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Zelensky addresses green tariff controversy

BY JACK LAURENSEN

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President Volodymyr Zelensky said on Oct. 10 that he considers it "necessary" to have constructive dialogue with energy investors over anticipated changes in the so-called green tariff.

"Regarding the issue of the green tariff, I'm still dealing with it. There is a very difficult situation. There are contracts with many companies, we have signed contracts, and now all of a sudden we say: let's change the tariff," Zelensky told journalists during his marathon press conference in Kyiv.

"Therefore, I think that the problem will be solved... through communication with these companies that already have contracts. But we need to find normal tariffs that are market-based," he said. "I think the government knows that we should not lose relations with companies, including foreign

companies that already have contracts. I think they will solve this issue."

The Parliamentary Committee on Energy, Housing and Utilities Services has been discussing a way to make energy tariffs fairer. Renewables account for 3.7 percent of Ukraine's energy mix, but repre-

sent more than 8 percent of total energy costs.

A parliamentary working group to explore policy changes could be launched soon, and changes could include a reduction of the tariff, an introduction of new taxes, or other methods. ■

End of 'green fever' could slow drive for renewables

BY NATALIA DATSKEVYCH

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In the last year before Ukraine moves from a generous and unaffordable green tariff regime to an auction-based system, the renewable sector has shown dramatic growth — although renewables still account for only about 3.7 percent of the nation's energy needs.

For the first nine months of the year, more than \$2 billion were invested in the Ukrainian renewable energy, adding another 2.5 gigawatts to the market, according to Sergiy Savchuk, chairman of the State Agency for Energy Efficiency and Energy Saving.

Some 80 percent went to solar, 15 percent to wind, with biogas and small hydroelectric power stations also represented. In total, the renewable sector now generates 4.86 gigawatts of clean energy, five times more than in 2014.

"2019 is the year of a 'green fever.' Even starting the construction this year, everybody wants to finish it by the end of the year," said Maksym Sysoiev, counsel at Kyiv office of Dentons law firm.



The second stage of the 200-megawatt Prymorska wind farm, owned by Ukrainian energy giant DTEK, which stands on the shores of the Azov Sea in Zaporizhia Oblast, some 700 kilometers southeast of Kyiv, will be finished this fall. It will be able to provide electricity to 365,000 households. (DTEK)

3.7 percent in renewables will be challenging indeed.

"We will keep financing renewable projects in the future, but starting next year we will do it more carefully, taking into account today's trends," said Rodion Morozov, director of the environmental department at UkrGasbank, a state-owned bank which has financed projects with total capacities of more than one gigawatt across Ukraine worth around 600 million euros.

Trends and threats

The auction law, adopted by the Ukrainian parliament on April 26, eliminates the generous state-guaranteed tariffs in favor of a more market-based approach.

Projects which already operate under the green tariff, currently three times higher than traditional energy, will continue to benefit from it until 2030.

But, after 2020, wind power plants with capacities of more than five megawatts or solar power plants with capacities of more than one megawatt, will have to bid in auctions for the state tariff. The lower the tariff, the longer it will take the investor to recoup the investment.

Moreover, the guaranteed purchaser, a government enterprise, must also approve the qualifications of a bidder. "You can win the auction, but for some reasons if submitted documents will not comply with the requirements of the guaranteed buyer, you can get a refusal as a winner of the auction," Sysoiev said.

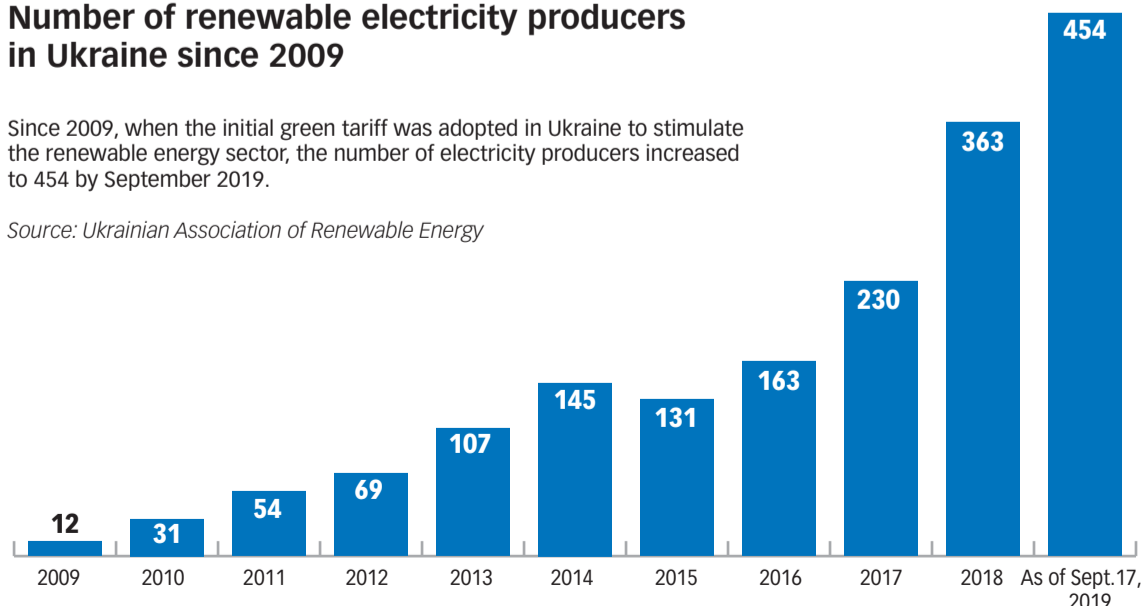
Ukraine's renewable sector has less corruption than other sectors and pays producers for electricity in a timely manner, according to Olenyuk. "We hope very much that this trend will persist in the future as it's one of the key indicators of healthy market situation," he said.

Recently, producers had some serious doubts about government payments, but Kostyantyn Petrykovets,

Number of renewable electricity producers in Ukraine since 2009

Since 2009, when the initial green tariff was adopted in Ukraine to stimulate the renewable energy sector, the number of electricity producers increased to 454 by September 2019.

Source: Ukrainian Association of Renewable Energy



Currently, Ukraine has 454 registered companies producing electricity from renewables, something impossible to imagine 10 years ago, when only 12 producers, according to the Ukrainian Association of Renewable Energy.

"Ukraine demonstrates remarkable growth. This is something that encourages, and indicates that the sector still stays attractive," said Andriy Olenyuk, partner at Everlegal law firm.

However, the sector needs ten-fold growth to reach the national strategy goal of 30 percent of electricity generated from renewables in country's energy structure by 2030, replacing traditional energy sources such as coal, gas, oil or nuclear power.

And, with the pace likely the slow in coming years, moving up from the

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Photomate has been distributing photovoltaic equipment, including Huawei inverters, since 2008. Director of Photomate office in Ukraine, Anton Abramov provided several comments about the Company's latest achievements and products, as well as trends in the sustainable energy market in Ukraine and in the world.

Anton, please tell us about the achievements of Photomate in the last 2-3 years.

On the wave of renewable energy market growth Photomate doubled its sales in Ukraine every year. But in 2019 we are committed to hit 1GW, which makes x4 growth of deliveries compared to 2018. Our company has 20 employees today, and we are working on implementing new systems to improve the quality of services.

