



ENERGY PORTAL MAGAZINE

NR. 28 ■ 2023



**WE BUILD
SOLAR
POWER PLANTS
TOGETHER
WE BUILD
THE FUTURE**



MARKO JANKOVIĆ

Director of the Electricity Market
Directorate of EMS

Maintaining the Balance and Developing the Power System



MILAN ĐURIĆ

Mayor of Novi Sad

Serbian Athens in Line for the Green Capital of Europe





INTERNATIONAL MOTOR SHOW

22 - 28 March



Unipol
Group




ENERGY PORTAL
energetskiportal.rs
Address:

103/3 Boulevard Oslobođenja
11010 Belgrade

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Publisher:

CEEFOR Ltd, Belgrade

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Marketing:

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Print:

Grafostil, Kragujevac

CIP - Katalogizacija u publikaciji
Narodna biblioteka Srbije, Beograd
620.9

ENERGY portal magazine / editor-in-chief
Nevena Đukić. - [Štampano izd.]. - 2017, no. 9-
.- Belgrade : CEEFOR, 2017- (Kragujevac :
Grafostil). - 30 cm

Tromesečno. - Preuzima numeraciju onlajn izdanja
Energetski portal Srbije, gde je objavljeno 8 tematskih
brojeva. - Drugo izdanje na drugom medijumu: Energy portal
magazine (Online.) = ISSN 2560-6034. - Ima izdanje na
drugom jeziku: Magazin Energetskog portala
(Štampano izd.) = ISSN 2560-5232

ISSN 2560-6026 = Energy portal magazine (Štampano izd.)

COBISS.SR-ID 259518988

Our readers are already familiar with the fact that Serbia is not a country with above-average natural resources. In each issue of our Magazine, we publish several expert texts about our resources for energy production and how to use them so that readers do not lag behind the experts in information.

Of course, everyone knows that we are neither Saudi Arabia nor Venezuela, so we cannot enjoy the luxury of energy supply at low prices and assured competitiveness of the economy. In the interview with Aleksandar Macura from the RES Foundation, you can read, among other things, why the standard of our population cannot be built on low energy prices in the long term, as well as how we can achieve better air quality.

In our country, a large number of companies do not have organized management of energy and energy consumption. Despite this, they still can partially replace current electricity consumption with some other form of energy or energy source, claims Ljubinko Savić from the Serbian Chamber of Commerce for our Magazine. You will find solutions in the text Pillars of support for companies during the energy crisis.

If you think you know a lot about Novi Sad, we advise you to check how far they have come in developing bicycle traffic and how many bridges they plan to build. For your next tour of Serbian Athens, we suggest you check when the Botanical Garden and the Creative District will be open and read what awaits you there in an interview with the mayor of Novi Sad, Milan Đurić.

What are our habits when we buy household appliances? Do we take into account their energy efficiency or do we choose them based on other parameters? You will find the answers if you read the text Energy efficiency factor when buying household appliances in Serbia, based on research conducted as part of the campaign "Turn to green".

Inspirational stories await you in the People and Challenges section, just like you're used to. Marija Simeon produces natural cosmetic preparations and plans to connect with farms throughout Serbia that produce and process indigenous plant species that she would use in her products. Srđan and Vesna grow fresh tomatoes, strawberries and local carp using aquaponics, a specific agricultural production created through the combined effect of fish and plants.

We have slightly opened doors that lead you to new stories. It's up to you to open them wide.

Nevena Đukić

Nevena Đukić,
editor in chief



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Maintaining the Balance and Developing the Power System

The integration of RES must be based on the market principles because we assumed this obligation by transposing European regulations. Europe has long since taken a position on the issue of further integration of RES. Incentives for RES producers are definitely decreasing, and the incentives are mostly aimed at using small power renewable energy sources.



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The City of Novi Sad attaches great importance to the development of bicycle traffic and infrastructure. It is working on adopting the best practices in this domain according to the competencies and possibilities arising from the current regulations in Serbia. In recent years, more and more people from Novi Sad have decided to use bicycles as an environmentally friendly means of transportation.

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 Working in the sector of renewable energy sources gave me insight into a completely unexplored and unknown area. I came up with the idea of becoming the first producer of green energy in Serbia, and that's how the company Solaris Energy was born. Together with my partners, I started the construction of the first privately owned solar power plant in Serbia, which is located in the territory of the municipality of Kladovo.



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 We are particularly proud that we are recognized as a green bank, which is first of all evidenced by our green portfolio, which amounts to around 200 million euros, which is 14 per cent of the total portfolio. Our energy efficiency sector works hard in cooperation with other sectors, so we are planning new projects in the future. Behind us are the projects of energy-efficient production facilities, biogas power plants, the largest solar power plants, and even households that, with our products, become energy-efficient homes.

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MAINTAINING THE BALANCE AND DEVELOPING THE POWER SYSTEM

Earlier this year, electricity prices in the region and Europe were at the level from two years ago, but this was not a sign of the easing of the energy crisis, but a direct consequence of non-working days in companies. Unfortunately, the high prices trend has been going on for too long, making the talk about an energy crisis almost redundant.

We spoke with Marko Janković, Director of the Electricity Market Directorate of Elektromreža Srbije (EMS), about the development of the electricity market in new circumstances and the opportunities for establishing a flexibility and electricity storage service market.

EP *In which way will the adapted EU regulations of the third and fourth energy package, adopted in December at the Energy Community's Ministerial Council session, affect the further development of the electricity market in Serbia?*

Marko Janković Serbia's electric power system is part of the European interconnection, that is, EMS AD Belgrade is a member of the Association of European Transmission System Operators. The transposition of these regulations means harmonizing the legal framework of non-EU countries with the European legislation that regulates the energy sector in Europe, the European electricity market, and, therefore, the work within the European interconnection. The transposition of the adapted decrees into our legislation and the implementation of the processes and standards defined in the aforementioned decrees must be carried out while being mindful of the technical features of our energy sector.

With the adoption of these regulations, there is a possibility now for the merger of the organized electricity market in Serbia with the single European organized market. It will bring stability in terms of electricity prices, making the electricity market in Serbia less volatile and susceptible to speculative actions.

Another benefit of transposing EU legislation into national legislation is the opportunity of integrating the national electricity balancing market into a single European balancing market. Thanks to its proactive approach, EMS became a full-fledged member of one of the four European balancing platforms – the International Grid Control Cooperation – IGCC platform (the unique European platform for imbalance netting) in 2022. The benefit of participating in the IGCC platform is certainly the reduction of the activation of the balance reserve, which makes the operations of the Serbian electric power system more reliable and safer. On the other hand, we have lower balancing costs, which automatically benefits participants in the electricity market in Serbia.

EP *There are more and more requests for connection to renewable energy sources transmission and distribution systems, primarily solar power plants and wind farms. How should we handle this integration?*



MARKO JANKOVIĆ was born in 1978 in Užice and has graduated from the University of Belgrade Faculty of Electrical Engineering, majoring in Electrical Power Systems. In 2008, he joined the Elektromreža Srbije

team, which was engaged in the development of the electricity market in the Republic of Serbia. From the very beginning, he practically participated in designing the Serbian electricity market. He also actively participated in the development of the cross-border transmission capacity market, was a member of the working group for the development of the initial rules related to the electricity market operations, participated in the establishment of market principles for the functioning of the national balancing market and the opening of the electricity market for end customers. In recent years, Marko Janković has been working with his team on integrating the national market into the regional, that is, the single European electricity market.



Marko Janković The integration of RES must be based on the market principles because we assumed this obligation by transposing European regulations.

Europe has long since taken a position on the issue of further integration of RES. Incentives for RES producers are definitely decreasing, and the incentives are mostly aimed at using small power renewable energy sources. Also, there is a growing trend in Europe to direct incentives towards new technologies, primarily electricity storage – green hydrogen and various types of batteries that will enable intermittent sources of electricity to be more easily integrated into the energy sector and the electricity market.

EP *It seems that this integration is not at all an easy task for the energy system.*

Marko Janković For the energy sector, the integration of intermittent RES represents both an opportunity and a threat. First, it must be viewed through the filter of the impact of a large amount of unmanageable production on the balancing of an electric power system. We all know that maintaining the system's balance is the primary goal and that only in this way can we ensure that all system users can perform their activities without problems.

That is why we need to have a clear plan for the integration of RES into an electric power system with, first and foremost, defined preventive measures that would mitigate the negative effects of connecting many intermittent electricity sources. These measures must ensure sufficient base power in the system, which is necessary to integrate intermittent RES. It can be achieved by building new conventional sources of electricity, primarily reversible plants, for which Serbia has the potential, but also by integrating alternative sources such as electricity storage (be it a battery or green hydrogen), as well as taking active participation in manageable consumption through the development of the flexibility service market.

EP *There is a lot of talk about distributed production and flexibility services. Could you elaborate on these new concepts?*

That is why we need to have a clear plan for the integration of RES into an electric power system with, first and foremost, defined preventive measures that would mitigate the negative effects of connecting a large number of intermittent electricity sources

MARKET MERGER

The strategic goal of further developing the electricity market is to integrate the national into the single European market. The merger of an organized market with the European organized market implies the merger of at least one organized European electricity market, for example, the merger of SEEPEX and the Hungarian HUPX market. It will bring stability in terms of electricity prices, making the electricity market in Serbia less volatile and subject to speculative actions.

Marko Janković Given the constant increase in distributed electricity from distribution resources, especially RES and other electricity sources (electricity storage), as well as the increasingly frequent inclusion of end customers as active participants in the market in terms of manageable consumption, the key issue of further market development is how to integrate the distribution system users into the electricity market. The answer lies in the flexibility concept.

We should also not forget electromobility, the influence of electric car chargers and electric cars on the distribution system's operation, as well as their role in the future electricity market.

Flexibility implies the ability to deliberate, i.e. intentional deviation from the planned (usual) model of consumption or production. In other words, flexibility is the ability of a system user to deviate from its planned electricity consumption (or production) profile in response to price signals or market incentives.

EP *Is this a new product on the electricity market?*

Marko Janković The flexibility of distribution resources, primarily active consumers and alternative electricity sources, represent a new product in the electricity market.

However, the establishment of a flexible service market, that is, the inclusion of the distribution system users in the existing electricity markets, is not simple because, from the point of view of the user, the potential scope of the provided service is negligible concerning the system's size and needs. Also, the fact that this is not the core activity of the largest group of potential flexibility service providers – end customers is a challenge, so a lack of information and expert knowledge in this area is something to be expected. Precisely because of this, the simplest and easiest way of integrating these users into the mentioned markets would be through aggregators.

In this case, the aggregator would be an intermediary in providing services to the distribution system users, either on the wholesale market or to the distribution or transmission system operators. It is only natural to conclude that the suppliers will play the role of aggregator in the new



concept of the electricity market, albeit it is not necessary for the supplier of the end customer also to be the provider of their flexibility services, their aggregator.

EP *You mentioned energy storage as a new type of resource on the market. What role do they play?*

Marko Janković Regardless of the fact there are different types of batteries, green hydrogen or some other technology, storage facilities are the backbone of the future development of the electricity market. Their broader purpose is primarily to create an opportunity for market participants to optimize their work and increase their profits through participation in various electricity markets, i.e. to enable savings by reducing participants' deviations when performing energy activities. The best example is unmanageable RES using storage, which significantly increases the number of potential electricity markets in which these participants can participate. However, on the other hand, they represent a significant resource to manage the risk of large deviations that this category of market participants has due to the technology used in producing electric energy.



EP *What is the situation with guarantees of origin like? Is it possible to export them to Europe?*

Marko Janković Guarantees of origin are a new electricity market product primarily available to RES producers. They are electronic certificates by which the supplier proves to the end customer that the delivered electricity is energy produced from RES (green energy). This is formally guaranteed by the body for issuing guarantees of origin (in Serbia, it is EMS), which transparently issues guarantees of origin through an electronic register and monitors their “life” until they are used up. Guarantees of origin can be transferred between the register’s users (between RES producers, the initial owners and suppliers and wholesale suppliers); they can be imported and exported to other countries.

In 2019, after fully implementing the European Energy Certificate Standard (EECS standard), EMS was accepted as a full-fledged member of the European Association of

Issuing Bodies of Guarantees of Origin (the AIB Association). EMS is the only company based outside the EU, i.e. the EEA, which has implemented the EECS standard and joined the AIB. By EMS joining the AIB Association, trading in guarantees of origin between Serbia and AIB members has been made practically possible.

Unfortunately, as of July 2021, after the European Regulation 2001/2018 entered into force, Article 19 prohibits the import of guarantees of origin from non-EU countries into EU countries without a previously signed agreement on the mutual recognition of guarantees of origin between non-EU countries and the European Union. Through the institutions of which it is a member (ENTSO-E, AIB, EnZ), EMS has already expressed its opinion on this issue and requested that the disputed article be changed because it is discriminatory and proposes that the recognition of guarantees of origin be conditional on the implementation of the European standard. However, these specific changes to the regulation have not been made to date. Currently, Serbian guarantees of origin are not exported to the EU (it is possible to export them to Switzerland and Norway). In contrast, importing guarantees of origin from all AIB Association member countries is possible.

Interviewed by: Milica Radičević

For the energy sector, the integration of intermittent RES represents both an opportunity and a threat



SERBIAN ATHENS IN LINE FOR THE GREEN CAPITAL OF EUROPE

The place where European roads and railways have crossed since ancient times, better known among people as “Serbian Athens”, is adorned with a kind of classiness that is reflected in numerous cultural institutions, lowland peace, artistic sensibility, and kindness of its citizens. Last year, Novi Sad won the title of European Capital of Culture, and there is hope that it will soon be the Green Capital. We talked with the mayor of Novi Sad, Milan Đurić, about the numerous green projects that are being implemented in this city, as well as about new bridges, the Botanical Garden and the Creative District.

EP *You are committed to improving energy efficiency. What are the plans for this year?*

Milan Đurić We plan to continue implementing measures related to improving energy efficiency in 2023, and funds in the amount of 40 million dinars have been earmarked for this purpose. All the measures we undertake in cooperation with the Ministry of Mining and Energy, which are related to the improvement of energy efficiency, have been very well received by citizens.



As a strategic document, the energy efficiency program of the City of Novi Sad for 2022-2024 has a significant role in preserving and improving energy efficiency. It contains the planned goal of energy savings, an overview and assessment of annual energy needs, including an assessment of the energy properties of buildings, a proposal for measures and activities that will ensure efficient use of energy, carriers, deadlines, and an evaluation of the expected results of each of the measures that foresee the achievement of the planned goal and the funds needed for program implementation. Concrete measures and activities to improve energy efficiency are elaborated in the one-year Energy Efficiency Plan of the City of Novi Sad. Citizens' interest indicates that they are informed about current topics and that investing in improving energy efficiency consumes less energy and does not impair the comfort of life.

EP *How much have you managed to improve the area of waste management in the city?*

Milan Đurić The rehabilitation project of the existing unsanitary landfill/garbage dump in Novi Sad was completed,

which determined its functioning until its closure and rehabilitation. With the beginning of the work of the Regional Center with the sanitary landfill, the closure of the unsanitary landfill will begin.

Within the project "Waste Management in the Context of Climate Change (DKTI)", which was implemented by the City of Novi Sad and the German Organization for International Cooperation (GIZ), in cooperation with the Ministry of Environmental Protection, GIZ provided funds for design and construction compost field and hangar for the treatment of green waste collected from public areas. To improve the functioning of the compost field managed by PUC "Gradsko zelenilo" Novi Sad, a green waste crushing machine was purchased.

PUC "Gradsko zelenilo" annually collects about 5,000 tons of plant waste from city areas and diverts it to a compost plant instead of driving it to the landfill. Such compost is a high-quality organic fertilizer whose application is multiple in producing and maintaining greenery in public areas. Through this processing, biowaste is returned to the city when new greenery is planted, which means the previous waste received a new purpose and value. The principle of circular economy is fully satisfied.



Novi Sad is the first and only city in Serbia that will encourage its citizens to buy bicycles as an environmentally friendly means of transport for the third year in a row. In 2023, 20 million dinars have been earmarked for the support of citizens for the purchase of a new bicycle



MILAN ĐURIĆ was born on June 20, 1977, in Novi Sad. He graduated from the Faculty of Law of the University of Novi Sad in 2002 and obtained the title of graduate lawyer. After graduating from college, he worked as a trainee lawyer, and after passing the bar exam, he started working as a lawyer. In 2012, he was elected as a member of the City Council of the City of Novi Sad for administration and regulations. He remained in that position for two terms until September 21, 2020, when he was elected as the Deputy Mayor of the City of Novi Sad.

Before the construction of the compost field, the collected plant waste from the city areas was mostly taken to the landfill. It created costs for taking waste to the landfill, and that waste produced greenhouse gas emissions at the landfills, which negatively affects the environment. Compost production saves more than half a million dinars per year due to the elimination of the costs of taking bio-waste to landfill.

EP *The City has been subsidizing the purchase of bicycles for several years. How is the plan to make Novi Sad a cycling city going?*

Milan Đurić The City of Novi Sad attaches great importance to the development of bicycle traffic and infrastructure and is working on adopting the best practices in this domain according to the competencies and possibilities arising from the current regulations in Serbia. In recent years, more and more people from Novi Sad have decided to use bicyc-

SUBSIDIES FOR SOLAR PANELS

This year, Novi Sad will also subsidize the installation of solar panels for the production of electricity for its own needs. During 2022, citizens showed great interest in subsidies bearing that in mind, additional funds in the amount of 18 million dinars were allocated. The selection of business entities registered for the Public Call for procurement and installation of solar panels is underway, after which a Public Call for citizens will be published in a short period of time.





les as an environmentally friendly means of transportation. In addition to benefits such as avoiding traffic jams, taking care of a parking space, and saving money and time, there is certainly also the preservation of the environment, a positive impact on air quality, and a contribution to personal and collective health. The general goal of the City of Novi Sad is to be recognizable and functional as a cycling city. The city supports this both with infrastructural development and direct incentives for the purchase of bicycles, supporting promotional and educational activities in this direction and cooperation with the commercial and civil sectors, which makes it unique and a successful example in Serbia. The result of cooperation and work on the development of bicycle traffic in the past 10 years can be seen in the stable growth of the number of everyday cyclists by almost 300 per cent (from an estimated 10,000 to over 30,000 regular cyclists in 2019, while the unofficial estimate is that there are currently over 40,000 regular cyclists in the city). Then, in the past 10 years, about 30 km of bicycle paths were built, and over 10 km were reconstructed. For the allocation of grants to citizens, in 2021 and 2022, the city allocated 38 million dinars

through three contests for citizens. Today there are around 3,406 new bicycles on the streets of the city. With the support of socially responsible companies, in 2021 and 2022, 114 bicycles were awarded to the best elementary and high school students. The plan is to continue this activity in the coming years. Also, Novi Sad is the first and only city in Serbia that will encourage its citizens to buy bicycles as an environmentally friendly means of transport for the third year in a row. In 2023, 20 million dinars have been earmarked for citizens' support in purchasing a new bicycle. In collecting information, the city regularly cooperates with the civil sector, including the organization Novi Sad's Bicycle Initiative.

EP In which direction will you direct the investments intended for environmental protection?

Milan Đurić Nature in the city is extremely important for maintaining human contact with it and is necessary for creating a healthy and sustainable urban society. The city will allocate significant funds in 2023 for the maintenance of existing greenery and the planting of new tree seedlings, shrubs and feathers, flower beds and the reconstru-

ction of lawns to preserve and improve vegetation in the City of Novi Sad territory. Bearing in mind the importance of parks, two new parks were formed and arranged in the previous period: Park near the Ranžirna station and St. Andrew's Park. The design and technical documentation for the park near SPENS is in progress, while the design and technical documentation for the University Park in Novi Sad is planned for 2023.

Project and technical documentation for constructing the Botanical Garden complex in Novi Sad are also being prepared. The botanical garden will be built on about 4.2 hectares in the suburbs of the Petrovaradin fortress and will be

ful to the President of the RS since the state entirely finances the realization of this project. Only with the construction of this bridge will we have relief in traffic and traffic jams will be reduced. I am looking forward to this project; we deal with it daily, aware of its importance.

