukraina TV, Ukraina 24, Pryamiy, ESPRESSO.TV, newsvideo.su.

In previous years the UWEA was awarded with several awards for their activity, which was the case last year as well. 10 new companies joint the UWEA, bringing the number of its members to 80. All these and many other UWEA's achievements of the past year well illustrate the tireless work of the UWEA Board, its members and Secretariat, and also prove the ability of the wind energy sector to develop even in times of difficulties. As a result, during the annual wrap-up meeting of the UWEA Board Members, the activity of the Ukrainian Wind Energy Association in 2020 was considered satisfactory.

THE UWEA SECRETARIAT EXPRESSES ITS SINCERE GRATITUDE TO ALL ITS MEMBERS FOR THEIR SUPPORT, FRUITFUL WORK AND PROFESSIONALISM.

4.1. HIGHLIGHTS OF THE YEAR

A PEACEFUL DEMONSTRATION "UKRAINE FOR RENEWABLE ENERGY!"

On 21 July 2020, representatives of the RES industry including investors and developers, engineers, managers, counsels, and other interested in "green" energy development joined a peaceful demonstration conducted by the leading renewable power associations of Ukraine, to call on the President of Ukraine and members of the Ukrainian Parliament to support the "green" energy sector and to adopt Draft Law No 3658 as a critical step toward resolving the renewable energy crisis in Ukraine.

As a result, at the extraordinary sitting of the Verkhovna Rada of Ukraine the Draft Law No 3658 "On Amendments to Certain Laws of Ukraine on Improving Conditions for Supporting Electricity Production from Alternative Energy Sources" was adopted as law on the second reading by 288 assenting votes. A well-known Law of Ukraine No 810-IX based on the provisions of the Memorandum of Understanding concluded between the Government of Ukraine and the RES business community on 10 June 2020, provided for lowering "green" tariff for wind and solar, established the terms of "green" electricity off-taker debt restructuring, determined RES generators' liability for imbalances and introduces the "green" auctions Andriy Konechenkov, the Chairman of the UWEA Board: *"The adoption of this long-awaited bill will unblock payments for "green" electricity and resume the wind projects development. Ukraine should follow the European path of development and invest precisely in "green" energy, which allows using local, eco-friendly energy resources and creating new highly qualified jobs".*

http://uwea.com.ua/en/news/entry/ukraina-za-vozobnovlyaemuyu-energetiku/

4.2. NATIONAL AND INTERNATIONAL CONFERENCES

THE WINDENERGY HAMBURG DIGITAL 2020

Within 4 days – **from 1 – 4 December 2020** – all eyes of the global wind energy industry had been turning to the international wind energy summit WindEnergy Hamburg, which this year, due to the COVID-19 pandemic, was held online with a broadcast on WindTV. Representatives of the Ukrainian Wind Energy Association were among the delegates, and the UWEA Secretariat widely publicized the event on the association's official Facebook page.

WindTV is an innovative event concept, produced jointly by WindEurope, GWEC and Hamburg Messe und Congress. From 4 studios in Brussels, Hamburg, Essen and Port Shoreham *(UK),* two WindTV channels – OpenStream and Premium – offered documentaries, news, interviews, TED talk format, Global Wind Briefs and entertaining content – all designed to bring the audience the role of wind energy in the sustainable development of Europe and the world. "Live WindTV stream is much more than just a traditional WindEurope conference. It is also a new format for communication with experts and interaction with participants, including a whole load of features – videos, interviews, entertainment. There were top speakers from industry, government, finance and technology – and from other walks of life including music and sport. All in a range of different formats. It's absolutely not your usual Zoom webinars!" explains Giles Dickson, WindEurope CEO.

The list of speakers included European Commissioner for Energy, Kadri Simson, IEA Executive Director Fatih Birol, the Energy Ministers of Germany, UK, Denmark, Poland, Belgium, Ireland, Estonia and Luxembourg, leaders of financial institutions, start-ups and innovation as well as CEOs from leading industry players, such as Tennet, BASF, RWE Renewables, MHI Vestas, Vattenfall and Nordex and etc.

During the opening Ministerial session, great attention was paid to the issue of integration, the interconnection of wind energy sectors of European countries. Another red thread running through WindEnergy Hamburg and WindTV was hydrogen. One of the most eye-catching onshore wind announcements of the week came from Siemens Gamesa, which said its pioneering project to link a turbine directly to green hydrogen production would be up and running in Denmark as soon as next month – with the H_2 used to fuel taxis in Copenhagen and elsewhere.

IEA Executive Director Fatih Birol presented the current status of the development of renewable energy sources worldwide and in Europe, identified the impact of COVID-19 pandemic for the renewables and predicted the further global deployment of green energy. Dr. Birol was convinced that "the shock that the global energy sector has been facing from the beginning of the coronavirus pandemic is unprecedented since the Second World War and the scar from this shock will be substantial for many decades to come". He summed up that the pandemic reduced energy demand by 5% in 2020. Compared to the 2008-2009 Global Financial Crisis, energy consumption fell by a factor of seven. At the same time, according to Dr. Birol, *"renewables are immune to the COVID-19 pandemic. They are quite resilience. The total share of sun and wind in the European energy mix may reach 80% in 10 years, but for this national governments should be an active part of RES development, don't expect the market to do everything alone".*

Unfortunately, due to technical problems, this year there was no world-famous wind power exhibition WindEnergy Hamburg. However, this did not prevent wind industry leaders to demonstrate their achievements.

http://uwea.com.ua/en/news/entry/kak-proshel-windenergy-hamburg-2020-v-cifrovom-formate/

CONFERENCE "RENPOWER UKRAINE 2020", 3D EDITION

On 30 January 2020, the platform "Euroconvention Global" conducted the 3rd edition of the "Renpower Ukraine 2020: Renewable Energy & Power Infrastructure Investors Conference" which brought together under one roof representatives of government, business and international organizations, developers of "green" projects, financiers, legal advisors, experts and, of course, investors in the renewable energy sector of Ukraine. Ukrainian Wind Energy Association was an information partner of the event.

Among the honorable speakers of the Conference were representatives of Ministry of Energy and Environmental Protection of Ukraine; State Agency on Energy Efficiency and Energy Saving of Ukraine; NPC Ukrenergo; State Enterprise Guaranteed Buyer and State Enterprise PROZORRO.Sale; World Bank and European Commission.