What is your company's vision of the development of sustainable energy in the next 5-10 years?

The market will continue to evolve towards smart technologies and AI solutions. Huawei is a pioneer and market leader in implementing such products, our customers consider technological effectiveness to be one of the Company's key strengths. The innovative approach helps to reduce CAPEX and OPEX of the project against a backdrop of increasing PR, performance and reliability of the equipment.

Which of your products have been best sellers in 2019? Did this trend change compared to 2018?

In a product line for commercial solar power plants, there is segmentation by voltage, which is approximately 50/50. In standard 400V class, Sun2000-60M0 (66kW, 1100V_DC) is a best seller, and in high voltage class 800V / 1500V (AC / DC), Sun2000-100/105KTL-H1 has been replaced by Sun2000-185KTL-H1 for large solar projects.

In addition, Huawei is also the most popular manufacturer of inverters for private solar power stations. According to our estimates, the market share of Huawei in the segment of private solar installations up to 30 kW is over 80%. With the launch of the new Fusion Home hybrid inverter line and the adoption of the new law on private solar power stations up to 50kW, for which Huawei is launching Sun2000-50M0, we hope to maintain the brand of the people's product. Along with that, the launch of an affordable monitoring system will help us to reach this goal.

Now the market is moving towards automation with the help of machine intelligence. In your opinion, will digitization be a useful tool for the industry or vice versa?

As I said above, „digitization“ is Huawei's advantage. From the very beginning, Huawei has developed an innovative platform that includes a customer-oriented solution package. Huawei updates its products every year; the Company has remained the global market leader in solar inverter sales for the fourth consecutive year. The fact is that half of Huawei's 180,000 employees are involved in R&D and a significant part of its annual innovation budget (\$ 15 billion only in 2019) is channeled to Fusion Solar product development.

Is a global switch to 100% renewable energy possible?

Under the necessary level of development of energy storage technologies and the current trend of growth in renewable energy facilities globally, I believe that this is a near-term perspective. From ecological perspective we have no other choice.

Can you say that Photomate is committed to making the world get 100% renewable energy?

We work hard on this, but our approach is to make this transition not only quantitative but also qualitative - with the launch of smart monitoring and data exchange systems, improving stability and reliability of the grid. Huawei, as an innovation leader, has many promising developments in the energy field that are being actively implemented in new products now.

In your opinion, how has the renewable energy market of Ukraine changed in the last two years?

Over the past few years, large market players that managed to accumulate significant portfolios of solar projects have emerged in Ukraine. Many of them are planning to set up an asset management system and are considering improving the quality of solar parks' operation. We are glad that even at the stage of choosing equipment, our customers are taking care about making the transition from active construction to efficient operation easy. At the same time, for example, buyers of central inverter stations are only starting to get wise to the scale of their problems with inefficient equipment, expensive maintenance, low PR and reliability. There are even more problems while searching for ready-made solar stations. International investors that are interested in buying such assets, as well as banks, don't want to deal with „non-bankable“ equipment and facilities that don't have an up-to-date management and monitoring system, which means that no reliable data can be collected for these projects. Most likely, it will be difficult to sell such solar power plants at market price; in addition, there exist additional risks for the investor. At the exhibition, we are going to talk in detail about how exactly Huawei takes care of investors' interests.

Photomate is a partner and participant of the main event of the industry, SEF 2019 KYIV the 11th Sustainable Energy Forum and Trade Show of Central and Eastern European. The event will be held in Kyiv on October 16-18.

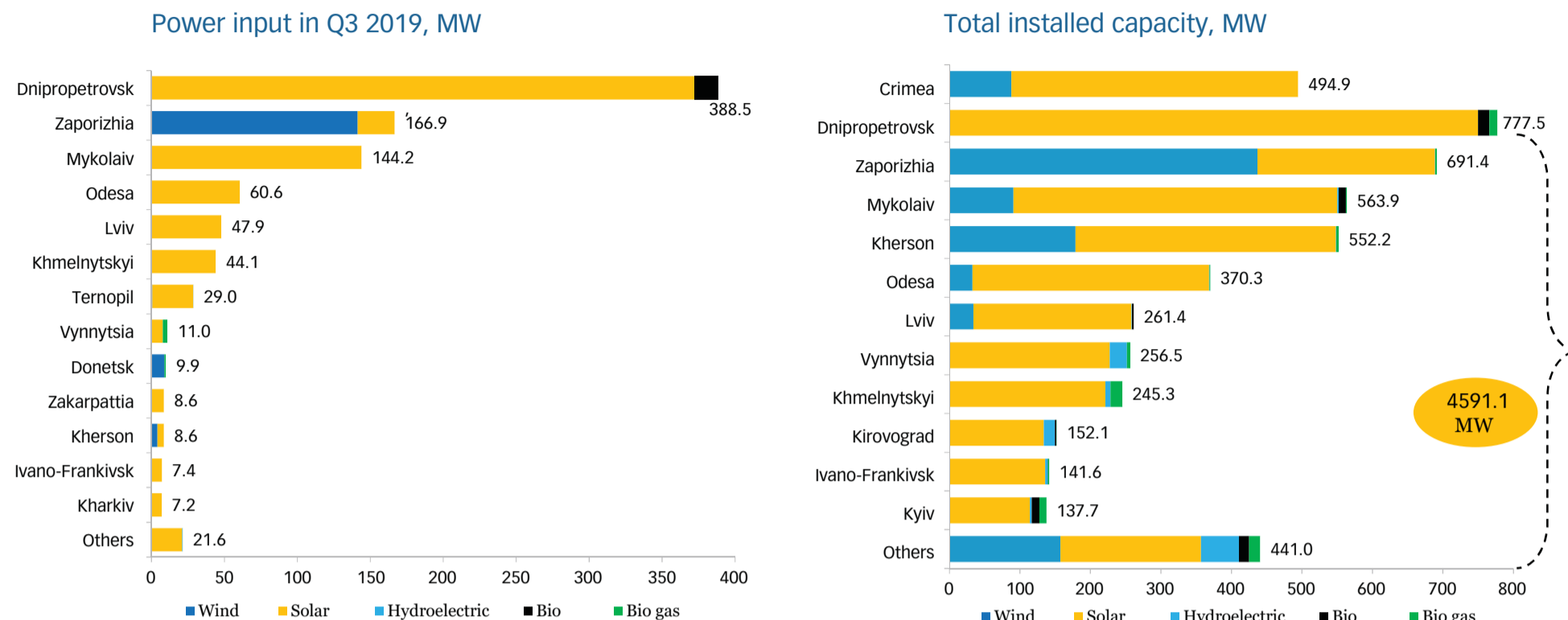


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▶ Interview is based on Ibcenter materials and available at: <http://bit.ly/photomate-sef-19>

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Installed Renewable Energy Facilities by Region



The graph on the left shows how much renewable capacity was installed in Ukraine in the third quarter of 2019. The graph on the right displays total installed capacity across Ukraine. Solar energy dominates Ukraine's renewable energy mix, followed by wind power. (Source: The National Energy and Utilities Regulatory Commission).