In addition to the construction of the bridge in the continuation of the Boulevard of Europe, the banks of the Danube in Novi Sad will be bridged in two more places by building a pedestrian-cycling bridge and building a bridge within the Fruškogorski Corridor. When it comes to the pedestrian-cycling bridge, the Novi Sad quay and the Petrovaradin fortress will be connected by a bridge that will be



conceived as an object of special importance. With the aim of forming an information base through which trends and activities related to the arrangement, maintenance and improvement of green areas will be monitored, in 2020/21, the creation of the Geographical Information System of Green Areas of the City of Novi Sad was successfully implemented. It represents the first step in forming the Cadaster of Greenery, and now we have to fill that database by entering attributes for each individual or green area. Only when all the data are entered can we talk about the greenery cadaster as a basis for the management of public green areas.

EP The construction of three new bridges will soon begin in Novi Sad. How much will it improve life in the city?

Milan Đurić Yes, this is one of the truly historic moments in the city's life. These are three strategic projects, three new bridges, and intensive work is being done. Regarding the bridge in the extension of the Boulevard of Europe, the value of the works is 175.5 million euros. We are very grate-



built on the existing pillars of the former Franz Jozef bridge in Novi Sad. The total length of the future bridge will be about 450 m. The realization of this investment will also include the reconstruction of the existing tunnels and the construction of underground elevators for the transportation of bicycles and pedestrians.

EP *Novi Sad held the title of European Capital of Culture in 2022. What was done during this period, and how much did this title help Novi Sad?*

Milan Đurić Summarizing the results of the largest European project in culture, we can only proudly conclude



that the effects of the most important activities undertaken are permanent. Thanks to the support of our country and the European Union, we managed to solve very important long-standing issues in culture. Novi Sad got a new building of the Music and Ballet School and the first real concert hall. The face of the suburbs of the Petrovaradin fortress has been changed, and this is the first step in the realization of our mission to make that part of the city a cultural and tourist destination that all the people of Novi Sad can be proud of.

The former neglected industrial zone, the so-called Chinatown, is turning into a Creative District that will

PUC "Gradsko zelenilo" annually collects about 5,000 tons of plant waste from city areas and, instead of driving it to the landfill, diverts it to a compost plant



make us recognizable beyond the borders of our country. Cultural stations have been built throughout the city and are actively working, thus achieving the goal of cultural decentralization. Financing was carried out from the budget of the Republic of Serbia, the Autonomous Province of Vojvodina, and the City of Novi Sad. In 2022 itself, the city allocated 165 million dinars for the program part and 776 million for capital and investment projects. We continue to invest in culture, and I am proud that the budget for 2023 plans a number of investments in the domain of culture, such as the construction of the Cultural Station in Bistrica, worth as much as 620 million dinars. The city of Novi Sad is also the proud recipient of the Melina Mercouri award from the European Commission for a well-implemented project – the European Capital of Culture, in the amount of 1.5 million euros. Our next goal is to become the Green Capital of Europe, and I believe this will certainly happen in the future, considering all that we are doing as a city in that field.

Interviewed by: Milica Radičević

Photograph: (middle) courtesy of Milan Đurić



BUSINESS ANNIVERSARY OF MT-KOMEX

Thirty years after the company's founding, a team of engineers and installers work on solar power plant construction projects in the former welding workshop, whose original activity is still evidenced by some exhibits and awards on the wall. They say that they readily welcomed the market boom, which is perhaps not particularly surprising if we consider that this company was a pioneer in the construction of solar power plants, which managed to set standards for the quality of equipment, service, and ma-



MILOŠ KOSTIĆ

After graduating from the Faculty of Mechanical Engineering at the University of Belgrade, the Department of Process Engineering, he initially worked as an associate researcher on projects of the Faculty of

Mechanical Engineering. During the three years of work, he gained exceptional expertise on EE and RE projects within the Network for Energy Efficiency in Serbia on the measurement and calculation of energy losses at the Faculty of Mechanical Engineering of the University of Belgrade. In the period from 2003 to 2009, he was employed as a welding technologist and manager of MT-KOMEX from Belgrade.

He came into touch with renewable energy sources in the middle of 2009, when he started working as a deputy regional manager for the EBRD's WEBSEFF program and then as a coordinator of programs at KfW and GGF lenders on lines dedicated to energy efficiency, where he was in charge of verification and detailed energy audits for dozens of companies.

He has the greatest practical experience in the field of consulting, design and construction of renewable energy projects that include biogas plants, biomass, mini hydro power plants, PV, and CHP plants.

intenance. Although it is clear that the field of work has changed significantly over the past decades, we wanted to find out what the development path was like and how they persevered on it. In mid-January, right at their 30th business anniversary, we spoke with Miloš Kostić, the director and owner of MT-KOMEX.

EP *With what idea was the company MT-KOMEX founded?*

Miloš Kostić My father founded MT-KOMEX on January 15, 1993, and our main activity was welding. During high school, I worked in a workshop, which directed me to enroll in the Faculty of Mechanical Engineering, where I decided to major in process engineering. While studying, I spent every free moment in the workshop, learned from my father and other employees, and became a welding technologist. I got my first idea for business development in 2003 when I decided to prepare a small workshop service for welding tools to provide services to clients.

I received the first award in 2005 at the Welding Fair, which was held as part of the Energy Fair, as a special

I got my first idea for business development in 2003 when I decided to prepare a small workshop service for welding tools to provide services to clients

recognition for improving welding in Serbia. I continued to improve all segments in this business, and until 2009, I was engaged in welding when the world economic crisis began, which also affected us. That's when I came up with the idea to transfer part of the people from welding and locksmithing to work on small hydropower plants. These jobs opened up new horizons, and I realized that the company should be redirected towards renewable energy sources. I founded the Center for Energy Efficiency and Sustainable Development in 2010 because I saw that very little is known about these topics and that this should be offered

to the market.

EP *It's a long way from welding to the first solar power plant you built in 2013. How do you feel about that development to-day?*

Miloš Kostić Working in the sector of renewable energy sources gave me insight into a completely unexplored and unknown area. I came up with the idea of becoming the first producer of green energy in Serbia, and that's how the company Solaris Energy was born. Together with my partners,



The DeLaSol power plant is the largest Serbian solar power plant on earth and is located in the municipality of Lapovo





To progress in our work, we need constant improvement

I started the construction of the first privately owned solar power plant in Serbia, which is located in the territory of the municipality of Kladovo. We started developing the project in 2011 in August, and at that moment, the municipality of Kladovo had a lot of understanding for us. The local self-government supported us, so they accelerated the procedures. We were the first to apply for an energy permit and the status of a privileged electricity producer. We also submitted a request for a feed-in tariff, and ProCredit Bank

accompanied us in this endeavor and facilitated our capital investments.

Solar power plant Solaris has been successfully operating for nine years, we produce green energy, and our project plans have been realized. However, we wanted to go a step further, so we made Solaris the first agrosolar power plant, which means we have combined agriculture and electricity production. We did this by letting a herd of sheep graze the grass around the solar plant. The sheep enjoy the shade, good grazing is provided, and plot maintenance is no longer necessary.

EP *What is the most important thing you learned on this project?*

Miloš Kostić The development of the Solaris power plant project showed me how little was known about this in



22 Rambo's business anniversary card to MT-KOMEX

"Wars are being fought over oil and gas, and forests are cut down, wood is burned, billions of tons of coal dust and CO₂ end up in the atmosphere." The planet is heating up and overheating. The climate is changing; the sea level is rising, and hurricanes, floods and landslides are destroying villages and cities.

During that time, in 24 hours, as much solar energy as humanity needs for a year falls on the Earth. Completely free, the Sun has been warming us since the dawn of time.

A man was never stupid. Even in prehistoric cultures, the power of the Sun was used. People lived in caves whose opening was towards the south. When the Sun was high in the summer, they had shade, and in the winter, when the Sun was low, the Sun penetrated all the way into the cave and warmed it.

More than twenty years ago, the famous professor Lale Janković drew my attention to the possibility of generating electricity through solar panels.

Experimentally and timidly, pioneers began to exploit the sun's rays to obtain electricity, acquiring solar panels manufactured and used by NASA for its space programs.

I drank the first solar coffee in Europe with the legendary Lale. He stuck mirrors on the old satellite dish like on a disco ball, pointed it towards the Sun, and we placed the coffee pot on the focal point. The water boiled after 20 seconds, and the pot was slightly burnt.

Soon after, a friend from Switzerland contacted us, and he made a solar grill in cooperation with us. On the 25 May Sports Center, one day in May, we ate the first solar kebabs! The kebabs were successfully baked and eaten in the spring sun, but about a hundred solar grills are still sitting in a warehouse.

Around that time, Ljuba Solarac appeared from Canada and was the first to drive a solar boat on the Sava and Danube. Many laughed at him, but mostly Ljuba laughed because he was driving completely free of charge, powered by the Sun.

Soon solar water heaters appeared on the market, and the customers were mostly monasteries, hidden away from civilization. One such was found on my roof in Herceg Novi.

In 2016, I came up with the idea to build a solar sailboat. After three years of painstaking work, a few months before the launch, I think in March 2019, Miloš Kostić appeared due to accidental circumstances. He came to Herceg Novi with his two friends and did the most complicated job. He connected a system of cables, wires, and fuses for me on board. With his two friends, Miloš got into the boat, they didn't go out for 3 days, and they finished the job. Miloš didn't want to charge anything, not the arrival, not the cables, not a thing. He simply said, "I have to be a part of this project. History is being written here."

Today, the solar sailboat is a mannequin that promotes the power of solar energy and modern technology, and I am proud to watch the solar industry record the highest growth in the region. Thanks to a young, educated, hard-working and determined man who understood that it was the right moment to stop philosophizing and roll up his sleeves.

Dear Miloš, you are doing an outstanding job. Every citizen of Serbia and the region should be grateful that you managed to turn the growing problem of air pollution, the energy problem, and the energy deficit problem into a top business.

Every time you publish on your Energy Portal how big solar power plant you have built somewhere, I sit down and count how much less carbon dioxide, dust, heavy metals, and PM particles end up in the air; how many fewer shovelfuls of slag and coal are TENT; and how much the chance of breathing better air increases for our children.

Dear Miloš, I look forward to every panel you will set up and every dinar your company will earn in the future.

Your success is also the success of the legendary professor Lale, Ljuba Solarac and all those pioneers who tried for years to convince public opinion that solar energy is the best and most promising because it is completely clean and completely free.

Reliable and cost-effective technology was awaited, and even more awaited for hard-working, determined, educated people like you to appear, to continue writing history in capital letters.

On this day, I wish from the bottom of my heart to you and all other companies dealing with solar energy that the state completely exempts you from taxes!

Cheers!

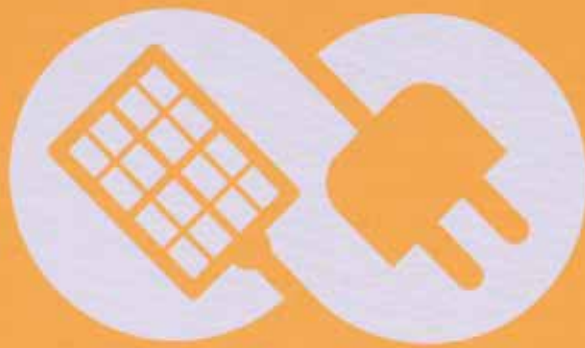
Rambo Amadeus



Serbia. At that time, there was no trained staff to handle these jobs. That's exactly what gave me the idea to gather a team of engineers and provide them with training, and then we all progressed together because we trained together. Today, we have a team working on serious and large-scale solar power projects. Considering all of this, it's no surprise that we've readily welcomed this solar boom in our market, and I can safely say that we're pioneers in this field. We set what the market should look like, and we set the standards when it comes to the quality of services, equipment, and maintenance.

I would like to point out one of our first jobs, the goal of which was to reduce the emission of harmful gases from wells, which we did for NIS Gazprom. We purified that gas and used it to generate electricity. Then we worked for NIS on another, for us, the most significant project. It is a wind farm with a capacity of 66 megawatts. At the same time, we worked on projects for industry and then, as now, we tried our best to inform people about the advantages of solar power plants. We gave them clear information and explained why the solar power plant is one of the energy efficiency measures without prejudice to the introduction of other measures.





MT-KOMEX

ENERGY SOLUTIONS



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EP *It seems that it was not enough to focus exclusively on RES, so you also led the development of electromobility in our country. How did you decide to take that step?*

Miloš Kostić While dealing with developing solar power plants in Serbia, I also researched other business opportunities. I was thinking entrepreneurially, so I asked myself what is not on our market that is innovative and that we will certainly use in the future. That's why I contacted Tesla for the first time in 2014, and I sent them a letter stating that I wanted to be their partner in the Balkans and that I wanted to deal with installing ultra-fast chargers. Unfortunately, their policy is that they own everything, and they have no local partners except for part of the installation or maintenance of the charger. Interestingly, they told me then that they planned to work on developing charging infrastructure

in Serbia only in 2019 and 2020. That's when I realized that this is an area to invest in, and in 2017 I started developing this project. I must add that Tesla contacted us in December 2019 when we received a request to install their chargers.

By then, we had already started cooperation with well-known companies ABB, Schneider Electric, Siemens, and ENEL X. At that time, it was clear that we needed an infrastructure for charging electric cars, and we started implementing this ambitious project.

We first cooperated with electric car manufacturers such as BMW, Mercedes, Renault, and Nissan. They had an obligation to place a charger for electric vehicles in front of all dealerships. The next step was to determine how to notify users of the location of installed chargers. The idea was born to create an application with all the necessary



THE SOLAR POWER PLANT AS A GIFT TO NURDOR

On the occasion of celebrating 30 years of business and listening to the needs of vulnerable groups in our society, the MT-KOMEX company decided this year to support the National Association of Parents of Children with Cancer – NURDOR. They will build a small solar power plant with a power of 7 kW on one of the houses used by NURDOR, which will help reduce the monthly costs for electricity and redirect those funds to other needs of the association and its users.

Joland Korora, the president of NURDOR, congratulated MT-KOMEX on the first 30 years of business with the desire to continue their work successfully, which they believe in because solar energy is the future and one of the sustainable ways of obtaining energy. "NURDOR is an association of parents that has existed for 19 years and provides comprehensive support to children and young people with cancer and their families. NURDOR's current priority is the new Parents' House in Belgrade, which will permanently solve the problem of housing children and their families who are treated in Belgrade and do not live in this city. Unfortunately, NURDOR has houses in Belgrade, but they are not enough to house the treated children. This project is significant because it will permanently solve the housing problem. It is quite clear how valuable and significant this donation is because the solar power plant that we received today from MT-KOMEX will find its full purpose and serve our young tenants and the big Superheroes in their fight", said the president of NURDOR, expressing more thanks once again for the humanity that MT-KOMEX showed with this gesture.

information in one place. However, I saw that it takes a lot of time to create a perfect application, so I decided to enter into a partnership with a foreign company that already has a developed and well-established system in this area. It is how we came to our collaboration with Virta, which has a system that we have adapted to, which means that we have localized and adapted mobile applications for iOS and Android and harmonized everything with the regulations of our country.

First, we integrated the chargers located at NIS Gazprom gas stations. Then we entered into a partnership with the shopping centers Promenada in Novi Sad and BIG in Kragujevac, as well as with OMV pumps and the Stop Shop retail chain. For some time, we have also been working on developing the network in the region so that

drivers of electric vehicles could charge their vehicles in Montenegro, Macedonia, Bosnia and Herzegovina using our application.

EP *The DeLaSol solar power plant you are currently building spans over 12 hectares. Is DeLaSol your biggest project?*

Miloš Kostić After the experience with the construction of the Solaris solar power plant, I set out on a new adventure. The DeLaSol power plant is the largest Serbian solar power plant on the ground and is in the municipality of Lapovo. It is specific because it is a bifacial solar power plant. Bifacial panels can yield electricity from both sides of the panel, which is why they produce more electricity. The solar panels will be placed on a specially made structure that allows greater absorption of reflected radiation.



THE SOLAR POWER PLANT ON THE PROPERTY OF TOYO TIRES

The MT-KOMEX company is building a solar power plant located on the property of the Toyo Tires company. It will be one of the largest power plants of its kind in our country. It covers over eight hectares, and the annual electricity production will amount to 10,148,927 kWh.

“The global goal of Toyo Tires is to become carbon neutral, and investing in renewable energy sources is the best choice. This is the right moment for us to build a solar power plant in Serbia because the laws regarding RES have changed so that we can acquire the status of a prosumer. On the other hand, we have a large land at our disposal,” said Kenichira Takasago, deputy general director at Toyo Tires.

MT-Komex decided to use a special construction that will allow bifacial solar panels to produce electricity 15 per cent more efficiently compared to classic, monofacial power plants.

The size of this solar power plant is also reflected in the number of solar panels that will be installed. In total, there will be as many as 17,980 state-of-the-art panels, power 650/655Wp, manufactured by the renowned Canadian Solar. On an annual basis, it will produce 15,000 megawatt-hours of electricity, and it will be put into operation in March of this year.

Following the regulations, an impact assessment study was carried out, and it was concluded that DeLaSol would not have any adverse impact on the environment.

EP *You have a good insight into the market, so can you tell us how successful we have been in using solar energy compared to the start of your business?*

Miloš Kostić The solar potential of Serbia is 30 to 40 per cent higher than in Northern Europe. If we take Germany as an example, where 100,000 megawatts were built, our country could have 30 to 40 per cent more solar megawatts. It should not be emphasized that our solar potential is not sufficiently used.

Regarding the Western Balkans, solar energy was on the margins of interest during the previous years. On the other hand, the technology of solar photovoltaic panels was



We are continuing to construct solar power plants in Serbia and, soon, I hope, in the region as well. And in addition, we are developing a network of chargers for electric cars

very expensive. Only recently was the equalization of the production price of solar energy with the market price achieved. The adoption of the law on renewable energy sources in our country enabled the construction of solar power plants according to different principles, so we got a prosumer or just a producer of electricity. It led to a kind of boom in our country, and there is currently a great interest in installing solar power plants, both on industrial plants and on the roofs of houses. Citizens were further encouraged by the fact that the state, led by the Ministry of Mining and Energy and local governments, subsidizes the construction of solar power plants on the roofs of houses in the amount of 50 per

cent of the costs. In addition, the current energy crisis and the constant increase in electricity prices give citizens an incentive to become energy independent. At the very end, I would like to mention a crucial piece of information about the return on investment in the solar power plant, which can be expected in a period of six to seven years.

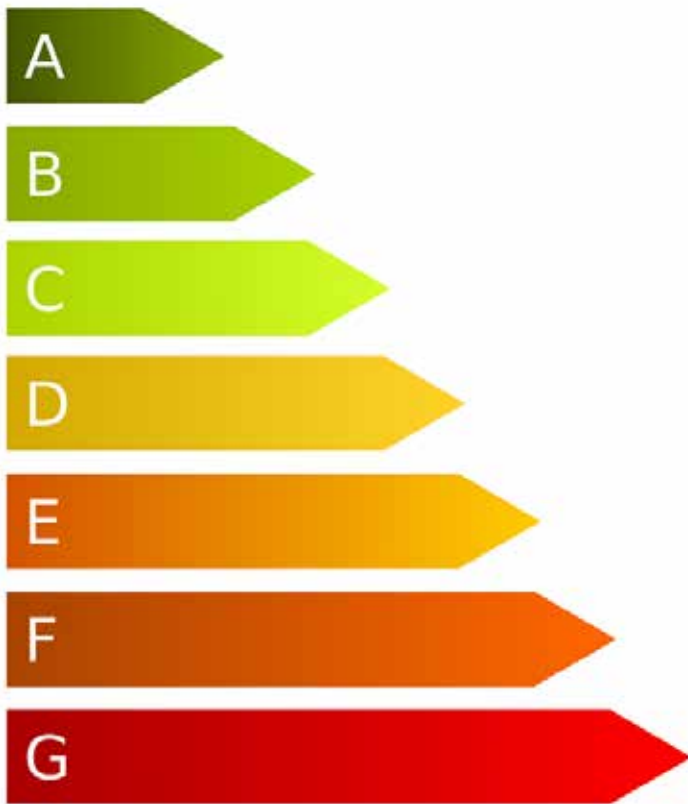
EP *What do you see ahead of you in the near future?*

Miloš Kostić To progress in our work, we need constant improvement. That's why we have to go to big fairs and constantly be up to date with all the innovations on the market because we have to provide our clients with the best on the market at all times. Of course, we are continuing to construct solar power plants in Serbia and soon, I hope, in the region as well. And in addition, we are developing a network of chargers for electric cars.