In his presentation on the development of the wind energy sector in Ukraine Andriy Konechenkov, Vice President of the WWEA and Chairman of the UWEA Board, noted: *"The emphasis should be placed not on political declarations on the percentage of RES increase in the country, but on the issues of the energy mix structure. How will we achieve this percentage without addressing the issue of balancing the energy system of Ukraine?"*

http://uwea.com.ua/en/news/entry/v-kieve-sobralis-investory-v-vozobnovlyaemuyu-energetiku/

REGENERATION 2030 KYIV HUB

On 20 – 21 August 2020, the innovation park Unit.City hosted the Kyiv Hub of the International Youth Initiative ReGeneration 2030. The organizers of the youth hub were the Solar Energy Association of Ukraine in cooperation with Unit.City.

The speakers raised issues of environmental and air pollution, efficient methods of waste recycling, the negative impact of petroleum products and other fossil fuels on the environment and health, as well as the future of renewable energy sources in Ukraine and worldwide.

Andriy Konechenkov, the Chairman of the UWEA Board, also participated in the Kyiv Hub ReGeneration 2030. In his presentation Andriy Konechenkov revealed the role of wind energy in the "green" energy transition and economic development of Ukraine.

https://www.linkedin.com/feed/update/urn:li:activity:6703940611411640321

ECOFORUM 2020 "THE EUROPEAN GREEN DEAL: CHALLENGES FOR UKRAINE. CIRCULAR ECONOMY"

The national ECOFORUM 2020 "The European Green Deal: Challenges for Ukraine. Circular Economy" organized by the Professional Association of Ecologists of Ukraine and the National centre for sustainable development took place in Pereyaslav, Kyiv region, **on September 25, 2020.** The Ukrainian Wind

Energy Association became the information partner of the event and Andriy Konechenkov, the Chairman of the UWEA Board, participated in one of the discussion panels.

The Forum's participants include the representatives of leading RES associations, the Verkhovna Rada Committee on Environmental Policy, the Ministry of Environmental Protection, international structures and foundations, business leaders and local authorities.

Andriy Konechenkov highlighted the role of wind power within the framework of "green" energy transition in Ukraine: *"Renewable energy sources should be developed as fast as possible since they represent one of the most effective instruments for tackling the climate change and ensuring the "green" energy transition of the national countries. However we should keep in mind that the development of any type of "green" technology should be balanced, correspond to the technical capabilities of the grid and worldwide trends. Thus, only the wise combination of various kinds of RES, their synchronized operation, can become the key to the balanced work of the Integrated Power System of Ukraine and subsequent energy independence of our country."*

https://www.linkedin.com/feed/update/urn:li:activity:6715689935950688256

V BUSINESS & LEGAL ENERGY FORUM 2020

On 17 November 2020, the newspaper "Yurydychna praktyka" *(Legal practice)* in close cooperation with Asters and Aequo Law Firms organized the V Business & Legal Energy Forum was devoted to reviewing recent shifts in the Ukrainian electricity market, identifying its "sore spots", analyzing Ukraine's oil and gas markets functioning as well as the effectiveness of cooperation between the state and RES producers in overcoming the financial crisis in the "green" energy market. The UWEA became the information partner of the Forum.

Andriy Konechenkov, the Chairman of the UWEA Board, presented the Ukraine's wind power market and discussed impact of legal restrictions and COVID-19 pandemic on the national and global wind development.

4.3. PARTICIPATION IN LEGISLATIVE PROCESS AND COOPERATION WITH STATE AUTHORITIES

A WORKING GROUP ON DEVELOPMENT A METHODOLOGY OF RES ELECTRICITY CURTAILMENT COMPENSATION

Due to the expanding trend of curtailment of the "green" electricity generation in Ukraine, in January 2020 a Working Group was established at the NPC Ukrenergo to develop a methodology of RES electricity curtailment compensation. This Working Group included representatives of the NPC Ukrenergo, the National Electricity and Utilities Regulatory Commission, the SE Guaranteed Buyer, members of industry associations and the RES producers.

The key purpose of the Working Group included development of draft amendments to regulations that would allow RES producers to receive compensation for unproduced electricity due to the curtailment of the "green" electricity generation.

http://uwea.com.ua/en/news/entry/nek-ukrenergo-zatyagivaet-process-razrabotki-metodiki-kompensacii-proizvodi/

THE ONLINE MEETING OF THE SUBCOMMITTEE ON SUSTAINABLE DEVELOPMENT, STRATEGY AND INVESTMENT OF THE VERKHOVNA RADA COMMITTEE ON ENERGY, HOUSING AND UTILITIES SERVICES

On 22 April 2020, the UWEA members participated in the online meeting of the Subcommittee on Sustainable Development, Strategy and Investment of the Committee on Energy, Housing and Utilities Services devoted to a Draft law No 3364 on Amendments to Certain Laws of Ukraine *(ed. on resolving the non-payment crisis in the electricity market and certification of the transmission system operator).* The participants came to a consensus on the need to finalize the text of the draft law since its ambiguous provisions contradicted the current Ukrainian legislation.

PARTICIPATION IN THE ANTI-CRISES ENERGY HEADQUARTERS

During the period of from April to June 2020, the Ukrainian Wind Energy Association participated in five meetings of the Anti-Crisis Energy Headquarters

chaired by Denys Shmygal, the Prime Minister of Ukraine and the Acting Minister of Energy of Ukraine Olha Buslavets.

The meetings of the Anti-Crisis Energy Headquarters were devoted, among others, to the adoption of laws needed to resolve the crisis in the RES sector, the fulfilment of the provisions of Memorandum of Understanding, the energy system flexibility, Ukraine's fuel balance and different administrative restrictions on the electricity market.

PROSECUTOR GENERAL OF UKRAINE DISCUSSED FURTHER COOPERATION WITH BUSINESS

On May 21, 2020, Prosecutor General of Ukraine Iryna Venediktova held a meeting with the business associations to discuss ways to reduce the pressure on business, improve business confidence in law enforcement agencies and lower the level of corruption in order to maintain the investment climate in Ukraine. The event was attended by the People's Deputies of Ukraine, Chairman of the Executive Committee of the National Reform Council Mikheil Saakashvili, representatives of the National Reform Council, the European Business Association, the Union of Ukrainian Entrepreneurs, the American Chamber of Commerce in Ukraine and the Ukrainian Wind Energy Association.