A battle over 'unaffordable' renewable tariff is brewing

BY IGOR KOSSOV
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Ukraine is looking into ways to address the high cost of its renewable energy tariff and some investors are concerned.

The past nine months saw record growth in Ukraine's renewable sector, adding 2.5 megawatts of energy via investments of more than \$2 billion. Developers are scrambling to get in on the last days of Ukraine's sky-high feed-in tariff, which will be replaced by renewable auctions starting in 2020. Those who get the tariff can keep it until 2030, albeit at increasingly lower amounts.

While renewables account for 3.7 percent of Ukraine's energy mix, according to the Ukrainian energy regulator, they represent more than 8 percent of total energy costs in the country. Some lawmakers and industrial consumers argue that the economy can no longer shoulder this disproportionate burden.

The Parliamentary Committee on Energy, Housing and Utilities Services has been discussing a way to lighten the load. A working group to explore policy changes may be launched soon. A recent roundtable at the committee discussed possibilities from a reduction of the tariff to the introduction of new taxes, among other methods.

Multiple members of the energy market had come to him asking for help, he said.

On the other hand, multiple renewable energy investors told the Kyiv Post that they are worried about a possible retroactive tariff cut. While no decision has been taken, developers and investors said they don't have a clear idea of what will happen.

Consumers vs. investors

"Our green tariff is 2-3 times higher than in Europe, and green (power plants) are being built at a very rapid pace," Servant of the People lawmaker Andriy Gerus, the committee head, told the Kyiv Post. "This is already tens of billions of hryvnias."

"We already now see investors pulling out of the Ukrainian market, and we do not expect to see any significant investments in renewable energy in Ukraine unless there is certainty that the government is honoring its obligations under the existing law," wrote Thorstein Jenssen, the senior vice president of the Norwegian wind company NBT

AS. "Any changes to existing obligations will trigger an avalanche of legal cases."

In the shadow of this debate, some commentators see warring oligarchs.

Since his return to Ukraine, billionaire Ihor Kolomoisky has been working to increase his control over the energy sector. His industrial concerns, especially his ferroalloy plants, have everything to gain from a reduction in mandatory renewable tariffs that are paid by energy transmission fees. Kolomoisky has publicly come out against feed-in tariffs in recent months.

Other ferroalloy plants and industrial energy consumers have also complained about high energy costs

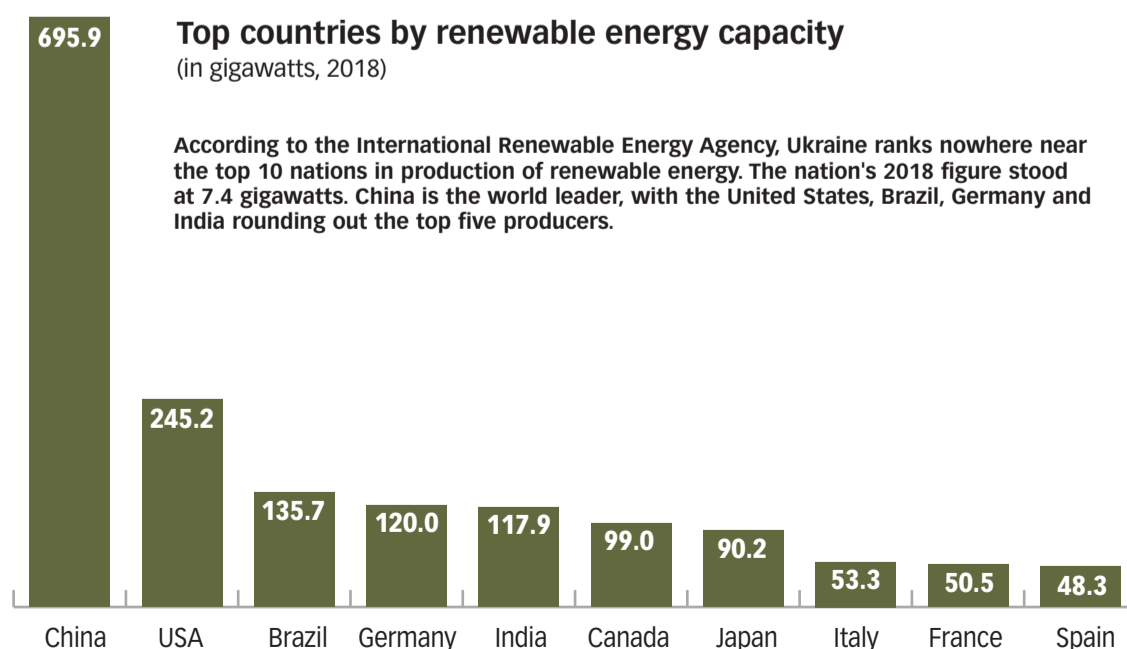
more **Tariff** on page 9

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Source: International Renewable Energy Agency (IRENA), an international organization that promotes the use of green energy.



A worker at a factory in Vinnytsia belonging to the Knessrenewable energy technology company inspects the quality of a solar panel before it is ready for packaging on Feb. 8, 2019. (Kostyantyn Chernichkin)

Consumers want relief but investors warn against cuts made retroactively

Tariff from page 8

related to Ukraine's new energy market that launched on July 1.

On the other side is Rinat Akhmetov, Ukraine's wealthiest billionaire, who controls some of the largest renewable energy generation projects in the country through his company, DTEK, which is expected to have 1 gigawatt of renewable capacity in 2020. It is in Akhmetov's interest to keep renewable tariffs high. Some critics say that he will take advantage of foreign investors to defend his revenue flows at the expense of energy consumers.

Pending plans

The energy committee convened a roundtable on Sept. 27 to discuss "problems with financing 'green' energy generation" and the "need for legislative changes," according to an Oct. 8 statement.

Participants at the round table discussed several possibilities, including a retroactive cut to the feed-in tariff that many, including Gerus, do not support. Other suggestions included new forms of taxes on income or existing power plants; changes in the limits on pre-Power Purchase Agreements; or changes in the feed-in tariffs to be received from 2020

onwards. The round table also considered a separate tax on carbon dioxide emissions as a way of financing renewable energy.

According to the announcement, these changes may affect wind and solar plants installed in 2017–2019. Plants that had been installed later, with cheaper capital expenditures, could see more tax increases.

"In Ukraine, there was already a default on 'green' energy payments in June-July this year," the committee wrote. "According to experts, at the end of 2019, the Guaranteed Buyer's net profit will not be enough to make all payments on 'green' generation. Thus the need for legislative changes in order to ensure long-term development of renewable energy."

Oleksiy Feliv, a partner at the law firm Integrates, who consulted on the renewable auction law passed earlier this year, doubts that the feed-in tariff will be lowered retroactively, which would go against the government's guarantees enshrined in the law.

Instead, he expects an alternative, lower tariff that might extend beyond 2030. He also expects that companies will be able to voluntarily stay on the old feed-in tariff or switch to a new one.