Interviewed by: Milica Radičević



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EASIER TO BUY A FRUGAL DEVICE THANKS TO NEW LABELS

The rational use of energy was not a topic that energy experts have been dealing with until recently. However, rational use of energy seemed to grab the attention of the general public only after energy efficiency became a requirement for the safe life of every individual.

A more serious approach to this resource and its use was prescribed by the Law on Energy and Rational Use of Energy in 2021. The law regulates the requirements and methods of efficient use of energy and energy sources, energy efficiency measures, energy labelling and requirements regarding eco-design, as well as other issues of

Apart from the energy class label, the new labels on devices also contain a QR code that people can use to get more information about the product and its price-efficiency ratio

importance for the rights and obligations of natural and legal persons in connection with the efficient use of energy.

This law paved the way for launching projects and campaigns at various levels, from the Ministry to local self-governments and civil associations, intending to raise awareness of energy efficiency.

In terms of improving energy efficiency, households, especially residential communities pose the biggest challenge in Serbia. With that in mind, we should highlight the campaign launched this year by the Ministry of Mining and Energy of the Republic of Serbia and the American Agency for International Development (USAID), titled “Save and don’t waste energy!” The campaign aims to inform citizens about practical tips, following which they can reduce their daily energy consumption.

One of the tips refers to purchasing home appliances based on their energy class. Choosing the right device can reduce electricity consumption by about 50 per cent. In

The devices, which according to the new labels, belong to class A, save twice as much electricity and emit significantly less carbon dioxide than class G devices

March 2021, the European Union began implementing a revised energy labelling system to facilitate and ensure that people choose a good device.

What actually changed with the new labelling?

The problem with the old labels was that most of the products on the market were marked as the A+++, A++ or A+ class, while a smaller number fell under the B, C, D, E, F and G category. People who did not have enough knowledge about labels were convinced that by purchasing a device that belongs to one of the A classes, they were choosing an energy-efficient appliance. However, with the introduction of new designations, a large number of devices that previously belonged to one of the A classes were moved to E, F or G classes.

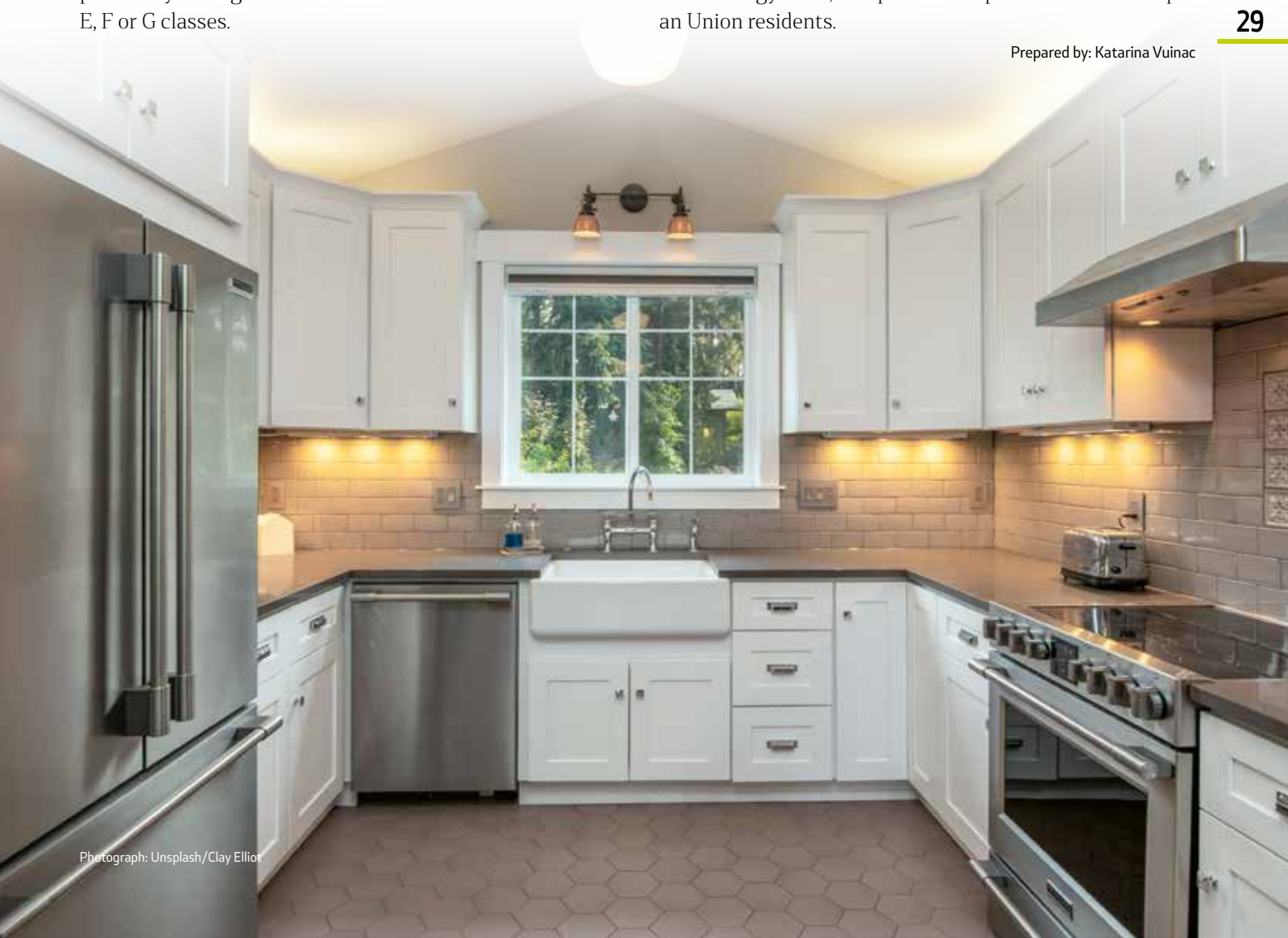
For potential buyers, even those who do not have enough information about the labelling, the new classification has made it more visually understandable which device they should choose so as not to make the wrong choice. According to the new labels, the devices that belong to class A save twice as much electricity and emit significantly less carbon dioxide than class G devices.

Apart from the energy class label, the new labels on devices also contain a QR code that people can use to get more information about the product and its price-efficiency ratio. All information is obtained from the European Product Registry for Energy Labelling (EPREL).

In addition to the energy efficiency class and QR code, the label also provides insight into other data that differ depending on the type of device. If we take a dishwasher, for example, we can find out how much electricity is consumed using the eco-programme for 100 cycles, then the amount of water consumed per cycle of the eco-programme, or the noise level in decibels and noise level class, as well as the duration of the eco-programme and other.

Households have the largest share in the total energy consumption in the Republic of Serbia, which is about four times higher than in the European Union countries. According to data from the Ministry of Mining and Energy, only about 13 per cent of people in Serbia opt for a product based on its energy class, compared to 80 per cent of the European Union residents.

Prepared by: Katarina Vuinac





ROAD TO ENERGY EFFICIENCY THAT MUST BE TAKEN

It seems that we have never had as many doubts about energy supply as we have this winter. Worrying about whether our homes will be warm during cold days opened up the topic of energy saving, which prompted us to think about how energy efficient our homes are and how important that is in times of crisis. We spoke with Aleksandar Macura, co-founder and programme director of the RES Foundation, about the ongoing energy issues, including energy transition and energy poverty.

EP *Energy efficiency, it seems, is on everybody's lips, but how much do we really know about it?*

Aleksandar Macura Recently, there has been an increase in awareness of the importance of energy efficiency. A certain increase in knowledge accompanies this, but the room for improvement is still ample for both professional and ordinary people. As energy efficiency and its importance are both complex and multidisciplinary, education requires time and engagement from professionals, media, civil society organizations and others. The role of professionals is the most important, and their ethics is crucial. Every concrete investment in energy efficiency in the public and private sectors are, at the same time, educational activity. It is important to significantly reduce the number of professional violations in the creation and implementation of these measures.

EP *How important is it to save energy and use it most efficiently?*

Aleksandar Macura Serbia doesn't have above-average natural resources that facilitate the supply of energy at low prices and the economy's competitiveness. At the same time, the population's living standard cannot be developed based on low energy prices in the long term. Our energy mix is also relatively "dirty" because of the resources we use and how we use them. Therefore, improving energy efficiency is, in my opinion, a key development direction for our country. In Serbia, energy efficiency is not observed appropriately, although some progress is visible.

EP *Like all of Europe, Serbia feels the consequences of the energy crisis. Who was most affected by this energy crisis?*

Aleksandar Macura The mismanaged sector, burdened with various deficiencies in the way it is organized, has received a strong external blow. Society, quite expectedly, was unprepared to deal with it. Thanks to various factors, there have been no major consequences for the security of supply so far. The prices of energy and energy products for businesses have increased significantly, and those who consume energy most inefficiently are the most affected.

Taxpayers are also taking a big hit because, according to established practice, the cost of the crisis was passed on to them. Even before the crisis, the operations of parts of the energy sector were paid for by taxpayers. This has been especially true recently for the gas sector, where costs are almost regularly socialized.

EP *Serbia defined the concept of energy poverty, but who are the most vulnerable population segments in our country today?*

Aleksandar Macura The definition establishes a framework for creating and implementing policies to reduce energy poverty. However, the very definition of energy poverty does not help us reach the specific people with a problem. To do this, it is necessary to collaborate with social welfare institutions. This has already been accomplished in some local



ENERGY TRANSITION

Serbia has not yet made an operational decision to embark on an energy transition after acceding to the Paris Agreement, which obliges us to do so. In December 2022, energy and climate goals were adopted for the area of Western Balkans, including the Republic of Serbia, which, among other things, foresee a somewhat significant reduction of greenhouse gas emissions by 2030. Achieving these goals will not be possible without implementing the energy transition.



ALEKSANDAR MACURA is the co-founder and programme director of the RES Foundation and a senior public policy analyst for energy, climate and air quality with extensive experience in the analysis and creation of public

policy and project and programme management in the Western Balkans. He also led the energy and environmental protection programme implemented by the United Nations Development Program (UNDP) in Serbia.

Serbia has defined energy poverty and thereby established a framework for creating and implementing policies to reduce energy poverty

governments. On the other hand, for years, Serbia has had a mechanism in place, thanks to which several tens of thousands of households received help by having part of their electricity bills paid. Amendments to the Regulation on energy-vulnerable customers have created prerequisites for more people to be on the receiving end of this help. Certainly, this assistance does not permanently improve the position of households since it does not affect energy efficiency in how energy is consumed in those homes.

The need to help hundreds of thousands of households that use firewood for heating, which has become significantly more expensive and to improve the efficiency of its use by giving away more efficient heating devices is still completely unfilled.

EP *What needs to change in Serbia so we can finally improve air quality?*

Aleksandar Macura To breathe good air, we need to use fuel and devices of appropriate quality in all combustion processes - from power plants to cars. As the National Air Quality Programme states, we need to immediately implement the already expired regulation to reduce emissions from power plants. We also need to eliminate the inefficient burning of firewood for heating purposes, stop the incineration of waste materials in households and work on better traffic solutions. The final implementation of the Law on Integrated Prevention and Control of Pollution, which we have been waiting for since 2004, is a necessary step towards the preventing and controlling industrial emissions.



SUCCESS AND CHALLENGES OF SUSTAINABLE CONSTRUCTION IN SERBIA

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The construction industry in Serbia is at the beginning of a transformation that should enable, through the application of innovative and sustainability standards, to reach European and world trends in this branch of the economy. With a reliable partner, reaching long-term and sustainable solutions is certainly easier. Jelena Jolović, manager of the Novaston platform, reveals to us what kind of innovations they bring to the domestic market.

EP *Novaston is a leader when it comes to raising sustainability standards. What sets you apart from the competition, and what do you offer to your clients?*

Jelena Jolović Four different sectors operate within the Novaston platform, which has been successfully operating for 10 years on the domestic and regional market. They cover a wide range of services: from project design and development, property management, valuation, and mediation in the sale and letting of real estate to marketing. This is exactly what sets us apart in the market – within our company and in agreement with the client, we create a custom-made approach to work that can be unique in our market.

We approach each client individually, and with all previous experiences, we jointly create a model that best suits the needs and situation in the market. When it comes to applying sustainability standards, we can say from experience that the market is becoming aware of the importance

of such projects in the community. When the investors are companies from the European or American market, they have the initiative, and the facilities are designed and executed according to the latest standards.

EP *What are the biggest challenges in the construction industry that you have encountered in your work, and how do you overcome them?*

Jelena Jolović There are always two main areas of challenge: budget and time frame. Implementation of sustainability standards is easiest in the design process. At that moment, when the result is not so tangible, the biggest challenge is to convince the client to push the boundaries and set new standards in terms of financial profitability.

The process is more demanding if the client does not come from an environment where energy efficiency is a priority. Still, that requirement was imposed by the user of the facility, i.e. the tenant. However, from experience, we see that in the end, the client sees all the benefits that energy efficiency brings to him in the later use of the facility.

Sometimes it is not possible to implement all the measures required by the certification body due to the underdeveloped market in Serbia, so we have to find innovative solutions to achieve points while staying within the limits of domestic production. That is why we constantly emphasize the importance of the state's participation through incentives for investors, but also other types of support, such as the opening of waste sorting and recycling facilities.

EP *What can you tell us about the LEED Gold certificate, and which buildings in Serbia have it or will soon receive it?*

Jelena Jolović The LEED Gold (Leadership in Energy & Environmental Design) certificate was established in 1994 on the American market, and a decade later, we already had the first certified facilities in Serbia. LEED certification is important for investors who show responsibility in business and set an excellent example in the construction industry. A facility designed and constructed according to LEED Gold or Premium standards has reduced electricity and water consumption, lowered CO₂ emissions by 10 to 30 per cent, reduced operating costs and increased the value of the facility. The LEED certificate is also extremely



JELENA JOLOVIĆ, born in Bijeljina in 1986, graduated from the Faculty of Architecture of the University of Belgrade. After completing her studies, she moved away from designing to the construction site and focused on project

management, leading teams in designing and organizing the process of developing projects. She also deals with investment development, real estate management in the retail and business sectors, and human resources management.

The most significant projects in the project management team are the reconstruction of the Hyatt Hotel in Belgrade, 3,500 m²; the construction of the Ahold Delhaize logistics center in Stara Pazova (88,000 m²); the development and construction of retail space over 30,000 m² in Vršac, Sremska Mitrovica, Požarevac, Pirot; the development and reconstruction of office space (17,000 m²) in Novi Sad.



MORE ABOUT NOVASTON

Novaston has been a member of the Green Building Council for five years, and they try to be a supporter and participant in their activities. In 2020, Novaston Project Management started the certification process of the already built STOP SHOP retail parks, and in less than a year, they successfully standardized 13 buildings with the BREEAM certificate, and the total area of all buildings reaches almost 100,000 m².

important for the end users of such facilities. They are healthier and happier, have better working conditions, more natural light and greenery, but also the feeling that they contribute to the betterment of society. One of the projects we are currently working on with Schneider Electric and investor Aleksandar Gradnja is in the process of obtaining the LEED Gold certificate. It is about the reconstruction of the industrial production hall of the Novkabel complex in Novi Sad, which will have 17,000 m² upon completion.

EP *Are the projects you work on mostly greenfield? What materials do you use, and how do you get them?*

Jelena Jolović In our practice, green and brownfield investments are equally represented. Still, we prefer these other projects because they show the special responsibility of the investor and building users. Although these investments

have their limitations, it's always a good feeling when you breathe new life into an old building in accordance with standards that promote a healthy work environment. The LEED standard requires that care be taken with the materials that are installed, so priority is given to those that contain a certain percentage of recycled material. This is exactly where we encounter difficulty because a lot of things are not produced in our country, or at least not in a way that meets LEED standards. Another aspect that LEED prefers is local materials produced as close as possible to the construction site. We are aware that Serbia is not at the same level as other European countries in this regard because most of the construction materials are imported.

EP *What, in your opinion, awaits us in the future when it comes to the construction industry in Serbia are we, and how ready are we for the inevitable changes?*

Jelena Jolović We have a lot of work ahead of us in order to succeed in getting closer to the trends that have existed in the rest of Europe for more than 30 years. The biggest help and support along the way is the state and legislation, and there is still serious work ahead of them on laws and regulations that will encourage domestic (or foreign) investors to invest in sustainable construction. At the same time, we need to organize the whole system well to be able to close the circle with domestic recycling and production facilities. Also, we should not neglect the education of the entire population through positive examples of sustainability in everyday life.

Prepared by: Milica Radičević

ENERGY MANAGEMENT SYSTEM IN SERBIA

You've probably heard quite a few times already that we can't really boast of having a careful attitude towards energy consumption because energy consumption in our country is several times higher than in the European Union countries. The Law on Energy Efficiency and Rational Use of Energy prescribes an energy management system as one of the ways to save energy.

Energy management system and its entities

The subjects of the energy management system are the Government, the Ministry, the obligors of the energy management system, energy managers and energy advisors.

Following the provisions of this law, it is the Government that, following the line Ministry's proposal, enacts regulations in the field of energy and rational use of energy. At the same time, system obligors execute them to facilitate the rational use of energy with the least possible costs. Obligor of the energy management system are companies and public enterprises whose main activity is production, retail/wholesale or service, provided they have annual energy consumption greater than the amount prescribed by the Government. In addition to them, local self-governments, and municipalities with more than 20,000 inhabitants, as well as state administration bodies and other bodies and organizations founded by the Republic of Serbia, then bodies and or-

The Law on Energy Efficiency and Rational Use of Energy prescribes an energy management system as one of the ways to save energy

organizations of autonomous provinces and organizations for mandatory social insurance, are also liable.

The energy management system obligors have to monitor and analyze all aspects of their energy consumption and keep records of it. They must establish energy efficiency goals for their operations and submit an Annual Report on their results to the Ministry. Furthermore, they must appoint an energy manager who reports to the Ministry.

An energy manager is a person who has an energy manager's license issued under this law and who is appointed by the system obligor. Based on the Law on Energy Efficiency and Rational Use of Energy, the Rulebook on the appointment of energy managers was approved in December 2022.

The term energy manager is relatively rare in Serbia, so the Rulebook enables a clearer understanding of its meaning.

The Rulebook prescribes the necessary conditions for the appointment of energy managers, depending on

the type of system obligor and the type of license of the energy manager.

Speaking of companies, one manager is appointed for each location, and their license depends on the type of their principal activity. Accordingly, an energy manager license may be required for the industrial or construction energy segment.

When it comes to municipalities, the number of energy managers depends on the population in that municipality and whether a city is comprised of municipalities or not. The number of managers is specifically prescribed for the Belgrade area, and the energy manager must have a public sector energy license in all these cases.

The third type of obligor, which includes authorities and organizations, has to appoint at least one energy manager each. The number may increase depending on whether they submit an annual report on reaching their energy-saving targets for more than 100 buildings or 100,000m². These managers must hold a public sector energy license or a construction energy license.

The energy manager collects and analyzes data on the method of energy use by the system obligor and participates in drafting the energy efficiency plan and programme. Also, the energy manager proposes energy efficiency measures, participates in their implementation and undertakes other activities necessary to achieve energy efficiency. Finally, the manager prepares the Annual Report on the achieved results.