"No State could ever develop without investment climate. The Prosecutor's Office will coordinate the law enforcement bodies to have their actions exclusively legal and do not undermine investor's trust in our country", stressed Iryna Venediktova. The Prosecutor General noted the importance of effective communication between business and the General Prosecutor`s Office of Ukraine.

In his presentation, Andriy Konechenkov, Chairman of the UWEA Board, highlighted the current situation in the national Renewable Energy sector as well as the status of negotiations with Ministry of Energy and Environmental Protection *(ed. now – Ministry of Energy)* on Memorandum of Understanding with RES investors being mediated by the Energy Community Secretariat's Dispute Resolution and Negotiation Centre.

WORKING GROUP AT THE MINISTRY OF ENERGY OF UKRAINE

On 26 August 2020, the Ministry of Energy of Ukraine hosted the Constituent Meeting on the formation of the Working Group with the participation of authorized representatives of civil society institutions. As a result of the Constituent meeting, 32 representatives of non-governmental energy organizations were elected to the Public Group, including the Chairman of the UWEA Board, Andriy Konechenkov.

WORKING GROUP ON IMPLEMENTATION OF THE PROVISIONS OF THE LAW OF UKRAINE NO 810-IX AND THE MEMORANDUM OF UNDERSTANDING

In autumn 2020, a number of meetings of the Working Group on implementation of the provisions of the Law of Ukraine No 810-IX and the Memorandum of Understanding took place at the Ministry of Energy of Ukraine. Andriy Konechenkov, Chairman of the UWEA Board, joined the Working Group too. The meetings were also attended by key players of the energy market, representatives of the Ministry of Finance and the heads of the relevant RES associations.

During the meeting the Acting Minister of Energy of Ukraine reported on progress in the implementation of the provisions of the Law of Ukraine No 810-IX, while the participants identified further priority steps to resolve the crisis in the electricity market of Ukraine.

WORKING GROUP ON DEVELOPING THE CONCEPT OF PRICING AND COMPETITION IN THE ELECTRICITY MARKET

On 30 November 2020, the Ukrainian Wind Energy Association represented by its Chairman of the Board Andriy Konechenkov, became a member of the Working Group on developing the concept of pricing and competition in the electricity market. The Working Group was set up under the Verkhovna Rada's Committee of the of Ukraine on Economic Development, co-chaired by People's Deputies of Ukraine Lyudmyla Buimister and Dmytro Kysylevsky. The Working Group also included other People's Deputies of Ukraine such as Musa Magomedov, Andriy Zhupanin and Oleksiy Kucherenko.

4.4. PARTICIPATION IN NATIONAL RENEWABLE ENERGY SECTOR EVENTS AND PRESS CONFERENCES

A WORKSHOP ON REGULATORY AND NON-REGULATORY BARRIERS IN RENEWABLE ENERGY DEVELOPMENT AND ON POSSIBLE FUTURE ACTIONS OF STIMULATING THE USE OF RENEWABLE ENERGY IN UKRAINE

On 16 January 2020 a Workshop on Regulatory and Non-regulatory Barriers in Renewable Energy Development and on Possible Future Actions of Stimulating the Use of Renewable Energy in Ukraine was successfully held in Kyiv. The event was organized by the State Agency on Energy Efficiency and Energy Saving of Ukraine within the framework of the EU Twinning Project "Renewable Energy Development in Ukraine". The UWEA members were among participants. The workshop consisted of two parts: within the first one, Gunter Pourich, representative of the Austrian Energy Agency, described common barriers to RES in both European countries and Ukraine. In the second part, Olena Lenska, representative of State Agency on Energy Efficiency and Energy Saving of Ukraine, made a presentation about the draft National Renewable Energy Action Plan to 2030.

WHAT RES COMPANIES NEED TO KNOW IN CONNECTION WITH THE DEOFFSHORIZATION PROCESS IN UKRAINE

On 20 February 2020, the international law firm Dentons held a tax webinar "What companies in the RES sector need to know in connection with the process of deoffshorization in Ukraine and changes in tax legislation". Representatives of the RES market, including the Ukrainian Wind Energy Association attended the event.

At the webinar, legal experts conducted a general review of legislative changes for RES in 2020, including the draft Law No 1210 "On Amendments to the Tax Code of Ukraine to improve tax administration, eliminate technical and logical inconsistencies in tax legislation", outlined the rules of taxation of foreign companies controlled by residents of Ukraine and highlighted the impact of "reasonable economic reason" on the financial operations of RES companies.

THE "GREEN" ENERGY TRANSITION OF UKRAINE: A VISION UNTIL 2050 AND THE NEXT STEPS"

Early 2020, a round table "Green" Energy Transition of Ukraine: a Vision Until 2050 and the Next Steps" was held in Kyiv with the participation of the Minister of Energy and Environmental Protection of Ukraine Olexiy Orzhel and Deputy Minister of Energy and Environmental Protection of Ukraine Sergiy Maslichenko, who presented the draft Concept of the "green" energy transition in Ukraine.

"The Concept of the "green" energy transition is not our strategy, it's our vision. This is a short document where we present our vision of how the country should develop. At the strategy level, we are planning to update The National Strategy for Low-carbon Development by 2050. And this will be a more strategic document. An Integrated National Plan for Energy and Climate Development for 2020-2030 will also be more detailed," Sergiy Maslichenko stated.

ENERGY TRANSITION IN UKRAINE: WHAT IS THE OPTIMAL PATH TO CARBON-NEUTRAL POWER SYSTEM?

The results of modeling the development of the Ukrainian power system by 2050 were presented in Kyiv on 26 February 2020 by Wärtsilä Energy, at a specially organized event "Energy Transition in Ukraine: What is the Optimal Path to Carbon-Neutral Power System?"

THE RESULT OF THE CALCULATIONS DEMONSTRATED THAT THE OPTIMAL ENERGY SYSTEM WOULD MOVE TOWARDS INCREASE OF THE RES SHARE SO THAT THEY COULD REACH 88% IN THE ENERGY BALANCE IN 2050.

Both scenarios presented by the company, offered similar development paths, namely investment in renewables, flexible capacities and energy storage, while the carbon-free scenario required addition amount of renewable capacity and Power to Gas conversion systems.

