April 2021

# EVN JOURNAL

Journal for the partners and associates

THE ENERGY YOU NEED!


## New service from EVN

p.3

## Changes in the management of EVN Makedonija Elektrosnabduvanje

Since March 2020, Berkant Shen is the new member of the Management Board of EVN Elektrosnabduvanje.

Mr. Shen studied Business Administration at SEEU. With his valuable experience of 13 years in the EVN Group, he has extensive knowledge of the electricity market movements and trends, both on the regulated and liberalized market. In the beginning of 2016 he was promoted to Head of Sales and was made proxy of EVN Macedonia Elektrosnabduvanje.

# Dear partners and associates,

2020 was very challenging and completely different from the previous years. The emergence of COVID-19 had a huge health and socio-economic impact which also affected EVN Makedonija Elektrosnabduvanje DOOEL and its customers. We had to adapt to a new working dynamic and to a world where lockdowns are part of the daily life.

The main challenge in 2020 was the downward trending volume of electricity consumption, especially in the period from March to June, although the volumes were already hedged. We were tackling this situation by boosting our sales activities utilizing the high expertise of our employees and the internal cooperation within the EVN group providing us with international know-how.

This enabled us to take quick and decisive actions in order to maintain our reliable and stable electricity supply to the customers.

The guarantee of our supply conditions and the relationship based on trust were crucial for our customers to decide to rely on us in such uncertain times. They recognized our efforts and dedication and chose us as their preferred electricity supplier.

Despite the circumstances, we continued to operate at full capacity and the customers remained our top priority. Our employees proactively responded to the pandemic by altering the way they work, but still maintained high level of service to the customers in the safest manner possible. We managed the protective measures and recommendations with accelerated digitalization of our services and processes.

In the upcoming year, we will continue the trend of active anticipation of all challenges and will continuously adapt in order to help our customers overcome these times as easily as possible. Moreover, we will develop our services in a way which will help us strengthen the relationship with our customers even more. I am thrilled to say that we have prepared many surprises for our loyal customers that will be presented by our sales team during the next visit.

> The guarantee of our supply conditions and the relationship based on trust were crucial for our customers to decide to rely on us in such uncertain times. They recognized our efforts and dedication and chose us as their preferred electricity supplier.

I am looking at the period that lies ahead of us with great optimism. I am asking you to do the same because I am sure that together we can overcome this situation and emerge stronger.

Sincerely,
**Berkant Shen**

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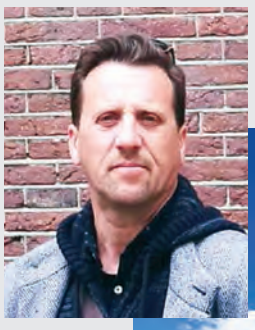

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Consulting service from EVN Elektrosnabduvanje

# Certified energy management system for your company

The international standard ISO 50001 is a standard for Energy Management System, which, like the well-known ISO 9001 and ISO 14001, is intended for continuous improvement of performance within companies. The purpose of this standard is through a systematic approach to enable any small or large company to achieve continuous improvement of its energy performance.

In the implementation of the requirements of the standard, companies go through a process of changes and the establishment of practices that provide a range of benefits:

- Reducing energy costs, reducing emissions and improving reputation;
- Increased competitiveness and sustainable development in the long run;
- Better coordination of projects related to energy consumption and incorporation of energy management in the company's business practices;
- Improvements in the area of long-term planning, monitoring and data analysis, as well as in monitoring and reporting on company performance;
- Decision-making in the area of operating and capital costs, based on sustainable criteria;
- Transparency, good communication practices;
- Meeting legal and other requirements in terms of energy efficiency;
- Increasing employee motivation and building a culture of continuous improvement;

This international standard, although not mandatory for companies, can help them meet the requirements of the Energy Efficiency Law, specifically in terms of rights and obligations of „large traders". If the company, which qualifies as a „large trader", has implemented a certified Energy Management System according to ISO 50001, it is exempt from the obligation to conduct Energy Control every four years.