Rising concerns

Developers and investors are unhappy. Some told the Kyiv Post that major deals are being halted, especially in consortium projects. Even if retroactive changes do not pan out, they said that



Metalworkers protest in front of Ukrenergo, the state operator of Ukraine's backbone electrical grid on August 16, 2019. In July, Ukraine implemented changes to its wholesale energy market, which caused industrial consumers to have to pay higher prices for electricity. The loudest criticism came from several metallurgy factories tied to oligarch Ihor Kolomoisky — they initiated multiple protests and lawsuits against Ukrenergo and energy authorities. (Volodymyr Petrov)

more Tariff on page 10

BUSINESS ADVISER

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Renewable energy auctions in Ukraine: What should investors expect in 2020?



Max Lebedev,
Partner at GOLAW
Attorney at law

While in some European countries, such as Italy or Norway, support systems for renewable electricity producers in the form of auctions have already finished having proved their effectiveness, in Ukraine such a system is just being introduced.

Who will participate in auctions?

Starting from 2020, auctions will be the only means for wind farms with installed capacity of more than 5 MW and solar power plants with installed capacity of more than 1 MW to receive state support. Other RES projects will have a choice: either to participate in the auctions and enter into a PPA for 20 years, or to retain the "green" tariff until 2030.

Government will provide land plots for projects participating in auctions

This sounds tempting, but only some projects will receive such land plots. Most likely they will be offered only in certain undeveloped areas that are badly lacking new capacities. The allocation of such land plots for auctions will be done by local or state authorities at the request of the Ministry of Energy. At the same time, the transmission system operator and distribution system operators will draw up and submit to the Ministry of Energy draft technical conditions for connection to the grid. There are similar systems operating in Brazil and Denmark.

How will the auctions work?

Quotas of state support for RES producers will be distributed between investors at open auctions through an electronic trading system based on the ProZorro platform.

The auctions will be organized by Guaranteed Buyer, a state-owned enterprise. Those who intend to participate in the auction submit an application in electronic form through their personal account. The application must contain a closed offer consisting of the size of facility's capacity and the offer price. The offer price may not exceed the level of the "green" tariff valid on the date of the auction. It is important that information about the participants, their quantity and offered prices are not displayed publicly and remain confidential until the end of the auction.

The auction will be conducted automatically in the electronic system at the date and time specified in the announcement of the auction. It is disturbing that each participant is able to reduce its offer price up to 10 minutes before the start of the auction. Participants who in some way managed to receive information about their competitors' offer prices could take advantage of this.

After the completion of the auction, the electronic trading system automatically performs the simultaneous disclosure of the offers of all of the auction participants and the information about them. The lowest price will be the only criterium for choosing the winner of the auction.

Within 10 working days after the auction's completion, Guaranteed Buyer evaluates the documents of all participants. If the evaluation reveals grounds for the exclusion of a participant, including grounds for refusing to sign a PPA with the auction winner, Guaranteed Buyer publishes the relevant verification report and the electronic system records the results of the verification and the updated rating of the participants, omitting the excluded ones.

The auction system does not require the pre-qualification of participants which, of course, is the correct approach, designed to ensure the confidentiality of the participants' offers. At the same time, given that all documents and submitted information are subject to verification after the auction's completion, poorly prepared documents could work against the auction winner, and even cause it to lose this status.

Qualification requirements for auction participants

In addition to a grid connection agreement and documents confirming ownership or the right of use of a land plot, the participants of an auction have to submit an irrevocable bank guarantee in favour of the Guaranteed Buyer of the amount of EUR 5 /1 kilowatt. The winner of the auction, before the conclusion of the PPA, must provide a bank guarantee of the amount of EUR 15/1 kilowatt.

The guarantee will be returned to participants that have not received the right to state support as a result of the auction. The participant's guarantee will also be returned to the auction winners. In its place, the auction winners will have to provide an auction winner's guarantee.

It is worth noting that the issue of the size of the guarantee was one of the most debated issues during discussion of the draft Law, and the approach to setting it changed several times. Among market participants it is widely thought that the guarantee is still too high for the Ukrainian market. At the same time, for comparison, in Germany, the guarantee size for solar plants is EUR 50 /1 kilowatt, for onshore wind farms EUR 30 /1 kilowatt and for offshore wind farms EUR 100 /1 kilowatt.

Despite the approaching deadline for the launch of the first auctions, Ukrainian banks are still only drafting their conditions for issuing guarantees. It is already obvious that a guarantee from a Ukrainian bank will also have to be secured, most likely by monetary funds.

Conclusion

Despite there being certain gaps in the regulations, and previously announced deadlines for the preparation of secondary legislation having been missed, it now looks like the new support system will definitely be launched in 2020.

Investors should take into account that winning an auction with their offer price does not automatically guarantee the conclusion of a PPA. Poor preparation of documents for participation in auctions could nullify all efforts if the company is ultimately disqualified. Potential players should already start preparing their documents, including those for the issue of a bank guarantee, as far as this process can be delayed unpredictably.

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Oligarch Kolomoisky seeks end to high green tariffs

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Breakdown of Ukraine's energy market by generation type

partners on some projects have already started pulling out, which might lead to financing being unrealized.

Rumors were swirling even before business representatives went into the Sept. 27 meetings. Yuri Kubrushko, managing partner at energy advisory firm IMEPOWER said that the meeting did little to dispel concerns. "Instead, it poured more fuel onto the fire because everyone left the room with a different understanding" of what will or will not happen.

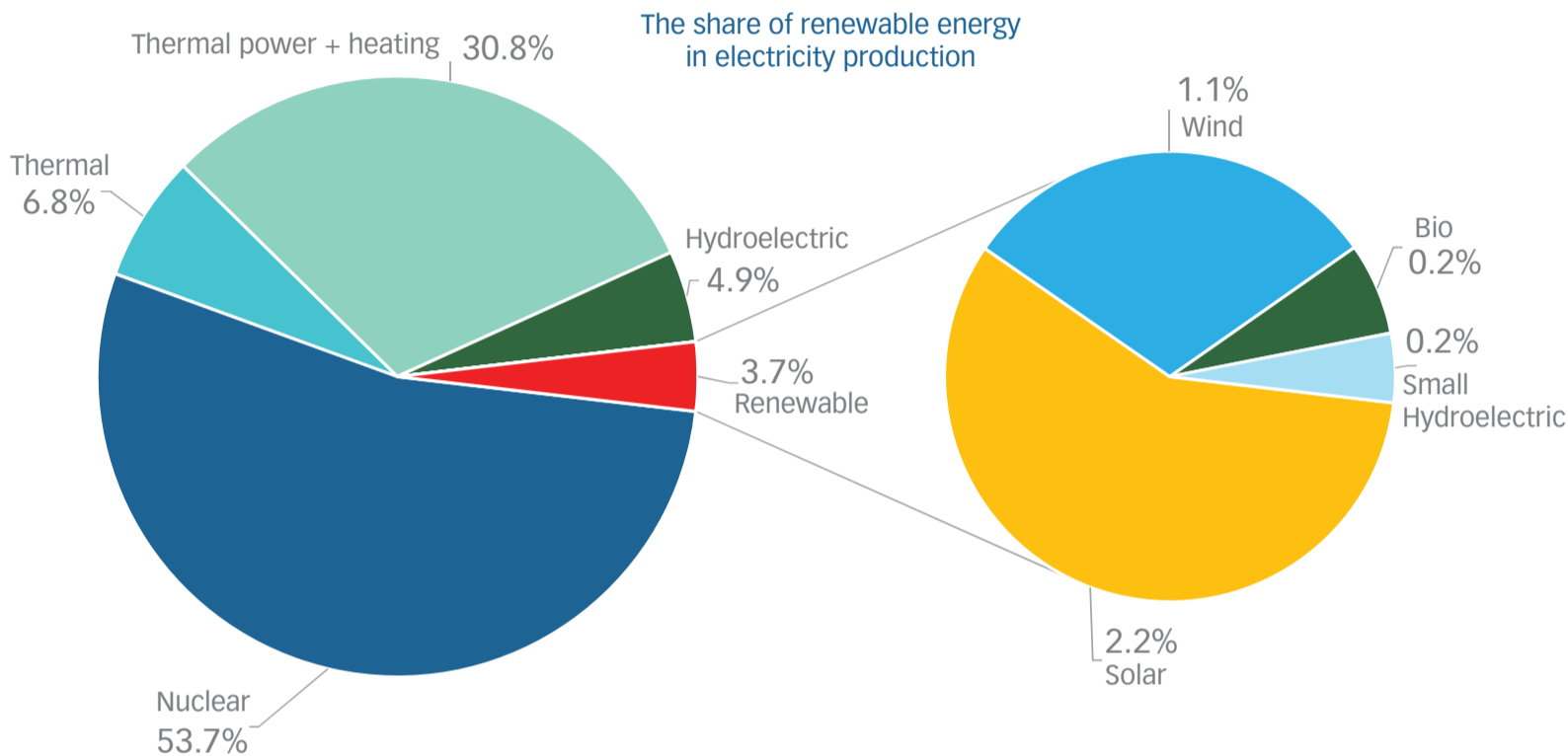
He added that the scant information available thus far has not made clear which stakeholders back which solution. Investors dislike unpredictability — he said businesses want to hear "honest communication" about the current status of the problem.