Prepared by: Katarina Vuinac

THE COMPANY ENERGETIK ENERGIJA D.O.O. CONQUERS THE BALKAN MARKET

Research said that solar and wind energy has expanded during the past several years, and now they make up more than 10 per cent of global electricity. When it comes to solar energy, growth is notable, and the global capacity is expected to grow more than double by 2025 and continue in the following years. Balkan is on a good path, however, it will take time for this renewable energy to become an energy mainstay in households in Serbia and, thus, a part of our daily life.

Riccardo Frisinghelli, CEO of Energetik Energija d.o.o., confirms for our Magazine that the growth of solar energy usage is expected to increase in the coming years. As

a specialized distributor of photovoltaic material, Energetik Energija d.o.o is expanding and growing each year and only by providing a different approach to clients. Energetik Energija d.o.o., doesn't just bring products, prices, or ready-to-stock availability but also a human approach, where all the clients and potential ones are listened to and understood, after which the company can suggest solutions to customers easily.

EP *The company Energetik Energija d.o.o. was created due to 20 years of experience and enthusiasm in the energy and renewable energy field. What can you offer your clients today?*

Riccardo Frisinghelli What Energetik Energija d.o.o., offers to all its customers, wherever they are in the world, is that we don't just sell products. We're not just a product list and availability. To be a specialized distributor of photovoltaic material like we are, having availability and prices that are appropriate to the market is part of the DNA of a company, and I don't see it as something special. What I see as something special is a company's approach, actively listening to the customer and understanding their needs to design the technological solution together. That's why I believe Energetik Energija d.o.o. doesn't just bring products, prices, or ready-to-stock availability. To be the right supplier for photovoltaic installers around the world, it's not enough to have ready-made materials and prices. We must demonstrate what's behind the availability, study the markets to understand what products to have ready, listen to our partners to understand when they need them and try to anticipate their needs. Having a full warehouse has never been a characteristic that



RICCARDO FRISINGHELLI is the founder and CEO of Energetik Energija d.o.o., the first specialized distributor of photovoltaic products in the Balkan Peninsula. Since 2007 he has held high-level working positions in distribution companies distinguishing himself by his achievements, attitude to work, and out-of-the-box approach. After a long experience as International Manager in VP Solar, today he devotes himself exclusively to Energetik.

Expert in lateral thinking and a lover of empathic techniques in sales, he bases his thinking and strategies on attention and understanding the customer's needs, striving to create added value at every stage of the work. He is a great lover of music, literature, and art, passions that he says are the best for feeding the soul and understanding how to explore the talents of the people who work with him.



Energetik Energija d.o.o. boasts about. But having a ready warehouse with products based on our customers' forecasts is. The customer feels understood by us, my colleagues are always available to listen, and no one waits for more than 24 hours for an answer because we know that speed is essential. Time is not a variable; it's a factor in the business operation. The installers who turn to us need quick answers and the product only when they can go to install it. With Energetik Energija d.o.o., that's exactly what happens. You're heard, we find the solution together, and when you must go on the roof, your product will be in the warehouse ready for you. That's what Energetik Energija d.o.o. does: we listen, learn, and once we've learned, we suggest solutions to customers. The technological solutions that we offer are based on a thorough study of the customer's needs and the market. That's why Energetik Energija d.o.o. is constantly looking to improve to be the right partner for photovoltaic installers in Serbia.

EP *You have been in this business for a long time. How fast is the technology in this field advancing? Which segment of progress would you single out in particular?*

Riccardo Frisinghelli I have been working in the photovoltaic industry since 2007, always with leading companies on the market. I started in the Italian market and went through all the challenges, ups and downs, to become an international manager at VP Solar. It is a difficult question because I

The real development lies in smart grids where each of us can use electricity as a value that we can exchange and share with our fellow citizens and neighbors

have witnessed many technological innovations that have changed this market over the years. Undoubtedly, we now live in a completely different world regarding technology. Just think of the big challenges related to storage systems and electric mobility. The production of photovoltaic modules has changed a lot, and the industrial economy of scale has led to the fact that today we have prices that allow everyone to install solar panels on their roofs. However, I still want to believe that, despite very useful incentives to stimulate the market, in addition to increasingly powerful photovoltaic modules, more efficient inverters, larger storage capacities and electric mobility, the real development lies in smart grids where each of us can use electricity as a value that we can exchange and share with our fellow citizens and neighbors. For me, energy sharing is essential in all the proposed technologies. In a network where energy can be shared, we will truly feel like we are all part of a system that is geared towards change.

EP *The use of solar energy in the last few years has been experiencing expansion. How do you see it, and what do you expect from the next years?*

Riccardo Frisinghelli It is, more or less, natural flow. The growth of solar energy usage is expected to increase in the coming years. The adoption of solar energy is followed by technological advancements, decreasing costs and government incentives with different financing for renewable energy, and they result in more than logical growth of the photovoltaic industry. The global solar energy capacity is expected to grow more than double by 2025 and continue to grow in the following years. However, this growth varies from country to region, and Balkan is on a good path. Renewable energy, especially solar energy, is at the centre of the transition to less carbon-intensive energy. The increasing demand for electricity, especially in developing countries, is also expected to contribute to the growth of photovoltaics.

EP *For years, you have been cooperating with the world's most famous manufacturers and Slovenian companies. Can you tell us more about that?*

Riccardo Frisinghelli As a specialized distributor of photovoltaic components, we are at the center of the supply chain. We are very close to the most reliable and largest manufacturers in the world, both for photovoltaic panels and



inverters, both for storage systems and charging stations and mounting systems, but our secret and commitment is to be even closer to the needs of installers because, in the end, the real decision-maker in this field is the installer. The installer has the trust of the end customer, who decides what to install, when to install, and at what price. Over the years, we have become a true and proper supplier partner for all the companies that are now our suppliers and customers. Whether you are a large energy operator or an installer focusing on installing small systems in your city or the countryside, it doesn't matter. At Energetik Energija d.o.o., you will always find someone who will take care of your needs and provide you with the best advice and products for your system. You will find people who are attentive to your needs and willing to give you your product when you need it at a competitive price and at the address you choose. Energetik Energija d.o.o. doesn't just want to be a distributor, it wants to be your warehouse, the warehouse for installers so that the installer

can only think about selling and installing systems when the time comes.

EP *How important is it to choose quality solar panels, inverters, and everything necessary from equipment for a quality and functional solar power plant? What do you advise clients?*

Riccardo Frisinghelli For us, this is not even a question. Throughout our experience, we have learned that quality is the best investment to avoid problems tomorrow and, above all, to continue to create a business with customers. Our customers come back every week because they see their expectations met. Choosing a quality product means not having to go back to the same system, satisfying the customer, and in turn, he will recommend that installer because it is the installer who has met his needs. The quality of products truly serves to maintain and gain customer trust. We sell quality products and check them before others do, precisely because we care about satisfying customer trust. We must have photovoltaic modules that withstand snow and hail; we must have photovoltaic modules that continue to produce even at high temperatures, we must have inverters that every morning wake up and go to sleep always ready to produce energy at their maximum potential every day, and we must have a remote control that allows us to save time in maintenance interventions.

But above all, we must have the knowledge to properly evaluate what a quality product is and what is not, that's why Energetik Energija d.o.o. organizes many in-person meetings and webinars to increase the knowledge of all those who want to participate.

EP *You are opening a representative office in Serbia. What are your expectations? Have you had the opportunity to cooperate with someone from our country, and what kind of offer are you preparing for Serbia?*

Riccardo Frisinghelli Usually, we never share our plans with anyone else, especially we keep our plans for new markets a secret. Still, I can only say is that we are not opening an office in Serbia just to open an office in Serbia. Energetik Energija d.o.o. is not a company that likes to collect offers all over the world, it's not our way of being a partner for our customers or suppliers. What we believe to be the right way for customers to perceive us as a reliable partner is not just having an office, it's having people ready to quickly respond to customer questions and requests, having the right product for that market and having a warehouse with availability to meet any request. Energetik Energija d.o.o. wants to bring the knowledge and human touch that it is already famous for in many countries.

In March, we will start with our educational meetings in Belgrade, and then there will be more in May and so on. All our suppliers will be present: SolarEdge, Sungrow, Trina, Canadian, and K2 to share all our knowledge with Serbian installers.

Interviewed by: Nevena Đukić

ENERGY EFFICIENCY FACTOR WHEN BUYING HOUSEHOLD APPLIANCES IN SERBIA

It seems that raising awareness of the need for a rational attitude towards energy and energy products is more important than the establishment of energy efficiency measures because where it does not exist, the introduction of mandatory measures is inevitable. The “Turn to Green” campaign, created in cooperation between the Ministry of Mining and Energy and the European Union, was aimed precisely at informing citizens to influence awareness of the importance of choosing more energy-efficient products when purchasing. We spoke with Mirko Đapić, PhD, one of the key experts on the project Eco-design and energy labeling of products, about the results of the implemented campaign and the awareness of our citizens about energy efficiency.

The main communication channels of the part of the campaign dedicated to citizens were the media. At the same time, training was held for sellers, distributors, small

Only 13 per cent of Serbian citizens are guided by the energy efficiency of the appliances when purchasing them, while in the EU, it is about 79 per cent of citizens



and medium-sized enterprises and employees of the Ministry of Mining and Energy. More than 70 media participated in the implementation of this campaign through advertising spots and guest appearances by project collaborators on television with a national frequency, as well as on the radio. Also, video materials were distributed through social networks, billboards were placed in 40 locations, and printed materials were distributed to citizens. There were stickers on city buses.

Speaking about the achieved results, Mirko Đapić, PhD, says they are satisfied with what has been achieved. It is supported by the results of the public opinion poll conducted at the beginning and end of the campaign.

“We can state that there has been an increase in the number of Serbian citizens familiar with the concept of energy efficiency compared to the situation before the campaign was launched. For example, 81 per cent of respondents claim to be familiar with this term (77 per cent before the start of the campaign), 68 per cent of respondents are aware of the meaning of the energy class labels on the electrical devices they use (66 per cent before the campaign), while 72 per cent know that the device is more efficient if its estimated energy efficiency is rated green (68 per cent before the start of the campaign)”, says our interlocutor.

Nevertheless, the doubts present among citizens regarding energy efficiency are still great and are especially pronounced among the elderly population, citizens with a lower level of education, as well as those with lower personal and family incomes. When asked whether the reason for the insufficient response of citizens to the call for the replacement of products with higher energy efficiency is



MIRKO ĐAPIĆ, PhD, graduated from the Faculty of Mechanical Engineering of the University of Belgrade in the group for Production Engineering in 1980. He worked in product design, design of technological systems,

implementation of new technologies in the product design process (CAD/CAM, CIM systems), development and implementation of standardized systems management and others. He worked as a university professor in the field of production engineering, industrial engineering, and industrial management. He participated in the implementation of over seventy projects of all categories, of which six were large projects of international importance, five of which were from the IPA program of the EU. He is a member of leading international organizations in the quality and verification of standardized management systems. Since 2021 he has been a regular member of the Engineering Academy of Serbia (IAS).

financial or a lack of awareness, Mirko Đapić, PhD, says that the answer includes both reasons.

According to him, one of the key motives of citizens when buying products is still the savings they can achieve. That is why it is necessary, and the media is expected,

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**ОКРЕНИ
НА ЗЕЛЕНО!**

Photographs: courtesy of dr Mirko Đapić



When buying home appliances in Serbia, the brand of the appliance has a decisive influence, as confirmed by 33 per cent of the respondents

to inform the citizens of the result of choosing energy-efficient products, which is reflected not only in the contribution to the preservation of the environment but also in financial savings.

However, it is necessary to work on enabling more favorable purchases for those groups of citizens who cannot make purchases due to insufficient income, through financial incentives, deferred payment, payment in installments, and exchanging old for new.

It is necessary to focus the activities on developing awareness of personal contribution to the increase of energy efficiency among citizens and among sellers of household appliances because they can also be one of the channels of influence, bearing in mind the significant reliance on their recommendations.

“For example, respondents who come from Vojvodina and Western Serbia and Šumadija, as well as from rural areas of Serbia, above average rely on recommendations, and the sellers themselves confirm this finding,” says Mirko Đapić.

Although sellers claim that all products are adequately marked with energy efficiency labels, it seems that customers still do not pay much attention to these labels. It is confirmed by the fact that more than 60 per cent of citizens do not know that there have been changes in the scaling of energy efficiency labels.

The results of a survey conducted as part of the project before the launch of the “Turn to Green” campaign show



that when buying home appliances in Serbia, the brand of the appliance has a decisive influence, as confirmed by 33 per cent of the respondents. This is followed by the price of the device (30 per cent), low power consumption (13 per cent) and the possibility of purchasing the device in installments (6 per cent). Based on these results, we can conclude that only 13 per cent of Serbian citizens are guided by the energy efficiency of the appliances when purchasing them, while in the EU, it is about 79 per cent of citizens.

purchasing, i.e. those that use less electricity for the same function, which automatically means less carbon dioxide generation and less environmental pollution.”

He concludes that a device with a lower selling price (usually a lower energy class) will cost significantly more at the end of its lifetime than if we had bought a more energy efficient device (higher energy class) with a higher selling price. Still, therefore the total costs during the use of the device are significantly lower.



“That is one of the main reasons why the EU, through the application of legislation in the field of eco-design and energy labeling of products, reduced household electricity consumption by 20 per cent from 1990 to 2020, taking 1990 as the base year,” says Đapić.

Citizens who were not informed about the implementation of energy efficiency measures during the “Turn to Green” campaign can do so via the website <https://energy-labelling-eco-design.euzatebe.rs/rs/o-projektu>. They can also find information from retailers who sell the device directly or on EU websites.

To motivate citizens to take a decisive step towards energy efficiency, our interlocutor cites an illustrative example.

“According to the results of one German, a decade-old study, we use a washing machine an average of 220 times a year. A washing machine annually consumes such an amount of electricity that, to produce it, about 80 kilograms of carbon dioxide is generated. This further means that it takes eight trees and a year to absorb that amount of carbon dioxide. Let everyone imagine how many washing machines there are in Serbia (almost every household) and how much savings they would achieve in their household budget if they chose more energy-efficient machines when

Project “EU for Energy Labeling and Eco-Design”

The project “Establishing and strengthening of the capacity of the conformity assessment bodies for the implementation of Energy Labeling and Eco-Design Directives” abbreviated “Eco-Design and Energy Labeling of Products” is a project from the EU program for Serbia IPA-2016, and was implemented in the period from September 2019 until the end of April 2022.

Through the implementation of the project, assistance was provided to the Ministry of Mining and Energy of the Republic of Serbia in improving the implementation of technical regulations on the market related to the energy efficiency of energy-related products. Also, the work of the Market Inspection of the Republic of Serbia has been improved, as well as the capacities of national institutions for the application of EU requirements in terms of energy labeling and eco-design of energy-related products and the application of EU legal acquis (EU Acquis), and there has been an improvement in the energy efficiency of products which are massively used in households.

Prepared by: Katarina Vuinac



ENERGY EFFICIENCY IS THE BEST WAY TO SAVE ENERGY

You surely remember how, a few years ago, we massively started replacing the classic incandescent light bulb with LED ones, with the former illuminating almost all homes and business premises in our country with their characteristic yellowish light for decades. At the time, it may have seemed to us that the savings would be significant or sufficient and that we had done the right thing. If someone had asked us about the meaning of the term energy efficiency, we would have proudly mentioned the savings made by our new LED bulbs.

However, global changes ensued, and the need for additional resources is increasing while the resources are becoming scarcer. Meanwhile, energy has become expensive, becoming a new strategic “commodity”. When technology companies started looking for all possible ways to save energy, we realized that energy efficiency encompasses far more than we could have imagined. One such company has been developing incredibly innovative solutions for years – the renowned ABB Company. It seems that this time around, they have gone a step further. Milan Jevremović, General Manager of Electric Motor Drives and Local Business Manager at ABB Serbia, told us more about it.

EP *ABB has launched a campaign to raise awareness about the need for rational energy consumption. What were the reasons behind it?*

Milan Jevremović We launched the Energy Efficiency Movement campaign two years ago to bring together companies, scientific and state institutions, and individuals who recognized the need to implement energy efficiency. We wanted to promote this idea and highlight the global need for energy and its efficient use. As the world population grows, the energy demand also increases, but disproportionately compared to the existing production capacities. Humanity faces a severe lack of energy and must undertake all required activities to use existing resources as efficiently as possible.



business web portal on **clean** energy



Milan Jevremović,
General Manager of the Electric
Motor Drives and Local Business
Manager at ABB Serbia

Furthermore, with the progress of automation, digitization and the new Industry 4.0, the need for energy increases, and thus the consumption of existing resources. All of this has greatly impacted the environment and increased CO₂ emissions. When our company, ABB, launched a campaign intending to inform and educate people about the necessity of protecting the environment and reducing CO₂ emissions, which is in line with all the values that the ABB Company promotes typically.

EP *State institutions, the media, and the non-governmental sector launch similar campaigns. How did ABB handle this role?*

Milan Jevremović It is pretty logical that technology companies like ABB and our partners participate in the campaign because they are the most knowledgeable about how to make the best use of new technologies. It was also essential





ABB uses technologies that were not in widespread commercial use until recently, such as synchronous reluctance motors or motors with permanent magnets

to involve scientific institutions so that they could contribute to better and more efficient use of energy with the help of science-based facts. The presence of state institutions was necessary, too, because that's where the decision-makers are, and they have to react faster, in terms of faster decision-making and passing regulations that would contribute to better utilization and improvement of energy efficiency. Big cities and certain countries already have defined strategies for saving energy and impacting the environment.

ABB launched this campaign before the outbreak of the global energy crisis, which only demonstrated how necessary such an initiative was. The crisis has additionally raised people's awareness of the need for faster investment in energy efficiency and better utilization of energy from existing resources, and thus contributed to our campaign in search of answers to the challenges of the increased need for energy. The campaign is envisaged to last for four years.

Otherwise, energy efficiency is the cheapest and most available energy resource. More and more segments can

apply energy-saving measures, and we see the potential in almost all areas, including homes, industry, and sustainable transport.

EP Which companies supported your campaign and in what way?

Milan Jevremović ABB has practically always taken care of energy efficiency, which is not a novel topic for us. For many years, we have had a sustainability strategy and a green agenda on which all systems and services in the company are based. However, the Energy Efficiency Movement campaign was designed as a movement without a direct connection with ABB products.

Over 300 companies worldwide have supported this movement, including Microsoft, Sulzer, Alfa Laval, Wartsila, Iveco, Tata Steel, GEA, and many other renowned firms. The number of partners is growing every day. For instance, the Danfoss Company has recently joined the movement, which I am pleased about because it shows that, although we are competitors in some areas of business, together we feel that we can make a bigger difference by helping the world move towards a greener and more ecologically clean future. The energy efficiency movement is fully committed to raising awareness and expediting the actions needed to increase global energy efficiency, and we encourage all companies and organizations to join in and make a difference.

We plan to locally organize a broader energy efficiency symposium for large manufacturing companies, to which we will invite relevant scientific institutions too. We aim to

jointly contribute to implementing the strategy and consider further plans. One such symposium at the European level was recently held in Switzerland for the top management of interested companies. The symposium drew very useful conclusions and gave birth to new and interesting ideas.

EP *Which ABB's technological novelties would you like to mention as potential solutions for saving energy or increasing energy efficiency?*

Milan Jevremović ABB offers a wide range of products and services that directly or indirectly contribute to the increased energy efficiency of our clients. They don't always have to be completely new solutions. These are often products that have been on the market for a long time. Still, ABB has invested decades of experience and improved them to better contribute to increasing energy efficiency for our clients. As one of the good examples, I would like to mention certain technological advances in the manufacture of electric motors.