In the case of small and medium enterprises, there is an opportunity to support the implementation of a certified Energy Management System through various assistance programs from the Energy Agency.

We as EVN Elektrosnabduvanje, through a consulting service, can help our clients to implement an Energy Management System according to the requirements of the ISO 50001 standard. Our team of experts will guide the clients through the entire process of implementation of the System, all the way to certification by an independent certification body. For each step of the implementation process, our experts selflessly transfer their knowledge and experience through specific examples and best practices so that the client can rely on its own resources to maintain the Energy Management System in the future. Our expertise guarantees successful implementation of the requirements of the standard and obtaining ISO 50001 certification for all types of industries, activities and facilities.

Guided by our positive experience and the benefits from the implementation of the Energy Management System according to ISO 50001, as well as from the successful examples among our customers, we strongly recommend the companies to use this unique opportunity offered by EVN Elektrosnabduvanje and become part of the new wave of modern and successful companies, which will be the drivers of sustainable development of our economy and our society.

INTERVIEW WITH DEJAN JOVANOVSKI, PROJECT AND BUSINESS DEVELOPMENT MANAGER OF "KRIN KG" DOO

# "Thanks to EVN, we got our own state-of-the-art photovoltaic plant in record time"

Immediately after the creation of the appropriate legal conditions, EVN offered a new service for installation of photovoltaic systems, dimensioned accordingly for greater coverage of businesses' own consumption. As part of an international group, EVN has more than 20 years of experience in renewable energy projects, and knows the needs of domestic customers very well because it has been present on the market for almost 15 years.

This EVN  service is designed for all types of businesses, regardless of size and industry. The clients do not need to have the foreknowledge and capacity for this type of project at all. The EVN experts fully implement the project, on a turnkey basis.

The service includes a detailed analysis of the specific consumption, analysis of the facility where the system is installed, followed by configuration, procurement and installation of the photovoltaic plant. In the configuration EVN uses the highest quality components from local and world renowned and leading manufacturers of equipment for photovoltaic systems.

In addition, all the accompanying documentation is provided as part of this service, which saves customers time. Practically, the clients get a personalized solution, dimensioned according to the needs of their business.

Krin KG "DOO is a leading company in Macedonia in the field of exploitation, processing and installation of decorative stone - granite.

The company recently decided to set up a photovoltaic plant at their production facility in the Pelagonija region, near Prilep. On this occasion, we talk with Dejan Jovanovski about their experience with the EVN service.

→ **EVN Journal:** Where did the idea for a photovoltaic power plant on your roof come from?

**Dejan Jovanovski:** Honestly, it was a matter of time when this type of investment will happen in our company. We have been thinking for some time, given the nature of our work, that maybe we should consider implementing a system for utilizing of renewable energy sources in our daily work.

I would rather say that our thoughts on this type of investment met at the right time and in the right place, with the new offer, which EVN placed on the market about two years ago, for turnkey solutions for installation of photovoltaic power.

→ **EVN Journal:** Have you done any previous research on the potentials of our country in terms of expected production from the photovoltaic plant?

**Dejan Jovanovski:** As I said before, we have been thinking about this type of investment for some time. What we had taken into account is that our country has the perfect conditions for the production of solar energy. Especially our region. Some studies indicate that in the Vardar, Pelagonija and Southwest planning region the sunny days are even bigger than the national average. That, for sure, is 30% more than the European average.

All this was confirmed by the experts from EVN, who made a detailed analysis of the radiation at the specific location. The calculations showed that with one kilowatt of installed capacity, we should expect 1400 kilowatt hours of electricity produced annually.

→ **EVN Journal:** EVN has been appearing on the market of additional energy services recently. Why was EVN your first choice for this investment?