"We hope that precise modeling of the power system development by 2050 should clarify the vision of the future and would help finding well-grounded solutions right today, and support Ukraine in moving towards clean energy together with Europe and the whole world," Igor Petryk, Market Development Director, East Europe, Wärtsilä Energy.

http://uwea.com.ua/en/news/entry/energeticheskij-perehod-v-ukraine-vozmozhen-rezultaty-modelirovaniya-obedin/

ROUND TABLES ON DEVELOPMENT OF THE REPORT ON COMPLIANCE ASSESSMENT *(SUFFICIENCY)* OF THE GENERATING FACILITIES BY NPC UKRENERGO

In September and October 2020, the UWEA participated in several round tables on "Methodological principles, methods and tools for developing the Report on Compliance Assessment *(Sufficiency)* of the Generating Facilities", during which experts voiced their comments and suggestions to the draft Report on Compliance Assessment *(Sufficiency)* of the Generating Facilities.

STATE RAIDING OF A NEW INVESTMENT POLICY FOR "GREEN" ENERGY?

On 5 June 2020, the UWEA jointly with other leading renewable energy associations in Ukraine, conducted a joint press conference "State raiding or new investment policy for "green" energy?" in the Interfax-Ukraine news agency. Ukraine's energy sector has been experiencing an unprecedented crisis resulted from the launching of the flawed electricity market model, the populist actions of the authorities and the lobbying of financial and industrial groups in legislative and executive bodies.

Andriy Konechenkov noted that after long negotiations, which lasted almost 9 months, market players had a feeling of reaching a compromise between the RES investors and the Government: *"However, when People's Deputy of Ukraine Andriy Gerus speaks about the destruction of the "green" energy sector and not considers the consequences for Ukraine, both from the investors and the international community, I would like to understand who determines investor policy in Ukraine? How are investments protected in Ukraine? Who is responsible to the President of Ukraine for President's promises and statements on investment attractiveness of Ukraine to be implemented in the country?"*

Carl Sturen presented the position of foreign investors: *"For 9 months, foreign investors have been trying to find a compromise with the Government, However, we are not heard; moreover they try to intimidate us into giving up our projects. Due to non-payment for "green" electricity, we cannot pay off the loans. Next week, we, foreign investors and some other market players, are planning to file complaints against SE Guaranteed Buyer."*

http://uwea.com.ua/en/news/entry/gosudarstvennoe-rejderstvo-ili-novaya-investicionnaya-politika-dlya-zelenoj/

THE SECOND NATIONALLY DETERMINED CONTRIBUTION OF UKRAINE TO THE PARIS AGREEMENT: PARADIGM SHIFT OR DEVELOPMENT CONSTRAINT?

The Committee of the Professional Association of Ecologists of Ukraine on Combating and Adopting to Climate Change, on **6 July 2020,** conducted an online meeting "The Second Nationally Determined Contribution of Ukraine to the Paris Agreement: Paradigm Shift or Development Constraint?" The meeting addressed the conditions and possibilities for setting ambitious targets to the Second Nationally Determined Contribution of Ukraine to the Paris Agreement.

Galyna Shmidt, the Member of the UWEA Board highlighted the situation in the wind energy sector of

Ukraine, analyzed the role of wind energy in the national strategies of EC countries, defined the prospects for further development of this sector in Ukraine *"Wind energy development means not only modern trend or a goal established by the Paris Agreement or the European Green Deal. It primarily means an effective technology that guarantees Ukraine's transition to full decarbonization of our economy as well as the synergy between the ecological, climatic, economic and social components of development, balanced and safe energy consumption and energy supply, creation of new highly qualified jobs and, finally, attraction of significant investments to the national budget of Ukraine. That is why, the National Energy Strategy and the Road Maps for Ukraine Green Energy Transition should define the development of renewable energy sources, especially wind energy, as the fundamental contribution of Ukraine to the Paris Agreement and the only right way to decarbonize our economy,"* Galyna Shmidt stressed.

ANTI-CRISES MEASURES TO SUPPORT RENEWABLES

To ensure further balanced, competitive and sustainable development of renewables in Ukraine, on **4 August 2020,** the Ukrainian Chamber of Commerce and Industry hosted an expert meeting "Anti-crises Measures to Support Renewable Energies" supported by the Ministry of Energy of Ukraine and co-organised by the UCCI, the UWEA and the law firm Sayenko Kharenko.

Besides the representatives of the organizers, the following speakers also participated in the expert discussion: Oleksiy Ryabchyn, Advisor to the Deputy Prime Minister for European and Euro-Atlantic Integration of Ukraine, Oleksandr Riepkin, Advisor to the Minister of Foreign Affairs of Ukraine and President of the Ukrainian Hydrogen Council, Artem Semenyshyn, Executive Director of Solar Energy Association of Ukraine, Yuriy Zhabskyy, Director of WindFarm company. Chairman of the UWEA Board Andriy Konechenkov moderated the discussion.

In his opening speech Hennadiy Chyzhykov, President of the CCI of Ukraine, stressed the importance of the discussion for building trust with the RES investors and expressed his hope on Ukraine's effective fulfilment of its obligations to the international community.

According to Andriy Konechenkov compared roles of wind and nuclear in combating climate change and reducing CO_2 emissions: *"Nuclear power is not only economically inefficient but also dangerous if we talk about nuclear fuel disposal or the world's nuclear accidents. The governments really need to focus on large-scale development of "green" energy, wind energy and production of "green" hydrogen,"* emphasized Andriy Konechenkov.

When presenting a WindFarm's 800 MW wind power project in Donetsk region Yuriy Zhabskyy stressed the importance of establishing local manufacture of wind equipment components: *"Ukraine is rich in the manufacture capacities. Therefore, along with auctions and other state support mechanisms, we are recommending additional one for wind projects that would provide for investments in priority sectors of the Ukrainian economy, in particular in machinery-building industry. This will not only stimulate production of wind turbines in Ukraine, but also attract much more investments in strategically important industries of Ukraine".*

After discussing all the presentations and proposals, Experts' Open Letter was submitted to the Cabinet of Ministers of Ukraine with agreed proposals for further development of the RES market in Ukraine.

http://uwea.com.ua/en/news/entry/antikrizisnye-mery-po-podderzhke-vie/

INDUSTRY ASSOCIATIONS HELD A PRESS CONFERENCE ON THE CONSTITUTIONAL APPEAL BY 47 UKRAINIAN PEOPLE'S DEPUTIES

On 16 September 2020, leading RES industry associations: the UWEA, the EUEA, the UARE and the ASEU conducted a press conference "Ukraine's "green" energy is under threat! Who wants to cancel "green" tariffs in the Constitutional Court?" Law Firm Arzinger, which represents RES associations' interest, also participated in the press conference.