"Retroactive measures should not be on the table because they will only result in arbitration cases the damage of which to the government will be worse than any payments under the green tariff," wrote Magnus Johansen, a development manager with the Norwegian company Scatec Solar.

Problems

But experts and lawmakers told the Kyiv Post that the move to reduce the astronomical green feed-in tariff is nothing new and has been under constant discussion in parliament for two years already. The recent discussion is no surprise, they say.

Victoria Voytsitska, a former lawmaker who did a great deal of work on energy policy, said that the renewable auction law in its current form was the result of a compromise that pushed back the auctions' start date and delayed the reduction of green tariffs, while giving companies enough time for a green "gold rush" through the end of 2019.



Renewable energy now accounts for 3.7 percent of total energy produced in Ukraine. More than half of all installed renewable capacity is solar, with over one quarter being wind. Biomass and small hydroelectric power plants have considerably lower profile. Following this year's rapid growth in renewable capacity, experts expect next year's market to slow down, following the introduction of the renewable auction law.

Kubrushko said that the time to reduce Ukraine's high green tariffs was a year ago. In 2018, the capital expenditures on renewable projects fell drastically, making them increasingly profitable. Parliament failed to react and lower the green tariff, allowing for the possibility of a huge surge of renewable capacity.

"Ideally, last year, in the spring, the auction law should have been adopted," he said. "If the green tariffs were reduced throughout 2019 and if auctions were introduced in 2019, we would have smoothed out this wave of construction... There would

be fewer investors, but they would still be there."

Gerus said that renewable energy tariffs are one of the factors in high energy costs for industrial consumers, which is a problem that needs to be resolved. Otherwise, tens of thousands of jobs are at stake.

Other experts told the Kyiv Post that the rapid growth of renewables brings instability, which requires balancing. Solar power surges during the day and ebbs away at night. Wind power is also inconsistent. Conventional energy sources are required to balance them out and deliver consistent power. While Ukraine's hydropower can take some of the edge off, much of the balancing would be handled by thermal energy from coal.

Oleksiy Ryabchyn, a former lawmaker and the former head of the parliamentary committee on fuel and energy complex, said that to deal with these problems, it will be important to support energy decentralization and smaller-scale renewable projects. "So we should have more energy cooperatives for people or distributed generation in cities," he said. Voytsitska agreed, saying that supporting "prosumers" will be critical.

Sector monopolization

Since the feed-in tariff was introduced in 2009, renewable projects and subsidy streams became concentrated in the hands of a select group of politicians and business elites.

When Viktor Yanukovich was still president, 85 percent of the country's solar power production was owned by his close ally, Serhiy Kluyev, who fled the country after Yanukovich was ousted in 2014 by the EuroMaidan Revolution.

The China National Building Material company, a state-owned enterprise in Beijing, acquired Kluyev's six solar plants in 2016.

Over time, DTEK became a major player in the market. According to a statement from the company, it is now on its way to having 1 gigawatt of renewable energy in 2020.

The past few years have seen a surge of investment interest from companies outside Ukraine. Feliv had told the Kyiv Post that renewable energy is one of the top sources of large-scale foreign investment into Ukraine. Still, an investigation by Bihus found that 65 percent of renewable funds paid out by the state in 2018 went to the top 10 business groups.

Ilya Ponomarev, a former Russian politician and energy executive, now a Ukrainian businessman in Kyiv, said that he sees an ongoing battle between energy producers and consumers in Ukraine in light of artificially inflated energy prices. In general, he said, lower energy prices would be good for the economy.

Johansen said that the tariff is high in part due to the conditions in Ukraine — the country is high risk, with low solar irradiation, a relatively low, 10-year power purchase agreement and with relatively poor energy infrastructure.

Kolomoisky

Renewable energy is currently under increasing pressure from a different direction.

In September, Ukrenergo stated that multiple energy consumers are continuing to withhold payments for energy transfer and dispatch-erization since the launch of the new energy market as a result of court cases filed by ferroalloy plants, including Kolomoisky's. The total gap may reach Hr 2 billion by the end of the year.

The state enterprise wrote that it will be critical to receive these payments and that continued failure to pay threatens Ukrenergo with bankruptcy. This might become a problem for the entire energy market, according to a statement by Ukrenergo head Vsevolod Kovalchuk.

Kolomoisky's enterprises are not just fighting high renewable energy tariffs but higher transmission costs in general, with some of his supporters arguing that Kolomoisky's efforts could also be beneficial to consumers. These increases kicked in around the launch of Ukraine's new energy market in July.

According to Kolomoisky's ferroalloy plants, energy costs are a huge percentage of their expenses and that increase in power costs meant millions in losses per month, resulting in possible closures. ■

ON THE MOVE

Advertisement

Olena Sukmanova joins Sayenko Kharenko as a partner to head the litigation practice



Olena Sukmanova

Sayenko Kharenko continues to strengthen and grow its litigation practice with the hire of Olena Sukmanova, an accomplished professional with deep understanding of many industries, as a partner. Olena has over 20 years of professional experience including senior positions in the legal departments of major banks and industrial holdings, as well as two years in public service as Deputy and First Deputy Minister of Justice of Ukraine.