In 2021, the European Union adopted a new law that prevents the sale and use of energy-inefficient electric motors. This year, that regulation will introduce even stricter rules regarding the energy efficiency of devices in the EU. No one will impose that regulation on Serbia because we are not an EU member. Still, with current electricity prices, a large number of companies operating in Serbia recognize the potential for savings and will decide to invest in more energy-efficient plants.

ABB is working on developing electric motors with the highest energy efficiency level, far higher than what is currently required by EU legislation. Technologies that were not in widespread commercial use until recently, such as synchronous reluctance motors or motors with permanent magnets, are also used.

I would also like to mention the energy assessment service that we offer to our clients. This type of energy efficiency analysis of their facilities can be done on several levels. The latest option is the so-called digital energy assessment that, in addition to the service itself, also uses certain sensors that provide precise information about each drive. The conclusions indicate opportunities to boost energy efficiency. Thanks to this, we can analyze the electric motor drive even better and propose the best solutions to our clients for certain factory segments or complete factories.

The energy efficiency concept has evolved and has become more comprehensive, so today, we talk about energy-efficient industrial plants, heating, cooling, lighting, etc. ABB can offer state-of-the-art solutions for each of these processes.

For a long time, there has been a lot of talk about switching to electric vehicles in road traffic, and we have a lot of technological solutions to offer in that department too. In the last two years, we have been mainly working on modern technologies in sustainable transport and energy-efficient vehicles for industry, primarily in improving construction machines and tow trucks, but also in railway traffic. That's the latest step we've taken.

EP *You have been doing business in Serbia for many years. Which major energy efficiency projects would you single out in particular?*

Milan Jevremović ABB has been working on the development of modern technology for years, and some of our achievements have been implemented in Serbia. I would like to point out the revitalization of the Bajina Bašta reversible hydroelectric power plant, in which ABB played a significant role and helped the entire power plant work even more efficiently, increasing its operational readiness and better use of the existing hydro potential.

By installing ABB's static frequency converter, which was commissioned last year, the Bajina Bašta power plant will generate significant electricity savings, primarily based on the increased operational readiness of the hydroelectric power unit. In situations where the hydrological situation is favorable, the Electric Power Industry of Serbia (EPS) will be able to use the water in the reservoir much more efficiently and produce additional megawatts of green energy. I would also like to mention the project titled 'Monitoring and Management of Coal Quality', which we implemented at the Nikola Tesla thermal power plant. It is a well-known fact that using coal that has constant quality results in better combustion in the boiler, higher efficiency and lower emission of harmful gases. We are proud to say that ABB, together with EP S' engineering team, has done one such, I would say, referential project because there are very few such projects implemented worldwide.

I especially want to highlight our excellent cooperation with EPS on this and similar projects.

Interviewed by: Milica Radičević

Energy efficiency represents the cheapest and most available energy resource, and perhaps the biggest energy-saving potential lies in this industry



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PILLARS OF SUPPORT FOR COMPANIES IN TIMES OF ENERGY CRISIS

The implementation of energy measures at all levels marked the year behind us. The business sector is a significant factor of the entire society, which is why companies' adaptation to the existing energy crisis was on the list of priority issues. The Association for Energy and Mining, an organizational unit within the Chamber of Commerce and Industry of Serbia (PKS), was one of the bodies that provided support in that process. We spoke about this with Ljubinko Savić, the Association's Secretary.

When there is an energy crisis and disrupted energy flows, companies are forced to turn, as our interlocutor states, first of all, to energy-saving opportunities at the company level and then to energy sources that are easily available, affordable and stable.

PKS reacted very quickly to the new circumstances and helped its members to report problems through having a specialized information centre where companies could obtain information about key issues related to doing business with companies from the Russian Federation and Ukraine, find new supply or export markets and connect to potential new partners. At the same time, PKS worked on connecting companies on the domestic market, promoting, and educating about alternative energy sources,

competencies of the Serbian economy, green technologies, circular economy principles, decarbonization process and fair transition. Significant cooperation was also with the Government of the Republic of Serbia and relevant ministries.

In 2022, the Association held a series of workshops that provided companies with all the necessary information and brought them closer to the buyer-producer instrument.

“We held some of the workshops independently, with the chamber system’s resources, and some in cooperation with the USAID Better Energy programme. Another important activity we carried out was familiarizing energy and industrial companies with the announced protective mechanism of cross-border CO2 taxation, the so-called CBAM (Carbon Border Adjustment Mechanism) and the related ETS CO2 trading system. It is a novelty for our industrial enterprises. Energy companies are familiar with this, but not in-depth, so we will engage more in this activity in the future too. The CBAM mechanism is essential for our companies that are export-oriented and connected to the supply chain of European chains of producers, so they must receive the correct and timely information and be ready when the time for the full implementation of this mechanism in Europe comes”, says Mr Savić.

Speaking about the success of implementing energy efficiency measures within various economic activities, Mr Savić presented the very diverse results of research conducted in November last year. On the one hand, some companies are highly aware of the importance of a new,



Photographs: Pixabay/Ratfink1973; (Savić) courtesy of Ljubinko Savić



LJUBINKO SAVIĆ graduated from the University of Belgrade’s Faculty of Mining and Geology in 1991. He has been working for PKS since 2002, and in October 2022, he was appointed Secretary of the Association for

Energy and Mining. Before working for the Chamber, he worked for NIS Naftagas for ten years. Mr Savić is the author and co-author of several scientific and professional papers in geology. He is a member of the Working Group for the Drafting of the 2040-2050 Proposal of the Energy Development Strategy, a member of the government’s working body called National Coalition for Reducing Energy Poverty and a member of the Executive Board of the National Petroleum Committee of Serbia, the World Petroleum Council of the Serbian Oil and Gas Association.

sustainable economic model based on green economy principles. These companies are aware of the energy transition. From the very beginning, they use energy-efficient materials, base production on BAT technologies, integrate RES, and treat waste as a potential for added value and not as a

Thanks to PKS’ specialized information centre, member companies can obtain information about key issues related to doing business with companies from the Russian Federation and Ukraine, find new supply or export markets and connect to potential new partners

surplus to be thrown away. Such companies have formed teams to implement energy efficiency measures, appointed a person in charge, conducted employee training, and some have an energy manager.

However, a large number of companies do not have organized management of energy and energy consumption but can partly replace the current electricity consumption with some other type of energy. The companies point out that this is a long-term investment that requires significant funds and depends on the type of existing devices and



equipment and the features of the buildings in which their production systems are located.

The energy crisis prompted the necessity of introducing the Strategic Energy Management System (SEM) in energy-intensive enterprises and facilities with high consumption of final energy. The Law on Energy Efficiency and Rational Use of Energy stipulates the activities, procedures and resources needed to achieve the energy efficiency goals in the company's policy.

The Association for Energy and Mining acts in the context of the Chamber's overall work, and its activities are often related and directed towards fulfilling expressed needs and protecting the interests of the entire economy. The working model set up in this way has resulted in the Association providing members for several working groups that have been drafting important strategic energy documents and preparing draft laws and other regulations important for energy subjects and energy as an economic branch.

Furthermore, the Association held training sessions for businesses that want to integrate RES into their business models and several thematic meetings dedicated to connecting new electricity production facilities to the power grid. The Association also researched the application of energy efficiency measures in industry and participated in developing a study of the oil derivatives market in the Republic of Serbia.

In 2023, new strategic documents should be adopted, and certain energy regulations will be amended, with





There is a large number of companies that do not have organized management of energy and energy consumption but can partly replace the current consumption of electricity with some other type of energy

planned public hearings about them. According to our interlocutor, they hope to work with the Government and the Ministry of Mining and Energy on this. Holding seminars for businesses on electricity production from RES for needs will continue in the remaining 10 regional chambers. The implementation of a new training programme on energy efficiency in industrial processes is also being prepared, which will be adapted to individual industrial branches.

“This year, we still have to promote the Public Registry of Energy Service Providers, redesign the Green Energy website and reorganize the working bodies in the Association”, Ljubinko Savić adds.

Public records of energy service providers are regulated by the Law on Energy Efficiency and Rational Use of Energy. The goal of these records is to establish and develop a

competitive energy services market, as well as facilitate the availability of information about energy service providers. The documents provide insight into the quality and type of service provided, along with references of energy service providers that will be obtained from service users who have completed the implementation phase of the specific service.

The public records of energy service providers according to the type of energy service will be kept by PKS. Energy service providers can be registered in the public register at their request and if they have completed energy service projects.

Association for Energy Security and Mining

Following a special decision made by the Chamber of Commerce and Industry of Serbia's Managing Board, all companies registered in the Republic of Serbia are classified according to their predominant activity into 19 branch associations, one of which is the Association for Energy and Mining. This Association includes companies that predominantly operate or are closely related to the exploitation of mineral raw materials used in energy production, production, transmission and distribution of electricity, production of oil derivatives, production and distribution of gas and trade in electricity, gas and motor fuel, which makes up a total of 33 activities and over 3,000 companies.

Prepared by: Katarina Vuinac



GREEN INVESTMENTS FOR A BRIGHT FUTURE

The advantages of energy-efficient, sustainable solutions in business have long been recognized, and citizens, who pay the most for the current energy crisis, are slowly realizing all the benefits of their application. Although the data show that more and more people are ready to adapt their businesses and households to the new standards, in Serbia, that percentage is still significantly lower compared to Western Europe. Initial investments are the main brake that prevents entrepreneurs and citizens in our country from turning to new, more modern and efficient technologies. To questions about how this problem can be overcome and whether banks can change citizens' perception when investing in sustainable solutions, we sought answers from Mirjana Sučević, Head of the department for working with the population and for very small businesses from ProCredit Bank.



business web portal on **clean energy**



MIRJANA SUĆEVIĆ was born in 1976 in Novi Sad. She graduated in sociology at the Faculty of Philosophy in Novi Sad and started working at ProCredit Bank in 2001. Since 2002, she has been in a managerial position, and in 2004 she became the branch director in Novi Sad. She attended the ProCredit Academy in Frankfurt from 2007 to 2009, and from 2021 she is the head of the department for the population and very small businesses.

The green segment is important at the level of the entire ProCredit Group, which recently became a member of the Net Zero banking alliance

EP *How important is the green segment in your business, and how do you convey it to clients?*

Mirjana Sućević We are happy to point out that energy efficiency and a green approach in everything we do are an integral part of our corporate DNA. That is indeed so. We know that as an institution, we have a responsibility towards the environment in which we operate. As we have always believed that we should start from ourselves, the changes came first at the internal level, and that is how we have developed our approach to environmental protection over the years. It consists of three pillars, where the first refers to the internal environmental management system, the second refers to the management of environmental and social risks in lending, and the third deals with green financing. It is very important for us to communicate energy-efficient solutions through the products we offer, such as the GEFF loan in cooperation with the EBRD, with a return of up to 20 per cent, which can be used to finance new joinery, a heat pump, insulation, solar panels and more. Also, through educational posts on social networks, blogs and various other activities such as public appearances and participation in events, we try to raise awareness about environmental pollution and show ways to change it. The green segment is important at the level of the entire ProCredit Group, which recently became a Net Zero banking alliance member, and joined the community that acts on plastic pollution (Finance Leadership Group on Plastics UNEP FI).

EP *How do you help clients follow all procedures when using a banking service?*

EP *ProCredit Bank has been introducing innovations in its operations for years, following world trends. How do you do it?*

Mirjana Sućević Even today, as twenty-two years ago, when we started doing business in the Serbian market, the goals were always clear – client satisfaction and as simple and comfortable as possible, yet completely secure banking. Thus, following the trends, especially in Germany, where our parent company is located, but also the contemporary needs of society, we decided almost a decade ago that it was time to change the way we do business, that is, to become the first 100 per cent online bank in Serbia. We live fast, time is running out, and in such a world, people appreciate when they don't have to go to the bank. Let's be realistic, banks are not our favorite, but we need them, so the relationship must be favorable for the client.

Mirjana Sučević Procedures exist and are always there to protect the client himself, but also us as a bank. We have simplified the procedures as much as possible to expose clients to as little stress as possible when making important life decisions, such as taking out a home loan. We are constantly available to clients in the Online Center, there are 24/7 Infophones in all our Zones, and we are in constant contact with clients through social networks. We are not a classic bank because our business does not involve the promotion of consumer loans, but we always look at the client's creditworthiness. The conditions are, therefore, different compared to other banks, and we must promote investments first of all because if you already have to repay the loan, then let it be for some higher goal.

EP *At a time of great energy crisis and appeals for energy saving, we are considering improving energy efficiency in our*

homes, which represents a serious financial challenge. How can your client overcome it?

Mirjana Sučević The geopolitical crisis brought inflation and energy deficit, but above all, it forced us to change our perception. Electricity obtained from solar panels or heating and cooling with heat pumps are no longer unthinkable. It has been the standard in the Western European market for years. Initial investments are not small, but the savings and benefits will be noticeable very quickly. One of the ways to find the necessary funds are loans, and we offer our clients GEFF, which are realized in cooperation with the EBRD, which are loans with a return of up to 20 per cent. Clients understand the benefits of energy-efficient solutions, especially since we advise them in every step, from choosing a supplier to checking the invoice and the amount of return they can achieve. The great thing is that with this loan, you can finance everything from external



ProCredit bank employees have a series of training sessions on energy efficiency, reduced the consumption of paper and electricity and built a solar power plant on the roof of the head office. They are the first customers of green electricity from EPS and have a fleet of electric cars. By installing over 40 chargers, they want to raise awareness and encourage citizens to buy these vehicles.

and internal wall insulation to new joinery, a heat pump, and solar panels. Also, it is a relief that for amounts up to RSD 600,000, clients do not have to come to the bank but do everything completely online, and for larger amounts, it is necessary to go to the bank to sign the contract on the day of the loan disbursement.

EP *By building your solar power plant on the roof of the headquarters in Belgrade, using green energy with a guarantee of origin, a fleet of electric cars, and controlled use of resources, you are setting high standards. Are your customers following your lead and making changes to their business?*

Mirjana Sučević It is not rare that clients contact us with questions related to improving their business by introducing energy-efficient solutions. We try to point out all the advantages through a detailed technological and financial analysis and to find the best solution together. The goal is



Last year, ProCredit Bank financed the construction of the largest bifacial solar power plant in Serbia

to encourage clients to do business according to European green standards so that those businesses will be sustainable tomorrow. Past practice has shown that clients who experience the benefits of a new way of doing business and the effects of modern technology do not return to the old ways of doing business. Still, for them, every subsequent investment is just a step further in that direction.

EP *Which business segment are you particularly proud of, and what plans do you have for the future?*

Mirjana Sučević We are particularly proud that we are recognized as a green bank, which is first of all evidenced by our green portfolio, which amounts to around 200 million euros, which is 14 per cent of the total portfolio. Our energy efficiency sector works hard in cooperation with other sectors, so we are planning new projects in the future. Behind us are the projects of energy-efficient production facilities, biogas power plants, the largest solar power plants, and even households that, with our products, become energy-efficient homes. Last year, we financed the largest bifacial solar power plant in Serbia (11.69 MWp) of our long-term client with whom, 10 years ago, paving the way for others, we entered into the financing of the first solar power plants on earth, Solaris 1, and then Solaris 2. That is our testimony that we are ready for pioneering ventures, and we look forward to every new project. The set goals of the green portfolio are very ambitious, and we are here to achieve them.

Interviewed by: Milica Radičević





QUICK AND EASY WAY TO THE NEAREST CHARGER IN THE **charge&GO** NETWORK

The expansion of electromobility depends on the speed of development of the infrastructure for charging electric vehicles. Despite a large number of available chargers, electric car drivers often have to make a detailed driving plan because they simply do not have enough information about where to recharge their vehicles' batteries.

Thanks to the first digital platform and the Charge&GO application, drivers of electric cars in Serbia, including those in transit through our country, can easily and quickly find the nearest electric charger.

By installing chargers throughout Serbia and informing citizens about the advantages of electric vehicles, Charge&GO has been making a great contribution to the development of electromobility for years. So far, they have installed chargers with power from 22 to 180 kW on the roads and highways of our country.

Fast chargers in retail chains

The technical team of the Charge&GO company is already completing the installation of fast chargers at the locations of the Stop Shop retail chain throughout Serbia. During the last year, drivers of electric cars could charge their four-wheelers at Stop Shops in Sremska Mitrovica, Lazarevac, Požarevac and Vršac. Now they also have power chargers available in the range of 50 to 120 kW at the locations of this retail chain in Borča, Niš, Leskovac, Zaječar, Sombor and Subotica. Chargers manufactured by Siemens are mostly installed in front of Stop Shop's facilities, while the Tritium charger is installed in the parking lot of Stop Shop in Borča. The charger in Valjevo is expected to be put into operation soon, and intensive work is being done to ensure

that the facilities in Čačak and Šabac get their first charger in the Charge&GO network very soon.

After the commissioning of five chargers at OMV petrol stations, it was the turn of the sixth charger. A 130 kW charger manufactured by Kostad Siemens is available to all drivers of electric vehicles at the OMV station in Kruševac. This charger is manufactured in Austria and works at temperatures ranging from -30 to +50 °C. It supports the CCS standard for DC charging, and the output power, if both CCS connections are in use at the same time, is 2×65 kW.

Owners of electric vehicles have the opportunity to use other ultra-fast chargers located at OMV petrol stations: in Doljevac, on the Niš-Vranje highway, where a 150 kW ultra-fast charger has been installed (the second most powerful electric charger available at OMV stations), at Gradina, the border crossing near Dimitrovgrad (90 kW), as well as in Bačka Topola where there is another Unity 180 kW, as well as in Lapovo and Martinci where 120 kW chargers are installed.

So far, they have installed chargers with power from 22 to 180 kW on the roads and highways of our country



On the map of the Charge&GO network, there are fast and ultra-fast chargers at GAZPROM petrol stations, and at four toll points on the highway near Vrčin, Horgoš and Trupala-Niš. Schneider Electric AC chargers are available in Novi Sad and Kragujevac, in the Promenada and Big Fashion shopping centers. Chargers in front of British Motors, AK Kompresor and Hit Auto offices in Serbia are integrated into the network.

What does Charge&GO enable?

The digital platform and application allow drivers of electric vehicles to easily locate the nearest chargers and top them up quickly and easily. The platform provides drivers with an efficient service for charging and paying for the use of charging points, as well as the ability for companies to manage their charging network remotely. It includes a number of services, such as charging control, charger monitoring, pricing, usage restrictions and charging session overview.

The easiest way to check the locations and availability of chargers in this network is through the application. Although all chargers can be accessed in multiple ways (via QR code or charger number), if you download the app, you automatically get a lower price, GPS navigation directions and access to an incredibly extensive network of 170,000 chargers in 30 countries across Europe.

AVAILABLE DATA ON WATER-RELATED ECOSYSTEMS DOUBLES, IMPROVING COUNTRIES' ABILITY TO TRACK SDGS

Fifty-nine (59) per cent of environment-related indicators for the Sustainable Development Goals (SDG) now have sufficient data to analyse progress, up from 34 per cent in 2018. A report released today by the UN Environment Programme (UNEP), focusing on freshwater ecosystems, finds that while the world is not on track to achieve the environmental dimension of the SDGs, there is some positive movement towards reaching these goals.

The report, *Measuring Progress: Water-related ecosystems and the SDGs*, calls on governments to further strengthen their statistical capacity in relation to the environment and to promote the use of non-traditional data sources – such as big data and citizen science – to fill the data gap.

The UN 2023 Water Conference is calling for bold commitments to be made to accelerating progress on SDG 6 and other water-related SDGs, including increased access to data and information, and increased use of economic and environmental accounting (SEEA) to advance the financing and protection of wetlands and other water bodies, factoring them into financial and other national accounts. These all require more and better data from global to local levels.

The latest available data for the 92 environment-related SDG indicators tell us that the world is not on track to achieve the environmental dimension of the SDGs by 2030. However, 38 per cent of the 92 indicators signal environmental improvement – a solid improvement compared to only 28 per cent in 2020. At the same time, 21 per cent of indicators saw negative or no change, and 41 per cent lack data.