In July 47 People's Deputies of Ukraine appealed to the Constitutional Court regarding recognition of the mechanism of "green" tariff as unconstitutional.

Andriy Konechenkov considered the constitutional appeal by 47 People's Deputies as an attempt to demonstrate a position against European approach to the nation's development and political pressure on the industry: *"A significant number of companies, which are supported by individual oligarchs, continue to use so-called "cheap electricity" for their business, turning a blind eye to the development of clean energy and all conditions for improving the environmental conditions in our country. So, it looks like the world is moving in one*

direction, while Ukraine – in a completely different one," stated Andriy Konechenkov.

http://uwea.com.ua/en/news/entry/otraslevye-associacii-proveli-press-konferenciyu-po-konstitucionnomu-obrasc/

THE FUNCTIONING OF THE RENEWABLE ENERGY INDUSTRY IN UKRAINE

On 17 September 2020, Andriy Konechenkov, Chairman of the UWEA Board, made a presentation at the strategic session organized by UDP Renewables, UWEA Member Company: "The Functioning of the Renewable Energy Industry in Ukraine".

His presentation was dedicated to the wind power market in Ukraine and worldwide. The Chairman of the UWEA Board analyzed the current state of wind power development in European countries in comparison to Ukraine. In addition, Andriy Konechenkov spoke about the key stages of wind projects implementation, with focus of environmental impact assessment and other legal requirements.

https://www.linkedin.com/feed/update/urn:li:activity:6712732537174806528

THE GOVERNMENT'S UNFULFILLED COMMITMENTS UNDER THE MOU. THE PRESS CONFERENCE OF THE INDUSTRY ASSOCIATIONS

On 8 October 2020, the UWEA in cooperation with other leading industry associations held a press conference: "The Government's unfulfilled commitments: the future of "green" generation is under threat". CEO of DTEK Renewables, Maris Kunickis and Co-Chair of the Energy Committee of the European Business Association, Carl Sturen were among speakers. Andriy Konechenkov, the Chairman of the UWEA Board, moderated the discussion. The press conference was a logical follow up to the Association's Appeal addressed to the Prime Minister of Ukraine on October 5, 2020.

In his opening speech, the Chairman of the UWEA Board, Andriy Konechenkov noted: *"Two months after the Law of Ukraine No 810-IX has come into force we see little progress from the Government to implement its commitments under the MOU, despite the fact that the FiT reductions for renewable producers were implemented right away by the Regulator on 1 August 2020 in accordance with Law of Ukraine No810-IX. The recent legislative changes related to the reduction of the "green" tariff rate, will save annually approximately UAH 8 billion. The firm commitments by the Government to make and implement the appropriate decisions to restore the solvency of the SE Guaranteed Buyer (ed. including for example, the issuance of government bonds in domestic or foreign markets or the attraction of loans to the TSO from State-owned banks or international financial institutions) remain unfulfilled".*

In turn, Carl Sturen, the founder of Vindkraft Ukraine and Co-chairman of the Energy Committee of the European Business Association, noted that RES investors currently had a credit debt to the state-owned banks worth about EUR 1,5 billion. *"There is a large debt to both the EBRD and Ukrainian state-owned banks, so it's not just about the energy sector, it's about possible crisis in banking sector. For 5 consecutive months there have been no payments done for the "green" electricity. We understand the problems related to the COVID-19 pandemic, however, why does one type of generation get paid at the rate of 70% of the payment obligations, while green generation gets nothing? It's absolutely political decision and manipulation,"* Carl Sturen stressed.

http://uwea.com.ua/en/news/entry/nevypolnenie-pravitelstvom-obyazatelstv-po-memorandumu.-press-konferenciya/

A WAY OUT OF THE RES CRISES TOWARDS THE "GREEN" FUTURE OF UKRAINE

On 12 November 2020, the Centre for Economic Recovery hosted a discussion "A way out of the RES crises towards the "green" future of Ukraine" with the participation of leading industry experts. The expert discussion focused on the following issues: the place of "green" energy on the Ukraine's economic map, state policy vs. investor expectations, the status of implementation of the Memorandum of Understanding, the role of the regulatory framework for the RES sector, the action plan for RES development in Ukraine and the prevention of future crises.

The expert discussion was attended by: Kyrylo Kryvolap, Head of the Centre for Economic Recovery of Ukraine, Olha Yeriomina, Senior Banker of the EBRD Energy Department, Olha Mahaletska, Head of the Office of the National Investment Council of Ukraine, Carl Sturen, Co-Chairman of the EBA Energy Committee, Serhiy Yevtushenko, CEO of the UDP Renewables, MPs, representatives of the EBRD, the Norwegian-Ukrainian Chamber of Commerce, the Guaranteed Buyer as well as the Chairmen of the leading industry associations, including Andriy Konechenkov, the Chairman of the UWEA Board.

Andriy Konechenkov noted the efforts of the Ministry of Energy of Ukraine to settle the crises in the electricity sector. *"It is important to revise the Energy Strategy of Ukraine and develop real and clear roadmaps for each type of renewables, as this environmentally friendly sector of the economy makes the most investments in the modern world,"* proposed the Chairmen of the UWEA Board.

THE FIRST DISCUSSION PLATFORM GREEN DEAL NETWORK

On 10 December 2020, newly founded Green Deal Network for the first time brought together key representatives of the renewable energy market, People's Deputies and Government officials to discuss the "green" energy transition in the context of Ukrainian realities.

The first discussion covered the issues of energy efficiency and "clean" energy development in Ukraine with special focus on European Green Deal. Speakers also focused on the priority areas of State policy on achieving the "green" energy transition, and overcoming the crisis caused by COVID-19 pandemic, through "green" energy recovery.