Prior to joining Sayenko Kharenko, Olena gained valuable practical experience in debt collection, land dispute resolution and anti-raiding — areas that are in high demand among Sayenko Kharenko's clients. In this regard, the firm's CEO Nazar Chernyavsky notes: "We traditionally anticipate client requests and come up with a readymade solution meeting their emerging business needs to the highest possible extent."

Partner Sergey Pogrebnoy comments: "We are pleased to welcome such a recognized expert to our team. Olena shares our values and ambitions. Her in-depth professional experience will contribute to the further structuring and strengthening of the practice. I have no doubt that her arrival at the firm will allow us to respond more effectively to the business tasks of our clients by offering solutions providing comprehensive business protection."

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The winning bet on "green"

In 2016 state-owned Ukrgasbank fundamentally changed its development vector, focusing on green finance as a strategic growth driver. Over this period, the bank became a leading expert in environmental and energy efficiency projects. The bank created an entirely new market into which other players gradually emerged. Kyrylo Shevchenko, CEO of Ukrgasbank, explains the cost of this transformation – going from traditional Ukrainian financial institution to leading eco-bank.



Ukrgasbank is the first bank to introduce Green Banking system in Ukraine. How difficult was it to implement the changes and what challenges did you face?

Change is always a rather complex and labor-intensive process. However, in our case the result fully justified all the difficulties, as we were transforming into the new 'us'.

When faced with the decision about which markets to develop, the bank was at the crossroads. We could follow the well-trodden path into the sector of agricultural business financing, but there were many players there and, accordingly, very stiff competition. That is why we decided to look for our own niche and we were proven right.

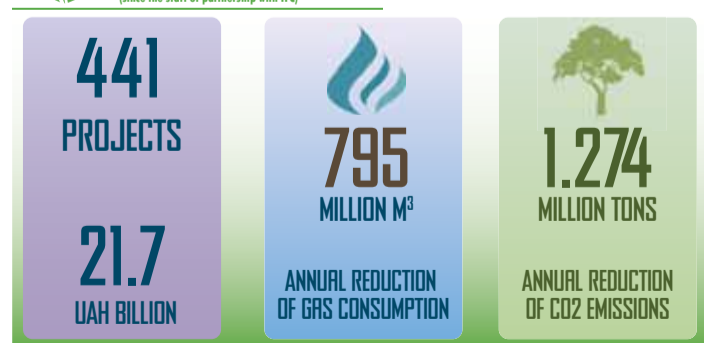
We began by providing financing to homeowners' associations (HOA), and launched a corresponding product that clients welcomed. Although new players have emerged in this segment since, we have over 2,000 HOAs among our clients, and HOA financing is associated with Ukrgasbank.

Green finance is an entirely new and innovative model in the banking sector. Moreover, this vector is in high demand, both due to global trends and the Ukrainian context. The transition from traditional to green banking is vital for us, as Ukrainians have in recent years strongly felt the drawbacks of energy dependence.

So we began promoting the idea that energy sustainability is a story of expense minimization, cost reduction and, accordingly, improving competitiveness that really works. To spread the idea to all our clients, even future ones, we set up a department with environmental professionals and technical experts. Their task is to offer the client not only financing, but also technical solutions. That is why, they visit clients, study their production processes, and issue recommendations on what can be fixed or improved.

The bank's results in the green finance segment are, without exaggeration, very impressive: our green finance portfolio includes 441 projects for a total amount of UAH 21.7 billion! In turn, the reduction of annual gas consumption is 795 million cubic meters, while CO₂ emission reductions are over 1.2 million tons. In simpler terms, this is equivalent to removing over half a million cars from Ukrainian roads.

The bank's eco-loan portfolio



How do green banks operate outside Ukraine?

Green banks exist all over the world. For example, in the USA, the first green bank was established back in 2011 – the Connecticut Green Bank. This financial institution's green

banking model is currently the most advanced in the USA.

The list of known American green banks also includes the NY Green Bank, which is the largest in the U.S., and the California Lending for Energy and Environmental Needs (CLEEN) Center, which functions as a green bank within the California Infrastructure and Economic Development Bank. One of the major initiatives of the latter – the Statewide Energy Efficiency Program (SWEET) – finances energy efficiency projects and upgrades for municipalities, universities, schools, and hospitals.

As for Europe, the largest green finance institution is in the UK. In 2012, the government established the UK Green Investment Bank (GIB). The bank works with different technologies, such as energy efficiency, waste and bio energy, as well as sea, wind and marine renewable sources.

What is the most popular area?
That is certainly renewable energy. Unfortunately, Ukraine has one of the highest levels of energy consumption in the world. Furthermore, old enterprises, which we inherited from Soviet times, are inflicting a huge damage on the Ukrainian environment. That is why promoting green loans is not simply our mission; we want to communicate the message that alternative energy has no alternative in our modern reality!

This is the first plant in Ukraine where an innovative technology went from being a business idea to becoming a real, operational facility. As Ukraine's No. 1 eco-bank, we feel particularly proud that our dream about high-end technologies being used for green solar energy became a reality in Ukraine with our financial support.

This project is extremely important from the point of view of social significance, as this industrial region has a great industry-related load. Implementation of such environmental projects sends a positive signal to the residents of the region – environmental issues can be solved effectively and benefitting everyone.

According to the calculations of Ukrgasbank experts, this green electricity will be enough to provide for the needs of over 23,000 households. CO₂ emission reductions will be around 2,500 tons per year.

This is the 116th solar power plant in Ukraine built and commissioned with financing from Ukrgasbank. The total capacity of the stations financed by our Eco-bank is 765 megawatts; while their operation helps reduce CO₂ emissions by approximately 450,000 tons.

Why do you think that business must become energy sufficient?
This is a global trend that has long grown from just being 'trendy,' and instead become 'vital.' Business is finally becoming responsible, as we all see the consequences of our activities on a global scale.

By chasing a convenient existence, we are gradually turning our planet into a place unfit for life. That is why some of our actions – that may seem benign at first and help make our lives easier – have a negative impact on our health and quality of life.

That's a paradoxical dependence of our health and the price for our dreams of a better life. Is there a way out, a solution? After all, we cannot stop technological progress. But I think there is one. The more we aspire to make our lives better, the more effort we should put into helping our planet

manage the disastrous results of our economic activities. We must find the balance between what is better for us and what is better for the environment.

Ukrainian business already knows well that you benefit from saving. In other words, implementation of modern energy efficient solutions in business helps achieve substantial cost reductions. Certainly, for those who have chosen an environmentally friendly and responsible approach to doing business, Ukrgasbank offers special conditions – lower interest rates on loans and higher rates on deposits. This is how we motivate business to become environmentally friendly and responsible.

Is alternative energy in demand among Ukrainians?
We were surprised to get a response among our clients for our 'green' vector. In particular, we were the first bank in Ukraine to introduce credit program for installation of solar power stations 'turnkey' in private yards, and today, already 7,500 Ukrainian families have installed private SPPs. Most importantly, it is rather pleasant to realize that it is not just the desire of Ukrainian to become energy independent that serves as the stimulus for transition to green energy. Now, our clients consciously understand the value of their own contribution into the healthy future of the country.

Does the government provide any support for green initiatives?
Naturally. Probably the most popular one is the energy efficiency program, under which an individual or HOA receives 20-70% compen-

sation of the loan amount from the state. The demand for participation in this program testifies that the issue of saving energy resources is an urgent one both on the state level and on the level of each particular household.