**Dejan Jovanovski:** I would say that three things were decisive: stability, trust and a long-term partnership. Namely, as a large company, KRIN KG was one of the first companies to go out to buy electricity on the free market. We have been partners with EVN since the first day of the liberalized market. Firstly, because the approach was maximally professional through their key account managers, and secondly because we knew that EVN Macedonia belongs to a large corporation that is a symbol of stability and trust.

When they approached us for this investment, they presented their 'turnkey concept'. This concept is not unknown to us, but for the first time someone offered us what many could not - buy out of excess electricity at competitive prices.

Given the fact that we were focused on our core business, honestly, we did not intend to research the photovoltaic systems market in detail. Our positive experience over the years in terms of electricity supply, was a sufficient basis to believe that we will receive the appropriate treatment. And so it was. We received a detailed analysis of our company's consumption, a detailed analysis of production and the manner of expected production over the years based on historical data on radiation from relevant software, calculation of return on investment, including all future costs.

> Our positive experience over the years in terms of electricity supply, was a sufficient basis to believe that we will receive appropriate treatment now. And so it was. "

→ **EVN Journal:** Were you satisfied with the process of installing the photovoltaic plant in your company?

**Dejan Jovanovski:** When you think of such an investment, and when you consider the options, the whole process seems very simple. Once you get into it and go through all the necessary steps, you are convinced of the opposite. The truth is that, from obtaining the appropriate permission to install a photovoltaic system to the official commissioning it is a really complex process for which you need an experienced team of experts who know every detail.

I have a small remark about the excessive administration and documents that are repeated several times during the implementation of the project. At several levels, original documents, statements, agreements are required, which in the process have already been submitted previously for the issuing of other documents. Small process optimization is needed in order to facilitate the investment of potential investors.

But if we look at the aspect of the physical installation of the plant itself, I can say that it was done in record time. In less than a month we had a 1 megawatt photovoltaic plant installed on several of our roofs. Even our assumptions about the speed of construction, were more pessimistic.