“Seven years – that’s all the time we have to transform our world by protecting and expanding our water resources, securing clean water and sanitation, healthy water ecosystems, and all other development goals,” said Dr. Jian Liu, Director of the UNEP’s Early Warning and Assessment Division.

Water is central to the achievement of all 17 SDGs, and data is key to making sound policy decisions; meeting the goals will require an integrated approach that recognizes how these challenges – and their solutions – are interrelated. The report calls for an all-sector approach, which would also allow a more holistic realization of the 2030 Agenda.

Integrated policies such as integrated water resources management, which are based on the interlinked nature of land and water-based ecosystems, should be prioritized over narrow policies that treat water issues in silo. This would allow for suitable water infrastructure in urban areas, provide mitigation of air, water and soil pollution, protect biodiversity and food security, and the raw materials that fuel economic growth.

The SDG framework has a total of 17 goals, 169 targets and 231 unique indicators— 92 of these are environment related. While 59 per cent of these indicators possessed data in 2022, there is a need to improve our use of non-traditional data, whether through innovative use of big data, earth observations and satellite data to close the gap and support the development of informed policy making to protect our planet.

Source: UNEP

SAMIT ENERGETSKE BUDUĆNOSTI SET TREBINJE 2023



MART 22. 23 i 24.

J.U. KULTURNI CENTAR TREBINJE,
REPUBLIKA SRPSKA

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EVENT

TREBINJE ENERGY SUMMIT

from March 22 to 24

After three successfully concluded Trebinje Energy Summits, the fourth Energy Summit SET Trebinje 2023 is being prepared, which this year is presented with the slogan “Energy Stability of the Western Balkans”.

Trebinje Energy Summit 2023 will be held from March 22 to 24, 2023, in the Cultural Center in Trebinje.

“The general public is well aware of the importance of SET, and this year we expect a record number of par-

ticipants, which can already be assumed based on the registrations. We are announcing the arrival of the region’s largest energy companies and the highest officials of neighboring countries. Our goal and mission are to gather all relevant experts in one place, talk about the most current issues and problems in this area, and look for solutions,” said Aleksandar Branković, organizer and director of SET Trebinje.

The decentralization, digitization and electrification trends have great potential for revolutionizing the power system. The growing share of renewable sources in the production of electricity and, at the same time, their influence on the power system place increasing demands on the accelerated development of the system itself. At the same time, due to the increasing decentralized production of electricity in the immediate vicinity of the consumers or at the consumers’ premises, it becomes difficult for the suppliers to satisfy the ever-changing supply and demand. It is precisely in this connection that concepts and technical solutions such as energy storage, microgrids, demand adjustment and energy efficiency measures are increasingly coming to the fore.

The work of the Trebinje Energy Summit includes all relevant representatives of the energy sector in the

region, leading people of domestic companies and institutions that shape the industry, business leaders and creators of energy policies, and top domestic and international experts in the field of energy.

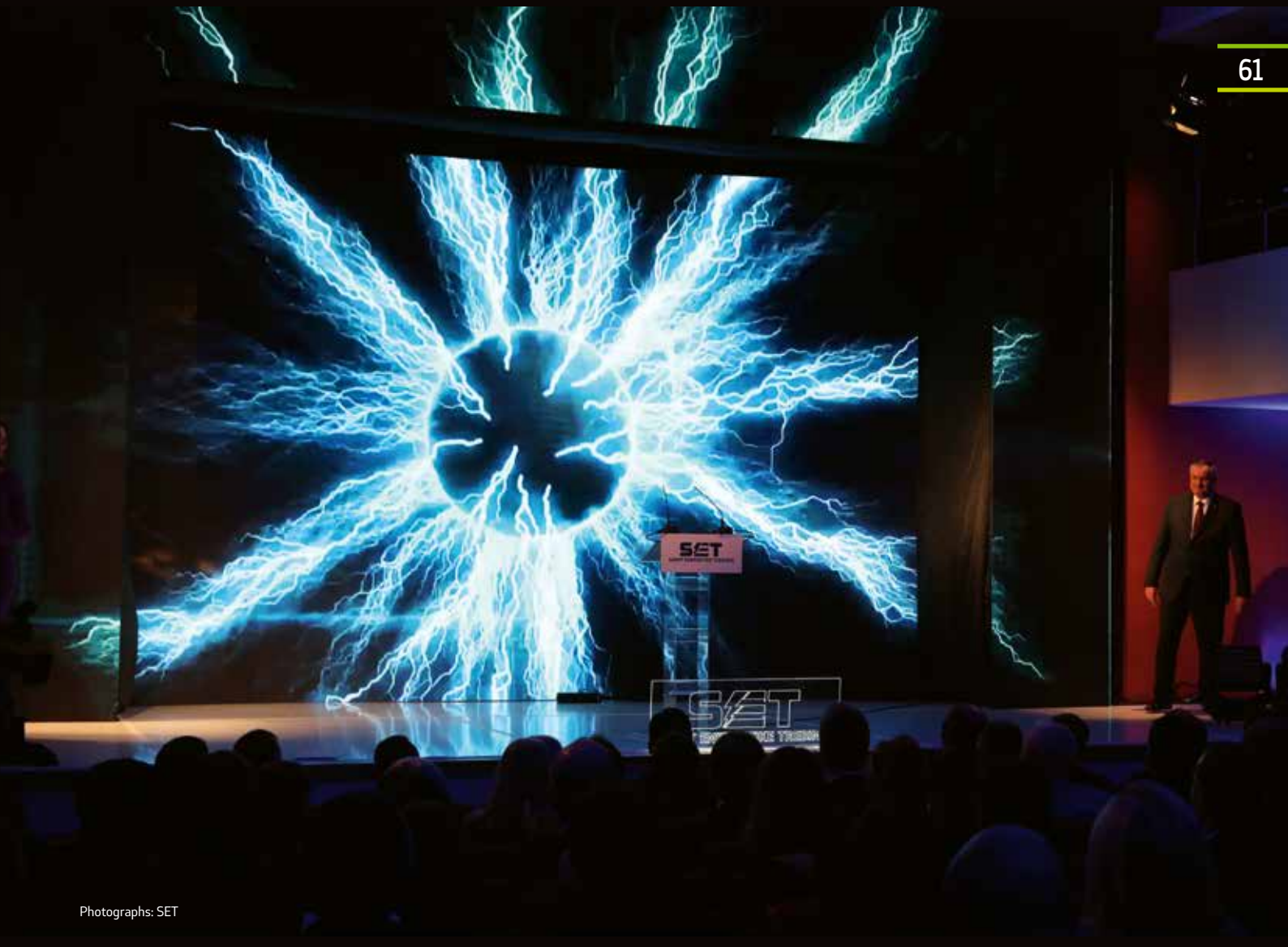
Nine panels will be held at the Summit, where they will talk about topics important for the development of the energy sector and the alignment of legislation in the countries of the region in this area with EU Directives, Energy Policy and the integration process.

For three days, as long as the Trebinje Energy Summit 2023 lasts, a Plenary session is planned – the acceleration of the regional sustainable plan and the transition to clean energy – the role of the EU, and the panel topics are:

- Development of the infrastructure of electric power networks and optimization of interconnection processes in the region.
- Prosumers in the region – a legal and regulatory framework for supporting and treating small producers with a focus on solar photovoltaic (PV) systems connected to the distribution network.
- How to deal with high energy prices in the region.

- The role of distributed production and flexibility services in integrating RES and further developing the electricity market.
- Mechanisms for ensuring the energy transition for the benefit of all results of inclusive decarbonization projects.
- Security of the energy sector in the area of measurement and transmission.
- Regional approach to energy supply (gas, oil, coal) during the energy crisis with a focus on the decarbonization process in the region.
- Development of electric mobility in the region (smart charging, charging infrastructure, distribution network capacity issues)
- Drive reliability of hydropower and thermal power plants.

The organizer of SET Trebinje 2023 is MH Elektropriroda Republika Srpska, City of Trebinje and SET d.o.o. Trebinje, under the auspices of the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina and the Government of the Republic of Srpska.





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- ⚡ Conducting preliminary, short, and detailed energy audits
- ⚡ Preparation of feasibility studies for the introduction of energy technologies and energy efficiency measures
- ⚡ Creation of feasibility studies with conceptual design
- ⚡ Development of projects for obtaining permits and contractor projects for the construction and use of renewable energy sources
- ⚡ Consulting and obtaining all conditions, consents and permits for RES, as well as preparation of all types of project documentation (conceptual design, preliminary design, main design, and as-built design)
- ⚡ Consulting in preparing and introducing energy management systems in industrial companies and at the local level (municipalities and cities)
- ⚡ Creation of business plans, investment studies and/or financial and economic analyses

**More than 500 companies
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Realized projects in numbers:

-  250 MW of solar power plants
-  66 MW wind power plants
-  30 MW CHP and gas power plants





WOMEN IN THE GREEN TRANSITION

More women are needed in the sector of renewable energy sources in Serbia – this is the conclusion of the conference “(Green) energy is a feminine word”, which was held on February 10 in Belgrade. The conference is the final event of the project “Path to greater participation of women in the RES sector”, organized by the Association of Renewable Energy Sources of Serbia with the support of the Embassy of Canada.

According to the survey “Attitudes of female citizens on green energy in the Republic of Serbia” conducted by the Center for Creating Policies and Strategies for the needs of the Association of Renewable Energy Sources of Serbia, only one in five young female citizens in Serbia believes that women have a business future in the industry of renewable energy sources and that they will be the leaders of the green transition.

Jovana Joksimović, Assistant Minister at the Ministry of Mining and Energy, at the opening of the conference, said that the green energy transition is an opportunity when it comes to the affirmation of women, as well as that they should be more visible and there should be more of



Only one in five young female citizens in Serbia believes that women have a business future in the industry of renewable energy sources

them in the places where decisions are made. She pointed out that the green transition is not only our obligation but also a very important attitude issue towards the future.

Canadian Ambassador Giles Norman said that it is no secret that the sector of renewable energy sources has been a male sector but also that it is time for changes.

“It is time to promote the inclusion of women in this sector. We cannot continue to exclude half the population. Women have the knowledge, skills and passion for

improving the RES sector. The energy sector requires different expertise. The Canadian government encourages women to build a career in this sector, where, in 2019, there were 31 per cent of women. We're still not where we want to be, but we're better than before," says Giles Norman.

Malgosia Bartosik, Deputy CEO of WindEurope and WindEurope public affairs adviser Victoriya Kerelska, during the video address, reminded us that renewable energy sources play a significant role in the way to energy independence.

"Only 26 per cent of women work in the wind energy sector in Europe, which is much better than in other segments of the energy sector, but it is still not enough. Organizations that encourage the employment of women in these areas and include them in leadership positions have better results than those that do not," confirms Victoriya Kerelska.

They almost unanimously said that girls and women who are deciding what to study should be encouraged to think about careers in the renewable energy sector.

Danijela Isailović, manager of the Association of RES of Serbia, emphasized that the project's goal is to include as many women as possible in the RES sector.

The participants of the two held panels where the role and importance of the development of the energy and RES sectors and careers in these areas were discussed. They also spoke about their experiences during schooling and later at work.

They agreed that a lot of work still needs to be done in the sphere of gender equality in the energy sector but that there is noticeable progress and that now more and more girls are enrolling in the Faculty of Technical Sciences.



The example of the European Bank for Reconstruction and Development (EBRD), which has the goal that by 2025, 40 per cent of all investments should contribute to gender equality, is particularly highlighted. The Secretariat of the Energy Community was mentioned as an example of good practice. Two years ago, it signed a declaration that it would promote gender issues through equal representation of women, as evidenced by the fact that in the Secretariat itself, out of 35 employees, 19 are women. The fact that 31.6

Organizations that encourage the employment of women in these areas and include them in leadership positions have better results than those that do not

per cent of female engineers work in "Elektromreža Srbije" shows that in Serbia, we also have companies that support gender equality.

The film "I am a woman, and I work in the RES sector" premiered at the conference, in which four heroines revealed how they decided to build a career in the sector of renewable energy sources and what challenges they faced during their work.



AQUAPONICS – A QUIET ECOLOGICAL REVOLUTION IN AGRICULTURE

Not far from Sombor, the idyllic town of Vojvodina is the village of Stapar, where, on a plot of only six acres, Srđan and Vesna created a wonderful family of six with their love but also the hope that sustainable agricultural entrepreneurship can take root in Serbia. We spoke with Srđan Radin about their story, which was made official in 2015 with establishment of the “Vesna Radin” agricultural farm.

Wishing to produce healthy and tasty fruits and vegetables with long-lasting freshness and researching how to achieve this, they concluded that it is necessary to turn to



more modern ecological production. It led them to aquaponics in 2014.

If the meaning of the term itself is not familiar to you, Srđan Radin readily gives a striking definition. Aquaponics is a quiet ecological revolution in producing healthy and fresh food. “Cultivating agricultural land emits large amounts of carbon dioxide, while the aquaponic system allows plants to be grown without using the land. Aquaponics does not require a large area for cultivation or land and offers the possibility of growing plants in urban areas, on the roofs of buildings, and even in restaurants within small, strictly controlled spaces. In this way, the need for longer transport routes is reduced, which also reduces harmful emissions from this source,” explains Srđan.

In this system, plants grow six times faster in small cultivation areas, and water consumption is 90 per cent less than in traditional agriculture. It is possible thanks to the system in which plants and fish are grown simultaneously.

“Water is pumped from the fish tank to the plant growing tank. In a circular cycle, water trickles over gravel, perlite, or hydroton balls, then passes past plant roots and drains back into the fish tank. The joint cooperation of fish and plants makes this system unique. Faster plant growth



With this method of agriculture, 50 kilograms of fish and hundreds of kilograms of vegetables can be produced in six months

is possible due to the naturally established fertilizer in the water. Fish have the role of the fastest plant protein converter, which allows plants to extract nutrients from the water and at the same time to purify the water for the fish,” Srđan explains the whole process and adds that this fertilizer is made from cold-blooded fish that does not carry *Escherichia coli* or salmonella, unlike fertilizers originated from warm-blooded animals. In addition, thanks to the circulation of water that does not require changing, this resource is significantly saved.

Photographs: courtesy of Srđan Radin

Aquaponics offers the possibility of growing plants even in urban areas, on the roofs of buildings, and even in restaurants within small, strictly controlled spaces



With this method of agriculture, 50 kilograms of fish and hundreds of kilograms of vegetables can be produced in six months in a space whose dimensions are only eight by four meters.

Using aquaponics, Srđan and Vesna grow fresh tomatoes, strawberries, and local carp. From one part of the tomato, they produce “Akvadajz” (word play – water+tomato), a homemade pasteurized tomato without preservatives, artificial colors, and flavors. They also offer semi-hot smoked carp in vacuum packaging, prepared according to completely correct technological processes and retains all the nutrients. They sell their products from their doorstep, and sometimes the tomatoes end up on the shelves of local stores.

In this way, they secure a job that does not require much physical work, life on a self-sustaining agricultural farm, yet in an urban environment, while they can provide their children with delicious and healthy food.

They also founded a company that designs turnkey systems to enable others to engage in this wonderful business.

In the future, they want to expand the range of products and square meters covered under aquaponics. However, this requires additional investments, which is also the biggest obstacle when deciding to switch to this type of agriculture. However, they hope that the state will recognize the importance of aquaponics and provide subsidies to all producers interested in a new combination of plants and fish that conserves resources.

Prepared by: Katarina Vuinac



PLANTAŽE – WINES WITH THE TASTE OF HOMELAND

Company 13. Jul Plantaže stands out among the few companies in the region with a history to be proud of. Their first chapter began in the 1960s when the earth was created from stone almost with bare hands, and vines sprouted from it. Today, this company owns the largest vineyard within a single complex in Europe, covering an area of 2,310 hectares.

During those 60 years, the wines gained fame, were declared Decanter medal winners and were crowned with the “gold of the wine Olympics” However, they always remained on first-name terms with all the wine lovers. The magnificence and greatness of people is in their approachable modesty, and Plantaže wines carry such greatness. These are wines for everyone who loves wine, without exception.

The Plantaže vineyard lies on a plateau whose altitude varies between only 45 and 70 meters above sea level, about thirty kilometers from the Montenegrin part of the



coast of the Adriatic Sea, which foams just like Plantaže sparkling wine Val and that sends airy salty greetings to the vineyard, next to the Skadar lake, on whose lushness it rests, and right next to the cold Cijevna above whose canyon is the Prokletije range that sends the breath of the mountains. Grapes absorb all of these and “breathe” that air. That’s why the wines of Plantaže have the smell and taste of Montenegro in all its beauty combined and poured into wine.

The sun loves Podgorica very much, so it stays there for a long time. That is why the capital of Montenegro has 135 summer days a year with a temperature of over 25 degrees. Stone, earth, sun and man created the vineyard, and the grapevine does not live everywhere. It took a lot of love to give its best, and the best here was given by our autochthonous variety Vranac, which occupies 70 per cent of Plantaže plantations. Few things from this area have become

a point of reference outside the geostrategic framework of their creation, such as the Vranac of the Montenegrin Plantaže. A legendary wine is woven into the entire region's wine culture and is a synonym for exceptional quality. Plantaže wines undoubtedly confirm that good things have never recognized borders because since the company was founded, they quickly and easily gained consumers' trust worldwide. Their strength today is also confirmed by the fact that millions of consumers enjoy Plantaže wines on almost all continents.

The wine showcase of Plantaže is rich. Decades of work and knowledge of a world-renowned winery have been arranged on it, vibrant Malvasia, distinctive and juicy Luča, Chardonnay, Sauvignon Blanc and refined Pro Anima, ingenious Vladika, powerful and great Vranc, Montenegrin Cabernet, Montenegrin Merlot and premium wine lines Stari Podrum, Premier and Reserve. An exceptional place is occupied by Vranac Pro Corde – wine for the soul, a brand that Plantaže has been working hard on for 30 years, a wine that can be found in each of more than 40 countries in the world that Plantaže exports to today.



Photographs: Plantaže

How the King of Hearts became an ACE

Pro Corde entered the world scene in 1993 as a new Plantaže wine from the Vranac variety. Its premiere was preceded by seven years of testing, dozens of different micro and macro-views and a newly designed vinification technology. It took many years of work and search by the company's experts for the best wine where Vranac will show true strength and a drinkable dose of tenderness. That resulted in wine for the soul, as wine lovers call it. Pro Corde has wisely preserved the level of proanthocyanidin, due to which red wines are attributed with a beneficial effect on health. And Plantaže was the only wine house that transferred scientific research conducted during the 20th century into one specific wine – Pro Corde.

This Plantaže wine, unique and authentic as the autochthonous Vranac variety from which it is made, is truly the true King of Hearts. The most prestigious world wine competition is not a card game in which one can cheat, so the King of Hearts became an ACE! Pro Corde from the 2016 harvest won the gold medal at the 2020 Decanter World Wine Awards in London!

Pro Corde contains the DNA of the soil on which Vranac grew, bearing the strongest genetic connection to the climate. Each bottle is full of sunshine that adores the Čemovsko polje and spreads over the vineyards even in winter, so every sip of it is like sunshine and tastes like a warm summer.

Due to the nature, but also the knowledge and emotions of the people who make this wine, its quality, and solid character, Vranac Pro Corde has conquered the senses of wine lovers all over the world, so it can be said wholeheartedly that this is a Montenegrin wine to be proud of.

Why is Pro Corde the champion? Because it has a wealth of aromas but does not flaunt them excessively but rewards the senses generously and sufficiently. It enters communication nonchalantly, without fanfare, and when it "speaks", it says everything. It's that royal demeanor without swagger. It's like when a wise man listens to the noisy ones and decides to speak, and everyone falls silent. That's how this wine ascends the throne. That's how we order and drink it, completely sure that it is the right choice, world-proven. But it is not a wine based only on reputation but also on taste. It is good for all occasions and creates good opportunities. Pro Corde is a clear wine – stable, powerful and secure. It does not give you a headache when you drink it. Neither does the bill when they give it to you in a restaurant. It's a fair relationship with consumers, Pro Corde is a champion wine, but it's not pretentious, just like the truly great people aren't. One can feign greatness neither among people nor among wines. Only the truth goes down well, and as the saying goes, "In wine, there is truth". The truth was spoken on the Decanter – Pro Corde is a wine greatness!