The list of speakers, among others, include: Yaroslav Demchenkov, Deputy Minister of Energy of Ukraine in charge for EU Integration, Kostyantyn Gura, the Acting Chairman of the State Agency on Energy Efficiency and Energy Saving of Ukraine, Oksana Aliyeva, Coordinator of the project "Climate change and energy policy" of the Heinrich Böll Foundation in Ukraine, People's Deputies of Ukraine, representatives of public organizations and the Chairmen of the leading RE industry associations, including Andriy Konechenkov, the Chairman of the UWEA Board.

A YEAR OF SURVIVAL FOR THE "GREEN" ENERGY INDUSTRY IN UKRAINE. WHAT TO EXPECT IN 2021?

On 17 December 2020 the UWEA jointly with other leading renewable industry associations in Ukraine summed up the situation in the renewable power market of Ukraine in 2020 at the joint press-conference "2020 – a year of survival for the green energy industry in Ukraine. What to expect in 2021?" Heads of the associations commented on the state's fulfillment of its commitments to resolve the crisis in the renewable energy sector and projected wind and solar developments in 2021. Timur Bondaryev, Founding and Managing Partner, Attorney at

Arzinger Law Firm highlighted situation around the constitutional petition of 47 People's Deputies of Ukraine.

"Despite this, the market is still unbalanced and political decision-making process is quite chaotic and completely inconsistent. "Today" we have reached agreements and RE generators voluntarily agreed on *"Green" tariff rates reduction, we are voluntarily loosing our profits and undertake a number of additional obligations, while "tomorrow" the Government fails to pay for "green" electricity delivered to the grid, we have been waiting for debts to be repaid and actually we have been fighting for each bill to be developed and approved by the Parliament, though the government's commitments to credible payment policy for "green" electricity have been clearly spelled out by the Memorandum of Understanding. And finally, we have to prove "constitutionality" of the "green" tariff laws,"* summarized Andriy Konechenkov.

The heads of the leading associations unanimously agreed that renewable energy development in 2021 remains difficult to predict. The future will very much depend on political will and decision-makers' desire either to learn the lessons or to make mistakes.

http://uwea.com.ua/en/news/entry/god-vyzhivaniya-zelenoj-energetiki.-chto-ozhidat-v-2021-godu/

4.5. WEBINARS AS A NEW TYPE OF COLLABORATION IN 2020

During the year, the UWEA conducted a series of webinars on key industry development issues. In addition, members of the UWEA Board participated in webinars organized by the SAEE, NPC Ukrenergo, GetMarket, Ukrainian Bar Association, Professional Association of Ecologists of Ukraine, etc.

THE MAIN ISSUES OF LEGAL REGULATION OF THE ENERGY STORAGE SYSTEMS IN UKRAINE

On 27 March 2020, the UWEA`s representatives participated in a Webinar "The main issues of legal regulation of the energy storage systems in Ukraine", organized by the Energy, Oil and Gas Committee of the Ukrainian Bar Association. The webinar was also attended by the RES producers, representatives of the NPC Ukrenergo and energy lawyers. During the webinar, experts and participants discussed the problems of energy storage system's regulation and analyzed the relevant draft Law of Ukraine No 2582.

HOW TO DEAL WITH FORCE MAJEURES PROVISION FOR RES PROJECTS

Implementation of wind energy projects, in particular those in the construction phase, under quarantine-related restrictions imposed in the country – this was the main topic of UWEA's webinar "Legal aspects of force majeure provision for RES projects in the context of Coronavirus outbreak" conducted **on 2 April 2020.**

The webinar began with the presentation of Andriy Konechenkov, Vice President of the WWEA and Chairman of the UWEA Board, who presented world trends and key forecasts by international organizations on the development of the renewable energy sector, both in the world and in the European Union in particular.

Maryna Hritsyshyna, UWEA Board Member, Energy Practice Head at Sayenko Kharenko, in her presentation provided recommendations on the consideration of force majeure for RES projects during the quarantine. She recalled that in accordance with the Law of Ukraine of March 17, 2020 "quarantine" was included in the list of force majeure circumstances.

Anzhelika Livitska, Counsel, Energy Resource and Construction Practice Co-chair at Asters, briefed the participants on the requirements to follow at the construction site during quarantine regime. *"The restriction on holding of all mass events in which more than 10 people take part does not apply to construction, since the concept of "mass events" is not defined by the legislation,"* Mrs. Anzhelika drew the attention of the participants. She also emphasized the need for strict compliance with the requirements for transportation and residence of workers, providing them with the necessary personal protection and cautioned against criminal and administrative liability for non-compliance with all requirements.

http://uwea.com.ua/en/news/entry/kak-pravilno-postupit-v-usloviyah-fors-mazhornyh-obstoyatelstv-dlya-proekto/

RES INVESTORS IN UKRAINE: WHAT PROTECTION CAN INVESTMENT ARBITRATION OFFER TO THEM?

18 May 2020 the Ukrainian Wind Energy Association in partnership with Freshfields Bruckhaus Deringer, a leading international law firm, and Asters, one of the largest law firms in Ukraine, held the webinar "RES investors in Ukraine: what protection can investment arbitration offer to them?"

The webinar speaker's panel included experienced experts in renewable energy and international arbitration.

Within the webinar more than 80 online participants got an update on the recent developments and status quo in Ukraine, learned what investment arbitration is and how it can help the RES investors in Ukraine, received tips for negotiations with the government, as well as clarified procedural aspects of the investment arbitration process with recent examples from the investment arbitration with the EU states.

http://uwea.com.ua/en/news/entry/investory-v-vie-v-ukraine-kakuyu-zaschitu-mozhet-predlozhit-im-investicionn/

MEMORANDUM OF UNDERSTANDING BETWEEN RES INVESTORS AND THE GOVERNMENT. WHAT DOES IT MEAN FOR RES SECTOR?

On 29 May 2020, GetMarket, renewable energy investment platform, conducted a webinar "Memorandum of Understanding between the RES investors and the Government. What does it mean for RES sector?" to inform the market stakeholders on status of negotiation process between the Government and the RES developers within the frame of mediation process. Ukrainian Wind Energy Association became the partner of the event.