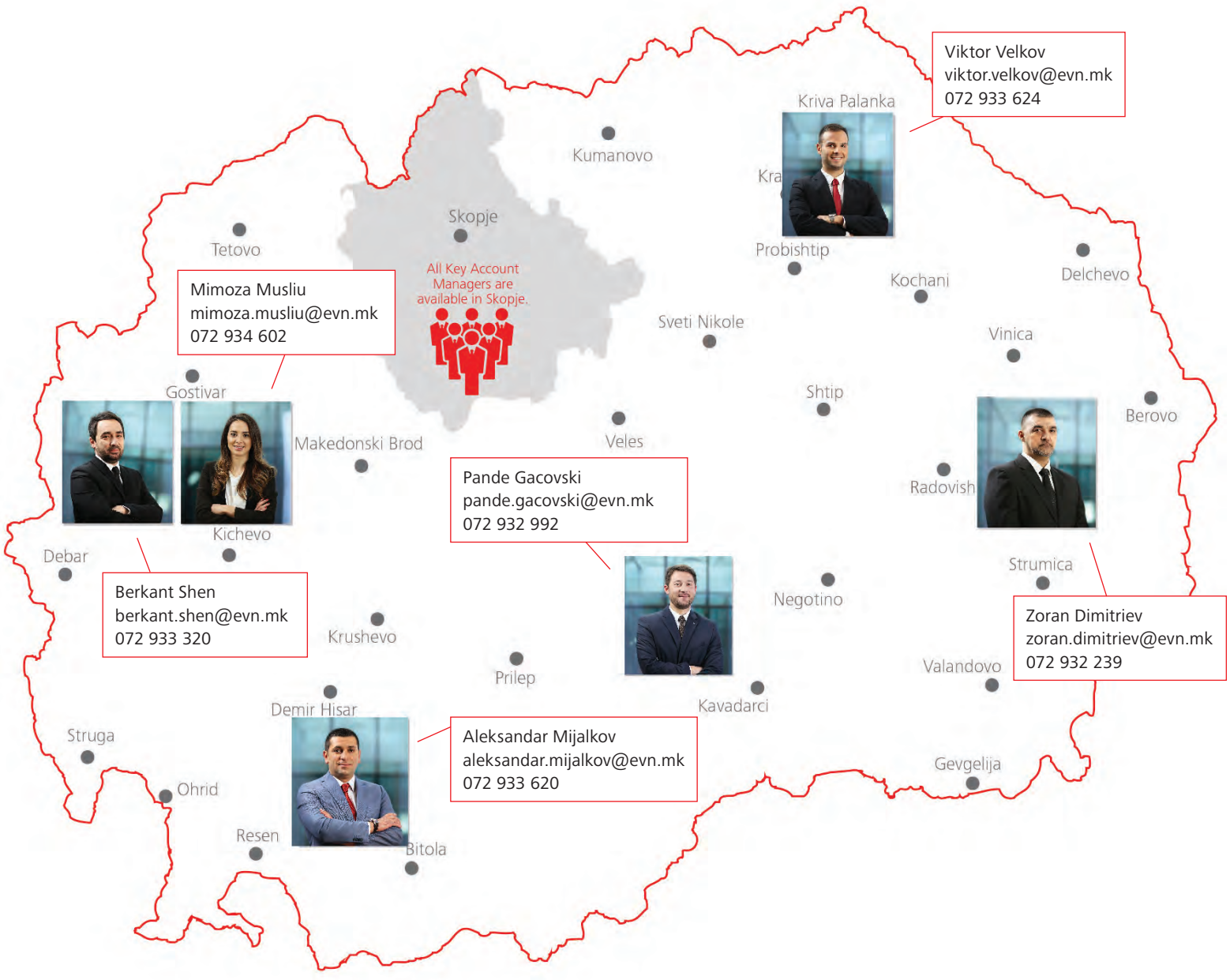
Thanks to the cooperation with EVN, our plant is built with panels and inverters that are the latest technology in the field of photovoltaics. The panels are from the world famous manufacturer of solar panels, JA SOLAR, while the inverters are from the well-known German manufacturer – SMA, companies which are among the TOP 5 manufacturers of equipment for photovoltaic systems worldwide. In automotive jargon, our plant is a Mercedes.

# Reach for your EVN Key Account Manager

EVN Makedonija Elektrosnabduvanje focuses on building good relationships with its customers and continuously excels in meeting the needs and expectations that emerge from the specifics of their operations. The company recognizes its customers as business partners and leads them through all the challenges that arise from the process of liberalization of the electricity market, the legal requirements, and the market conditions.

Achieving highest levels of customer's satisfaction is EVN Makedonija Elektrosnabduvanje guiding principle. The Key Account Managers of EVN Makedonija Elektrosnabduvanje are part of the company's sales team that are responsible for and fully dedicated to the large businesses and industrial customers. To each current and potential customer, the most suitable Key Account Manager is assigned based on criteria like customer's region, the nature of their business, their electricity consumption, etc. Our Key Account Managers have excellent know-how of the industry and its specifics and thus prepare tailor-made offers and provide adequate support and consultation aligned to the customer's objectives.

In order to be able to cover as many customers as possible with this expert knowledge of the Key Account Managers, EVN Elektrosnabduvanje decided to expand the Key Account team by promoting the Business Account Managers into Key Account Managers, as presented on the map below. If you are large business or industrial customer and do not have a Key Account Manager assigned yet, please contact us, so we can choose the the best fit together.




## New service - Monthly energy report

Energy efficiency is becoming an increasingly interesting topic in our society. Faced with the effects of climate change and excessive air pollution, our customers are showing great interest in reducing their impact on the environment. Additional motive for the interest in energy efficiency is reducing operating costs and increasing competitiveness, all in a long-term sustainable way. Taking care of electricity consumption, and especially the evaluation of savings measures are very important elements in the field of energy efficiency and EVN Elektrosnabduvanje wants to help its customers in their implementation.