We are certainly proud that we are being chosen for implementation of the largest energy efficiency projects in Ukraine, partially because we already have successful experience in this area – full energy modernization of housing in Kyiv for the amount of UAH 10 million and in Lutsk for UAH 3.5 million.

Quite recently, we became the only partner of Energodim, the new subsidy program of the Energy Efficiency Fund and IFC. Ukrgasbank is for far the only front office, so to say a 'window,' where HOAs can apply and obtain grants for the comprehensive upgrade of residential buildings. In Ukraine, 200,000 high-rise apartment blocks and 33,000 houses have been merged into HOAs, which means there is a huge potential for work in the energy modernization of the housing sector.

Do companies still apply to you for traditional loans?

Sure. Our managers, however, can analyze a client's business and offer more interesting options, as it is often difficult for a client to understand which program they need right away. The client simply doesn't know about all the possibilities to obtain the required bank financing. Meanwhile, we do have something to offer. We have developed a line of products for small and medium enterprises, where we offer financing at lower interest rates than the market.

For this, we have launched a new unique program 'ECO BOOM,' which helps understand the needs of business and develop a customized development plan. We thus provide the client with access to new modern banking products, programs and financial solutions that will take the client's business to an entirely new level.

What is your forecast – how quickly will "eco" initiatives become commonplace among Ukrainians?

Ecological trends are only now emerging in Ukraine. This relates to the third vector of our operations – financing of environment protection projects. We can see the significance of this initiative by looking at statistics. In particular, Ukraine is now among the top 10 countries by quantity of waste per capita at over 10.6 tons! We are literally drowning in waste with 96% of it deposited in landfills, where it stays for years.

Our contribution to fighting this problem is providing financing for the acquisition of modern equipment for biogas power stations at solid consumer waste landfills in several regions of Ukraine.

At the same time, we are strongly convinced that you cannot bring harmony to the world if you don't have it in your own home. We make sure our offices are also green, with waste management containers, recycling of batteries, energy saving lighting, abandoning paper document circulation and introduction of digital signatures – we are confidently moving towards creation of a truly eco-responsible office that uses the resources effectively in its operation.

Our small victory is stopping the use of plastic in the work with our clients. It seems like such a little thing on your desk, but we've calculated that the bank annually used 420,000 sheet protectors for documents. For comparison, that's an equivalent of 3,060 square meters, which is 428 football fields!

In developing the 'eco' culture, we don't waste our talents on trifles – we thoroughly think through every detail. Our strategy of development of a fundamentally new, clean and safe model has been justified and our persistent following of the green vector allowed, in the end, to realize our potential.

Despite investment spurt, only 3.7% of energy from renewables

BY JACK LAURENSEN
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Ukraine's renewable energy sector, fueled by generous rates paid to producers, has been a darling of foreign investors in recent years.

More than 450 separate enterprises are generating power from renewables, mostly solar, and multiple experts tell the Kyiv Post that it is one area of the Ukrainian economy that is not seen as a closed and restricted marketplace.

The European Investment Bank, for example, says it has grown its total energy portfolio in Ukraine to 1.6 billion euros while the European Bank for Reconstruction and Development has injected almost 1 billion euros. To such European Union financial institutions, renewables and energy efficiency stand out as priority areas of investment.

And the green energy sector has witnessed a surge in foreign direct investment from private companies too, as other areas of the economy have struggled to secure the confidence of foreign firms throughout these times of conflict and instability for Ukraine. From Norway to China, companies have been energized into action on renewables here by lucrative incentives and a generous feed-in tariff.

But the green energy sector also has a number of critics and detractors, especially populist lawmakers in areas tightly connected to coal mining or natural gas extraction, and from the influential fossil fuel industry here. Meanwhile, the renewable sector faces a great deal of internal friction, as well as disruptive legislative challenges.

Despite the lucrative conditions and substantial investments, renewables have only just met 3.7 percent of Ukraine's energy needs. The green tariff is coming to an end, and some oligarchs — notably Ihor Kolomoisky — have allegedly lobbied



An official walks past solar panels at a rural solar power plant belonging to UDP Renewables in Kyiv Oblast on Sept. 26, 2017. (Konstantyn Chernichkin)

lawmakers and legislators to undermine it, and the whole renewable sector.

Separately, many of the harshest critics of the Ukrainian renewable industry, often from competing areas of the energy sector, argue that renewables are "disruptive," only being pursued because they're "fashionable" and that more green energy is a condition of closer integration with the European Union.

Some critics argue that the future of Ukraine's energy security and energy independence is becoming too reliant on a faltering renewable

drive, while abundant and cheap fuel is being left in the ground.

A number of energy experts lament that while Ukrainian officials have been prioritizing eco-friendly and renewable projects, they are wasting time: an estimated trillion cubic meters of natural gas has been left largely untapped in the ground, while an unknown amount is still tucked away in an offshore shelf under the Black Sea.

They also argue that the way renewable energy projects have been costed and implemented has impacted consumers, especially com-

mercial enterprises. A high renewable feed-in tariff, commonly called the green tariff, makes renewable energy several times more expensive than in other European countries and has contributed to higher transmission costs for electricity, which is then passed onto consumers.

And other areas of the energy sector have not received the level of special attention that renewables have been getting, some critics argued.

Nuclear, which still provides a staggering 55 percent of the country's electricity, is a neglected and dilapi-

dated part of Ukraine's energy landscape and needs far more attention, multiple experts say. Safety and security at aging reactors and neglected plants is a recurring concern.

And European energy experts point to broader threats to the entire energy sector which may undermine a renewable future. Successive governments continue stalling on major reforms, and the energy business has gone from "one extreme to another" — a wholly integrated state monopoly, to a sector dominated by feuding oligarchs like Kolomoisky and Rinat Akhmetov. ■

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The biogas plant in the town of Rokytno in southern Kyiv Oblasts generates annually 2.25 megawatts of electricity. Overall, the amount of biogas from Ukraine's agricultural sector alone potentially could cover almost six percent of the electricity consumption in the country, according to the State Agency on Energy Efficiency and Energy Saving of Ukraine. (Pavlo Podufalov)

Ukraine still short of reaching 2030 goal of 30% from renewables

Renewables from page 6

director at Guaranteed Buyer, says that there are no reasons to worry.

"The Guaranteed Buyer fully paid to renewable electricity producers in July around Hr 3 billion (\$120 million), in August – Hr 3.4 billion (\$136 million)," he said. Overall, the state company paid \$329 million for three months to green energy producers as of Sept. 27.

In the future, auctions could be replaced by direct agreements between producers and consumers, including corporate clients, according to Sysoiev. "To some extent, this might be even more interesting than auctions," he said.

Another trend in Ukraine for the past two years is the growing quality of projects launched in the renewable sector, experts say.

Another problem is the infrastructure to accommodate increased capacity. Ukraine already has more prepared projects than the electricity grid can accept.

"Today Ukraine has run out of technical capabilities. It's like rolling

an immense boulder up a hill. The farther you go, the harder to do it," said Yuriy Podolyak, commercial director at Iknet, consultancy for renewable projects.