Plantaže

WITH
RATIONAL
CONSUMPTION
OF ENERGY TO
A SAFE SUPPLY



The prevailing opinion that energy is used irrationally in our country is only partly true. This opinion is based on two energy indicators that are most often presented in public, which do not reflect in the true sense the attitude of our citizens towards energy.

The first is energy intensity, which is easy to calculate and, therefore, very popular. This describes how much primary energy a country consumes to generate its gross national income. For Serbia, in 2019, energy intensity was 5.04 Mwh/EUR, while for Germany, it was 2.76, Austria 3.29, and Croatia 3.07 MWh/EUR. The main cause of this indicator being so high in Serbia's case is not the inefficient use of energy, but the structure of our economy, in which energy-intensive industries prevail. For instance, the energy intensity of Iceland is as much as 12.3 MWh/EUR, yet this country is a role model when it comes to having a rational attitude towards energy.

Another indicator is the average monthly consumption of electricity in households. In 2019, this consumption amounted to 303 kWh in the EU and in our country 462 kWh. However, we should bear in mind that the types of energy used in households differ from country to country and that in EU countries, electricity is rarely used directly for heating. Also, in quite a few EU countries, there are widespread city district heating systems. Therefore, EU residents use expensive electricity mainly for operating household appliances and cooling their homes. In Serbia, only 11.7 per cent of the households have access to the gas grid, and in larger cities, there is generally no possibility of individual use of it. At the same time, the price of electricity is low and, compared to some European countries, many times lower. Therefore, we need to behave rationally and choose the most affordable solutions, as many as 14.6 per cent of households in Serbia use electricity as the only energy source for heating, and almost all of them use it as a supplementary energy source.

Inefficient heating devices with electric resistance heaters are used for heating almost entirely while using three to five times more energy-efficient heat pumps is negligible. The reason for this is again financial because the prices of heat pumps are relatively high, so with the low price of electricity, the return on investment in these devices is very long.

Regarding the use of electricity for household appliances, people in Serbia have a somewhat more relaxed

Regarding the use of electricity for household appliances, people in Serbia have a somewhat more relaxed attitude than their EU counterparts



Professor MILOŠ BANJAC, PhD, has been working at the University of Belgrade's Faculty of Mechanical Engineering since 1993, and since 2014, he has been a full professor. He has also worked for the Ministry of Mining and Energy for a decade, and during this period, he participated in or managed the drafting of all the most important legal and strategic documents related to the Serbian energy sector. With his collaborators, and by drafting many by-laws, he created a legal environment that made it possible to establish the Energy Efficiency Fund for, then establish the Energy Management System in Serbia, as well as to create a legal basis for facilitating the construction of RES power plants, which resulted in the construction of new RES power, of over 500MW power. Since 2018, he has been a member of the Energy Committee of the Serbian Academy of Sciences and Arts, and in 2021, he became the president of the Main Scientific Committee for Energy and Mining at the Ministry of Education, Science and Technological Development.

attitude than their EU counterparts. The reason for this is, to a lesser extent, poor education, and to a greater extent, the low price of electricity, or financially-wise, small savings that can be generated, even if very serious consideration is given to the way these devices are used. The second reason for the increased consumption of electricity lies in the fact that most of the electrical devices in our households are significantly older and inefficient, unlike those used in EU countries.

European industry, although not as energy intensive as ours, consumes 10 per cent more electricity, while in contrast, households in Serbia consume 22 per cent more of this energy. Therefore, people should stop using electricity primarily for direct heating, start using heat pumps and, where possible, switch to using natural gas, district heating or wood biomass. The household sector has the greatest potential for saving energy.

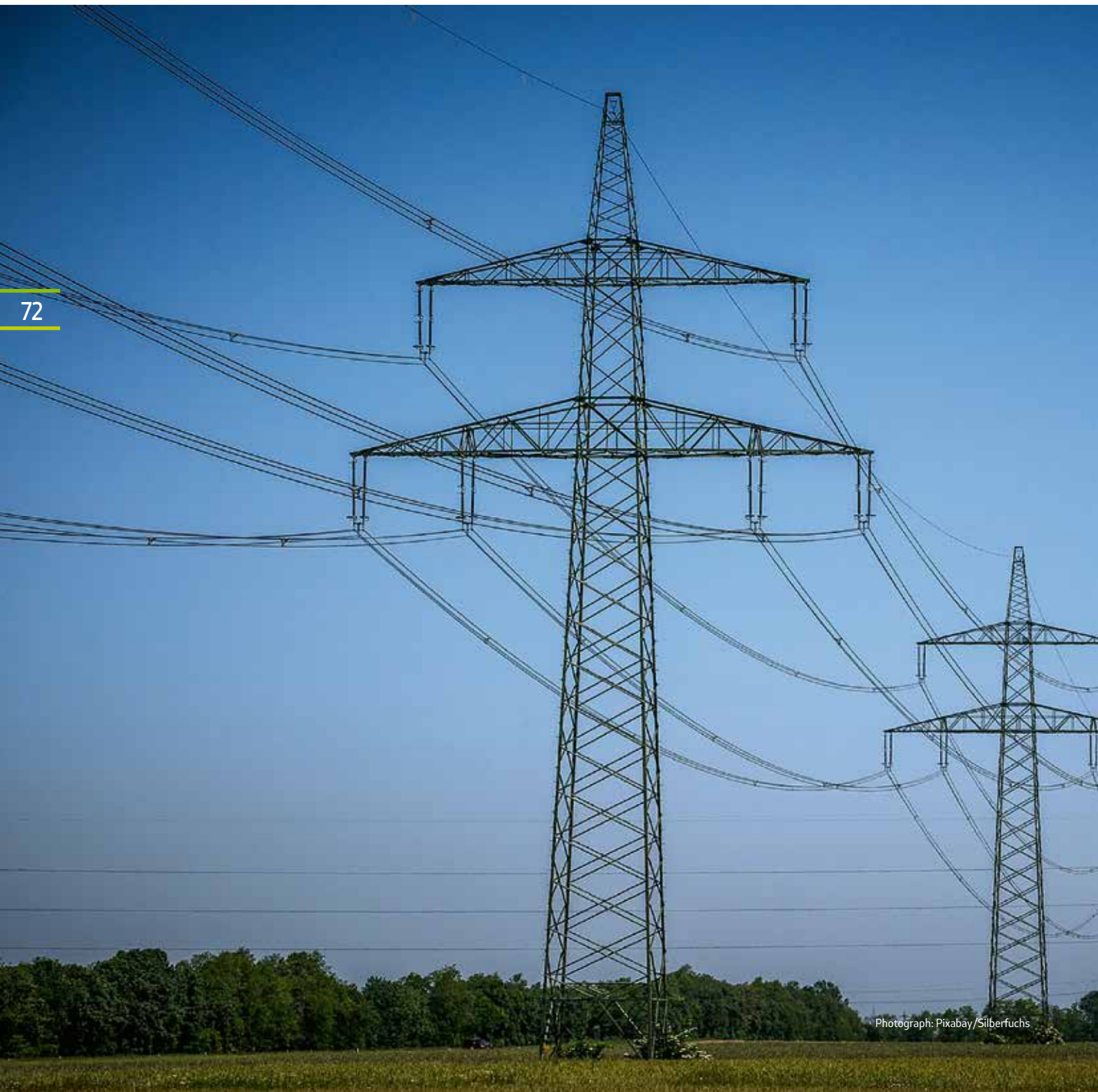
The private sector leads the way in saving electricity and other energy sources. Market-oriented and motivated, and because they include energy costs in the price of each product or service, this sector is forced to take care of energy consumption to remain competitive. On the other hand, the public sector, and above all, public companies, which have a privileged, monopoly-like position, are not motivated to do this and, in most cases, do not treat energy rationally.

It is indisputable that last autumn, people consumed significantly less electricity and even less heat generated by the city's heating plants. According to the public enterprise Electric Power Industry of Serbia (EPS), about 45 per cent of households in Serbia reduced their consumption by more than 5 per cent in October. However, the average air temperature in October last year was 15.4 degrees Celsius, while in the same month the year before last, it was 11.6 degrees. Also, Belgrade had as many as 22 days in October when the highest daily temperature was over 20 degrees Celsius. A similar situation was repeated in the following two months.

Regardless, it has been estimated that the recommendations, the strong media campaign about the need to

save energy, and the very stimulating EPS measures to reduce energy bills in case households reduce their energy consumption, contributed to the savings. However, as it happened, the EPS' measures proved to be immeasurable

In the industrial sector, the introduction and control of the implementation of the Energy Management System in public companies should be improved



because households that normally use electricity for heating had the biggest bill discounts, not because they saved energy, but because there was no need for heating. Instead of these measures, a new tariff system should have been implemented, stipulating prices that would permanently disincentivize large consumers even more and reward those who spend little energy. The focus of measures for rational energy consumption should be directed at the households, industry, and transport sector.

Regarding households, first and foremost, buildings should be renovated to increase their energy efficiency since 60 per cent of the total energy consumed in these buildings is for heating purposes. We also need to elevate



Regarding households, first and foremost, buildings should be renovated since 60 per cent of the total energy consumed in these buildings is for heating purposes

energy efficiency funding and state incentives from the administration level, which works under the Ministry of Mining and Energy, to the independent Energy Efficiency Fund. If the system is organized in this way, a generally accepted practice in Europe, it would intensify incentive mechanisms, give people easier access to incentives, and ensure that the state has easier access to European funds and grants intended for these purposes. The Fund could grant favorable, long-term loans for the energy rehabilitation of buildings and houses, and its operations should be aligned with the revolving principle. The purchase of energy-efficient devices should be encouraged by allowing exemption from paying VAT or at least reducing VAT, and those that are least efficient should be removed from the market. Furthermore, the state should continue encouraging the use of small solar power plants, primarily those that work according to the small prosumer principle.

If we are talking about the industrial sector, the introduction and control of the implementation of the Energy Management System in public companies should be improved. Also, in the long term, the state should work on transforming the industrial sector and direct it towards a non-energy-intensive industry, i.e. encourage the development of information and communication activities, virtual activities and high-tech industry, followed by tourism, health care, science and education.

When it comes to EPS, it is necessary to introduce a new tariff system and implement measures as soon as possible to reduce losses in the distribution system. As far as district heating plants go, the state should insist more on enforcing the law and making these plants respect the existing laws, as well as force them to finally switch to a pay-as-you-go system and direct them to start using geothermal heat pumps rather than relying solely on fossil fuels.

Speaking of the transport sector, the main strategic direction would be focused on the development of electric transport, primarily rail, both for the transport of passengers and goods, then urban and suburban transport, and finally, the use of electric cars.



KIND TO BODY, KIND TO NATURE

When we pick up a plastic bottle on the street, carry a shopping bag or ride a bicycle to work instead of a car, we make a small contribution to the preservation of the environment and set an example for others about desirable behavior. Sometimes we are not even aware of how much changes in our daily life can have a positive impact on our environment. By using natural preparations, in addition to doing our body a favor, we also help our environment. Marija Simeon, the founder of the brand “GREENmara cosmetics”, makes natural cosmetics that help us truly live in harmony with nature.

“We take the best from nature, and our gratitude is reflected in responsible production that does not endanger the living environment. It is important to us that everything that is included in our products satisfies both ecological

A careful combination of essential oils, minerals, plant extracts, natural oils and butter creates products that clean, balance, regenerate, tone, hydrate, and heal

and ethical norms. A careful combination of essential oils, minerals, plant extracts, natural oils, and butter creates products that clean, balance, regenerate, tone, hydrate and heal,” explains Marija.

She made the first products out of the need to provide herself with the best possible care, preserve her health and do it all the right way. Years of experience in the corporate world helped her realize her dreams as an entrepreneur.

“I chose to have the word green in the name because all my soaps and other products are green, ecological, healthy and natural”, says Marija, adding that designing, formulating, and combining scents and colors in making soap is actually a fun process.

“The challenge was to give my soaps an adequate use value. The goal was to create soap formulations that clean the skin just as needed, nourish it, hydrate it, care for it,



Marija Simeon,
the founder of the brand
GREENmara cosmetics

and allow it to carry out its natural functions unhindered. Then came a long period of learning, perfecting and creating perfect product lines,” she explains, emphasizing that it’s a great feeling to make a good and healthy product that brings benefit to everyone who uses it.

Natural resources of Serbia

For the soaps, she uses only raw materials that have no harmful effects, and she tries to procure them from the surroundings of Užice and Ivanjica.

“Serbia is incredibly rich. Here we grow an abundance of autochthonous plant species that are incredibly healthy and valued in the world of cosmetics. However, this branch of industry is still in the process of growth, development and introduction into processes that meet the desired standards,” says Marija.

She says she got a lot of help from family and friends, and so far, she’s only had good feedback that has given her a boost.

“Each stage of brand development brings its own challenges. There is no harder or easier period. The path from an idea to successfully placing finished products on the market requires a lot of attention, work and persistence. The users themselves play a big role in development, and an increasing number of people are choosing products that really help them take care of themselves in a right and healthy way,” confirms our interlocutor.

Marija’s determination to produce healthy and natural cosmetics is a good step in the right direction, but it is not enough to have green products. It is necessary for as many people as possible to opt for a responsible attitude towards their body and their health.

“Today, there are more than 50,000 very dangerous additives that are used in the industrial production of cosmetics. They are very harmful to health, and that’s why it is important to talk about it,” emphasizes Marija.

In order to preserve health, education is needed, as well as the desire to make a change. Marija is planning one such change. She wants to connect with farms throughout Serbia that produce and process indigenous plant species that she would use in her cosmetic products to enrich and improve them.



BRAND NAME

It is clear where the word green comes from in the name GREENmara, but we asked what the meaning of the second part of the brand name is.

“I watched a documentary about the discovery of an ancient tomb in Jerusalem, on the walls of which, in addition to other names of gods and goddesses, the name of the goddess Mara was carved. There are various mythological meanings, and it is particularly interesting that Mara is the goddess of love and protector of the generous earth. One of my nicknames from early childhood was Mara, which is a cute yet symbolic coincidence. The name GREENmara cosmetics in this form clearly depicts the concept of not only the product line but also the way of life,” says our interlocutor with a smile.



JOINT EFFORTS FOR GREENER SERBIA

By changing their habits, individuals can affect the preservation of the environment. However, to fight against major environmental problems such as polluted water and air, inadequate waste management and indiscriminate exploitation of natural resources, we need a good strategy and organizations with enough resources and knowledge to create the necessary change in these extremely important areas.

Unfortunately, very few organizations in Serbia are developed to the extent that they can influence the creation of policies that would improve the current environmental situation. Seeing the challenges faced by environmental associations and civil society organizations, the world environmental protection organization, WWF Adria Serbia, together with the Adria Association for Nature Protection and Biodiversity Conservation from Croatia, started the implementation of the project titled “Serbia Actions in the Field of Environment and Nature and Climate” (“SAFE Nature and

Climate”). The European Commission supports the project through the Civil Society Support Programme. It is a direct response to the common challenges our country faces in global efforts to mitigate and adapt to climate change.

WWF says that they want to form a network of civil society organizations in Serbia that can implement and realize their ideas for sustainable environmental protection without hindrance. The goal is to boost the capacity and direct the actions of those organizations so that they become relevant participants in making political decisions related to ecology.

During the next three years, in three consecutive cycles, WWF Adria Serbia will award grants ranging from 18,000 to 40,000 euros to selected civil society organizations for projects and activities aimed at preserving, protecting and preventing environmental threats. As many as 95 organizations sent their applications to the first competition, which was launched last year. A total of 20 project proposals, focused on environmental protection in the broadest sense, were shortlisted, and 10 were finally selected.

Marina Papović, the programme associate at WWF Adria Serbia, said they were delighted with how many organizations applied for the First Strategic Grant under the

“Civil society organizations throughout Serbia recognize environmental problems and climate change and strive to solve the problems systematically”

auspices of the Safe Nature and Climate project. The reason for this is twofold.

“The first reason relates to the fact that civil society organizations throughout Serbia recognize environmental problems and climate change and strive to solve the problems systematically. Through their project ideas, the candidates tried to express a wide range of ideas from the mentioned segment - from waste management and the circular economy to biodiversity conservation and mitigating

THERE IS HOPE

“Civil society organizations throughout Serbia recognize the problems of the environment and climate change and strive to solve the problems systematically. Through their project ideas, the candidates tried to address a wide range of ideas from the mentioned area, from waste management, through the circular economy, preservation of biodiversity, sustainable use of energy and water resources to the reduction of air pollution.”

The entire process of selecting projects that would receive funding lasted about three months. The whole WWF Adria Serbia team contributed to the selection process while also working on further planning related to this important project.

“The plan is to work on boosting the capacity of organizations this year through customized training sessions held all over Serbia. Furthermore, we plan to launch two more calls for the so-called ad hoc grants, i.e. short-term support to organizations that will be focused on small actions and activities aimed at environmental protection. We also plan to launch two more calls for strategic grants, during which organizations can submit their project proposals or improve project applications from the first selection round”, Marina Papović adds.

Anyone wishing to apply for one of the following grants should have project proposals that contribute to the realization of the following objectives:

- Boosting the capacity of representatives of civil society organizations to monitor local and national policies and regulations regarding environmental protection and climate change;



and adapting to climate change. Another reason is that by inviting them to submit their applications, we identified the internal needs of these organizations and defined which direction we need to take to boost their programme, financial and operational capacities in the future”, Marina explains.

- Research and analysis of shortcomings in the management of policies and regulatory frameworks related to environmental protection and mitigation of climate change;
- Advocacy for correct and effective local and national environmental protection and climate change policies;
- Promoting dialogue and active engagement of citizens as a prerequisite for setting effective reforms and environmental policies for EU accession;
- Raising awareness of the importance of establishing correct and effective environmental protection and climate change policies that enable the development of a sustainable ecosystem in the Republic of Serbia.

Detailed information about strategic and ad hoc grants will be posted on the WWF Adria Serbia website and social media (Facebook and Instagram).



WHERE TO RECYCLE MAP SOLVES THE DOUBTS OF CITIZENS AND COMPANIES ABOUT RECYCLING

You are probably familiar with the slight discomfort that arises when you throw cans, plastic bottles or glass jars in the same bin in your home because you know where and how they will end up. It is clear that something can be done in better way, but you just don't know how. Maybe, full of enthusiasm to set an excellent example for your family, you even collected and sorted recyclable waste, only to realize that you didn't know where to take it. Thanks to the interactive recycling map of Serbia called Where to Recycle (www.gdereciklirati.rs), you can find information easily with one click on the portal.

Out of a desire to change something in the system, Suzana Obradović created a platform where citizens can find a variety of information about the environment. An important part of this is guidance on where you can leave the sorted waste you have collected.

"I had the desire to do something concrete that would benefit citizens, companies, institutions, and associations. I believe that the right information leads to engagement. The Srda portal and recycling map of Serbia, Where to recycle, originated from that idea. It is a

unique interactive recycling map, and the concept was made by our team that created design and IT solutions," says Suzana, noting that a lot of time and energy was invested in creating this map.

"We did investigative work on the ground. We spoke with local governments, public utility companies, and collection and recycling companies. We mapped Belgrade by walking around the city and listing the locations of recycling containers."

If you haven't heard of this map yet, we can confirm that it is easy to use and available on all devices.

"Recycling containers on the streets, recycling bins in shops and public facilities, as well as recycling machines and presses, are marked with blue icons. Collection

The map is constantly updated, so that users always have information about new recycling places, location changes

When it comes to recycling, to begin with, it is necessary to establish primary separation in all local governments with the introduction of a deposit system



Suzana Obradović,
editor of the Srda portal and
creator of interactive recycling
map of Serbia "Where to Recycle"

companies are marked with yellow icons, and recycling centers are marked with green. By clicking on the icon, you have information about the address and what is collected at that location, and if it is a company, there is also a link to the company's data. In the search box, you can select the type of waste and the local self-government in the drop-down menu. We offer locations for 24 types of waste such as batteries, cans, paper, glass, PET bottles, electronic and electrical waste, textiles, batteries, and vehicles," explains Suzana.