The electricity consumption data in the invoice are not sufficient to be used to improve energy efficiency. Because of this we have developed a new service, with which our customers can receive monthly reports on electricity consumption which elaborate in more detail and provide the most important elements of consumption. The report is short, clear and easy to understand, and of course comes along with instructions for reading and interpreting it. The following useful information is displayed on only two pages through figures and graphs:

- Active energy consumption and its distribution between peak and off-peak tariff;
- The ratio of consumption in peak and off-peak tariff, as a good indicator for optimizing consumption in the time periods of the day, as well as analysis and selection of the best options for offers and tariff rates;
- Reactive energy consumption and power factor, in order to determine the needs, opportunities for and cost-effectiveness of reactive energy compensation measures;
- Monthly load curve, which can be used to optimize consumption and load distribution;
- Comparison with previous months and meteorological data for monitoring energy performance and verification of electricity saving measures;

Customers will receive monthly reports no later than the 5th working day of the month in electronic form at their email address. Depending on the needs of the consumer, the consumption report may refer to one or more metering points separately. Before activating the service, the possibility for its

implementation should be checked, because it is intended for metering points where there are smart remotely operated meters.

For more information, customers can contact the Key Account Managers at EVN Elektrosnabduvanje or find out more at this link.

INTERVIEW WITH DR. PAUL KALUZA - SENIOR VICE PRESIDENT TRADING, EVN AG

# 2020 a challenging year on the Electric Power Market

All the forecasts show a recovery in European power consumption in 2021 as lockdowns ease. The efficacy and speed of vaccines are the main parameters for an increased demand. The recovery will not fully make up for losses in demand in 2020. Moreover, a full catch up is expected around 2023 earliest.

→ **EVN Journal:** Mr. Kaluza, before we talk about the special challenges of 2020, can you give us a brief insight in the particularity of the Power Market in South-Eastern Europe in comparison to Central and West Europe.

**Dr. Paul Kaluza:** Power markets in South-Eastern Europe (SEE) are very interesting from a market development perspective. Although they show a lot of similarities with the ones in Central-Western Europe (CWE) they have their own particularities.

With regard to the consumption and production, there is limited energy efficiency and energy productivity as well as high rates of energy poverty. Moreover, SEE markets show a high reliance on fossil fuels, especially the usage of low-grade lignite in power generation across most countries in the region which adversely effects air quality and environmental pollution.

From a power trading perspective there is limited liquidity compared to CWE markets where traded vs. consumed electricity is high. The number of players in the market is significantly lower in the SEE region. We are witnessing a huge growth in short-term intraday trading in CWE, rising numbers of renewable energy sources (RES) are traded in this timeframe; often automatically, done by computers. Since a lot of RES installation enjoy feed-in-premiums rather than feed-in tariffs there is an incentive to trade them in the market. On the other end of the time frame, in the long-term forward market, we see a constant rise of financial trading via exchanges where one can offload credit risks. SEE is in its infancy in these market segments; hence, there is a lot of potential to grow the trading markets here.

→ **EVN Journal:** When we look on 2020, what were the main impacts to the Electricity Market caused by the Covid19-Pandemic?

**Dr. Paul Kaluza:** Even before the pandemic, European power prices were firmly bearish in early 2020. We saw record high levels of wind generation, cheap gas prices, and unusually mild weather causing less demand. This decline intensified in March as the pandemic arrived in Europe and industry closed down. Demand took a plunge during the initial phase with power consumption declining by 20% from the 2015-2019 average in April. The next wave of lockdowns later in the year saw a more muted response in demand.

Rising demand later in October reflected a wider adaptation to the "new normal" in many markets. In CWE demand was higher by 5% compared to the same period last year as people moved back to working from home therefore creating an increase in demand from additional residential load due to increased daytime household occupancy under lockdown.

→ **EVN Journal:** What are your expectations for the Energy Market in 2021?