During his presentation, Andriy Konechenkov described the status of the negotiations between RES investors and the Government, highlighted the main provisions of the latest version of the Memorandum. *"Today, the energy sector faces a systemic crisis that affects not only the wind and solar energy sector, but also bioenergy and small hydro sectors as well. The debts of the Guaranteed Buyer and the massive dissemination of false information about "green" energy lengthen the process significantly. The latest version of the Memorandum includes reduction of the "green" tariff for power plants commissioned by 1 January 2020 by 7,5% for WPPs and by 15% for SPPs with 2 year extension of PPAs' term of validity. Additional 2,5% reduction of "green" tariff rate is foreseen for new RES facilities being commissioned in 2020,"* Andriy Konechenkov commented.

Subsequently, GetMarket held another webinar **"Memorandum between the Government and RES investors. Implications for the industry",** where leading RES experts – signatories of the Memorandum and lawyers discussed the implications of the signed document for the further development of "green" energy sector.

THE PECULIARITIES OF COOPERATION WITH DFC

"Green" energy development in Ukraine has always been driven by private investments. There are different national and international financial institutions the investors are cooperating with, including the U.S. International Development Finance Corporation *(ed. formerly OPIC).* In a joint webinar the UWEA and Sayenko Kharenko presented peculiarities of cooperation with DFC.

Maryna Hritsyshyna, Council at Sayenko Kharenko and Member of the UWEA Board, noted: *"Despite the economic uncertainty, investor appetite for RES remains strong. RES auctions conducted in the period from January to October 2020 showed 15% increase on the same period of 2019. Most international financial institutions have clearly stated their intention to end financing fossil fuel energy projects. Thus, EDFI members will completely stop funding new coal and oil and limit crediting other fossil fuels by 2030".*

Peter Telyuk, Partner at Sayenko Kharenko, a lawyer with many years of experience in corporate and finance laws, government relations and international arbitration, explained peculiarities of cooperation with DFC, its environmental and social policy and requirements.

UWEA-WWEA JOINT WEBINARS

In 2020, the Ukrainian Wind Energy Association has repeatedly participated in webinars organized by the World Wind Energy Association.

On October 15, 2020, Andriy Konechenkov, the Chairman of the UWEA Board and the Vice President of the WWEA presented the current status of wind power development in Ukraine with a focus on COVID-19 pandemic's impact on industry, at the WWEA webinar "Wind Power Markets Around the World".

In his presentation Andriy Konechenkov noted: *"The sharp growth of renewable energy technologies in 2019 led to revision of the renewable energy legislation in 2020," and added that such revision of the RES legislation was provoked by the political struggle between fossil fuels, which are lobbied by some groups of MPs, and "green" energy. "COVID-19 pandemic has affected the development of the wind energy sector in Ukraine less, then the current non-payments crises in the sector. Thus, this is not only a matter of COVID-19 pandemic, which slowed the pace of wind project development, but also of political struggle between fossil and "green" energies,"* Andriy Konechenkov concluded.

On 1 December 2020, the WWEA together with the UWEA held a webinar "Wind power in Ukraine" within the one of the largest wind industry events in Europe – WindEnergy Hamburg 2020.

Joint WWEA-UWEA webinar focused on an important Eastern European wind power market – Ukraine. Speakers presented Ukraine's wind energy market under the conditions of legislative changes and COVID-19 pandemic, described risks and challenges for investments and highlighted prospects of "green" hydrogen production in Ukraine.

The focal topics of the presentation by Kateryna Knysh, Head of Analytical department of the UWEA, included current status of the Ukrainian wind power market and its further development prospects, and

the impact of COVID-19 pandemic on wind development in the country: *"In general, we cannot let the coronavirus crisis become a lost opportunity. We need a sustainable future more than ever. National wind power sector demonstrates its resilience despite all challenges the market faces."*

Loic Lerminiaux, UWEA Board Member, GÜRIS, expressed RES investors' concern about non-fulfilment of the Memorandum by the Government in terms of securing 40% of debts due to the RES producers by the end of the year.

President of the Ukrainian Hydrogen Council, Adviser to the Minister of Foreign Affairs of Ukraine Oleksandr Riepkin talked about the Ukraine's potential for "green" hydrogen production: *"Green" hydrogen has several advantages including cross-sectorial integration, with wind power playing a key role. Ukraine has the second largest wind energy potential in Europe after the United Kingdom; for that reason our country is a strategic partner for Europe in "green" hydrogen production. The success of "green" hydrogen projects depends on three factors: availability of water resources, logistics, i.e. the ability to deliver hydrogen to consumers, and ability to build renewable energy facilities. Ukraine meets all three of these criteria."*

http://uwea.com.ua/en/news/entry/vetrovaya-energetika-v-ukraine-sovmestnyj-vebinar-uvea-i-wwea/

4.6. WIND IN MUSIC

DAVOS WORLD ECONOMIC FORUM

For the first time since 2005, climate change threats have taken the top five out of the top ten key global challenges, overshadowing concerns about recession and economic inequality.

On 23 January 2020 in Ukraine House Davos Global Ambassador RE100% Ruslana presented the first and so far unique of its kind, music video, which aims at promoting clean energy through pop music and creating image of the energy of the future. Ruslana began her speech by calling on the global community: *"Without a prosperous environment there will be no prosperous economy. It is not enough just to "do something". We have to do our utmost! For the present! For the future! After all, the future begins today! Go renewable! Unite for energy freedom!"*

The music video was shot on the territory of Novotroytska wind power plant located in Kherson region with the financial support of Vindkraft Ukraine and WindEurope. Carl Sturen, General Director of Vindkraft Ukraine, and Andriy Konechenkov, Chairman of the UWEA Board and Vice-President of the WWEA, also participated in the presentation.

Giles Dickson, Chairman of WindEurope: *"It's excellent that the world of art and music covers the theme of the global humanity need for renewable energy and the huge benefits it brings society. My sincere gratitude to Ruslana for her leadership and unlimited support to the RES development not only in Ukraine but all over the world."*

http://uwea.com.ua/ua/news/entry/ruslana-v-davose-prezentovala-muzykalnyj-videoklip-v-podderzhku-chistoj-ene/

The new musical project was presented for the national media on February 29, 2020 in Kyiv's golf club "Cosmos Golf", bringing together Ruslana's friends, colleagues and people interested in the RES development.

http://uwea.com.ua/en/news/entry/ruslana-prezentovala-novyj-pop-art-proekt-my-veter/

4.7. AWARDS

GALYNA SHMIDT, MEMBER OF THE UWEA BOARD, WAS AWARDED WITH THE ECO-OSCAR AS A LEADER IN DEVELOPING THE "GREEN" TECHNOLOGIES IN UKRAINE

On 20 November 2020, Kyiv hosted the third Green Forum "ECO-transformation – 2020", which brought together key players of energy and environment markets, those leading Ukraine to a new paradigm of life and conscientious with "green" economy, "green" GDP, health and clean environment. The UWEA was one of the informational partners. For the third consecutive year a special ECO-OSCAR Award Ceremony was held at the Forum. Governmental officials, business, and civil society representatives were awarded with Eco-Oskar prize for successful projects implemented by them in Ukraine. Galyna Shmidt was awarded with the Eco-Oscar for her considerable contribution to wind development in Ukraine.