The map is constantly updated, so that users always have information about new recycling places, location changes, and a newly opened recycling company.

WHAT LIES BEHIND THE NAME SRDA (GRUMPY)?

"When we were little, we learned that nature is healthy and clean. Over time, the waste got everywhere, the air became smelly and visible, and the rivers turned black. The little girl Srda is a synonym for all of us from the time when we were little, and it is also a synonym for our future, our children, and all future generations. The girl was nicknamed Srda because she gets angry at negative events in the environment. Adults should get angry first with themselves and then with others. We should question our values and why we sit by our phones and do nothing. We must act as best as we can because everyone can contribute. Only with joint efforts can we defend the environment and improve the quality of life," appeals Suzana Obradović, editor of the Srda portal (www.srda.rs).

"Citizens and companies contact us daily with various waste management questions. They praise us. We try to find an answer to every question. They are also our collaborators. They notify us if they notice that a Public Utility Company has taken away a recycling container in their area and ask if they will return it; they notify us if they notice a new recycling container or bin", explains our interlocutor and adds that the plan is to introduce additional functions in the recycling map.

According to Suzana, the situation in Serbia is alarming, and it is necessary to devise a sustainable waste management system urgently.

Then its application, ie. provision of infrastructure in all local self-governments, education of citizens and finally, application of penal policy without exception.

"This can be implemented very quickly, but the most important thing is missing, which is the desire to solve the waste problem," says Suzana.

When it comes to recycling, to begin with, it is necessary to establish primary separation in all local governments with the introduction of a deposit system. Every municipality should have at least one recycling yard where citizens would bring small household appliances, textiles, batteries, light bulbs, construction waste, household chemicals, paints and other, primarily hazardous household waste, which now ends up in a container or nature.

Prepared by: Milica Radičević





UPCOMING BG CAR SHOW AND MOTOPASSION

Intensive preparations for the 55th International Motor Show, the oldest and most representative regional event in the automotive industry sector, which will be held at the Belgrade Fair from March 22 to 28, 2023, are underway, and another successful global format auto-moto event is ahead of us.

Having become a traditional companion to the automobile events at the Belgrade Fair, the 15th International Fair of Motorcycles, Quads, Scooters and Equipment – Motopassion will be held at the same time and in the same place, which guarantees an attractive fair event and enjoyment for all senses.

Based on the calendar of OICA, the international umbrella organization of motor vehicle manufacturers, the upcoming Motor Show is one of the 12 largest car shows in the world this year. After the February show in Chicago and before the April shows in Seoul and Birmingham, the Belgrade Car Show will mark the whole of March, during which it will once again be the world's largest fair event in the field of automotive and related industries.

Visitors will find a representative offer of all types of road traffic, automotive and related industries, light delivery vehicles and garage-service equipment, as well as offers from banks, leasing companies and insurance companies, which will help potential buyers to resolve their dilemmas regarding the choice and purchase of a new vehicle or resolve dilemmas regarding additional services in the best possible way.

Despite significant changes in the automotive industry, which are caused by, among other things, the global pandemic, shortage of parts and components, unfavourable circumstances due to the Ukrainian crisis that has turned into a global one, as well as major technological changes, new drives and business concepts, the cars and motorcycles show is still a very attractive event for which there is great interest from the exhibitors as well as the audience.

In such extremely turbulent global economic, energy, communication, technological and market circumstances, all Serbian Association of Vehicle and Parts Importers



The working hours of the Car Show and the Motopassion fair will be from 10 a.m. to 8 p.m. The price of an individual ticket is 450 RSD, and 350 RSD for a group ticket, 250 RSD for organized visits by students and pupils. The price of parking within the Fair is 150 RSD/1 hour, a maximum of 750 RSD per day.

members, which means all brands on our market, have accepted and are preparing their participation by announcing as many novelties and premieres as possible. Although the circumstances are such that securing exhibition samples is the biggest challenge so far, the brands will do their best to display what is currently the latest on offer at their exhibition stands. All world manufacturers will present the current offer of new electric, hybrid, and plug-in hybrid models, as well as the latest models with conventional drives of the latest generation.

Importers note that the show takes place in conditions of reduced commercial effect, without emphasis on the fair's discounts and large stocks of vehicles for quick delivery, which will depend on the individual brand and special conditions regarding availability and flexibility.

As visitors are already used to, this year's edition of the International Fair of Motorcycles, Quads, Scooters and Equipment – Motopassion will present a rich offer of motorcycles from all relevant world brands, including numerous premieres and new models of quads, scooters, electric

bicycles and equipment for vehicles and drivers, whose sales on the market are growing year by year.

Responding to the interest of visitors, exhibitors in the sector of the ancillary automotive industry, garage service equipment and spare parts also announce special and attractive promotions of both standard and universal equipment as well as compatible and accompanying equipment for environmentally advanced vehicles, a significant selection of chargers for electric vehicles and solar modules for application in the car industry and other appropriate infrastructure.

Car and motorcycle enthusiasts, as well as professional expert guests and members of the public, already know that during this unique auto-moto event at the Belgrade Fair, a wide range of additional informative, educational, entertaining, competitive and award-winning content will be available, among which are the “car of the year” elections in various categories, “Press Rally Serbia”, “Miss Fair” election... There will also be a family day when ticket prices will be additionally reduced for entire families with children.

The day for media professionals in the automotive industry – the press day – is usually held on March 21 – the day before the event's official start.

Strategic partners – the Serbian Association of Importers of Vehicles and Parts, the Association of Road Vehicle Manufacturers of Serbia and the general sponsor, DDOR Osiguranje Novi Sad – will be irreplaceable and competent collaborators in the implementation of these events again this year.



PAPER PRODUCTION WITH SOCIALLY AND ENVIRONMENTALLY RESPONSIBLE BUSINESS

When the power of parental love unites, there are no obstacles. The parents' association that founded Naša kuća (Our House) in 2007 to provide support and conditions for a safer and better life for children with developmental disabilities proves that this statement is true. If we add that the association's activity includes ecology, then this story takes on a new dimension. During a conversation with the president of this association, Anica Spasov, we peeked into the unique world of Naša kuća.

We believe that by now, you have heard that paper can also be produced from recycled cigarette packs. However, you may not have known that the first recycled paper was produced in our country in 2019 in this very association. The production story started a few years earlier in cooperation with the Japan International Cooperation Agency (JICA). Namely, senior volunteers of this Japanese agency stayed in Serbia for two years to teach our people the traditional

Japanese technology of manual paper making. Although there are other sources of cellulose in Japan, in Serbia, the best quality paper is found in cigarette packs because they have the highest percentage of cellulose.

"The production process differs depending on whether white or colored paper is being made. The process is more complex for producing white paper. Then the outer and inner parts of the cigarette pack paper are separated from the middle layer needed for production. The process is simpler if colored paper is produced because only the cellophane is discarded. When they undergo this treatment, parts of cigarette packs pass through a shredding machine, after which such paper is placed in water where it is stirred for about five hours to separate the fine cellulose fibers," explains Anica Spasov.

The mixture obtained in this way is again placed in water, from which the mixture is extracted using frames with a special sieve and a thin layer of paper is formed. Finally,

the water is extracted from the paper with a large industrial vacuum cleaner, and the paper is sanded with rollers and then dried for at least 24 hours. Pigments can be added to this paper, as well as different vegetable and fruit seeds, which allows new plants to sprout from the paper that ends up in nature.

In our region, Naša kuća is the only one that deals with this kind of production technique, and their paper can go



Anica Spasov,
president of association Naša kuća



In our region, Naša kuća is the only one that deals with this kind of production technique, and their paper can go through the recycling process several times without changing its properties

through the recycling process several times without changing its properties. “Due to the complexity of the production process, which is based on manual work, instead of large companies, we opted for the market of art paper ordered by painters and artists. We also cooperate with various non-governmental organizations, and we print promotional material for all their events, especially environmental ones,” says Anica. They are especially proud of their collaboration with Katarina Majić, the author of the Environmental Book. For the promotion of this book, 50 copies were printed on their paper.

They opened their centers in Zaječar and Kragujevac, and if funds are provided, the plan is to open centers in Arandjelovac, Leskovac, Novi Sad and other cities.

“Our important partners from Japan, JICA and Ikoma, after the last visit and supervision, concluded that we are ready for the next phase, which is the launch of a small factory or professional workshop for manual production that would employ 30 people with disabilities. The factory is planned to start operating in 2025,” says Anica Spasov.

Naša kuća has also established cooperation with professors of the Faculty of Technology and Metallurgy to develop the production of biodegradable plastic containers. In the future, they should replace plastic containers that citizens could return after use to centers that will be open for their recycling. “The cooperation is progressing, and we are already on the way to making prototypes and molds for bio-additives,” Anica reveals to us.

If you want to help the work of this association, you can bring the collection of cigarette packs to the address of the association, Naša kuća at Petrarkina street number 12 in Belgrade, on weekdays from 9 a.m. to 4 p.m., and in this way make your contribution to the association and ecology.

Prepared by: Katarina Vuinac





THE HIGH COST OF CHEAP FASHION

Using Epson digital textile printing to reproduce his unique and creative worldview, Yuima Nakazato has realized some of his creations with the help of a new, more sustainable and potentially transformative textile production process in the industry

How does fast fashion affect global pollution, and why should you think twice before leaving the store with bags full of pieces you'll only wear a couple of times?

According to some studies, it is estimated that the fashion industry contributes 10 per cent to the total global pollution, which is a significant share of the negative environmental IMPACT. Thus, fashion pollutes more than dirty industry, seriously impacting the creation of harmful waste, water pollution and its excessive consumption.

Fast fashion

The rate of consumerism is increasing year by year and dramatically. As a result, fast fashion brands are trapped in an endless cycle of hyperproduction, churning out new collections at breakneck speed to keep up with the ever-increasing demands of their customers. And all of that comes at a huge price. Wildlife, people, and the environment – all suffer in the process. How will we deal with this growing problem at both the macro and micro levels? However, the good news is – we can still make a difference.

The numbers are alarming

Did you know that today we buy up to 60 per cent more clothes than 15 years ago? On an annual level, more than 56 million tons of clothing items are purchased, while only 12 per cent are from recycled materials. What about the rest?





Fashion brands prepare up to 52 micro-collections a year! In the past, the fashion world prepared collections for spring/summer and autumn/winter, quality materials were used, and special attention was paid to the fact that clothes can be worn for several seasons, with accessories that would make them trendy pieces even in the new season. Today things are completely different, leading to the mass production of currently fashionable clothes with minimal focus on quality. Hyperproduction can only be profitable with hyper-consumption, so the prices of these pieces have been lowered to make them affordable to the masses. And since the materials are lower quality, the pieces last less than before, so consumers buy new ones much more often. It is estimated that a third of the clothes produced are never even sold, and as many as 92 million tons end up in landfills worldwide. Forecasts are that, unless we do something, we will throw away over 134 million tons of textiles annually by 2030!

Waste is not the only problem. Mass production of clothes also means mass production of raw materials, which requires a lot of resources. The textile industry is responsible for nearly 1.4 billion liters of wastewater with over 70 different toxic substances.

Let's slow down a bit

How can individuals contribute to reducing the harmful impact on the environment? For starters, let's change our fashion spending habits.

- Think before you reach for new cloth – do you really need it?
- Make sure of the quality of the material. Artificial materials cause environmental damage – especially polyesters, which require a lot of energy during production, a lot of water for cooling and washing, and a large amount of microplastics that remain in the wastewater, which can end up in the seas and oceans and, therefore, indirectly in our food.
- Look at the label. Learn more about manufacturers. Explore which brands take care of the production process, from the selection of sustainable or recyclable materials, through printing and dyeing technologies to the socio-economic aspect of supporting factory workers.
- Choose local, small brands – there is no complicated supply chain and transport, thanks to which the carbon footprint is reduced, but it also allows us to support the local community and designers.



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from used clothing. The new fabric production process was presented in Paris and will be part of a three-year collaboration between the designer and Epson; and was used for the first time in the creation of objects during the exhibition in Tokyo on January 25, 2023.

The collaboration between the two companies builds on Epson's great potential in supporting the fashion industry. The goal is to produce high-quality, custom-made garments with a low environmental impact. Both Epson and Yuima Nakazato want to raise awareness about the world's waters and the negative impact of waste associated with overproduction. The Paris show illustrates how the transition to digital textile printing using more environmentally friendly pigment ink offers the fashion industry a more sustainable and less wasteful way to print textiles.

The fabric used to create the latest Yuima Nakazato fashion line consists of materials from used garments originating from Africa, which is the destination for the largest amount of textile waste from other parts of the world. Nakazato visited Kenya, where he collected around 150 kg of waste clothing material destined for the mountains of discarded clothes he came across there. Epson then applied its dry fiber process to produce over 50 meters of new re-fiber nonwoven fabric, some of which was used to print with pigment inks using Epson's Mona Lisa digital printing technology.

Hitoshi Igarashi from Epson's Printing Solutions Division explains the importance of sustainable technology: "Although in the early stages, Epson believes that its dry fiber technology combined with digital pigment ink printing can offer the fashion industry a much more sustainable future, significantly reducing the use leading and at the same time enabling designers to have the freedom to express their creativity fully."

"Epson's environmental vision is dedicated to contributing to the circular economy, and this development could be one step towards achieving that. Dry fiber technology applied to the fashion industry offers the possibility of producing materials for new clothes that are recycled from used clothes."

In a trial of distributed printing for room decoration, Epson inkjet printers in Japan and France, with remote support from Epson engineers, were used to create decorations in conference rooms. Both Epson and Yuima Nakazato intend to continue exploring opportunities to contribute to a more sustainable fashion industry.

An example from practice

Many large companies know that there will be no improvement without changing the work model. Large producers choose materials that can be recycled, processed, or traded in campaigns old for new clothes. However, for now, it is a minority, and it is very challenging to fit the fashion industry and sustainable development goals.

Another option is to return to the famous principle - Less is more - to choose high-quality, long-lasting clothing items that leave an impression and manifest personal style.

Japanese textile printing solutions company Epson has teamed up with renowned Japanese fashion designer Yuima Nakazato to present stunning and sustainable creations for Spring-Summer 2023 at the recent Paris Haute Couture Week. Using Epson digital textile printing to reproduce his unique and creative worldview, Yuima Nakazato has realized some of his creations with the help of a new, more sustainable, and potentially transformative textile production process in the industry.

This dry fiber technology, already used commercially for office paper recycling and requires virtually no water, has been adapted to produce nonwoven printing material



EVERYTHING ABOUT ECOLOGICAL TECHNOLOGIES IN ONE PLACE

88

Concern for a healthy environment, clean air and water knows no borders and connects all people on Earth. Changes can only happen if we all unite and work together to educate and raise awareness among children and adults, as well as companies and organizations.

ECO WAVE – B2B fair of ecological technologies is a place where you can see all the novelties in the field of ecology, renewable energy sources, recycling, waste management, etc.

Business forums will also be held during the fair, and the topics that will be discussed are:

- Water
- Ecowaste
- Renewable energy and solar
- Climate and air purity
- Smart cities

During the three-day event, more than 20 expert presentations, lectures and round tables will be held within the Business Forum.

The fair will consist of several segments: water, waste management and recycling, municipal equipment, renewable energy & energy efficiency, environmental

ECO WAVE will be held in the period from 10 to 12 October 2023 at Gospodarsko razstavišče in Ljubljana, Slovenia

technologies, air quality, soil decontamination, E-mobility&hydrogen, smart cities and analysis, laboratory techniques, ICT, etc.

We invite everyone who is actively working in the field of ecology and environmental sustainability, water, RES, and environment to join and participate in the upcoming B2B fair ECO WAVE 2023.

As concern for ecology does not know boundaries, ECO WAVE aims to expand over borders, connecting Slovenia with Croatia, Serbia, Bosnia and Herzegovina, Austria, Italy, Germany, Czech Republic, Slovakia, Hungary, and Bulgaria.

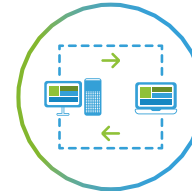
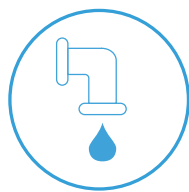
For any additional information, contact the project manager Toni Laznik at +386 41 668 222, email: ecowave@icm.si or visit www.icm.si.

10.-12.10.2023

Ljubljana Exhibition and Convention Center
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EC WAVE

Where challenges meet solutions



Water. Sewage. Waste management. Recycling. Renewable energy.

Air quality. Soil decontamination. Environmental technologies.

Clean community. Analyses and laboratory techniques. ICT

30 GODINA RADOSTI OD SRCA VRANAC PRO CORDE

Vranac Pro Corde je bez sumnje jedno od najzvučnijih i najcenjenijih vina Plantaža, koje ove godine proslavlja svoj 30. rođendan. Od momenta kada se pojavio na tržištu, 1993. godine, pa sve do danas on je simbol crnogorskog vinogradarstva i vinarstva.

*Zašto je Vranac
PRO CORDE
tako veliki
i poseban?*

Tehnologija proizvodnje

Vranac Pro Corde je prvo vino na svetu u kojem su **Plantaže**, nakon višegodišnjih ispitivanja i stotine mikro i makro ogleda, u saradnji sa francuskim stručnjacima, zaokružile naučna istraživanja sprovedena tokom 20. veka, koja govore o blagotvornom uticaju vina na zdravlje (u umerenim količinama).

Osmišljena je potpuno nova tehnologija vinifikacije kojom je u vinu, prirodnim putem, povećana koncentracija proantocinijadola, polifenolnih jedinjenja, koja imaju blagotvorni efekat po zdravlje čoveka.

Vino iz srca grožđa

Vranac Pro Corde je stoprocentno napravljeno od autohtone sorte Vranac sa **Ćemovskog polja**. Grožđe od kog se proizvodi nosi u sebi odlike južnog podneblja sa kojeg i potiče. Ima visok sadržaj šećera, bojenih materija i ukupnog ekstrakta. Samo najbolji grozdovi, najviše osunčani, iz najstarijih vinograda sa redukovanim prinosima, pretaču se u "**vino za srce**".

U vaše zdravlje!

Zbog sposobnosti blokiranja slobodnih radikala, čiji se broj sa godinama starosti sve više povećava, a koji u većoj količini, postaju toksični, proantocinijadoli kojima je **Vranac Pro Corde** obogaćen, štite organizam od oštećenja, starenja i propadanja.

Čuvajte svoje srce, čuvajte svoje zdravlje, pijte umereno i odgovorno i uživajte u **Vrancu Pro Corde!**

Milioni ljubitelja širom sveta

Vina kompanije "**13. Jul - Plantaže**" prodaju se u preko 45 zemalja sveta, a **Vranac Pro Corde** našao je ljubitelje na svakom od njih, što je uz veliki broj nagrada za kvalitet, najbolja preporuka. Svake godine proizvede se i proda oko milion litara ovog vina, od čega tri četvrtine u izvozu.

Najnagrađivanije vino Plantaža

Dobitnik je brojnih prestižnih nagrada i priznanja na najznačajnijim svetskim takmičenjima, a duboki naklon Dekanterovih sudija i zlatna medalja osvojena u Londonu, jedna je od najznačajnijih potvrda kvaliteta današnjeg vremena.

2023



*godina velikih jubileja
60 godina naše vinske bajke*

Plantaze



Vino
kojem
se svako
♥
raduje



Connecting Strength

We connect people, products and digital technology.

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Low-ballast and high flexibility due to different system variants:

- **Dome 6 Classic:** for mounting standard-sized PV modules and flexible row spacing
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- Automatic determination of wind and snow loads - without previous knowledge
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