**Dr. Paul Kaluza:** All the forecasts show a recovery in European power consumption in 2021 as lockdowns ease. The efficacy and speed of vaccines are the main parameters for an increased demand. The recovery will not fully make up for losses in demand in 2020. Moreover, a full catch up is expected around 2023 earliest.

> By addressing the policy challenge and the health costs of the large fossil generation sector, one could stimulate the effects on economies of a more reliable, more competitive and cleaner energy supply as well as of a healthier population.

Market prices imply a slight resurgence of coal-fired generation. However, there is a big question mark to it caused by the price of carbon, which remains particularly uncertain in the current political environment around carbon-trading post-Brexit.

In the current market environment and under a lot of uncertainty, annual baseload prices are likely to recover alongside the increased demand, taking them back to, and generally above, 2019 levels.

→ **EVN Journal:** When we look even further into the future what big challenges and developments do you see on the Electric Power Market of Balkan countries like North Macedonia? Will the trend towards sustainable energy sources have a big impact and what are the risks and changes for the region?

**Dr. Paul Kaluza:** It's common knowledge that the transition towards clean energy requires large investments. However, there is a large long term RES potential in the Balkan countries including significant sustainable hydro, wind, and PV investment possibilities as well as investments in energy efficiency.

Western Balkan countries are facing the challenging task of meeting the obligations stemming from the transposition of EU directives into the Energy Community. Moreover, the obligations introduced through the Paris Agreement have to be considered. The question arises if these countries are prepared to follow the EU's decarbonisation path.

The perception of high cost of RES, high cost of capital, aging grid infrastructure that struggles to cope with RES infeed, as well as slow and unpredictable planning processes and regulatory uncertainty are risks that also need to be taken into consideration. Underdeveloped electricity trading markets that I described earlier are threatening progress.

There are significant opportunities for Balkan countries, though. Decarbonisation and energy efficiency could become major drivers for regional growth by building up on successful energy efficiency efforts in the region which have proven their economic viability. Moreover, large untapped RES potential could be utilised. By addressing the policy challenge and the health costs of the large fossil generation sector, one could stimulate the effects on economies of a more reliable, more competitive and cleaner energy supply as well as of a healthier population.

→ **EVN Journal:** Mr. Kaluza, thank you for the interview and sharing your expertise with us.

**Dr. Paul Kaluza:** Thanks for the interview and good faith for 2021!

# Photovoltaic systems - FREQUENTLY ASKED QUESTIONS (FAQ)

### What is a photovoltaic system?

A photovoltaic system is a power system designed to harness solar energy with the help of photovoltaics. The system consists of several components, which include solar panels that serve to absorb and convert sunlight to electricity; solar inverter that converts direct to alternating current as well as other hardware components that add functionality to the system.

### What is kWp?

kWp - kilowatt peak is the maximum installed power that can be achieved by one panel or photovoltaic system. Because photovoltaics produce energy from the sun, which is a renewable energy source, the output power, depending on the intensity of the energy source, varies.

### What are the benefits of installing a photovoltaic system in my home or business?

With photovoltaic systems, homeowners or business owners can generate electricity from sunlight for their own use, energy that is usually obtained through the electricity distribution system. By installing photovoltaic systems, consumers save electricity and reduce emissions and pollution.

### What conditions must be met to install a photovoltaic system in my home or business?

The conditions for setting up such a system are defined by several laws and bylaws, but the most important thing is to have a location or building for which you have appropriate documentation (property sheet, other ownership documents, document for long-term right of use (lease), etc.). All other documents, such as the basic and construction design project, building permits, etc. are part of our "turnkey solution".

Locations and/or facilities where you would like to install the photovoltaic system should be oriented to the south and to have no obstruction by a neighboring building. If they are placed on land surface, it should have a suitable purpose for setting up a photovoltaic power plant, i.e. for industrial use (it is not possible to use agricultural land).