"This is not a typical thing in developed countries, but it's a standard in Ukraine," he said. "If this could be changed and the price for connection will be projected, this would make the market much more attractive."

According to Olenyuk, from 10 projects his company supported, nine had the final cost for connection higher than expected. Technically, when agreement on connection to the grid is signed there is no indicated price.

When it comes to available land, another headache for investors appears.

The worst thing experts see while doing legal due diligence is when the land, on which project is planned to be built, had become private under opaque circumstances. As a result, very often some documents required for the land registration are simply missing.

"60 percent of all projects we've checked were cut off at the 'land stage'. It's the first thing we are looking into," said Olenyuk.

Where to invest next?

According to Andriy Bantser, chief investment manager at UDP Renewables, Ukrainian company operating the projects of 140 megawatts in total in six Ukrainian Oblasts, investor's portfolio was simple enough for three past years – the sun was competing with bonds and real estate.

"Bonds have predicted coupon revenue, in real estate there is foreseeable cash flow from the renter, same with sun – regular monthly payments fixed in currency," said Bantser.

But not anymore. Solar power stations will bring more risks amid falling profitability, he says. "How investor's portfolio will look like in the next three years even we can't predict," said Bantser. It could lead to more investment in biogas plants, Bantser said.

According to Podolyak, investors are expected to look into energy storage, installations that accumulate electricity during peak solar hours and return the energy to the grid when needed.

"I personally know one investor who already searching in southern Ukrainian region a small one megawatt solar power station to put energy storage just to test how it will work," said Podolyak.

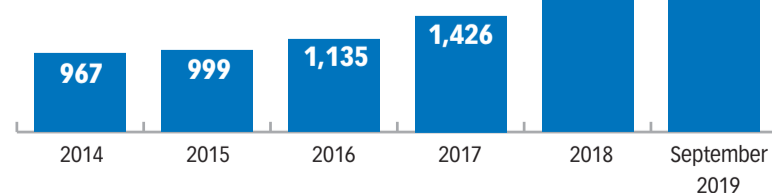
In the near future, experts expect the adoption of legislation on energy storage, which can help to balance energy system and, in parallel, stimulate the new segment of the market.

"It's not enough just to produce electricity, the system must be balanced somehow," said Sysoiev. ■

Renewable capacity growth in Ukraine since 2014

Around 3.3 billion euros were invested in Ukrainian renewables to install an additional 3.9 gigawatts since 2015. This is enough to generate a modest 3.7 percent of electricity country needs annually.

Source: Ukrainian Association of Renewable Energy



BUSINESS ADVISER

Advertisement

Alternative energy



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One of Ukraine's priorities is energy independence. To achieve this goal, it is critical to reduce and replace gas consumption, improve energy efficiency in various areas of activity, and develop renewable energy.

Reducing dependence on Russian gas is a step towards energy independence. The possibility of supplying liquefied gas to Ukraine through Poland opens up new prospects. Of course, investments are needed to build a gas pipeline section on the Ukrainian side. Within one and a half to two years, our partners promise to supply 6 billion cubic meters of gas. Today our country imports a third of its gas from Europe (10.6 billion in 2018), from a total 32.3 billion cubic meters of gas consumed.

Given that natural gas and oil make up around 40 percent of total energy consumption in Ukraine, the problem of finding new sources of energy will remain relevant for a while.

Energy independence of a country can only be ensured by comprehensive measures that are aligned to the overall vision of the state's development.

A global trend of "energy of the future" is the de-carbonisation of the energy system – meaning the gradual abandonment of traditional sources of energy (oil, coal, gas, peat, etc.). It is becoming increasingly influential in terms of climate change prevention, which is affecting the balance of energy generation.

The adoption in 2015 of the Paris Climate Agreement, which will replace the Kyoto Protocol in 2020, challenges the international community to implement climate change measures. Ukraine is also in the list of these countries.

Nuclear power, hydropower, wind power and other renewable energy sources that will generate the least greenhouse gas emissions will play an important role in this task. Ukraine's consistent position on the use of nuclear energy will help to resolve the problem of de-carbonisation of the energy sector.

During the first 9 months of 2019, renewable energy plants with a total capacity of 2.5 gigawatts were installed in Ukraine. As a result, the total capacity of green power plants has doubled – up to 5 gigawatts.

The updated Memorandum of Understanding between Ukraine and the EU on energy co-operation on November 24, 2016, reinforces Ukraine's strategic role as a transit country. The extension of European energy standards to Ukrainian legislation can significantly increase Ukraine's resistance to attempts to politicize interstate relations in the energy sector and joining the pan-European market to liberalize and de-monopolize internal energy markets, making them more transparent and competitive.

Transformation and integration of markets is possible only if one of the main players becomes a consumer and the protection of his rights is reliable. The strategic task is to maximize energy independence. At the same time, by 2025, the focus should be energy conservation, retention of achieved hydrocarbon production and maximum diversification of primary energy supplies. For the period up to 2035 we should concentrate on implementation of projects for the development of natural gas deposits, including from non-traditional sources.

As a result of the systemic transformation, energy infrastructure has to become a flexible part of Ukraine's energy security system, a basis for reliable energy supply for consumers and a link to the security system of supplies to the EU from the east.

Among the potential areas for attracting investment are the following:

- construction of renewable energy facilities (SES, WPP, small HPPs, bio-thermal power plants, biomass boilers, biogas plants, etc.);
- construction of facilities to produce equipment for renewable energy facilities;
- construction of facilities to produce solid and liquid biofuels;
- cultivation of energy crops.

It is worth mentioning that since July 1, a second stage of transition to the new electricity market took place in Ukraine. Under the new model, electricity produced by green power plants will be purchased by a newly created state-owned company under the conditional name of "guaranteed buyer". At the same time, the payment for energy produced from alternative sources comes at a "green tariff", which is one of the highest in Europe.

The Green Tariff will be valid until 2030, and the contract for the sale of electricity will be made at the auction price for 20 years. This is an incentive for investors to abandon the high fixed rate instead of giving a lower price, but for a longer period.

While alternative energy is in the development stage, uninterrupted power grids require electricity and balancing facilities. In the EU alone, the capacity of energy storage facilities increased by 47% in 2017 and reached 1 600 MWh.

According to experts of the International Energy Agency, renewable energy technologies will be leaders in investment attractiveness by 2035. Thus, according to experts, the total investment in electricity from renewables by 2035 will be about \$1.2 trillion – equivalent to 75% of all investments in the US energy sector. Of these, \$629 billion is expected to go to wind power, \$273 billion to photovoltaic systems, \$178 billion to bioenergy, and \$107 billion for hydroelectric power. Investors will be able to bring to the Ukrainian market the latest industry technologies that develop R&D units of the global energy giants - Engie, Total, EDF, Nissan, Tesla, E.ON.

This is confirmed by the fact that Ukraine has launched a global energy transition for future economic growth, renewable energy is bringing additional investment into the Ukrainian economy and opening up new horizons for development. According to the National Renewable Energy Action Plan, by 2020 11% of the state's energy needs will be met by renewable energy in 2020. In addition, in 2035 the share of green energy in total primary supply should be 25%.



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