Galyna Shmidt: *"Though wind energy has a great potential for reducing greenhouse gas emissions in contrast to fossil fuels, it should also be completely safe for all components of environment. Thus, the Environmental Impact Assessment examines the environmental and socio-economic impacts of the future wind farm. A proper and efficiently performed environmental impact assessment refutes the arguments of the wind energy opponents".*

In his congratulatory message to the nominees, Andriy Konechenkov, the Chairman of the UWEA Board, underlined: *"According to world energy industry leaders, wind energy has become a real instrument not only for combating climate change, but also for tackling the consequences of the COVID-19 pandemic. Wind energy has already become a real competitor to fossil fuels worldwide. At the same time, the development of any energy technology requires a mandatory Environmental Impact Assessment during the construction and operation of energy facilities. Nowadays, wind energy is a real example for all other sectors of the economy how to implement transparent and clean energy technologies."*

THE UKRAINIAN WIND ENERGY ASSOCIATION SINCERELY CONGRATULATES GALYNA SHMIDT AND WISHES HER PATIENCE AND DEDICATION IN LEADING OUR COUNTRY TO "GREEN" TRANSFORMATION AND CLEAN FUTURE.

UWEA-K

Ukrainian Wind Energy Agency K is your reliable information partner in the global wind industry

Українське вітроенергетичне агентство К – Ваш надійний інформаційний партнер у світовій вітроенергетичній промисловості

Ukrainian Wind Energy Agency

UWEA-K LLC

BC Spaces Maidan Plaza
Maidan Nezalezhnosti, 2
Kyiv 01012, Ukraine
tel. +38044 2232996
e-mail: uwea@i.ua

Українське вітроенергетичне агентство

ТОВ УВЕА-К

БЦ Spaces Maidan Plaza
Майдан Незалежності, 2
Київ, 01012, Україна
тел. +38044 2232996
ел.почта: uwea@i.ua

MEMBERS OF UWEA

Fuhrländer ВИНДТЕХНОЛОДЖИ

GÜRİŞ 1958

elementum energy

KNESS

Науково-виробничий комплекс «Екоресурс і моніторинг»
Scientific Production Complex "Ecoresource & Monitoring"

WIND ENERGY

HEAVY IS EASY! HOLLEMAN

ВІТРИ ХМЕЛЬНИЧЧИНИ

DEUTSCHE WINDGUARD

UWEA-K

DISCOVERY industrial facility

DNV·GL

Екозахист професійні екологічні послуги

CRANE UKRAINE

DEALEX WE CARE

ЕКО ОПТИМА

MCL Management·Consulting·Law

МЕТРОПОЛІЯ НАУКОВО-ТЕХНІЧНА КОМПАНІЯ

NAFTOGAZ VUGLESYNTEZGAZ

АЛЬТЕРНАТИВНА ЕНЕРГЕТИКА ПРИКАРПАТТЯ

WF WIND FARM

CLEAR ENERGY

ЮЖНЕ ЕНЕРДЖІ

DENTONS

Solar Service Ukraine

НВП УКРЕКОПРОЕКТ WWW.ECOPRO.COM.UA

VINDKRAFT TAVRIYA

ENGINEERING COMPANY PROFESSOR KATZENBACH

eurocape New Energy

ataseven GROUP

Global Capital Finance

BUREAU VERITAS 1828

ЕВРОУКР ВІНД

ARZINGER.UA

Unique team composition and experience

- Investment and M&A
- Project finance and project development
- Dispute resolution and arbitration
- Regulatory

Leading legal adviser to RES investors and market participants

Head Office
Senator Business Centre
32/2 Moskovska St., 10th floor, 01010, Kyiv, Ukraine,
tel: +38 044 390 55 33, fax: +38 044 390 55 40

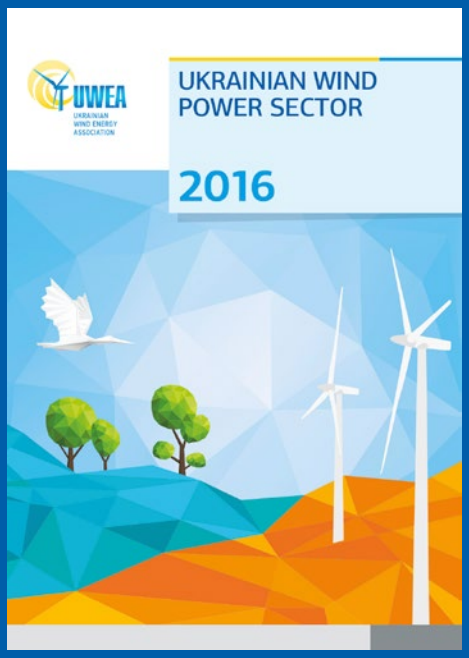
West Ukrainian Branch
6, Generala Chuprynky Str., office 1, 79013, Lviv, Ukraine,
tel: +38 032 242 96 96, fax: +38 032 242 96 95

South Ukrainian Branch
Pokrovsky Business Centre
33 Zhukovskogo Str. 6th floor, office 601, 65045, Odesa, Ukraine,
tel: +38 048 711 74 74, fax: +38 048 249 62 45

Timur Bondaryev
Founding and Managing Partner
Timur.Bondaryev@arzinger.ua

Iaroslav Cheker
Counsel, Head of Energy
Iaroslav.Cheker@arzinger.ua

UWEA REVIEWS – 11 YEARS TOGETHER!



UWEA UKRAINIAN WIND ENERGY ASSOCIATION

Tel. +380 (44) 223 29 96
Email: uwea@i.ua
www.uwea.com.ua