### How do I apply for EVN photovoltaic service?

By filing a request to the Info Center of EVN in GTC Skopje, by phone call to our contact center at 089 089 089 or the email address gosolar@evn.mk.

### What does EVN's service consist of?

EVN offers the users of photovoltaic systems a „turnkey" solution. With that, the user will be supported with the creation of the best individual solution, which includes:

- Providing all the necessary legal documentation for the installation of the equipment by the relevant institutions, in accordance with the Law on Construction; Management of the full project and reporting on its progress;
- Design of the photovoltaic system and construction planning in accordance with the relevant local and international standards and local regulations;
- Procurement of equipment and material, installation, cabling, modules, inverters, monitoring and control system;
- Planning and implementation of mounting systems, including design according to statics requirements and needs;
- Measurement, testing and commissioning of the photovoltaic system;
- Manuals and documentation for system maintenance;
- Possibility to conclude a contract for regular maintenance and servicing of the photovoltaic system

### How much can I expect the photovoltaic system of my facility to produce?

In summer, a system with a power of 4kWp produces about 16-25 kWh per day, in a period between 6 AM and 7 PM. Based on calculations, 1 panel produces from 1.2-2.0 kWh per day.

Rough calculations show that with such a system, one household would produce about 5,200 kWh per year.

### How much would it cost to install a photovoltaic system on the roof of a household? What about a business?

Each solution is individual and tailor-made according to the specific needs of the user. Therefore, the price per installed kWp is not predetermined.

### How big the surface should be to install a photovoltaic system?

1kWp installed power most often consists of 4 photovoltaic panels. For that purpose, you would need about 6m2 of roof space, which means, for a 4kWp system you would need 24m2, while 100kWp requires about 600m2 of available space.

The required area for installing on the ground is larger - 11m2 per installed kWp, due to the fact that the slope of the panels is up to 25°, which means that a larger distance should be left between the rows to avoid possible shading of the next row.

### When can I expect to receive a personalized solution?

Depending on the specific needs of the users, our teams of experts develop personalized solutions.

That is why the timeframe for each user is different, but if you file a complete request for the service, you will receive the initial calculation within three working days at the latest. If the offer meets your expectations, you will contact us in order to sign a Contract, after which a detailed project will be made.

### Does installing a photovoltaic system mean changing my meter?

Yes, it is necessary to replace the customer's single-tariff meter to a two-tariff meter which will measure the energy flux to and from the distribution grid.

### What is a Consumer-Producer?

Consumer-producer is a new entity covered by the Law on Energy, i.e. in the Rulebook on Renewables sources, and is a household or legal entity that has installed a photovoltaic power plant for production of electricity for its own needs, with the following restrictions:

- For household: The maximum allowed installed power is 4kWp
- For a legal entity: The maximum allowed installed power is 20 kWp

### How is the surplus produced electricity regulated and is there a possibility for a buy out of the surplus energy that will be fed into the distribution grid?

According to the current laws and bylaws, the buying out of excess energy is possible only for legal entities that have a license for electricity production issued by the Energy Regulatory Commission of the Republic of North Macedonia, as well as by a consumer-producer, household or legal entity, and is regulated by the Rulebook on renewable energy sources as well as with the Decree on measures to support the production of electricity from renewable energy sources.

The buy out of surplus energy in the future will be possible by concluding a contract for buy out or supply/buy out of electricity with any of the suppliers in the open market of electricity that provide a service in accordance with the above bylaws.

### What is the expected period of return on investment?

Depending on the type of solutions as well as other external factors that affect the efficiency of the system and the optimization of electricity consumption of the building itself, the savings and the period of the return on investment is at least 5 years.

### Does the system come with a guarantee?

Yes, the system warranty is transferred according to the individual warranties of the manufacturers of photovoltaic panels, the inverter and other components, and ranges from 3 to 20 years for individual components.

If this information is not sufficient, please contact us at gosolar@evn.mk for any additional information, with a subject of your email: Journal Info.